

NEXEDGE® NX-3720(E/GE)/3820(E/GE)

NXDN™ **DMR**

NEXEDGE VHF/UHF
MULTI-PROTOCOL DIGITAL & ANALOGUE MOBILE RADIOS



Bluetooth®

GPS

FleetSync®

5-tone

This adaptable mobile radio supports both NXDN and DMR digital protocols as well as mixed digital & FM analogue operation, enabling it to serve with distinction in a wide range of enterprise and operation-critical applications. Designed with flexibility in mind, it's packed with convenient features like Bluetooth® for hands-free operation and built-in GPS. And providing greater freedom of installation, the radio's front panel can be used as a remote control head (this requires an optional upgrade, to be available in future). Additionally, for expansion capability a software license certification system facilitates extensive customisation.

PRODUCT HIGHLIGHTS

- **Multi-protocol digital radio:** Designed to operate under an NXDN or DMR digital, and FM analogue protocols
- **NXDN** Conventional and Type-C & Gen2 Trunking
- **DMR** Tier II & Site Roaming
- **Mixed Digital & FM Analogue Operation** allows gradual migration at your own pace
- **4-Line** Basic Frame (2-line Main/Sub-LCD, icon, & key guide) / 14 Characters
- **4-Line** Text Message Frame (2 Lines of Text, icon & key guide) Note: The number of lines may vary depending on the display language (character set).
- **7-Colour** LED indicator
- External and Internal Speaker Switching
- **Built-in GPS Receiver** for effective fleet management. GE-model only
- **Built-in Bluetooth** for hands-free operation – Applicable Bluetooth profiles: HSP (Headset Profile provided) and SPP (Serial Port Profile available as an option; availability GE model only)
- **Renowned KENWOOD Audio Quality** with **Active Noise Reduction (ANR)** that utilises built-in DSP
- Software **DES** and **AES** Encryptions for **NXDN** Conventional/Trunking and **DMR** Conventional protocols
- **IP54** and **MIL-STD-810 C/D/E/F/G**

GENERAL FEATURES

- Audio Output Power (4 Watts at 4 ohms)
- 512 CH/128 Zones
- 1000 CH option
- Paging Call
- Emergency Call
- Status/Text Message
- Remote Stun/Kill/Check

DIGITAL - NXDN MODE

- NXDN Type-C & Gen2 Trunked
- NXDN Conventional
- 6.25 & 12.5 kHz Channels
- All Group Call
- Over-the-Air Alias (OAA)
- Over-the-Air Programming (OTAP)

DIGITAL - DMR MODE

- Complies with ETSI DMR Tier II standards
- 12.5 kHz Two-slot TDMA channels
- Call Interruption
- Dual-slot Direct Mode
- ARC4 Encryption
- Energy Efficient

ANALOGUE - FM MODE

- Conventional & LTR Trunking
- FleetSync/II: PTT ID ANI / Caller ID Display, Selective Group Call, Emergency Status / Text Messages
- MDC-1200: PTT ID ANI / Caller ID Display, Emergency, Radio Check / Inhibit
- QT / DQT, DTMF, 5-Tone
- Built-in Voice Inversion Scrambler



OPTIONAL ACCESSORIES

- **KMC-53**
DESKTOP MICROPHONE



- **KES-3**
EXTERNAL SPEAKER
(compact low profile,
3.5 mm plug)



- **KCT-18**
IGNITION SENSE
CABLE
(requires KCT-60)



- **KCT-60**
CONNECTION CABLE
(D-sub 15 to Molex
15 Pin Connector)



- **KRA-40G**
GPS ACTIVE ANTENNA



- **KMC-35/36**
IP54/55 MICROPHONE
(without/with 12-keypad)



- **KES-5**
EXTERNAL SPEAKER
(40 W max input,
requires KAP-2)



- **KCT-23**
DC POWER CABLE



- **KLF-2**
LINE FILTER



- **KPG-180AP**
OTAP MANAGER

- **KMB-10**
KEY LOCK
ADAPTER



All accessories and options may not be available in all markets.
Contact an authorised KENWOOD dealer for details and complete list of all accessories and options.

