Upshur County ARES® Training Manual

Welcome to Upshur County ARES®.

This manual contains the basic training material and documentation that you will use while participating in Upshur County ARES®. This manual is specific to our county and not necessarily applicable to other jurisdictions.

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1.0 Introduction to Upshur County ARES®

ARES® Appoinments	
Upshur County Emergency Coordinator	John L Keith W5BWC jlk@bwcelectronics.com
Assistant Emergency Coordinator	Nancy Manning KT8TOR kt8tor@gmail.com
District Eight Emergency Coordinator	Jo Ann Keith KA5AZK jkeith@etex.net
SKYWARN Coordinator	Gary Manning K5GDM k5gdm.gary@gmail.com
Activation Coordinator	George Klutts KG5UGY george.klutts@yahoo.com
Net ControlCoordinator	Nancy Manning KT8TOR kt8tor@gmail.com
Chaplain	Jim Liberacki N5TQI jhliberacki@n5tqi.com
Technical Consultant	Jerry Ritchie WA5OKO wa5oko8678@gmail.com

Upshur County ARES®
Training Nets meet every
Thursday evening at 20:00
hours local (8 PM)
on
Upshur County Repeater
146.90 MHz
-600 kHz offset
107.2 Hz tone

First, a little about ARES®, a program registered in the US Pat. and TM Office to the American Amateur Radio League. It is not a club. It is the ARRL Amateur Radio Emergency Service®. Participation in local ARES® is under the jurisdiction of ARRL. While the local ARES® group operates autonomously and may tailor itself to local needs and interests, it is still considered a part of ARRL ARES®.

Participation is voluntary and only requires an Amateur Radio License and the desire to use your training and equipment for public service. As such, it is an excellent program in which you can support your local area.

Each local jurisdiction may have specific training or capability requirements. In fact, this document describes the additional requirements to participate in Upshur County ARES®. The information complied here is to help both current and new members prepare themselves to be comfortable participating in ARES®.

After all, participation is voluntary. So, the goal is to make participation enjoyable and full filling enough to keep us all interested. The training and exercises are designed to engage radio operators and not embarrass or discourage anyone.

You do not have to be an ARES® member in order to check into our training nets, as a matter of fact visitors are welcome. However, once Upshur County ARES® activities, nonmembers are kindly asked to monitor only. Of coarse if a nonmember station has information important to the activation, that station should provide it to the net control in a manner consistent with the NCS instructions for reports.

To join Upshur County ARES® , you need to fill out an Amateur Radio Emergency Service® ARES® Registration Form, which is available on the UAARC website or from the EC. You do **not** have to be an ARRL member to join. Once complete, the form is turned into the EC and your picture will need to be taken or supplied for the ID card.

You should study this document sufficiently to understand Upshur County ARES® operation. Questions may be directed to the EC for clarification or further explanation. Do not hesitate to ask about any ARES® aspect, no matter how small it may seem. As a matter of fact, in Amateur Radio we all are learning constantly.

Upshur County ARES® is supported by the Upshur Area Amateur Radio Club (UAARC), but is not a part of the club per se. Local ARES® is an ARRL program and not an entity within itself.

Appendix A
ARES® Organization

Upshur County ARES® is in the ARRL West Gulf Division, North Texas Section under District Eight. More details regarding this are shown in Appendix A.

2.0 Importance of Training

Most of us realize we need to train for Amateur Radio activities, whatever they may be. In some cases this may be minimal, for instance how to give the call of a station you are calling first and your call second. Or it may be complex, like learning how to set up and operate a digital hub.

Fortunately Upshur County ARES® training is only slightly more difficult than the first example. There is a little more to it, but it is not difficult. However, there is also the need to not only train, but to continue to practice our training regularly.

While much of our training is not difficult, it involves skills that are perishable. So, once you have read through this manual, you will still need to check into the weekly Upshur County ARES® nets. On these nets we continue our training and broaden our capabilities with new training material.

The weekly nets are also important so you become comfortable operating, learn how your radio operates, how well your antenna works and how propagation effects your signal. To be a part of an emergency communications, you need to check your equipment and capability on a regular basis.

One of the perishable skills I mentioned, is knowing net procedures. Things like how to give your call, when to check in, when not to check in and how to relay. There is a flow to how the net operates. Knowing what comes next and how to respond to NCS instructions makes you comfortable and the net work smoothly.

As well, by checking in regularly you learn the call and name of other stations on the net. You will learn their capabilities, where they are located and how they operate. We all have a style of operating, even though we may not be conscious of it.

For instance some operators are slow to speak and can be doubled with if a station fast on the trigger is talking to him/her. Some operators speak softly, some loudly, some fast and others slowly. It makes for a more efficient net if you are familiar with these traits. You also will find some operators can copy stations down in the noise and others struggle with calls of strong signals.

One of the most important aspects of the on-air training is the “common knowledge” that we share by hearing the same training in the same manner at the same time. While there are several ways to handle the same situation, it is beneficial for us to have a common approach. We develop a common vocabulary and process that will become second nature to us when we are called upon in an emergency.

One of the most important aspects of training, particularly on-air training, is to develop the discipline to show up.

3.0 Upshur County ARES® Specific Training Requirements

There are only a few specific requirements to become and remain an active member of Upshur County ARES®. First, you need to check into at least 66% of the annual training nets. Even though we all have things come up that force us to miss scheduled events.

When this happens to you, just let the EC, AEC or NCS for that net know you need a proxy check in. You will receive credit for a check in. Now, this is not a standing thing were you can miss week after week, but for the occasional disruption in your schedule.

Second, you need to make the eyeball Upshur County ARES® meetings. These are kept to a minimum because we are all busy and have limited time to devote to meetings. We'll have around three such meetings per year. Again, an acceptable excuse will get you credit for a missed meeting.

Third, you need to attend Upshur County ARES® exercises. These have been far and few between, but we may try to have one or two per year in the future. Same caveat if you can't make one.

Lastly, review this manual carefully. Some of the material you may know better than I, but concentrate on the material that is new or different. Remember, this is not an ARRL document per se, even though technically it belongs to the ARRL because it is created in an ARES® organization; however, it is specific to Upshur County ARES®.

