

# KENWOOD

## NX-5000 Series


P25 (I&II)/NXDN™ DIGITAL & FM ANALOG RADIOS



## Multi-Digital Operation for Public Safety and Enterprise



**NXDN™**

 Bluetooth®



**GPS**



# NEXEDGE®



# Introducing the NX-5000 Series –





# Unrivaled Interoperability

Radios are a lifeline for those who work on the front lines – crews tackling a four-alarm fire, utility engineers repairing ice-storm damage, or school guards responding to a security alert. They demand and deserve equipment that is truly fit for purpose, and then some.

To meet this demand KENWOOD has drawn on its extensive experience, its renowned technologies, and an expert analysis of market needs to develop NEXEDGE®. This innovative digital solution satisfies the most stringent requirements of today's mission-critical radio users. And now NEXEDGE® leaps further ahead of the competition with NX-5000 Series portable and mobile radios, ready to serve in all public safety, public sector and commercial roles with flawless performance and advanced feature sets.

**The NX-5000 Series truly sets a new standard.**

# Public Safety

Round-the-clock public safety operations – police, fire and EMS – can be extremely demanding for both personnel and equipment. The NX-5000 Series radios are robust and offer clear mission-critical communications in numerous environments – even with sirens in the background. Advanced emergency features, such as man-down detection and ease of operation, even with gloves, make NX-5000 series radios the perfect choice to enhance safety in the line of duty.



## MISSION OR OPERATIONS CRITICAL –

“ We want to be able to communicate and coordinate with other public safety agencies and departments. ”



“ We often need to talk on a radio in noisy environments and cannot afford to miss a command or request for help. ”

“ We must have secure communications, free from monitoring or interception. ”

“ From a crime or accident scene, we need to be able to alert dispatch or the entire network instantly. ”



“ We use our radios day & night, 24/7. ”

## NX-5000 SERIES RADIOS DELIVER

“Can we keep our gloves on while operating the radio?”



“We need radios that are robust.”

“School buses may need to communicate directly with the police in an emergency.”

“We want advance warning when batteries are dying – and we also want batteries that last longer.”



“Our employees need to look smart in suits and uniforms, so no bulky radios.”

# Public Sector and Commercial Operations

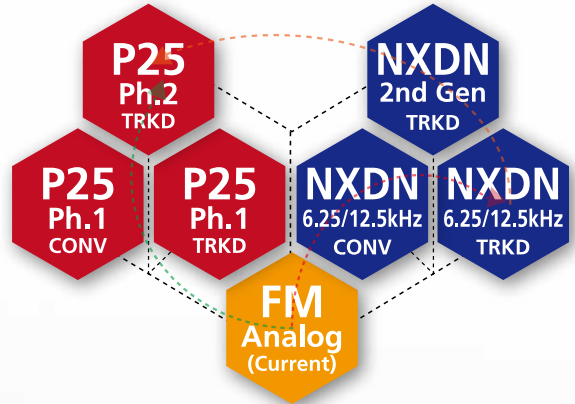
Thanks to multi-digital operation, NEXEDGE® offers a flexible communications system that is ideal for a wide range of industries and fields – ranging from utilities and traffic agencies to schools, taxi services and security companies. What’s more, top-of-the-line features such as the transfective display for easy viewing in sunshine, GPS capability and Bluetooth® connectivity all contribute to enhanced efficiency and cost-effectiveness. From top to bottom, the NX-5000 Series means business.

# NXDN™

# NX-5000 SERIES FEATURES

## ONE-RADIO, MULTI-PROTOCOL SUPPORT

The NX-5000 Series offers unsurpassed interoperability as it supports 2 digital CAIs – P25 (Phase 1 & 2) and NXDN™ – plus FM analog in a single radio. Best of all, a desired CAI can be selected at will, giving you the freedom to migrate at your own pace – whether you are intent on going fully digital, undecided about which digital system to pick, or just wanting to maintain both digital and analog for a while.



