St. Clair County Illinois

Amateur Radio

Emergency Response Manual

INDEX

This manual is organized into the following categories.

Chapter	Description	
1	Introduction	
2	Organization	
3	Classes of Activation	
4	Training/Certification	
5	Response Preparation	
6	Response Procedures	
7	Organization we support	
8	Common Radio Procedures	
9	Common Frequencies	
10	Common Radio Interfacing	
Appendix 1		
Appendix 2		
Appendix 3		
Appendix 4		

Chapter 1: Introduction 4
Chapter 2 Organization 5
St. Clair Amateur Radio Club (SCARC) 5
Radio Amateur Civil Emergency Services (RACES) 5
ARES – Amateur Radio Emergency Services 6
ARRL – American Radio Relay League. 8
Chapter 3 – Classes of Activation 9
ARES Membership / Training 11
Chapter 5 – Response Preparation 13
Chapter 6 – Response Procedures. 15
Chapter - 7 Organizations we support 20
Beaufort Wind Scale 34

Chapter 1: Introduction

The purpose of this manual is to collectively document the purpose, requirements, and procedures for Amateur Radio response and support in St. Clair County IL. It is not written to any one group be it RACES/ARES/Skywarn/SCARC, but rather for the local Ham Radio operator that may be called to assist in coordinated communications activities in St. Clair County IL, be it emergency communications or public service.

This manual is not designed to replace existing documentation or procedures set forth from organizations like RACES, ARES, or Skywarn. It is more of a document of how we operate with these and other organization as Ham Radio Operators in Saint Clair County, Illinois. Most Ham Radio operators in St. Clair County are members of one or more of the above organizations and or the St. Clair County Amateur Radio Club.

If you have been around for a while, some of this information you already know, understand, and have been using. For those of you that have not been around and are not familiar with the procedures and agreements this document is a good start for the procedures we use here in St. Clair County.

At this time this manual is a draft. Everything in it is up for discussion, and or revision. Much of the information I put into my own words based on my knowledge and or experience in the past. Some if it is based on info gathered from published sources of information, and or e-mails asking about specific details. If I got something wrong, and I am sure I have, or have something that needs clarification or changed, please let me know. The goal is to take this draft and get it reviewed by the SCARC, the local RACES, and ARES group and have a simple publication we can all work from.

Dale Wentz
St. Clair Amateur Radio Club President.
KB9JJA@arrl.net

Chapter 2: Organization

The local organization of ham radio operations usually falls under one or more sponsoring organizations. Each has a slightly different purpose and specific regulations.

St. Clair Amateur Radio Club (SCARC)

The SCARC is the sponsoring organization and umbrella for much of the Ham Radio equipment and operators that are used throughout St. Clair County. The club provides a single point of contact for organizations that are served by the local Amateur Radio community. Much of the planning and information is originated at the monthly club meetings. Membership in the club is not required, but highly recommended.

Contact information:

St. Clair Amateur Radio Club (SCARC)
P.O. Box 94 - Belleville IL 62222
http://www.scarc.net
Dale Wentz KB9JJA (618) 334-5044

Club meetings are held the last Thursday of the month at the American Red Cross building in Fairview Heights, 10218 Lincoln Trail.

Radio Amateur Civil Emergency Services (RACES)

RACES is a public service provided by a reserve (volunteer) group of Amateur Radio Operators that is administered by local, county and state emergency management agencies, and sponsored by the Federal Emergency Management Agency (FEMA) of the United States government. As a part of the Amateur Radio Service, it provides radio communications for civil-preparedness purposes only, during periods of local, regional or national civil emergencies. These emergencies are not limited to war-related activities, but can include natural disasters such as earthquakes, hurricanes, wildfires, power outages, floods, victim searches, air crashes, and many others. RACES has very strict rules of operation, and can only be used if activated by FEMA.
Originally for wartime use, RACES has evolved over the years, to encompass all types of emergencies. While operating in a RACES capacity, RACES stations and amateurs registered in the local RACES organization may not communicate with amateurs not operating in a RACES capacity. Only civil-preparedness communications can be transmitted. Test and drills are permitted only for a maximum of one hour per week. All test and drill messages must be clearly so identified.

Contact Information

St. Clair County RACES Officer
Ed Matysik W9RQR
http://www.races.net

ARES – Amateur Radio Emergency Services

The Amateur Radio Emergency Service (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization, is eligible for membership in the ARES. The only qualification, other than possession of an Amateur Radio license, is a sincere desire to serve. Because ARES is an amateur service, only amateurs are eligible for membership.

There are four levels of ARES organization:

National Level
National emergency coordination is under the supervision of the ARRL Field and Educational Services Manager

Section Level (Illinois is a section of ARRL)
At the section level, the Section Emergency Coordinator is appointed by the Section Manager (who is elected by the ARRL members in his or her section) and works under his/her supervision.