Some ARES® groups require ARRL ECOM courses and/or ICS courses, you may take these on your own if you wish, but they are not required for Upshur County ARES®.

This training is not exclusive, but specific to the needs of Upshur County ARES®.

One last comment on training requirements. Participation in training is required; however, participation is **not** required in actual emergency events. We need everyone trained, but only want participation from those who are comfortable doing so.

Hopefully we will all become confident enough to participate in actual events, but the time when each of us feel ready to do so is left up to the individual.

4.0 Prerequisite Training

Upshur County ARES® training is ongoing and is presented weekly on the net. So, for those new to our group in Upshur County, the following sections provide the prerequisite, or "catch-up training" to bring you to date on training.

Even so, not all the training of past nets is included here. The part missing is the actual on the air operation. I know of no substitute for actual on the air operation. But, if you understand the training presented in the following sections, you should have the confidence to get on the air and gain that missing aspect.

Upshur is a large, 593 square mile rural county with a small population of 40,000 approximately. It does not have a hospital, local Red Cross office or large city. Therefore, being somewhat isolated, Upshur County ARES® is focused on the needs of our unique county requirements.

While we may at times need to connect to agencies outside of the county, our training focus is to prepare ourselves to support the local agencies. We are not quite sure, at this point which agencies we may offer our services to, but we must train ourselves to be an effective communications team before we approach anyone.

We are currently involved in SKYWARN providing weather reports to the Shreveport NWS office. We have a SKYWARN Coordinator who is in contact with the office and funnels Upshur county, and surrounding area reports to them.

So, first prerequisite training is a NWS Storm Spotter Class. We try to have a local class put on by the NWS every year. In 2020 the virus prevented in person classes so the NWS presented on-line training. You may take one of these or you can go the club website https://uaarc.club under the ARES® tab and download the NWS material.

NWS Storm Spotter Info
https://uaarc.club

Second prerequisite training is the ARRL Radiogram and traffic handling training. As already stated, the agencies that we may support are not yet determined, but in any case we need to train ourselves to be able to put written communication in a form that can be transmitted by radio. The Radiogram is a well established and still used form for written, formal messages.

You will find several sources of information on the topic; however, I strongly recommend Traffic Handling Training by Jo Ann Keith KA5AZK. You will find she has complied many documents into one book. Using her book you will have everything you need in one place.

Traffic Handling Training
contact KA5AZK for book

The book is available for down load from the https://7290trafficnet.org website under the Training Tab. Also, you may contact her at jkeith@etex.net or on the Upshur County ARES® net. I recommend contacting her for the physical book as it has reference cards in the inserts.

4.1 How to Check into a Net

One of the most basic skills we need to develop is the ability to properly check into a net. One of the best ways to learn this skill is to listen to nets for quite awhile before you try checking in. Nets have their own unique requirements for check in.

On HF you will find many nets of all types. Some nets are rag chew (just talking about whatever comes to mind), some Traffic Nets (handling formal written Traffic), some are special interest groups (like Collins or Drake equipment owners), some are emergency nets (ARES®, RACES, Hurricane nets, etc.) plus many others.

VHF and UHF nets fall in the same general categories, however you will find differences in these nets from HF nets. For one thing these tend to be local nets (even though some repeaters are linked to provide wider coverage) and are generally operated on repeaters.

As you can imagine, the check in requirements vary widely among these many nets. It is important to listen first. It is always important to listen first.

When operating on HF, net control stations are required by FCC regulations to check the frequency before transmitting. That is, no one "owns" or has a special privilege to any particular HF frequency. This means when it is time to start an HF net, the NCS asks if the frequency is in use. If it is, the NCS is obliged to move to another near by frequency. On HF the NCS needs to be sure the frequency is clear at his/her QTH.

Due to broader coverage on HF vs VHF, stations checking into an HF net may be hearing stations that NCS does not. This does not mean the net has to move, but the stations checking in need to be courteous to the stations being heard at his/her QTH. As well, HF prorogation changes and a frequency that was clear at the beginning of a net may become cluttered. In this case the frequency is being shared, that is, no one is intentional transmitting on anyone else. The FCC covers this under the statement that no Amateur Radio station is guaranteed a clear frequency. In other words, HF not does not have channels (well except for 60M).

When checking into Upshur County ARES® listen to the NCS instructions as these may change from time to time. In general, we ask stations to check in by giving their call, using ITU phonetics **only**. We have found using a prefix, i.e. "this is - pause" only clutters the frequency, takes more time and actually does not prevent doubling.

Normally Upshur County ARES® training nets will take check ins using the roster, followed by a time for late or visitor stations.

When the NCS recognizes your station, repeat your call and say if you have traffic or a QST. Don't send your traffic or QST, just let the NCS know you have something for when he/she is ready for you.

When checking into any Net, only do so if you have time to wait until the NCS recognizes your station. It is very rude, time consuming and inconsiderate to give your call and then leave. You may think no one heard you, but likely someone did and the Net Control will spend a considerable amount of Net time trying to check you in.

This is even more so during an emergency Net. If you are going to try to check into any type Net, please have the respect to stay on frequency until it is obvious you have not been heard. Normally, if after a few additional call-ups, you have not been called it is likely no one has heard you. Either try again or then leave.

4.2 Upshur County ARES® Activation

Now that we have covered how to check into a net, let's look at how Upshur County ARES® activates. One of two reasons normally cover why we activate. The first, of coarse, is for training. Each Thursday evening at 20:00 local we have training on the Upshur County repeater, as shown in **1.0 Introduction to Upshur County ARES®**. The second is to work an actual emergency or special event.

Upshur County ARES® has an alert coordinator who sends a *text* message to member's cell phones. Also, the EC or AEC sends an email to member's email accounts. In special cases we even use the land line to call member's phones.

While this method is not robust, due to the vulnerability of the infrastructure, it seems to be the most acceptable method for now. The back up, which goes into place if the infrastructure goes down, is for the members to check the Upshur County repeater for information on activation. The repeater is **independent** of all infrastructure. If it is down also, then members are to go to simplex on it's output frequency of 146.90 MHz.

