

DENTON COUNTY AMATEUR RADIO EMERGENCY COMMUNICATIONS PLAN

Revised by Denton County ARES Planning Committee

TABLE OF CONTENTS

Emergency Procedures . . . . .	.1
Mission. . . . .	.1
General. . . . .	.1
Activation . . . . .	.2
Net Operations . . . . .	.2
Net Control Center (NCC) . . . . .	.3
Emergency Operations Center (EOC). . . . .	.3
Radio Operations . . . . .	.3
Repeater . . . . .	.3
Telephone Autopatch. . . . .	.4
Simplex . . . . .	.5
Packet . . . . .	.5
CW . . . . .	.6
Health & Welfare Traffic, National Traffic System. . . . .	.6
Federal Emergency Management Agency (FEMA) . . . . .	.7

APPENDICES

Amateur Radio Emergency Recall Roster. . . . .	.A
Net Member Roster. . . . .	.B
Emergency Antenna. . . . .	.C
Connector Standards. . . . .	.D
Disaster Welfare Message Sample. . . . .	.E
Emergency Phone List . . . . .	.F
Emergency Kits . . . . .	.G
Net Preamble . . . . .	.H
Traffic Net Information . . . . .	.I
Adjacent County Emergency Services . . . . .	.J
SkyWarn Net Procedures . . . . .	.K

AMATEUR RADIO EMERGENCY PLAN DISTRIBUTION

This plan, all changes and additions, and all other general written traffic for the net; will be distributed according to the following list:

- 1 copy to each ARES member
- 1 copy to the Section EC
- 1 copy to the Division EC
- 1 copy to the Denton Police Department
- 1 copy to the Lewisville Police Department
- 1 copy to the Denton Sheriff's Department
- 1 copy to the Denton County Red Cross Disaster Services
- 1 copy to the Denton County Office of Emergency Management
- 1 copy to the Denton Office of Emergency Management
- 1 copy to the Denton County Amateur Radio Association
- 1 copy to the Lake Area Amateur Radio Klub
- 1 Copy to the Federal Emergency Management Agency
- 1 Copy to the Lewisville Fire Department
- 1 Copy to the Flower Mound Emergency Management Office
- 1 Copy to The Colony Fire Department
- 1 Copy to The Colony Police Department (Dispatch)
- 1 Copy to Denton Community Hospital Emergency Room Director
- 1 Copy to Denton Regional Hospital Emergency Room Director

EMERGENCY PROCEDURES

I. MISSION

The mission of net members is to provide radio communications for disaster relief efforts, or at other times when requested by local authorities. As communicators it is **NOT** our mission to fill sand bags, distribute food, direct traffic, etc. If net operators choose to perform such tasks, they should do so only if it does not impede their capability to provide the one service they are uniquely equipped to provide: **communications**.

The net could (and likely will) be called upon to provide communications for several agencies **simultaneously**. While it may be argued that manpower resources of the net are not sufficient to handle all requests, it should be recognized that in the event of a major disaster, all government and volunteer agencies will probably be overwhelmed. Net control should attempt to fill all requests, keeping in mind communications priorities. The operation of each net station at a high level of proficiency will greatly contribute to the amount of assistance the net can render. Proficiency in this case requires the operator to be knowledgeable not only in amateur radio, but also in the requirements, operations, and procedures of the served agency. Periodic drills are conducted to provide this knowledge and experience. The importance of participation in these drills cannot be overemphasized.

II GENERAL

A. In Denton County, Amateur Radio Emergency Communications are provided by a group of Federal Communications Commission (FCC) licensed amateur radio operators committed to aiding the community in the event of a disaster by providing communications for disaster relief efforts, simulated emergencies, or other community activities that require communications.

Denton County amateurs are associated with the Amateur Radio Emergency Service (ARES). Emergency Communications will normally be handled under ARES protocol.

