

# Utah County ARES Field Manual



Jan2019 Revision

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# 1. Introduction

Through the Amateur Radio Emergency Service (ARES) organization, Utah county amateur radio operators provide communication for public events such as parades, fireworks and races. ARES also provides emergency communication for the Utah County Sheriff and all the various municipal police, fire and rescue agencies in Utah County. If you, like many other local amateurs, would like to do more than just chew the rag over the air, if you want to really make a difference in your community with your new skills and develop a strong camaraderie with others like yourself, then you will want to learn more about ARES.

ARES provides communication service in Utah County and the surrounding areas using primarily the VHF (2 m) and UHF (70 cm) amateur frequency bands. The Utah County Sheriff's Office provides many repeaters in Utah County for use by ARES and its members to provide volunteer service in emergencies. Unlike most other repeaters around the country, many of these repeaters are also made available to the amateur community by the Sheriff's Office free of charge for more casual purposes when they are not being used for their primary purpose. While membership in ARES is not required for non-emergency uses of these repeaters, we can show our appreciation for them by actively participating in ARES and supporting the many service activities throughout the year.

ARES has made many commitments with other community organizations to provide communications at various public events. These commitments require the services of many volunteers. So we are always looking for good operators who are willing to donate their time and have fun helping others. Membership in ARES is free: no fees – no dues.

ARES is organized with a director, called the Emergency Coordinator (EC), a board of Assistant Emergency Coordinators (AEC), and members like you. The EC acts as a liaison with the Sheriff's Office and coordinates the activities of ARES. The AECs provide many day-to-day support roles in running the ARES organization.

## 2. Leadership Directory

<b>Emergency Coordinator (EC):</b>	Jeremy Stallard, KE7DLT; <a href="mailto:ke7dlt@ucares.org">ke7dlt@ucares.org</a>
<b>HF Coordinator (AEC):</b>	
<b>Membership Coordinator (AEC):</b>	Caryn Alarcon, KG7UUR; <a href="mailto:kg7uur@scateam.org">kg7uur@scateam.org</a>
<b>ARES Liaison Coordinator (AEC):</b>	Michael Preuss, W7MJP, <a href="mailto:w7mjp@ucares.org">w7mjp@ucares.org</a>
<b>SET Coordinator (AEC):</b>	
<b>Interface Coordinator (AEC):</b>	Scott Golightly, KG7WHX;
<b>Net Manager (AEC):</b>	Scott Chandler, N1FTY; <a href="mailto:n1fty@ucares.org">n1fty@ucares.org</a>
<b>Asst Net Manager (AEC):</b>	Reid Dickson, W1YMI; <a href="mailto:w1ymi@ucares.org">w1ymi@ucares.org</a>
<b>SCATeam Commander:</b>	Andrew Barney, W7IE; <a href="mailto:w7ie@scateam.org">w7ie@scateam.org</a>

### 3. Staying Informed

There are several ways to get involved with and stay informed on UCARES events.

#### 1.1. Weekly Training Net

Held every Tuesday night, 9pm on the 147.34 (+ offset, 100.0Hz tone) repeater, also on 145.23 (- offset, 131.8 tone) Simplex net on second Tuesday on 147.34 simplex.

#### 1.2. Monthly Interface Meeting

Held the first Tuesday of every month at 7pm. Check the website for details.

#### 1.3. Website

<http://www.ucares.org>

#### 1.4. Email List

~~Send an email to [ucares\\_join@ucares.org](mailto:ucares_join@ucares.org) and follow the reply to join.~~

#### 1.5. Text Messaging List

If you wish to receive a SMS text message, talk with the EC.

### 4. Certification Levels

Utah County ARES (UCARES) has established a certification program to prepare members for Emergency Operations. Participation in this program is not required to join UCARES or use UCARES repeaters. All Amateurs Operators are welcomed to participate as their abilities and schedule permits.

The Certification Levels are designed to increase your involvement and preparedness. It is recommended that everyone intending to participate with UCARES during a disaster complete the first two levels. Those interested in being actively involved, or serve in leadership positions, should complete all levels. During a callout or emergency operation, assignments will be made corresponding to the Certification Level of the operator.

- Level One prepares you for a *participating role* in Emergency Operations.
- Level Two prepares you for a *supporting role* in Emergency Operations.
- Level Three prepares you for a *responsible role* in Emergency Operations.
- Level Four prepares you for a *leading role* in Emergency Operations.
- Packet prepares you to use UCARES packet stations in Emergency Operations.
- Family Preparedness prepares your family so you can help others during an emergency.

Current Certification Levels are available on the UCARES website in the Downloads section.

## **5. Using UCARES Repeaters**

UCARES Repeater Resources are generally available for public use with noted exceptions. When using UCARES Repeater Resources, please observe the following:

### **1.6.Listen Before Transmitting**

When you turn your radio on, or have just changed frequencies, listen before transmitting. Another conversation or a net may be in progress already. If you don't hear anything after listening for at least 30 seconds, key up the repeater briefly to check for repeater operation, paying attention to the courtesy beep (single or double). Proceed to transmit before the "tail" drops. "Kerchuncking" repeatedly is strongly discouraged. Be sure to follow FCC requirements and always ID if you transmit.

### **1.7.Courtesy Beeps**

The repeaters have a courtesy beep that should be observed without exception. The courtesy beep occurs whenever a user stops transmitting through the repeater. This is a signal for the next user to begin transmitting. There is a brief pause after the receiver no longer hears a signal and the sounding of the courtesy beep. This pause allows others to enter the conversation. Allowing the Courtesy Beep to operate will also reset the repeater controller timer. Failure to let the controller reset will result in the time-out-timer activating.

### **1.8.Double Beeps**

The Double Beeps are activated during Training Exercises and Emergency Operations. The presence of the Double Beeps means the repeater is under restricted use. Always check with the Net Control station whether or not you may proceed calling somebody on that frequency.

### **1.9.Simplex Operation**

During a simplex net, or if the repeater is not operational, transmit on the repeaters Output frequency (the one you listen on normally). While not necessary, disabling tone encode is recommended.

### **1.10.Emergency or Priority Traffic**

Follow the ARRL recommend use of the word "BREAK" for Emergency or Priority Traffic only. Priority Traffic is subjective to the situation and should be used with good judgment and consideration to what is being interrupted.

### **1.11.Rag-chewing**

In non-emergency day-to-day operations the repeater is to be used as a "club" repeater. The repeater is open for casual usage such as rag-chewing, DX coordination, technical discussions and just being Hams. Through this day-to-day usage ARES members will become familiar with each other in terms of talents, voice recognition, operating habits and communication abilities, etc.

It must be clearly understood that when the repeater is being used for its primary

purpose of emergency communications, that the “casual” or day-to-day use of the repeater would be suspended. Rarely are all ARES repeaters in use for their primary purpose at the same time. For this reason, when a repeater is in use for a net or emergency use, you can usually use one of the other ARES repeaters for casual use.

Always be respectful of others. Concerns about abusive use should be raised to the EC directly. Confrontation over the air should be avoided.

## **6. UCARES Repeater Resources**

While many of these resources are “open” and are available for all Amateurs to use, it is expected that all who regularly use these resources will accept the responsibility and duty of providing service to the community through active participation in ARES.

### **1.12.147.94/147.34 MHz Repeater and Coordinated Frequencies**

Frequency: 147.34+ (100.0Hz)

Open To: All Amateurs

Location: West Mountain

Coverage: Most of Utah County

Primary Use: ARES Nets during training/emergency operations

Secondary Use: General meeting place; promote ARES involvement

### **1.13.147.88/147.28 MHz Repeater and Coordinated Frequencies**

Frequency: 147.28+ (141.3Hz)

Open To: All Amateurs

Location: Lake Mountain (County Site)

Coverage: Most of Utah County, South Salt Lake County

Primary Use: ARES Nets during training/emergency operations

Secondary Use: General meeting place; promote ARES involvement

### **1.14.144.63/145.23 MHz Repeater and Coordinated Frequencies**

Frequency: 145.23- (131.8Hz)

Open To: All Amateurs

Location: Lake Mountain (Forest Service Site)

Coverage: North Utah County, Eagle Mountain, South Salt Lake County

Primary Use: ARES Nets during training/emergency operations

Secondary Use: General meeting place; promote ARES involvement

### **1.15.444.975/449.975 MHz Repeater and Coordinated Frequencies**

Frequency: 449.975- (131.8 Hz)

Open To: UCARES Level Two Certified Amateurs and higher

Location: Lake Mountain (Forest Service Site) – *Normally on Tower Mtn*

Coverage: North Utah County, Eagle Mountain, South Salt Lake County

Primary Use: ARES Nets during training or emergency operations



### **1.16.145.03 MHz Coordinated Frequency**

Frequency: 145.03

Open To: All Amateurs

Mode: Packet Radio

The frequency of 145.03 MHz has been coordinated with the Utah State frequency coordinator for packet radio use by Utah County ARES. Utah County ARES has coordinated this frequency so that it might develop resources on this frequency to enhance its ability to perform emergency services.