We typically activate when the NWS places Upshur County under a severe thunderstorm warning. The SKYWARN Coordinator is in touch with Shreveport NWS and will alert the EC or AEC to activate. Either the NWS or the SKYWARN Coordinator may initiate an activation, but the actual activation comes from the EC or AEC.

An extension of the training activation, is activation for ARES® Exercises. Over the past few years, we have had few exercises, but we plan to start doing so a few times per year. These make take on the form of simple on-air only, or may involve setting up at some location. However, no one is required to deploy in actual incidents.

4.3 How to make a Report

During net operation, the NCS will specify what reports or information he/she wants. In general, do not report things for which the NCS has not asked. Of coarse an exception is critical information the the NCS may not be aware of.

For example, if the NCS has been asked by the NWS to report flooding in Upshur County but you see a tornado, not something NCS has been asking for, but of coarse you report it. But if on the other hand you have no flooding in your area, don't report that - unless it is asked for.

Basically no "blue sky" reports. It is tempting to report what we are seeing at our stations, but unless it has been asked for by NCS, don't send it. Sometimes however, NCS will ask for general reports with no specific reporting criteria. You then are free to report blue sky or whatever else you are experiencing at your location.

Notice in the above reporting instructions, only reports are to be made from your own personal observations. **Do Not** report second hand information. **NEVER** report from social media. Do not even report from news outlets.

When an Upshur County ARES® member makes a report the NCS has a good idea of the training and experience of that station. When someone's neighbor gives an ARES® station a report, the creditability of the report is difficult to establish. If you know the training and experience level of the individual giving you a report, it is up to you and your responsibility for the accuracy of that report.

If an untrained observer gives you a report that you deem significant, you may report it with the disclaimer that the report comes from the public. On the other hand if a sheriff's deputy wants you to report his/her observation, then the disclaimer should be it comes for a reliable source or first responder.

When you report your own observation, the decision to post on it social media is your choice. However, when relaying any message on behalf of a third party, you must **not** post it on social media, share with news reporters or the public. While the FCC prohibits Amateur Radio communications from being encrypted, so it may be heard by anyone monitoring, it is still our responsibility that third party traffic is not released by us.

Performing poorly with our reports will quickly ruin the reputation of Amateur Radio and the creditability of Upshur Count ARES® .

Always be sure your reports are specific, accurate and brief. Do not insert your opinions or assumptions.

As the detective movies say "just the facts Miss".

4.4 Terminology and Techniques

4.4.1 HF and VHF Operating Procedures

When making reports it is important to use concise terms. It is easy to misunderstand radio communications even in good conditions and even more so when under stress. One way to reduce misunderstandings is to use common terminology. While you will hear many sorts of terms used in Amateur Radio, we need to standardize when operating in Upshur County ARES®.

When operating on HF, you first ask if the frequency is in use. Since, HF Bands are not channelized (except for 60M) and because HF propagation makes it hard to tell if a frequency is clear, you need to ask. You may not hear a station in QSO. But the other end of the QSO may be hearing you, so when you ask if the frequency is in use a station you are not currently hearing may answer you.

No one or net or organization has exclusive right to any Amateur Radio frequency. ARRL published a "Courteous Operator's Guide" to suggest where certain operating modes and interest are likely to be found. This does **not** give anyone the right to "own" that frequency. Unfortunately, even though ARRL includes that disclaimer, some Hams think the guide gives them ownership of a frequency or band of frequencies. Please do not fall into that misguided thought pattern.

HF 2M Band Plan Hyperlink

The FCC does regulate, under Federal Law, certain types of operation in certain portions of the HF spectrum. This may be found at ARRL http://www.arrl.org/graphical-frequency-allocations. This is also know as privileges of class of license.

Appendix B
2M Band Plan

Now, with that said, it is also true of VHF Bands. However, in the case of 2M for instance, the FCC has allowed the ARRL to establish a Band Plan for where different types of operation are allowed. See Appendix B.

With all of that said, repeater operation is a little different from HF. On HF, you first ask if the frequency is in use. If you receive no response and it sounds clear to you, then you may call CQ, CQ, CQ this is (your call). Any station that hears you and wants to talk will answer you.

On 2M it is common practice to **not** call CQ, but rather just give your call and say you are monitoring. For example; W5BWC is monitoring. Or you may ask if any other station is monitoring or ask for a signal check.

When using a 2M repeater, do not call CQ or ask if the frequency is in use. Ask if the repeater is in use, or monitor for a few minutes to determine it is not. Then give your call and say you are monitoring.

When calling a specific station, give the station you are calling's call first followed by yours.

4.4.2 Abbreviations and Ham Jargon

You will find the use of Q signals on phone. In fact they are CW shortcuts and not intended for phone. However, back in the day, all Hams started out on CW or at least had to master 13 WPM to get a General or higher class of license.

I think the use bled over as these Hams migrated to phone operation. The FCC cares less if they are used on phone or not, so the worst you risk is the ire of a self appointed "Ham Expert". However, my personal opinion is we should limit use of Q signals on phone.

Some are just as good on phone as CW. QTH is an easy way to ask "what is your station's location". QST is any easy way to say "calling all Amateur Radio Operators" commonly used to indicate you have an announcement of general interest to all Amateur Radio Operators. QSY is nice in place of "I'm changing frequency".

However, for the most part just plain English will do as well. Some Ecom groups think we should not use any abbreviations so that agencies that are monitoring know what we are saying. I don't disagree, but I do think our first priority is for us to effectively communicate and the sake of those monitoring is secondary.

Q-Signals
see
Traffic handling Training

A list of Q signals is in the Traffic Handling Training Book from Jo Ann Keith KA5AZK.

Abbreviations are abundant in Ham Radio as in most activities. Some of them are necessary to expedite our communications. Some of these are NCS for Net Control Station. EC for Emergency Coordinator, AEC for Assistant Emergency Coordinator, ARRL for American Radio Relay League and even ARES® for Amateur Radio Emergency Service® .

Appendix C
Amateur Radio Abbreviations

So, while we do not intend to be cryptic, the use of abbreviations are necessary. See Appendix C for list of common abbreviations used in Upshur County ARES®.