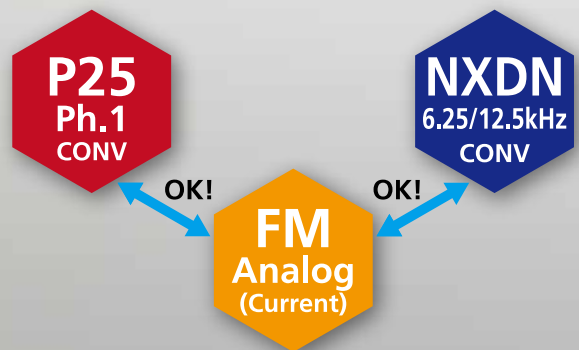
## P25 & NXDN™ FOR MISSION-CRITICAL USERS

P25 is a digital CAI to ensure interoperability among public safety agencies in North America, Australia and New Zealand. The NX-5000 Series is compatible with Phase 1 (conventional and trunked), and Phase 2 (trunked). But it also offers NXDN™, expanding the envelope of interoperability for a wide variety of users.



## AUTOMATIC CALL SIGNAL IDENTIFICATION

An NX-5000 Series radio automatically identifies a call signal – whether it's P25, NXDN™, or FM analog – and transmits in the same mode received. Setting your radio to Mixed Mode allows the radio to wait for a call in both digital and analog modes in a digital/analog environment. Moreover, the new Geographical Zone function allows these radios to operate in any mode – conventional or trunked in P25 or NXDN™, and FM – in the same zone.



## INTUITIVE DISPLAY & OPERABILITY

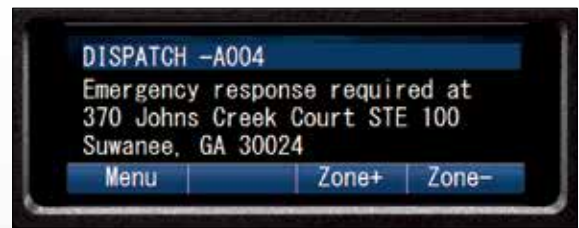
COLOR LCD  
TFT

The 65,536-color TFT display allows the user to check at a glance on operating status, shown in multi-line text to convey more information. The portables feature a 1.74-inch (240 x 180 pixel) LCD that can be viewed clearly in direct sunlight or in the dark, even while wearing polarized sunglasses. The mobile models feature a 2.55-inch (154 x 422 pixel) TFT display with integrated luminance sensor that automatically adjusts the brightness of the backlight. What's more, the optional remote control panel (KCH-20R)\* features a 2.75-inch (240 x 400 pixel) TFT display with Auto LCD Brightness mode to adjust display intensity for round-the-clock operation. Further enhancing operating ease is the 4-way Directional-pad (D-pad) and 2-position lever switch, which offer intuitive control and can be operated with gloves on.

\*Available in March 2015



NX-5200/5300/5400 (actual size)

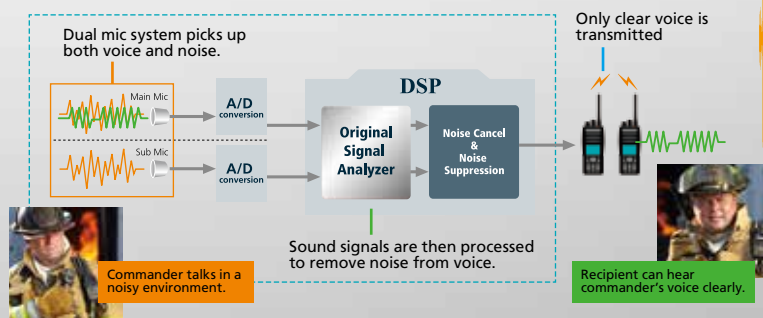


NX-5700(B)/5800(B) (actual size)

## RENOWNED KENWOOD AUDIO



Benefitting from decades of KENWOOD experience and expertise, the NX-5000 Series offers superb audio quality even in very noisy environments. In addition to sophisticated sound analysis and optimization technologies, these radios feature Active Noise Cancelling based on leading-edge digital technology. Clear communications are assured.



## TOUGH & ROBUST



During the development stage, NX-5000 Series radios go through a number of stringent tests to make sure they can withstand harsh usage. In addition to MIL-STD-810 C/D/E/F/G environmental standards, NX-5000 portable radios comply with IP67/68 immersion standards, offering max. 2 hour protection at a depth of 1 meter\*. The rugged mobile radios comply with IP54/55\*\* dust/water ingress protection standards.