Section Emergency Coordinator
Pat Ryan KC6VVT
KC6VVT@arrl.net
(815) 442-3373

District Level
SECs have the option of grouping their EC jurisdictions into logical units or "districts" and appointing a District EC to coordinate the activities of the local ECs in the district.

South Western Ill District Emergency Coordinator
(the southwest district is comprised of the 16 counties in IL served by the St. Louis NWS)

W5DTR - Curtis Williams
Belleville IL 62223
Phone 618-538-9808 or cell 314-623-0100
Email: w5dtr@arrl.net

Local Level
It is at the local level where most of the real emergency organizing gets accomplished, because this is the level at which most emergencies occur and the level at which ARES leaders make direct contact with the ARES member-volunteers and with officials of the agencies to be served. The local EC is therefore the key contact in the ARES.
St. Clair County ARES Emergency Coordinator (EC)

WA9TZL - Gene Kramer
611 S. Elizabeth Dr.
Freeburg, Ill. 62243
Phone XXX-XXX-XXXX
Generadio@aol.com

St. Clair County Assistant Emergency Coordinators (AECs)
AA9ZV – Skip Mize
KB9JJA – Dale Wentz
KC9EIZ - Chris Pixton
N9BNR – Ron Browne
W5DTR – Curtis Williams
W9TJ – Tom Johns

REGISTRATION WITH ST. CLAIR COUNTY ARES / RACES

The application for membership into both operations begins with the ARRL ARES registration form. This form contains the vital information required by the ARES EC and the RACES Coordinator as it asks the applicant for information concerning radio equipment owned and emergency power capabilities. The other important information on this form concerns your telephone contact numbers as well as your address. This registration form MUST be completed and in file with the ARES EC and RACES Coordinator in order to receive the ARES membership card. The ARES membership card AND your FCC Amateur Radio License will identify you in times of an emergency to enter areas restricted to only this type of Support Communicators operator.

The ARES Registration form can be found at
http://www.arrl.org/FandES/field/forms/fsd98.pdf

Once filled out it needs to be mailed to:

Gene Kramer – WA9TZL
611 S. Elizabeth Dr.
Freeburg, Ill. 62243
Generadio@aol.com

The local St. Clair County ARES / RACES / Skywarn net is held every Tuesday evening at 7:00 pm local time on the SCARC Repeater (147.120 MHz) The net is hosted by WC9AAE the St. Clair County RACES coordinator, or one of the ARES committee members.. Please see the ARES / RACES net in the Radio Procedures section for more net information.

The IL Section ARES Net is held on 3.905 MHz LSB at 1630 local first and third Sunday of the month. The IL SSB Net meets daily to handle traffic on 3.905 MHz LSB at 18:30 local time

Skywarn:

ARRL – American Radio Relay League.

Chapter 3 – Classes of Activation

There are basically 4 modes of activation that are commonly used for the net.

Weekly ARES / RACES / Skywarn Roll Call Net

The weekly roll call net is held every Tuesday evening at 7:00 PM local time on the St. Clair Amateur Radio Club Repeater K9GXU 147.120+ MHz

The net is a roll call type net coordinated by the assigned RACES control operator, or one of the ARES committee members.

Severe Weather Activation

A severe weather Skywarn net will be brought up if the National Weather Service declares a watch or warning for St. Clair County. A designated net control station (NCS) will bring the net up using his or her own Amateur Radio call on the club repeater. A designated coordinator will be assigned to pass traffic from the weather net to the NWS on on of the coordinated frequencies. There are other Illinois counties that use our repeater to relay info to the NWS.

Local Emergency Activation

If a local Emergency is declared, and either the ARES or RACES is activated a designated control operator will activate the net on the SCARC Two Meter repeater. During a true Emergency, not only will the net be activated by Amateur Radio, but a call list will be put in place and people will be called via phone if needed. The net control operator will then give further instructions to those that have checked in, and assign them their duties.

Community Service Activation:

This type of activation is usually done through the SCARC, but it is also possible that it can be done through ARES. The RACES organization can not be used for this type of activation.

From time to time we are asked to supply support communications, as a community service or for a special event. For example the SCARC provides communications support for the Belleville Shriners Parade every May. These events are usually coordinated and planned well in advance. Each is handled differently, but the Shriners Parade is a good way to gain experience and serve a good cause.

Local National Traffic System Handling:

If the need arises to handle NTS system traffic, all amateurs should coordinate using the local 2 meter repeater. There is no need for duplicated efforts.

Chapter 4 Membership / Training / Certification

SCARC Membership

St. Clair Amateur Radio Club membership is open to any an all amateur radio operators who wish to join.
More info is available at www.scarc.net

ARRL Membership

ARRL membership is available to any and all amateurs who wish to join.
More info is available at www.arrl.net

ARES Membership / Training

ARRL Amateur Radio Emergency Communications courses - ARECC on-line training
Three levels are available, Level I is recommended for all members.