Avoid using first responder or CB abbreviations on Amateur Radio and particularly on ARES®. We are neither, so avoid 10 codes and CB slang. If unsure of what you are about to say, just say it in plain English. As you spend time on the air, you will pick up the preferred short cuts.

We never know who may be monitoring our ARES® nets and even though we are "Amateurs" we need to act professionally. A poor first impression is more harmful to us than most other entities.

4.4.3 Basic ARES® Kit

All ARES® members need a kit of items and information at hand when operating in ARES® events. This is **not** the often referred to Go-kit we hear about.

We all need an ARES® kit regardless of our intent to deploy or not. No one in Upshur ARES® is required to deploy unless they wish to. We **never** self deploy. We deploy only when instructed to do so by a local agency.

Appendix D
Upshur County ARES® Kit

But, regardless of deployment, we all need some basic items with us anytime we are involved in ARES®. Before I list some of the most basic items, a more complete kit content list is in Appendix D, in a form you can print and cut out to have with you.

Some of the more basic items we all need at hand during ARES® operations are; copy of FCC license, ARES® picture ID card, drivers license or state ID card, 2M and if practical HF radios. Even though not a physical part of the kit, of coarse a good antenna is basic. This is just a few of the items you will find in the kit contents of a well prepared station. You probably will want to add items not listed, that you think you may need. Each kit is specific to the user, so feel free to customize it for yourself.

We will put member kits on display at our eyeball meetings, so that we can share ideas of what others include in their kits. It is a good idea to make your kit portable. I use an old brief case, but fanny packs and back packs seem to be in style now. However, this is a personal choice.

In this day of electronic devices, some may choose to use their devices for part of these items, but I strongly urge all members to have a non-electronic means of taking reports, traffic or information. A crayon and tablet, or pencil and paper.

Appendix E
Time Conversion

Time Conversion table is also handy. Again smart phones will give you the time anywhere on earth, but it is also handy to have a time conversion card in front of you. One version is included in Appendix E. Again you may want to print and cut out for your kit.

Regardless of how you personally take notes and record information, be sure to include a back-up plan. Pencils break, pens run out of ink, batteries die and so on. Be sure you have several pens and pencils in your kit. If you must use electronic devices, be sure they have back up power and storage. I caution the use of the “cloud” for offsite memory storage. One of our functions is to be available and fully functional when the infrastructure fails.

5.0 NCS Training

5.1 Introduction to Net Control Station Operation

Please don't flip the page. Yes, this section **does** apply to all Upshur County ARES® members. At one time the NCS received this training in special sessions for NCS only. However, I decided it is important for us all to have this training.

First, I hope we all will become NCS. Second, we all need to know what the NCS is dealing with when calling a net; as this will help us to understand NCS instructions better. Third, training for NCS duty improves our ability to record information, be aware of what is transpiring on a net and prepare us to work with third party traffic.

If you are interested in becoming an NCS please contact the Net Control Coordinator or the EC.

Appendix F
Upshur County ARES® Net Preamble

When the NCS opens the net, a preamble is read in order to explain what the net is, how it operates, who is welcome to check in and how to check in. The complete preamble is in Appendix F. One side is the Training Net preamble and the other side is the ARES® activation preamble.

Please note the Training net is more informal and welcomes visitors and member comments. The NCS will normally, during Training Nets, pass pleasantries with stations checking in. We want to be friendly and inviting so we may have enjoyable Training Nets.

However, once ARES® activates, the net becomes more formal. We ask visitors to standby and monitor only. Of coarse if they have information being asked for by NCS they may check in, according to the NCS instructions.

All members are asked to only transmit according to NCS instructions. All transmissions need to be concise, brief and only contain the information NCS is asking for. During activation the net needs to be clear for stations that may have important information. Otherwise stations should monitor only until they too have information NCS is asking for.

5.2 NCS Guidelines

Appendix G is the NCS Guidelines. These are for NCS use during net operation; however, once again all members should be familiar with how the NCS operates the net.

Appendix G
Upshur County ARES® NCS Guidelines

An efficient net must have a strong net control station. Both strong signal into the repeater and strong in the sense of knowing what is needed and how to manage the net. The NCS is indeed in charge of and responsible for net operations.

This means the stations checking into the net are to listen to and adhere to the NCS instructions. You never argue with NCS. The NCS is in charge. Issues may be addressed latter if they arise.

5.2 NCS Guidelines *(continued)*

When referring to NCS, use the terms NCS or Net Control or Net Control Station or simply Net. Do **not** use net controller or net operator.

Remember the NCS has a lot going on and trying to log check ins, direct traffic and keep the net running smoothly. Please be patient and try to help NCS anyway you can. But, don't but in. If he/she needs a relay, simply say "RELAY and your CALL". Do so in a clear spot, not when NCS is in the middle of something.

If you have information for NCS use the phrase "RECHECK and give your CALL". Again be sure NCS is clear of activity when you do so. We may think what we have to say is the most important on the net, but piling on top of net communications in progress is not an efficient way to get our "most important info" to NCS.

NCS is keeping a Log of all contacts, reports, dates and times associated with the net. Keep this in mind when sending your call or reports. A slow, clear communication will **not** take longer than running words together trying to squeeze everything together.

A report given too fast will likely not be copied correctly the first time. Having to repeat a message, given too quickly, takes more time than had it been given slowly and metered in the first place. Even worse than the wasted net time, it is much harder to get information correct when it has to be repeated and redone on the receiving end. When giving a report, take your time and go slowly, just do it efficiently.

Appendix H
Upshur County ARES® NCS Log

The Net Log mentioned earlier may be found in Appendix H. Each NCS is free to implement a Log of their choosing, but the one shown there is an example of a Log that may be used or modified to suit you. Whatever is chosen, the NCS is responsible for capturing the information contained in the NCS Log.

The importance of the Log is hard to over state. While the FCC no longer requires us to log our contacts, the need to do so for third party traffic is very real and required, even if not required by Federal Law.

A word about the term I'm using "Third Party Traffic". When messages are sent via Amateur Radio using the ARRL Radiogram, the term means a message being transmitted on someone else's behalf. For instance, your neighbor wants to sen a Radiogram message to his long lost cousin. You are ask to send the message, so you are now handling Third Party Traffic.

