

DOCUMENT TOPIC

ZRICS CATEGORY "Z" EQUIPMENT RESOURCE CODES (E-CODES)

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ZR SECTION(S): ☐ ZR1/CMD ☐ ZR2/OPS ☐ ZR3/PLN ☒ ZR4/LOG ☐ ZR5/FIN**TO:** All V-C-N "Mutual Aid" and ZRICS Participating Organizations**FROM:** Volunteer Communications Network / ZR(ICS) Development Team (ZRDT)**E-CODES: TRANSCEIVER RESOURCES**

Initial standardization of ZRICS resource E-codes will focus on VHF (14X MHz) and UHF (44X MHz) operations of the Amateur Radio Service (ARS) supplemented by VHF (MURS), 220 MHz ARS capability and UHF operations of the General Mobile Radio Service (GMRS) and the Family Radio Service (FRS).

ZFMB Fixed (Base) Station ARS Multi-Band VHF / UHF (Note 1)
 ZFS1 Fixed (Base) Station ARS Single-Band VHF (14X MHz)
 ZFS2 Fixed (Base) Station ARS Single-Band 220 MHz
 ZFS4 Fixed (Base) Station ARS Single-Band UHF (44X MHz)
 ZFSG Fixed (Base) Station GMRS Single-Band UHF
 ZFVM Fixed (Base) Station MURS Single Band VHF
 ZMMB Mobile ARS Multi-Band VHF / UHF (Note 1)
 ZMS1 Mobile ARS Single-Band VHF (14X MHz)
 ZMS2 Mobile ARS Single-Band 220 MHz
 ZMS4 Mobile ARS Single-Band UHF (44X MHz)
 ZMSG Mobile GMRS Single-Band UHF
 ZMVM Mobile MURS Single-Band VHF
 ZTMB Tactical (Field) ARS Stationary Multi-Band VHF / UHF (Note 1)
 ZTS1 Tactical (Field) ARS Stationary Single-Band VHF (14X MHz)
 ZTS2 Tactical (Field) ARS Stationary Single-Band 220 MHz
 ZTS4 Tactical (Field) ARS Stationary Single-Band UHF (44X MHz)
 ZTSG Tactical (Field) GMRS Stationary Single-Band UHF
 ZTVM Tactical (Field) MURS Stationary Single-Band VHF
 ZPMB Portable (Handi-Talkie) ARS Multi-Band VHF / UHF (Note 1)
 ZPS1 Portable (Handi-Talkie) ARS Single-Band VHF (14X MHz)
 ZPS2 Portable (Handi-Talkie) ARS Single-Band 220 MHz
 ZPS4 Portable (Handi-Talkie) ARS Single-Band UHF (44X MHz)
 ZPSG Portable (Handi-Talkie) GMRS Single-Band UHF
 ZPSF Portable (Handi-Talkie) FRS Single-Band UHF
 ZPSC Portable ARS VHS/UHF Shadow Configuration (Ear Phone+Microphone)
 ZPVM Portable (Handi-Talkie) MURS Single Band VHF

FRS/GMRS "Combination" ("combo") transceivers will **NOT** qualify as a portable (handi-talkie) for GMRS field deployment operations. Combo transceivers do, however, meet the requirement for tactical field assignments requiring FCC-designated Family Radio Service frequencies.

E-CODES: REPEATER DUPLEX RESOURCES

Duplex repeaters operated under Volunteer Communications Network (V-C-N) guidelines are designated into three (3) standard categories for purposes of resource ordering and deployment assignment: Fixed, Portable and Tactical. Programmed to utilize designated duplex repeater frequency "pairs", they receive on one frequency and transmit on another. (Refer to Document ZR4-08AA-M for details on recommended programming CTCSS tone for repeater duplex resources to enhance mutual aid efforts.)

To maximize flexibility and rapid deployment (connect) capability in the field, all portable and tactical repeaters with an N-type connector must have a "N" Male – UHF Female adapter connector inserted into the N-type connector so deployment can be accomplished whether or not the coax cable has N-type or UHF connections.

Antenna and coax cable resources must be ordered (requested) separately.