FEMA on line courses on incident command (IS-100, IS-700) are highly recommended.
http://training.fema.gov/EMIWeb/IS/crslist.asp
Only those certified as completing these courses may be allowed to participate in some incidents (for example, certification may be required to gain access to the county emergency operations center (EOC).

FEMA course IS-217, Anticipating Hazardous Weather and Community Risk is also available

To request a copy of FEMA are you ready book call 1-800-480-2520

Additional ARES training will be announced during the year. These can include on-line training, Participation in County drills and exercises.

RACES Membership / Training

RACES membership is automatic when you send in your ARES application. The ARES application is forwared to the RACES coordinator. If you do not wish to be enlisted as a RACES member please put a note in with your ARES application. The only training for RACES is a local Tuesday night net checkins.

Skywarn Membership / Training

Skywarn training is usually held sometime during the spring in St. Clair County.
Skywarn training is conducted by the National Weather Service. Once you receive your training you will be issued a NWS spotter number. This number is needed when reporting

information directly to the NWS. It is recommended that you attend training once every 2 years.

Currently scheduled skywarn training schedule http://www.crh.noaa.gov/lsx/?n=schedule

National Weather Service Online School for Weather
http://www.srh.noaa.gov/srh/jetstream

CERT Training

Community Emergency Response Team (CERT) although not a amateur radio organization their goals and objectives are very closely aligned with that of ARES but extends outside that of just communications. More information is available at http://www.citizencorps.gov/cert/index.shtm

There is an active CERT program for St. Clair County, Metro East CERT. The Illinois ARES highly recommends going through this training. Those of us that have gone through the training highly recommend it. We are working on agreements with Metro East CERT to provide long haul communications for some of their operations.

Other useful training materials.

The Special Events Communication Manual ARRL
http://www.arrl.org/FandES/field/spevman/index.html
Emergency Communication (ECom) material. http://www.w0ipl.net/ECom/

Missouri Section ARES http://www.ares-mo.org/default.asp

Chapter 5 – Response Preparation

You need to be prepared for an emergency. If you are asked to report to a location by the net control operator are you prepared? Basic things you will need

Your primary mode of communications will be your HT. In most cases you will need to communicate with the net control operator on the SCARC two meter repeater. In some situation this will not be possible, and simplex on two meters will be required. It is highly advisable to also have UHF capabilities, as this allows the use of cross band repeat, and portable temporary repeaters.

At the minimum you need to have a 2 meter HT with a fresh battery pack, and an alternate source of power for your HT. A spare battery, or Dry Cell pack for you HT is highly recommended. Another good alternative is to have an external power jack for your HT so it can be charged from a cigarette lighter.

Dual Band HT (covering VHF/UHF)
Spare Battery for HT
Power Cord to charge power HT from 12volts or 110 volts
External Antenna, to connect to the HT. A dual Band Mag mount works great.
Adapter to connect HT to an existing antenna.
Clothing appropriate to what you are being asked to do
You RACES card, Amateur Radio License and Drivers License.

Jump Bags.

Primary (kept in vehicle)

External magnetic mount antenna
HT to PL259 adapter
Charging cable for HT with Anderson power poles attached
Cigarette lighter adapter to Anderson Power Pole Adapter
110 Volt HT charger
Frequency chart and condensed operations manual
Copy of credentials. ARES Card, Ham License, Etc.

Note Pad with pencils.
Map of the local area
Small flashlight with spare batteries
1 bottle of water
1 granola bar or other high energy snack.
Light Rain poncho
Safety Vest
Appropriate Hat

Roll of electrical tape

Extended Jump Bag

Standard Rain Gear
Spare dry socks
Hand Warmers
Spare Dry Gloves
Large Notebook with pencil and pens
Enough water for 2 days
Snacks (Granola Bars keep well for a long time)
Small First Aid Kit
Map of IL and Missouri area
Large Flashlight and spare batteries
Hard Hat
Emergency solar blanket
7 amp hour or larger gel cell with Anderson power poles
Anderson Power Poles with Alligator clips attached.
Wire ties.
Roll of Duct tape

HF operations in a time of need:

In most cases HF stations will be operated from ones home. If the need arises to provide HF operations at a remote site the NCO will coordinate the setup of a site and assign operators to it. The station, and antenna system will be determined based on the type of communications that we need. The HF station will be set up with the SCARC call K9GXU.

Chapter 6 – Response Procedures.

In this chapter we will try to cover the basic response procedures for each type of activation. For a more detailed explanation please see the XXXXXX manual.

Weekly ARES / RACES / Skywarn net followed by the SCARC net

At 7:00 PM each Tuesday evening the designated net control operator will open a net on the SCARC two meter repeater for the purpose of roll call, and a training drill / exercise.

If there is severe weather in the area and a weather net has been activated the net NCO will cancel the net to free the repeater for other emergency traffic. The NCO will announce this at the normal 7:00 net start time.