In our case this is true as well, but also, we may be handling reports going to the NWS or other agency. While, technically our own reports are not third party traffic, the NCS still needs to maintain a Log of who made the report, date and time.

5.3 NCS Net Report

Once it is time to close a Net, the NCS should send a net report, in an ARRL Radiogram form to the EC. The EC in turn is required to send a monthly report to the SEC.

Appendix I shows an example Net Report on an ARRL Radiogram. This report should be sent at the end of each Training Net and Emergency/Special Event Net. It will be counted in the Net traffic count as a formal message. The EC then complies the reports to create the monthly EC Report.

Appendix I
Upshur County ARES® NCS Net Report

It is good for all of us to be familiar with this report. It not only helps us understand what all NCS deals with, but what information is contained in the NCS Log and what information is sent on the EC.

We should all become familiar with passing formal traffic and these net reports help by allowing us to hear formal traffic being passed at the end of each net. Once we start working with agencies beside the NWS, we may need to use some other form or none at all, but regardless, we will certainly be required to make and maintain accurate records.

Therefore we will make the ARRL Radiogram our form of choice. This form is still in use in the National Traffic System (NTS) and moves messages all over the USA and internationally. For messages leaving the county, we will need to use the ARRL Radiogram in order to send it via the NTS.

The Net Report is a summary of the net operation, The NCS needs to retain the NCS Log for as long as he/she remains in ARES®. We may be asked to review our records or supply additional information after an incident. Most incidents, if not all, have a debriefing after the fact.

If we are called upon to support and clarify information in such a review, we need to have it in a form that it is presentable. As a minimum we need to be able to access information from the incident under review.

Actually this applies to us all. When we make a report going to an agency, we need to keep our own Log of what, when and how. I'm referring to a formal or near so report, not just passing observations or comments. But, if you have minimum reporting criteria report for the NWS, be sure you record date, time and summary of the report.

Like the 911 Emergency Service, we need to know who, when, where and what.

Notes about the Net Report are included in Appendix I, where you will find a sample Net Report, that was actually passed on an ARES® Net. Please refer to it. It will help you create your own Net Report or Radiogram.

6.0 Participation in non-roll call nets

Most of our training nets are called using the roster. This makes calling the net much easier for the NCS because the check ins are in order and only one at a time. However, During activations the use of roster check ins is not practical.

As already discussed, an actual emergency net operates differently from a Training Net. Check ins are almost never called from a Roster. So it is important for us to learn how and practice random check in operation.

It is very important to minimize the length of your transmission when checking into a non-roll call net. Some groups use the "this is - pause - call" in an attempt to prevent doubling. Upshur County ARES® does **not** use this phrase. Give only your call when checking into the Upshur County ARES® nets.

I have heard two stations double when using the "this is" check in method. More words, more time spent sorting out the check ins. Use only your call and the NCS only has those to sort out and no extra words covering up stations trying to check in.

If the NCS knows you, give your call **without** phonetics during actual emergency events. If you are not sure if NCS knows you, give your call only using ITU phonetics.

It is difficult, if not impossible, to prevent doubling. I hear some nets fuss about doubling and say things like "stations spread out your check ins". To a some extent this is good advice. You do not need to key the instant the NCS ends a call-up. However, there is no way to know if another station is going to wait until the very instant that you key your transmitter.

If you hear another station the instant you release your key, just stand by; do not repeat your call hoping to be in the clear. The NCS may have copied both you and the other station. Wait for the NCS to ask for to try again. If, after the NCS recognizes the station you doubled with, but not you, then try again.

Above all, be patient and persistent. If you use patients and pay attention to the check ins, you will get checked in. We will practice this technique during some of our Training Nets and certainly during our exercises.

7.0 Station Requirements

Upshur County ARES® requires members to participate. You do not have to deploy, but you do have to participate. Of coarse, we are volunteers, so those who do not want to participate may choose not to; but, to remain on the Active Roster participation is required during the training and exercises.

We have already covered this, so why mention it again under Station Requirements? Actually, because in order to participate, you must have a station capable of supporting your participation. Upshur County ARES® uses the Upshur County Repeater. Our repeater is somewhat evaluation limited. Our repeater is relatively new. Obtaining a 2M pair is very difficult due to the popularity of 2M repeaters. Our coordination was allowed under transmit power and antenna elevation restrictions.

WA5OKO was instrumental in optimizing the antenna and equipment used at the repeater site. There is little that can be done to improve it further. So, it now is upon us to improve our antenna systems and radios to have a solid signal into the repeater. Not only does this provide reliable communications using the repeater, but also improves our ability to operate direct.

The actual equipment and antenna you use is up to you. I suggest you have a fixed station with a 50W or more transceiver and gain antenna sufficient to be near full-quieting into the repeater. This station should have back-up power such as AGM rechargeable battery and/or generator.

A mobile station is also recommended using a similar transceiver. And for limited use an HT with antenna adapter to coax feed is a nice addition. Some stations use an HT with an external RF Amp, so that mobile the HT provides 30 to 50W and replaces the need for a dedicated mobile rig. The HT can even be used for a fixed station in the same manor.

Ultimately, the rig or rigs you select is up to your budget and preferences. There is no specific requirement imposed by Upshur County ARES® regarding your equipment. Only that you are able to communicate reliably using the Upshur County Repeater.

If you are one of the members willing to deploy, then you also need a portable station and antenna. We have not yet trained on deploying, so the details of what is required are not established. However, we will delve into this subject in upcoming training.

Other equipment to consider, however not required, is a weather station. During SKYWARN operation it is advantageous to have reports around the area. These reports are enhanced by the stations having a wether station. HF capability is another considerable upgrade. Wireless connection for computer or other devices is nice, but do not depend on the infrastructure being available when we need it.

Be sure to program into memory the Upshur County Repeater with -600 KHz Offset and 107.2 Hz tone. Also include a memory channel for 146.90 MHz (the repeater output frequency) with no offset (simplex) and 107.2 Hz tone. We will use this direct frequency if the repeater is off the air.