SPECIFICATIONS

GENERAL	NX-3720(G)	NX-3820(G)
Frequency Range	136-174 MHz	400-470 MHz
Max. Channels per Radio	Up to 1000 channels with option	
Number of Channels	512	
Number of Zones	128	
Channel Spacing	Analogue	12.5/20/25 kHz
	Digital	6.25/12.5 kHz
Operating Voltage	13.2 VDC (10.8 - 15.6 VDC)	
Current Drain	Standby	0.45 A
	RX	2.3 A
	TX	9 A
Operating Temperature	-30°C to +60°C	
Frequency Stability	± 1.0 ppm	
Antenna Impedance	50 Ohms	
Dimensions (W x H x D) Radio with Control Head *Projections not included	160 x 43 x 160 mm	
	Weight (net) Radio with Control Head	
Applicable Standards	ETSI (EMC)	EN 301 489-3, EN 301 489-5, EN 301 489-17
	ETSI (Spectrum)	EN 300 086, EN 300 113, EN 300 219, EN 300 328, EN 300 440, EN 301 166
	ETSI Safety	EN 60065, EN 60215, EN 60950-1

Specifications are measured according to applicable standards.
Specifications shown are typical and subject to change without notice, due to advancements in technology.

RECEIVER	NX-3720(G)	NX-3820(G)
Sensitivity	NXDN 3 % BER (6.25 kHz/12.5 kHz)	0.20 µV / 0.28 µV
	NXDN 1 % BER (6.25 kHz/12.5 kHz)	-5.0 dBµV (0.28 µV) / -2 dBµV (0.40 µV)
	DMR 12.5 kHz Digital, 5 % BER	-4.5 dBµV (0.30 µV)
	DMR 12.5 kHz Digital, 1 % BER	-2 dBµV (0.40 µV)
	Analogue, EIA 12 dB SINAD (12.5/20 & 25 kHz)	0.25 µV
Selectivity	Analogue, EN 20 dB SINAD (12.5/20 & 25 kHz)	-1 dBµV (0.45 µV) / -3 dBµV (0.35 µV)
	Analogue 12.5 kHz	70 dB
	Analogue 20 kHz	78 dB
	Analogue 25 kHz	80 dB
Intermodulation	70 dB	
Spurious Rejection	80 dB	
Audio Distortion	2 %	
Audio Output	4 W/4 Ohms	
TRANSMITTER	NX-3720(G)	NX-3820(G)
RF Power Output (High / Low)	25 W / 5 W	
Spurious Emission	-36 dBm ≤ 1 GHz, -30 dBm > 1 GHz	
FM Hum & Noise	Analogue @ 25 kHz	50 dB
	Analogue @ 20 kHz	50 dB
	Analogue @ 12.5 kHz	45 dB
Audio Distortion	2 %	
Digital Protocol	ETSI TS 102 361-1, -2, -3	
Emission Designator	16K0F3E, 14K0F2D, 14K0F3E, 12K0F2D, 8K50F3E, 8K30F1E, 8K30F1D, 8K30F7W, 7K50F2D, 7K60FXE, 7K60FXD, 4K00F1E, 4K00F1D, 4K00F7V, 4K00F2D	

APPLICABLE MIL-STD & IP

MIL Standards	Methods / Procedures				
	810C	810D	810E	810F	810G
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*	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/II, III	507.3/II, 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	516.4/II, IV, V	516.5/I, IV, V	516.6/I, IV, V
International Protection Standards	IP54 (Radio unit itself)				
Dust & Water*	IP54 (Radio unit itself)				

*Microphone KMC-35 or KMC-36 must be connected to the radio, and all accessory connectors must be covered.

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CL863E-E-2

KAS-20 AVL AND DISPATCH SOFTWARE



NXDN™



FOR STANDALONE AND MULTI-CLIENT OPERATION

KAS-20 AVL and Dispatch Software is compatible with KENWOOD digital radio systems and runs on Windows and Windows Server. It offers a cost-effective way to start a basic AVL and dispatch system for a business. Both NXDN and DMR digital protocols are supported. Featuring a graphical UI and map displays for intuitive operation, the software enables seamless operations to control multiple subscriber units on the same network, employing either a client configuration or a server configuration with multiple clients. And by purchasing optional licenses, you can later add several value-added features.