\*Applies for IP68

\*\* IP54: RF Deck of the mobile radio; IP55: Remote Control Head for the mobile radio



# NX-5000 SERIES FEATURES

## INTELLIGENT BATTERY MANAGEMENT SYSTEM (Portables: option)

The Intelligent Battery System helps to extend battery lifetime and ensure that the batteries are optimally maintained so as to be ready for mission-critical operations. The system comprises the optional high-capacity Li-Ion Battery Series (KNB-L1/L2/L3), Intelligent Charger (KSC-Y32), and Battery Reader software (KAS-12). Up to 30 Intelligent Chargers can be chain-connected to a PC installed with the KAS-12 Battery Reader software, which can display and manage information: battery type, model name, voltage, temperature, discharge cycle, expected life, and remaining capacity.

- Up to 1,000 batteries can be managed at a time (requires additional option).
- Long Life Charging Mode: stops recharging at 80% capacity to extend life.
- Deterioration (end-of-life) notification



FULL CAPACITY CHARGING MODE	STEADY RED	FAULT	FLASHING RED
LONG LIFE CHARGING MODE	STEADY BLUE	RECONDITIONING	STEADY YELLOW
COMPLETE	FLASHING GREEN	SERVICE LIFE	FLASHING RED / GREEN / YELLOW

Battery conditions are displayed in color illuminated indicators on the charger, which are also displayed on a connected PC with the same color scheme. Color-coordinated patterns provide users with at-a-glance information for comprehensive battery management.

## BUILT-IN BLUETOOTH®



Hands-free operation is vital for many NX-5000 users. The radios' built-in Bluetooth® module is compatible with Headset and Serial Port Profiles (ver. 3.0) and keeps your hands open for other important tasks you are into.



## GPS TO TRANSMIT YOUR POSITION



Featuring an integrated GPS module and antenna, NX-5000 portable radios can transmit positional data, enabling effective management when used with tracking applications like KAS-10 software. Mobile models can support GPS with the optional KRA-40G GPS Active Antenna.

## ENCRYPTION EQUIPPED



Secure communications are an essential requirement, especially for public safety applications. NX-5000 radios are equipped with 56-bit key Data Encryption Standard (DES) Encryption. For even higher protection there is the optional KWD-AE30/AE31 Secure Cryptographic Module, which supports the 256-bit Advanced Encryption Standard (AES) Encryption.



## MULTIPLE CONFIGURATION (Mobiles: option)

The NX-5700(B)/5800(B) mobile radios allow users to create a variety of configurations to suit diverse requirements by combining different options.

### 1. Single Remote Control Head x Single RF Deck

Suited for distribution and courier services, this is the simplest configuration. The detachable front control panel of the NX-5700/5800 is used as a Remote Control Head.

### 2. Single Remote Control Head x Multi RF Decks\*

You can operate multiple radios (e.g. VHF and UHF) as if they were one by adding an NX-5700B/5800B RF Deck. This configuration is recommended for law enforcement agencies.

### 3. Dual Remote Control Heads x Single RF Decks\*

One controller can be mounted on the dashboard, with the other at the rear. Useful for EMS applications.

### 4. Dual Remote Control Heads x Multi RF Decks\*

This adds the convenience of a dual control head to the multi RF decks (3 max.) configuration. Two operators can control 2 radios (e.g. VHF and UHF) from separate control heads. Best suited for battalion chiefs.



\*Available later

## SD CARD SLOT

For storing voice and data, memory capacity can be increased by up to a huge 32GB.\*

\* Purchase a card separately.



## SENSORS FOR USER SAFETY

Life-critical detection is built-in. When unusual behavior is detected by the acceleration and tilt sensors, one of three Emergency Modes – Man-down Detection, Stationary Detection, and Motion Detection – will be automatically engaged.

In addition to the built-in motion sensor, these portables feature a Lone Worker function that automatically places the radio in Emergency Mode if it is not operated for a certain period of time. Also the bright orange Emergency Button is located at the top (portables) or front (mobiles) of the radio for high visibility and instant access when needed.