For our other two direct frequencies, store 146.52 MHz and 147.54 MHz without a tone. We will use these if stations need to move off of the repeater during an incident.

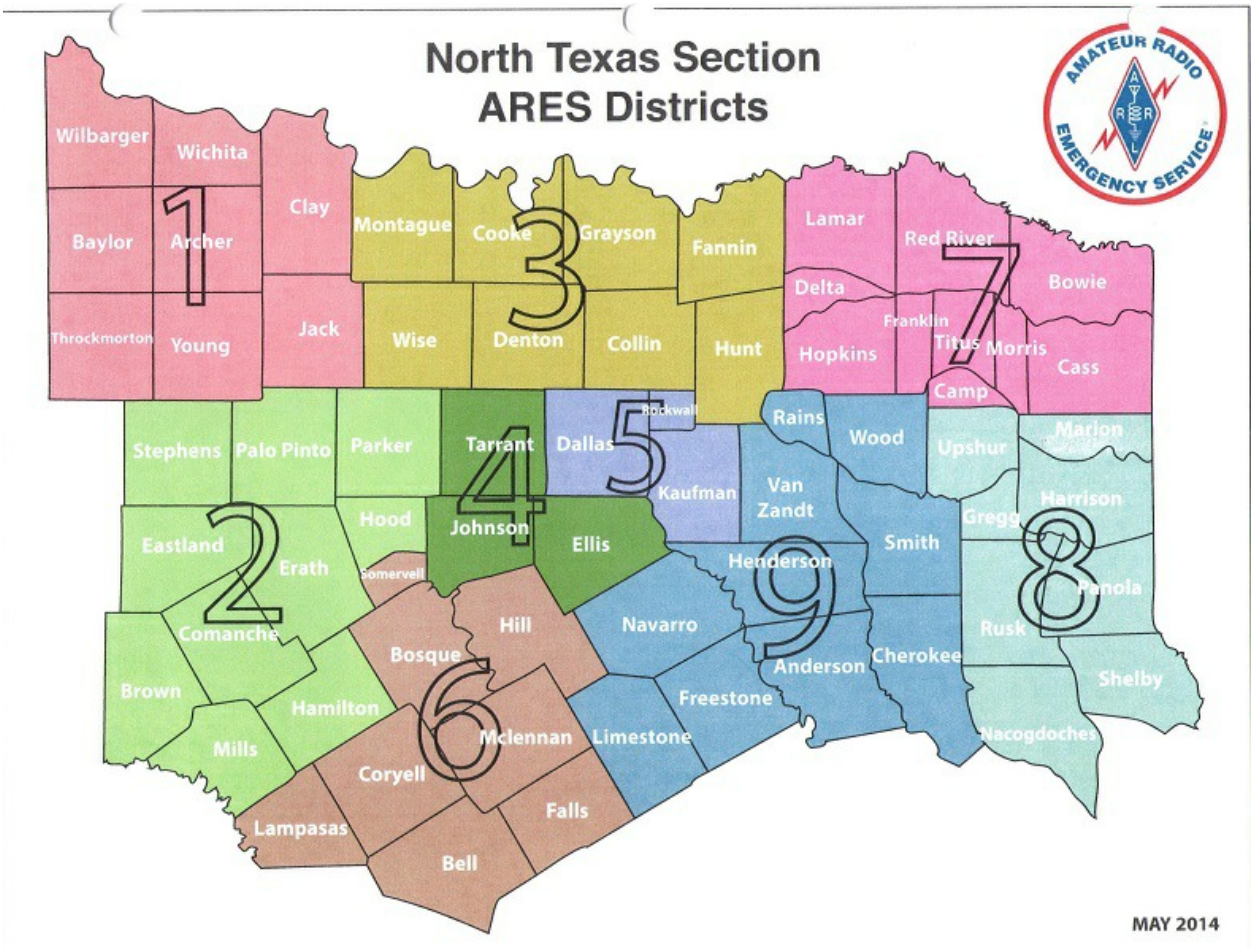
8.0 Continuing Training

The information presented here is by no means complete. But, it should give you a good idea of the information that has been covered by our on-air training during the period from May 2020 to April 2021. Please explore any aspects that are unclear to you or that you have a particular interest in.

Addendums will be provided, to this Manual, as on-air training is completed. You may want to put this Manual in a loose leaf note book so it is easy to add pages.

You may want to include pages for notes as well. Part of our training is to provide information during the on-air training that is not sent out via email or posted on the Internet. This is actually part of our training. We need to train ourselves to record information being passed via Radio. There is no refresh or play-again button.

Appendix A



ARES® Districts in North Texas Section of ARRL West Gulf Division

Appendix B ARRL 2M BAND PLAN

144.00-144.05	EME (CW)
144.05-144.10	General CW and weak signals
144.10-144.20	EME and weak-signal SSB
144.200	National calling frequency
144.200-144.275	General SSB operation
144.275-144.300	Propagation beacons
144.30-144.50	New OSCAR subband
144.50-144.60	Linear translator inputs
144.60-144.90	FM repeater inputs
144.90-145.10	Weak signal and FM simplex (145.01,03,05,07,09 are widely used for packet)
145.10-145.20	Linear translator outputs
145.20-145.50	FM repeater outputs
145.50-145.80	Miscellaneous and experimental modes
145.80-146.00	OSCAR subband
146.01-146.37	Repeater inputs
146.40-146.58	Simplex
146.52	National Simplex Calling Frequency
146.61-146.97	Repeater outputs
147.00-147.39	Repeater outputs
147.42-147.57	Simplex
147.60-147.99	Repeater inputs

Notes: The frequency 146.40 MHz is used in some areas as a repeater input. This band plan has been proposed by the ARRL VHF-UHF Advisory Committee.

