MISSOURI DEPARTMENT OF PUBLIC SAFETY, OFFICE OF THE DIRECTOR
DPS GRANTS

RADIO INTEROPERABILITY GUIDELINES

Effective Date July 2023

Pursuant to federal guidelines, communication projects funded with any federal grant program, administered by DPS, should support the Statewide Communication Interoperability Plan (SCIP). Missouri has built a statewide public safety interoperable communications system, known as the Missouri Statewide Interoperability Network (MOSWIN). MOSWIN is a network of communications towers, base stations, and communications software designed to provide the infrastructure for interoperable communications throughout the state to both state public safety agencies and any local public safety jurisdiction that wishes to use the system for interoperable communications.

Only APCO, Project 25 VHF/700/800 MHz (dual-band or multi-band), digital trunking enabled radios are eligible for federal grant programs administered by DPS. Digital mobile radios compliant with P25 specifications embody certain fundamental advantages, including interoperability. The term "interoperability" refers to radio equipment in compliance with P25 specifications, regardless of the manufacturer, that allow users to be interoperable with each other.

Agencies applying for radio interoperability equipment must identify the following within the "Budget-Equipment Narrative Justification" section of the application:

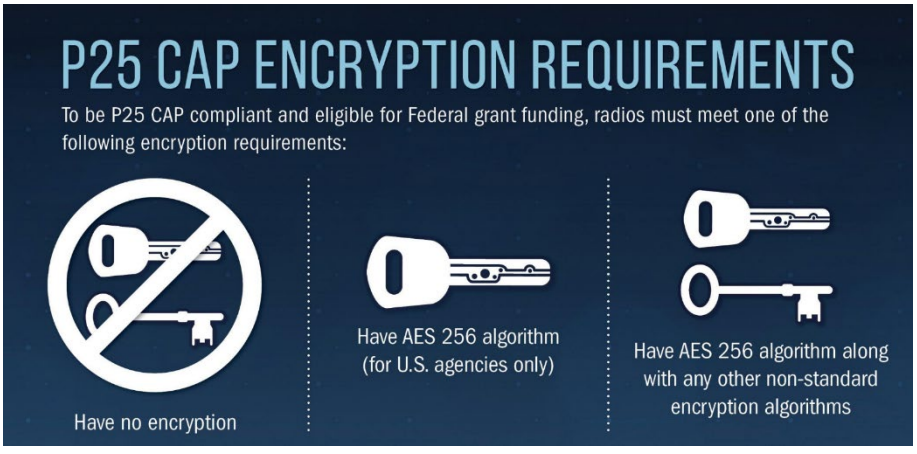
- Vendor and model of requested equipment
- How equipment will be used
- Attest the requested equipment will be connected to the MOSWIN

*A copy of the vendor quote **MUST** be uploaded to the "Named Attachments" form of the application.

Encryption Requirements:

To be P25 CAP Compliant and eligible for Federal or State of Missouri grant funding, radios must meet one of the following encryption requirements:

- Have no encryption
- Have AES 256 algorithm
- Have AES 256 algorithm along with any other non-standard encryption algorithms



Mobile Radios:

Applicant agencies applying for mobile (vehicle dash mounted, remote mount, or base station) radios must ensure that the model being requested is P25 compliant and can operate in the P25 trunked mode at the time of purchase. (Essentially the mobile radio must be a MOSWIN capable and the vendor has completed the MOSWIN vendor certification process for the radio).

The only approved mobile radios are listed below:

•	Motorola	APX8500	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Harris	XG/XM-100	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Harris	XL-200	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Kenwood	VM-7730	Dual-Deck 8.34.9 P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Kenwood	VM-7930	Dual-Deck 8.34.9 P25 VHF/700/800 MHz (dual-band), digital trunking enabled

Portable Radios:

MOSWIN is designed to provide 95% coverage on accessible roads for a properly installed mobile radio. MOSWIN was not designed for portable radios. Portable radio coverage varies greatly based on a number of variables.

The only approved portable (handheld) radios are listed below:

•	Motorola	APX8000	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Motorola	APX NEXT	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Kenwood	VP900	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Kenwood	VP8000	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	BK Tech	BKR9000	P25 VHF/700/800 MHz (dual-band), digital trunking enabled
•	Harris	XL-200	P25 VHF/700/800 MHz (dual-band), digital trunking enabled

Agencies must attest within the grant application the requested portable radio will be paired with a MOSWIN mobile radio via a public safety grade in-car repeater (repeater). Agencies applying for portable radios must identify the following within the "Budget-Equipment Narrative Justification" section of the application:

- MOSWIN mobile radio make and model the repeater will be paired with
- Make and model of the repeater including the existing or applied for FCC frequency band (VHF, 700/800 MHz, UHF)

* Portable radios will **NOT** be funded if these conditions are not met.

