AMATEUR RADIO PUBLIC SERVICE COMMUNICATIONS

Resource 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 amateur radio communicator function types and enables Emergency Managers, Staging Managers, EmComm Leaders 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.

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

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

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

ARR-S - Denotes an amateur radio communicator and listed equipment functioning 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 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, CP, 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 coax 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**

☐ Copy of amateur radio license, badge/ID, and photo driver's license
☐ Writing material; pen, pencil, writing pad, and message forms (ICS-213, 214, 205, Radiogram, etc.)
☐ Transceiver operating instructions or summary guide
☐ External speaker with 1/8" phone plug and earphones or headset attachment with VOX disabled
☐ Portable power source meeting equipment needs for a minimum of 12 hours of typical operation
(Medium to Long Assignments may require additional power sources)
☐ Vehicle power port and clip lead power adapters, equipment fuses and power cords with all equipment ARES/RACES standardized (Powerpole™, PL-259, 1/8" speaker plug)
☐ Duct tape, miscellaneous adapters and comfort items (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 assignment)

* Resource Amateur Radio Operators are to be proficient in the designated Resource Function
◇ *This Guide is an aid in defining amateur radio communications resource standards* ◇

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Specialty Resource Functions ◇ All ARR Resource kits are portable or mobile

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

◇ 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-B** Equipment Kit
☐ Terminal Node Controller (TNC) with necessary data cables, accessories, and documentation
     (A soundcard implementation may be used in lieu of a hardware TNC at user group's discretion.)
☐ 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), min 16GB 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-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** - sound card (ARDOP/VARA/FLDIGI/PSK31, etc.)

☐ **ARR-TM[ ]** Equipment Kit .
☐ **ARR-H**[**f**] Equipment Kit
☐ Pactor II or III modem required for Sub Functions **[f], [p] & [m]** plus data interface cable(s)
☐ Winlink Suite of Programs and/or programs supporting user group's operational modes
☐ Sound Card Interface w/accessories if required 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-B** equipment
☐ Terminal Node Controller (TNC) 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 Flash Drive
☐ Software: User group APRS program with digipeating capability

◇ Amateur Radio Resource - Type RT   Function = Data – Resource Tracking| 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. Equipment is configured by an amateur radio communicator.

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

◇ 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 team of two unless for rotation.
     2. Local VHF/UHF data to/from out of area via HF stations requiring Pactor II or III
     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 assignment)

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