# NX-5200/5300/5400

## VHF/UHF/700-800MHz DIGITAL TRANSCEIVER

P25 (I&II)/NXDN™ MULTI-DIGITAL & FM ANALOG PORTABLE RADIOS



### GENERAL FEATURES

- Multi-Digital + FM Analog Operation
  - NXDN™ Conventional
  - NXDN™ Type C Trunked
  - P25 Phase 1 Conventional/Trunked
  - P25 Phase 2 Trunked
  - FM Analog Conventional/Trunked
- Color 1.74" (240 x 180 pixel) Transflective TFT Display
- Color GUI and Multi-line Text Display
- 1,000 mW Speaker Audio (@8 Ω, 5% distortion)
- 4-way Directional-pad (D-pad) and 2-Position Lever Switch for intuitive control and operation
- 6 Front & 2 Side PF keys
- 12-Key Keypad Models Available
- Emergency / AUX Key
- MDC-1200
- FleetSync®/II
- Frequency Range
  - VHF: 136-174 MHz (NX-5200)
  - UHF: 380-470 MHz, 450-520 MHz, (NX-5300)
  - 700-800MHz:
    - RX: 763-776, 851-870MHz;
    - TX: 763-776, 793-806, 806-825, 851-870MHz (NX-5400)
- RF Output
  - VHF: 1-5 W (NX-5200)
  - UHF: 1-5 W (NX-5300)
  - 700-800MHz: 1-3 W (NX-5400)
- Maximum of 4,000 CH/Radio capacity, 512 CH/Zone, 128 Zones

### OPTIONAL ACCESSORIES

- **KNB-L1/L2/L3**  
LI-ION BATTERY PACK (IP67/68 immersion)
  - KNB-L1** 7.4V/2000mAh
  - KNB-L2** 7.4V/2600mAh
  - KNB-L3** 7.4V/3400mAh
- **KWD-AE30/AE31**  
SECURE CRYPTOGRAPHIC MODULE
- **KSC-Y32**  
RAPID CHARGER
- **KAS-12**  
BATTERY READER (PC Software)
- **KPG-180AP**  
OTAP MANAGER
- **KMC-54WD**  
SPEAKER MICROPHONE
  - 2-mic digital noise cancelling via the radio's DSP
  - 3.5mm-diameter earphone jack
  - Complies with MIL-STD 810C/D/E/F/G
  - IP65/67 Dust & Water\*

\*The earphone jack cap must be closed tightly

### Existing accessories compatible with the NX-5200/5300/5400

- **KSC-32/32S**  
RAPID CHARGER
- **KSC-326/326S**  
MULTIPLE CHARGER (6-unit Rapid Rate)
- **KMC-41D**  
SPEAKER MICROPHONE (IP54/55)
- **KBH-11**  
BELT CLIP
- **KRA-22**  
VHF HELICAL ANTENNA (Low Profile)
- **KRA-23**  
UHF HELICAL ANTENNA (Low Profile)
- **KRA-26**  
VHF HELICAL ANTENNA (Standard Length)
- **KRA-27**  
UHF WHIP ANTENNA (Standard Length)
- **KRA-32**  
700/800MHz WHIP ANTENNA
- **KRA-41**  
VHF STUBBY ANTENNA
- **KRA-42**  
UHF STUBBY ANTENNA
- **KRA-25**  
HIGH GAIN VHF ANTENNA (148-162MHz)
- **KRA-28**  
BROAD-BAND VHF ANTENNA (140-170MHz)
- **KRA-29**  
BROAD-BAND UHF ANTENNA (380-430 MHz)
- **KRA-36**  
700/800 MHz STUBBY ANTENNA
- **KBH-8DS**  
BELT LOOP WITH D-RING
- **KLH-6SW**  
BELT LOOP WITH D-RING (Leather Case Back)
- **KCT-51**  
HIROSE 6-PIN ADAPTER

Choose between two portable configurations – one without a numeric keypad and the other with numeric keypad (16-key model).

# NX-5700(B)/5800(B)

## VHF/UHF DIGITAL TRANSCEIVER

P25 (I&II)/NXDN™ MULTI-DIGITAL & FM ANALOG MOBILE RADIOS

### GENERAL FEATURES

- Multi-Digital + FM Analog Operation
  - NXDN™ Conventional
  - NXDN™ Type C Trunked
  - P25 Phase 1 Conventional/Trunked
  - P25 Phase 2 Trunked
  - FM Analog Conventional/Trunked
- Color 2.55" (154 x 422 pixel) TFT Display
- Color GUI and Multi-line Text Display
- 4 W/4 Ω; 3 W/4 Ω for the Remote Control Head
- 6 Front PF keys & 4 Up / Down Selectors
- Emergency Button
- MDC-1200
- FleetSync®/II
- Frequency Range
  - VHF: 136-174 MHz (NX-5700/5700B)
  - UHF: 380-470 MHz, 450-520 MHz (NX-5800/5800B)
- RF Output
  - VHF: 5-50 W (NX-5700/5700B)
  - UHF: 5-45 W (NX-5800/5800B)
- Maximum of 4,000 CH/Radio capacity, 512 CH/Zone, 128 Zones