Product Highlights

- Windows-based software with AVL and Dispatch features
- Low-cost initial package, optional license upgrades
- Two configurations for enhanced scalability:
 - A simple, PC-based standalone AVL & Dispatch system
 - Multi-client operation with remote server; accepts up to 8 RF systems and 10 clients
- UI design with emphasis on functionality and maneuverability
- Supports diverse digital radio systems
- User-selectable options: Location Management, Voice Dispatch, Voice Path, Multi-client capability for a server, Voice Record, and RF System functions.

Basic Features

- Flexible and scalable operator positions
- Multi-role dispatching functions
 - IP Voice dispatch console
 - AVL, fleet monitoring and mapping
 - Call log and Event sharing
 - Voice recording/playback
- Supports multiple KENWOOD IP interfaces: DMR Conv, NXDN Conv, Type-C Trunking, and Gen2
- Highly optimised GUI
 - User configurable call windows and patch windows
 - Map with editable unit icons, groups, and imported layers
 - Shortcut keys and configurable key bindings
- Server managed user levels, configurations, and permissions; Up to 30 users can be registered with 10 simultaneous logins
- Server stores all communications log and data such as GPS, status, messages, audio, etc.
- Import/export asset lists (e.g. unit, group, fleet) via TSV format
- Manual/auto asset list creation

Fleet Management Features

- Location management for up to 1,000 subscriber units
- Compatible with both OpenStreetMap and scanned maps
- KML and CSV export
- Image layers can be individually switched on or off via Additional Layer Window
- Auto & manual polling, Loneworker, GPS time mark, GeoFencing, Track units, Go to home position, etc.
- Position Log & Play

Dispatch and Voice Recording Features

- Console to: Unit, Talkgroup/Channel, Console calls
- AMBE+2, software vocoder: Capable of simultaneous processing of up to 8 paths
- 3 configurable software patch group
- Configurable Call Box window
 - Put any individual, talkgroup, console with priority
 - Adjustable volume/mute per call box
 - UID/alias indicator
 - Configurable color and size
- Voice recording and playback
 - Stores all voice in AMBE+2, quick replay from log window
 - Exports voice data to MP3 data format



