

NXR-1700E/1800E2

VHF/UHF Analog & Digital Repeater

NXDN™ **DMR**

MULTI-MODE, SPACE SAVING SOLUTION

The Kenwood NXR-1000E series repeaters continue the line of migration friendly and forward thinking infrastructure to offer the ultimate in modern scalability and security for analog, NXDN™ and DMR two-way systems in a new and compact form-factor. Whether you are managing a single repeater, a wide area multi-site system or are managing multiple systems remotely, the NXR-1000E brings forward the same great digital two-way system capabilities while introducing the native ability to network analog and digital voice and data calls, enhanced secure remote programming, support for SSL certificates, SNMP monitoring, event and hardware logging, as well as tiered user management roles. For IT managers, this powerful repeater easily fits within modern organizational and technical requirements for support. For RF professionals the NXR-1000E is the perfect solution for an extensive range of customer needs.



Features

VHF 136-174 50 – 1 W RF Output Power (Up to 50 W @ 50%, 25 W @ 100% Duty Cycle)
 UHF 400-470 40-1W RF Output Power (up to 40W @ 50%, 25W @ 100% Duty Cycle)
 Light, Compact and Space-Efficient
 1.71-inch OLED with Icons and Numeric Displays
 Thermal-Controlled Cooling Fan
 Up to 32 Channels
 Selectable Digital Protocol: DMR Tier II / NXDN Conventional²
 (programmable one at a time)
 USB-A Connector for Audio Accessories
 External In/Out Pin from DB25
 Non-repeat Simplex / Semi-Duplex Mode for Analog and NXDN Digital²
 Hot Standby System Redundancy
 Built-in IP Network Adapter
 Unicast and Multicast Call Routing
 SNMP protocol for network management
 Supports G.711 Audio Codec (for Test console and Third-party Applications)
 IP Remote Management (Monitor / Control / Programming / Test Console)
 IPIF to External Applications (for IP Console, OTAP)
 IP Network Voice Logging Interface³
 Built-in SIP IF (Digital Only)^{1,2}
 IP Remote Control Interface (IPRCI)
 Enhanced Security (HTTPS)
 CW ID
 Multi-Site Conventional IP Network up to 16 Sites (for both Digital and Analog)²
 IP Networking Compatible with NXR-5000 (NXDN)², legacy KTI-3 (NXDN)²
 and KTI-5 (DMR)²

Digital – Common

Built-in AMBE+2™ Vocoder	Repeat Encrypted Voice/Data (AES / DES / DMR Enhanced Encryption)
Mixed Analog / Digital Operation	User List / Site Group Table
Site Roaming with Beacon	
RF-Link: NXDN ³ / DMR ³	

Digital – NXDN™ Mode

FDMA – Very narrow 6.25 kHz & narrow 12.5 kHz bandwidths	NXDN Digital Voting ^{2,3}
NXDN Conventional Operation ²	NXDN Digital Site Roaming ³
	Radio Access Control ¹

Digital – DMR Mode

TDMA 2-slot 12.5 kHz bandwidth equivalent to 6.25 kHz very narrow bandwidth	DMR Site Roaming
DMR Tier II Conventional Operation ²	Call Interruption

FM Modes – General

FM Conventional Operation	Analog call routing
Multiple QT/DQT	Voting

¹ Requires version upgrade of terminal to obtain compatibility with this model

² Software option

³ Future release

Supplied Accessories

DC Power Cable

Single mounting bracket

Dual mounting bracket

Rack handles





Example of rack mount options.

Specifications

General	NXR-1700	NXR-1800
Frequency Range		
Type 1	136 - 174 MHz	1 450-520 MHz**
Type 2		2 400-470 MHz
Channel Capacity	32	
Channel Spacing		
Analog	30* / 25* / 15 / 12.5 kHz	25 / 12.5 kHz
Digital	12.5 / 6.25 kHz	12.5 / 6.25 kHz
PLL Channel Step	2.5 / 3125 / 5 / 6.25 kHz	3125 / 5 / 6.25 kHz
Power Supply	10.8 - 15.6 V DC	
Current Drain		
Standby	0.6 A	0.7 A
Transmitting	12.0 A (Max. power), 9.0 A (25 W)	
Operating Temperature	-22°F to +140°F (-30 °C to +60 °C)	
Frequency Stability	± 0.5 ppm	
Antenna Impedance	50 Ω	
Dimensions	(W x H x D) Projections Not Included 8.21 x 1.73 x 8.33 in (208.5 x 44.0 x 211.5 mm)	
Weight Radio	418 lb (19 kg)	
FCC ID		
Type 1	K44513100	K44513200**
Type 2		K44513201
ISED Certification		-
Type 1	282F-513100	
Type 2		Type 2 282F-513100

*25/30 kHz in VHF/UHF Bands excluding T-Band are not included in the models sold in the USA or US territories.

** Future release.

Analog measurements made per TIA603. Specifications are measured according to applicable standards. Specifications shown are typical and subject to change without notice, due to advancements in technology. Details and timing of firmware and software updates are subject to change without notice.

Receiver	NXR-1700	NXR-1800
Sensitivity		
DMR (5 % BER)		0.22 µV
DMR (1 % BER)		0.28 µV
NXDN 12.5 / 6.25 kHz (3% BER)		0.25 / 0.20 µV
Analog (12dB SINAD)		0.25 µV
Selectivity		
Analog @ 25 / 12.5kHz (TIA603)	83 / 77 dB	
Analog @ 25 / 12.5kHz (TIA603E)		80 / 50 dB
83 / 74 dB		
FM Hum & Noise		
Analog @ 12.5kHz		50 dB
Analog @ 25kHz		55 dB
Intermodulation		80 dB
Spurious Rejection		90 dB

Transmitter	NXR-1700	NXR-1800
RF Power Output	50 - 1 W (50 W @ 50% Duty 25 W @ 100 % Duty)	40 - 1 W (40 W @ 50% Duty 25 W @ 100 % Duty)
Spurious Emission		-80 dB
FM Hum & Noise		
Analog @ 12.5kHz		50 dB
Analog @ 25kHz		55 dB
Audio Distortion		1%
Digital Protocol (DMR)	ETSI TS 102 361-1, -2, -3	
Emission Designator	16K0F3E, 11K0F3E, 7K60FXD, 7K60F7D, 7K60FXE, 7K60F7E, 7K60FXW, 7K60F7W, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D	

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MIL-STD & IP

MIL Standard	MIL 810F Methods/Procedures	MIL 810G Methods/Procedures	MIL 810H Methods/Procedures
High Temperature	501.4/Procedure I, II	501.5/Procedure I, II	501.7/Procedure I, II
Low Temperature	502.4/Procedure II	502.5/Procedure II	502.7/Procedure II
Temperature Shock	503.4/Procedure I, II	503.5/Procedure I	503.7/Procedure I