### **1.17.146.46 MHz Coordinated Frequency**

Frequency: 146.46

Open To: All Amateurs

Mode: FM Simplex

The frequency of 146.46 MHz has been coordinated with the Utah State frequency coordinator for simplex use by Utah County ARES. Utah County ARES has coordinated this frequency for use as a resource during emergency/disaster or training operations. Utah County ARES plans to make intensive use of this frequency during emergency/disaster operations. It is respectfully requested that during emergency/disaster operations that all Amateur stations not directly involved with Utah County ARES operations refrain from using this frequency.

## **7. Agency Liaisons**

### **1.18.Alpine City EOC**

Address: 50 E 100 N, Alpine

Phone:

GPS Coord: N 40.454196 W 111.777101

Liaison: Jeff B KB7VSJ, [kb7vsj@scateam.org](mailto:kb7vsj@scateam.org)

### **1.19.American Fork City EOC**

Address: 95 N 100 E, American Fork

Phone:

GPS Coordinates: N 40.378376 W 111.796650

Liaison: Andrew Barney, W7IE, [w7ie@scateam.org](mailto:w7ie@scateam.org)

### **1.20.American Fork Hospital EOC**

Address: 170 N. 1100 E., American Fork

Phone:

GPS Coordinates: N 40.379932 W 111.769020

Liaison: Trent Snyder; N7GMT; [n7gmt@scateam.org](mailto:n7gmt@scateam.org)

### **1.21.Brigham Young University EOC**

Address: Wilkinson Center

Phone:

GPS Coordinates: N40 14.920' W111 38.828'

Liaison: Jeremy Stallard, KE7DLT, [ke7dlt@scateam.org](mailto:ke7dlt@scateam.org)

### **1.22.Eagle Mountain EOC**

Address: 1650 E Stage Coach Run, Eagle Mountain

Location: next to main conference room in city office

Phone:

GPS Coordinates: N 40. 18.550' W 112. 0.744'

Liaison: Bill Lindsay (CERT Coordinator) [bd\\_lindsay\\_sr@yahoo.com](mailto:bd_lindsay_sr@yahoo.com)

### **1.23.Lindon City EOC**

Address: 100 N State Street, Lindon

Phone:

GPS Coordinates: N 40. 20.388 W 111.43.070'

Liaison: Mitt R D7PRS; [d7prs@scateam.org](mailto:d7prs@scateam.org)

### **1.24.Lehi City EOC**

Address:

Phone:

GPS Coordinates:

Liaison:

### **1.25.Mountain View Hospital EOC**

Address: 1000 E. 100 N., Payson

Phone:

GPS Coordinates: N 40.044683 W 111.713983

Liaison: Steve Whitehead; NV7V; [nv7v@nv7v.org](mailto:nv7v@nv7v.org)

### **1.26.Orem City EOC**

Address: 56 N. State, Orem

Phone:

GPS Coordinates: N 40.298172 W 111.695427

Liaison: Caryn Alarcon, KG7UUR, [kg7uur@scateam.org](mailto:kg7uur@scateam.org)

### **1.27.Orem Community Hospital EOC**

Address: 331 N. 400 W., Orem

Phone:

GPS Coordinates: N 40.303391 W 111.705528

Liaison: Lance Larsen; N7WCX; [n7wcx@scateam.org](mailto:n7wcx@scateam.org)

### **1.28.Pleasant Grove City EOC**

Address: 87 E. 100 S., Pleasant Grove

Phone:

GPS Coordinates: N40 362480 W111 739128

Liaison: Tyler Packer, N7TTP, [n7ttp@scateam.org](mailto:n7ttp@scateam.org)

### **1.29.Provo City EOC**

Address: 251 W. 800 N Provo

Phone:

GPS Coordinates: N40 14.623' W111 39.751'

Liaison: Caryn Alarcon, KG7UUR, [kg7uur@scateam.org](mailto:kg7uur@scateam.org)

### **1.30.Red Cross – Mountain Valley Chapter**

Address: 865 N. Freedom Blvd, Provo

Phone: 373-8580

GPS Coordinates: N 40.245717 W 111.662433

Liaison: inactive

### **1.31.Salem City EOC**

Address: 30 W. 100 S., Salem

Phone:

GPS Coordinates: N 40.053074 W 111.673882

Liaison:

### **1.32.Spanish Fork City Police Station EOC**

Address: 789 W Center, Spanish Fork

Phone:

GPS Coordinates: N40 6.534' W111 40.065'

Liaison: Bryan Perry; AD7GI; [ad7gi@scateam.org](mailto:ad7gi@scateam.org)

### **1.33.Spanish Fork City Fire Station EOC**

Address: 370 N Main, Spanish Fork

Phone:

GPS Coordinates: N40 6.862' W111 39.248'

Liaison: Clark Cox, KA6PIZ, [ejcox1@sfcn.org](mailto:ejcox1@sfcn.org)

### **1.34.Springville City EOC**

Address: 75 W. Center St., Springville

Phone:

GPS Coordinates: N40 9.988' W111 36.721'

Michael Preuss; W7MJP; [w7mjp@ucares.org](mailto:w7mjp@ucares.org)

### **1.35.Timpanogos Regional Hospital**

Address: 750 W. 800 N., Orem

Phone:

GPS Coordinates: N 40.312916 W 111.714167

Liaison: Lance Larsen; N7WCX [n7wcx@scateam.org](mailto:n7wcx@scateam.org)

### **1.36.Utah County EOC**

Address: 3075 N. Main, Spanish Fork

Phone: 851-4000

GPS Coordinates: N 40.148930 W 111.657021

Liaison: Andy Heil, KK7PJ, [kk7pj@scateam.org](mailto:kk7pj@scateam.org)

### **1.37.Utah Transit Authority EOC**

Address: 1110 S. Geneva Road, Orem

Phone:

GPS Coordinates: N 40.276300 W 111.728783

Liaison: Wade Starks; KC7ZAV; [kc7zav@ucares.org](mailto:kc7zav@ucares.org)

### **1.38.Utah Valley Regional Medical Center**

Address: 1034 N. 500 W., Provo

Phone:

GPS Coordinates: N 40.248177 W 111.667458

Liaison:

### **1.39.Utah Valley University EOC**

Address:800 W University Pkwy, Orem

Phone:

GPS Coordinates: N40 16.739' W111 42.675'

Liaison: Wade Starks; KC7ZAV; [kc7zav@ucares.org](mailto:kc7zav@ucares.org)

### **1.40. Woodland Hills Fire Department**

Address:690 Woodland Hills Drive

Phone:801 423-3620

GPS: N40 0.708 W111 38.892'

Liaison: Craig M, NN2B; [nn2b.radio@gmail.com](mailto:nn2b.radio@gmail.com)

## **8. RACES**

The Radio Amateur Emergency Service (RACES) was created by Part 97.407 of the FCC regulations which states:

*97.407 Radio amateur civil emergency service. - (a) No station may transmit in RACES unless it is an FCC-licensed primary, club, or military recreation station and it is certified by a civil defense organization as registered with that organization, or it is an FCC-licensed RACES station. No person may be the*

*control operator of a RACES station, or may be the control operator of an amateur station transmitting in RACES unless that person holds a FCC-issued amateur operator license and is certified by a civil defense organization as enrolled in that organization.*

Statewide RACES training nets are held each month and are limited by FCC regulation to one hour in duration. RACES nets are held once each month under the direction of the Utah State Office of Comprehensive Emergency Management. The purpose of the Net is to train RACES operators; staff, operate and test State, County, and Local Government EOCs; verify and test the capability and operation of radio equipment of RACES radio operators, link stations, EOCs, etc. The Net is also intended to establish a method to be able to communicate to an part of the state in the event of an Emergency or Disaster, and to develop coordination, training, and loyalty between RACES radio operators and Government Officials.

On **even numbered months**, this net is conducted on linked VHF repeaters around the state on the third Thursday at 2000 hours local time. Check in on 147.120 or 147.180 repeaters with a 100.0 Hz tone.

On **odd numbered months**, this net is held on the third Saturday at 0800 hours local time on 3918 kHz +/-QRM. Listen to the VHF net for details.

In Utah, RACES organization is under the direction of Department of Public Safety, Division of Comprehensive Emergency Management. For more information, visit <http://des.utah.gov/radio/races.htm>.

In the event of an emergency or disaster, the State Division of Emergency Services and Homeland Security (DES) office can be notified by calling **801-538-3400** or **1-800-753-2858** toll free in Utah (24 hours) or a request to notify DES may be made through any Highway Patrol office. During emergencies (when appropriate) the State EOC (W7DES) will monitor the following:

- Phone 801-538-3700, 3782, 3783
- 7272 KHz LSB
- 3987.5 KHz LSB
- 449.9 MHz (100.0 Hz tone)
- 145.05 Packet (24 hours)
- 147.54 MHz simplex
- 146.88 MHz repeater

## **9. Callout Procedures**

When ARES is activated, either in response to a request from the Utah County Sheriff's Office, SCATeam, supported agency or another ARES group, the general ARES membership will be called upon to meet staffing needs.

