



WHITE PAPER

Date: April 16, 2026

To: FIRESCOPE Board of Directors

From: FIRESCOPE Operations Team, Task Force, & Communications Subcommittee

Subject: Legacy BK Radio Phase Out and Minimum Radio Standards

Approval: The FIRESCOPE Board of Directors approved this whitepaper on April 16, 2026.

SUMMARY

The Legacy Bendix King Radios (DPH-GPH series) have reached end of life. The support of legacy radios at incidents is becoming increasingly difficult. Cal Fire has phased out Legacy Bendix King Radios and Kenwood Radios. It is likely the National Wildland Coordinating Group (NWCG) will soon remove analog radios from the Approved Radio List. National Interagency Incident Communications Division (NIICD) is no longer sending out legacy radios when supporting incidents. Channel capacities are limiting the development of the MACS 441-1 required statewide load (statewide load). Legacy radios are limiting the implementation of new technology.

The end of support from BK Technologies renders support at incidents difficult. The following factors contribute to the difficulty supporting these radios at incidents. Parts are no longer available for repair. Programming cables are no longer available. Programming software is not updated to be compatible with new operating systems (Windows 11 etc.). Batteries and AA clamshells are becoming less available.

It is likely analog radios will be removed from the Approved radio list. The approved wildland radio requirements process is transitioning to the NWCG LMR Subcommittee. NIICD has advised it is likely analog radios will soon be removed. The Comms subcommittee has reached out to the NWCG LMR Subcommittee for additional information. When the LMR Subcommittee advises, information will be forwarded.

The radios are limited in channel capacity to 400-500 channels. With the increasing number of CalFire, Federal, and local agency VHF channels, developing a comprehensive, operationally sound statewide load, has become difficult due to radio channel capacity limits. The current mandatory channel load is 309 channels. The current minimum standard of 400 channels limits agency's ability to load local agency channels and the mandatory channels. In the past, a 400-channel radio was deemed sufficient to cover the state. However, with the addition of more VFIRE and VTAC channels, as well as additional Cal Fire and local government Command, Tactical and Air-to-Ground VHF channels, a 400-channel radio has become insufficient for the future of the California Fire Service. Every year, a significant debate on the pros and cons of adding or deleting channels belonging to State, Federal and Local partner agencies takes place. As the statewide load increases, this lack of channel capacity will cause agencies to individually pick and choose the statewide frequencies they wish to include in their annual load. This will diminish the value of the statewide load, which is the basis for mutual aid responses.



The statewide load aims to encompass state and federal mutual aid channels as well as local channels utilized for mutual aid and automatic aid responses. The statewide load is developed to facilitate easy access to channels while enroute or upon arrival at mutual and automatic aid responses. An effective statewide load reduces the need to have radios cloned prior to assignment. Ultimately, this limitation diminishes the effectiveness of the statewide load. An increase in channel capacity will allow the FIRESCOPE Communications Subcommittee (FCS) to develop a more comprehensive and effective statewide load.

As radio capabilities evolve and radio systems are upgraded, the need for P25 digital capability is becoming necessary. Legacy analog radio systems are being replaced with P25 radio systems requiring radios capable of P25 operation. The current minimum standard does not specify P25 capability. A lack of P25 capability will ultimately limit radio systems that can be utilized and the ability to take advantage of the efficiencies of digital operation. Grant funding for radios has required P25 capability for over 10 years. Agencies are delaying implementing P25 radio systems and their advantages due to this limitation. The addition of P25 will allow mutual aid resources to utilize upgraded more efficient radio systems and channels and give agencies the ability to implement P25 radio systems. P25 radio systems provide more reliable communication. There are multiple P25 federal, state, and local channels on the air today (with more planned) which are unavailable for use by non-digital radios. Our CalFire and Federal cooperators have already upgraded to P25 capable radios which exceed our 400-channel minimum.

Legacy radios also diminish the ability to explore and implement new technologies that make programming radios more efficient and location technology. Technology is available and is currently being developed further to wi-fi and/or Bluetooth program radios. This will reduce the need to program radios with communications plans one at a time and allow programming multiple radios at one time. Current radios also have GPS technology that can foster the development of location tracking applications.



RECOMMENDATIONS

After significant debate, the FCS came to consensus that radios with capability of P25 digital operation and a minimum of 1000 channels as the statewide standard are required. As such, the FCS is requesting that the FIRESCOPE Board of Directors, via the Ops Team/Task Force, approve the following statement for inclusion in the next revision of the MACS 441-1 FIRESCOPE Radio Communications Guidelines and have the Fire Chief of Cal OES Fire and Rescue, disseminate this statement to all members of the California Fire Service:

Currently, the minimum channel capacity for a radio in California is 400 channels (covers the mandatory load and local load requirements). Beginning January 1, 2028, the required FIRESCOPE radio capability will be P25 digital capability and a minimum of 1000 channels. As such, agencies will be required

We understand that this may cause some agencies to incur costs to replace older radios. However, we also believe that the failure to keep pace with the overall needs of the California Fire Service, and especially our robust and noteworthy mutual aid system, has a cost and impact on its own.