ZDF1	Duplex Repeater Fixed 120v AC ARS VHF (Note 2)
ZDF4	Duplex Repeater Fixed 120v AC ARS UHF (Note 2)
ZDFG	Duplex Repeater Fixed 120v AC GMRS UHF (Note 2)
ZDP1	Duplex Repeater Portable 120v AC ARS VHF (Note 3)
ZDP4	Duplex Repeater Portable 120v AC ARS UHF (Note 3)
ZDPG	Duplex Repeater Portable 120v AC GMRS UHF (Note 3)
ZDT1	Duplex Repeater Tactical 12v DC ARS VHF (Note 3)
ZDT4	Duplex Repeater Tactical 12v DC ARS UHF (Note 3)
ZDTG	Duplex Repeater Tactical 12v DC GMRS UHF (Note 3)

Fixed duplex repeaters ("ZDF")

- ☐ Require 120-volts continuous power source of alternating current (AC).
- ☐ Are strategically deployed at fixed locations and should be used "in place" and not considered for incident support relocation or movement.

Portable duplex repeaters ("ZDP")

- ☐ Require 120-volts continuous power source of alternating current (AC).
- ☐ Can be quickly relocated and for rapid deployment to support wide-area tactical operations.

Tactical duplex repeaters ("ZDT")

- ☐ Require 12-volt direct current (DC) and provide a low power output capability for quick relocation to support local area tactical operations.
- ☐ Elevated antenna heights may increase communications coverage area.

E-CODES: COAX / CABLE RESOURCES

Equipment resources in this section will be reviewed for refinement and increased accuracy as development of this project continues.

ZC2U	Antenna Coax Cable 25 feet length UHF connectors on both ends
ZC5U	Antenna Coax Cable 50 feet length UHF connectors on both ends
ZC7U	Antenna Coax Cable 75 feet length UHF connectors on both ends
ZCCU	Antenna Coax Cable 100 feet length UHF connectors on both ends
ZC2N	Repeater Hardline Cable 25 feet length N connectors on both ends
ZC5N	Repeater Hardline Cable 50 feet length N connectors on both ends
ZC7N	Repeater Hardline Cable 75 feet length N connectors on both ends
ZCCN	Repeater Hardline Cable 100 feet length N connectors on both ends

E-CODES: ANTENNA RESOURCES:

ZAF1	Antenna Fixed (External) ARS VHF (14X MHz) (Reserved)
ZAF2	Antenna Fixed (External) ARS 220 MHz (Reserved)
ZAF4	Antenna Fixed (External) ARS UHF (44X MHz) (Reserved)
ZAFM	Antenna Fixed (External) ARS Multi-Band VHF / UHF (Reserved)
ZAFG	Antenna Fixed (External) GMRS UHF (Reserved)
ZAG1	Antenna Magnetic -Mount ARS VHF (14X MHz) (Reserved)
ZAG2	Antenna Magnetic -Mount ARS 220 MHz (Reserved)
ZAG4	Antenna Magnetic-Mount ARS UHF (44X MHz) (Reserved)
ZAGM	Antenna Magnetic-Mount ARS Multi-Band VHF / UHF (Reserved)
ZAGG	Antenna Magnetic-Mount GMRS UHF
ZAMM	Antenna Mobile Permanent-Mount ARS Multi-Band UHF / VHF (Reserved)
ZAM1	Antenna Mobile Permanent -Mount ARS VHF (14X MHz) (Reserved)
ZAM2	Antenna Mobile Permanent -Mount ARS 220 MHz (Reserved)
ZAM4	Antenna Mobile Permanent-Mount ARS UHF (44X MHz) (Reserved)
ZAMG	Antenna Mobile Permanent -Mount GMS UHF (Reserved)
ZAR1	Antenna Repeater ARS VHF (14X MHz)
ZAR2	Antenna Repeater ARS 220 MHz
ZAR4	Antenna Repeater ARS UHF (44X MHz)
ZARG	Antenna Repeater GMRS UHF
ZAT1	Antenna Tactical (Portable) ARS Single-Band VHF (14X MHz)
ZAT2	Antenna Tactical (Portable) ARS Single-Band 220 MHz
ZAT4	Antenna Tactical (Portable) ARS Single-Band UHF (44X MHz)
ZATM	Antenna Tactical (Portable) ARS Multi-Band VHF / UHF
ZATG	Antenna Tactical (Portable) GMRS UHF