Main AVL screen



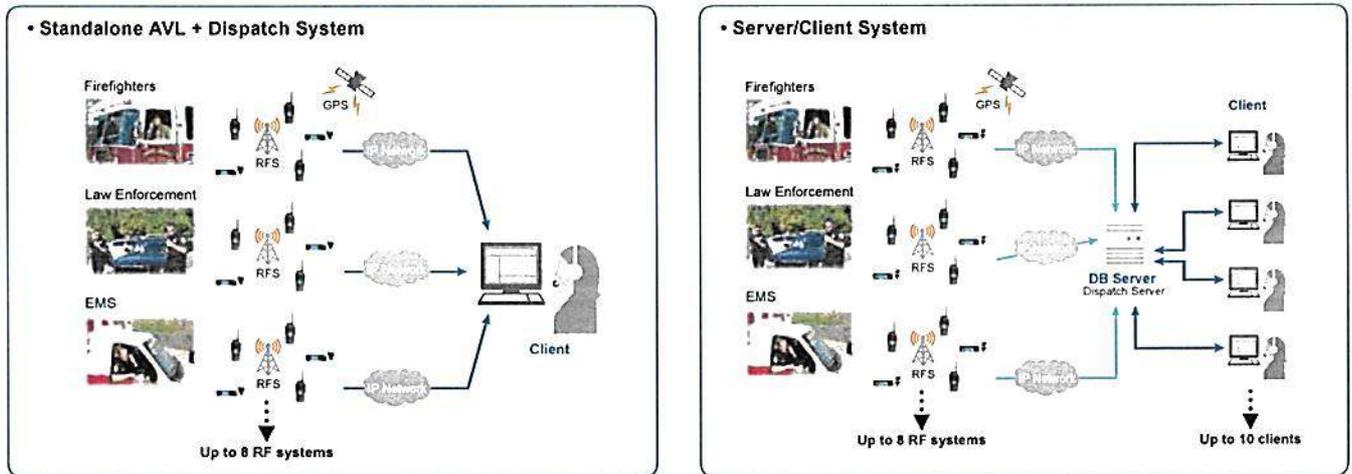
Main Dispatch screen

SYSTEM REQUIREMENTS

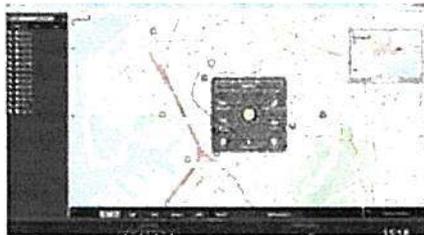
	DISPATCH CLIENT SOFTWARE KAS-20C	DISPATCH SERVER SOFTWARE KAS-20S
Operating System	Microsoft Windows 7, 8.1, 10 (works on 32bit & 64bit OS)	Microsoft Windows 7, 8.1, 10 and Windows Server 2008R2, 2012R2 (works on 32bit & 64bit OS)
Processor	3.0 GHz Intel Core i5 CPU or faster	
RAM	4 GB or more	
Hard Disk Space	500 MB free space or more	50 GB free space or more
Network	1 Ethernet Port / 100BASE-T and Internet connection	
Display	1920 x 1080 or higher resolution	1024 x 768 or higher resolution
Other	Requires Microsoft .NET Framework 4.5 or 4.6 Requires Microsoft SQL Server 2014 / 2014 Express In/Out Devices: Speaker, Keyboard, Mouse, Microphone	

CONFIGURATIONS

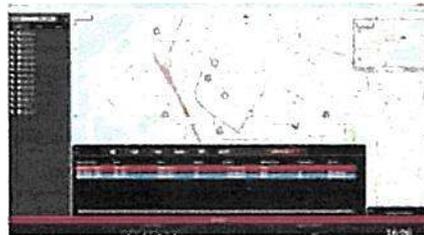
Both systems can be flexibly customised with licensing to meet user needs.



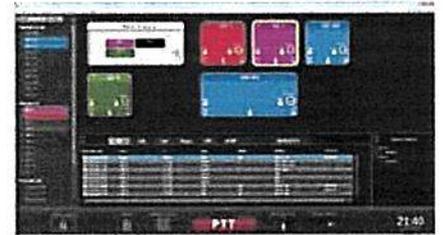
AVL & DISPATCH SCREENS



AVL: Unit Operation



AVL: Emergency



Dispatch: List Display

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CL864M-E-2

KENWOOD

NEXEDGE®

NX-3220/3320

NXDN™ DMR

NEXEDGE VHF/UHF MULTI-PROTOCOL DIGITAL & ANALOGUE PORTABLE RADIOS



Bluetooth®

GPS

FleetSync®

5-tone

This versatile handheld radio supports both NXDN and DMR digital protocols as well as mixed digital & FM analogue operation, enabling it to serve with distinction in a wide range of enterprise and operation-critical applications. Compact yet designed with durability in mind, it's packed with convenient features like Bluetooth® for hands-free operation and built-in GPS. Three different models are available: Full Keypad model with LCD, Standard Keypad model with LCD and a large 4-way D-pad, and the Basic Model without LCD or keypad. Additionally, for expansion capability a software license certification system facilitates extensive customisation.

PRODUCT HIGHLIGHTS

- **Multi-protocol digital radio:** Designed to operate under an NXDN or DMR digital, and FM analogue protocols
- **NXDN Conventional and Type-C & Gen2 Trunking**
- **DMR Tier II & Site Roaming**
- **Mixed Digital & FM Analog Operation** allows gradual migration at your own pace
- **4-Line Basic Frame** (2-Line Main/Sub-LCD, icon & key guide) / 14 Characters
- **5-Line Text Message Frame** (3 Lines of Text, icon & key guide)*
- **7-Colour Light Bar Indicator** on the top panel
- **4-way Directional-pad (D-pad)** for intuitive control and operation
- **Built-In GPS Receiver/Antenna** for effective fleet management
- **Built-in Bluetooth** for hands-free operation – Applicable Bluetooth profiles: HSP (Headset Profile provided) and SPP (Serial Port Profile available as an option)
- **Renowned KENWOOD Audio Quality** with **Active Noise Reduction (ANR)** that utilises built-in DSP
- **Software DES and AES Encryptions** for NXDN Conventional/Trunking and DMR Conventional protocols
- **Built-in Motion Sensor** (Man-down, Stationary and Motion Detection)
- **IP54/55/67 and MIL-STD-810 C/D/E/F/G**

