UAARC Introduction to Amateur Radio

2nd Edition

The purpose of this booklet is to provide information to assist you in your enjoyment of Ham radio.

COMPILED BY
JO ANN KEITH KA5AZK
AND
JOHN KEITH W5BWC
2024

Thanks to ARRL for the material included in this booklet.

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CONTACT INFORMATION

PRESIDENT
Tony Munday KI5OFD
POB 177
Winnsbboro, TX 75494 817 821 4957

VICE PRESIDENT
John Keith W5BWC
POB 394
Diana, TX 75640 903 797 2353

SECRETARY/TREASURER
William Collier KG5 SVM
9804 FM 1975
Gilmer, TX 75644 512 423 4918

CLUB WEBSITE
HTTPS://UAARC.CLUB

MEETING TIME
SECOND MONDAY OF THE MONTH
AT 7:00 PM

CLUB MEETING LOCATION
UPSHUR RURAL ELECTRIC COOP AUDITORIUM
1200 W. Tyler St.
Gilmer, TX

CLUB REPEATER
146.94 MHz
107.2 Hz TONE

CLUB INFORMATION NET
Every Monday evening at 7 PM
(except for Club Meeting night)
146.94 MHz
107.2 Hz Tone

Upshur County ARES®

and

Upshur Area Amateur Radio Club

History

Oct. 2017 through Dec. 2022

by

John L Keith - W5BWC

Chapter 1 - Upshur County ARES® Early Years

N5TQI - Jim Liberacki
EC, Upshur County ARES® 2017 - 2020

146.90 MHz Upshur County Repeater Antenna
August 17, 2019

Upshur County ARES® was founded in October 2017 by Jim Liberacki, N5TQI who only raised his hand to ask a question. Jo Ann, KA5AZK was presenting Traffic Handling Training at LETARC and Jim ask a question that made her think he would make a good Emergency Coordinator (EC) for Upshur County. See, she was also District Eight EC, responsible for appointing ECs in the 8 counties in her district.

Not quite sure what he signed up for, Jim started recruiting and putting together the first Upshur County ARES® group, at least in recent memory. Jim introduced ARES® to the Gilmer Fire Chief as well as other officials in the county. Paul, KG5SAV and Gary K5GDM took on rolls as Skywarn® Coordinators and Nancy, KT8TOR the role of Net Control Coordinator and Assistant EC.

Jim secured permission from LETARC for Upshur County ARES® to use their repeater for Thursday evening nets and for emergency operations. As time went by and Upshur County became more active, it became apparent Upshur County needed its own repeater.

Jo Ann, KA5AZK had wished for an Upshur County Repeater for years, even before ARES® and finally talked John, W5BWC into seeing what it would take. Of coarse finding an affordable duplexer was the first and most difficult task. Jo Ann told John to check Main Trading in Paris, to which he said – they won't have anything like that – but immediately went to the office and called them. Of coarse they had a six cavity commercial set that had never been re-tuned.

So, with duplexer in hand the next task was obtaining frequency coordination, another difficult task. John worked with the VHF FM Society Coordinator (appointed by ARRL and FCC) to manage repeater coordination. Once again, to his surprise a limited range coordination was received for 146.90 MHz.

Jim, N5TQI called a meeting to determine who might be willing to participate in the repeater project. Almost, if not all, of the members agreed to donate time, money, skills or support. Indeed they did. John, W5BWC built the repeater, Jerry, WA5OKO refurbished and tuned the duplexer and donated a DB224E antenna.

The project involved raising a tower to 65 feet, installing antenna and feed-line, installing guy anchor posts, halo ground system, building the controller, power supply,

146.90 MHz Repeater
Activated Sep. 10, 2019

mounting transmitter and receiver, picture taking and documentation. Those who participated were; K5GDM, KA5AZK, KG5SAV, KG5UGY, KG5WEA, KT8TOR, N5IMM(SK), N5TQI, W5BWC, WA5OKO, W5QZB and non-Hams Doug Turner, Jacob Vise, Garrett Manning.

A hamburger supper was held September 10, 2019 where the switch was flipped and Upshur County suddenly had its own repeater. Granted, not the greatest, but its own. As time went by, the original antenna was switched out to the DB224E, the feed-line replaced and finally a new Bridgecom BR-50V was donated by WA5OKO. After these modifications, the repeater was decent, but still range limited.

Early in 2020 Jim, N5TQI retired due to several issues including some heath related. He had grown Upshur County ARES® from absolutely nothing, got Skywarn® operational, operated a booth at Yamboree and most importantly during his leadership; Upshur County got its own 2M repeater.

W5BWC - EC, Upshur County ARES®
2020 - present

Again Jo Ann was without an Upshur County EC. It is always difficult appointing ECs, but she was even more intent on filling Jim's spot for a couple reasons. First, it is her own county and second, Jim had grown an ARES® team from nothing. After several attempts, she finally got John W5BWC to accept.

John started on-air training in April 2020, using the existing Thursday evening net. While Skywarn® continued to be the major operation, training was on going to prepare for other communications support and activities.

About that same time, talk among the group about forming an Upshur Ham club came to fruition. The Upshur County ARES® team became the core group, to form a club that became known as UAARC - Upshur Area Amateur Radio Club.

Repeater Planning Meeting
L. to R. - Don KG5WEA, Jerry WA5OKO, Gary K5GDM, Nancy KT8TOR, George KG5UGY, Paul KG5SAV, Bill W5QZB, Wayne N5IMM, Jim N5TQI, John W5BWC - picture by Jo Ann KA5AZK.

Chapter 2 – Upshur Area Amateur Radio Club Formation

At one of the Upshur County ARES® meetings, a show of hands was asked for from those who would like to see a club formed in Upshur County. All hands were shown - let's do it was the remark. So Jo Ann KA5AZK and John W5BWC were selected to begin the process.

Jo Ann started looking for a suitable meeting place that was affordable, centrally located, with good parking and large enough for the club to grow. She also hoped for a venue with class, not to be snobbish, but so the members and guest would be comfortable.

In general, affordable venues are hard to find, so it took some time and effort. Finally she discovered Upshur Rural Electric Coop has a 200 seat auditorium that they allow non-profit civic minded groups the use of. Once she and John visited with URECC they approved the use of their facility. This venue met all of her requirements, including outstanding class. It truly was one of the finest venues, for an Amateur Radio Club meeting, that she had ever seen.

Upshur Rural Electric Coop Auditorium

Next came the task of filtering QRZ data base for Hams in and around Upshur County, a job Jo Ann again took on. After compiling a list of over 100 names, she and John began putting together a mailing to send perspective members. A meeting was arranged for January 14, 2020 with the stated purpose of exploring the possibility of a new Ham Club in Upshur County.

Around 25 people attended and the interest among them was very high, with agreement to proceed. What a time to start a club – just as a pandemic engulfs the country! None the less, those who attended the first meeting showed determination that the club was to be. A club formation committee was selected and was comprised of John W5BWC, JoAnn KA5AZK, Jana NJ5S, Matt W5MSM and Kelly KD5S.

The committee met for the first time February 18, 2020 and John was voted Chairman. Next the committee started work on a constitution and by-laws, planning club meetings, establishing a temporary Internet presence, obtaining club name suggestions & voting on them and creating a roster of members.

This formation process moved rapidly considering the spreading effects of the pandemic and precautionary closing of the URECC auditorium. Some meetings were held on the Upshur County 2M repeater, that the ARES® group had

installed. One meeting was held on Zoom, but almost no one was in favor of another.

The club name was selected from member suggestions. Of the several suggested, the name "Upshur Area Amateur Radio Club" was selected by a membership vote. The thought process involved was to select a name that defines the club's location (Upshur County) but also shows it includes the surrounding counties. Next the constitution and by-laws were written and approved by a vote of the members present at the May 12, 2020 club meeting.

Debbie KI5BHT, Kelly KD5S, John W5BWC
First UAARC Officers

Nominations for Officers came next. At the July 2020 club meeting paper ballots were used to vote for officers to serve for the remainder of 2020. The election results were; President - John W5BWC, Vice-president – Kelly KD5S, Secretary/Treasurer – Debbie KI5BHT. The rest of the year was consumed by new club business, setting up a website, obtaining a post office box, collecting first year dues, and such.

By December 2020 the club had 27 voting members. At the December meeting a certificate of appreciation was presented to Jerry, WA5OKO for his donation of the Bridgecom repeater and DB224E as well as to UREEC along with a $100 donation to their Scholar Ship Fund, in appreciation for the use of their facility. Charter Membership Certificates were presented to all the founding members as well.

The club by-laws specify nominations for office are taken in January. The membership votes for candidates at the February meeting. January 2021 nominations for office were; President – John W5BWC, Vice-president – Matt W5MSM and Secretary/Treasurer Debbie KI5BHT. All ran unopposed and were voted in.

During 2021 club meetings started out being held on the 2M repeater until March 8, 2021 when club meetings returned to the URECC auditorium, it was really good to be back in person! In January the club continued new club tasks with voting to become an ARRL Affiliated club. The club had 17/27 members that were ARRL members, thus easily satisfying the requirement to have 51% ARRL members.

Debbie, KI5BHT found a source for tee-shirts with the club logo imprinted on them. Jo Ann, KA5AZK found a source for club patches and also accepted the Refreshment Chairwoman appointment. The ARRL approved the club's application for

affiliation in April 2021. The greatest advantage that brought was club liability insurance, which the members approved purchasing.

UAARC voted to participate in Field Day 2021, in conjunction with Upshur County ARES®, to be held held in KA5AZK and W5BWC hay patch. Operating as Class 1A, contacts were made on 2M, 20M and 40M. Three formal messages were sent via ARRL radiogram with 203 contacts confirmed. Score was 406 placing the club well up the list of 1A stations participating.

The Field Day had 27 people attend and 20 stay to eat BBQ dinner. Families were invited to the evening meal and were able to meet one another and visit. After dinner, the operation resumed with contacts made across the entire country, as the gray line passed. As it moved on around the globe, contacts were made with Disney World, Homer, AK, Japan and Australia. The station was on the air until an hour before the end time on Sunday afternoon. K5GDM was watching the radar and warned a cell was approaching, so operation stopped and things were packed up. No sooner than done and the thunderstorm hit.

UAARC 1st Field Day 2021

The club developed its own website during the early part of 2021 with the club officers owning the URL and providing the content as well as maintenance. In August, William, KG5SVM was appointed news and events coordinator. As time goes by, he also takes on more responsibility for the website. The website is listed in the ARRL club data base where interested individuals can locate the club and its website. Emily Collier was appointed club photographer and worked with William to upload images to the website.

In October 2021 a seminar was held in KA5AZK and W5BWC shop, consisting of Traffic Handling Training, hamburger

lunch and then Grounding and Lightning Protection. The event was well attended and there was time for everyone's questions and discussions. Show and tell followed making pretty much a day of it.

UAARC Charter Members - L. to R.
Tommy KG5ZSU,Mike N5UWF, Cara KG5ZST, Ray KE5VJH, Nancy KT8TOR, Gary K5GDM, Jana NJ5S, John KI5GRV, Mack KI5OZA, Cliff AE5ZA, Debbie KI5BHT, Phillip KJ5ZW, William KG5SVM, John W5BWC, Jerry WA5OKO, Kelly KD5S
- picture by Jo Ann KA5AZK
Not pictured:
Bob AB5X, Rachael K8EFI, Gwen KA5ADO, KE5HKI Elizabeth, Mary Jane KG5PZR, George KG5UGY, Kayla KI5ADN, Jim N5TQI, Matt W5MSM, Guy W5UAA

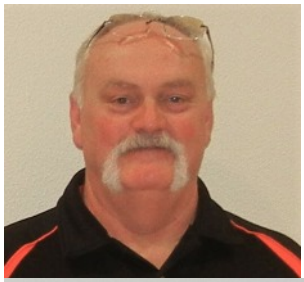
Upshur County ARES® during Pandemic

The December meeting was limited to a short business meeting, followed by Christmas refreshments and family time. The club presented a $100 donation to the URECC Scholarship Fund as a sign of the club's appreciation for the use of their facility. A certificate of appreciation was presented to W5MSM for his digital projector donation, to WA5OKO for his repeater duplexer donation and to KA5AZK and W5BWC for hosting Field Day.

The club finished out 2021 with 28 members, having survived the pandemic, becoming an ARRL Affiliated club, participating in its first Field Day and becoming well established as truly the Upshur AREA club.
As mentioned in the UAARC 2021 history, it and Uphur County ARES® were closely intertwined, as most of the UAARC members were also ARES® members. The repeater upgrades were provided by Hams that were members of both groups. Parts of the original repeater were donated to UAARC and piece by piece until the repeater became the club's. Remember the repeater was built and operated by Upshur County ARES® before the club came to be; however, the same Hams were involved in both.

Chapter 3 - UAARC in 2022

During 2021 Upshur County ARES® grew to 15 active members. The significance of this is due to the term "active members". Previously anyone who expressed any interest was included as a member, but that changed during 2021 to require "active members" to participate in at least 2/3 of the on-air training sessions.



UAARC Officers 2021-2022
T. to B. Matt W5MSM - Vice President
Debbie, KI5BHT - Secretary/Treasurer
John, W5BWC - President

During 2021 Upshur County ARES® participated in several Skywarn® activations, held several eyeball training sessions, and completed the first year of on-air training sessions. Training continued with the goal of presenting the group to agencies other than the NWS that might me able to use back up communications. Training for deployment was begun with the understanding no one would be ask to deploy if they were uncomfortable doing so.

UAARC starts 2022 in its second full year of operation. Debbie, KI5BHT presents the first yearly budget to the membership. It shows the club's fixed expenses in comparison with the collected dues. It was decided to have a kitty on the sign up table for those who would like to donate. While sufficient funds were available, it was considered a good idea to collect a reserve without raising dues.

2022 Officer nominees were; President – W5BWC, Vice-president – W5MSM and KG5UGY, Secretary/Treasurer – KI5BHT. Once again William, KG5SVM was the Nomination/Election Chairman. By one vote W5MSM continued as Vice-president with John and Debbie unchallenged. Also, early in 2022 the club ask for proposed QSL card design. Of several submitted, William KG5SVM entry was accepted.

Field Day planning started early this year with Tony, KI5OFD appointed FD Coordinator. Tony did a great job getting the operation planned, supplies and personnel lined up. It was again to be held at the Keith's. Unfortunately, both John and Jo Ann came down with Covid a few weeks before FD. Without sufficient time to rearrange the decision was made to cancel UAARC FD 2022.

In place of FD it was decided the club activate a station in the Parks On the Air latter in the year. The summer of 2022 was very hot and humid and not conducive to operating outdoors. Finally by October an activation was planned for Daingerfield State Park.

In conjunction with ARES® several members attended a Basic and Advanced Storm Spotter Training in Tyler that was put on by the Shreveport NWS. The club continued to support ARES® with new members and use of the club's new repeater and site. The new repeater site is a story unto itself.

Chapter 4 - UAARC and Simpson Mt.

On March 21, 2022 Upshur County ARES® had activated in Skywarn® mode due to a strong cell moving toward the county from the southwest. Two way communication between the net and the NWS-Shreveport was handled by Gary K5GDM the Skywarn® Coordinator. As well, Paul KG5SAV, a reserve member and also a Skywarn® Coordinator participated, supplying critical information. The Upshur County Emergency Management was on the net, handled by Chris KI5OMH, also providing two communications between the county and ARES®.

Gary encouraged us to take this storm serious from what he was seeing and the county opened the court house as shelter. Shortly thereafter the NWS released a Tornado Warning for Upshur County. Gilmer sirens sounded quickly and Chris was busy getting folks into shelter. A few minutes latter a tornado was observed moving NE almost due east of downtown Gilmer.

About 15 minutes after the confirmed tornado was reported, damage reports started coming in. As they were reported they were passed on the the NWS and the county EM. The net control, W5BWC plotted the damage reports on a county map. When the third point was received, the damage path was established and provided to the NWS and county. The county used this track to begin search and rescue, as well as to determine where roads were blocked.

The NWS surveyed the damage and rated the tornado as a strong EF2 with areas approaching a low end EF3. The county asked Upshur County ARES® to assist in the state damage assessment operation a few days latter. K5GDM, K5WAM, KA5AZK, KI5OFD, KI5OMH, KI5TCK and W5BWC participated for two days. One evening late, after finishing the damage assessment, the County Emergency Management asked W5BWC and K5GDM what would be required to improve the repeater county coverage.

The answer was twofold; first, a mountain to locate the repeater and second, obtain coordination for a wide-area coverage repeater frequency. They asked which they could most help with and were told - find a mountain. A week or so latter, Chris KI5OMH talked to ETEX about use of one of their towers. ETEX provided a map of their Upshur County towers, which Chris gave to W5BWC.

John, W5BWC and Jo Ann, KA5AZK traveled the county surveying ETEX towers. Hopes were fading when it was discovered the ETEX towers are now leased to a cell phone

Simpson Mt. Site as it was found.

Brush Clearing Detail - L. to R. George KG5UGY, Tony KI5OFD, Rod KN0WER, Kuni KT4LKS, Gary W5GWS, John W5BWC - photo by Jo Ann KA5AZK

company. But then on Simpson Mt. John met Phil Smith, who just happened to be on his way up the mountain. He told John of an abandoned building and tower back off in the woods. Sure enough there it was, buried back off the trail.

An unbelievable find, a building and 68 foot Rohn 45 tower that would not require an escort to enter or permission from any business. But, who owns it? Gary, K5GDM put his skills to work and found the land owner, who John then contacted. He lived in the Dallas area and had inherited the property through his family and was not familiar with what was on the mountain.

He met John one day and they surveyed the property together. Once the property owner understood what the site would be used for and some other details worked out, he gave permission for UAARC to locate the club repeater on his property.

The odds for finding a site, particularly already with a building and tower on it, are very low if not impossible to believe. But, this was only one of two major issues. The second was obtaining a frequency coordination for a wide-area coverage repeater. The club repeater at the time was the 146.90 MHz limited range repeater that the ARES® group had put up a few years prior. With Gun Barrel City repeater on the same frequency, it was not possible for the club to move that repeater to the mountain.

The Frequency Coordinator informed John the waiting list was two years long for a wide-area coverage repeater. He had requested 146.94 MHz, not realizing Mt. Pleasant had a repeater on that frequency, when he printed the on-line Repeater Book, that part was cut off. George KG5UGY spoke up and said he thought it was no longer in use. George contacted the Mt. Pleasant trustee, Harry, K5FPI who confirmed their repeater was no longer in use and he did not intend to put it back in service.

John then contacted the Frequency Coordinator, who said, that since he did the leg work and if Harry relinquished 146.94 MHz, he would assign it to UAARC and not the next applicant in line. Harry agreed and suddenly the next impossible task was complete. Now the work began.

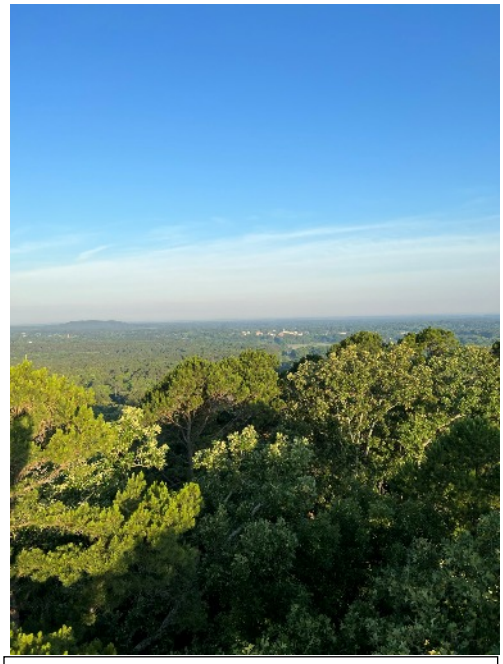
The site on Simpson Mt. was overgrown with brush, saplings, vines and even a tree growing into the building's roof. The building, having been abandoned for years was infested with

Site after repairs - Antenna Crew
Front to back L. to R.
Tony KI5OFD, Garrett, Jerry WA5OKO, John W5BWC, Gary K5GDM, Nancy KT8TOR - photo by Jo Ann KA5AZK

rodents and their excretions. The tree in the roof had caused water intrusion and therefore mold grow, the rodents had gnawed holes in the gable ends and the metal door had bullet holes in it. But... the use of it was for free.

The club and ARES® members responded without hesitation. Site clean up began the next weekend, with written permission in hand for the club's use of the site. Interestingly, all the club members who participated in the site clean up, building repair, tower repair and antenna installation were also ARES® members. Those who donated money, labor, material, equipment and expertise were; KA5AZK, KI5BHT, W5BWC, K5GDM, W5GWC, KI5OFD, KI5OMH, WA5OKO, KG5SVM, KT8TOR, N5TQI, KG5UGY, KT4LKS, KN0WER, KG5ZSU and Garrett Manning.

The generosity of the club and ARES® members was outstanding! No club funds were used during the entire process. Unbelievable donations including cash, material purchased at member's cost, equipment and installation were made. Jerry, WA5OKO donated another DB224E and sufficient money to complete the antenna system.



Looking West from tower - 10 ft. below antenna base.

Many other significant donations were made by those listed above, all of which were required before the project could be completed. Work on the project started May 14, 2022 with a brush clearing detail. This was a hard work day, no way around it. But chain saws, hand saws, machetes and grunt cleared the site of debris.

Work proceeded to install a new metal roof, clear out the rodent nest and mess, inspect the tower base for repair and paint. Over the next several weeks, work parties were on the mountain all but one weekend and often during the week.

The building was then disinfected, painted with primer, door repaired, new air conditioner installed, gable ends replaced, soffit installed, and conduit and wiring installed. URECC connected power from their radio site just a few hundred feet away.

Work on the tower consisted of pouring a 42 x 42 inch base 12 inches deep. Re-bar was embedded in the original base and formed into the new base. When completed the tower was secure for climbing and extended use. An antenna crew, consisting of the above named Hams, removed the old commercial antenna and installed the new DB224E and 7/8 inch Andrews Heliax.

Repeater mounted in building.

W5BWC used parts from the original 2M repeater and a rack donated by N5KGN to build a new repeater, resulting in a 75W transmitter and a receiver + preamp sensitivity of -127 dBm (0.1 µV). WA5OKO tuned a duplexer, that he donated, to 146.94 MHz. The original controller was also used along with a continuous duty 25 Amp power supply built by W5BWC. Using donated deep cycle AGM 12 Volt batteries, the repeater included uninterruptible power.

The work was almost complete August 6, 2022 with the repeater and antenna installed and operational. In fact the repeater was put on the air that Saturday after the antenna work was finished. The last few details were completed by August 28, 2022 when no-climb panels, fabricated by Tony KI5OFD, were installed on the tower.

K5UAR - 146.94 MHz Repeater Site.

The Bridgecom repeater, second duplexer and DB224E remained at W5BWC QTH as the back up repeater. The difference in elevation, transmit power and receiver sensitivity was like turning on a light in a dark room. The poor county coverage was now gone, or relegated to only deep holes in the county. Coverage, which had been lacking for the "Area" members was now possible. The interference problems with Gun Barrel City gone as well. The county's request to improve county coverage was accomplished by the members of UAARC and ARES®.