IMPLEMENTATION PLAN

After approval, the statement would be included in the 2027 MACS 441-1 FIRESCOPE Radio Communications Guidelines. The Fire Chief of Cal OES Fire and Rescue would also disseminate this information to all members of the California Fire Service, allowing agencies to budget for replacement radios if necessary.

FINDINGS

The FCS has determined the increasing inability to support radios at incidents, limitations to statewide load development, and limitations to implementing new technology has justified the need to implement new minimum standards.

CONCLUSION

Approval of a new minimum standard and dissemination of this information will strengthen the ability to support radios at incidents, develop a comprehensive statewide load, explore and implement new technology, and strengthen the mutual aid system related to communications.

ATTACHMENTS

Approved Radio List July 30, 2025
Communication from NIICD



FIRESCOPE



National Interagency Incident Communications Division



July 30, 2025

To: Radio Users

From: Chief, National Interagency Incident Communications Division

Subject: Approved Radios

The following is a consolidated list of Fire Approved Radios for use by all federal employees and all personnel under contract with the federal government working on wildland fires, as well as Cooperator Aviation Radios and Radios Approved for Forest Health Protection. These are the only approved radios for interagency fire and Forest Health Protection use.

Fire Approved Radios

The following radios are approved for interagency fire use and are currently supplied by the National Interagency Incident Radio Support Cache (NIRSC).

VHF-FM

P25 Digital Portable Radios

BK Technologies	DPHX5102X
BK Technologies	KNG2-P150
BK Technologies	BKR5000

P25 Digital Aeronautical Radios

Technisonic Industries	TDFM-136B ⁶
Technisonic Industries	TDFM-136B/NV ⁶

UHF-FM

P25 Digital Portable Radios

BK Technologies	KNG2-P400
Midland	STP404A
Motorola	XTS 2500 ⁴



The following radios are currently approved for interagency fire use but not supported by NIICD. Users will likely need to configure their own code plugs when assigned to an incident.

VHF-AM

Any FCC approved VHF-AM radio is acceptable. VHF-AM radios do not receive fire approval. All VHF-AM radios used in aircraft shall meet the appropriate Technical Standard Order (TSO) category

VHF-FM

Analog Portable Radios^{1, 2}

B/K GPH5102X

Analog Mobile Radios^{1, 2}

B/K GMH

P25 Digital Portable Radios

- BK Technologies (formerly B/K) GPH5102X upgraded to P25 digital³ BK Technologies (formerly Relm Wireless) DPH5102X
- BK Technologies (formerly Relm Wireless) KNG-P150
- BK Technologies (formerly Relm Wireless) KNG-P150S
- BK Technologies BKR9000
- Datron Guardian G25PRV100
- Midland STP105B
- Motorola XTS 2500⁴
- Motorola XTS 5000⁴
- Motorola VX-P949
- Motorola APX 6000¹², APX 6000XE¹²
- Motorola APX 8000¹², APX 8000XE¹²
- Motorola APX 8000H¹², APX 8000HXE¹²
- Motorola SRX 2200¹²
- Thales 25 PRC-6894

P25 Digital Mobile Radios

- BK Technologies (formerly B/K) GMH upgraded to P25 digital³
- BK Technologies (formerly Relm Wireless) DMH5992
- BK Technologies (formerly Relm Wireless) DMH5992X HP
- BK Technologies (formerly Relm Wireless) KNG-M150
- Datron G25RMV100
- Datron G25RMV110
- Datron G25ASU001



FIRESCOPE

Kenwood	TK-5710
Kenwood	TK-5720
Kenwood	NX-5700
Midland	STM-1050B
Midland	STM-1055B
Midland	STM-1115B
Motorola	APX 6500
Motorola	APX 8500

P25 Digital Aeronautical Radios

Anodyne Electronics Manufacturing	MTP136D
Cobham (formerly Northern Airborne Tech)	NPX136D-000 ⁵
Cobham (formerly Northern Airborne Tech)	NPX136D-070
Technisonic Industries	TDFM-136
Technisonic Industries	TDFM-136NV
Technisonic Industries	TDFM-136A
Technisonic Industries	TDFM-136A/NV
Technisonic Industries	TDFM-136B ⁶
Technisonic Industries	TDFM-136B/NV ⁶

UHF-FM

P25 Digital Portable Radios

BK Technologies	KNG-P400
BK Technologies	KNG-P400S
BK Technologies	KNG2-P400
BK Technologies	BKR9000
Motorola	XTS 2500 ⁴
Motorola	XTS 5000 ⁴
Motorola	APX 6000 ¹² , APX 6000XE ¹²
Motorola	APX 8000 ¹² , APX 8000XE ¹²
Motorola	APX 8000H ¹² , APX 8000HXE ¹²