*The number of lines may vary depending on the display language (character set).

GENERAL FEATURES

- 1 Watt Audio Output Power
- UHF: 120 MHz capability
- Available models: Full Keypad (w/ LCD and full keypad), Standard Keypad (w/ LCD and 4-way large D-pad/4 key), and Basic (w/o LCD and keypad)
- 260 CH/128 Zones (64 CH/4 Zones for Basic model)
- 1,000 CH with option
- Paging Call
- Emergency Call
- Status/Text Message
- Remote Stun/Kill/Check

DIGITAL - NXDN MODE

- NXDN Type-C & Gen2 Trunked
- NXDN Conventional
- 6.25 & 12.5 kHz Channels
- All Group Call
- Over-the-Air Alias (OAA)
- Over-the-Air Programming (OTAP)

DIGITAL - DMR MODE

- Complies with ETSI DMR Tier II standards
- 12.5 kHz Two-slot TDMA channels
- Call Interruption
- Site Roaming
- Dual-slot Direct Mode
- ARC4 Encryption
- Energy Efficient

ANALOGUE - FM MODE

- Conventional & LTR Trunking
- FleetSync/II: PTT ID ANI / Caller ID Display, Selective Group Call, Emergency Status / Text Messages
- MDC-1200: PTT ID ANI / Caller ID Display, Selective Call, Emergency, Radio Check / Inhibit
- QT / DQT, DTMF, 5-Tone
- Built-in Voice Inversion Scrambler



Full Keypad Model

Standard Keypad Model

Basic Model

OPTIONAL ACCESSORIES

- **KNB-55L/57L**
Li-ion BATTERY PACK
(7.4 V/1480 mAh,
7.4 V/2000 mAh)



KNB-57L

- **KNB-56N**
Ni-MH BATTERY PACK
(7.2 V/1400 mAh)

- **KNB-78L***
Li-ion BATTERY PACK
(7.4 V/2860 mAh)

*Available Later

- **KBP-5**
BATTERY CASE (6 AA)

- **KSC-25LS/25S**
RAPID CHARGER
(Li-Ion Only/Tri-Chem)



KSC-25S

- **KSC-256**
MULTIPLE CHARGER
(6-pocket)

- **KMB-30**
MOUNTING BRACKET
(for KSC-256)



KSC-256

- **KRA-22/23**
VHF/UHF HELICAL
ANTENNA
(Low Profile)



KRA-22

KRA-23

- **KRA-26**
VHF HELICAL ANTENNA
(Standard Length)



- **KRA-27**
UHF WHIP ANTENNA
(Standard Length)



- **KRA-41/42**
VHF/UHF STUBBY
ANTENNA



KRA-41

KRA-42

- **KMC-45D**
SPEAKER
MICROPHONE
(IP54/55)



- **KBH-11**
BELT CLIP (2.5 in)



- **KPG-180AP**
OTAP MANAGER

All accessories and options may not be available in all markets.
Contact an authorised KENWOOD dealer for details and complete list of all accessories and options