At the December Christmas party, certificates of appreciation were presented to those who participated in the repeater project. URECC and WA5OKO received plaques of appreciation due to outstanding contributions made by them. As well a few people outside the club that played an important role were recognized. Tony Mc Cullough, URECC for obtaining power for the site, Darren Sosebee, URECC for installing power, Harry McCollum, K5FPI for transferring 146.94 MHz to the club, Phil Smith who pointed John to the abandoned site, Mark Marshall, property owner for permission to use site and Garrett Manning for tower base repair and antenna installation.

Chapter 5 - Upshur County ARES® in its fifth year

By the fifth anniversary of Upshur County ARES®, in October of 2022, it had grown to 25 active members (meeting 2/3 of the on air training) and one reserve member. Participating in the March 21, 2022 Upshur County tornado and damage assessment it became one of the resources the NWS – Shreveport Office relies on.

It also renewed the county Emergency Management inclusion of Amateur Radio in its Emergency Plan and became apart of their actual operations. And, the contact with the Gilmer Fire Department was renewed with presentation of the training and capabilities of the present Upshur County ARES®.

Training now consists of 116 on air session with 1,689 participating stations accruing 844 hours of training. Also, Traffic Handling Training, Net Control Training, Deployment Training and other in person training has been held.

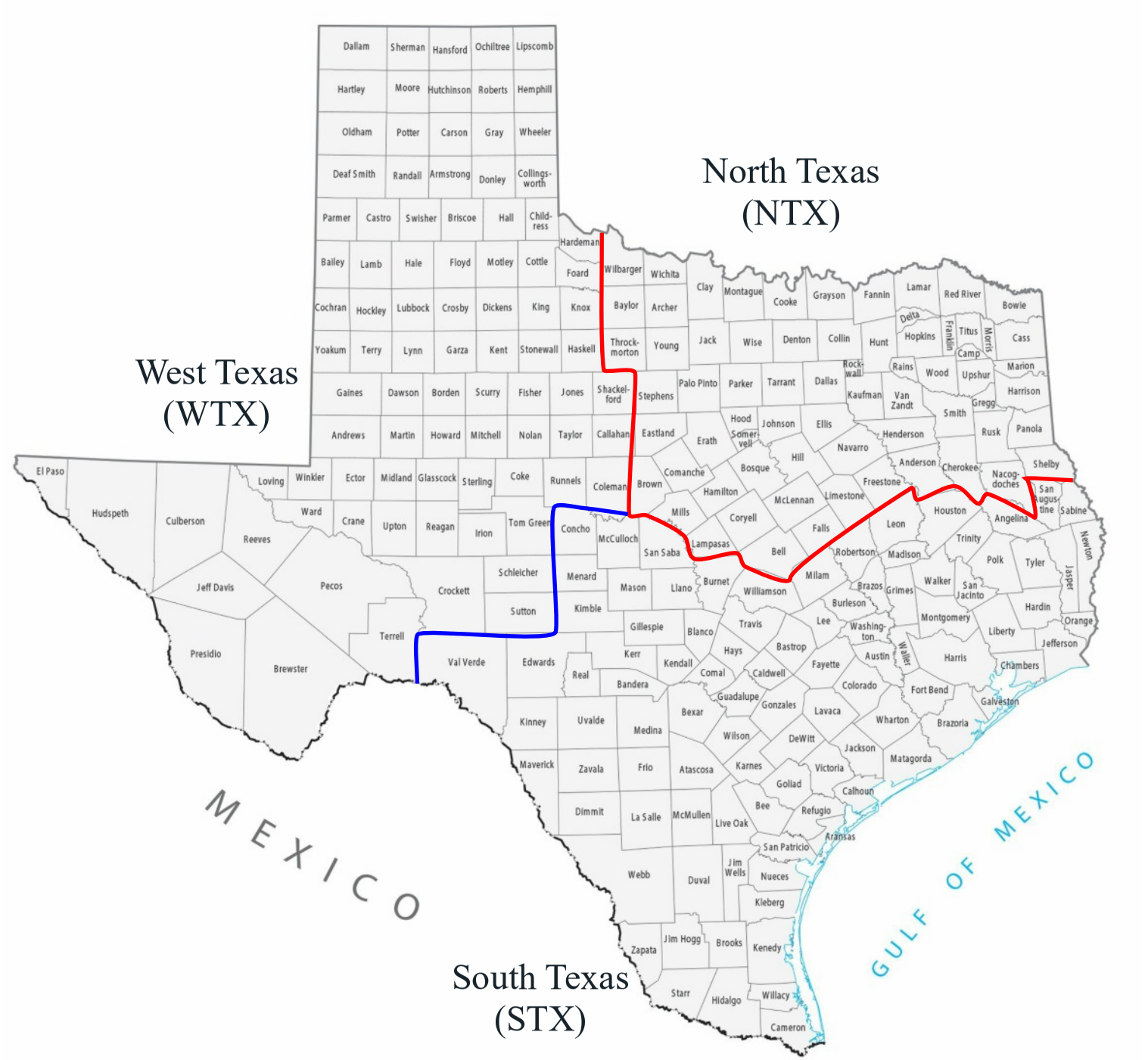
Training and implementation of deploy-able stations was accomplished with several members equipped with field radios, others with cross-band capability for low spots were 2M repeater coverage may be a problem, back pack stations for foot mobile operations and low profile gain antennas for EOC or command center use.

SOME EAST TEXAS 2 METER FREQUENCIES

LOCATION	FREQUENCY	TONE
Upshur AARC	146.94	107.2
Longview	146.64	136.5
Longview	147.34	136.5
Simplex	146.52	
Simplex	147.54	
Athens	147.22	136.5
Palestine	147.08	103.5
Atlanta	146.22	100.0
Daingerfield	145.23	151.4
Marshall	146.86	146.2
New Boston	146.90	
Quitman	147.100	136.5
Tyler	145.210	88.5
Tyler	146.96	136.5
Jacksonville	146.80	136.5
Carthage	146.72	123.0
Henderson	146.78	131.8
Daingerfield	145.23	151.4
Henderson	146.78	131.8
Kilgore	145.45	136.5
E TX Eme.Com	147.38	136.5
Shreveport, La	146.67	100

NOTE: A NATION WIDE 2 METER FREQUENCY BOOK IS AVAILABLE FROM
ARRL
225 MAIN ST
NEWINGTON CT 06111
WWW.ARRL.ORG

ON LINE REPEATER BOOK
AT
https://www.repeaterbook.com/index.php/en-us/


North Texas
(NTX)
West Texas
(WTX)
South Texas
(STX)
MEXICO
GULF OF MEXICO
Dallam
Sherman
Hansford
Ochiltree
Lipscomb
Hartley
Moore
Hutchinson
Roberts
Hemphill
Oldham
Potter
Carson
Gray
Wheeler
Deaf Smith
Randall
Armstrong
Donley
Collings-worth
Parmer
Castro
Swisher
Briscoe
Hall
Child-ress
Hardeman
Bailey
Lamb
Hale
Floyd
Motley
Cottle
Foard
Wilbarger
Wichita
Clay
Montague
Cooke
Grayson
Fannin
Lamar
Red River
Bowie
Cochran
Hockley
Lubbock
Crosby
Dickens
King
Knox
Baylor
Archer
Delta
Franklin
Titus
Morris
Cass
Yoakum
Terry
Lynn
Garza
Kent
Stonewall
Haskell
Throck-morton
Young
Jack
Wise
Denton
Collin
Hunt
Hopkins
Camp
Rains
Wood
Upshur
Marion
Gaines
Dawson
Borden
Scurry
Fisher
Jones
Shackel-ford
Stephens
Palo Pinto
Parker
Tarrant
Dallas
Rock-wall
Kaufman
Van Zandt
Smith
Gregg
Harrison
Andrews
Martin
Howard
Mitchell
Nolan
Taylor
Callahan
Eastland
Erath
Hood
Somer-vell
Johnson
Ellis
Henderson
Rusk
Panola
El Paso
Hudspeth
Culberson
Loving
Winkler
Ector
Midland
Glasscock
Sterling
Coke
Runnels
Coleman
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Comanche
Bosque
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Navarro
Anderson
Cherokee
Nacog-doches
Shelby
Ward
Crane
Upton
Reagan
Irion
Tom Green
Concho
McCulloch
Mills
Hamilton
McLennan
Limestone
Freestone
San Augus-tine
Sabine
Reeves
Lampasas
San Saba
Coryell
Falls
Leon
Houston
Angelina
Newton
Jeff Davis
Pecos
Crockett
Schleicher
Menard
Mason
Llano
Burnet
Bell
Milam
Robertson
Madison
Trinity
Polk
Tyler
Jasper
Sutton
Kimble
Williamson
Brazos
Grimes
Walker
San Jacinto
Burleson
Hardin
Terrell
Gillespie
Blanco
Travis
Lee
Washing-ton
Montgomery
Liberty
Orange
Presidio
Brewster
Val Verde
Edwards
Kerr
Kendall
Hays
Bastrop
Austin
Waller
Harris
Jefferson
Real
Bandera
Comal
Caldwell
Fayette
Colorado
Chambers
Guadalupe
Bexar
Gonzales
Lavaca
Fort Bend
Galveston
Kinney
Uvalde
Medina
Wilson
DeWitt
Wharton
Brazoria
Maverick
Zavala
Frio
Atascosa
Karnes
Jackson
Victoria
Matagorda
Goliad
Calhoun
Dimmit
La Salle
McMullen
Live Oak
Bee
Refugio
Aransas
San Patricio
Webb
Duval
Jim Wells
Nueces
Kleberg
Zapata
Jim Hogg
Brooks
Kenedy
Starr
Hidalgo
Willacy
Cameron

VOLUNTEER EXAMINER PROGRAM
(VE PROGRAM)

Volunteer Examiner Coordinator (VEC) system.

FCC created the VEC system to provide initial licensing examination for prospective new hams and upgrade examination opportunities for those already licensed. FCC authorized VEC organizations oversee the work of their certified Volunteer Examiners (VEs) and serve as a liaison between the exam applicants and the FCC.

ARRL VEC Program.

The ARRL's VEC program has a long standing tradition of serving the Amateur Radio community and the FCC with integrity and expertise. As the largest VEC in the nation, we operate as a knowledgeable information source for a wide-range of licensing issues.

ARRL accredited Volunteer Examiners (VEs) support us around the country by offering exam opportunities in their local communities and helping exam candidates fulfill their Amateur Radio aspirations.

Service and volunteerism are vital parts of our Amateur Radio culture. VEs give so generously of their time, energy and skill to our community. The ARRL hopes that you will embark on this rewarding journey and become an ARRL Volunteer Examiner!

What does a Volunteer Examiner (VE) do?

Volunteer Examiners (VEs) are US licensed Radio Amateurs holding a General Class license or higher, who offer their time to administer the FCC licensing exams through a FCC authorized Volunteer Examiner Coordinator (VEC) organization. The ARRL VEC is the largest VEC organization in the US. A team of three or more ARRL VEs are able to test candidates applying for a new license or upgrading an existing license.

Learn how you can become a VE associated with the ARRL VEC program by reviewing our Volunteer Examiner Manual.

ARRL also authorizes our VEs to conduct exam sessions for ARRL's Amateur Radio Emergency Communications Course. An additional registration with ARRL's Continuing Education Program is required. Learn More

Consider contributing your time and expertise to your local community by becoming an ARRL VE. Serving the Amateur Radio community as a VE is a gratifying experience!

From www.ARRL.org

Online Video-supervised Exams.

The remote video exam session is conducted using an online video conferencing platform and a web-based examination system with on-screen tests.

VE teams are using the ExamTools online examination system for the remote video-supervised sessions and for in-person sessions.

For more information contact any UAARC Officers or
John Zenetr AE5OY at j.zenter@w-rg.com

AMATEUR RADIO
ACTIVITIES

FIELD DAY- Usually held on the last full weekend of June and Winter Field Day is held on the last full weekend of January. This is a fun time for club members to gather and include their families. But more importantly it is a test of the club's abilities to see how fast a full station can be set up and be ready to operate in a remote area without electricity in an emergency. This is a nation wide event and stations compete to see where and how many stations they can contact in the 24 hour time limit of Field Day. This is an ARRL sponsored event.

POTA- POTA stands for Parks On The Air and is another ARRL sponsored event similar to Field Day, except stations must set up in a National Park and are assigned park numbers for their identification when contacting other parks or stations. This is another good practice of station set up.

DX- DX is a contest to see how many other stations you can contact from all over the world. There are awards you can receive. DX is usally done on 20,10 and 15 meters.

CONVENTIONS- Are a gathering of Hams, vendors and teaching classes. These are usually done in larger cities. Vendors from major manufactures will usually be attending along with Hams selling all sorts of things at tables in a "flea market".

FOX HUNTING- Every weekend, in cities and towns all across the country, ham radio operators gather on hilltops for a very special kind of contest--the Fox Hunt. A small, low power transmitter is hidden and the rest of the crew tries to find it. Sound simple? It can be very challenging and a whole lot of fun. The direction finding skills learned in this activity can be very valuable in locating a repeater jammer, or a lost hiker.

SATELLITE- Amateur Radio satellites are built by volunteers and launched on commercial payloads for use, free of charge, by all licensed amateur radio operators. There are more than 18 fully operational satellites in orbit providing FM, SSB, and data AX.25, packet radio, APRS.

PUBLIC SERVICE- *As defined by ARRL;* "Amateur radio operators use their training, skills, and equipment to provide communications during emergencies When All Else Fails®. Hams serve our communities when storms or other disasters damage critical communication infrastructure, including cell towers, and wired and wireless networks. Amateur radio can function completely independently of the internet and phone systems. An amateur radio station can be set up almost anywhere in minutes. Hams can quickly raise a wire antenna in a tree or on a mast, connect it to a radio and power source, and communicate effectively with others."

Examples of the above public service include Amateur Radio Emergency Service (ARES), Radio Civil Emergency Service (RACES), National Traffic System (NTS) and Independent public service nets, such as 7290 Traffic Net.

WAS (WORKED ALL STATES)- An ARRL program that provides recognition for Amateur Radio Operators who contact stations in all fifty states. Either electronic or paper confirmation is required for each contact in the form of ARRL LoTW or regular QSL cards.

Hamfest or Amateur Radio Conventions- A Hamfest is a convention of amateur radio enthusiasts, often combining a trade show, flea market, and various other activities of interest to amateur radio operators (hams). In the United Kingdom the term rally is more commonly used for amateur radio conventions.

Amateur Radio Code and Proper Operating Procedures

According to ARRL; *The Radio Amateur is*

CONSIDERATE *The radio amateur never knowingly operates in such a way as to lessen the pleasure of others.*

LOYAL *The radio amateur offers loyalty, encouragement and support to other amateurs, local clubs, the IARU Radio Society in their country, through which Amateur Radio in their country is represented nationally and internationally.*

PROGRESSIVE *The radio amateur keeps their station up to date. It is well-built and efficient. Their operating practice is above reproach.*

FRIENDLY *The radio amateur operates slowly and patiently when requested; offers friendly advice and counsel to beginners; kind assistance, cooperation and consideration for the interests of others. These are the marks of the amateur spirit.*

BALANCED *Radio is a hobby, never interfering with duties owed to family, job, school or community.*

PATRIOTIC *The radio amateur's station and skills are always ready for service to country and community.*

adapted from the original Amateur's Code, written by Paul M. Segal, W9EEA, in 1928

Simplified Good Operating Procedures;

1. Before transmitting - always listen first.

2. On VHF or UHF repeaters, do not ask if the frequency is in use, but rather just give your call sign and say “monitoring”, if you want to talk to someone.

3. If checking to see if you can access the repeater, simply say “radio check” and give your call.

4. When calling another station on repeaters or HF always give the call of the station you are calling **first**, followed by your own call.

5. Also, on HF always ask if the frequency is in use before transmitting.

6. HF does not have channels (except for 60M), so do not transmit too close to another QSO.

7. Do not use CB or public service lingo, such as “10-4” or “come-back” - use only accepted Amateur Radio language.

8. Be sure to give your call at the beginning, end and every 10 minutes of your transmissions.

9. Avoid bad language, four-letter words, politics, religion or other provocative comments.

10. When in doubt about abbreviations, just use plain language.

11. Do not broadcast, except for bulletins, Ham radio training, or similar. Do not just say “hello world”.

HAM RADIO LANGUAGE

Hams often use their own language. Follows a list of explanations of language you might hear.

73	"Best regards"
AGC	"Automatic Gain Control", a circuit in a radio which automatically adjusts the overall gain of the receiver.
AMTOR	"Automatic Teleprinting Over Radio", popular digital mode on HF
Antenna Gain	The ratio of the power required at the input of a loss-free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength at the same distance.
Antenna Party	A long-standing tradition among Hams where several gather to assist a fellow Ham in mounting antennas and/or towers.
AOS	"Acquisition of Signal" from a satellite; occurs when the satellite becomes "visible" to the antenna as it comes up from the horizon.
APRS	Automatic Packet reporting System (Uses GPS + Packet Radio)
ARRL	American Radio Relay League"; A US based organization which exists to support Amateur Radio. For more information please visit http:www.arrl.org
ATV	"Amateur Television" typically found on the 430 MHz and 1.2 GHz bands.
AWG	"American Wire Gauge", a system of describing the diameter of wire by which the wire size increases as the gauge number decreases.
Barefoot	Refers to running your transmitter without an amplifier.
BFO	Beat frequency oscillator.
Bird	Brand name of a high quality directional watt-meter.

Birdie A signal produced within a radio, typically by it's microprocessor or related circuitry, that appears at specific intervals across the tuning dial of a receiver. Usually it is a product of mixed intermediate frequencies within the radio. Also known as an undesired product.

Boat Anchor Slang for a large, heavy, usually old radio.

Brass Pounder Refers to someone who sends Morse Code by a "straight" key.

Bug A mechanical keying device for transmitting Morse Code semi-automatically.

Coax Coaxial cable RF transmission line, used to connect an antenna to a radio: "coaxial" indicates that the conductors are about the same axis, with a center conductor being on that axis, and the "shield" wrapped around the axis.

CW "Continuous Wave", popular digital mode on HF which utilizes Morse Code. Regarded by many as the first digital mode.

DCS Digital Coded Squelch

DE "From" in CW.

Deviation The resultant frequency swing of a signal that is frequency modulated (FM).

Dielectric A non-conductive material used to separate the center conductor and shield in coaxial cable. Typically made of foam or plastic.

Dipole The most common wire antenna amongst Hams, the easy-to-homebrew dipole consists of two legs (each ¼ wavelength) which typically extend horizontally and away from each other. One leg connects to the coax's center conductor and the other leg connects to the coax's shield and both radiate equally. The dipole antenna is usually, but not always, strung in a horizontal fashion between trees and work best when at least ¼ wavelength above the earth.

Driven Element An “arm” of a yagi antenna to which RF power is fed from the coax.

Dummy Load Typically a power dissipating resistor or device substituted in place of an antenna on a transmitter, used for testing purposes.

DX Making contacts over long distances. For HF contacts, “DX is typically considered as such if the station contacted is outside of your country.

DXCC DX Century Club is an ARRL sponsored club by which membership is allowed only after showing proof of having made contact with at least 100 different countries.

DXpedition This term typically refers to a trip made by experienced Ham operators to a “DX” country for the purpose of providing other Hams an opportunity to make a contact (QSO) into that country.

EME “Earth-Moon_Earth” communication. Using the moon as a reflector to “bounce” your signal back down to Earth.

ERP Stands for Effective Radiated Power. Is power supplied to an antenna multiplied by the antenna gain in a given direction .

Eyeball Face to face meeting, as in eyeball QSO or to speak to one another in person.

FB Fine Business, a cheerful acknowledgment or describing a good quality.

Field Day A once a year contest sponsored by ARRL where Hams to to remote sites and operate for 24 hours. Used to assist Hams in emergency preparedness.

Fist The sending style of a particular CW operator.

FM Frequency Modulation

Harmonic Secondary RF emission that is a multiple of the fundamental emission. Also can apply to children.

HF High Frequency bands between 1.8 MHz and 30 MHz.

Homebrew Equipment that is home built, something you built yourself.

Hz A unit used to measure frequency. Used with Kilohertz (Khz) to indicate 1,000Hertz or Megahertz (MHz) to indicate 1,000,000 Hertz.

Intermod Derived from the expression inter-modulation distortion (IM). A problem caused in the receiver of a radio by nearby transmitter's spurious signals which may fall on or very near to the receiver's receive frequency.

IRC International reply coupon is a system which most country's postal systems provide a coupon which can be purchased, and then used by a sender in any other country to obtain return mail postage. IRC's are used to assure return postage for QSL cards.

J-Pole An antenna design this is relatively east to assemble yourself. The basic J-pole design can be applied to any frequency, as long as measurements are pre proper for that frequency.

Kc Kilocycle or KHz is a way of describing frequency.

Key Device used by hand to produce Morse Code.

Keyer Device for sending Morse Code semi-automatically.

K-Index A three hourly index of geomagnetic activity relative to an assumed quiet day curve for the recording site.

LID Slang term referring to a CW operator with very poor practices and manners.

L-Ion Lithium-Ion is a type of rechargeable battery used with radio equipment.

LSB Lower Sideband.

Matchbox Or Antenna Tuner is a device placed between a transmitter and an antenna to tune the circuit to resonance.

MHz MHz or Megahertz a way of describing frequency.

MUF	Maximum Usable Frequency is that frequency above which expected propagation no longer exists.
NB	Noise Blanker blocks unwanted noise.
NCS	Net Control Station usually on a Net.
NiCd	Ni-Cad or Nickel Cadmium is a type of rechargeable battery used with radio equipment.
NiMH	Nickel Metal Hydride is a type of rechargable battery used with radio equipment.
NTS	National Traffic System is a part of ARRL established to pass formal written Messages or Traffic across the country during Nets on established frequencies.
OM	Old Man is a way to affectionately address a fellow Ham operator, like saying Old Buddy.
OO	OO is an Official Observer that is a volunteer of the ARRL's program who monitors the airwaves for FCC rules violations.
Paddles	Short for Morse Code Key, one that contains small paddles that are tapped in order to produce semi-automatic Morse Code.
PEP	Peak Envelope Power used to measure power output of an single sideband signal.
Phone Patch or Patch	Device that allows audio from a telephone line to be placed in the audio circuits of a transmitter/receiver.
Pink Ticket	FCC notice of Rule Violation.
PM	Phase Modulation or Pulse Modulation.
PSK31	A digital mode that utilizes phase shift keying (PSK) and is transmitted at 31 baud (speed).
PTT	Push to talk is a button on a microphone or on the side of a handheld radio which activates the transmitter.

QCWA Quarter Century Wireless club is an organization for hams who have held a license for 25 or more years.

Q-Signals Originally developed by CW (Morse Code) operators to make certain, frequently used phrases short and concise. Such as QST (announcement), QSL (confirmation), and QTH (location), and QRZ (who is calling me).

QSL Bureau An organization that provides a collecting and distributing point for QSL cards. The cards are exchanged between Hams that have talked to each other on the air as a record of their QSO (conversation).

QSL Card Similar in size to a postcard are used to confirm having made contact with another station on the air. The card is filled out by the sender and contains the station contacted, UTC date and time of contact, frequency/band, signal report (RST)and call sign and address of sender.

Repeater A system consisting of at least one transmitter, one receiver, and a controller, which receives a signal on one frequency and re transmits it on another frequency. Repeaters are typically located in high locations so that they have greater coverage area. Repeaters are most commonly used on the 2 meter and 70 centimeter bands.

RF Radio frequency.

Rig A radio.

RIT Receive Incremental Tuning is a common feature on HF radios that allows the user to slightly change the receive frequency while leaving the transmit frequency the same.