Once the net is started the local weather forecast will be given, and then the net control will take a short standby for any emergency traffic.

Portable and mobile stations are given a preference for check in. The net control will ask for any portable stations. If you are portable (i.e. on a HT and out and about) please check in, by giving your call at this time. Listen before you transmit and try to avoid doubles (where two stations transmit at the same time). After portable stations the net control will ask for check ins from mobile stations. The net control will acknowledge each call. If your call was not acknowledged it means that the net control did not hear it. Please repeat your call when you get a chance.

After the portable and mobile check ins the net control will go down the roll call. The roll call order is based on the number of recent check ins you have made to the net. Once you hear your call acknowledged, stand by until the net control asks for any traffic you might have.

After normal check ins the net control will ask for any missed, late or new check ins. If you are a new member please be sure to tell the net control that you are new. The NCO removes people from the roll call if they have not checked in for a while. This helps keep the net condensed and current. If you have been droped off the list please check in and ask the NCO to add you back onto the list if you will be checking in on a regular basis in the future.

There is sometimes some general information that is given by the net control at the end of the roll call. Once done, the net control will close the training net and pass control over to K9GXU for the weekly St. Clair County Radio Club on the air meeting which takes place immediately after the regular RACES net.

Severe Weather Alert

During times of severe weather the weather net is brought up on the SCARC two meter repeater. The net's purpose is to get severe weather information to the National Weather Service (NWS). The NCO will announce the nature of the weather alert, and then stand by for check ins. Check ins for the weather net are done by simply stating your call. The NCO will acknowledge your call, and possibly ask for your name and location. Once your call has been acknowledged you may then standby unless you have severe weather to report. Be sure to keep transmissions short and to the point.

Things that you should report the to net control:

Be sure to note the time that you observed what you are reporting. If the net control does not ask for it now, they might need it later, or the NWS might want more detailed info.

High winds with an actual or estimated speed
Hail of ¼ inch size or more (dime, nickel, quarter size; do not report "marble" size, since marbles come in various sizes)
Any rotation in the clouds.
A tornado or funnel cloud.
Any damage to large trees or structures.
Downed power lines
Structural damage to buildings
Any unusual local flooding

In the event that your report contains damage in St. Clair County, be sure to give the net control information concerning:

Type of damage
Time of damage report
Any injuries reported
Any fires or arcing electrical lines
Anyone "trapped" or injured.

This information should go from net control directly or a designated go between to St. Clair County ESDA at 277-3500. And should be reported as from WC9AAE RACES.

Reporting information to the National Weather Service (NWS):

The Skywarn weather net passes information to the NWS in multiple ways, they are listed in the order that the NWS would like to receive the information.

Via Amateur Radio:

In the past the NWS has contacted us on the SCARC repeater using the call WX0STL. If the NWS is on frequency they will hear the reports directly. As of June 2007 the new procedure to get info to the NWS is to use one of the area coordinated frequencies. The NWS will be using the call WX0STL.

NWS Coordinated Reporting Frequencies for St. Clair County IL

Name	Freq	PL
Show-Me Intertie	443.475	77.0
2 Meter Link	145.290	123.0
Show-Me Intertie Link	444.250	103.5

The NCS will assign a station to relay information to the NWS station on the coordinated frequency. This station will be responsible for monitoring the coordinated frequency and the weather net and relaying requests and weather information to the NWS. The relay station should use their own call followed by St. Clair County when requesting info from the NWS. Please note that when the weather net is up, only a designated representative should be using these frequencies.

If there is a very isolated weather condition for only 1 county it is possible that the NWS will be directly on our repeater.

Via espotter:

http://espotter.weather.gov/ web site directly to the NWS.
To report via eSpotter you must have a user id and password to log in.

Via Phone:

The other options are to have a trained weather spotter report it via phone 1-800-852-7497

Reporting information to St. Clair County ESDA:

Via Radio:

Information can be reported via the Freeburg ESDA office, (if a Ham Radio operator is on duty there), which then reports it to St. Clair County ESDA office.

Via Phone:

As a last resort you can call the St. Clair County ESDA CenCom telecommunicators at 277-3500 and ask to have your report relayed to the NWS via their NAWAS communication link. Use this method only as an urgent last resort.

ARES/RACES Disaster alert.

The RACES net in an area wide emergency requires a request for services from the St. Clair County ESDA or EMA Region 8 via telephone to the RACES Coordinator. If telephone lines are severed or not available the request will be made from St. Clair County ESDA/EMA 's Radio Dispatch Center (CEN-COM) via radio pager notification to the ARES EC for St. Clair County.

The "support communications" agreements with the Hospitals within St. Clair County specify requests for Amateur Radio Emergency Communications be made through the St. Clair County ESDA center. (Need more info here)

The agencies served by ARES have a list of ARES committee members that they may call via telephone to assist in the need of an emergency.