### OPTIONAL ACCESSORIES

#### ■ NX-5700B/5800B

RF DECK

#### ■ KCH-19

BASIC CONTROL HEAD KIT



#### ■ KCH-20R\*

FEATURED CONTROL HEAD

#### ■ KRK-15B

CONTROL HEAD REMOTE KIT  
(Adapter for the RF Deck)



#### ■ KRK-14H

CONTROL HEAD INTERFACE KIT  
(Adapter for the Head)



#### ■ KCT-71

REMOTE CONTROL CABLE  
(Available in 3 lengths of 17ft (5.2m), 25ft (7.6m), 1.6ft (0.5m)\*)



#### ■ KWD-AE30/AE31

SECURE CRYPTOGRAPHIC MODULE

#### ■ KPG-180AP

OTAP MANAGER

\*Available later

### Existing accessories compatible with the NX-5700/5800

#### ■ KMC-35

MICROPHONE



#### ■ KMC-36

KEYPAD MICROPHONE



#### ■ KES-3

EXTERNAL SPEAKER  
(Compact low profile; 3.5 mm plug)



#### ■ KES-5

EXTERNAL SPEAKER  
(40 W max input, Requires KAP-2)



#### ■ KCT-23

DC POWER CABLE  
M: 10ft (3m) / M3: 23ft (7m)



#### ■ KCT-46

IGNITION SENSE CABLE



#### ■ KLF-2

LINE FILTER



#### ■ KMB-10

KEY LOCK ADAPTER



#### ■ KAP-2

HORN ALERT/P.A.  
RELAY UNIT



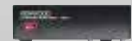
#### ■ KRA-40G

GPS ACTIVE ANTENNA



#### ■ KPS-15

DC POWER SUPPLY (23A max)



# SPECIFICATIONS

		Portable Radios			Mobile Radios	
GENERAL		NX-5200	NX-5300	NX-5400	NX-5700(B)	NX-5800(B)
Frequency Range		136-174 MHz	Type 1: 450-520 MHz Type 2: 380-470 MHz	RX: 763-776, 851-870 MHz TX: 763-776, 793-806, 806-825, 851-870 MHz	136-174 MHz	Type 1: 450-520 MHz Type 2: 380-470 MHz
Max. Channels Per Radio		1024 (Up to 4000 channels with option)				
Number of Zones		128				
Max. Channels Per Zone		512				
Channel Spacing	Analog	12.5/15/20/25*/30* kHz	12.5/25* kHz	12.5/25 kHz	12.5/15/20/25*/30* kHz	12.5/25* kHz
	Digital	6.25/12.5 kHz	6.25/12.5 kHz	12.5 kHz (6.25 kHz)	6.25/12.5 kHz	6.25/12.5 kHz
Power Supply		7.5 V DC ±20%			13.6 V DC ±15%	
Current Drain	Standby				0.45A	
	RX	—			2.3A	
	TX				12A	
Battery Life	KNB-L1 (2,000 mAh)	10 hours / 6.5 hours				
(5-5-90/10-10-80 duty cycle)	KNB-L2 (2,600 mAh)	12.5 hours / 8.5 hours			—	
	KNB-L3 (3,400 mAh)	17 hours / 11 hours				
Operating Temperature		-22°F to +140°F (-30°C to +60°C)				
Frequency Stability		±2.0 ppm	±1.0 ppm	±1.5 ppm	±1.0 ppm	
Dimensions (W x H x D)	Radio only	—			6.69 x 1.89 x 7.48 in. (170 x 48 x 190 mm)	
Projections Not Included	KNB-L1 (2,000 mAh)	2.28 x 5.47 x 1.52 in. (58 x 139 x 38.8 mm)			—	
	KNB-L2 (2,600 mAh)	2.28 x 5.47 x 1.65 in. (58 x 139 x 41.8 mm)			—	
	KNB-L3 (3,400 mAh)	2.28 x 5.47 x 1.86 in. (58 x 139 x 47.2 mm)			—	
Weight	Radio only	—			4.63 lbs (2.1 kg)	
	KNB-L1 (2,000 mAh)	15.52 oz (440 g)			—	
	KNB-L2 (2,600 mAh)	16.57 oz (470 g)			—	
	KNB-L3 (3,400 mAh)	17.98 oz (510 g)			—	
RECEIVER		NX-5200	NX-5300	NX-5400	NX-5700(B)	NX-5800(B)
Sensitivity	NXDN 6.25 kHz Digital (3% BER)	0.20 µV		—	0.20 µV	
	NXDN 12.5 kHz Digital (3% BER)	0.25 µV		—	0.25 µV	
	P25 Digital (5% BER)			0.25 µV		
	P25 Digital (1% BER)			0.40 µV		
	Analog (12dB SINAD)			0.25 µV		
Selectivity	P25 Digital	60 dB			63 dB	
	Analog @ 12.5 kHz	67 dB			70 dB	
	Analog @ 25 kHz	73 dB			80 dB	
Intermodulation		73 dB			75 dB	
Spurious Rejection		80 dB	75 dB			85 dB
Audio Distortion		3%			2%	
Audio Output Power		500 mW/8 Ω (3% Distortion) / 1,000 mW/8 Ω (5% Distortion)			4 W/4 Ω (Remote Control Head: 3 W/4 Ω)	
TRANSMITTER		NX-5200	NX-5300	NX-5400	NX-5700(B)	NX-5800(B)
RF Power Output Power		5 to 1 W			3 to 1 W	
Spurious Emission		-70 dB			-73 dB	
FM Hum & Noise	Analog @ 12.5 kHz				40 dB	
	Analog @ 25 kHz				45 dB	
Audio Distortion					2%	
Emission Designator		16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D, 8K10F1W, 8K30F1E, 8K30F1D, 8K30F1W, 4K00F1E, 4K00F1D, 4K00F1W, 4K00F2D			16K0F3E, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F1W, 4K00F1E, 4K00F1D, 4K00F1W, 4K00F2D	