RST Readability, Strength, Tone is a system by which a received signal quality is graded, and signal report is given. Readability is judged on a scale from 1 to 5 and Strength and Tone are judged on a scale from 1 to 9. Tone does not apply to a "phone" (voice) signal. A very high quality CW signal is "599" (pronounced five nine nine) and a phone signal is "59" (pronounced five nine).

RTTY Radio Teletype digital mode on HF. Pronounced Rittiye.

Rubber Duck A flexible antenna normally found on hand-held transceivers.

RX Abbreviation for receiver or receive.

SASE Self addressed Stamped Envelope.

SFI Solar Flux Index

Simplex Communicating directly from radio to radio without the use of an intermediary repeater.

Slug A short cylindrical unit that is inserted into a Bird Watt meter (or similar) that allows the unit to read power (watts) for a particular frequency range. A slug always has a finite frequency range and a maximum power rating. By swapping out different slugs. The watt, meter can be used for, many different frequencies and power ranges.

Solar Flux Index A measurement of radio emission from the sun. HF propagation conditions are considered good when this number is high and the A- and K – index numbers are low.

Special Event A radio operating event, usually on HF, in which a group or organization celebrates an event or holiday by making contacts and offering special QSL cards or certificates to confirm the contact.

SSB Single sideband.

Straight Key A device for sending Morse Code, consisting of a single arm making contact with another point to complete a circuit and key a transmiter.

Switching Power Supply A power supply that uses switching transistors (on-off) to increase the efficiency of the power conversion, rather than the simple transformer/rectifier design of traditional power supplies.

SWL Shortwave listener is someone who enjoys listening to shortwave transmissions without intention of transmitting.

SWR Standing Wave Ratio is an indication of how well matched an antenna is to it's transmitter. A one to one 1:1 SWR indicates a perfect match.

Ticket Slang for FCC License.

TX Abbreviation for transmitter or transmit.

USB Upper Sideband.

UTC Coordinated Universal Time is a single time reference to be used worldwide.

VEC Volunteer Exam Coordinator.

VOX Voice Operated Relay allows the presence of a sound to trigger the PTT.

WAC Worked All Continents is an award issued to those who make, and have proof of, contact to at least one ham on each continent.

Wallpaper Slang for QSL cards and operating/contest certificates.

WAS Worked All States is an award issued to those who make, and have proof of, contact to at least one ham in each US state.

Wouff Hong An instrument of sadistic torture for hams who do not follow generally accepted rules o courtesy on the air. (The truth) The Wouff Hong sprang from the imagination of ARRL co-founder Hiram Percy Maxim, W1AW, as a means to combat poor operating.

WWV A radio station located in Fort Collins, Colorado that continuously broadcasts standard time of day and other radio and navigation information, on frequencies of 5.00, 10.00, 15.00, 20.00 and 25.00MHz.

WX Abbreviation for weather.

XCVR Transceiver is a unit integrating both a transmitter and a receiver.

XIT Transmit Incremental Tuning is a common feature on HF radios that allows the user to slightly change the transmit frequency while leaving the receive frequency the same.

XYL Short for Wife (i.e. ex-YL).

Yagi An Antenna consisting of two or more elements (arms that run perpendicular to a common boom) which are fed parasitically from one or more driven elements. The number of elements is proportionate to the gain.

YL Young lady can infer a girlfriend or simply a YL operator.

ZED A way of saying the letter ”Z”. Is a precise way of saying the letter “Z”. Prevents others from confusing “Z” with “E” or “P” etc.

Zulu Used to refer to UTC as in “Zulu Time”.

ARRL Amateur Radio Information

Including:

ARRL Handouts

Band Plan

League Officials

For additional info see www.arrl.org/ota for new Hams.

ARRL OFFICIALS AND CONTACT INFORMATION
(ARRL)
2024

PRESIDENT

Rick Roderick K5UR
POB 444
Vilonia, AR 72173
k5uar@arrl.org

WEST GULF DIV DIRECTOR

John Stratton N5AUS
POB 2232
Austin, TX 78768
512-445-6262
n5aus@arrl.org

WEST GULF DIV VICE DIRECTOR

Lee Cooper W5LHC
2507 Autredy Dr
Leander, TX
512-658-3910
w5lhc@arrl.net

NORTH TEXAS SM

Steve Lott Smith KG5VK
125 Contest LN
Ben Franklin, TX 75415
318-470-9806
lottsphoto@gmail.com

SOUTH TEXAS SM
Stuart Wolfe KF5NIX
408 Cedaar Grove Rd
Rockdale, TX 76567
512-660-9954
amadeur@gmail.com

WEST TEXAS SM Dale Durham W5WI
POB 375
Buffalo Gap, TX 79508
830-719-9000
w5wi@arrl.net

OKLAHOMA SM Mark Kleine N5HZR
2651 84th Ave. SE
Norman, OK 73026
405-410-6156
n5hzr@arr;/org

NORTH TEXAS TRAFFIC MANAGER
Aaron Hulett K8AMH
POB 479
Little Elm TX 75068
469-759-9661
k8amh@arrl.net

SOUTH TEXAS TRAFFIC MANAGER
Sheree Horton
7302 Highland Chase Dr
Houston, TX 77407
713-299-6994
wm5n@arrl.net

WEST TEXAS TRAFFIC MANAGER
Russell Plocheck WE5TXS
2654 Garfield
Abilene TX 79601
we5txs@suddenlink.net

ARRL Divisions

ARRL's governance structure divides the United States into 15 ARRL Divisions. Every three years, ARRL members in each of these Divisions elect both a Director and a Vice Director to represent them on the ARRL's Board of Directors.

US Amateur Radio Bands

US AMATEUR POWER LIMITS

FCC 97.313 An amateur station must use the minimum transmitter power necessary to carry out the desired communications. (b) No station may transmit with a transmitter power exceeding 1.5 kW PEP.

Effective Date for 2,200 and 630 Meters to be announced

ARRL The national association for AMATEUR RADIO®

On March 28, 2017, the Federal Communications Commission adopted rules that will allow Amateur Radio access to 472-479 kHz (630 meters) and to 135.7-137.8 kHz (2,200 meters). However, amateurs cannot use these frequencies until 30 days after the Report and Order is published in the Federal Register and the final procedures for registering stations with the Utilities Telecoms Council (UTC) have been approved and announced. At the time this chart was created, the Report and Order had not been published and the UTC online registration site is not yet available. Follow ARRL news for further information. New charts will be published at www.arrl.org/graphical-frequency-allocations when the bands are fully available for use.

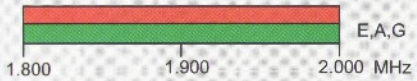
2,200 Meters (135 kHz)

630 Meters (472 kHz)

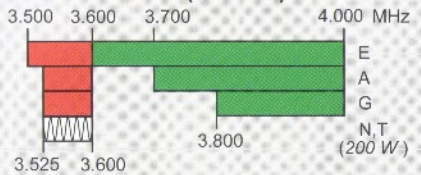
5 W EIRP maximum, except in Alaska within 496 miles of Russia where the power limit is 1 W EIRP.

160 Meters (1.8 MHz)

Avoid interference to radiolocation operations from 1.900 to 2.000 MHz



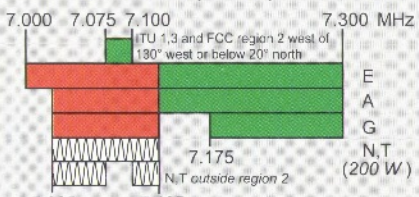
80 Meters (3.5 MHz)



60 Meters (5.3 MHz)

General, Advanced, and Amateur Extra licensees may operate on these five channels on a secondary basis with a maximum effective radiated power (ERP) of 100 W PEP relative to a half-wave dipole. Permitted operating modes include upper sideband voice (USB), CW, RTTY, PSK31 and other digital modes such as PACTOR III. Only one signal at a time is permitted on any channel.

40 Meters (7 MHz)



See Sections 97.305(c), 97.307(f)(11) and 97.301(e). These exemptions do not apply to stations in the continental US.

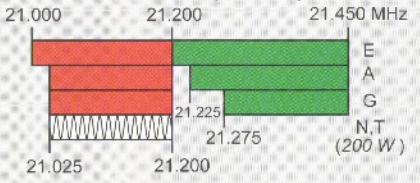
30 Meters (10.1 MHz)

Avoid interference to fixed services outside the US.

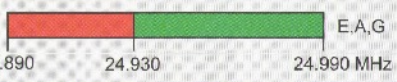
20 Meters (14 MHz)

17 Meters (18 MHz)

15 Meters (21 MHz)

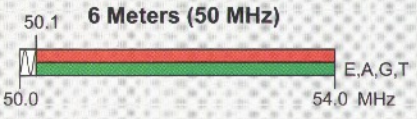


12 Meters (24 MHz)

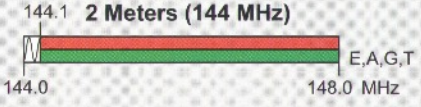


10 Meters (28 MHz)

6 Meters (50 MHz)



2 Meters (144 MHz)



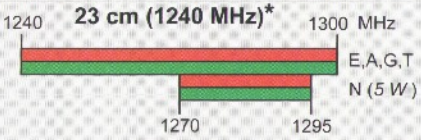
1.25 Meters (222 MHz)

*Geographical and power restrictions may apply to all bands above 420 MHz. See *The ARRL Operating Manual* for information about your area.

70 cm (420 MHz)*

33 cm (902 MHz)*

23 cm (1240 MHz)*



All licensees except Novices are authorized all modes on the following frequencies:

2300-2310 MHz	10.0-10.5 GHz ‡	122.25-123.0 GHz
2390-2450 MHz	24.0-24.25 GHz	134-141 GHz
3300-3500 MHz	47.0-47.2 GHz	241-250 GHz
5650-5925 MHz	76.0-81.0 GHz	All above 275 GHz

‡ No pulse emissions

KEY

Note:

CW operation is permitted throughout all amateur bands.

MCW is authorized above 50.1 MHz, except for 144.0-144.1 and 219-220 MHz.

Test transmissions are authorized above 51 MHz, except for 219-220 MHz

- = RTTY and data
- = phone and image
- = CW *only*
- = SSB phone
- = USB phone, CW, RTTY, and data
- = Fixed digital message forwarding systems *only*

E = Amateur Extra
A = Advanced
G = General
T = Technician
N = Novice

See *ARRLWeb at www.arrl.org* for detailed band plans.

ARRL
We're At Your Service

ARRL Headquarters:
860-594-0200 (Fax 860-594-0259)
email: hq@arrl.org

Publication Orders:
www.arrl.org/shop
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Getting Started in Amateur Radio:
Toll-Free 1-800-326-3942 (860-594-0355)
email: newham@arrl.org

Exams: 860-594-0300 email: vec@arrl.org

 rev. 4/25/2017

AMATEUR RADIO EMERGENCY SERVICE
(ARES)

ARES is a group of Amateur Radio operators that volunteer their time to help in times of all types of emergencies. Participants undergo training that is usually done by the EC for the county that the EC is charge of. Each county in the District has an EC. If for some reason there is no EC in a county, then neighboring counties help with any emergencies that there might be a need of. ARES is not part of any government agency and is not as structured as another group, Radio Amateur Emergency Service (RACES) but still require an amount of structure so that any emergency can be handled efficiently.

All interested volunteers must fill out an application form provided by the EC and are required to participate in ARES training nets and practice activations.

District 8 counties are:

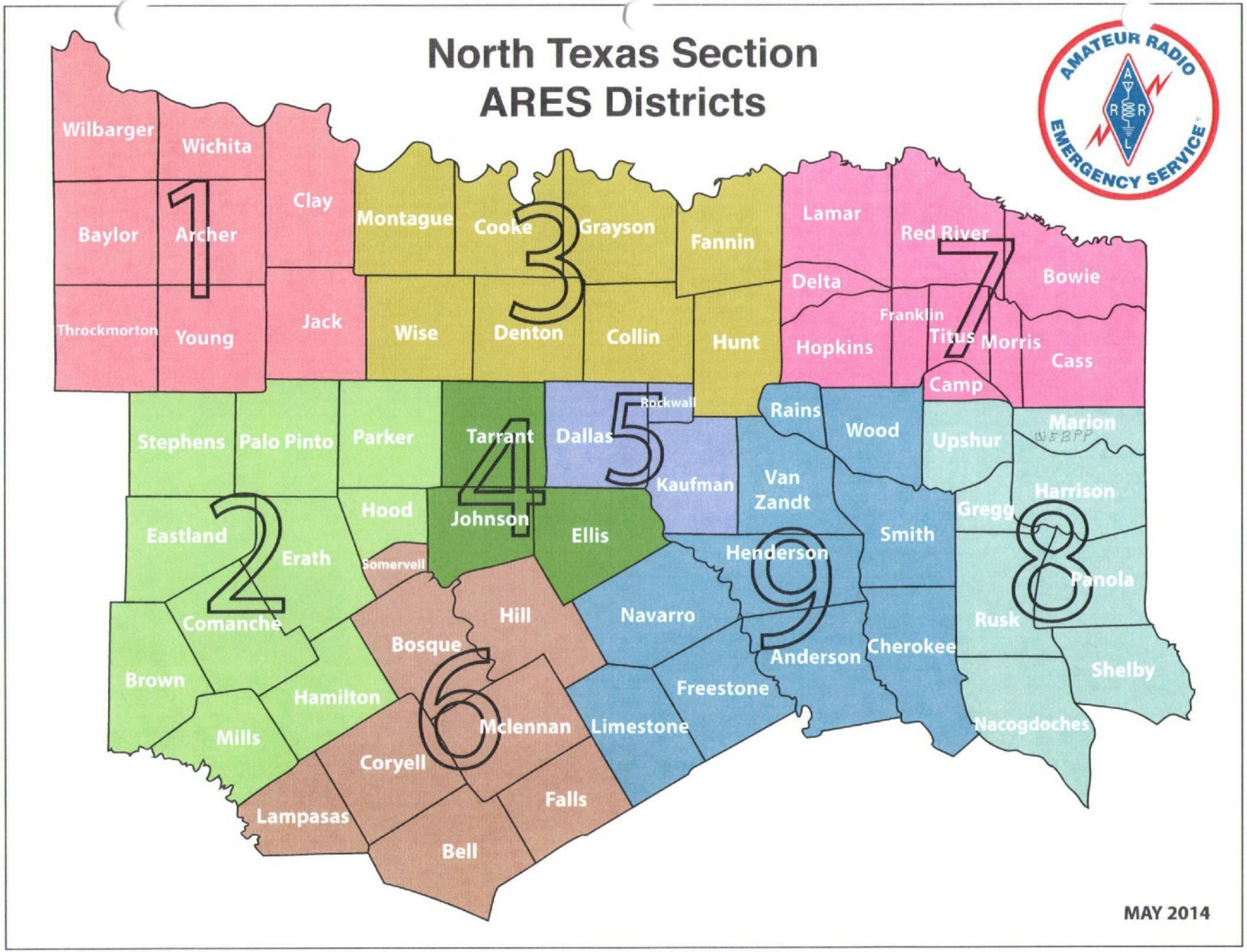
- Upshur
- Marion
- Gregg
- Harrison
- Rusk
- Panola
- Nacogdoches
- Shelby

District Emergency Coordinator (DEC)
District 8

Jo Ann Keith KA5AZK
POB 394
Diana, TX 75640
903-797-2353

Emergency Coordinator (EC)
Upshur County

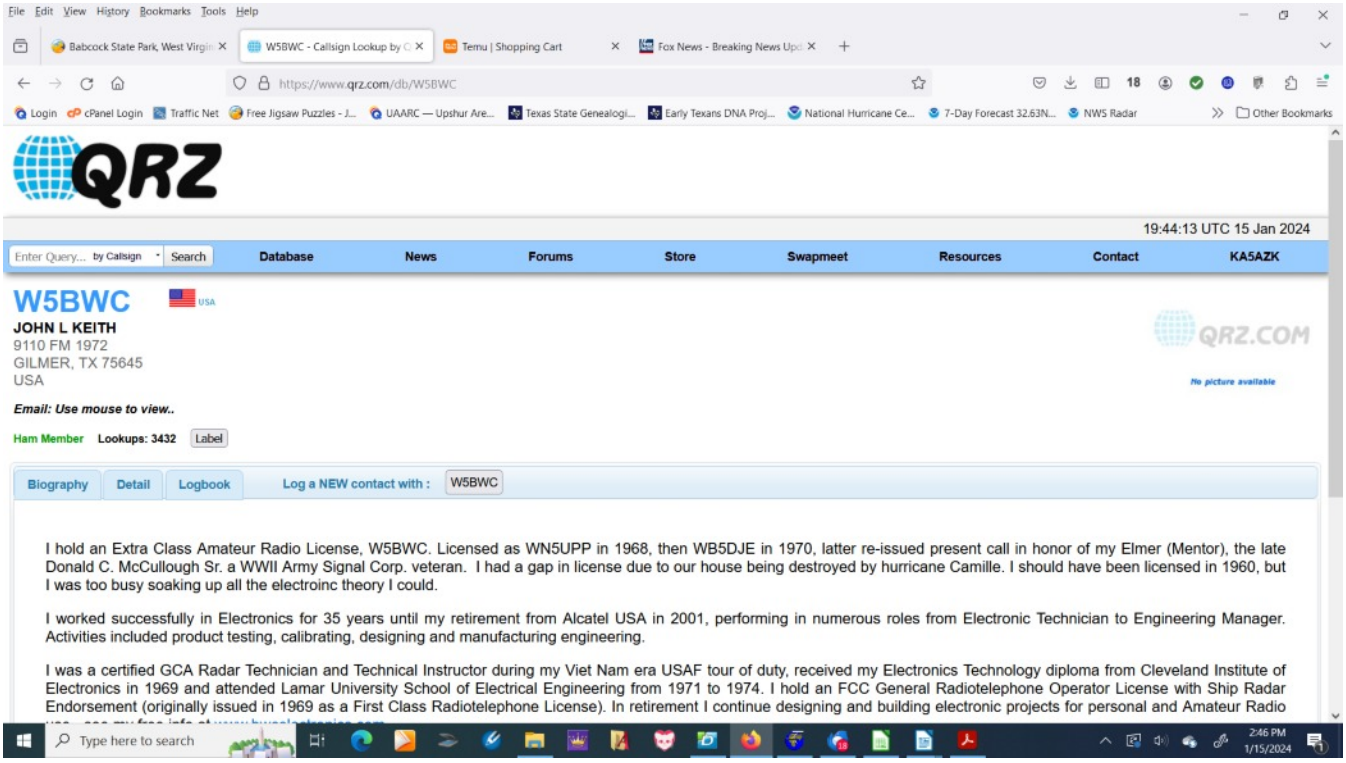
John Keith W5BWC
POB 394
Diana TX 75640
903-797-2353


North Texas Section
ARES Districts
AMATEUR RADIO
EMERGENCY SERVICE
Wilbarger
Wichita
Clay
Baylor
Archer
Montague
Cooke
Grayson
Fannin
Lamar
Red River
Bowie
Throckmorton
Young
Jack
Wise
Denton
Collin
Hunt
Delta
Hopkins
Franklin
Titus
Morris
Cass
Camp
Rockwall
Rains
Wood
Upshur
Marion
Stephens
Palo Pinto
Parker
Tarrant
Dallas
Kaufman
Van Zandt
Harrison
Gregg
Eastland
Erath
Hood
Somervell
Johnson
Ellis
Smith
Henderson
Panola
Comanche
Hill
Navarro
Rusk
Bosque
Anderson
Cherokee
Brown
Hamilton
Freestone
Shelby
Mills
Mclennan
Limestone
Nacogdoches
Coryell
Falls
Lampasas
Bell
1
2
3
4
5
6
7
8
9
MAY 2014

QRZ

https://www.qrz.com

QRZ is an on line organization that provides contact information for Amateur Radio operators. Info includes complete name, address, city, state, zip and email address. A Bio can be submitted that tells about the Amateur. The site is free for Amateur use but advanced features require a small fee. This is a very useful site for getting info about stations you need information on.



TRAFFIC TRAINING

by

Jo Ann Keith
KA5AZK

May 1, 2021

ACKNOWLEDGEMENTS

Compiled by Jo Ann Keith KA5AZK
May 1, 2021

My thanks to the following fellow Hams

John Keith W5BWC
For his help and support

Steve Phillips K6JT, Sam Sitton W5CU and Rodney Baker W5DY
For their help with the NTS info and Net Frequency List

ARRL
For their training materials

IN THE BEGINNING
AND
WHAT IS TRAFFIC

Amateur Radio started out as a scientific hobby but quickly it was realized that Hams could provide a great public service. Back at the turn of the century, Marconi was the first to prove that a message could be relayed by wireless from one point to another. Our Military realized the Amateur's usefulness in the years after the first World War and the formation of MARS was established in 1925 as then the Army-Amateur Radio System. During MacMillan's expedition to the Arctic on the schooner Bowdoin in 1923, Amateurs provided communications between the schooner and the adventures homes. Then, as now, Hams have proven their ability to communicate when there are no other ways to do so.

So what is Traffic? No it's not something that you set in for long periods of time on the Interstate, it has become known as the messages that are passed from one point to another. There are several parts to a message or piece of traffic that will be covered later on. A standard form or method of writing up a message has evolved over the years by Amateurs that have participated in passing a great number of pieces of traffic. It was found that a standard form for everyone to use was the most efficient and fastest way to transmit a message. There are many different ways to transmit a piece of traffic such as, on SSB, CW and many different ways on the new technology that is available today with the computer. But with all them you will use the same basic form.

WHY LEARN TRAFFIC HANDLING

In this day of cell phones and digital technology the need for learning traffic handling, nets in general and Ham Radio for that matter might seem obsolete. An emergency of some sort, such as the last two Gulf Coast hurricanes and the shuttle crash, proved that is not the case. We may not handle traffic in the same way or in the amount we did years ago but just like CW, there is still a need.

During the hurricanes it became very obvious that there is a need for Hams to learn how to check into nets and what is meant by a piece of traffic. Cell phone towers can blow over and the back up power to the sites can either not work or be used up if the emergency goes on long enough. Cell phones don't always work in some areas; such was the case during the shuttle crash. During the hurricanes people were checking into nets that had never done so before and didn't know the procedures or the disciplines of the net. What was needed and not needed in a health and welfare message was not known in a lot of cases.

A traffic net during an emergency is a hectic place and is made even worse by stations not knowing the correct way or the net's way of doing things. As a matter of fact, inexperience and lack of knowledge can hinder a net's operation greatly. The people on a net become like a family and the net controls learn to know calls, names and locations and therefore will know who can take what message. This makes it so much easier during an emergency to run the net smoothly.

Just as in the early days of Amateur Radio, emergency response organizations are continuing to find out that Hams can help with communications when there is no other way. We need to be prepared so that Ham Radio will be known as helpful and knowledgeable group.

DURING AN EMERGENCY IS NOT THE TIME TO LEARN HOW TO PASS OR WRITE A PIECE OF TRAFFIC OR LEARN HOW TO CHECK INTO A NET. If you are not familiar with either, then LISTEN and learn before there is an actual emergency.