St. Clair County ARES Committee members include:

WA9TZL
W5DTR
W9TJ
N9BNR
AA9ZV
KC9EIZ
KB9JJA

If the request for Emergency Support ARES/RACES communications is immediate, a telephone tree call out from the ARES/RACES member's registration will begin. If telephone communications is down, the NCS will activate and make repeated announcements on the SCARC Repeater. ARES members should monitor the SCARC Repeater if they hear a news report of a large scale emergency or disaster that might need ARES support communications.

Once you have been notified, you should check into the net on the SCARC repeater, and then stand by for further information and or assignment.

The net control will issue the "tactical call sign" when operators are asked to report to areas other than their fixed home locations. An operator sent to Memorial Hospital for support communications would still identify with their FCC assigned call, BUT NET CONTROL would call that operator (site) by its "Tactical Identification (ID) ,i.e., Memorial Hospital. This saves time and reduces confusion, especially if an operator relieves another operator at the same site.

Some locations have a list of preferred operators for a particular location or duty. These lists are determined by the operators close location to a site, or their training or background in a particular area.

When you are assigned to a particular location you will need to gather your information and set up at your assigned location. Once you are at your assigned location and ready, be sure to call back in to the net control and let them know you are at your assigned location and standing by.

Please see the XXXXXXXXXX manual for a check list of procedures for manning a particular station. Always keep net control notified where you are located, when en route and at assignment.

When calling the net control from your assigned location or from the field, you should give your tactical ID and call, then standby and wait to be acknowledged. The net control might be on a separate frequency or tied up with some other business when you call. They will note your call, and get back to you as soon as they have time to copy your information.

You might be called upon to do more than just operate a radio. Once all communications needs are covered the net control can assign you to other support duties as requested by the supporting agency. If you are uncomfortable with your assignment for any reason, please be sure and let the net control know you would like to be assigned somewhere else.

Other responses:

Chapter - 7 Organizations we support

National Weather Service (NWS)

American Red Cross (ARC)

St. Clair County Emergency Services Disaster Agency (ESDA)

Memorial Hospital

St. Elizabeth's Hospital

Kenneth Hall Regional Medical Center

Illinois State Police

FEMA/US Department Of Homeland Security

Chapter 8 --- Common Radio Operating Procedures

OPERATING PROCEDURES:

Be sure to secure your own personal property and family before checking into the net. If you have an emergency situation at home or at work, take care of it first. Only check into the net when you are free to participate.

Listen before transmitting, to make sure the frequency is not in use
When checking into the net please give your call, and your location if other than your home station. The net control will acknowledge your check in.

When you have traffic for the net control, give your call or Tactical ID, and then wait for the net control to acknowledge you before passing your traffic.

Do not carry on normal conversations on the frequency while the net is active.

Keep all traffic short and to the point.

The net control knows who and where you are. Do not go into a long winded ID of who and where you are, this wastes time, and serves no purpose.

Only give your call phonically if asked to do so by the net control.

Use plain English for all conversations. Do not use code words IE Q signals, or 10 codes

Never leave your home or work unless the net control has requested you to do so. Unless it is personal in nature.

If you must leave your assigned post please check out of the net so the net control knows you are no longer standing by and available. Try to obtain a relief operator at least 30 minutes before you must leave to assure continuity.

If you are requested to do something by a supporting agency, report the request to the net control for assignment. If you have resources available to fulfill the request, let the net control know. Do not assign someone to the task yourself unless you are a team leader with that authority.

Do not do anything "ON YOUR OWN", check with the net control first.

If the County ESDA requests support under RACES, they can arrange for State Workman's Compensation Insurance coverage for you. A list of operators, time frames and purpose must be provided in advance to the Illinois Emergency Management Agency (IEMA) by the ESDA Director. Otherwise, don't assume any insurance coverage.

If the request is for amateurs from St. Clair County ARES to assist, for example, the American Red Cross, you still operate under a Net Control, but you WILL NOT BE COVERED under any insurance but the insurance you carry on yourself. Keep in mind any volunteer work you undertake for the ARES is at your own risk and will not in general be covered by anyone else's insurance. So your safety is first priority. Take care of yourself first. You probably have medical insurance; you may not have disability insurance in you are injured and cannot work, and if you are involved in an accident, you may not have liability insurance, except for your auto or homeowner's insurance. The SCARC club liability insurance probably covers the Club but not the individual members. Good Samaritan laws may help but only if you are trained in the actions you take. Untrained, careless or reckless volunteers create a big liability problem for agencies that use them.

CONDUCT:

Remember you are serving several organizations. First, you are representing the Amateur Radio community. Secondly, you are representing the ARES/RACES organizations. Thirdly, you are representing YOURSELF AS AN INDIVIDUAL. Professionalism both on the air and in person reflects on organizations. Remember the News Media is everywhere in an Emergency scenario, don't make comments or act in a manner that would adversely affect us all. You should not speak for the organization you are supporting; they will have a person trained and authorized to speak for them.