Efforts to contact the general membership will be made through the following means:

- Email to the UCARES list

- SMS Text Messaging to UCARES pager list
- Announcement on ARES repeaters

Usually, a staffing net will be called to gather availability of ARES members. When checking-in for a callout, be prepared with the following:

- Availability for the next 24-48 hours
- Paper to write down details, instructions and assignments

Assignments will be made based upon the following criteria:

- Fulfilling Certification Level requirements
- Certification Level
- Availability

If a disaster or large-scale event occurs (e.g. earthquake, large hazardous chemical spill, widespread power loss, etc.), monitor the 147.34+ repeater. If that repeater is offline, monitor the output frequency (147.340). More than likely, a net will be called.

If the Emergency Coordinator is not available, an Assistant Emergency Coordinator may activate ARES. In the absence of any AEC, the SCAT leadership may activate ARES.

## **10.Public Service Do's and Don'ts**

When participating in a Public Service Event, **DO**:

- *Listen*
- Take notes
- Have a spare antenna for your radio
- Have an earpiece for your radio
- Have an additional power source (AA battery pack is ideal)
- Bring hat and sunscreen
- *Listen*
- Position the antenna away from your body (chest packs do this well)
- Bring water (food for longer events)
- Have a manual for your radio
- Check-in with Net Control when you arrive/leave your position
- Bring a folding chair for long events
- Wear comfortable shoes for standing or walking
- *Listen*

### **DON'T:**

- Assume if traffic isn't for you, you don't need to know about it
- Ignore Net Control
- Have Power Save mode enabled on your HT
- Use Low power (communication is useless if nobody can hear you)
- Wear your HT on your belt
- Use VOX
- Interrupt Priority traffic with something that is not Priority

## **11.Wilderness Protocol**

The Wilderness Protocol is a suggestion that those outside of repeater range should monitor standard simplex channels at specific times in case others have priority calls. The primary frequency is 146.52 MHz with 52.525, 223.5, 446.0 and 1294.5 MHz serving as secondary frequencies. This system was conceived to facilitate communications between

hams that were hiking or backpacking in uninhabited areas, outside repeater range. However, the Wilderness Protocol should not be viewed as something just for hikers. It should be used by everyone anywhere repeater coverage is unavailable. The protocol only becomes effective when many people use it.

The Wilderness Protocol recommends that those stations able to do so should monitor the primary (and secondary, if possible) frequency every three hours starting at 7 AM, local time, for 5 minutes (7:00-7:05 AM, 10:00-10:05 AM, ..., 10:00-10:05 PM). Additionally, those stations that have sufficient power resources should monitor for 5 minutes starting at the top of every hour, or even continuously.

Priority transmissions should begin with the Long Tone Zero (LTZ) signal by transmitting a “Zero” DTMF continuously for five or more seconds. CQ-like calls (to see who is out there) should not take place until four minutes after the hour.

For more information on the Wilderness Protocol refer to QST (Feb 94, page 100; Apr 94, page 109; May 94, pages 103-104).

# Appendix

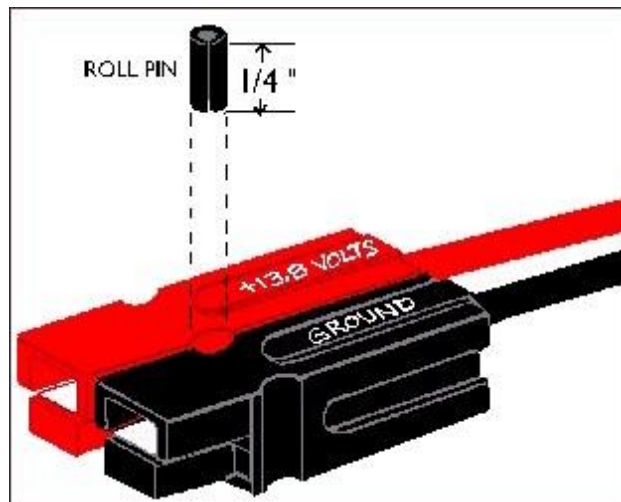


## A. Powerpole Standard

UCARES has standardized on Anderson Powerpole connectors for 12V power. It is recommended to use the 30 Amp connectors for 12-14 gauge wires, and 45 Amp connectors when using 10 gauge wires. Even though Powerpoles are genderless, always check the polarity before plugging into somebody else's connectors (red to red and black to black).

With the wider portion of the plug on top (see Figure D1), the positive side of the line is red and the negative/ground is black. Looking into the front, red will be on left and black on right.

Be sure to use the right gauge wire and use fuses to protect against becoming a fire hazard. It is recommend that both sides are fused.



**Figure D1: Correct configuration of Powerpole**

A roll pin can be inserted to prevent the connectors from coming apart, or alternatively a small amount of superglue can be used.

Also be aware that on older equipment, the polarity might be the old standard and have red and black reversed.

## B. Jump Kit Checklist

### Level One Certification Equipment List

2M or 2M/70cm (preferred) synthesized handheld radio

Alkaline battery pack for handheld radio Earphone for handheld radio

Binder containing the following: Utah County ARES Field Manual

Map of Utah County

Blank Paper

Zipper pouch with pens and pencils

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### **Level Two Certification Equipment List**

Portable 2m or 2m/70cm antenna (J-pole, wire ground plane, etc.)

Magnetic mount antenna for vehicle use

50 feet of coax with PL259 connectors (mini RG-8 or better)

SO239/SO239 adapter (barrel connector)

SO239/BNC Male adapter

PL259/BNC Female adapter

Flashlight (AA)

Pocket knife

Roll of electrical tape

50 feet of nylon rope (1/4" or better)

3 MRE's (Meals Ready To Eat)

Water (2 quarts minimum)

Personal First Aid Kit

Five (5) Dollars in bills and coins

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### **Level Three Certification Equipment List**

2M or 2M/70cm (preferred) mobile synthesized radio (25 watts or better)

Powerpole to cigarette lighter adaptor cable

Powerpole to alligator clips cable

Powerpole three-way splitter

Spare fuses for mobile radio and cables (as necessary)

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### **Level Four Certification Equipment List**

70cm handheld (preferred) or mobile radio

Gelcell battery (10AH min.) and appropriate charger with Powerpoles

12V Lamp (fluorescent or incandescent) with Powerpoles

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## C. Utah County ARES Coordinated 2m / 70cm Repeaters

### *Maintained by the Utah County Sheriff's Department, or Sponsoring Agencies*

*Use of these repeaters may be restricted during ARES training exercises, civic service events, or actual emergencies*

*Freq      Tone Description*

**145.230-** 131.8 ARES “rag chew” repeater located on Lake Mtn.

**147.280+** 141.3 ARES “Quiet” repeater located on Lake Mtn. May be used to establish contacts. Once contact is made, continued conversation should be moved to another frequency. When the double beeps are on during emergencies, or other special ARES activities, the repeater will transmit the 141.3 tone. Set your radio channel to decode 141.3 to only hear traffic on this repeater during these times.

**447.125-** 131.8 Mountain View Hospital sponsored repeater located atop Mountain View Hospital in Payson.

**447.275-** 100.0 Timpanogos Hospital sponsored repeater located atop Timpanogos Hospital in Orem.

**449.325-** 114.8 Utah Valley Regional Medical Center repeater in Provo sponsored by ARES.

**147.340+** **100.0 Main Utah County ARES open chat repeater located on West Mountain. A good place to meet Utah Valley Hams. Weekly ARES training nets are held here at 9:00 pm each Tuesday.**

**449.675-** Utah County Sheriff's Communications Auxiliary Team (SCAT) repeater located on Lake Mtn.. Closed to all except SCAT members.

**449.975-** 131.8 ARES Tower Mountain repeater. Closed to all except SCAT and ARES members certified at level 2, or higher. Temporarily located on Lake Mtn.

### **Other Frequencies and Repeater Resources Available to Utah County Hams**

*Freq      Tone*

#### **2 Meter and 70 Centimeter Repeaters**

**145.250-** Located at the top of Sundance Ski area. Frequently used by ERRS and LDS stake users in northern Utah County.

**147.020-** Utah County ERC repeater located on West Mountain and sponsored by the LDS Church. Area nets are held here at 08:00 pm on Tuesdays.

**145.450-** Salt Lake ERC repeater located on Ensign Peak and sponsored by the LDS Church.

**147.120+** 100.0 Utah VHF Society (UVHFS) repeater located on the Oquirrh Mtns. Linked to the Snowbird Rptr, 147.180+.

**146.620-** **Main UARC open chat repeater located atop Farnsworth Peak, on the Oquirrh Mtns. A good place to meet Salt Lake Hams. Weekly nets are held here at 09:00 pm each Sunday.**

**146.660-** Manti repeater located on the Skyline above Manti.

**146.760-** Utah Amateur Radio Club (UARC) repeater located on Lake Mtn. Includes Utah and Salt Lake County autopatches, which are open to UARC members only.