Appendix C

Definitions, Terminology and Procedures for ARES

Definitions useful in ARES®	
ANCS	Alternate NCS
ARES®	Amateur Radio Emergency Service
DEC	District Emergency Coordinator
EC	Emergency Coordinator
EOC	Emergency Operations Center
HF	3-30 MHz but loosely used to describe operation on bands from 1.8 to 30 MHz
ICS	Incident Command System
NCS	Net Control Station
NIMS	National Incident Command System
NWS	National Weather Service
RACES	Radio Amateur Civil Emergency Service
SEC	Section Emergency Coordinator
SM	Section Manager
STM	Section Traffic Manager
SOC	State Operations Center
UTC	Coordinated Universal Time - Prior to 1972, it was referred to as Greenwich Mean Time (GMT) which is the time in Greenwich England
WX	Weather
Zulu	yet another term for UTC

Terminology useful in ARES®	
Check In	When operating on a Net, follow the NCS instructions to be recognized
Clear	End of transmissions
Copy	I confirm your transmission TRY NOT use “copy that” popularized by TV and movies
Over	I’m through transmitting, go ahead
Repeat	Repeat all or part of last transmission DO NOT use “come back”
Roger	I understand, I will comply
Standby	Please wait - I’ll return shortly; or, please wait until I call you
Traffic	Improperly used to mean I have something to say; **PROPER USE:** a. Formal Traffic (often just stated as “traffic”) is written on or in ARRL radiogram form and properly numbered, b. Informal Traffic (often just stated as “an informal” means I need to tell a specific station something, c. QST (CW) but common on phone to mean I have a general announcement
QRT	Closing my station (CW)
QSL	I acknowledge (not proper use, but common), actually means confirming contact - use “Roger” for acknowledge
QSY	CW abbreviation, but commonly used on phone, meaning to change frequency
QTH	My/your location (CW) but common on phone DO NOT use “twenty”
QST	Calling all Amateurs or I have a message for all Amateurs

Appendix D

Basic ARES® Kit

	ARES Documents and Supplies
1	Copy of FCC license
2	ARES® picture ID badge
3	Log book or journal
4	Pencils and pens (plural)
5	Note pad
6	ARRL radiogram blank forms
7	ARES® Directory (printed version current as possible)
8	Traffic Handling Training Booklet and this Manual
9	Upshur/Gregg county maps
10	Texas map
11	ARES® District Eight county list
12	ITU Phonetics
13	Repeater Directory or local listings
14	ARES® and Amateur Radio terminology
15	Local Officials and contact information
16	Time Conversion
17	Band Plan
18	Operator's Manual for all equipment in use
19	ARES documents and Training Log
20	Short cut talkie programming card
21	Suggested Small desk set a. clear tape b. masking tape c. mini binder clips (paper clips) d. small stapler e. small hole punch f. pencil sharpener g. ruler h. simple calculator i. clip board j. other items to suit individual needs
22	Loose leaf binder for documents
23	NWS Field Guide
24	LED Light
25	Watch or simple clock
26	Reading Glasses
27	Headset for 2M Radio

Appendix E Time Conversion Print this page and next page on front and back for a single card.

Time Conversion Table

	12 hour Local	24 hour Local	UTC during CST	UTC during DST
AM	12:00	0000	0600	0500
	1:00	0100	0700	0600
	2:00	0200	0800	0700
	3:00	0300	0900	0800
	4:00	0400	1000	0900
	5:00	0500	1100	1000
	6:00	0600	1200	1100
	7:00	0700	1300	1200
	8:00	0800	1400	1300
	9:00	0900	1500	1400
	10:00	1000	1600	1500
	11:00	1100	1700	1600

Notes:

Day light savings time starts in March and ends in November; so

Apr May, Jun, Jul, Aug, Sep, Oct are DST, and

Nov, Dec, Jan, Feb are CST.

time_conv.ppp 5-9-18

Appendix E Time Conversion (continued) Second Page for back.

Time Conversion Table

	12 hour Local	24 hour Local	UTC during CST	UTC during DST
PM	12:00	1200	1800	1700
	1:00	1300	1900	1800
	2:00	1400	2000	1900
	3:00	1500	2100	2000
	4:00	1600	2200	2100
	5:00	1700	2300	2200
	6:00	1800	0000	2300
	7:00	1900	0100	2400
	8:00	2000	0200	0100
	9:00	2100	0300	0200
	10:00	2200	0400	0300
	11:00	2300	0500	0400
	12:00	2400	0600	0500

Notes:

2400 and 0000 hours are the same time (midnight); 2400 is associated with the day ending and 0000 with the day starting.

Appendix F-1

UPSHUR ARES® NET PREAMBLE

(8:00 PM) Welcome to the Upshur County ARES® Net. This is _____, my name is_____ and I will be your net control. (Call)

Is there any emergency or priority traffic. (stand by for emergency traffic), hearing none, if you have emergency traffic say Break, Break along with your call sign and the Net help with your emergency.

This is a directed net, all contacts should be made through the net control. If you need to make a request or contact another station, say recheck along with your call and wait to be acknowledged.

All licensed amateur radio operators are welcomed and encouraged to check in - you do not have to be a member to join us. We conduct check ins by roll call followed by visitor check in. When checking in please give your call sign phonetically, your name if I did not call it, and list your traffic or QSTs. I will work the traffic after check-ins are complete.

1. CALL ROLL FROM THE ROSTER

2. ASK FOR VISITORS, LATE CHECK-INS OR RELAYS

3. HANDLE THE TRAFFIC AND QSTS

4. SKYWARN - DOES THE SKYWARN COORDINATOR GARY K5GDM HAVE ANYTHING FOR THE NET.

5. NET TRAINING FOR TONIGHT Turn the net over to the EC

6. REGULAR ANNOUNCEMENTS

If anyone is interested in becoming a net control, contact our Net Control Coordinator, Nancy KT8TOR.

The Upshur Area Amateur Radio Club (UAARC) meets the second Monday of every month at 7 PM in the Upshur Co Rural Electric coop auditorium, 1200 W Tyler St Gilmer TX. Check the club's website at https://uaarc.club.

License exams are conducted the 4th Saturday of each month in the Letorneau University Glaski Science Center at 2 PM. If you have questions contact John Zenter AE5OY, 903-738-0904.

7. SEND NET REPORT TO EC

8. CLOSE OF ARES® NET

This is _____ closing the Thursday evening ARES® Net. This net meets every Thursday evening for information and training. Thanks to all those stations that participated and please come back often.