Chapter 9 – Common Radio Frequencies

The main operating frequency for the nets for St. Clair County IL is on the St. Clair County Amateur Radio Club Repeater. The frequency is 147.120 MHz with a + offset. If there is some kind of problem with the SCARC repeater the net control will move to simplex on 147.120 to alert the other stations of the problem. The net control will determine if we will stay on the 147.120 simplex frequency or move to the backup repeater on 145.11 MHz with a – offset (PL 127.3) We have an agreement with the 145.11 repeater owner to use that machine in an emergency.

There may be a situation that may come up that we have people in the field that cannot reach the repeater using a HT. If this situation arises, the net control will determine what options are available. If possible a station could be set up with a crossband operation on UHF to relay back to the REPEATER. The other option is to move to a simplex frequency and designate one station as a relay station back to the net control.

These frequencies are the preferred simplex frequencies for both VHF and UHF.

2 Meter FM Voice Simplex Frequencies

146.400	146.415	146.430	146.445	146.460	146.475
146.490	146.505	146.520	146.535	146.550	146.565
146.580	146.595	147.405	147.420	147.435	147.450
147.465	147.480	147.495	147.510	147.525	147.540
147.555	147.570	147.585			

Simplex UHF frequencies and portable UHF repeater frequencies

Coordinated Portable emergency UHF repeater frequencies
XXX.XXX
XXX.XXX

If tactical net need to be brought up in addition the to primary net the SCARC UHF repeater would be used on 444.625 MHz.

Coordinated UHF -> VHF Cross Temporary Band Repeat Frequencies

446.4000	446.4125	446.4250
446.4375	446.4500	446.4625
446.4750		

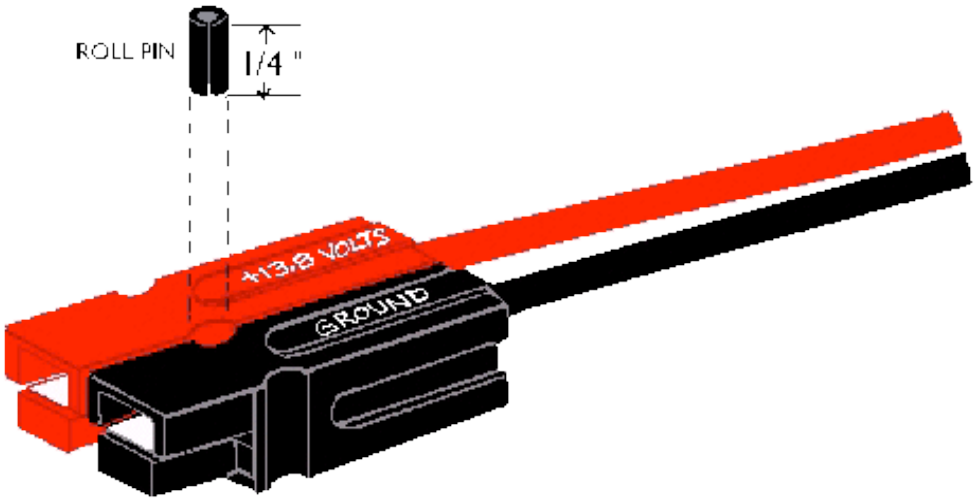
Chapter 10 – Common Radio interfacing and care

When called out in an emergency your radio equipment may be needed to fulfill many needs. This is a guide of what you should be prepared with in case you need it.

It is highly recommended that you have a dual band HT, that covers not only 2 meters, but also 440 Mhz. This radio should be PL capable on both bands.

Power

The standard power connector that has been adopted by ARES for powering 12 volt amateur radio equipment is the Anderson Power Pole. This connector is inexpensive, and very versatile. It is highly recommended that all power supply connections, and radio equipment have the ability to use Anderson Power Poles.



For your HT it is recommended that you have the ability to charge your HT using either 12 volts or 110 volts. For your 12 volt chargers it is recommended that you have the ability to charge from either Anderson Power Poles, or a cigarette lighter plug. The best solution is to have the charging cable for your HT with Anderson Power Poles attached. A cigarette lighter adapter also with Power Poles attached can be used to mate to your charging cord. A small 12 volt power supply with 2 or more Anderson power poles makes a great portable charger, that will work with all your equipment. The ability to charge a spare battery while not connected to the radio will allow you to charge one while using the other.

All cables should be fused, and you should have spare fuses on hand.

Antenna Connections

Many of the new HT's do not have standard BNC connectors for antenna connections. If you have to use your equipment with an existing antenna system be sure you have adapters to go from your rig to a standard PL-259. An adapter to go to a type N connection would not be a bad idea either.

Equipment Care

Be sure you have some way to waterproof your equipment This can be a simple zip lock bag to pace over the equipment in case of heavy rain. A HT inserted in a zip lock bag will still be very usable. If you use an external speaker microphone, you can secure the bag around the cable with a rubber band to help keep the water out.