**146.880-** Salt Lake ARES repeater located on the Oquirrh Mtns.

**146.940-** 100.0 UVHFS repeater located at the Kennecott Copper Mine. Hosts a swap net at 08:00 pm on Tuesdays.

**147.100+** 100.0 Salina repeater located on the Skyline above Salina.

**147.180+** 100.0 UVHFS repeater located atop the Snowbird ski tram. Linked to the Oquirrh Mtns repeater, 147.120+, the Bear Lake Repeater, 147.120+, the Cedar City repeater, 146.940-, and with repeaters in St. George, Las Vegas and southern Idaho. This link system provides communication coverage along the I15 corridor from Las Vegas to southern Idaho, even, at times, extending into southern California and northern Arizona.

**145.330-** BYU Club repeater located on BYU Campus.

**447.000-** NV7V portable repeater based in Payson. Re-transmits Space Shuttle communications when it is up, and “*This Week in Amateur Radio*” broadcasts each Tuesday night following the ARES Net.

**448.025-** 100.0 KB7M repeater and remote base located in north Orem.

**448.250-** 167.9 WB7NPL located on West Mountain

**449.100-** 146.2 UARC repeater located on the Oquirrh Mtns. Used as the hub for the State RACES semi-monthly Nets (3<sup>rd</sup> Thursday of even numbered months, at 08:00 pm).

**449.825-** 167.9 KB7YOT, located in Provo

#### **2 Meter and 70 Centimeter Simplex Frequencies**

**144.930** General Utah County 2m packet frequency

**145.030** Utah County ARES coordinated 2m packet frequency

**145.630** TERT coordinated 2m simplex frequency, especially on weekends (Friday-Sunday) during the summer

**146.460** Utah County ARES coordinated 2m simplex frequency

**146.520** National 2m simplex frequency (\* Wilderness Protocol)

**446.000** National 70cm simplex frequency (\* Wilderness Protocol)

**446.500** National 70cm simplex frequency (\* Wilderness Protocol)

\* See [www.ucares.org](http://www.ucares.org) for details on the Wilderness protocol

Always follow and respect the local Band Plan. Information on the Utah VHF/UHF Band Plan can be found at:  
<http://www.ussc.com/~uvhfs/bandplan1.html>

## **D.Public Service Frequency Reference**

**Note: many public service agencies have relocated to an 800MHz trunked system called Utah Communications Agency Network (UCAN). Much information about UCAN can be found on the Internet. Some of these frequencies may become active again if the UCAN system failed.**

### **Utah County Sheriff**

154.860 - Dispatch (North County)  
 158.970 - Dispatch (South County)  
 158.910 - Car-to-Car  
 153.950 - Fire  
 155.235 - Search and Rescue  
 156.135 - Roads

### **Cities in Utah County - Police/Fire/EMS**

155.085 - Alpine  
 154.100 - American Fork  
 154.040 - Lehi  
 155.430 - Orem Dispatch  
 156.090 - Orem Dispatch  
 154.145 - Orem Fire  
 153.905 - Payson  
 460.475 - Pleasant Grove Dispatch  
 453.075 - Pleasant Grove Tactical  
 155.190 - Provo Dispatch  
 155.010 - Provo Dispatch  
 154.190 - Provo Fire  
 155.145 - Santaquin  
 155.535 - Springville Dispatch  
 154.415 - Springville Fire  
 159.030 - Spanish Fork

### **Utah Highway Patrol**

155.505 - Statewide (VHF)  
 460.125 - Statewide (UHF)  
 155.625 - Utah County UHP Dispatch  
 155.745 - UHP Car-to-Car

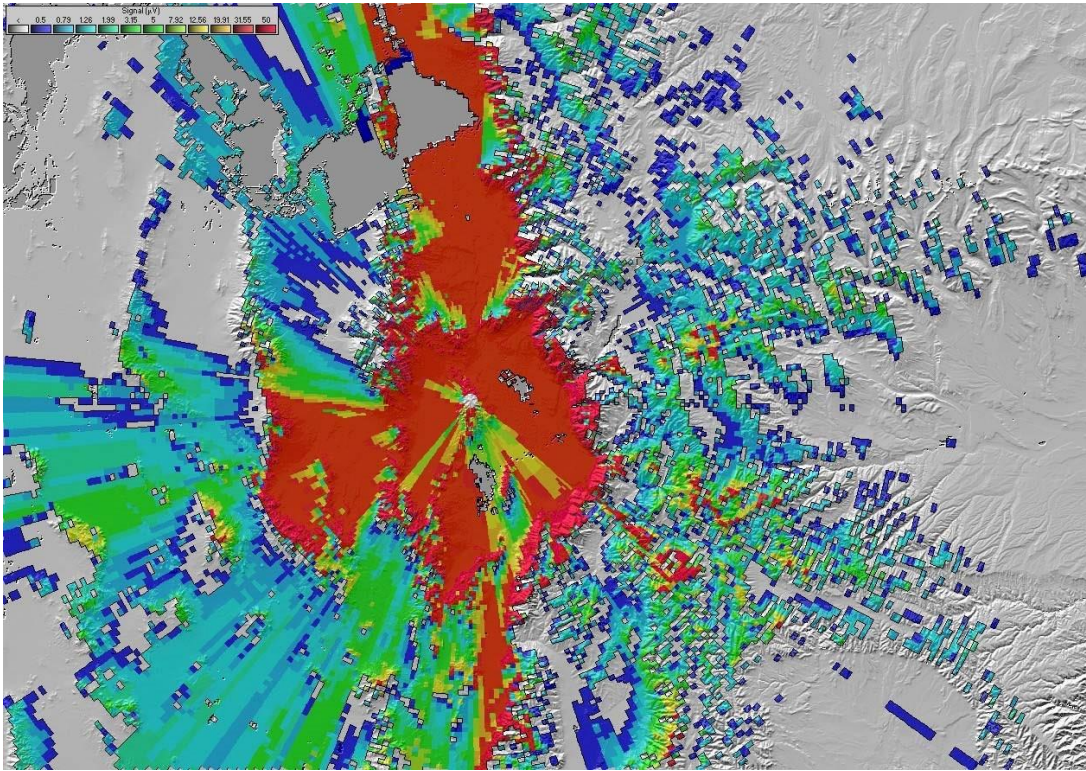
### **Other State Agencies**

155.340 - H.E.A.R. (Hospital/Ambulance)  
 151.085 - Department of Transportation Dispatch (District 6)  
 151.370 - Department of Natural Resources Dispatch  
 155.775 - Department of Natural Resources Car-to-Car  
 453.700 - Utah Transit Authority  
 453.750 - Utah Transit Authority (Utah/Salt Lake Counties)

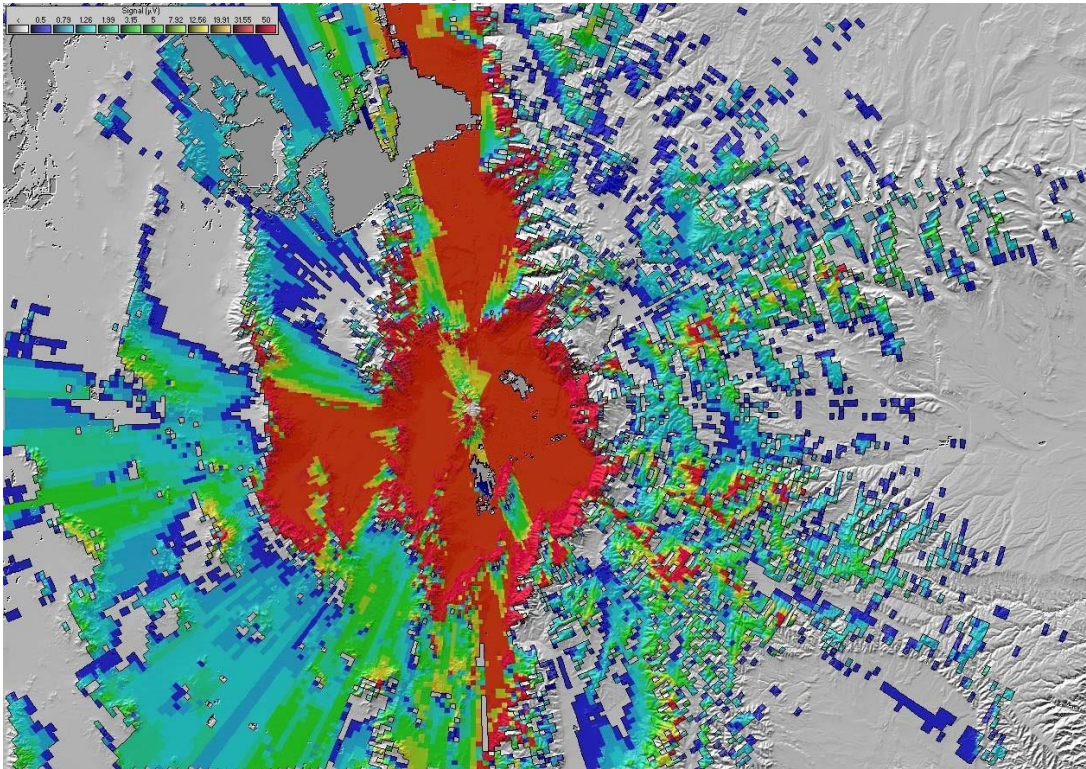


## E. Repeater Coverage Maps

### E.a. Lake Mountain – Forest Service Site

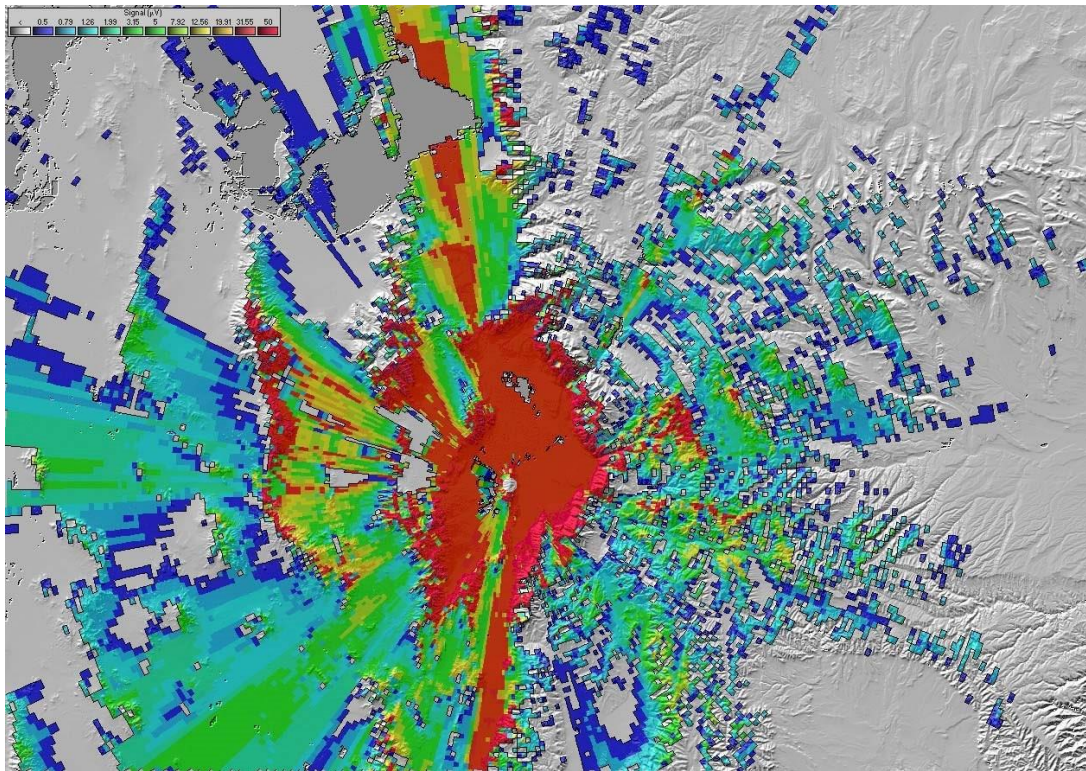


### E.b. Lake Mountain – Utah County Site

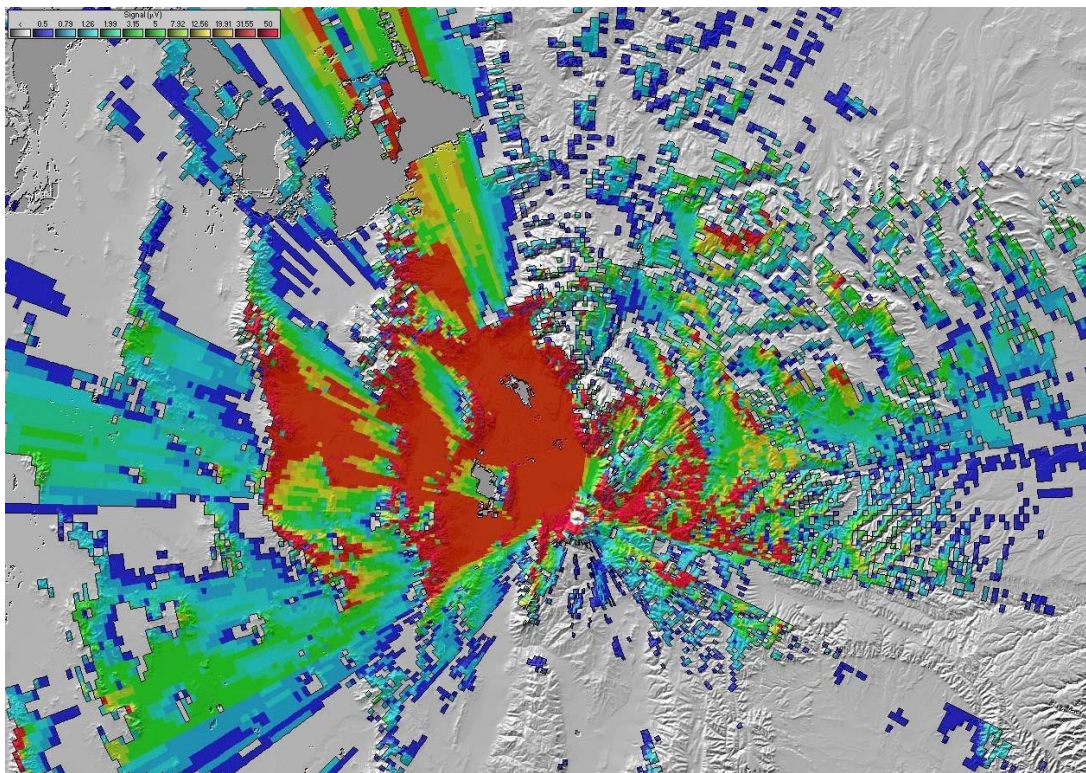




## E.c.West Mountain Site

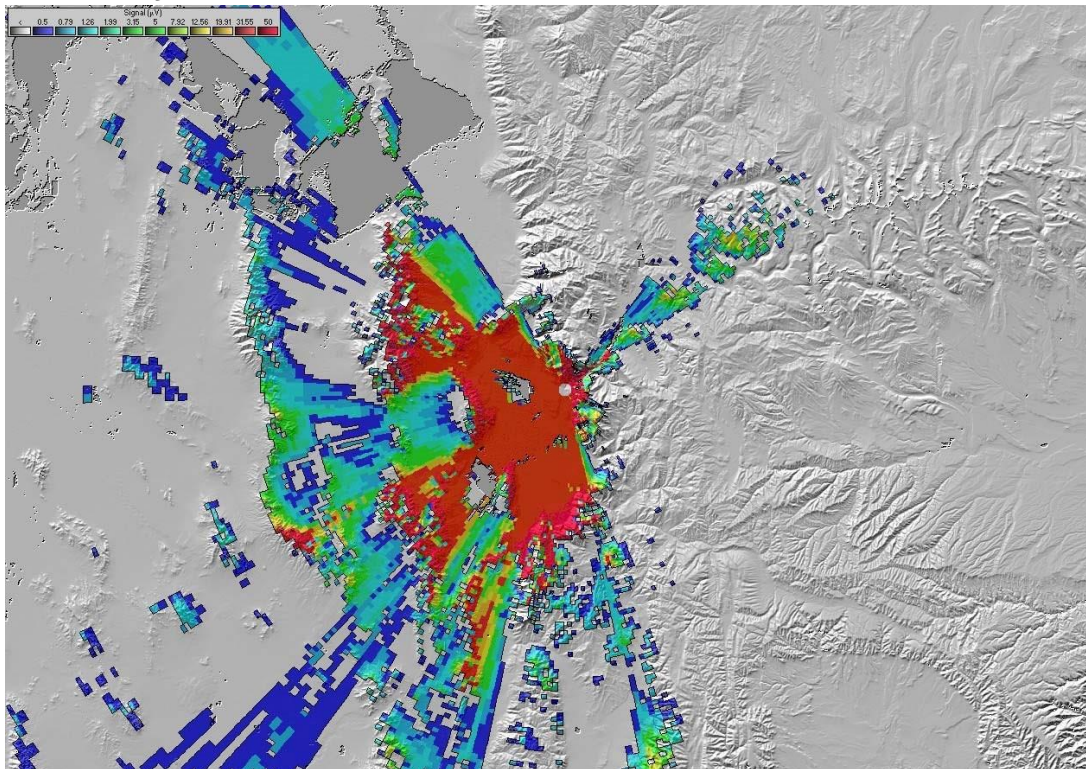


## E.d.Tower Mountain Site





## E.e.Provo Canyon Site





## **F. ARESPACK Operators Manual**

ARESPACK is a multi-window terminal communications program designed to facilitate emergency communications via packet radio. With the built-in editor, the operator can type a message and send it while simultaneously receiving and printing messages from the other station. You do not have to leave the terminal program in order to compose or send a message. You are always "on line" even while entering a message to be sent.

The program uses a series of command keys to perform most of its functions. This simplifies creating, sending and receiving messages. All the program parameters can be pre-set on the computer disk. Starting up the program automatically configures the computer and TNC.

This program allows other packet stations to remotely turn your printer on and off in order to facilitate the reception of messages. Packet messages can be received and printed automatically, without assistance from the local operator. When the remote printer command is received by a station using ARESPACK, the computer will automatically turn the printer on, and send a "Printer ON LINE" verification message back to the station originating the message. If the PRINTER ON command is received and the printer is not available, a message is sent back to the originating station, indicating that the printer is off line and that the message will be lost.

The program generates morse code to inform the operator when certain functions are being performed. Whenever a packet connection is made with the station, the letter "C" will be sounded in morse code. Likewise, when a disconnect occurs, the letter "D" will be sounded. The letter "P" is sounded whenever the printer is toggled on or off, either from the keyboard or remotely. These sounds can draw an operators attention to the computer screen.

A built in message form is part of ARESPACK. This message form is brought into the editor by pressing F6. The message form is "filled in" by using the TAB key to move from field to field. The date, time, and message number are automatically filled in as you press the TAB key. The message form itself can be changed or edited to meet your requirements by bringing it into the editor for modification. The form is then saved with the filename FORM.FRM.

### ***Exiting the Program***

Exit ARESPACK program by pressing SHIFT F10 and then press the TAB key to select "YES". Then press the return or enter key.

### ***Computer Compatibility***

Arespack will only work with IBM compatible computers. You will need one serial port and one printer port. Selection of COM and LPT ports are made from the command line when the program is started. The default serial port is COM1. The default printer port is LPT1. These can be changed to COM2 or LPT2. See Starting ARESPACK.

### ***Required Files***

ARESPACK requires that the file BRUN41.EXE be on the disk and in the same directory in order to run. Five other files should also be in the same directory. Four of these are the help files and are called ARES\_F1.HLP, ARES\_SF1.HLP, ARES\_F3.HLP, and ARES\_SF3.HLP. The fifth file is the message form file FORM.FRM.

## **Computer to TNC Connections**

The ARESPACK program uses XON, XOFF software flow control. A minimum three wire interface is required between the computer and TNC, for RXD, TXD, and ground.

## **TNC Set up Parameters**

When ARESPACK is started, the program sends set-up parameters to the TNC. The TNC should be turned on and connected to the computer BEFORE the ARESPACK program is started. ARESPACK is only designed to work with "TAPR compatible" TNCs. The command syntax is different with non "TAPR compatible" TNCs and ARESPACK may not work properly.

The following commands are sent to the TNC by ARESPACK.

Echo off, AWlen 8, PARity 0, Flow off, Xflow on ,Paclen 128, TXDelay 30, CONperm off, USers 1, Mon on, MCon off, BBSmsg on, MFilter \$2E.

You can change these parameters at any time while using the program, by entering them at the normal command prompt. You can also start ARESPACK without sending the start up parameters by typing NOPARMS at the command line. Example: ARESPACK NOPARMS.

## **Starting ARESPACK**

You can start the program by typing ARESPACK and pressing the return or enter key. There are several parameters that can be set, by the operator, at the time ARESPACK is started.

You can change the COM port and baud rate used by the computer. You can change the printer port. You can also have ARESPACK send a carriage return linefeed to your printer. These parameters are appended to the command line. You control whether or not the TNC is sent initial parameters.

For example, by typing ARESPACK COM2 9600 CRLF and pressing the return key, the ARESPACK program will be started. It will communicate with the TNC via COM port 2 and at 9600 baud. When messages are sent to the printer a carriage return linefeed sequence will be appended to each message. CRLF would be used only if your printer required them. Normally you would not start ARESPACK with CRLF. If your printer prints over the same line of text without advancing the paper, you would then use CRLF.

Create a BATch file to enter command line options. These command line options do not need to be entered in any particular order.

## **Summary of ARESPACK start up commands:**

```
No parameters: Use NOPARMS for no parameters
Baud rate      : (default 4800) 300, 600, 1200, 4800, 9600
COM Port       : (default is COM1) COM2
Printer Port   : (default is LPT1) LPT2
Line Feed      : (default none) CRLF
```

## ***Display Windows***

The program has three display windows; the RECEIVE window, the TRANSMIT window, and the EDITOR window.

The RECEIVE window is always displayed. This window shows all information received from the TNC. Information is displayed and updated even as you enter data or send commands to the TNC.

The TRANSMIT and EDITOR windows overlay one another, and only one of them will be displayed at a time. The F9 key toggles between the two windows.

The information in the EDITOR window is not lost when you toggle to the TRANSMIT window. Neither is the information in the TRANSMIT window lost when you toggle to the EDITOR window. You can be in the EDITOR window composing a message and press F9 to toggle to the transmit window to talk, in real time, and then press F9 to return to the editor and resume composing your message at the point you left it.

When the EDITOR window is displayed the RECEIVE window is reduced in size. This gives you a larger EDITOR window to work with.

### ***Receive Window - details:***

The RECEIVE window is always on and displaying information from the TNC. It will receive and display incoming data even as you use the EDITOR or TRANSMIT windows. It will also continue to display incoming data while the help windows are displayed. A message from another station will be received and printed while you are typing a message to be sent.

The RECEIVE window display can be seen as long as a "pop-up" window is not overlaying the RECEIVE window. These "pop-up" windows prompt the user for input or warn that a disk drive is not available. The pop up windows usually require a yes/no answer, file selection or a simple acknowledgement to continue the program.

Although the RECEIVE window is not displaying the incoming data while a "pop-up" window is on top of it, the TNC, and the communications program will continue to receive data in their buffers. Once the "pop-up" window is gone, the buffered data will be sent to the window. The moral of this story is, do not leave a "pop-up" window covering the RECEIVE window, for more than a minute.

Please note that the "pop-up" HELP windows do not cover the Receive window. They only cover the TRANSMIT and EDITOR window. Therefore, data will continue to be shown in the RECEIVE window while these help windows are displayed.

### ***Receive Reviewing***

There is a review or scroll back feature on the receive window. This is activated by pressing F4. You may leave the review mode by pressing either the F4 or ESC keys. This will return you to normal RECEIVE window operation.

When you enter the review mode, the RECEIVE window will be replaced with a "RECEIVE REVIEW" window. This window is surrounded by a flashing border to remind you that this is not the current

RECEIVE window. You may use the up/down cursor keys to scroll back into the RECEIVE window buffer. The buffer can contain up to 250 lines of the most recently received data.

During "RECEIVE REVIEW" all data for the normal RECEIVE window is held in the buffers of the communication program and the TNC. When you return to normal receive, this data will then be sent to the RECEIVE window.

### ***Transmit Window - details:***

When the program is started, there are two windows displayed on the screen, the Receive window and the TRANSMIT window. The EDITOR window is behind the TRANSMIT window. The TRANSMIT and EDITOR window will exchange places whenever the F9 key is pressed.

When the TRANSMIT window is displayed all keyboard entries will be sent to the TNC. From this window you can control the TNC in the command mode or you can talk to other stations in the converse mode. The terminal program is like any split screen program for the TNC.

Just a reminder: You must send a Control C to enter the command mode. You can return to the converse mode by sending the CONV command or using the alias for this command which is the letter "k". The CONV or "k" commands are immediate.

Commands are issued in the TRANSMIT window. Replies to those commands appear in the receive window. If you are not familiar with a split screen program this may be a bit confusing at first. You will get use to it after a short while. A major benefit of a split screen program is that you can continue to receive data even while you are typing in a reply to the last packet you received.

### ***Editor Window - details:***

The EDITOR window covers the TRANSMIT window. Therefore, only one of these two windows may be displayed at a time. The F9 key toggles between these two windows. The F8 key causes a "pop-up" menu for all editor functions to appear. All commands to the editor are given via this menu.

When you first enter the editor you can immediately start typing your message or you can recall a message form from the disk. Message forms can be created in the editor and stored as a message form. More on this later. The editor will word-wrap so there is no need to press the return or enter key when you reach the end of a line. To start a new paragraph you would press the return or enter key. The editor has one oddity in that it shows a paragraph symbol on the screen when you press the enter or return key. The paragraph symbol will appear on screen for each carriage return. This symbol will NOT be transmitted and/or show up on the screen of the receiving station or on the printed message.

### ***Editor Menu***

All operations in editor are controlled by the editor menu. The editor menu "pops-up" over the EDITOR window when you press F8. The selected menu item is highlighted. You can select a menu item by using the up/down cursor keys or by pressing a key the corresponds the first letter in the menu item. You can leave the editor menu at any time without making a selection, by pressing the ESC key.

"SEND VIA PACKET" is the first menu item. It is the default selection when the menu first appears on the screen. This menu item does exactly what it says. It will send the current contents of the editor to the TNC. If you are currently connected to another station, then that station will receive the contents of your

editor. To choose this selection press the return or enter key and the message will be sent. The contents of the editor remain and could be sent again to the same or another station.

If you are not currently connected to another station then press F9 to toggle to the TRANSMIT window and issue a connect command to the desired station. Once connected, press F8, while still in the TRANSMIT window, to go directly to the EDITOR window and display the editor menu. Since "SEND VIA PACKET" is the default selection, just press the return or enter key to start sending the information in the editor.

"PRINT FILE" This menu selection sends the current contents of the editor to the printer. One note of caution. The printer can receive input from either the EDITOR or the RECEIVE window. The F2 key toggles the printer on/off for data in the RECEIVE window. This function has priority over the editor print function. If the F2 printer function is on, the editor will not send information to the printer until the F2 print function is toggled off.

"READ FILE" Lets you read a file from the disk into the editor. When you select this function you will be presented with a list of files on the current directory. Select a file with the use of the cursor keys. Press the return or enter key to import the file into the editor. The current contents of the editor will be lost (written over) by the incoming file.

If you need to select a file not in the current directory, press ESC and then use the Shift F4 key to change the directory.

"WRITE FILE" You can write (save) to disk the current contents of the editor. Selecting this menu item will present a path specification. If the file has already been named the file name will also be shown along with the path. You can edit both the path and file name if desired. Once you have done this press the return or enter key to write (and save) the file to disk.

This function does not affect the contents of the editor. After a "write" function, the contents of the editor remain unchanged and are available for further editing.

If you are saving a message FORM.FRM file that was filled in, then a message number will be assigned and become part of the file name. If you were saving your second message, for example, then the file name would be FORM.002. You could press return or enter to save the file with the FORM.002 name or you could type over it to change it, and then press return or enter.

"CLEAR EDITOR" Clear editor simply clears the current contents of the editor, providing you with a "clean sheet of paper". Use this to clear the screen after sending or saving your previous message.

### **Remote Control Commands**

The ARESACK program can respond to seven different remote control commands issued by any other packet radio station. These commands bring great power to emergency communications.

The commands must be given at the beginning of a new line (after a carriage return). The commands must be preceded by a period. For example, the remote command to turn a printer ON is ".pon". The commands may be sent in either upper or lower case.

The remote commands are as follows:

```
.pon      - turns ON the remote station's printer
```

```
.poff      - turns OFF the remote station's printer
.ptm       - Stamps the incoming message with date and time
.pff       - sends a form feed to the printer
.aon       - sounds an alert signal to get the operators attention
.link      - the remote station sends "the quick brown fox..."
.ver       - the remote station sends the release version of ARESPACK
.gmsgXXX   - automatically gets a message from the station that you are
connected to. XXX = message number. Example: gmsg004 will get
the file labeled FORM.004. There are no spaces between the "g"
and the first "x" and that zeros are used as fills.
```

When the ".pon" command is received, a check will be made to see if a printer is connected to the computer, and that the printer is "on line" and not indicating a fault condition. If the printer is available the program will then toggle the printer "on", and sound the letter "P" in morse code on the computer. It will also send a message back to the remote controlling station stating that the printer is "ON LINE" along with the date and time.

If the printer is not available then the program will respond by sending a message back to the remote controlling station stating that the printer is "NOT AVAILABLE -- MESSAGE WILL BE LOST" along with the date and time.

Printers should always be left "on line" so as to be ready to receive a message. Since the .pff command should be part of the FORM.FRM the printer will automatically do form feed at the end of the message. Just tear off the received message and go back to your business.

The ".pff" command is usually sent at the end of a message just prior to sending the ".poff" command. The printer will perform a form feed and eject the printed message. The ".poff" command will turn the printer off and is usually sent at the end of a message.

The ".ptm" command will cause ARESPACK to date and time stamp the message as it is received. The date and time are read from the computer. The message should have two time stamps on it. One placed on it at the time it was filled in and the second placed on it, by the receiver, when it is received.

The ability to remotely turn the printer on and off and receive verification means that an operator does not have to be in attendance 100% of the time to receive messages. Remember that ARESPACK will reply to the sending station with two messages. The first is "PRINTER ON" and when the message is received, "PRINTER OFF". If the sending station gets both of these replies then they know that all of the message was printed out. There is no need to call the receiving station for verification.

The ".aon" command causes the computer to make a whelping sound for several seconds. The intent of this feature is to get the operator's attention when they are away from the computer.

The ".link" command is a designed to be a test of the complete link or system. This command will cause the receiving station to send the packet message "The quick brown fox jumped over the lazy dogs back". This is fun to do in the wee hours of the night when there is no traffic and you are bored stiff. It is also an excellent test of the entire system: computer to TNC to radio to antenna via the ether to the other antenna to the radio to the TNC to the computer.

The ".ver" command causes the program to send the version of the ARESPACK software being used. This command only works with version 2.0 or later releases.



The ".pon", ".ptm", ".pff", and ".poff" commands are usually placed in the message form when it is designed. A sample message form which incorporates these commands is shown later in this document.

## **Message Forms**

ARESPACK can import a message form, as a file, into the editor. This form can then filled out using the TAB key to move from field to field. Custom message forms may also be created in the editor and then saved to the disk.

Message forms can be brought into the editor like any other file. Press the F8 (editor menu) key, select "Read File" and press the return or enter key to view the list of available files. All files saved to disk with the extension ".FRM" will be treated as a form. Select the desired form file and press the return or enter key to bring it into the editor.

The file name of the ARESPACK standard message is "FORM.FRM". To use it, you would not use the menu system but just press F6 to automatically import the FORM.FRM file into the editor. When you press the F6 key the program will search the disk for a file with the name of "FORM.FRM". It will automatically import this form into the editor and number it.

As any message form that is brought into the editor is automatically assigned a message number. As forms are recalled into the editor they have their three letter file extension name replaced with a sequential message number. The program scans the disk for the highest numbered message form already saved on the disk and then increments that number by one and uses it on the current message. Either before or after a filled out form file is sent, it must be saved to disk using the "WRITE" command in the editor menu (F8).

However, the ARESPACK standard message form can be saved a little differently than other forms. When you have completed filling in the standard message form, press the F10 key to automatically save the file to disk and send it via packet. The F6 and F10 keys allow you to be very efficient in message sending.

## **Sample Message Form**

In the message form the program searches for the next occurrence of a colon ":" each time the TAB key is pressed. Any number of colons may be used in a message form. If the colon is followed immediately by a special character then the date, time, or message number will automatically be inserted as you press the TAB key.

Below is an example of a message form. The comments in parentheses explain the functions of the commands and are not part of the form.

```
.pon  (commands the receiving computer to send data to its printer)
.ptm  (date and time stamp will be printed here as it is received)
*****
      S A M P L E   M E S S A G E   F O R M
-----
DATE:@                                MESSAGE NUMBER:#

TIME:%    (Remember that the DATE, TIME, and MESSAGE)
          (fields will be filled in automatically by)
TO:       (the program as you TAB to the fields.    )
          (The @ symbol will insert the date, the # )
FROM:     (will cause the next available msg number )
```

(to be inserted. The % symbol is for the )  
SUBJECT: (time and the & will cause a CR and indent)

MESSAGE TEXT:&

SIGNATURE:

-----

OPERATOR:

End of message

\*\*\*\*\*

.pff (sends a form feed to the printer) .poff

(causes the computer to stop sending to the printer)

## ***How to Fill In a Message Form***

Press F6 to import the message form. When the message form is brought into the editor it will appear with only the top portion of the form visible. The editor window can display only fourteen lines of text at a time. The cursor will be positioned at the top left corner of the form.

The form is "Filled In" by repeatedly pressing the TAB key. The TAB key moves you from field to field. You will need to resist the urge press the ENTER key to move from field to field. If you accidentally press the RETURN or ENTER key when you meant to press the TAB key, don't worry, just press the BACKSPACE key to recover and then press the TAB key.

Pressing the TAB key will sequentially position you at the DATE, MESSAGE NUMBER and TIME fields. Each press will automatically place data in these fields as you TAB to them.

Press TAB again and the cursor will be positioned just after the colon beside the word "TO". Now type in the name of the person or agency that is to receive the message. Press the TAB key again and type in the name of the person or agency originating the message. Press the TAB key and type in the subject.

Now the next press of the TAB will cause something a little different to occur. The "&" symbol following the colon after the words "MESSAGE TEXT" will cause the cursor to be placed a line below the words "MESSAGE TEXT" and indented three spaces. This sets apart the actual text of the message making it easier to identify.

Because the editor is in the insert mode, you just type in the message. The "SIGNATURE" line of the message form will be "pushed down" as you type, expanding to meet the size requirements of the message. The editor will word-wrap as you reach the end of the line. Please notice that you should be "pushing" an editor paragraph character in front of your typing. This will help you to see the current location of the cursor. The cursor is shared with the receive window and can disappear for a moment or two.

After completing the message text press the TAB key once again to go to the "SIGNATURE" line. Enter the signature and you have completed filling out the form.

## ***Sending a Message to Another Station***

After you have filled in a message form you will want to send it to another station. This process is very simple. First you must connect with the other station. If you are not already connected you would press



F9 to get into the TRANSMIT window and issue a connect command. Once this connection is established just push the F10 key.

Your message is automatically saved to disk and then sent to the other station. As you send the message you need to watch for the automatic reply of the receiving station. You should receive two replies from the receiving station. The first reply should state "PRINTER ON LINE" along with a date and time stamp. Should you instead, receive a reply that states "PRINTER OFF LINE MESSAGE WILL BE LOST", you will need to contact the other station and have them fix their printer before you re-send the message.

The second reply should state "PRINTER NOW OFF" along with date and time stamp. If you have received both a "PRINTER ON LINE" and a "PRINTER OFF LINE" reply your message has been successfully received and printed.

### ***Summary of Sending a Message***

Get and fill out form

- 1) Press F6 to bring message form into editor
- 2) Press TAB key to fill in DATE, TIME, and MSG number
- 3) Press TAB key and fill in TO, FROM, and SUBJECT
- 4) Press TAB key and type out MESSAGE text
- 5) Press TAB key and fill in SIGNATURE and OPERATOR

Save and Send form

- 6) Press F10 to save to disk and send message to connected station
- 7) Watch for PRINTER ON LINE followed by PRINTER OFF LINE replies.
  - 8) Press F6 to get a new form and start over again

## ***Help Windows***

The text for the help windows are stored outside of the ARESPACK program. When you press one of the help keys the program will read the help file from the disk and display it in the help window. There will be a slight delay as this occurs.

The help files on the disk are stored in generic ASCII text format. You can write your own help files. You can even use the editor built into ARESPACK to write these files. You may need to remove or rename the existing help files so that you can name your new help files with the appropriate file name.

The files are read into the help window one line at a time. A line ends at a carriage return. The help window will display a maximum of 78 characters on a line. The help window files must be on the same disk directory as the ARESPACK program.

## ***Macros***

The ARESPACK program can perform up to ten MACROS. These macros can be used to import text into the TRANSMIT or EDITOR windows. Macros can be assigned to ALT function keys 1 to 10. The macro is executed by holding the ALT key and pressing one of the ten function keys.

These macros can be written in the editor and then saved as a file using the "WRITE" command in the editor menu. The macro is written as a file with the name "ALT.X" where X is the number of the function key that invokes the macro. For example: when you press the ALT F10 key the program will look for a file with the name of "ALT.10".

The file will be imported into either the TRANSMIT or EDITOR window depending upon which window is currently being displayed on the screen.

Macros can be used for "Connect strings", "Agency addresses", "signatures", or any repetitive phrase.

## ***Other Function Keys***

F1 - General Help window. Everything you ever wanted know about ARESPACK can be found in this window (well almost). This window provides reminders of key ideas and operating instructions. Read this help window at least once to become familiar with its contents. The RECEIVE window will continue to be updated while this window is being displayed so take all the time you need.

SHIFT F1 - TNC Commands Help window. A summary of TNC commands (TAPR nomenclature) is contained in this window. Commands are listed alphabetically. The RECEIVE window will continue to be updated while this window is being displayed so take all the time you need.

F2 - Printer ON/OFF. This key will alternately turn the printer on and off to print the data that is being sent to the screen. The bottom line of the screen has a printer status indicator. When it indicates that the printer is ON then all data sent to the screen will also be sent to the printer. The letter "P" is sounded in morse code every time this function is toggled. The F2 key and the remote control commands ".pon" and ".poff" perform the same function.

SHIFT F2 - Morse Code ON/OFF. Turns on and off the morse code announcements of printer on/off, connects and disconnects.

F3 - Frequencies Help window. This window provides on-line quick reference listing of radio

frequencies. Can be updated by the user.

SHIFT F3 - ARES DATABASE program help window. This is an on-line reference for the packet radio database program "ARESDATA" a database program that facilitates tracking disaster victims. Not available on this disk.

F4 - Receive Review. Allows the operator to scroll back through the receive buffer.

SHIFT F4 - Change Directory. For simplicity and safety of the messages, ARESPACK works within only one directory at a time. To change a directory press F4 and then type in the new directory.

F5 - Not in current use.

SHIFT F5 - Terminal Mode ON/OFF. Two computers may be connected to one TNC via special RS232C combining circuit. Two computers allow message entry by two operators. This would be advantageous in an EOC environment. However, both computers will try to respond to remote commands IE: .pon and .poff etc. The computer that is being used as the second terminal should be placed in the TERMINAL mode by pressing Shift F5. That computer will not respond to any remote commands.

When placed in the TERMINAL mode, the word TERMINAL will appear in the upper right hand corner of the screen. The word "term" will be sounded in morse code when Shift F5 is pressed. To get out of TERMINAL mode just press Shift F5 again.

The main computer should be connected to the printer and should not be placed in the TERMINAL mode.

F6 - Get Form. When you press F6 several things happen. If you are not already in the EDITOR window you will be switched to the Editor. The program will then look for a file on the disk with the title of FORM.FRM and bring it into the editor window. It will automatically name this new file FORM.001 or FORM.002 or FORM.003 etc. It will increment the extension of the file name by one(1) each time you bring in a new form.

The FORM.FRM file is a special case as far as files using the .FRM extension goes. It uses the same TAB function to TAB to the next field and automatic date and time stamping that is used in all .FRM files. However, it is the only .FRM file that is retrieved by the F6 key. All other .FRM files must be brought in via the F8 editor menu and READ FILE menu selection.

If you are using a standard file format for your message traffic then you should create a form file and name it FORM.FRM. (The existing one can be modified.) Then, just by pressing the F6 key the file will be imported into the editor, stamped, and ready to be filled in. Upon completion of filling in the form, press the F10 key to automatically save the message to disk and to send it via packet. Then press F6 to bring up a new form to fill in.

SHIFT F6 - Delete File. This function was deliberately assigned to a shift key. This allows you to delete a file in the current directory. A list of files will be displayed. Highlight the filename of the file you wish to delete and press return or enter. You may press the ESC key to quit this function at any time.

F7 - Capture to a File. When you press this key, a file with the name of "TEMPCAP" will be opened on the current disk drive. As data is written to the screen it will also be written to this file on the disk. You may pause the capture process at any time by pressing F7 once again. To resume the capture process press F7 again. The bottom line on the screen indicates the status of the capture function. To turn capture off press Shift F7.

SHIFT F7 - Capture OFF. When you turn the capture function off you will be prompted with the question - Do you wish to Save the capture file? If you select "YES" you will then be prompted for a file name to which the capture information will be saved. After you enter the new name the "TEMPCAP" file will be closed and renamed. If you selected "NO" then the temporary file will be erased from the disk.

F8 - EDITOR Menu. This key will display the EDITOR window and cause a "Pop-Up" menu to appear. This menu contains all the editor functions.

F9 - TRANSMIT/EDITOR window toggle. This key alternately toggles the display between the TRANSMIT and the EDITOR window. While in the TRANSMIT window all keyboard entries are sent to the TNC. While in the EDITOR window all keyboard entries are sent to the editor and NOT to the TNC.

SHIFT F9 - REPEATER mode toggle. This key will toggle you in and out of the repeater mode. Use the repeater mode when you are packeting through a voice repeater. The AXD parameter is set to 6(0.6 seconds) and the AXH is set to 15 (1.5 seconds). AXD delays the sending of the packet until the repeater has had time to key-up. AXH is the hang time of the repeater. It allows packets to be sent without the AXD delay while the repeater is still keyed up.

F10 - Save and Send. Pressing the F10 key performs both of these operations sequentially. First it saves the message to the disk. If the message has not already been given a file name (such as FORM.001) it will prompt you for a file name. After saving the message to the disk it will send the message via packet to a connected station.

SHIFT F10 - Quit the program. A window will appear asking if you wish to quit the program. Press the TAB key to select "YES" followed by the return or enter key. If you do not wish to quit then just press the return or enter key to return to the program.

### ***Sharing ARESPACK with others***

"ARESPACK" was written for the express purpose of facilitating emergency radio communications via packet radio by Utah County Amateur Radio Service.

Utah County A.R.E.S wishes to share this program with all who participate in Amateur Radio Emergency Service. Permission is granted for NON-PROFIT, NON-COMMERCIAL use of this program and its documentation. Please feel free to copy this program and share it with fellow members. The following files must be copied for program operation:

ARESPACK.EXE - ARESPACK Program

BRUN41.EXE - Run time library for ARESPACK

FORM.FRM - Master Message Form

ARES\_F1.HLP - Text file for F1 help screen - General Help

ARES\_F3.HLP - Text file for F3 help screen - Frequencies Help  
ARES\_SF1.HLP - Text file for Shift F1 help screen - TNC Commands Help  
ARES\_SF3.HLP - Text file for Shift F3 help screen - Not currently used.  
ARES\_SF8.HLP - Short form instructions. Can be printed from the editor.  
The following files are not required for program operation.  
ARESPACK.DOC - Instruction Manual for ARESPACK. Generic ASCII text. 18 pages  
ARESPACK.WP - Instruction Manual for ARESPACK. WordPerfect version. 18 pages  
MESSAGE.BAT - Start-up file for ARESPACK.  
README - A short information file about starting-up ARESPACK.

## **G.Revision History**

- 20060102-First working draft
- 20060129-First Released version (Andrew, W7IE)
- 20060501-Second Released version (Andrew, W7IE)
- 20070115-Updated for 2007 leadership (Bryan, AD7GI)
- 20120415-Updated for 2012 leadership (Michael, W7MJP)
- 20170101-Updated for 2017 leadership (Michael, W7MJP)
- Jan2019-Updated for 2019 leadership & agencies (Michael, W7MJP)