B. An Emergency Communications net will be activated on the following occasions:

1. Request for assistance from local government authority in time of a major disaster threatening the community.
2. Request for support from the American Red Cross (ARC) Disaster Action Chairman.
3. Non disaster request for assistance from local government authorities.
4. Public service communications activities.
5. Scheduled or unscheduled net sessions.
6. Drills called by the American Radio Relay League (ARRL), the Denton County Emergency Coordinator (EC), or local government.
7. Weather conditions that require activation of the SkyWarn Net.
(See Appendix K).

C. Operations will be in accordance with FCC Regulations, Part 97.

D. The net will operate under the control of the Net Control Station (NCS). The NCS will be designated upon activation by the Emergency Coordinator (EC). In the absence of the EC or regularly appointed Assistant ECs, the first

station with knowledge of a condition that requires net activation will assume net control until relieved.

E. Member stations are asked to avoid ambulance chasing, playing police officer or otherwise interfering in the proper function of local authority. Local emergency services have adequate emergency communications equipment. The purpose of Emergency Communications is to provide additional communications as REQUESTED during disasters when these emergency capabilities are overloaded. No implication is made here that an operator should not use his/her amateur equipment in responding as a public spirited citizen to emergencies. Care should be exercised though, to neither interfere with proper authority nor imply any official status on the part of the amateur radio operator. All operators should obey traffic laws, regardless of the emergency. Do not talk to the news media. Refer news media questions to PIO (Public Information Officer) of the served agency.

III. ACTIVATION

The Denton County Emergency Coordinator (EC) or assistant EC (AEC) will be contacted by local government officials. Activation will be accomplished by radio, telephone, pager, or mobile messenger as appropriate.

Net Activations are handled via City of Denton issue pagers, use of text paging on cellular phones, personally provided pager and on the 146.92 and 145.17 repeaters.

IV. NET OPERATIONS

A. Routine

1. A Net will be held on alternating second Tuesday or Thursday of each month at 1930L (7:30pm) on the W5NGU repeater (146.92 -). The purpose of the net is to exchange information and practice procedures. The net may also be called more often as required by the EC or assistant EC. In the event of repeater failure, the net will be on 146.54, "Simplex Alpha".

2. Public service event communications will be on the W5NGU 2 meter repeater (146.92 -), W5NGU 440 repeater (444.05 +), or designated simplex frequency.

B. Emergency net operations will convene on the W5NGU 2 meter repeater. The backup repeater will be the W5FKN repeater in Lewisville (145.17 -). Simplex frequencies and the W5NGU 440 repeater (444.05 +) will be used in place of failed repeaters or as additional support frequencies (see Radio Operations, Simplex).

C. Stations which have entered the net are expected to receive permission from the NCS before closing.

V. NET CONTROL CENTER (NCC).

A. Denton County ARES/RACES has been assigned a room, the "COMM CENTER", in the Denton Central Fire Station on the corner of Bell and Hickory Streets. The COMM CENTER can be used as the control point and fixed base for amateur radio operations in support of disaster relief efforts. If used, the COMM CENTER will be manned by a Net Control Operator as required during disaster or potential disaster situations. The EC or Assistant ECs will determine the

most effective location for the Net Control Center.

B. SHORT TERM COMMUNICATIONS NEED: If ARES/RACES communications assistance is needed for only a few hours, the Net Control Center may be at or near the disaster site for easy accessibility to disaster workers and government officials.

C. LONG TERM COMMUNICATIONS NEED: If ARES/RACES communications services are needed around the clock for several days, the Net Control Center may be set up at or near the disaster site. Operators may also be asked to provide additional equipment of their own. This depends on the severity of the disaster, and how long we would be needed.

VI. CITY/COUNTY EMERGENCY OPERATIONS CENTER (EOC).

Neither the City of Denton nor Denton County have a true EOC. Therefore, ARES/RACES communications in support of a city or county government emergency will be conducted from the COMM CENTER. If during an emergency, the phone lines to various government agencies become unusable, the Net Control Operator will dispatch on an IMMEDIATE basis an operator to either the Denton Police dispatch center or the Denton County Sheriff's dispatch center as appropriate.

The dispatched operator will take equipment capable of providing a reliable link to the COMM CENTER. That operator should also take all documents (including this plan), repeater codes, blank paper and writing instruments, and any other items or equipment required to establish and maintain liaison with the city for the duration of the emergency or until relieved.