P25 Digital Mobile Radios

APX 8000H¹², APX 8000HXE¹²

BK Technologies	KNG-M400
Kenwood	TK-5810
Kenwood	TK-5820
Midland	STM-4040A
Midland	STM-4045A
Motorola	APX 8500

700/800

P25 Digital Portable Radios

BK Technologies	BKR9000
Motorola	APX 6000 ¹² , APX 6000XE ¹²
Motorola	APX 8000 ¹² , APX 8000XE ¹²
Motorola	APX 8000H ¹² , APX 8000HXE ¹²
Motorola	SRX 2200 ¹²

P25 Digital Mobile Radios

Motorola	APX 8500
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Multi-band

P25 Digital Portable Radios Capable of Operating in More Than One Frequency Band – 136-174 MHz, 380-520 MHz, 700-800 MHz, trunked

Thales	Liberty
BK Technologies	BKR9000
Motorola	APX 8000 ¹² , APX 8000XE ¹²
Motorola	APX 8000H ¹² , APX 8000HXE ¹²

P25 Digital Mobile Radios

Motorola	APX 8500
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P25 Digital Aeronautical Radios Capable of Operating in More Than One Frequency Band – 136-174 MHz, 380-520 MHz, 700-800 MHz, trunked

Technisonic Industries	TDFM-9000 ⁷
Technisonic Industries	TDFM-9100 ⁷
Technisonic Industries	TDFM-9200 ⁷
Technisonic Industries	TDFM-9300 ⁷



Cooperator Aviation Radios Accepted for Fire Use

Aviation is a dynamic environment and aviation radios are generally complex. Some basic guidelines are provided below so all parties can effectively communicate. These are:

- Contain at least one conventional P25 digital VHF-FM RF module/transceiver operating from 136 to 174 MHz with front panel programmability (FPP).
- Any of the following options are acceptable to meet the Air Guard requirement (TX & RX 168.6250 MHz, TX CTCSS 110.9 Hz):
 - A second conventional P25 digital VHF-FM RF module/transceiver operating from 136 to 174 MHz with FPP.
 - A non-FPP conventional P25 digital VHF-FM RF module/transceiver operating from 136 to 174 MHz with a preset channel dedicated to Air Guard.
 - A P25 digital trunked VHF-FM RF module/transceiver operating from 136 to 174 MHz with a non-trunked preset channel dedicated to Air Guard.

These aeronautical radios are acceptable for Cooperator Aviation Radios Accepted for Fire Use.

Cobham	RT-5000/C-5000 ⁸
Cobham	RT-7000 ⁹
Technisonic Industries	TDFM-6000 Series ^{10, 11}
Technisonic Industries	TDFM-7000 Series
Technisonic Industries	TDFM-7300 Series

Radios Approved for Forest Health Protection

The following analog aviation radios are currently approved for US Forest Service (USFS) Forest Health Protection (FHP). FHP may also utilize approved P25 Digital Radios listed under Section 1: Fire Approved Radios. The below analog radios are not allowed to be used in any aspect of interagency fire (reconnaissance or air tactical).

Analog VHF-FM Aeronautical Radios

AEM (formerly Northern Airborne Technology)	NTX138-050
Technisonic Industries	TFM-138 (serial number 1540 & up)
Technisonic Industries	TFM-138B/C/D
Technisonic Industries	TFM-500



Analog-only VHF-FM radios are not approved for DOI use unless a waiver is granted to the operating Bureau by the Telecommunications Systems Division (TSD) of the DOI Office of the Chief Information Officer (OCIO).

Questions concerning radios and requirements on this list can be directed to: Bill Forsyth (208-387-5720) william.forsyth@usda.gov (portable and mobile radios) or Ken Tillbrook (208-387-5648) kenneth.tillbrook@usda.gov (aeronautical radios). Radio vendors may contact Bill Forsyth to submit products for evaluation for inclusion on the Fire Approved Radios list.

/s/

Mark Hilton
Chief, NIICD/NIFC



12/14/25, 5:34 AM Gmail - Approved Radio List



Eric Oliveri <ericofscg@gmail.com>

Approved Radio List

Forsyth, Bill - FS, ID <William.Forsyth@usda.gov>

Tue, Dec 9, 2025 at 12:57 PM

To: "Albracht, Kimberly - FS, ID" <kimberly.albracht@usda.gov>, "ericofscg@gmail.com" <ericofscg@gmail.com>

Hi Eric

The wildland radio requirements process is transitioning to a NWCG LMR subcommittee. Vance Andersen is chairing that sub-committee, but it may be on the back burner for the near term as the DOI is undergoing a major reorg. This subcommittee will be responsible for updating the radio standards going forward. As far as analog only radios I expect they will be removed from the approved list once the NWCG LMR subcommittee begins meeting again. If you need more information try reaching out to Vance direct vwanders@blm.gov



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Forest Service
National Interagency Incident Communications Division