For base stations be sure that you have a common ground for all the equipment. This is very important for HF stations.

If you must operate your radios under hot conditions be sure that you have pleanty of air flow over the heatsinks. A mobile radio setting flat on a table will overheat quickly if there is no way for air to flow. If possible raise the radio up off the operating table and allow at least 1 inch of free space under the heatsinks in the rear. A good item to have is a small 12 volt computer fan that can be placed on or near the heatsink. This can be run from the rig power supply and will keep the radio running nice and cool. Setting the radio on a lower power setting will also help control the heat.

Radios that are set up in a emergency situation might have cables run across the floor, or when someone can trip over them. It is a good idea to tape the antenna wires to the leg of the table. If someone should snag or tip over the cable this will keep the radios from being pulled to the floor. If possible secure all loose cables with duct tape to the floor.

In many situations it can get very noisy. A headset that covers only 1 ear makes it much easier to hear in situations like this. A small speaker mic for your HT also makes operating the radio much more enjoyable for long periods of time.

Under no circumstance should you use voice-operated transmission (VOX). In the past, this has proven to cause many problems. Use manual push to talk, PTT.

Chapter 11 – Contact Information

St. Clair County Emergency Management Agency (ESDA)

Ph 618-277-3500

American Red Cross
Fairview Heights: Ph 618-397-4600

World Wide Web Links

http://www.arrl.org/ - American Radio Relay League home page

http://www.emcomm.org/ - Emergency Communications information on the Internet

http://www.qsl.net/ares-il/ - Illinois ARES Home Page

http://www.citizencorps.gov/cert/ CERT home Page

http://www.crh.noaa.gov/lsx/ National Weather Service St. Louis

http://www.state.il.us/iema/ Illinois Emergency Management Agency

http://www.hwn.org/ National Hurricane Watch Net

http://www.satern.org/ Salvation Army Team Emergency Radio Network

Acronyms

ARES	Amateur Radio Emergency Services
RACES	Radio Amateur Civil Emergency Services
CERT	Citizens Emergency Response Team.
SCARC	St. Clair Amateur Radio Club
FEMA	Federal Emergency Management Agency
EC	Emergency Coordinator
DEC	District Emergency Coordinator
NCS	Net Control Station
NCO	Net Control Operator
NWS	National Weather Service
HT	Hand-Held Transceiver
IEMA	Illinois Emergency Management Agency

Il and Mo Counties Surrounding St. Clair (Out Of Date)

Madison North
145.230 Madison County, IL SKYWARN Net (Primary)
145.130 Madison County, IL SKYWARN Net (Backup)
Clinton North East
Washington South East
Randolph South
Monroe South West
444.700 Monroe County, IL SKYWARN Net (Primary)
145.110 Monroe County, IL SKYWARN Net (Secondary)
St. Louis City East
St. Louis East
146.940 RACES/Skywarn Net First Thursday of the month at 7:00 PM
http://www.skywarnstlouis.com/
146.850 St. Louis County ARES

Privacy of Information

Guideline
The following precautions should be exercised when providing communications to served agencies during emergencies in which ARES resources are employed: As a practical matter, no one should ever be identified by name over the radio unless they have granted permission.

General
On June 18, 1997, the "Volunteer Protection Act of 1997" was enacted into law by the United States Congress (111 Stat. 218). The purpose of the Act is to limit lawsuits against volunteers serving nonprofit public and private organizations and governmental agencies. The Act was in response to the withdrawal of volunteers from service to nonprofit organizations, including voluntary associations, because of concerns about possible liability. The Volunteer Protection Act preempts the laws of any State to the extent that such laws are inconsistent with the Act.
The act exempts a volunteer of a nonprofit organization or governmental entity from liability for harm caused by an act or omission of the volunteer on behalf of such organization or entity if: (1) the volunteer was acting within the scope of his or her responsibilities at the time; (2) the volunteer was properly licensed or otherwise authorized for the activities or practice in the Sate in which the harm occurred; (3) the harm was not caused by willful or criminal misconduct, gross negligence, reckless misconduct, or a conscious, flagrant indifference to the rights or safety of the individual harmed; and (4) the harm was not caused by the volunteer operating a motor vehicle, vessel, aircraft, or other vehicle for which the State requires the operator or owner to possess an operator's license or maintain insurance.
That stated, in relation to matters of privacy, as a practical matter, no one should ever be identified by name over the radio unless they have granted permission. Such permission is implied if they have requested a formal radio message be transmitted and they understand that the message will be transmitted via an unencrypted means. It is imperative that served agencies be briefed on the unsecured nature of Amateur Radio communications in advance of emergency situations so they may prepare with appropriate codes words, etc., that may be used for sensitive information.