SPECIFICATIONS

GENERAL		NX-3220	NX-3320
Frequency Range		136-174 MHz	400-520 MHz
Max. Channels per Radio		Up to 1000 channels with option	
Number of Channels		260 (64 for no LCD models)	
Number of Zones		128 (4 for no LCD models)	
Channel Spacing	Analogue	12.5/20/25 kHz	
	Digital	6.25/12.5 kHz	
Power Supply		7.5 V DC $\pm 20\%$	
Battery Life (FDMA/TDMA) 5-9-90	KNB-55L (1,480 mAh)	Approx. 8 hours/Approx. 9.5 hours	
	KNB-56N (1,400 mAh)	Approx. 8 hours/Approx. 9 hours	
	KNB-57L (2,000 mAh)	Approx. 11 hours/Approx. 13.5 hours	
	Operating Temperature	-30°C to +60°C	
Frequency Stability		± 2.0 ppm	± 1.0 ppm
Dimensions (W x H x D) *Projections not included	Radio only	56 x 119.6 x 36.4 mm ^{*1}	
	With KNB-55L (1,480 mAh)	56 x 119.6 x 36.4 mm ^{*1}	
	With KNB-56N (1,400 mAh)	56 x 119.6 x 42.7 mm ^{*1}	
	With KNB-57L (2,000 mAh)	56 x 119.6 x 39 mm ^{*1}	
Weight (net)	Radio only	220 g ^{*2}	
	With KNB-55L (1,480 mAh)	315 g ^{*2}	
	With KNB-56N (1,400 mAh)	410 g ^{*2}	
	With KNB-57L (2,000 mAh)	340 g ^{*2}	
Applicable Standards	ETSI (EMC)	EN 301 489-3, EN 301 489-5, EN 301 489-17	
	ETSI (Spectrum)	EN 300 086, EN 300 113, EN 300 219, EN 300 328, EN 300 440, EN 301 166	
	ETSI Safety	EN 60065, EN 60215, EN 60950-1	

*1 Dimensions for Full Keypad/Std Keypad Models *2 Weight for Full Keypad Model
Specifications are measured according to applicable standards
Specifications shown are typical and subject to change without notice, due to advancements in technology.

RECEIVER		NX-3220	NX-3320
Sensitivity	NXDN 3% BER (6.25 kHz/12.5 kHz)	0.20 μ V / 0.25 μ V	
	NXDN 1% BER (6.25 kHz/12.5 kHz)	-4.0 dB μ V (0.32 μ V) / -1 dB μ V (0.45 μ V)	
	DMR 12.5 kHz Digital, 5% BER	-4.5 dB μ V (0.30 μ V)	
	DMR 12.5 kHz Digital, 1% BER	-1 dB μ V (0.45 μ V)	
	Analogue, EIA 12 dB SINAD (12.5/20 & 25 kHz)	0.25 μ V	
Selectivity	Analogue, EN 20 dB SINAD (12.5/20 & 25 kHz)	-1 dB μ V (0.45 μ V) / -3 dB μ V (0.35 μ V) / -3 dB μ V (0.35 μ V)	
	Analogue 12.5 kHz	68 dB	
	Analogue 20 kHz	74 dB	
Intermodulation	Analogue 25 kHz	76 dB	
		65 dB	
Spurious Rejection		65 dB	
Audio Distortion		3%	
Audio Output (Internal Speaker)	3% Distortion	500 mW/8 Ohms	
	5% Distortion	1000 mW/8 Ohms	
TRANSMITTER		NX-3220	NX-3320
RF Power Output (High / Medium / Low)		5 W / 4 W / 1 W	
Spurious Emission		-36 dBm \leq 1 GHz, -30 dBm $>$ 1 GHz	
FM Hum & Noise	Analogue @ 25 kHz	45 dB	
	Analogue @ 20 kHz	45 dB	
	Analogue @ 12.5 kHz	40 dB	
Audio Distortion		3%	
Digital Protocol		ETSI TS 102 361-1, -2, -3	
Emission Designator		16K0F3E, 14K0F2D, 14K0F3E, 12K0F2D, 8K50F3E, 8K30F1E, 8K30F1D, 8K30F7W, 7K50F2D, 7K60F3E, 7K60FXD, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D	

APPLICABLE MIL-STD & IP

MIL Standards	Methods / Procedures				
	810C	810D	810E	810F	810G
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*	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/II, III	507.3/II, 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	516.4/I, IV	516.5/I, IV	516.6/I, IV
International Protection Standards					
Dust & Water*	IP54, IP55, IP67				

*Audio accessory connector must be covered.

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Continental of Systems Business Unit

JVCKENWOOD Corporation

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