RADIO OPERATIONS

I. REPEATERS

A. 2 Meter. Primary. The W5NGU (146.92 -) repeater, operated by The Denton County Amateur Radio Association, tone (110.9) or carrier accessed and has a telephone autopatch capable of making local Denton calls. The repeater is located on top of a tall building on the Texas Women's University campus, approximately 1 mile NNE of the Denton Square. Coverage is good over most of Denton County with minor shadowing to the NW. Emergency power is available and is indicated by a "bubble - up" courtesy tone.

Alternate. The W5FKN (145.17 -) repeater, PL 110.9 operated by Bob Landrum W5FKN. Coverage is best in the Southern, Central, and Eastern parts of Denton County.

B. 440 MHZ. Primary. The W5NGU (444.05 +) repeater, pl 110.9, operated by The Denton County Amateur Radio Association, has an open autopatch capable of making local Denton calls. The repeater is located on top of a tall building on the Texas Women's University campus, approximately 1 mile NNE of the Denton square. Coverage is good over most of Denton County with minor shadowing to the NW. Emergency power is available and is indicated by a "bubble - up" courtesy tone.

Alternate. The W5FKN (442.925) repeater, PL 110.9 operated by Bob Landrum W5FKN.

C. Callsigns. Use tactical callsigns (i.e. Control, Shelter 1, ECOM1, etc.) instead of amateur radio callsigns. Tactical callsigns enhance situational awareness among net members and are faster and easier to say.

NOTE: At the end of a communication exchange, or every 10 minutes, each operator is required to transmit his/her own FCC callsign.

D. Repeater Courtesy Tone. When using repeaters, net operators should avoid transmitting before hearing the repeater's courtesy tone. This pause allows stations with priority traffic a chance to get the attention of the NCS. It also helps avoid doubles.

E. For stations that have GMRS licenses, the WPKY752 GMRS repeater, 462.550 + 118.8 tone may be used.

F. It is recommended that stations using cross band capable mobiles use either 446.025 pl 110.9 or 441.055 pl 110.9 simplex frequencies.

II. TELEPHONE AUTOPATCH

The autopatches for both primary repeaters have several functions and speed dial numbers in common. Only one autopatch may be used at one time because the phone line is shared. Always remember to ID your station before and after using any autopatch. NEAD (Non-Emergency Auto-Dial) Numbers listed below are for non-emergency, routine calls and avoid congestion on "911" lines. Refer to <http://www.dcara.net/repeater.html> for updates.

(patch code+phone no.) To dial a local phone number. Do not unkey after the patch code. Phone numbers that begin with "1" are automatically rejected.

*nn Speed dialer as programmed for club members. These numbers do not require the "patch code" prefix.

Speed Dial	Agency Called
*091	City of Denton Police
*092	City of Denton Fire
*093	Denton County 911
*094	UNT Police
*095	TWU Police
*096	City of Denton Utilities

To hang up the autopatch.

III. SIMPLEX

Simplex operation, particularly in the 2 meter band is a viable alternative to repeater operation. Congestion of repeater frequencies can be diminished, especially in the handling of lengthy traffic between relatively close stations.

The ARRL Band Plan allows simplex operations in the following 2 meter frequency segments: 146.4 to 146.58 MHz and 147.42 to 147.51 MHz.

The segment 145.500 MHz to 145.580 MHz has been assigned to miscellaneous and experimental modes and may be considered available for FM simplex operations on an emergency basis.

The following simplex frequencies will be used as much as possible. The use of the frequency's alias is meant to eliminate the possibility of confusion which sometimes happens when strings of digits are passed over the radio. If additional frequencies are needed, try to select one within the simplex segments.

Alias	Frequency
"Simplex Alpha"	146.540 MHz
"Simplex Bravo"	147.440 MHz
"Simplex Charlie"	146.480 MHz
"Simplex Delta"	147.500 MHz *
"Simplex Foxtrot"	446.500 MHz *

* If location resources permit, monitor these frequencies as "talk around" frequencies. The 444.050 repeater can be utilized for "off net" operations.