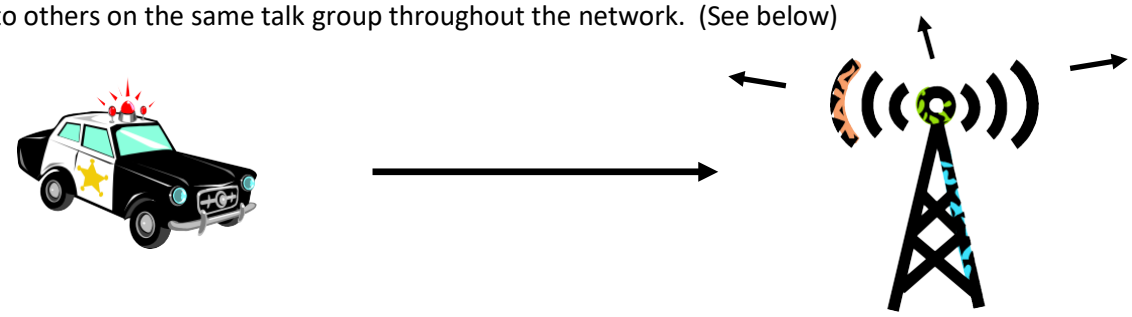
Repeaters:

Agencies applying for repeaters **MUST** ensure the frequency band of the repeater is compatible with the band of the radio(s) with which it will operate. Agencies must identify in the "Budget" form, specifically the "Budget–Equipment Narrative Justification" section, of the application:

- How the agency will utilize the repeater
- How the repeater model is compatible with the radio(s) with which it will be paired

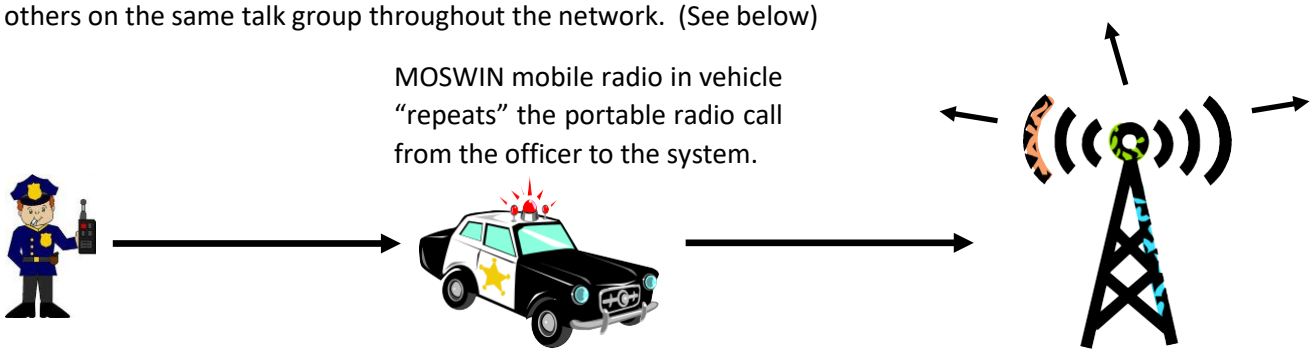
Below are visual depictions to assist with understanding radio connections. Remember, MOSWIN is built to support P25 certified mobile radios.

MOSWIN certified P25 mobile (in-car) radios “talk” to the local MOSWIN site. The MOSWIN site broadcasts the call to others on the same talk group throughout the network. (See below)



MOSWIN certified P25 portable (handheld) radios “talk” to the repeater. The repeater is connected to the mobile (in-car) radio. The mobile radio “talks” to the local MOSWIN site. The MOSWIN site broadcasts the call to others on the same talk group throughout the network. (See below)

MOSWIN mobile radio in vehicle “repeats” the portable radio call from the officer to the system.



P25, dual-band portable on FCC licensed frequencies. Linked to the MOSWIN mobile radio in the vehicle via a repeater.

In-bound radio calls from the system are received by the MOSWIN mobile radio in the vehicle and transmitted via a repeater to the P25, dual-band portable on FCC licensed frequencies.

Contact the Missouri Interoperability Center for additional clarification, to request MOSWIN access, and/or to troubleshoot connection options:
Phone: (573) 522-1714
Email: moswin.sysadmin@dps.mo.gov 24/7 Help Desk: 855-4-MOSWIN (855-466-7946)