\*25 and 30 kHz are not included in the models sold in the USA or US territories. Analog measurements made per TIA 603 and specifications shown are typical. Digital measurements made per TIA 102CAA and specifications shown are typical. Details and timing of firmware and software updates are subject to change without notice. Specifications are subject change without notice, due to advancements in technology.

## APPLICABLE MIL-STD & IP

MIL Standard	810C Methods/ Procedures	810D Methods/ Procedures	810E Methods/ Procedures	810F Methods/ Procedures	810G Methods/ Procedures
Low Pressure	500.1/I	500.2/I, II	500.3/I, II	500.4/I, II	500.5/I, II
High Temperature	501.1/I, II	501.2/I, II	501.3/I, II	501.4/I, II	501.5/I, II
Low Temperature	502.1/I	502.2/I, II	502.3/I, II	502.4/I, II	502.5/I, II
Temp. Shock	503.1/I	503.2/I	503.3/I	503.4/I, II	503.5/I
Solar Radiation	505.1/I	505.2/I	505.3/I	505.4/I	505.5/I
Rain*1	506.1/I, II	506.2/I, II	506.3/I, II	506.4/I, III	506.5/I, III
Humidity	507.1/I, II	507.2/I, III	507.3/I, III	507.4	507.5/II
Salt Fog	509.1/I	509.2/I	509.3/I	509.4	509.5
Dust	510.1/I	510.2/I	510.3/I	510.4/I, III	510.5/I
Vibration	514.2/VIII, X	514.3/I	514.4/I	514.5/I	514.6/I
Shock	516.2/I, II, V	516.3/I, IV, V*2	516.4/I, IV, V*2	516.5/I, IV, V*2	516.6/I, IV, V*2
Immersion*3	—	—	—	512.4/I	512.5/I
International Protection Standard					
Dust & Water	IP54, IP55*4				
Immersion*3	IP67, IP68*5				

\*1: Blowing rain protection for the mobile radio's Remote Control Head only. \*2: Shock (Crash Hazard) standard for 810D/E/F/G Method/Procedure V applies only for the mobile radios. \*3: Immersion standard applies only for the portable radios. \*4: IP54: RF Deck of the mobile radio; IP55: Remote Control Head for the mobile radio. \*5: Conditions: Portable radio immersed for 2 hours at a depth of 1 meter.

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