E-CODES: DIGITAL (PACKET) RESOURCES

ZF11	(Digital) Packet Fixed Station 1200 baud ARS VHF
ZF14	(Digital) Packet Fixed Station 1200 baud ARS UHF
ZF94	(Digital) Packet Fixed Station 9600 baud ARS UHF
ZT11	(Digital) Packet Tactical Station 1200 baud ARS VHF (Note 4,5,6)
ZT14	(Digital) Packet Tactical Station 1200 baud ARS UHF (Note 4,5,6)
ZT94	(Digital) Packet Tactical Station 9600 baud ARS UHF (Note 4,5,6)
ZW11	(Digital) WL2K Tactical Station 1200 baud ARS VHF (Note 4,6)

ZW14 (Digital) WL2K Tactical Station 1200 baud ARS UHF (Note 4,6)
 ZW94 (Digital) WL2K Tactical Station 9600 baud ARS UHF (Note 4,6)

IMPLEMENTATION

Information sharing within and/or among V-C-N "mutual aid" and ZRICS participating organizations is an important aspect of standardization. Using a standardized format allows one organization to "copy and paste" the information from a different together and create a consolidated report without delay or without jeopardizing data format or accuracy.

On a larger scale, operational area (OA)-based reporting systems will be delayed if different formats are used by each organization. Information sharing is a high priority within both V-C-N and ZRICS initiatives.

All documents are created using the Microsoft Office 2000 suite of applications. The vast majority of documents are created from Microsoft Word 2000, spreadsheets from Microsoft Excel 2000, and a few are created from Microsoft Publisher 2000.

V-C-N document "ZR4-08AB-S" (spreadsheet) is available (upon request) for organizations to identify these resources based on individual member's FCC ARS amateur radio callsign and/or FCC GMRS callsign. Usage memorandum ZR4-08AB-M provides background information regarding the spreadsheet and its intended use.

V-C-N document "ZR4-08AD-S" (spreadsheet) is available (upon request) for organizations and Emergency Communications Teams (ECTs) to identify incident resources on hand, requested and needed for subsequent operational periods. V-C-N document "ZR4-08AD-M" (memorandum) details background information regarding the spreadsheet and its intended use.

Notes:

1. The term "multi-band" shall mean any dual-band, tri-band, quad-band or other multi-band radio with designated single-band VHF (ARS1) or single-band UHF (ARS4) transmit/receive capability for ARS operations.
2. *In general, a single (only one) "hot" tactical or command frequency will be assigned to a radio operator to meet incident communications operations requirements.*
3. No battery back-up (uninterruptible power source or "UPS") is required to qualify, but Logistics Sections and exercise planners of ZRICS participating organizations are encouraged to be familiar with OA resources with "UPS-N" (no) or "UPS-Y" (yes) capability.
4. Frequency and tone programming information must be provided in advance and be identified on any/all resource ordering requests.
5. Need to identify a standard for software applications when more than one operational period is anticipated on the incident.
6. All WL2K (Winlink 2000) tactical field and RMS packet stations "MUST" have the most recent updates installed and tested prior to departure from home base for designated assignment.

For field deployments, the current framework of this initiative recognizes 220 MHz is not a common band used throughout the United States. It is included during this initial phase to maximize tactical operations using simplex frequencies. However, nothing precludes the inclusion of 220 MHz repeater frequencies on the ICS-205 Communications Plan at the local level.

The Volunteer Communications Network would appreciate feedback from field units and organizations regarding the use of 220 MHz frequencies when used by common agreement among local emergency "volunteer" responder communications organizations.

With an increasing number of amateur radio operators becoming dual-licensed for both the amateur radio service (ARS) and the general mobile radio service (GMRS), combined with the rapid growth in the number of GMRS repeater installations, the GMRS is added in this initiative as a supplement consideration to local emergency communications planning.

E-Code Compatibility with ROSS and ISUITE:

All category "Z" radio (communications) equipment are identified by a 4-digit resource identifier beginning with the letter "Z" to enhance rapid identification – and avoid any potential data integration conflicts – with existing or future agency resources if merged into local agency ROSS (Resource Ordering & Status System) or ISUITE (USFS) information technology (IT) software application databases.

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