BASIC NET OPERATIONS

A Net is a group of Hams that come together with a common interest. Some of us are interested in traffic or message handling, some rag-chewing, some DXing and on and on. Each net has its own way of asking for stations to check in. Most will read a preamble that will instruct you on how they want you to check in. Listen carefully to those instructions and how everyone else checks in. During an emergency this will be probably be different and is even more important. Some nets, during emergency situations, will only take check ins when there is a need. In other words you listen only. Some are for official use such as, the ARES Net and other officials such as Salvation Army, EOCs, city officials and other organizations of that sort. Other Nets handle health and welfare traffic and general information, such as the 7290 Traffic Net. Still other Nets track hurricanes and the list goes on and on.

It was found that having set schedules for stations to meet (nets) to exchange or relay traffic was more efficient than just random schedules. The National Traffic System was established to speed the relaying of traffic between two or more areas of the county. The main idea of the NTS is that traffic can, under normal conditions, can reach it's destination on the same day it was originated. The NTS is made up, in part, of a Region Net which covers a call area and an Area Net which covers a time zone. Each of these Nets operate several times of the day so that there are several opportunities to pass traffic. There is much more information on the NTS in the ARRL Public Service Communications Manual.

Basic Net Check In Procedure. As stated above, checking into a net will vary with each net. Most will read a preamble that will tell a little about the net, the operating hours and so on. Under normal conditions, some ask for call signs only, some allow call sign and name, and some ask for checkins by state. Almost all will have a standby at the beginning of the net for emergency or priority traffic, anyone that has traffic to list and then general checkins. During the net operation hours, most will pause for additional checkins and stations with traffic. When checking in with traffic and the net control asks you for your traffic, he is asking what city and state your traffic is going to. **Do not just start sending your traffic**. Sometimes a state area net may not have someone from the city where your traffic is to be delivered in. If this happens, it may take a check in or two to pass your traffic. Don’t hesitate, however, to ask for someone to pick up your traffic to pass later if you can’t return to the net’s next session or be on another net. There will more than likely be someone that goes to several nets that won’t mind doing this. However, it is important for the traffic to go through as few as hands as possible.

When moving off frequency to pass a piece of traffic, it is customary for the receiving station to select the frequency and call the station passing the traffic. This is so the receiving station has a frequency he can hear clearly on and it also prevents both stations calling at once and not hearing each other.

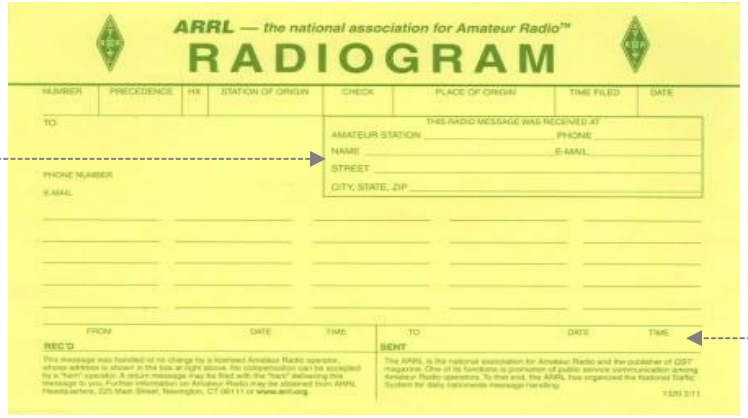
The main idea is to know about these nets and get use to them by checking in and letting the people on the net get use to you and know what your capabilities are. During an emergency is not the time to learn how to check into a net or learn about traffic handling. Be prepared, learn before you need it

THE MESSAGE

There are three ways you may handle a message or piece of traffic:

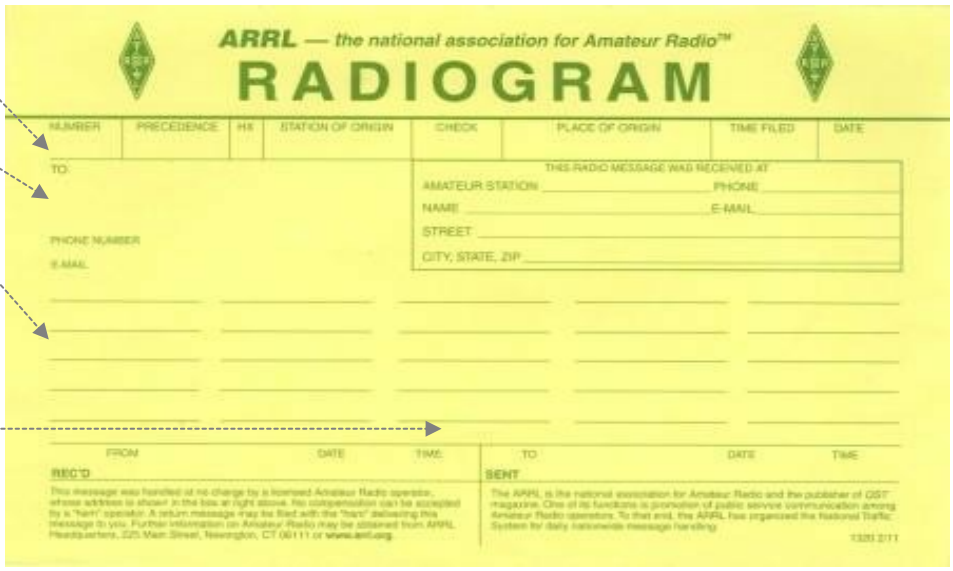
1. Originator – you are the first person to transmit the message. This message will have your number and call in the preamble.
2. Relay – you pick up a message or piece of traffic to retransmit to another station either on another net or relay to another station because of band conditions.
3. Deliver – you pick up a message or piece of traffic to deliver by phone or 2 M to the addressee. Email or Winlink should be used as a last resort means of delivery.

The official ARRL Radiogram form can be used to record messages you relay but it is not necessary if you want to use something else. I used the form when I first started taking messages until I got used to the outline then I started using spiral notebooks, one for received messages and one for messages I originated. (I strongly recommend using the Radiogram form until you learn the outline.) Any way of writing down the message is ok, there are programs for the computer available also. If for some reason you need to hand deliver or mail a message for delivery, you will need to use the form for doing that. Notice the box in the upper right corner to be filled in if you hand deliver or mail. The bottom two boxes are for the station you receive the message from and the station you relay the message to. The sent section can also be used for recording when you phone deliver the message. If you use plain paper to record messages, the sent and received box information need to be recorded. There will be times when you will need to know when and where you have relayed a message.



THE FOUR PARTS OF A MESSAGE

NUMBER 1: The heading or preamble which contains the number, the precedence, the handling instructions (HX), the station of origin, the check count, the place of origin, time filed and the date.
NUMBER 2: The address or who the message is going to.
NUMBER 3: The text. (On the form below, one word would go in each block)
NUMBER 4: The signature.


ARRL — the national association for Amateur Radio™
RADIOGRAM
NUMBER | PRECEDENCE | HX | STATION OF ORIGIN | CHECK | PLACE OF ORIGIN | TIME FILED | DATE
TO:
PHONE NUMBER
E-MAIL
THIS RADIO MESSAGE WAS RECEIVED AT
AMATEUR STATION _____ PHONE _____
NAME _____ E-MAIL _____
STREET _____
CITY, STATE, ZIP _____
FROM DATE TIME
REC'D
TO DATE TIME
SENT

NUMBER 1
The Heading or Preamble Starting with the Message Number

The message number is simply the number assigned to the message by the originating station and stays with the message until it is delivered. Each message should have it's own number which is chosen by the originating station. Some people use the date the message is written, such as June 7 being 67, or consecutive numbers starting with 1 or 100 or whatever number they chose. Putting 0s in front of the numbers is not necessary and frowned upon by CW nets. Your traffic may need to be put on a CW net for delivery.

The Precedence

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The precedence is the type of message it is. There are four different kinds; Emergency, Priority, Welfare and Routine and are written in the precedence block by a P, W or R but are transmitted by the saying the whole word. Emergency is always spelled out. You will see and use Routine most often. Refer to Form FSD-218 page 15.

The Handling Instructions or HX

The handling instructions are just that, they are the way the originating station would like the message handled. There are seven different instructions, HXA, HXB, HXC, HXD, HXE, HXF and HXG. See Form FSD-218, page 15. You will see and use HXG the most. A message may have more than one handling instruction in the heading if it is needed. Transmit the Handling Instructions by saying HOTEL XRAY GOLF. If you use more than one Handling Instruction say HOTEL XRAY GOLF ECHO. Please pay attention to these instructions and if the originator requests a return, originate a message back to him. If you have an HXC and cannot deliver the message, a return (or Service Message) needs to be sent to the originating station informing him.

The Station of Origin

The station of origin is the person that composes and first transmits the message and his/her call stays with the message until it's delivered. If you write the message it has your number and your call.

The Check

The check is the number of words, word groups, figures or figure groups in the text and is limited to 25 groups. Use this number to verify that you received the message correctly. Try to keep the text as simple as possible without a lot of confusing or long words. If you are getting close to the 25 limit, you may gain a space for a word or two by not using punctuation (covered later) if it doesn't change the meaning of your text. If you have an ARL Radiogram in the text, there should be an ARL in front of the number in your check count.

The Place of Origin

The place of origin is the city and state the message originated in and also stays with the message until it's delivered. If for instance, I deliver a message to someone in Longview and they wish to send a reply, the reply would have my call but would have Longview, TX as the place of origin even though I live in Gilmer. The place of origin should be the city the person signing the message lives in.

The Time Filed

The time filed is the time the message is written and is optional. The time can be in UTC or standard time.

The Date

The date is the date the message is written and stays with the message until it's delivered. It is recommended that it be written by spelling the month and using a figure for the day. As in June 1 not 6-1-19.

NUMBER 2
The Address

The address or "to line" is simply that, who the message is going to. The address should contain complete name (first, last & call if Ham), address (complete including zip code), phone number and optional email address. Even though the email is optional, sometimes it is the only way to contact the recipient. If you are sending a message to a foreign country, make sure that we have a third party agreement with the country the message is to be delivered in before you send it (List on Page 25).

NUMBER 3
The Text

The text is what the originating station wants to convey to the addressee. The message should be as short as possible and limited to 25 words, word groups, figures or figure groups. Make the text as short as possible to get the point across but leave out unnecessary words. Leaving out any unnecessary punctuation (see below) and words will help your check count.

Pro-words or Identifying words let the receiving station know there is something different coming. Pro-words or Identifying words are **NOT** counted as part of the text and include; word group, figure group, initials, break for text or signature, mixed group, direction or I spell.

Initial groups such as AM, PM, QSL, or ARRL are transmitted by first saying the Pro-word or identifying word of initials then the initials. The Pro-word initial is **NOT** counted as part of the text. The same goes for a group of numbers such as a phone number which is counted as three, 555 214 1212, using the Pro-word or identifying word of figures or figure group before each group of numbers. A date is usually written by spelling out the month and using figures or figure group for the day.

A mixed group is a group that has both letters and figures. An example would be an Amateur call such as KA5AZK. You would transmit by first saying mixed group and then the call. Again the words mixed group is a Pro-word or identifying word and is not counted as part of the text.

The only punctuations used in a message are a question mark, pronounced query and a period, pronounced x-ray. Both **ARE** counted as part of the text. You would transmit by first saying the Pro-word or identifying word of initial and then x-ray. It would be written as an X for a period and the word query for a question. Again the Pro-word or identifying word is **NOT** counted.

Any type of salutation may be used at the end of the text. For example 73 between Hams, 33 between YLs, sincerely, best wishes, etc. The salutation **IS** counted as part of the text, so if you are close to the 25 word limit you may not be able to use a salutation. A period or x-ray is **not** used before or after the numbers.

We use the phrase BREAK in two places in a message. Break for text is used after the address, with a pause for the receiving station to say go with text. The phrase is also used after the salutation, with a pause (break for signature) for the receiving station to say go with signature. In both cases the phrase is **NOT** counted in the text. At the "break for text" is the time for you to ask any questions you might have on the Heading or the addressee. At the "break for signature" is the time for you to ask any questions about the text you have just gotten. The number of words in text should agree with the check count, if they don't agree ask the sending station to read the text again.

Sometimes a message can be shortened by using the ARRL Numbered Radiograms (Form FSD-3, Page 19). If one of these numbers (which are always spelled out) is used it would be written as ARL fifty and transmitted as initials or initial group ARL Fifty and the word count would be two. Some of the ARL Numbered Radiograms have blanks that you fill in with the appropriate words. For instance ARL Sixty Two could be filled in with Christmas and be written as ARL Sixty Two Christmas and transmitted as initials ARL Sixty Two Christmas and the word count would be four. When delivering a message with an ARL number, **simply read the translations**. A non ham would have no idea what ARL Sixty Two Christmas meant. If an ARL number is used in the text, the initials ARL should be included in the check count in the heading. So the check count in that case would be ARL 4.

Book traffic is several pieces of traffic that have the same heading (except for the message number), text and signature, which are called "common parts". It will have different message numbers and addressees for each piece. The traffic is transmitted by transmitting the common parts first. After the receiving station acknowledges he has received the common parts, transmit the message numbers and addresses. It is easier and faster to transmit the heading, text and signature once instead of several times which would be unnecessary.

Web addresses are written as follows: 7290trafficnet dot org for a count of 3. It would be transmitted by saying *mixed group* 7290trafficnet dot *initials* org. The Pro-word or identifying words of mixed group and initial are not counted, so the count would still be 3. Another example: *initials* ARRL dot *initials* org. The identifying words of initials are not counted, so the count would be 3. Since this is a new feature and not yet well documented I consulted with Steve Ewald WV1X in the Public Service section of ARRL who confirmed this is the correct format.

Email address are written as follows: jkeith at etex dot net. It would be transmitted by saying *initials* jkeith at *initials* etex dot net for a count of 5. Again the Pro-word or identifying words of initials is **NOT** counted.

Some do's and dont's

DO: **1**. Spell unusual words only or anything that could be misinterpreted, using standard phonics. You don't need to spell every word in the text just any that could be understood incorrectly. This is important in bad band conditions.

2. Transmit the message at a speed that can be copied easily. It is better to slow down some instead of having to repeat or have errors.

3. Make sure you have the text correct before accepting the message.
The groups you count in the text should match the check count in the heading.

4. Unkey often, or use vox, while sending the message in case the receiving station is having any difficulties. There is no need to say anything during the pauses just unkey or pause any great length of time. This gives the receiving station time to stop you if he has a problem.

5. Keep messages with who you received it from, sent it to and delivered to for awhile, you may need to refer back to them at a later date. A week or two should be long enough

6. When delivering a message, read just the text and signature not the heading which is for our use only. **ALWAYS** translate an ARRL Radiogram before delivery.

7. Service an undeliverable message back to the station of origin in the heading of the message not the station you received it from.

DON'T:

1. Never change any part of a message you receive. The message should stay the same from the time it's originated until the time it's delivered.

2. Never deliver any message you have not acknowledged for on the air.

3. It is not necessary to let the station that relayed a message to you know that you have delivered the message. When you accept a message for delivery, it is understood that you will either deliver it or service it back to the originator.

NUMBER FOUR
The Signature

The signature is just that, the signature of who is writing the message. It is **NOT** counted as part of the text so it may contain an email address, phone number or title but try not to make the signature longer than the text if you can keep from it. During an emergency or if a reply is wanted it is very helpful to transmit at least a phone number and preferably an address and city and state where the person in the signature can be reached. That can be included with the signature. During an emergency the addressee may not have available the signature's address. If need be the message can be returned to the originating call sign in the heading.

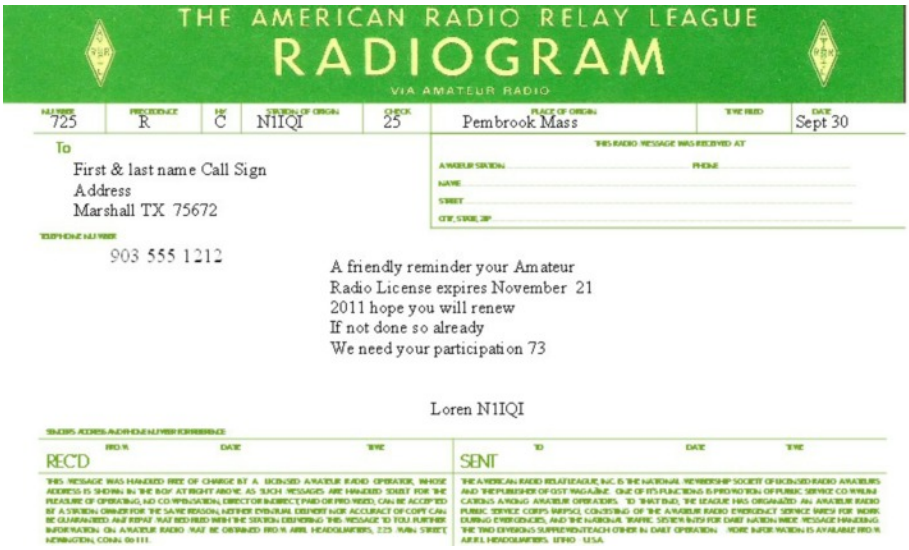
COMPOSING A RETURN MESSAGE

There will be occasions when a message you take for delivery will be undeliverable for one reason or another. In this case the returning message will have your number, a new precedence, new handling instructions, your call, a new check count, new place of origin,

new time and date and goes back to the originating station which may not be the station relaying it to you. If the addressee wants to send a reply, you would originate a complete new message. In other words, you would originate a whole new message in either case.

There is only one form used for sending and originating a piece of traffic and that is the ARRL Radiogram. When you deliver a message with a handling instruction of HXC, HXD or HXE (translations are on Form FSD-218), you will need to send a return (new) message to the originator of the message using a ARRL Radiogram form. The new message will have all of your information including your message number.

IF YOU RECEIVE A MESSAGE LIKE THIS ONE WITH AN HXC HANDLING INSTRUCTIONS



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
725	R	C	N1IQI	25	Pembrook Mass		Sept 30

To

First & last name Call Sign
Address
Marshall TX 75672

903 555 1212

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION PHONE
NAME
STREET
CITY, STATE, ZIP

A friendly reminder your Amateur
Radio License expires November 21
2011 hope you will renew
If not done so already
We need your participation 73

Loren N1IQI

RECD DATE TIME

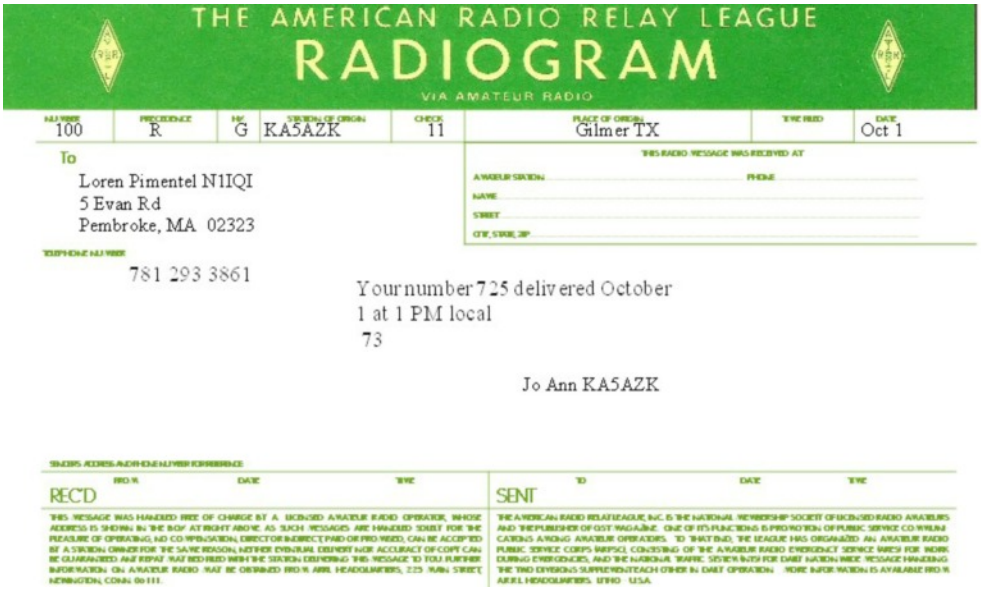
SENT TO DATE TIME

THIS MESSAGE WAS HANDED FREE OF CHARGE BY A LICENSED AMATEUR RADIO OPERATOR, WHOSE ADDRESS IS SHOWN IN THE BOX AT RIGHT ABOVE. AS SUCH MESSAGES ARE HANDED SOLELY FOR THE PLEASURE OF OPERATING, NO COMPENSATION, DIRECT OR INDIRECT, PAID OR PROMISED, CAN BE ACCEPTED BY A STATION OWNER FOR THE SAME REASON, NEITHER EXPEDITE, DEPOSIT NOR ACCURACY OF COPY CAN BE GUARANTEED. ANY REPEAT MAY BE REQUESTED WITH THE STATION DELIVERING THIS MESSAGE TO YOU. FURTHER INFORMATION ON AMATEUR RADIO MAY BE OBTAINED FROM THE ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CONN. 06111.

THE AMERICAN RADIO RELAY LEAGUE, INC. IS THE NATIONAL MEMBERSHIP SOCIETY OF LICENSED RADIO AMATEURS AND THE PUBLISHER OF QST MAGAZINE. ONE OF ITS FUNCTIONS IS PROMOTION OF PUBLIC SERVICE COMMUNICATIONS AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED AN AMATEUR RADIO PUBLIC SERVICE CORPS (ARPSC), CONSISTING OF THE AMATEUR RADIO EMERGENCY SERVICE (ARES) FOR WORK DURING EMERGENCIES, AND THE NATIONAL TRAFFIC SYSTEM (NTS) FOR DAILY NATION-WIDE MESSAGE HANDLING. THE TWO DIVISIONS SUPPLEMENT EACH OTHER IN DAILY OPERATION. MORE INFORMATION IS AVAILABLE FROM THE ARRL HEADQUARTERS, NEWINGTON, CONN. USA.

NOTE:
This message was received with a check count of 25. When counting the actual message the count is 26. The correct way to pass this would be to leave the original count of 25 but transmit by saying corrected to 26. Even though 26 is over the limit of words, one word would not matter that much. Make sure have the text correct before doing this however.

THEN YOUR RETURN MESSAGE WOULD LOOK LIKE THIS



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
100	R	G	KA5AZK	11	Gilmer TX		Oct 1

To

Loren Pimentel N1IQI
5 Evan Rd
Pembroke, MA 02323

781 293 3861

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION PHONE
NAME
STREET
CITY, STATE, ZIP

Your number 725 delivered October
1 at 1 PM local
73

Jo Ann KA5AZK

RECD DATE TIME

SENT TO DATE TIME

THIS MESSAGE WAS HANDED FREE OF CHARGE BY A LICENSED AMATEUR RADIO OPERATOR, WHOSE ADDRESS IS SHOWN IN THE BOX AT RIGHT ABOVE. AS SUCH MESSAGES ARE HANDED SOLELY FOR THE PLEASURE OF OPERATING, NO COMPENSATION, DIRECT OR INDIRECT, PAID OR PROMISED, CAN BE ACCEPTED BY A STATION OWNER FOR THE SAME REASON, NEITHER EXPEDITE, DEPOSIT NOR ACCURACY OF COPY CAN BE GUARANTEED. ANY REPEAT MAY BE REQUESTED WITH THE STATION DELIVERING THIS MESSAGE TO YOU. FURTHER INFORMATION ON AMATEUR RADIO MAY BE OBTAINED FROM THE ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CONN. 06111.

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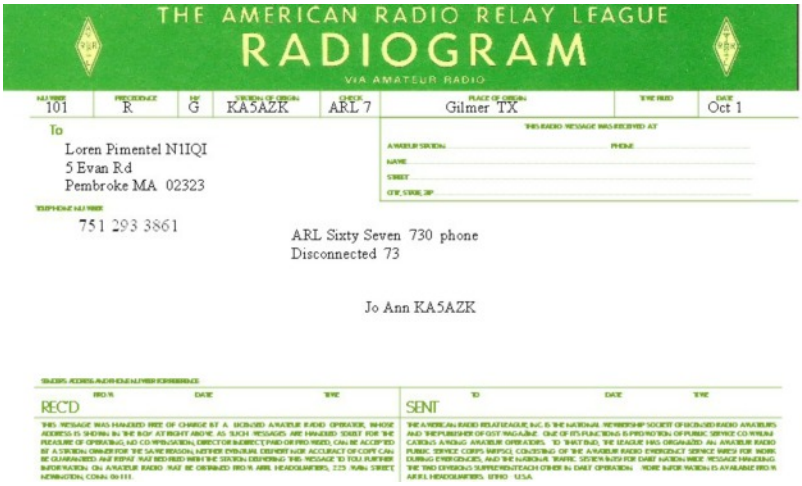
If the Handling Instructions are HXD or HXE the procedure would be the same. Since HXD and HXE have different reply request the text and the check count will be different.

THE ADDRESSEE WANTS TO SEND A REPLY

Sometimes the Handling Instructions will ask for a reply from the addressee or the addressee will want to send a reply. In this case the procedure will be the same just the text and, of course, the check count will be different. Remember that each message you originate should have a different number and keep the text to 25 words or less.

A SERVICE MESSAGE

A service message is a message that, for some reason cannot be delivered. In this case it doesn't matter what the handling instructions are you will still need to "service it back" to the originator. You may use either the ARL Sixty Seven on the Numbered Radiogram list or simply state that the message cannot be delivered, include the reason and the original message number of the undeliverable message. Your message would look as follows:



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
101	R	G	KA5AZK	ARL 7	Gilmer TX		Oct 1

To

Loren Pimentel N1IQI
5 Evan Rd
Pembroke MA 02323

751 293 3861

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION PHONE

NAME

STREET

CITY, STATE, ZIP

ARL Sixty Seven 730 phone
Disconnected 73

Jo Ann KA5AZK

RECD			SENT		
FROM	DATE	TIME	TO	DATE	TIME

THIS MESSAGE WAS HANDLED FREE OF CHARGE BY A LICENSED AMATEUR RADIO OPERATOR, WHOSE ADDRESS IS SHOWN IN THE BODY AT RIGHT ABOVE. AS SUCH MESSAGES ARE HANDLED SOLELY FOR THE PLEASURE OF OPERATING, NO CONSIDERATION, DIRECT OR INDIRECT (FUND OR PRIVILEGE), CAN BE ACCEPTED BY A STATION OPERATOR FOR THE SAME REASON, NEITHER EXPEDITION NOR ACCURACY OF COPY CAN BE GUARANTEED. ANY REPLY MAY BE HANDLED WITH THE STATION DESIRING THIS MESSAGE TO FULL FURTHER INFORMATION. AN AMATEUR RADIO MAY BE OBTAINED FROM ARRL HEADQUARTERS, 225 Main STREET NEWINGTON, CONN. 06111.

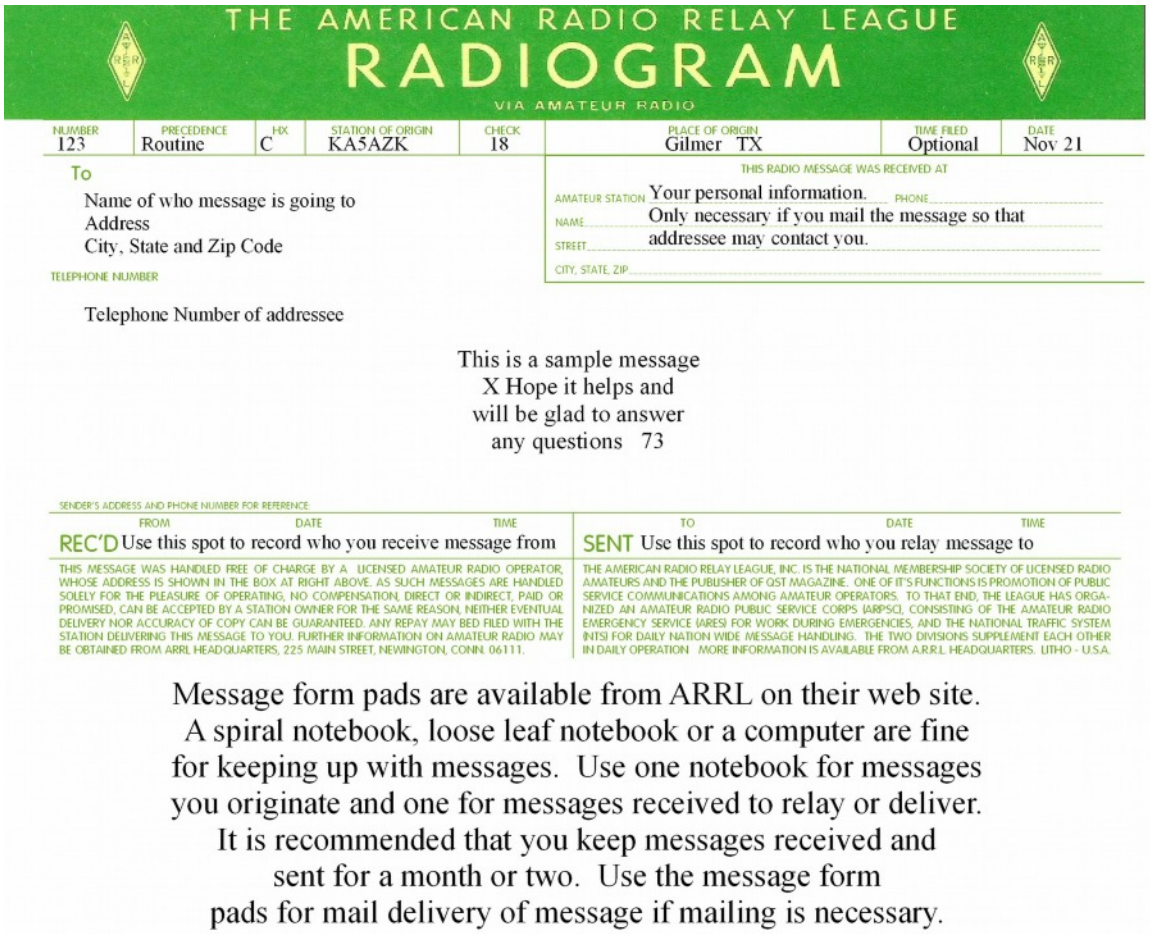
THE AMERICAN RADIO RELAY LEAGUE, INC. IS THE NATIONAL MEMBERSHIP SOCIETY OF LICENSED RADIO AMATEURS AND THE PUBLISHER OF QST MAGAZINE. ONE OF ITS FUNCTIONS IS PROMOTION OF PUBLIC SERVICE CO-WORKING CARRIED AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED AN AMATEUR RADIO PUBLIC SERVICE CORPS (ARPSC) CONSISTING OF THE AMATEUR RADIO EMERGENCY SERVICE WHICH FOR MORE DURING EMERGENCIES, AND THE NATIONAL TRAFFIC SYSTEM (NTS) FOR DAILY NATION-WIDE MESSAGE HANDLING. THE TWO DIVISIONS SUPPLEMENT EACH OTHER IN DAILY OPERATION. MORE INFORMATION IS AVAILABLE FROM ARRL HEADQUARTERS, 225 Main STREET NEWINGTON, CONN. 06111 U.S.A.

After you have written up your traffic it can be listed on a net. When doing so give your call and wait for the Net Control to acknowledge you and ask you if you have traffic. Then tell the NCS that you have traffic and what city and state it is going to. The NCS will then list it for you. **PLEASE DON'T JUST START SENDING YOUR TRAFFIC**. It may take awhile for a station to check into the net that can handle your traffic, so if you can't be on the net the entire time let the NCS know and someone will pick it up for you and relist it or take it to another net.

IN CONCLUSION

The best way to learn traffic handling and net operation is by first **listening** to the preamble of the net and how they are operating. Then **practice** writing down traffic that you hear being passed. Then check in and **participate**. If you are listening to a net and a piece of traffic is being relayed practice writing it down but remember never deliver anything you haven't acknowledged for. This is the best way for you to become use to the outline of a Radiogram, the speed to send a message and to get over the jitters of taking your first piece. The more you handle traffic, the easier it will become. Most nets will be glad to help you along if it is your first piece of traffic, after all we all had to have our first piece of traffic sometime. **The main thing is learn before you need it so that you will be comfortable with checking into nets and handling traffic**.

INDEX



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
123	Routine	C	KA5AZK	18	Gilmer TX	Optional	Nov 21

To

Name of who message is going to
Address
City, State and Zip Code

TELEPHONE NUMBER

Telephone Number of addressee

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION Your personal information. PHONE

NAME Only necessary if you mail the message so that

STREET addressee may contact you.

CITY, STATE, ZIP

This is a sample message
X Hope it helps and
will be glad to answer
any questions 73

SENDER'S ADDRESS AND PHONE NUMBER FOR REFERENCE

FROM DATE TIME

REC'D Use this spot to record who you receive message from

THIS MESSAGE WAS HANDLED FREE OF CHARGE BY A LICENSED AMATEUR RADIO OPERATOR, WHOSE ADDRESS IS SHOWN IN THE BOX AT RIGHT ABOVE. AS SUCH MESSAGES ARE HANDLED SOLELY FOR THE PLEASURE OF OPERATING, NO COMPENSATION, DIRECT OR INDIRECT, PAID OR PROMISED, CAN BE ACCEPTED BY A STATION OWNER FOR THE SAME REASON, NEITHER EVENTUAL DELIVERY NOR ACCURACY OF COPY CAN BE GUARANTEED. ANY REPAY MAY BED FILED WITH THE STATION DELIVERING THIS MESSAGE TO YOU. FURTHER INFORMATION ON AMATEUR RADIO MAY BE OBTAINED FROM ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CONN. 06111.

TO DATE TIME

SENT Use this spot to record who you relay message to

THE AMERICAN RADIO RELAY LEAGUE, INC. IS THE NATIONAL MEMBERSHIP SOCIETY OF LICENSED RADIO AMATEURS AND THE PUBLISHER OF QST MAGAZINE. ONE OF IT'S FUNCTIONS IS PROMOTION OF PUBLIC SERVICE COMMUNICATIONS AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED AN AMATEUR RADIO PUBLIC SERVICE CORPS (ARPSC), CONSISTING OF THE AMATEUR RADIO EMERGENCY SERVICE (ARES) FOR WORK DURING EMERGENCIES, AND THE NATIONAL TRAFFIC SYSTEM (NTS) FOR DAILY NATION WIDE MESSAGE HANDLING. THE TWO DIVISIONS SUPPLEMENT EACH OTHER IN DAILY OPERATION. MORE INFORMATION IS AVAILABLE FROM A.R.R.L. HEADQUARTERS. LITHO - U.S.A.

Message form pads are available from ARRL on their web site. A spiral notebook, loose leaf notebook or a computer are fine for keeping up with messages. Use one notebook for messages you originate and one for messages received to relay or deliver. It is recommended that you keep messages received and sent for a month or two. Use the message form pads for mail delivery of message if mailing is necessary.

EXAMPLE OF WHAT CAN HAPPEN TO A MESSAGE

ORIGINAL

91 R HXG KC0M 20 Gilmer TX Jul 28

William Bodine Jr. AB5PM
5321 Carriage Ln
Corpus Christi TX 78415
361-854-3792

Welcome to the 7290 Traffic
Net X we appreciate you
Checking in and hope you
Will join us often 73

KA5AZK Net Manager

RECEIVED

91 R HXG KC7OM 20 Gilmer TX July 28

William Virginia A5PM
53921 Carry Lane
Corpus Christi TX 361-854-3792

Welcome to the 7290 Traffic
Net X we appreciate you
Checking in and hope you
Will continue 73

KA5AZK

FSD-218

Relief Emergency · Routine Messages
Recommended Precedences

Every formal radiogram message originated and handled should contain the following component parts in the order given

I. Preamble

a. Number (begin with 1 each month or year)
b. Precedence (R, W, P or EMERGENCY)
c. Handling Instructions (optional, see text)
d. Station of Origin (first amateur handler)
e. Check (number of words/groups in text only)
f. Place of Origin (not necessarily location of station of origin.)
g. Time Filed (optional with originating station)
h. Date (must agree with date of time filed)

II. Address

(as complete as possible, include zip code and telephone number)

III. Text

(limit to 25 words or less, if possible)

IV. Signature

CW: The prosign $\overline{\text{AA}}$ separates the parts of the address. $\overline{\text{BT}}$ separates the address from the text and the text from the signature. $\overline{\text{AR}}$ marks end of message; this is followed by B if there is another message to follow, by N if this is the only or last message. It is customary to copy the preamble, parts of the address, text and signature on separate lines.
RTTY: Same as CW procedure above, except (1) use extra space between parts of address, instead of $\overline{\text{AA}}$; (2) omit cw procedure sign $\overline{\text{BT}}$ to separate text from address and signature, using line spaces instead; (3) add a CFM line under the signature, consisting of all names, numerals and unusual works in the message in the order transmitted.
PACKET/AMTOR BBS: Same format as shown in the cw message example above, except that the $\overline{\text{AA}}$ and $\overline{\text{AR}}$ prosigns may be omitted. Most amtor and packet BBS software in use today allows formal message traffic to be sent with the "ST" command. Always avoid the use of spectrum-wasting multiple line feeds and indentations.
PHONE: Use *prowords* instead of prosigns, but it is not necessary to name each part of the message as you send it. For example, the above message would be sent on phone as follows: "Number one routine HX Golf W1AW eight Newington Connecticut one eight three zero zulu July one Donald Smith Figures one six four East Sixth Avenue North River City Missouri zero zero seven eight nine Telephone seven three three four nine six eight Break Happy birthday X-ray see you soon X-ray love Break Diana End of Message Over. "End of Message" is followed by "More" if there is another message to follow, "No More" if it is the only or last message. Speak clearly using VOX (or pause frequently on push-to-talk) so that the receiving station can get fills. Spell phonetically all difficult or unusual words--do not spell out common words. Do not use cw abbreviations or Q-signals in phone traffic handling.

Precedences

The precedence will follow the message number. For example, on cw 207R or 207 EMERGENCY. On phone, "Two Zero Seven, Routine (or Emergency)."
EMERGENCY--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to

relief of stricken populace in emergency areas. During normal times, it will be *very rare*. On cw, RTTY and other digital modes this designation will always be spelled out. When in doubt, *do not* use it.
PRIORITY--Important messages having a specific time limit. Official messages not covered in the Emergency category. Press dispatches and other emergency-related traffic not of the utmost urgency. Notifications of death or injury in a disaster area, personal or official. Use the abbreviation P on cw.
WELFARE--A message that is either a) an inquiry as to the health and welfare of an individual in the disaster area b) an advisory or reply from the disaster area that indicates all is well should carry this precedence, which is abbreviated W on cw. These messages are handled *after* Emergency and Priority traffic but before Routine.
ROUTINE--Most traffic normal times will bear this designation. In disaster situations, traffic labeled Routine (R on cw) should be handled *last*, or not at all when circuits are busy with Emergency, Priority or Welfare traffic.

Handling Instructions (Optional)

HXA--(Followed by number) Collect landline delivery authorized by addressee within....miles. (If no number, authorization is unlimited.)
HXB--(Followed by number) Cancel message if not delivered within....hours of filing time; service originating station.
HXC--Report date and time of delivery (TOD) to originating station.
HXD--Report to originating station the identity of station from which received, plus date and time. Report identity of station to which relayed, plus date and time, or if delivered report date, time and method of delivery.
HXE--Delivering station get reply from addresses, originate message back.
HXF--(Followed by number) Hold delivery until....(date).
HXG--Delivery by mail or landline toll call not required. If toll or other expense involved, cancel message and service originating station.

For further information on traffic handling, consult the Public Service Communications Manual or the ARRL Operating Manual, both published by ARRL.

ARRL QN Signals For CW Net Use

QNA* Answer in prearranged order.
QNB* Act as relay Between _____ and _____
QNC All net stations Copy. I have a message for all net stations.
QND* Net is Directed (controlled by net control station).
QNE* Entire net stand by.
QNF Net is Free (not controlled).
QNG Take over as net control station.
QNH Your net frequency is High.
QNI Net stations report In.*.
I am reporting into the net. (Follow with a list or traffic or QRU).
QNJ Can you copy me?
Can you copy _____?
QNK* Transmit message for _____ to _____
QNL Your net frequency is Low.
QNM* You are QRMing the net. Stand by.
QNN Net control station is _____
What station has net control?
QNO Station is leaving the net.
QNP Unable to copy you. Unable to copy _____
QNQ* Move frequency to _____ and wait for _____ to finish handling traffic. Then send him traffic for _____
QNR Answer _____ and Receive traffic.
QNS* Following Stations are in the net. *(Follow with list.)
Request list of stations in the net.
QNT I request permission to leave the net for _____ minutes.

QNU* The net has traffic for you. Stand by.
QNV* Establish contact with _____ on this frequency. If successful, move to _____ and send him traffic for _____
QNW How do I route messages for _____?
QNX You are excused from the net.* Request to be excused from the net.
QNY* Shift to another frequency (or to _____ kHz) to clear traffic with _____
QNZ Zero beat your signal with mine.

* For use only by the Net Control Station.

Notes on Use of QN Signals

The QN signals listed above are special ARRL signals for use in amateur cw nets only. They are not for use in casual amateur conversation. Other meanings that may be used in other services do not apply. Do not use QN signals on phone nets. Say it with words. QN signals need not be followed by a question mark, even though the meaning may be interrogatory.

International Q Signals

A Q signal followed by a ? asks a question. A Q signal without the ? answers the question affirmatively, unless otherwise indicated.

QRA What is the name of your station?
QRG What's my exact frequency?
QRH Does my frequency vary?
QRI How is my tone? (1-3)
QRK What is my signal intelligibility? (1-5)
QRL Are you busy?
QRM Is my transmission being interfered with?
QRN Are you troubled by static?
QRO Shall I increase transmitter power?
QRP Shall I decrease transmitter power?
QRQ Shall I send faster?
QRS Shall I send slower?
QRT Shall I stop sending?
QRU Have you anything for me? (Answer in negative)
QRV Are you ready?
QRW Shall I tell _____ you're calling him?
QRX When will you call again?
QRZ Who is calling me?
QSA What is my signal strength? (1-5)
QSB Are my signals fading?
QSD Is my keying defective?
QSG Shall I send _____ messages at a time?
QSK Can you work breakin?
QSL Can you acknowledge receipt?
QSM Shall I repeat the last message sent?
QSO Can you communicate with _____ direct?
QSP Will you relay to _____?
QSV Shall I send a series of V's?
QSW Will you transmit on _____?
QSX Will you listen for _____ on _____?
QSY Shall I change frequency?
QSZ Shall I send each word/group more than once? (Answer, send twice or _____)
QTA Shall I cancel number _____?
QTB Do you agree with my word count? (Answer negative)
QTC How many messages have you to send?
QTH What is your location?

QTR	What is your time?
QTV	Shall I stand guard for you _____?
QTX	Will you keep your station open for further communication with me?
QUA	Have you news of _____?

Abbreviations, Prosigns, Prowords

CW	**PHONE (meaning or purpose)**
$\overline{\text{AA}}$	(Separation between parts of address or signature.).
AA	All after (use to get fills).
AB	An before (used to get fills).
ADEE	Addressee (name of person to whom message addressed).
ADR	Address (second part of message).
AR	End of message (end of record copy).
ARL	(Used with "check," indicates use of ARRL numbered message in text).
$\overline{\text{AS}}$	Stand by; wait.
B	More (another message to follow).
BK	Break; break me; break-in (interrupt transmission on cw. Quick check on phone).
$\overline{\text{BT}}$	Separation (break) between address and text; between text and signature.
C	Correct; yes.
CFM	Confirm. (Check me on this).
CK	Check.
DE	From; this is (preceding identification).
$\overline{\text{HH}}$	(Error in sending. Transmission continues with last word correctly sent.)
HX	(Handling instructions. Optional part of preamble.) Initial(s). Single letter(s) to follow.
$\overline{\text{IMI}}$	Repeat; I say again. (Difficult or unusual words or groups.)
K	Go ahead; over; reply expected. (Invitation to transmit .)
N	Negative, incorrect; no more. (No more messages to follow.)
NR	Number. (Message follows.)
PBL	Preamble (first part of message)
N/A	Read back. (Repeat as received.)
R	Roger; point. (Received; decimal point.)
SIG	Signed; signature (last part of message.)
$\overline{\text{SK}}$	Out; clear (end of communications, no reply expected.)
TU	Thank you.
WA	Word after (used to get fills.)
WB	Word before (used to get fills.)
N/A	Speak slower.
N/A	Speak faster.

FSD-3

Relief Emergency · Routine Messages
Recommended Precedences

The letters ARL are inserted in the preamble in the check and in the text before spelled out numbers, which represent texts from this list. Note that some ARL texts include insertion of numerals and text. Example: NR 1 R W1AW ARL 5 NEWINGTON CONN. DEC 25 DONALD R. SMITH AA 164 EAST SIXTH AVE AA NORTH RIVER CITY MO AA PHONE 73-3968 BT ARL FIFTY ARL SIXTY ONE BT DIANA AR. For additional information about traffic handling, consult *The ARRL Operating Manual*, published by ARRL, or the *NTS Methods and Practices Guidelines*, www.arrl.org/FandES/field/nts-mpg/ .

Group One—For Possible "Relief Emergency" Use

ONE	Everyone safe here. Please don't worry.
TWO	Coming home as soon as possible.
THREE	Am in _____ hospital. Receiving excellent care and recovering fine.
FOUR	Only slight property damage here. Do not be concerned about disaster reports.
FIVE	Am moving to new location. Send no further mail or communication. Will inform you of new address when relocated.
SIX	Will contact you as soon as possible.
SEVEN	Please reply by Amateur Radio through the amateur delivering this message. This is a free public service.
EIGHT	Need additional _____ mobile or portable equipment for immediate emergency use.
NINE	Additional _____ radio operators needed to assist with emergency at this location.
TEN	Please contact _____. Advise to standby and provide further emergency information, instructions or assistance.
ELEVEN	Establish Amateur Radio emergency communications with _____ on _____ MHz.
TWELVE	Anxious to hear from you. No word in some time. Please contact me as soon as possible.
THIRTEEN	Medical emergency situation exits here.
FOURTEEN	Situation here becoming critical. Losses and damage from ____ increasing.
FIFTEEN	Please advise your condition and what help is needed.
SIXTEEN	Property damage very severe in this area.
SEVENTEEN	REACT communications services also available. Establish REACT communication with _____ on channel _____.
EIGHTEEN	Please contact me as soon as possible at _____.
NINETEEN	Request health and welfare report on _____ . (State name, address and telephone number.)

TWENTY	Temporarily stranded. Will need some assistance. Please contact me at _____.
TWENTY ONE	Search and Rescue assistance is needed by local authorities here. Advise availability.
TWENTY TWO	Need accurate information on the extent and type of conditions now existing at your location. Please furnish this information and reply without delay.
TWENTY THREE	Report at once the accessibility and best way to reach your location.
TWENTY FOUR	Evacuation of residents from this area urgently needed. Advise plans for help.
TWENTY FIVE	Furnish as soon as possible the weather conditions at your location.
TWENTY SIX	Help and care for evacuation of sick and injured from this location needed at once.
Emergency/priority	messages originating from official sources must carry the signature of the originating official.

Group Two—Routine Messages

FORTY SIX	Greetings on your birthday and best wishes for many more to come.
FORTY SEVEN	Reference your message number _____ to _____ delivered on _____ at _____ UTC.
FIFTY	Greetings by Amateur Radio.
FIFTY ONE	Greetings by Amateur Radio. This message is sent as a free public service by ham radio operators at _____. Am having a wonderful time.
FIFTY TWO	Really enjoyed being with you. Looking forward to getting together again.
FIFTY THREE	Received your _____. It's appreciated; many thanks.
FIFTY FOUR	Many thanks for your good wishes.
FIFTY FIVE	Good news is always welcome. Very delighted to hear about yours.
FIFTY SIX	Congratulations on your _____, a most worthy and deserved achievement.
FIFTY SEVEN	Wish we could be together.
FIFTY EIGHT	Have a wonderful time. Let us know when you return.
FIFTY NINE	Congratulations on the new arrival. Hope mother and child are well.
*SIXTY	Wishing you the best of everything on _____.
SIXTY ONE	Wishing you a very Merry Christmas and a Happy New Year.
*SIXTY TWO	Greetings and best wishes to you for a pleasant _____ holiday season.
SIXTY THREE	Victory or defeat, our best wishes are with you. Hope you win.
SIXTY FOUR	Arrived safely at _____.
SIXTY FIVE	Arriving _____ on _____. Please arrange to meet me there.

SIXTY SIX	DX QSLs are on hand for you at the _____ QSL Bureau. Send _____ self addressed envelopes.
SIXTY SEVEN	Your message number _____ undeliverable because of _____. Please advise.
SIXTY EIGHT	Sorry to hear you are ill. Best wishes for a speedy recovery.
SIXTY NINE	Welcome to the _____. We are glad to have you with us and hope you will enjoy the fun and fellowship of the organization.

* Can be used for all holidays.

ARRL Recommended Precedences

Please observe the following ARRL provisions for PRECEDENCES in connection with written message traffic. These provisions are designed to increase the efficiency of our service both in normal times and in emergency.

EMERGENCY--Any message having life and death urgency to any person or group of persons, which is transmitted by Amateur Radio in the absence of regular commercial facilities. This includes official messages of welfare agencies during emergencies requesting supplies, materials or instructions vital to relief of stricken populace in emergency areas. During normal times, it will be *very* rare. On CW/RTTY, this designation will *always* be spelled out. When in doubt, do not use it.

PRIORITY--Use abbreviation P on CW/RTTY. This classification is for a) important messages having a specific time limit b) official messages not covered in the emergency category c) press dispatches and emergency-related traffic not of the *utmost* urgency d) notice of death or injury in a disaster area, personal or official.

WELFARE--This classification, abbreviated as W on CW/RTTY, refers to either an inquiry as to the health and welfare of an individual in the disaster area or an advisory from the disaster area that indicates all is well. Welfare traffic is handled only after all emergency and priority traffic is cleared. The Red Cross equivalent to an incoming Welfare message is DWI (Disaster Welfare Inquiry).

ROUTINE--Most traffic in normal times will bear this designation. In disaster situations, traffic labeled Routine (R on CW/RTTY) should be handled last, or not at all when circuits are busy with higher precedence traffic.

Note--the precedence always follows the message number. For example, a message number may be 207R on CW and “Two Zero Seven Routine” on phone.

ARRL Communications Pocedures

Voice	Code	Situation
Go ahead	K	Used after calling CQ, or at the end of a transmission, to indicate any station is invited to transmit.
Over	AR	Used after a call to a specific station, before the contact has been established
	KN	Used at the end of any transmission when only the specific station contacted is invited to answer.
Stand by or wait	AS	A temporary interruption of the contact.
Roger	R	Indicates a transmission has been received correctly and in full.
Clear	SK	End of contact. SK is sent before the final identification.
Leaving the air or closing the station	CL	Indicates that a station is going off the air, and will not listen or answer any further calls. CL is sent after the final identification.

ITU Phonetic Alphabet

Word list adopted by the International Telecommunications Union

A Alfa
B Bravo
C Charlie
D Delta
E Echo
F Foxtrot
G Golf
H Hotel
I India
J Juliett
K Kilo
L Lima
M Mike
N November
O Oscar
P Papa
Q Quebec
R Romeo
S Sierra
T Tango
U Uniform
V Victor
W Wiskey
X X-ray
Y Yankee
Z Zulu

The R-S-T System

Readability

1 Unreadable
2 Barely readable, occasional words distinguishable.
3 Readable with considerable difficulty.
4 Readable with practically no difficulty.
5 Perfectly readable.

Signal Strength

1 Faint signals, barely perceptible.
2 Very weak signals.
3 Weak signals.
4 Fair signals.
5 Fairly good signals.
6 Good signals.
7 Moderately strong signals.
8 Strong signals.
9 Extremely strong signals.

Tone

1 Sixty cycle a.c or less, very rough and broad.
2 Very rough a.c., very harsh and broad.
3 Rough a.c. tone, rectified but not filtered.
4 Rough note, some trace of filtering.
5 Filtered rectified a.c. but strongly ripple-modulated.
6 Filtered tone, definite trace of ripple modulation.
7 Near pure tone, trace of ripple modulation.
8 Near perfect tone, slight trace of modulation.
9 Perfect tone, no trace of ripple or modulation of any kind.

If the signal has the characteristic steadiness of crystal control, add the letter X to the RST report. If there is a chirp, the letter C may be added to so indicate. Similarly for a click, add K. The above reporting system is used on both cw and voice, leaving out the "tone" report on voice. Turn card over for examples.

Time Conversion Chart

UTC	EDT/AST	CDT/EST	MDT/CST	PDT/MST	PST
0000*	2000	1900	1800	1700	1600
0100	2100	2000	1900	1800	1700
0200	2200	2100	2000	1900	1800
0300	2300	2200	2100	2000	1900
0400	0000*	2300	2200	2100	2000
0500	0100	0000*	2300	2200	2100
0600	0200	0100	0000*	2300	2200
0700	0300	0200	0100	0000*	2300
0800	0400	0300	0200	0100	0000*
0900	0500	0400	0300	0200	0100
1000	0600	0500	0400	0300	0200
1100	0700	0600	0500	0400	0300
1200	0800	0700	0600	0500	0400
1300	0900	0800	0700	0600	0500
1400	1000	0900	0800	0700	0600
1500	1100	1000	0900	0800	0700
1600	1200	1100	1000	0900	0800
1700	1300	1200	1100	1000	0900
1800	1400	1300	1200	1100	1000
1900	1500	1400	1300	1200	1100
2000	1600	1500	1400	1300	1200
2100	1700	1600	1500	1400	1300
2200	1800	1700	1600	1500	1400
2300	1900	1800	1700	1600	1500
2400*	2000	1900	1800	1700	1600

Universal Coordinated Time (UTC) is the time at the zero or reference meridian. Time changes one hour with each change of 15 degrees in longitude. The five time zones in the US proper and Canada roughly follow these lines.

* 0000 and 2400 are interchangeable. (2400 is associated with the date of the day ending, 0000 with the day just starting.)

International Third-Party Traffic -- Proceed With Caution

Occasionally, DX stations may ask you to pass a third-party message to a friend or relative in the States. This is all right as long as the US has signed an official third-party traffic agreement with that particular country, or the third party is a licensed amateur. The traffic must be noncommercial and of a personal, unimportant nature. During an emergency, the US State Department will often work out a special temporary agreement with the country involved. But in normal times, never handle traffic without first making sure it is legally permitted.

US Amateurs May Handle Third-Party Traffic With:

V2	Antigua/Barbuda
LO-LW	Argentina
VK	Australia
V3	Belize
CP	Bolivia
E7	Bosnia-Herzegovina
PP-PY	Brazil
VE, VO, VY	Canada
CA-CE	Chile
HJ-HK	Colombia
D6	Comoros (Federal Islamic Republic of)
TI, TE	Costa Rica
CM, CO	Cuba
HI	Dominican Republic
J7	Dominica
HC-HD	Ecuador
YS	El Salvador
C5	Gambia, The
9G	Ghana
J3	Grenada
TG	Guatemala
8R	Guyana
HH	Haiti
HQ-HR	Honduras
4X, 4Z	Israel
6Y	Jamaica
JY	Jordan
EL	Liberia
V7	Marshall Islands
XA-XI	Mexico
V6	Micronesia, Federated States of
YN	Nicaragua
HO-HP	Panama
ZP	Paraguay
OA-OC	Peru
DU-DZ	Philippines
VR6	Pitcairn Island*

DU-DZ	Philippines
V4	St. Kitts/Nevis
J6	St. Lucia
J8	St. Vincent and the Grenadines
9L	Sierra Leone
ZR-ZU	South Africa
3DA	Swaziland
9Y-9Z	Trinidad/Tobago
TA-TC	Turkey
GB	United Kingdom
CV-CX	Uruguay
YV-YY	Venezuela
4U1ITU	ITU - Geneva
4U1VIC	VIC - Vienna

Notes:

* Since 1970, there has been an informal agreement between the United Kingdom and the US, permitting Pitcairn and US amateurs to exchange messages concerning medical emergencies, urgent need for equipment or supplies, and private or personal matters of island residents.

US licensed amateurs may operate in the following US territories under their FCC license:

Please note that the Region 2 Division of the International Amateur Radio Union (IARU) has recommended that international traffic on the 20 and 15-meter bands be conducted on the following frequencies:

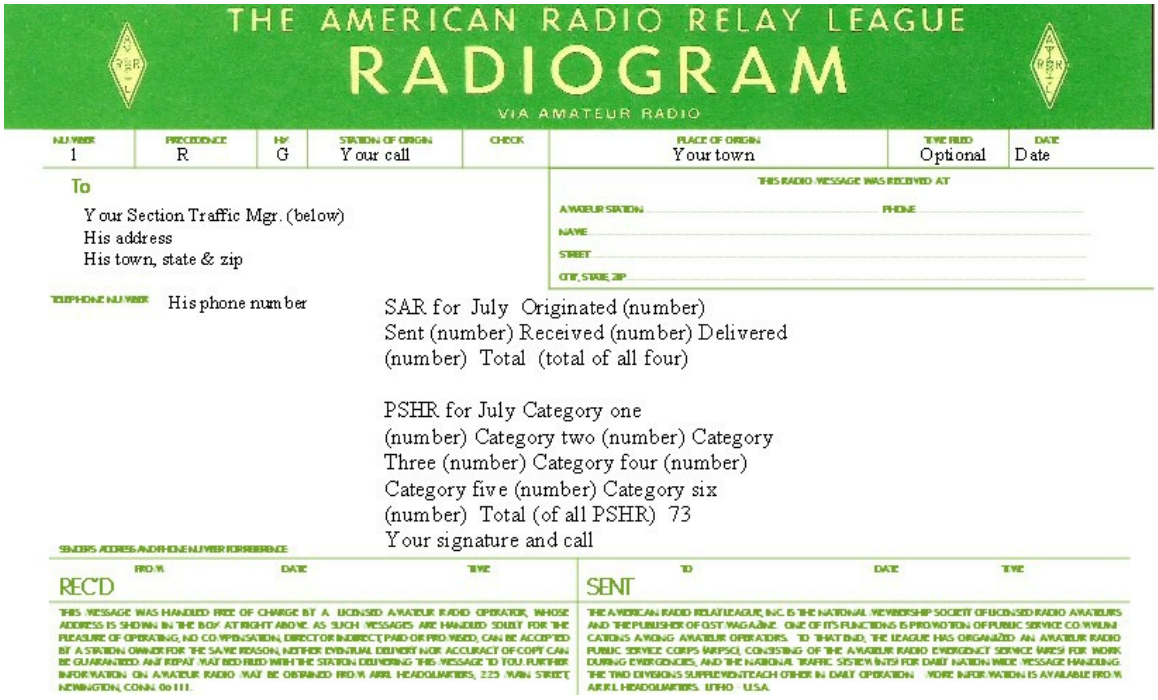
14.100-14.150 MHz
14.250-14.350 MHz
21.150-21.200 MHz
21.300-21.450 MHz

The IARU is the alliance of Amateur Radio societies from around the world; Region 2 comprises member-societies in North, South and Central America, and the Caribbean.

Note: At the end of an exchange of third-party traffic with a station located in a foreign country, an FCC-licensed amateur must transmit the call sign of the foreign station as well as his own call sign.

SAR (Station Activity Report)
&
PSHR (Public Service Honor Roll)

Below is a sample message with a summary of your activity for the month. Message should be sent to your Section Traffic Manager at the beginning of each month with the previous month's activity.



THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
1	R	G	Your call		Your town	Optional	Date

To

Your Section Traffic Mgr. (below)
His address
His town, state & zip

TELEPHONE NUMBER His phone number

THIS RADIO MESSAGE WAS RECEIVED AT

AMATEUR STATION PHONE

NAME

STREET

CITY, STATE, ZIP

SAR for July Originated (number)
Sent (number) Received (number) Delivered
(number) Total (total of all four)

PSHR for July Category one
(number) Category two (number) Category
Three (number) Category four (number)
Category five (number) Category six
(number) Total (of all PSHR) 73
Your signature and call

SENDER'S ADDRESS AND PHONE NUMBER FOR REFERENCE

FROM DATE TIME

RECD

THIS MESSAGE WAS HANDLED FREE OF CHARGE BY A LICENSED AMATEUR RADIO OPERATOR, WHOSE ADDRESS IS SHOWN IN THE BOX AT RIGHT ABOVE. AS SUCH, MESSAGES ARE HANDLED SOLELY FOR THE PLEASURE OF OPERATING. NO CONSIDERATION, DIRECT OR INDIRECT, PAID OR PROMISED, CAN BE ACCEPTED BY A STATION OWNER FOR THE SAME REASON, NEITHER EXPEDITION NOR ACCURACY OF COPY CAN BE GUARANTEED. ANY REPEAT MAY BE REQUESTED WITH THE STATION DELIVERING THIS MESSAGE. TO YOU. FURTHER INFORMATION ON AMATEUR RADIO MAY BE OBTAINED FROM ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CONN. 06111.

TO DATE TIME

SENT

THE AMERICAN RADIO RELAY LEAGUE, INC. IS THE NATIONAL MEMBERSHIP SOCIETY OF LICENSED RADIO AMATEURS AND THE PUBLISHER OF QST MAGAZINE. ONE OF ITS FUNCTIONS IS PROMOTION OF PUBLIC SERVICE COMMUNICATIONS AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED AN AMATEUR RADIO PUBLIC SERVICE CORPS (ARPSC), CONSISTING OF THE AMATEUR RADIO EMERGENCY SERVICE (ARES) FOR WORK DURING EMERGENCIES, AND THE NATIONAL TRAFFIC SYSTEM (NTS) FOR DAILY NATION-WIDE MESSAGE HANDLING. THE TWO DIVISIONS SUPPLEMENT EACH OTHER IN DAILY OPERATION. MORE INFORMATION IS AVAILABLE FROM ARRL HEADQUARTERS, NEWINGTON, CONN. U.S.A.

The above message, as written, will exceed the 25 word count limit.
If you do not qualify for all categories of the PSHR
those categories may be left off, which will bring your check
count closer to the 25 limit and you may combine the SAR and PSHR into one radiogram. If you need all categories, then two radiograms may be necessary.

SECTION TRAFFIC MANAGERS

North Texas: ARRON HULETT K8AMH
POB 1664
COPPELL, TX 75019
k8amh@arrl.net

South Texas: STUART WOLFE KF5NIX
303 SAN JACINTO DR.
ROCKDALE, TX 76567
amadeus@gmail.com

West Texas: RUSSELL PLOCHECK WE5TXS
2654 GARFIELD
ABILENE, TX 79601
we5txs@suddenlink.net

PSHR

Here is how to count your Public Service Honor Roll points.

The six areas for rating are

1. Participating in a public service net (max. 40)
2. Handling formal messages (max. 40)
3. Serving in an ARRL-sponsored volunteer position (max. 30)
4. Participating in a scheduled, short-term public service event, including off-the-air meetings (5 points per hour - no limit)
5. Participating in an unplanned emergency response (5 points per hour - no limit)
6. Providing and maintaining an automated digital system handling ARRL radiogram-formatted messages or a web page e-mail list server oriented toward Amateur Radio public service. (10 points per item)

Here are the details.

1) Participation in a public service net -- 1 point, maximum 40.

A public service net is one that is regularly scheduled and handles Amateur Radio formal messages. Here are examples of public service nets: Local and section nets that are affiliated with the National Traffic System (NTS); NTS region, NTS area, and independent nets that handle traffic; ARES, RACES, SKYWARN nets that meet on a regular basis; net sessions that are activated during emergencies and threats of potential emergencies; public service and safety nets; nets that are established for training radio amateurs in public service and emergency communications.

2) Handling formal messages (radiograms) via any mode -- 1 point for each message handled; maximum 40.

A "handled" message is defined as a message that is originated or sent or received or delivered. PSHR will follow the same method as Brass Pounders' League to count an individual operator's traffic total (also known as station activity report) to reach the figure for the new PSHR Category 2. *There is one point granted for each message handled; maximum 40 points per calendar month.*

Here is a reference from the *Public Service Communications Manual* on how to count messages. [Section 2, NTS Chapter 10.2] http://www.arrl.org/FandES/field/pscm/sec2-ch10.html#2

Originated--One point for each message from a third party for sending via your station. This "extra" credit is given for an off-the-air function because of the value of contact with the general public.

Sent--Every message sent over the air from your station to another amateur receives a point in this category. Thus, a message that is eligible for an Originated point as above receives another point when it is sent on the air.

Likewise, a message that is received on the air conveys a Sent point when it is relayed to another station. A message that you initiate yourself, while it gets no Originated point, gets a Sent point when cleared. All Sent points require on-the-air sending.

Received--A message received over the air gets a Received point, whether received for relaying (sending) or for delivery to the addressee. Any message received which is not eligible for a Delivery point (such as one addressed to yourself) is nevertheless eligible for a Received point.

Delivered--The act of delivery of a message to a third party receives a point in this category, in addition to a Received point. This is strictly an off-the-air function and must be coupled with receipt of the message at your station. Thus you can't get a Delivered point unless you first get a Received point.

Further example for clarification: If I send a message originated on behalf of myself, I know I get only one point for a message SENT. However, if I originate a message on behalf of a third party, and then send it, I get TWO points, (origination and sending), even though ONE message was handled.

3) Serving in an ARRL-sponsored volunteer position: ARRL Field Organization appointee or Section Manager, NTS Net Manager, TCC Director, TCC member, NTS official or appointee above the Section level. -- 10 points for each position; maximum 30.

ARRL Field Organization appointees (in alphabetical order) include the following: Assistant Section Managers, District Emergency Coordinators, Emergency Coordinators, Local Government Liaisons, Net Managers, Official Bulletin Stations, Official Emergency Stations, Official Observers, Official Observer Coordinators, Official Relay Stations, Public Information Coordinators, Public Information Officers, Section Emergency Coordinators, Section Managers, Section Traffic Managers, State Government Liaisons, Technical Specialists.

The Section Manager is the ARRL-member elected League official the section. NTS Net Managers would include the following nets: NTS Region and NTS Area. TCC (Transcontinental Corps) Director is in charge of organizing his/her TCC membership roster of operators that comprise the corps. TCC members are those operators that are assigned to relay traffic from one NTS area to another, conducting liaison with NTS nets to do so. NTS official or appointee above the Section level includes NTS Area Staff Chairs, NTS Area Digital Coordinators and NTS Digital Stations.

More information about the structure of the NTS and the positions and nets that are mentioned in this article may be found in the ARRL's *Public Service Communications Manual*. It is on the *ARRLWeb*.

4) Participation in scheduled, short-term public service events such as walk-a-thons, bike-a-thons, parades, simulated emergency tests and related practice events. This includes off-the-air meetings and coordination efforts with related emergency groups and served agencies. *-- 5 points per hour (or any portion thereof) of time spent in either coordinating and/or operating in the public service event; no limit.*

This category recognizes the value of public safety communication events that Amateur Radio is often called to participate in. Simulated emergency tests, exercises, and drills are covered by this category. Points are gained by the amount of time that an Amateur Radio operator spends directly involved in operating the event. This also recognizes the value of off-the-air time it takes to meet with the organization or public service agency to plan and coordinate Amateur Radio involvement.

5) Participation in an unplanned emergency response when the Amateur Radio operator is on the scene. This also includes unplanned incident requests by public or served agencies for Amateur Radio participation. --5 points per hour (or any portion thereof) of time spent directly involved in the emergency operation; no limit.

This category recognizes an Amateur Radio operator who is directly involved in an actual emergency operation. This includes the operator who is on the scene or out in the field, in the shelter, at the emergency operations center, at the hospital, or other served agency's headquarters or their temporary command center.

The second sentence of Category 5 invites the Amateur Radio operator who is an active participant in an unplanned incident -- or in other words, an emergency operation-- to take credit for his/her participation even though he/she is not physically at the emergency scene.

The intent behind Category 5 is to also include the Amateur Radio operators -- like net controllers, net operation and other radio amateurs that support communications in unplanned incidents-- that are not actually on the emergency scene or at the shelter, etc, but are spending time and efforts for supporting the same emergency communication efforts.

As an example, if the National Weather Service activates SKYWARN, Amateur Radio operators serve as weather spotters from their home (or car, or work, or other locations) during the weather event. Then, a tornado strikes and the Red Cross calls out the ARES members to serve in shelters and to provide support for damage assessment communications. These operators would be among those to qualify for points under Category 5.

There would likely be several net control operators, net liaison operators, traffic handlers, etc, who are away from the disaster scene, but are spending time to support the Amateur Radio emergency communication effort on behalf of the served agencies (Red Cross and National Weather Service, in this example). They, too, would qualify for points under Category 5.

6.) Providing and maintaining a) an automated digital system that handles ARRL radiogram-formatted messages; b) a Web page e-mail list server oriented toward Amateur Radio public service -- 10 points per item.

The portion, "a," is a carry-over from the previous PSHR criteria as this sub category recognizes the efforts it takes to provide and maintain an automated digital system (like a packet bulletin board or a PACTOR system) that handles ARRL radiogram-formatted messages.

The portion "b," is a new item. Since the last time PSHR criteria were revised, newer technologies like Web pages and e-mail list servers have become popular and effective ways to communicate news and information to the community of radio amateurs that are involved in emergency and public service communication operations and preparedness.

10.2 Individual Traffic Count

As already mentioned, the individual's traffic count does not have any correlation to the net's traffic count; it is a separate count that each traffic handler should report to his/her Section Traffic Manager or Section Manager each month. Traffic totals may be included in the SM's monthly report. Here are the definitions of each message category:

- ***Originated*** -- One point for each message from a third party for sending via your station. This "extra" credit is given for an off-the-air function because of the value of contact with the general public.
- ***Sent*** -- Every message sent over the air from your station to another amateur receives a point in this category. Thus, a message that is eligible for an Originated point as above receives another point when it is sent on the air. Likewise, a message that is received on the air conveys a Sent point when it is relayed to another station. A message that you initiate yourself, while it gets no Originated point, gets a Sent point when cleared. All Sent points require on-the-air sending.
- ***Received*** -- A message received over the air gets a Received point, whether received for relaying (sending) or for delivery to the addressee. Any message received which is not eligible for a Delivery point (such as one addressed to yourself) is nevertheless eligible for a Received point.
- ***Delivered*** -- The act of delivery of a message to a third party receives a point in this category, in addition to a Received point. This is strictly an off-the-air function and must be coupled with receipt of the message at your station. Thus you can't get a Delivered point unless you first get a Received point.