If repeater operations are not possible (i.e. simplex operations only), each emergency station should monitor 146.92 MHz and 146.52 MHz for emergency calls.

IV. PACKET

Packet operations, where resources permit, will also help ease congestion on repeater frequencies. 145.030 MHz will be the primary 2 meter packet frequency for emergencies and exercises. This will allow the use of the node "DENTON" for extended connects as well as network access.

Packet operation is best used for messages that are not extremely time critical, but do contain a great deal of information such as lists of victims or needed supplies. Packet also produces a hard copy (printed) message which is easy to read and can be delivered to several addressees. Please carry either several floppy disks or a USB thumb drive to transfer files for printing.

NOTE: Packet radio also can be used to transmit information of a sensitive nature that must be moved quickly between two stations, yet might cause rumors or panic if sent by voice and overheard by persons using scanners or other receivers.

A basic packet station in support of emergencies should have certain minimal items. And since there are many different models of packet equipment, each piece of equipment should be accompanied with either the original owner's manual or a condensed quick reference sheet that covers basic packet operations. The following is a list of the basic items needed for packet operations:

MINIMAL PACKET STATION

Radio, power supply, antenna, coax.
Terminal node controller (TNC).
Terminal equipment (computer or dumb terminal).
Terminal software (if needed) with backup disks.
Operator manuals (for TNC, Computer, Software, etc.)
Accessories (i.e. interface cables, power supplies, adapters, etc.)

OPTIONAL, BUT DESIRED ITEMS

Printer and a supply of paper.
Terminal software capable of transmitting and capturing ASCII text.
Word processing software capable of block operations on ASCII text.

NOTE: All ARES/RACES packet operators should modify their TNC/Radio interface cable to include the standard interface plug set, see appendix D. This will permit the sharing of equipment during an emergency or drill. Also, attach a list of your TNC's computer interface settings to the outside of your TNC (Bits, Parity, Stop bits, and Baud rate) so others can set personal software for your TNC.

V. CW

If propagation conditions are poor and HF operations are required, it may be necessary to rely on International Morse code (CW) transmissions. If information of a sensitive nature must be sent from one point to another and packet is not available, CW also provides a means for minimizing rumors or panic among people who may be listening on scanners or other receivers. In an emergency situation, the internationally accepted maximum CW rate is 15 wpm.

VI. HEALTH & WELFARE TRAFFIC AND NATIONAL TRAFFIC SYSTEM

A. GENERAL: If a large-scale disaster occurs in Denton or Denton County, ARES/RACES members should be prepared to handle a big influx of health-and-welfare messages and other formal messages and informal inquiries directed toward the affected area. ARES/RACES members may also be asked to relay or originate messages in National Traffic System (NTS) format.

Health-and-welfare traffic should NOT be handled on net frequencies intended for emergency communications. Instead, H&W traffic should be handled on a health-and-welfare net established on another frequency. If possible, incoming and outgoing H&W traffic should be routed through the various NTS nets and packet outlets available in this area.

Refer to appendix I for a list of traffic net frequencies.

B. PACKET: Traffic in NTS format can be sent to or received from the TEXNET packet message server (PMS) in North Dallas, available through the DENTON (W5NGU) node on 145.03 MHZ.

If the disaster is big enough that it is national or international news, health-and-welfare messages and information requests may be directed toward Denton and Denton County from all over the United States and world. In this case, it may be necessary to establish a daytime health-and-welfare net on a 20-meter single sideband frequency, moving to 75 meters or 40 meters at night.

Operation of a health-and-welfare station under high traffic loads may require two to three operators on duty at all times. Close contact will have to be maintained with the Red Cross and other organizations responsible for acting on H&W inquiries.

VII. Federal Emergency Management Agency (FEMA)

The FCC has licensed several FEMA stations. These FEMA stations may occasionally transmit on amateur frequencies during exercises and actual emergencies. The callsigns FEMA uses are KF6EMA and WF6EMA, and there may be others. The actual radio operator of these stations might not be that knowledgeable about amateur procedures, so be patient and helpful.

(ecpln3 dj)