5.2. Medical Information
Medical information may be transmitted via Amateur Radio provided that an individual's identify and the medical data are NOT associated. These are the same rules employed by emergency medical personnel. In most cases, medical personnel use unsecured communications and are familiar with the limitations of what can be transmitted. Under certain conditions, code words are used to identify specific conditions. Under Part 97 of the Federal Communications Commission's Rules and Regulations, in the protection of life, whatever means of communications necessary can be employed. If provided with information from the served agency, the information may be transmitted as provided to you, without change, including the use of code words. In those situations, you should use appropriate message forms to record and obtain authorization for the message.

5.3. Very Important Person Identification
Depending on circumstances, it may not be appropriate to identify the location of individuals by name. Security issues may dictate that the location of a specific individual should not be revealed. In such circumstances, should it be imperative to locate the individual or place the individual at a specific location, a secure means of identifying the individual should be used. This type information would fall under the "protection of life" clause of the FCC Rules and Regulations. The same may apply to shelter

occupants. Situations may dictate that disclosure of names would not be in the best interest of the individual. The Red Cross has indicated that open communications of individuals located in shelters is not to be transmitted in clear text. However, digital modes have been indicated as acceptable. Red Cross shelter managers should be the final judge as to what information can be transmitted and what means are acceptable.

Fujita-Pearson Tornado Scale

F0	Gale Tornado (40 - 72 mph)	P0 PATH length: 0.3-0.9 miles P0 PATH width: 6-17 yards	Light damage; Some damage to chimneys; branches broken off trees; shallow-rooted trees pushed over; sign boards damaged.
F1	Moderate Tornado (73 - 112 mph)	P1 PATH length: 1.0-3.1 miles P1 PATH width: 18-55 yards	Moderate damage; The lower limit is the beginning of hurricane wind speed; peels surface off roofs; mobile homes pushed off foundations or overturned; moving autos pushed off the road; attached garages may be destroyed.
F2	Significant Tornado (113 - 157 mph)	P2 PATH length: 3.2-9.9 miles P2 PATH width: 56-175 yards	Considerable damage; entire roofs torn from frame houses; mobile homes demolished; boxcars pushed over; large trees snapped or uprooted; light-object missiles generated.
F3	Severe Tornado (158 - 206 mph)	P3 PATH length: 10-31 miles P3 PATH width: 176-566 yards	Severe damage; walls torn from well-constructed houses; trains overturned; most trees in forests uprooted; heavy cars lifted off ground and thrown.
F4	Devastating Tornado (207 - 260 mph)	P4 PATH length: 32-99 miles P4 PATH width: 0.3-0.9 miles	Well-constructed houses leveled; structures with weak foundations blown off some distance; cars thrown and large missiles generated.
F5	Incredible Tornado (261 - 318 mph)	P5 PATH length: 100-315 miles P5 PATH width: 1.0-3.1 miles	Strong frame houses lifted off foundations and carried considerable distances to disintegrate; automobile-sized missiles fly through the air 100 yards or more; trees debarked; steel reinforced concrete structures badly damaged.

Fujita-Pearson Tornado Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects	
			On the Water	On Land
0	Less than 1	Calm	Sea surface smooth and mirror-like	Calm, smoke rises vertically
1	1-3	Light Air	Scaly ripples, no foam crests	Smoke drift indicates wind direction, still wind vanes
2	4-6	Light Breeze	Small wavelets, crests glassy, no breaking	Wind felt on face, leaves rustle, vanes begin to move
3	7-10	Gentle Breeze	Large wavelets, crests begin to break, scattered whitecaps	Leaves and small twigs constantly moving, light flags extended
4	11-16	Moderate Breeze	Small waves 1-4 ft. becoming longer, numerous whitecaps	Dust, leaves, and loose paper lifted, small tree branches move
5	17-21	Fresh Breeze	Moderate waves 4-8 ft taking longer form, many whitecaps, some spray	Small trees in leaf begin to sway
6	22-27	Strong Breeze	Larger waves 8-13 ft, whitecaps common, more spray	Larger tree branches moving, whistling in wires
7	28-33	Near Gale	Sea heaps up, waves 13-20 ft, white foam streaks off breakers	Whole trees moving, resistance felt walking against wind
8	34-40	Gale	Moderately high (13-20 ft) waves of greater length, edges of crests begin to break into spindrift, foam blown in streaks	Whole trees in motion, resistance felt walking against wind
9	41-47	Strong Gale	High waves (20 ft), sea begins to roll, dense streaks of foam, spray may reduce visibility	Slight structural damage occurs, slate blows off roofs
10	48-55	Storm	Very high waves (20-30 ft) with overhanging crests, sea white with densely blown foam, heavy rolling, lowered visibility	Seldom experienced on land, trees broken or uprooted, "considerable structural damage"
11	56-63	Violent Storm	Exceptionally high (30-45 ft) waves, foam patches cover sea, visibility more reduced	
12	64+	Hurricane	Air filled with foam, waves over 45 ft, sea completely white with driving spray, visibility greatly reduced	

Beaufort Wind Scale