Appendix F-2

UPSHUR ARES® (EMERGENCY) NET PREAMBLE (SKYWARN) (SPECIAL SESSION)

This is the Upshur County ARES® Net in (Emergency, SKYWARN or Special Session). This is (call), (my name is_____) and I will the net control for this session. This is a directed net all contacts or reports should go through Net Control.

This net has been activated due to (severe wx in the area or other incidents). You, as NCS are in charge of the Net. Announce the type of check-ins you want, such as;

- I will stand by for general check-ins or,
- Only Stations with minimum SKYWARN reporting criteria (Severe TS critera) or,
- Emergency reports (power lines down, injuries, fire, need for assistance, etc.) or,
- Stations with reports for the special event (rain gauge reports, ice reports, etc.)or,
- whatever you want to limit check-ins to – you are in charge.

Announce every few minutes the net is in (Emergency, SKYWARN or Special Session).

CLOSE OF THE ARES® EMERGENCY NET

This _____ closing the ARES® Emergency Net. Thanks to all those stations that participated.

Appendix G

Net Control Guide Lines for the UPSHUR CO ARES® Net

Thanks for agreeing to become a Net Control for the Upshur Co ARES® Net. I hope you enjoy calling the Net. Follows a list of guide lines for calling the net.

1) Listen to the Upshur Co repeater a few minutes before net time to see if it's in use. If it is in use please inform the stations that the net is scheduled to start at 20:00 Local (8 PM) and ask if they would please conclude their QSO by then. Thank them.

2) The Preamble and Closing are for your use. You don't have to read it word for word, it is mainly a guide but you should include as much of the info as possible.

3) Remember when you are calling the Net you are in charge and you need to maintain control. This is especially true during emergencies. We try to be as courteous as possible but yet maintain control. It helps greatly if you give plenty of time for people to check in, in other words don't be too quick on the response. This prevents doubling. Remember to let the repeater's squelch tail drop between transmissions, to avoid timing out the repeater. **Keep in mind, the BridgeCom Repeater blocks out incoming signals during ID, if you have RX Tone enabled. You also do not hear the ID with RX Tone enabled.**

4) Be sure to record all check-ins so they receive credit for being present. Net reports go to the EC and should include the number of stations checking in, how many visitors, how many formal messages passed, how many informal messages passed, NCS comments and how long the net ran. Immediately after closing the net send, by Radiogram format, your report to the EC. If the EC is not available be sure to send your net report as soon as possible. Keep a record of stations checking in as the EC may need to get them from you for the Participation Log.

5) During an Emergency, please keep rag chewing to a minimum, so as not to tie up the frequency. All emergency information should be passed on the net so that any agencies listening will hear the information. Exceptions may be made by the NCS in an actual situation.

6) During an emergency, SKYWARN or special session net, regularly announce the Net is in that mode. If an emergency is actively being worked do not take general check-ins. If standing by during an emergency, general check-ins may be taken with frequent stand by for emergency communications. Keep all communications short so that anyone with an emergency report is able to break in.

7) If a station is having difficulty making the repeater, see if someone can copy them on direct or another repeater/frequency and relay to net control.

8) If you cannot fill your net control spot for some reason, please contact the **Net Control Coordinator**, as much ahead of time as possible to get a fill in. If for some reason the Net Control Coordinator is not available, contact the EC and if the EC is not available contact any other net control. It's your responsibility to make sure the net has a net control.

9) Keep your Training Net and Training Exercise Logs for a month or so. Keep your SKYWARN and actual activation Net Logs for as long as you are an ARES member.

Thanks again and if you have any questions please feel free to ask.

*Footnote: Please do not use the phrases "net controller" or "net operator". You are simply the "**net control**" or "**NCS**" or formally the **Net Control Station**.*

Appendix H-1

Upshur County ARES® Net Log				
NCS:	Date:	Start:	End:	Reason for Activation:
No.	CALL	Name	Location	RECHK
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Net Report:

Net Report for_____ Stations _____ Visitors _____ Traffic _____

Reports/QST _____ Duration _____

Appendix H-2

Upshur County ARES® Net Traffic/QST and Reports
For Net Dated:

Call	Traffic/QST	Report	To:	Time

THE AMERICAN RADIO RELAY LEAGUE

RADIOGRAM

VIA AMATEUR RADIO

NUMBER	PRECEDENCE	HX	STATION OF ORIGIN	CHECK	PLACE OF ORIGIN	TIME FILED	DATE
318	R	HXG	N5TQI	17	SAND HILL, TX		MAR 18

TO

JOHN KEITH W5BWC
9110 FM 1972
GILMER, TX 75645

TELEPHONE NUMBER 903-797-2353

THIS RADIO MESSAGE WAS RECEIVED AT
AMATEUR STATION _____ PHONE _____
NAME _____
STREET ADDRESS _____
CITY, STATE, ZIP _____

UPSHUR	ARES	NET	REPORT	MARCH
EIGHTEEN	STATIONS	THIRTEEN	VISITORS	ONE
MESSAGES	ONE	QST	ONE	DURATION
(figures) 32	X			

JIM N5TQI

REC'D FROM	DATE	TIME	SENT TO	DATE	TIME

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 CAN BE ACCEPTED BY A "HAM" OPERATOR. A RETURN MESSAGE MAY BE FILED WITH THE "HAM" DELIVERING THIS MESSAGE TO YOU. FURTHER INFORMATION ON AMATEUR RADIO MAY BE OBTAINED FROM ARRL HEADQUARTERS, 225 MAIN STREET, NEWINGTON, CT 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 COMMUNICATION AMONG AMATEUR OPERATORS. TO THAT END, THE LEAGUE HAS ORGANIZED THE NATIONAL TRAFFIC SYSTEM FOR DAILY NATIONWIDE MESSAGE HANDLING.

PRINTED IN USA

Refer to the Traffic Handling Training book for details on filling out a Radiogram. Notice the count is 17 and you see 17 blocks filled. This makes counting easy. Counting the words received is important to be sure you have copied the text correctly. Also note when a number is not spelled out, the pro-word "figures" is transmitted before the numbers, but is NOT counted in the text count. Otherwise 32 will be two words thirty two.

NOTES: