AMATEUR RADIO PUBLIC SERVICE COMMUNICATIONS

Resource Function Guide - For ARES, RACES, EmComm and Public Service Communications

This Guide is an aid in defining a communications resource standard for Amateur Radio communicators

Amateur Radio Resource Typing identifies an amateur radio communicator function types that enables Emergency Managers, Staging Managers, EmComm Leadership and Event Coordinators to identify, request and receive standardized amateur radio resources in support of an emergency, disaster or event. This guide identifies resource types and equipment for each function amateur radio communicators typically perform. By implementing Resource Typing, amateur radio resources are easier to request and supply allowing assignments to be filled quickly.

Amateur Radio Resource[1] (ARR) Communications Types and Equipment Kits

Basic Resource Functions   ◇ All ARR kits are portable[2] ◇

◇ **Amateur Radio Resource - Type S**   Function = Shadow | VHF/UHF

ARR-S - Denotes an amateur radio communicator and listed equipment to function as a "foot mobile" amateur radio station shadowing a designated official.   ✱ *Carried by all Resource Types*

- ☐ Hand-held, 2 Meter (2M/70cm Recommended) FM synthesized transceiver with programmable CTCSS, 3.5 watts minimum output and earphone or headset attachment (VOX disabled)
- ☐ Adapter cable/bracket or magnetic mount antenna for temporary vehicle duty with shadow

◇ **Amateur Radio Resource - Type M**   Function = Mobile | VHF/UHF

ARR-M - Denotes an amateur radio communicator and listed equipment functioning as a mobile VHF/UHF amateur radio station temporarily installed in a vehicle (car, truck, van, bus, boat, Aircraft, etc.).

- ☐ 2 Meter (2M/70cm recommended) transceiver with programmable CTCSS, 25 watts minimum output
- ☐ Gain antenna (dual-band recommended) with magnetic base with 15' of coax cable to PL259 connector

◇ **Amateur Radio Resource - Type B**   Function = Base | VHF/UHF

ARR-B - Denotes an amateur radio communicator and listed equipment functioning as a portable amateur radio station temporarily set-up at remote locations providing communications to/from field bases, Net Control, EOC, Command Post, Shelter, Staging or Rest/Aid Station, etc.

- ☐ 2 Meter (2M/70cm Recommended) FM Transceiver with programmable CTCSS, 25 watts minimum output
- ☐ Gain antenna (dual band recommended) with mast and support, 25' minimum coax cable with PL259 connectors, PL258 coupler (Additional 25' or longer RG-8X or RG-8 coax cable recommended)

◇ **Amateur Radio Resource - Type H[ ]**   Function = Long-Range Communications | HF [2]

ARR-H[ ] - Denotes an amateur radio communicator and listed equipment functioning as a portable HF amateur radio station temporarily set-up at remote locations providing intermediate to long range communications.

A General Class or higher License is required. - **[**Sub Functions**]**: **f** - Field; **m** - Mobile (for in vehicle use)

- ☐ All modes High Frequency SSB DC Transceiver with auto-tuner, 100 Watts output minimum
- ☐ HF Antenna(s), mast and support accessories, 50' coax cable with PL259 connectors. (Additional 50' – 100' RG-8X or RG-8 coax cable recommended) PL258 coupler with each coax cable. Miscellaneous N/UHF connector and power adapters. Common bands are 20, 40, 60, 80 & 160 meters. 40M, 60M & 80M preferred for EmComm support. NVIS capability recommended for tactical operations

◇ **Common items included in all Amateur Radio Resource equipment kits**

- ☐ Amateur radio license, badge/ID, photo driver's license and Event/Incident/Exercise instructions
- ☐ Operating instructions or quick guide for transceiver(s) and auxiliary equipment
- ☐ Writing material; pen, pencil, writing pad, and message forms (ICS-213, 214, 205, 309, Radiogram, etc.)
- ☐ External speaker with 1/8" phone plug and earphones or headset attachment with VOX disabled
- ☐ GPS unit (portable with USB capability), Duct tape, miscellaneous connector adapters
- ☐ Portable power source meeting equipment needs for a minimum of 12 hours of typical operation (Medium to Long Assignments may require additional power sources) (optional AC Power Supply)
- ☐ Vehicle power port / power adapter(s), equipment fuses and power cords with all equipment ARES/RACES standardized (Powerpole™, PL-259, 1/8" speaker plug) + small tool kit
- ☐ Comfort items; First Aid, food, water, optional chair and table
- ☐ Mission suitable personal support gear (Refer to local group standard kit lists; adjust for duration/season)

◇ **Amateur Radio Resource Operator**[3] **– Type ARRO[ ]**   **[**Any Basic or Specialty Function**]**

ARRO-[ ] – An amateur radio communicator without radio equipment, capable of operating the designated resource functions. Append function designator to ARRO (i.e., ARRO-B) An ARRO will always carry a ARR Common items kit.

◇ **Assignment Durations:**   ☐ **Short** – 12 hours or less in duration (Shift)   ☐ **Medium** – 12 to 72 hour duration (Shifts)
              ☐ **Long** – 72 hour or greater duration (Typically an away from home base assignment)

✱ **Typed Resource Function Team(s) can be formed by grouping a set of Amateur Radio Resources**
          ◇ *This Guide is an aid in defining amateur radio communications resource standards* ◇

AMATEUR RADIO PUBLIC SERVICE COMMUNICATIONS

Specialty Resource Guide - For ARES, RACES, EmComm and Public Service Communications

Amateur Radio Resource[1] (ARR) Communications Types and Equipment Kits

Specialty Resource Functions ◇ All ARR kits are portable ◇

◇ Amateur Radio Resource - Type TM[ ]   Function = Tactical Data Messaging | VHF/UHF

ARR-TM[ ] - Denotes an amateur radio communicator and listed equipment functioning as a "last mile" (Tactical) messaging system providing traceable messaging and/or "radio email" with attachments.

> **[**Sub Functions**]: w** - Winlink capable; **u[ ]** - User group's messaging software [specify if known]

☐ **ARR-Type B** Equipment Kit
☐ Terminal Node Controller (TNC) or soundcard implementation with necessary software, data cable(s), accessories, and documentation
☐ Computer (laptop or other w/min 2 serial ports or USB to serial adapters) suitable for portable operations, running mission applicable amateur radio software, with minimum of 25' CAT5 cable – (Printer, printing supplies, Scanner, AC adapter recommended), 16GB (min) Flash Drive
☐ Software: Winlink Express program and/or user group's standard Data program(s)

◇ Amateur Radio Resource - Type SM[ ]   Function = Strategic - Long Range Data Messaging | HF

ARR-Type SM[ ] - Denotes an amateur radio communicator and listed equipment functioning as a HF intermediate to long range, Strategic, data messaging system providing traceable messaging and/or "radio email" with attachments. (General Class or higher License required for operation)

> **[**Sub-Functions**]: p -** Pactor; **f** - forwarding station[2]; **m** - MARS; **s** - Soundcard (VARA/FLDIGI/FSQ/JS8Call/PSK31, etc.)

☐ **ARR-Type TM[ ]** equipment Kit + ☐ **ARR-Type H**[**f**] equipment Kit
☐ Pactor II, III or IV modem or soundcard implementation required for Sub Functions **[f], [p] & [m]** with necessary software, data cable(s), accessories, and documentation
☐ Winlink suite of programs and/or programs supporting user group's operational modes
☐ Soundcard interface w/accessories to support sound based communications mode**[s]**

◇ Amateur Radio Resource - Type DA   Function = Data - APRS Operations | VHF/UHF

ARR-DA - Denotes an amateur radio communicator and listed equipment implementing a real-time tracking system providing officials a view of "tagged" assets. Data is received from ARR-RT tagged units direct or via the Automatic Positioning Reporting System.

☐ **ARR-Type B** equipment
☐ Terminal Node Controller (TNC) or soundcard implementation with necessary cables, accessories, documentation and 16gB Flash Drive
☐ Computer (laptop or other) suitable for portable operations, running mission applicable amateur radio software, with minimum of 25' CAT5 cable and min 16GB (min) Flash Drive
☐ Software: User group APRS program with digipeat function

◇ Amateur Radio Resource - Type RT   Function = Data - Resource Tracker| VHF/UHF

ARR-RT - Denotes amateur radio equipment implementing an asset tracker. This resource is attached to designated assets and transmits position data for monitoring with the AAR-DA resource.

☐ Self-contained, pre-configured and packaged portable equipment unit containing transceiver, antenna, Global Positioning Satellite (GPS) unit, APRS tracking encoder, power unit, and necessary internal/external cabling

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◇ Amateur Radio Resource - Type DN[ ]   Function = Data Networking | MESH / LAN / WiFi

ARR-DN[ ] - Denotes amateur radio equipment implementing the communications function for a 802.[b/g/n] resource providing a wireless LAN node(s) and "WiFi" in support of event or incident communications. Equipment is configured by an Amateur Radio communicator.

> **[**Sub Functions**]: h** – HSMM MESH; **a** – AREDN MESH; **c** – Commercial

☐ Self-contained wired or wireless 802.11[ ] capable unit functioning as a Bridge/Router/Access Point/MESH Node with antenna providing Ethernet or WiFi to the user. Capable of operating on +12 VDC power
☐ Minimum of 50' Cat5 cable with POE interface (NY Standard)
☐ Support equipment (Mast & stand, aiming device, CAT5 cable jumpers, LAN hub/switch, power etc.)

Notes: 1. Always assign as a team of two unless for rotation.
2. Local VHF/UHF data to/from out of area via HF stations requiring Pactor III, IV or HF soundcard system
3. To request a support/relief operator, See Amateur Radio Resource Operator (ARRO)

◇ **Assignment Durations:**   ☐ **Short** – 12 hours or less in duration (Shift)   ☐ **Medium** – 12 to 72 hour duration (Shifts)
☐ **Long** – 72 hour or greater duration (Typically an away from home base assignment)

◇ *This Guide is an aid in defining amateur radio communications resource standards* ◇