Traffic Net Schedule

Texas and Southwestern US

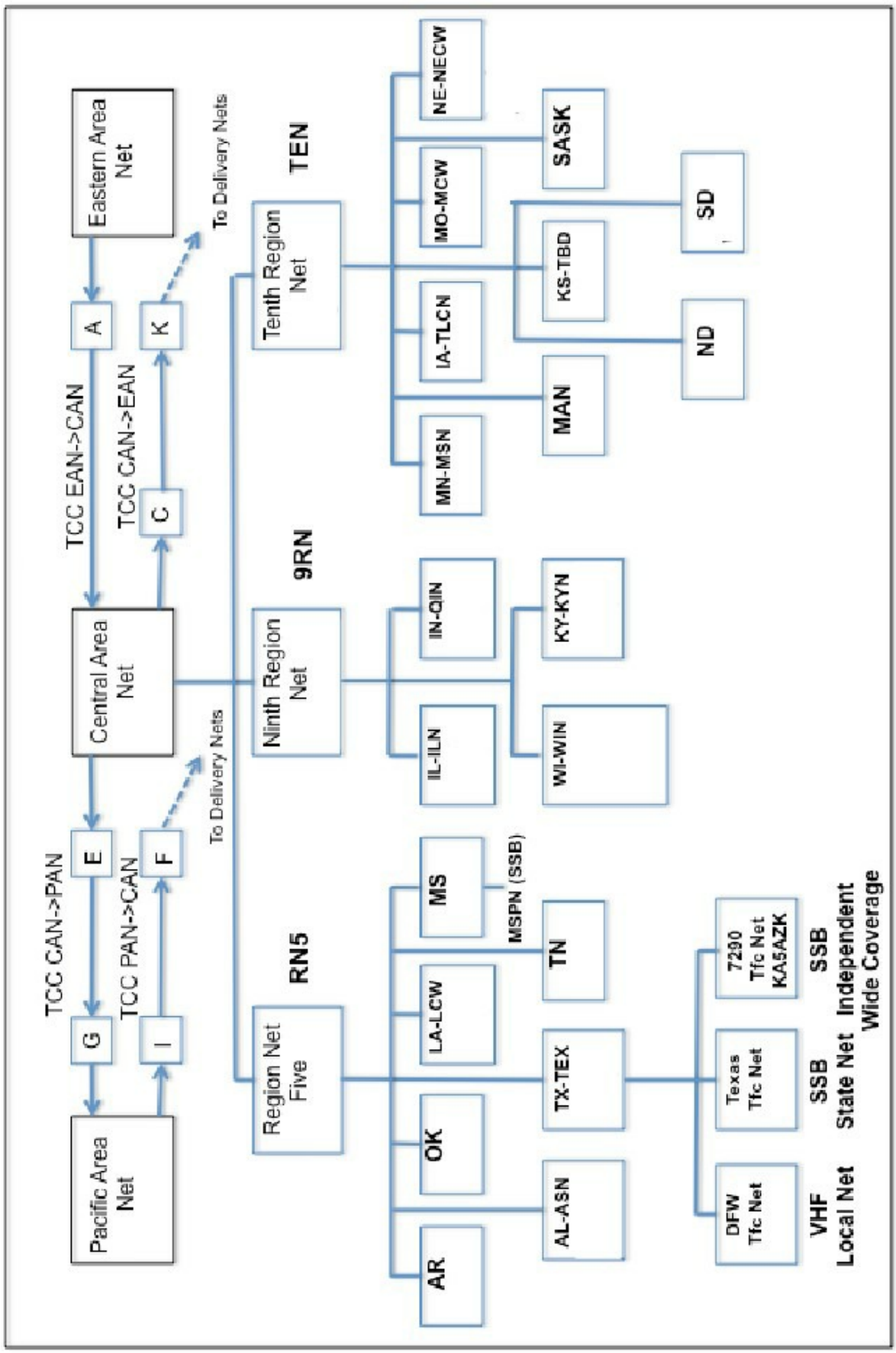
Updated 05-01-21

Times shown are local (central). Frequency SSB except where indicated. Dy = Daily.
Please suggest additions.

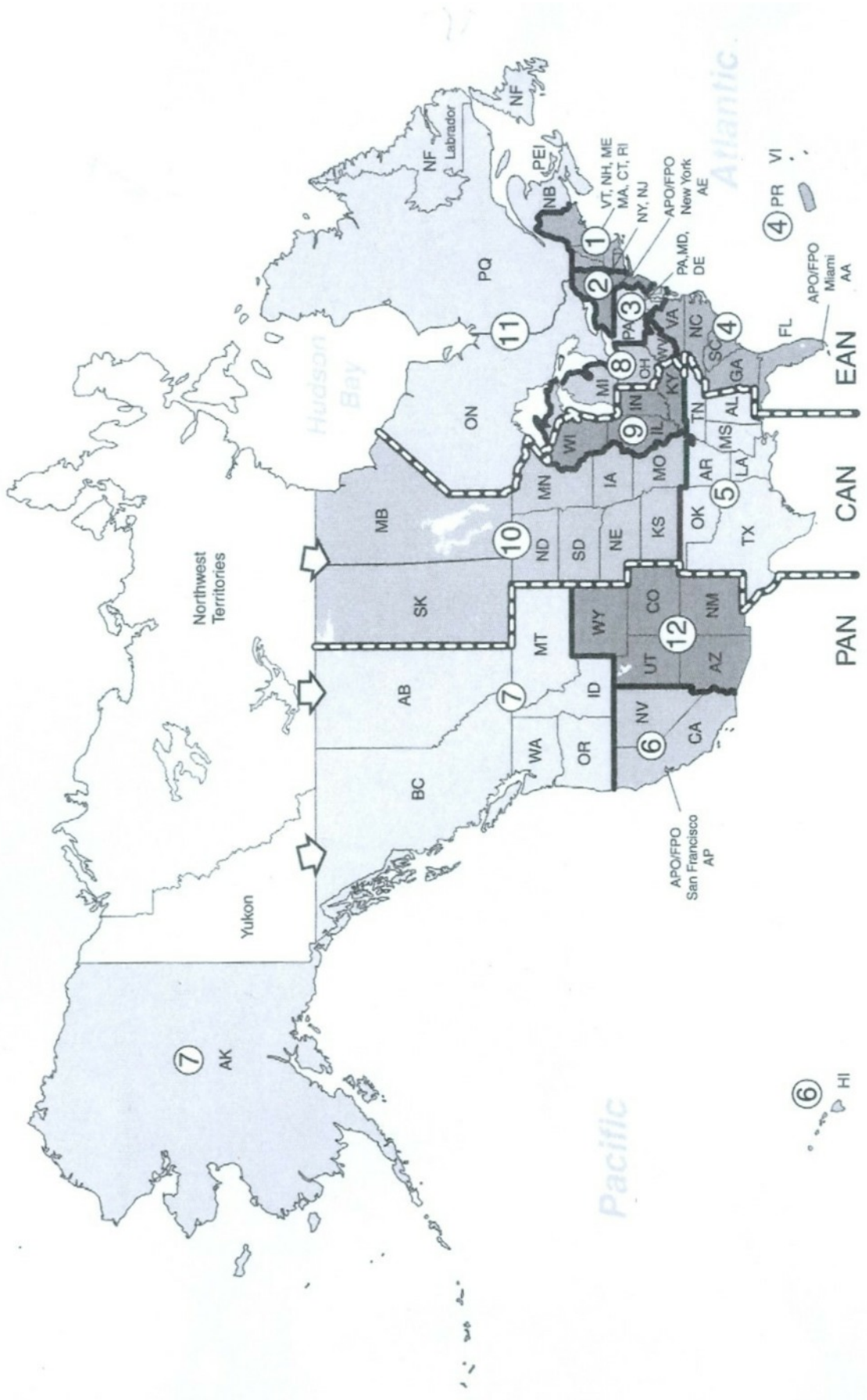
Time	Frequency	Days	Name
08:30 - 09:30 AM	7285	M-Sat	Texas Traffic Net www.texastrafficnet.net
10:00 AM 12:00	7290	M-Sat	7290 Traffic Net www.7290trafficnet.org
10:30 AM	7280	M-Sat	Fifth Region Cycle 1
01:00 - 02:00 PM	7290	M-F	7290 Traffic Net www.7290trafficnet.org
01:00	7240	Dy	High Noon Net
01:30 PM	7280	Sun	Fifth Region Cycle 1
02:15 PM	14345	Dy	Central Area Net Cycle 2
03:30 PM	7243	Dy	Fifth Region Cycle 2
05:30 PM	3845	M-Sat	OK Weather and Traffic Net
06:30 - 07:30 PM	3873	Dy	Texas Traffic Net www.texastrafficnet.net
06:30 PM	146.88 – PL 110.9	Dy	Dallas Metro Traffic Net www.dfwtrafficnet.com
07:00 PM CST 08:00 PM CDT	3935	Dy	Central Gulf Coast Hurricane Net
07:00 PM	3541 or 7108 or 3643 Contest*	Dy	Texas CW Traffic Net (TEX) http://k6jt.com
07:30 PM	3567 W or 7108 S	Dy	Fifth Region Cycle 4 (CW)
07:45 PM	3570	Dy	Texas Slow CW Net http://www.atcweb.com/tsn/Texas_Slow_Net_
08:30 PM	3552 W 3590 S	Dy	Central Area Net Cycle 4 (CW)
09:30 - 10:30 PM	3935	Dy	Southwest Traffic Net
09:30 PM	3567	Dy	Fifth Region Cycle 4 (CW)
10:00 PM	3541 New Freq 3643 During Contest*	Dy	Texas CW Traffic Net (TEX) http://k6jt.com
10:30 PM	146.72 - PL 110.9	Dy	Dallas Metro Traffic Net www.dfwtrafficnet.com
ARES, RACES, and Emergency Nets			
07:30 PM	3873	Mon.	Texas ARES Net
08:00 AM	3835	2 Sat	Texas Red Cross Net
08:00 AM	3903	Sun	Ok Phone Emergency Net
08:00 AM	3910	Sun	Central Texas Emergency Net
09:00 AM	3905	M-Sat	SATERN Net
01:30 PM	7248	1,3,5 Sn	District 32 RACES
01:30/02:00 PM	3975/7255	2 & 4 Sn	RACES Net
03:30 PM	3900	Sun	OK ARES Net
As Req.	7285 3873	Day Night	Emergency & Tactical Traffic Net
As Req.	7290	Day	7290 Traffic Net Extended Sessions Health and Welfare
As Req.	3935	Night	Gulf Coast Hurricane Net Health and Welfare

*NOTE: 7108 is used during the summer only, and is an alternate frequency at the discretion of the NCS when band conditions warrant. ALSO, 3643 is used ONLY on Friday and Saturday evenings when a major CW contest is in progress.

Thanks to Rodney W5DY , Steve K6JT and Sam W5CU for their help updating this list.



NOTE:
Net Mangers change, so the ones listed may not be accurate.


Atlantic
Pacific
Hudson Bay
NF
Labrador
PEI
NB
PQ
ON
MB
SK
AB
BC
Yukon
Northwest Territories
AK
HI
PR
VI
VT, NH, ME
MA, CT, RI
NY, NJ
APO/FPO
New York
AE
PA, MD,
DE
APO/FPO
Miami
AA
APO/FPO
San Francisco
AP
PAN
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KY
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WV
MI
IN
IL
WI
MN
IA
MO
KS
NE
SD
ND
OK
TX
NM
CO
WY
MT
ID
UT
AZ
NV
CA
OR
WA

Additional Resources

ARRL Net Directory – Excellent NTS reference with net listings by state ($5 fromARRL). Online version is accessible free at the ARRL web site (www.arrl.org).

Public Service Communication Manual – Detailed reference on NTS message handling on ARRL web site.

Winlink 2000 web Site http://www.winlink.org

Central Area NTS Status White Paper (K6JT)
http://dl.dropboxusercontent.com/u/73013707/NTS%20Status.pdf

TEX Website (www.k6jt.com),
7290 Traffic Net (www.7290trafficnet.org),
DFW TrafficNet (www.dfwtrafficnet.org),
Texas Traffic Net (www.texastrafficnet.org)

W Gulf Division Director
John Stratton N5AUS
POB 2232
Austin, TX 78768 512-445-6262
n5aus@n5aus.com

North TX Section Manager
Steven Loft Smith KG5VK
125 Contest Lane
Ben Franklin, TX 75415 318-470-9806
kg5vk@arrl.org

W Gulf Division Vice Director
Lee Cooper W5LHC
2507 Autrey Dr.
Leander, TX 78641 512-658-3910
lcooper@arrl.org

South TX Section Manager
Stuart Wolfe KF5NIX
303 San Jacinto
Rockdale, TX 76567 512-660-9954
amadeus@gmail.com

West TX Section Manager
Dale Durham W5WI
POB 375
Buffalo, TX 79508 830-719-9000
w5wi@arrl.net

ARRL W Gulf Division N TX http://arrlwgd.org/ & http://www.arrl.org/sections/view/north-texas

ARRL W Gulf Division S TX http://www.arrlstx.org. &
http://www.arrl.org/sections/view/south-texas

ARRL W Gulf Division W TX http://www.arrlstx.org. &
http://www.arrl.org/sections/view/south-texas

www.arrl.org ARRL web page

QRZ.com for looking up call sign information

When *Not* to Operate

During emergency operations listening and common sense are key.

Steve Sant Andrea, AG1YK

As this is being written in January 2010, Haitian earthquake disaster operations are ongoing. Such a disaster is immediately accompanied by a loss of the communications links that are vital for obtaining aid. We all have a desire to help those in need, but hams can do something immediate and concrete — supply that needed communications.

The down side to this desire to help comes when we fail to realize that equipment and training are two different things.

Emergency Nets

The Salvation Army and the International Red Cross have nets that operate on a regular basis. In an emergency these nets automatically shift to disaster mode. Other nets are often established and a general notice goes out regarding these frequencies on the ARRL Web site, through ARRL news broadcasts and at other ham oriented Web sites. All hams are requested to keep those frequencies clear.

A request to keep a frequency clear signifies that a guard band is established around the frequency. All modulation forms have a typical bandwidth. For example, the SSB bandwidth is 3 kHz. In order to keep an SSB net frequency clear, stations not involved in net operations should not transmit within ±3 kHz of the net frequency.

When monitoring an emergency net, you shouldn't be transmitting unless the Net Control Station (NCS) has transmitted a specific request to the net that you are able to fulfill. Getting on frequency just to advise the NCS that you are present takes time away from essential net operations. If you can't meet a *specific immediate* need of the net, keep your carrier to yourself.

The Business Side of Amateur Radio

Another thing to be aware of is that emergency nets are not contests. The disaster doesn't suddenly disappear at 0000Z. Activity often comes in bursts. Just because the net frequency is quiet doesn't mean it's inactive. Disaster operations may go on for days or even weeks so before keying up on an emergency net frequency listen or at the least give a quick call to see if the net is active.

This also goes for tuning up. In fact it goes double for tuning up. A few minutes ago while monitoring the 20 meter Salvation Army net frequency I heard a case of "dueling tuneups" — two operators tuning up on the frequency simultaneously. If there is a net, DX pileup or just a ragchew taking place on a frequency, tune up somewhere else. Shifting the frequency of your transmitter 5, 10 or even 20 kHz from the target frequency will not have much impact on your SWR.

A Different Kind of Communication Problem

Natural disasters have no regard for politics or people. In the Americas, outside of the Caribbean, the predominant language is Spanish and while English is widely understood in the Caribbean, in Haiti the official languages are French and Creole. When a disaster occurs in a non-English speaking part of the world, if you aren't *fluent* in the local language it is best to remain in listening mode.

Traffic Technique

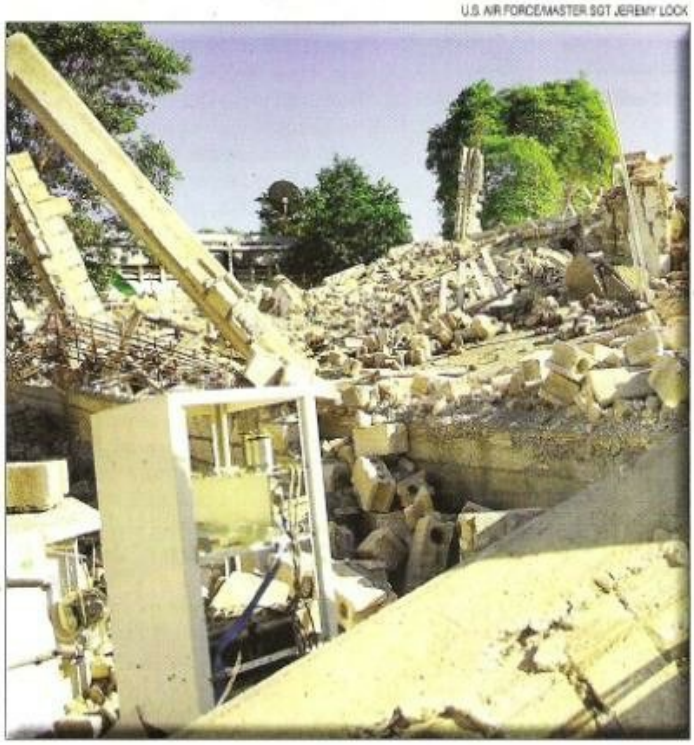
Emergency operations have evolved and the methods for passing traffic have expanded. Much bulk information such as lists of people at a particular shelter are best sent using a digital mode. Health and welfare messages are still frequently handled in standard ARRL message format. When was the last time you handled a radiogram?

A member of my ARES® group was deployed to Hurricane Katrina operations. One of the problems he found was that many of the operators who were deployed had excellent go-kits and technical ability but were seriously wanting in traffic handling skill. In one case it took almost 15 minutes to pass one 25 word message.

Before you can provide effective help you need the smartware (procedural knowledge) to go with the hardware.

Don't know anything about message handling? ARRL Numbered Radiograms? Go to **www.arrl/org/public-service-resources** and you'll find a wealth of information. Listen to a traffic net for a few days. Learn the procedures and then join in. Pass some traffic and accept some. The experience will be invaluable in the event of a real emergency.

U.S. AIR FORCE/MASTER SGT JEREMY LOCK



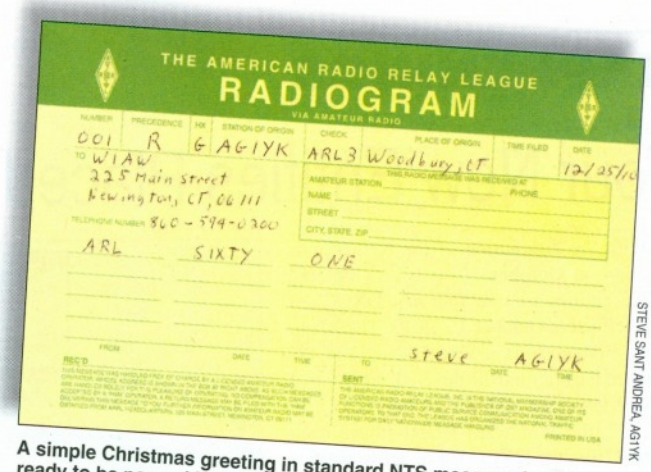
Shown here are destroyed buildings in Jacmel, Haiti. According to local officials about 350 people lost their lives in Jacmel due to the earthquake that hit the region January 12, 2010.

Steve Sant Andrea, AG1YK, is an Assistant Editor at QST and can be reached at **ag1yk@arrl.org**. QST

Twenty Five Words or Less

Learn about traffic handling because "all else" eventually fails.

Steve Sant Andrea, AG1YK


THE AMERICAN RADIO RELAY LEAGUE
RADIOGRAM
VIA AMATEUR RADIO

001 R 6 AG1YK ARL 3 Woodbury, CT 12/25/10

TO W1AW
225 Main Street
Newington, CT, 06111

ARL SIXTY ONE

Steve AG1YK

STEVE SANT ANDREA, AG1YK

A simple Christmas greeting in standard NTS message format ready to be passed into the traffic system.

"This is AG1YK net control for the Hurricane Zachary emergency net. The net is currently holding traffic for Connecticut. Is there any station on frequency that can take Connecticut traffic?"

Well, there it is. You have been monitoring the net with the vague idea of helping out. You have great copy on all the stations and you're in Connecticut. The opportunity to help out in a real emergency is knocking on your beam — but you hesitate.

"Traffic?" you think, "I've never tried any of that before…"

Getting the Message Through

A hundred years ago in the early days of ham radio, relaying messages, passing them from station to station to get them to their destination, was the most essential service we provided. Although it is one of the most fundamental of all ham radio operations, many active hams have never handled traffic. The American Radio *Relay* League was started to knit together the jumble of traffic nets that existed in 1914 into a coherent message handling system.

Today's ham has a multitude of ways to enjoy the airwaves. From AM to WSPR, contesting to ragchewing, Amateur Radio provides us with a broad range of activities. Some would argue that passing message traffic is the most essential of all.

Whether or not you are interested in emergency communications, you never know when you might be thrust into a situation where your radio is the only means of communication.

"Hey now, hold on. I live in a city, not the backwoods of Alaska. It's not like I'm going to be caught in any kind of emergency where I am."

Think again. On April 1, 2010 the southeastern section of Nebraska, including 12 counties and 40,000 people, lost all landline and cellular telephone service — including 911. What caused it? Earthquake, wildfire, flood, terrorists? No — an equipment malfunction at a commercial switching station. All else failed, and when it did it took 62 hams working all day to maintain essential communication in the city of Lincoln. As a ham you should always be prepared to help get the message through.

Formal Messages

"Formal message? What is that supposed to mean? I'm just a regular guy. I don't even own a tux."

And you don't need one. Message traffic is handled by the National Traffic System. Messages passed through the NTS use a standardized *form*. Hence, messages that are prepared in the NTS style are referred to as *formal* messages. Getting to know the NTS message form is the first step in preparing yourself to serve a useful role should some unpleasant occurrence befall your community.

The NTS message form is broken up into four areas: preamble, address, text and signature. The ARRL Web site has an excellent *PowerPoint* presentation of the NTS system that includes an explanation of the NTS message form. (go to **www.arrl.org/nts** and select the **National Traffic System—An Introduction** link)

The form is designed for a message that is 25 words long. This may not sound like much but, considering a "standard" word is 5 characters long, that's 150 characters — 10 more than you can use for a Twitter message and we all know how much information people manage to pack into a Tweet.

Learning What's Important

I hope at this point you can see that handling messages is an important ham radio skill. That brings us back to the Hurricane Zachary emergency net: Should you jump in to take that piece of traffic?

No.

An emergency net is not the place to learn how traffic nets work, how to pass a message, or how to relay or deliver it. These are skills that you need to cultivate during normal times. Like right now.

"Okay, I can see that makes sense. So how do I learn how to handle a message, just in case?"

First start by reviewing the NTS *Power Point* presentation. Next go to **www.arrl.org/nts**, open the RADIOGRAM IN PDF FORMAT link and download the radiogram form. Once you have some idea of how NTS works and a message blank, make up your own message. With the holiday season approaching, think of a ham friend in some other part of the country you would like to greet. Make up a holiday greeting in 25 words or less and prepare it in the proper form. Have a look at the photo for an example using the ARRL Numbered Radiogram codes or make up something more personal.

Now go to **www.arrl.org/arrl-net-directory-search** and search for a *local* net, in your state, that is NATIONAL TRAFFIC SYSTEM AFFILIATED. Listen in for a couple of sessions to get a feel for the procedures, then call net control, check in and tell the NCS that you are new to traffic handling but you have a message you would like to pass. Soon your holiday greeting will be wending its way to your buddy's holiday homestead.

ARL Sixty One to All and to all good DX.[1]

[1]What does ARL Sixty One mean? Download the FSD-3: ARRL Numbered Radiograms form from **www.arrl.org/nts** and find out.

Steve Sant Andrea is an Assistant Editor at QST *who came to message handling through his involvement in ARES®. He can be reached at* **ag1yk@arrl.org**.

THE NATIONAL TRAFFIC SYSTEM

THE NTS

The National Traffic System (NTS) is a system of nets designed to move traffic from one part of the country to another swiftly and efficiently. The system of nets are synchronized by time slots so that the traffic can move through the series of nets efficiently and hopefully be delivered the same day.

The system is made up local, region and area nets. All of these nets use the ARRL Radiogram format, so it's important for all participants to know how to pass and receive traffic on those forms. The area nets also move at a faster pace so it's also important for the participants to have a good strong signal and good traffic handling capability.

The reps or participants are usually assigned by the Section Traffic Managers (STM) of the call areas. In high traffic volume there may be receive and transmit stations assigned so that when the traffic gets to hub of the system, the Central Area net (CAN), it makes it easier to move the traffic. The transmit station is the station that has gathered the traffic from his local or Region nets for distribution on the Central Area net and the station that is receive will take all traffic from CAN back to his or her section. Under normal conditions there will probably only be one station assigned to be transmit and receive. Digital and CW nets are also part of the NTS system.

Local Nets….
Local Nets are those which cover small areas such as a community, city county or metropolitan area not a complete ARRL section. They usually operate by VHF or 2-meters at times and on days most convenient to their members. Some are ARES Nets.

Section Nets….
Organizational and procedural line begin to tighten at the section net level. Coverage of the section may be accomplished either by individual stations reporting in, or by representatives (REPS) of NTS local nets.

Region Nets….
Region nets cover a wider area, such as a call area. Participants normally include:

A Net control station, designated by the region net manager.
Representatives for each of the various sections in the region, designated by their section net managers. Example: Region 5 would be Texas, Oklahoma, Arkansas, Louisiana, Mississippi, Alabama and Tennessee
One or more stations designated by the region net manager to handle traffic going to points outside the region.
One or more stations bringing traffic down from higher NTS nets.
Any other station with traffic.

The purpose of the region net is to exchange traffic among the sections in the region, put out of region traffic in the hands of stations designated to handle it and distribute traffic coming to the region from outside among the section REPS/ Region nets are administered by managers who are elected by NTS Area Staff members.

AREA Nets….
At the top level of NTS nets is the Area Net. Participation include:

A net control station, designated by the area net manager.
One or more REPS from each region net in the area, designated by the region net managers.
Transcontinental Corps (TCC) designated to handle handle traffic going to other areas and to bring traffic from other areas. This function may be separated into transmit and receive in high traffic volume times.

There are three areas, designated **Eastern**, **Central** and **Pacific (PAN)**, the names roughly indicating their coverage of the US and Canada, except that the Pacific Area includes the Mountain as well as Pacific time zones. Area nets are administered by managers who are elected by NTS Area Staff members.

Transcontinental Corps….

The handling of inter-area traffic handled through the Transcontinental Corps (TCC). This is not a net, but a group of designated stations who have the responsibility for seeing that inter-area traffic reaches it's destination area. The TCC is administered by TCC directors.

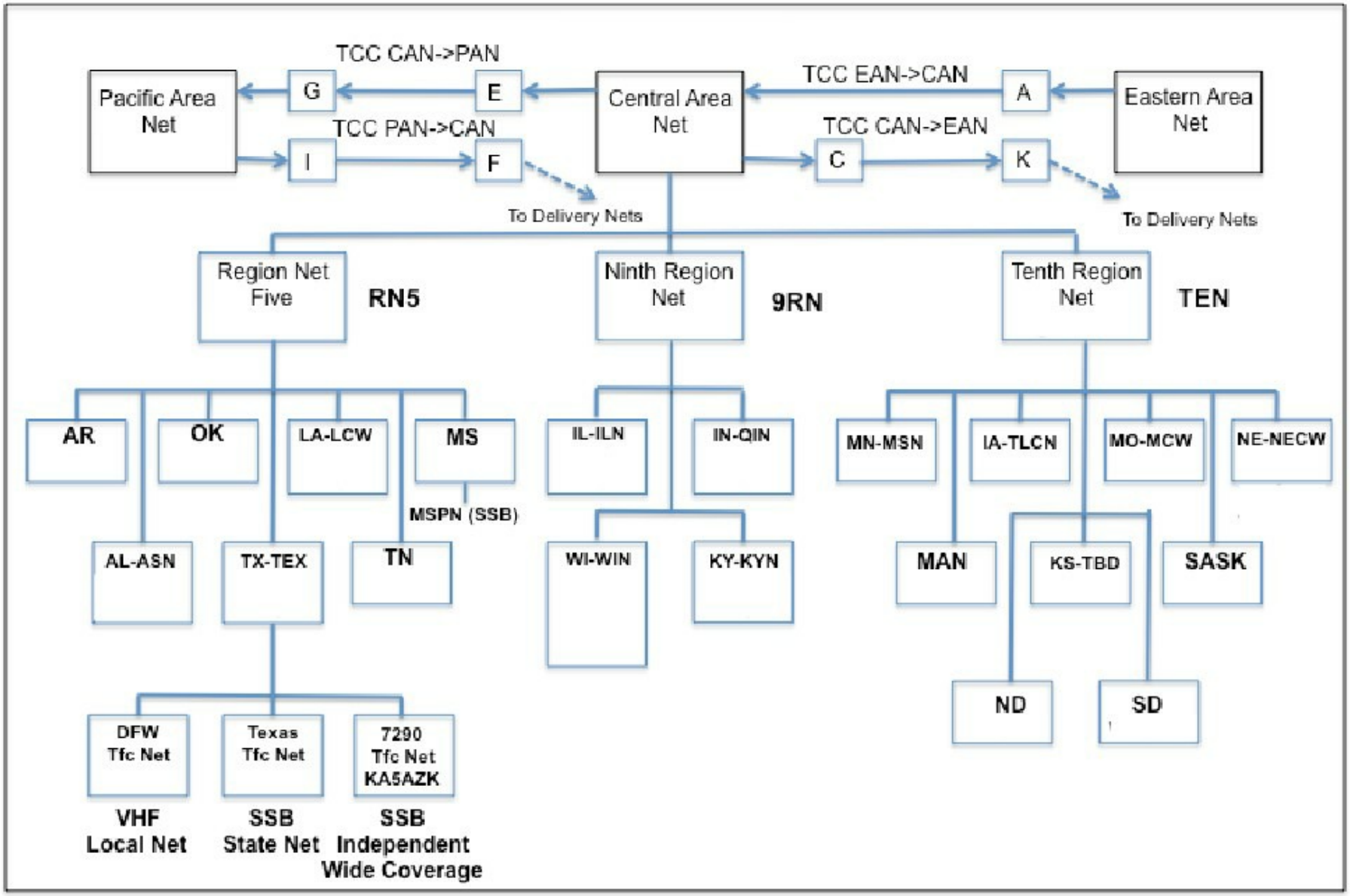
TCC stations must have the following qualifications:

Adequate signal power and appropriate mode to perform the job to be done.
The highest caliber of operating ability and NTS savvy.
Capability (both operator and equipment) to keep the required schedules.

NTS Routing Guide

State/Province **PAN**	Abbr.	Region	Area	State/Province **CAN**	Abbr.	Region	Area
Alaska	AK	7	PAN	Alabama	AL	5	CAN
Alberta	AB	7	PAN	Arkansas	AR	5	CAN
Arizona	AZ	7	PAN	Illinois	IL	9	CAN
British Columbia	BC	7	PAN	Indiana	IN	9	CAN
California	CA	6	PAN	Iowa	IA	10	CAN
Colorado	CO	12	PAN	Kansas	KS	10	CAN
Guam	GU	6	PAN	Kentucky	KY	9	CAN
Hawaii	HI	6	PAN	Louisiana	LA	5	CAN
Idaho	ID	7	PAN	Manitoba	MB	10	CAN
Montana	MT	7	PAN	Minnesota	MN	10	CAN
Nevada	NV	6	PAN	Mississippi	MS	5	CAN
New Mexico	NM	12	PAN	Missouri	MO	10	CAN
Oregon	OR	7	PAN	Nebraska	NE	10	CAN
Utah	UT	12	PAN	North Dakota	ND	10	CAN
Washington	WA	7	PAN	Oklahoma	OK	5	CAN
Wyoming	WY	12	PAN	Saskatchewan	SK	10	CAN
APO San Francisco	APO SF	6	PAN	South Dakota	SD	10	CAN
				Tennessee	TN	5	CAN
				Texas	TX	5	CAN
				Wisconsin	WI	9	CAN

State/Province **EAN**	Abbr.	Region	Area	
Connecticut	CT	1	EAN	
Delaware	DE	3	EAN	
District of Columbia	DC	3	EAN	
Florida	FL	4	EAN	
Georgia	GA	4	EAN	
Labrador	LB	11	EAN	
Maine	ME	1	EAN	
Maryland	MD	3	EAN	
Massachusetts	MA	1	EAN	
Michigan	MI	8	EAN	
New Brunswick	NB	11	EAN	
New Hampshire	NH	1	EAN	
New Jersey	NJ	2	EAN	
New York	NY	2	EAN	
Newfoundland	NF	11	EAN	
North Caroline	NC	4	EAN	
Nova Scotia	NS	11	EAN	
Ohio	OH	8	EAN	
Ontario	ON	11	EAN	
Pennsylvania	PA	3	EAN	
Prince Edward Island	PE	11	EAN	
Puerto Rico	PR	4	EAN	
Quebec	PQ	11	EAN	
Rhode Island	RI	1	EAN	
South Carolina	SC	4	EAN	
Vermont	VT	1	EAN	
Virginia	VA	4	EAN	
Virgin Islands	VI	4	EAN	
West Virginia	WV	7	EAN	
APO New York	APO NY	2	EAN	


TCC CAN->PAN
Pacific Area Net
G
E
Central Area Net
TCC EAN->CAN
A
Eastern Area Net
TCC PAN->CAN
I
F
TCC CAN->EAN
C
K
To Delivery Nets
To Delivery Nets
Region Net Five
RN5
Ninth Region Net
9RN
Tenth Region Net
TEN
AR
OK
LA-LCW
MS
MSPN (SSB)
AL-ASN
TX-TEX
TN
IL-ILN
IN-QIN
WI-WIN
KY-KYN
MN-MSN
IA-TLCN
MO-MCW
NE-NECW
MAN
KS-TBD
SASK
ND
SD
DFW Tfc Net
Texas Tfc Net
7290 Tfc Net KA5AZK
VHF Local Net
SSB State Net
SSB Independent Wide Coverage

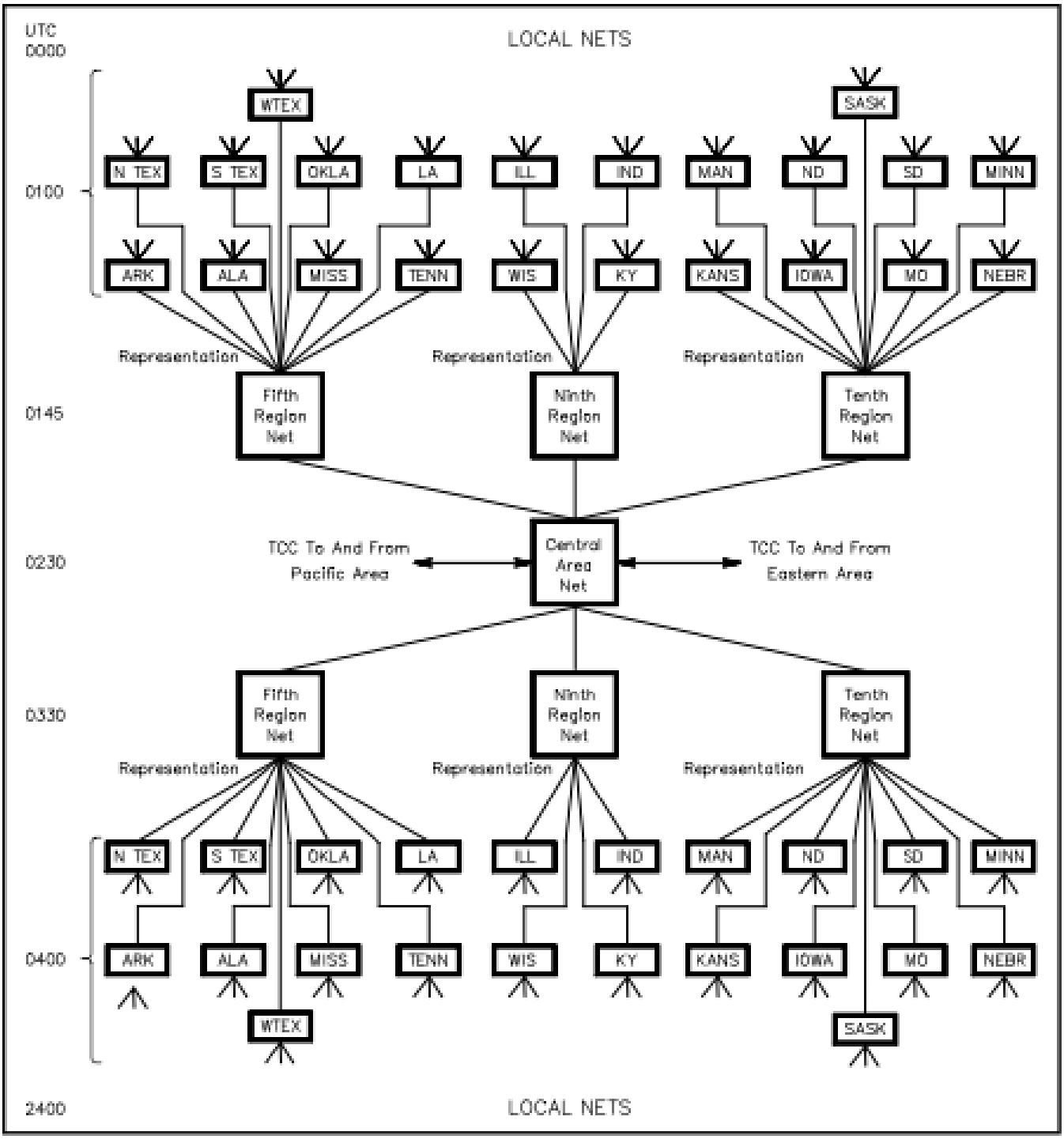


Fig 3—Organization chart for the evening cycle four NTS setup in the Central Area, showing times of net meetings at the various levels in NTS. Note that many of the early and late functions of local nets are combined at 2400/0000. Some of the other net echelons have alternatives not shown above.

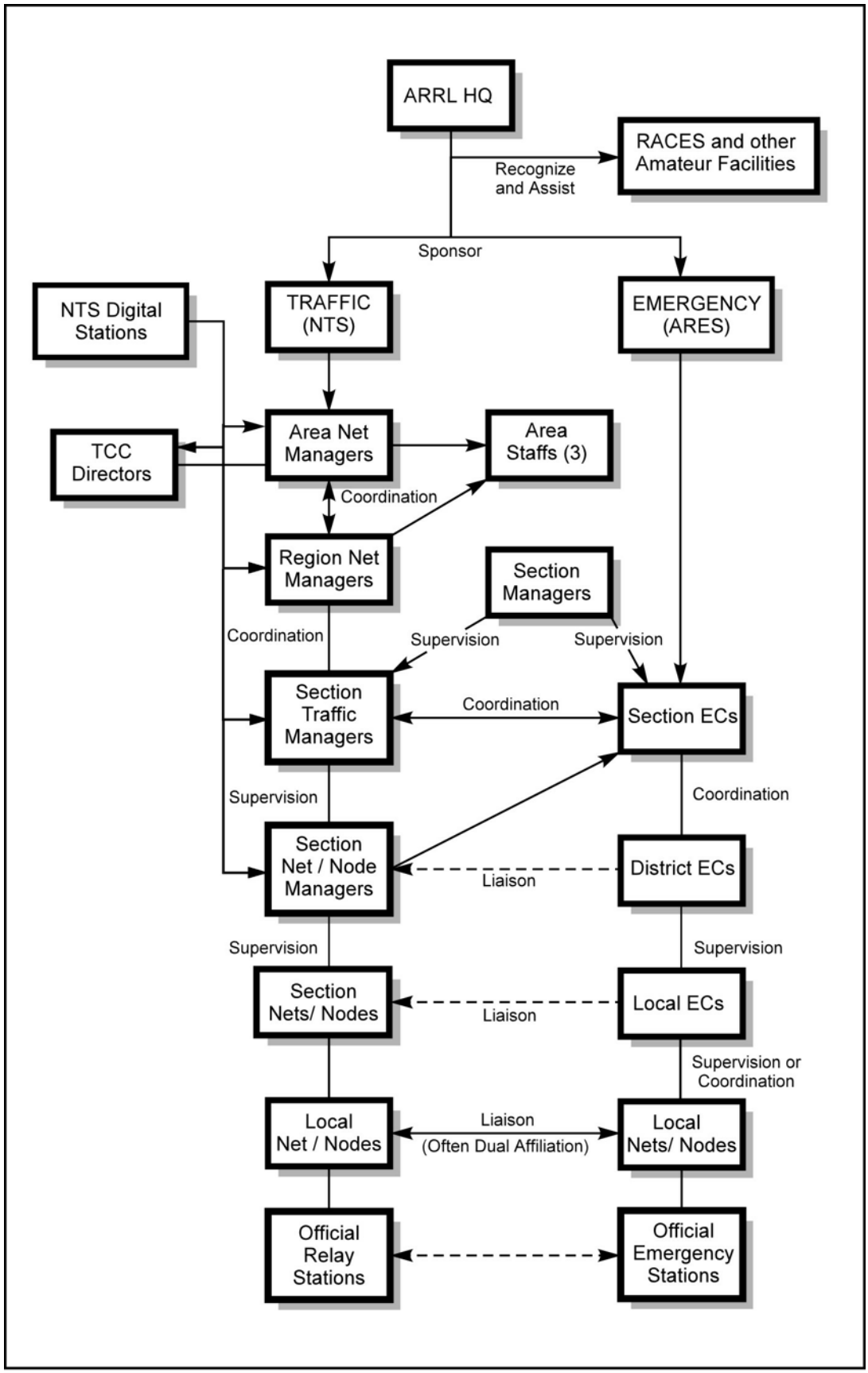


Fig 1—ARRL ARES/NTS diagram

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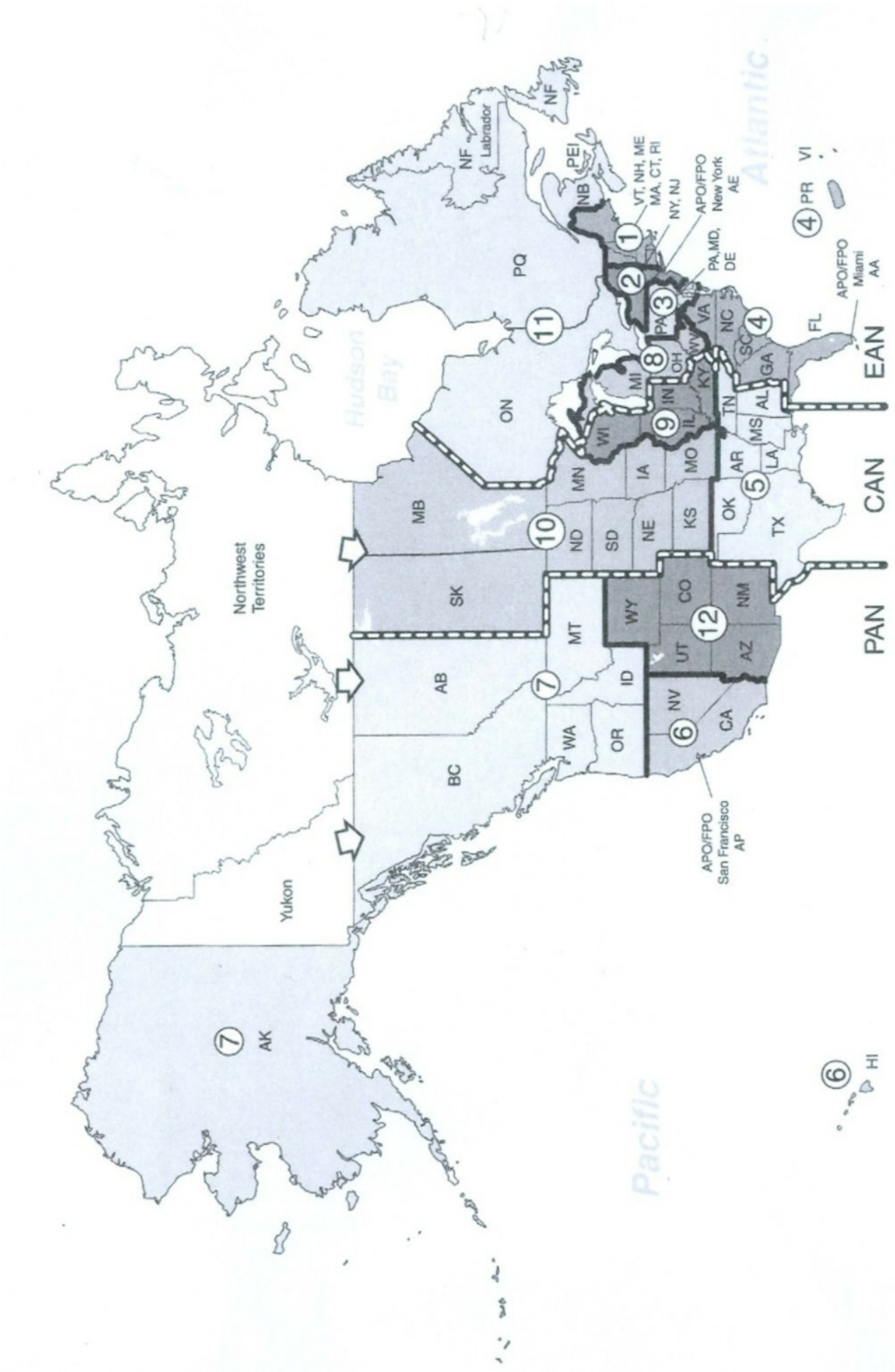
Atlantic
Pacific
Hudson Bay
NF
Labrador
PEI
NB
PQ
ON
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SK
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BC
Yukon
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PR
VI
MN
WI
MI
IA
IL
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OH
KY
WV
VA
PA
NC
SC
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OK
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VT, NH, ME
MA, CT, RI
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APO/FPO
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DE
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Miami
AA
APO/FPO
San Francisco
AP
PAN
CAN
EAN