

# **NEXEDGE**

# NXR-700/800

NEXEDGE™ VHF/UHF Digital & FM Base Units

\*\*NXDN®\*\*

#### GENERAL FEATURES

- 136-154, 146-174 MHz
- 400-430, 450-480, 480-512 MHz
- 40 / 100 / 250 Watt UHF Systems
- Repeater Operation
- Duplex / Simplex Base Operation
- 30 CH Scanning Base (Conventional)
- Two-Digit LED Display
- LED Status Indicators
- 6 Programmable Function Keys
- 3 W External Speaker Audio
- Volume Control
- Microphone Jack
- Program / Modem Interface
- Remote Termination Interface
- Programmable AUX I/O's
- DTMF Front Panel PF Key Control
- DTMF AUX Output Control
- DTMF AUX Input Monitoring
- KPG-109D Windows® FPU
- Flash Firmware Upgrading

#### DIGITAL – GENERAL

- NXDN® Digital Air Interface
- NXDN® Scrambler Included
- AMBE+2<sup>™</sup> VOCODER
- 6.25 & 12.5 kHz Channels
- UID & GID Validation
- NXR Over-the-Air Alias
- KXK-3 OCXO Option

#### DIGITAL – CONVENTIONAL MODE

- 16 RAN Repeater Controller Built-in
- 1,000 GIDs Per Site
- 1,000 UIDs Per Site
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming Capability

#### DIGITAL TRUNKING OPTION

- 3,000 GIDs Per Site
- 3,000 UIDs Per Site
- 30 Channels Per Site
- Transmission Trunked Mode
- Message Trunked Mode
- Busy Call Queuing
- Call Que Pre-emption
- Late Entry (UID & GID)
- Control / Traffic Channel Switching
- Control Channel Rotation
- Cross-Busy
- Failsoft Mode
- NXDN® Traffic Channel Sharing
- 2 MB Call/Activity Memory
- Compact Flash Memory Expansion

#### MULTI-SITE IP NETWORKS OPTION

- 48 Site Trunked IP Networks
- 60,000 GIDs Per Network
- 60,000 UIDs Per Network
- NEXEDGE<sup>™</sup> Trunked Features
- Ethernet Network Interface
- IP LAN/WAN Connectivity
- ESN Validation
- Auto-Roaming / Registration
- Wide Area All Group Call
- Virtual Private Network
- Group Registration
- Use of Off-the-Shelf 10 Base-T/100
   Base-TX Ethernet Switching & Routers

#### **KPG-110SM SYSTEM MANAGER**

- Trunked Sites & IP Networks Systems Only
- Windows® 2000/XP/Vista® Compatible
- USB Secure Key Access
- Direct, Dial-Up & IP Connectivity
- Subscriber Privileging
- 127 UID Class-of-Service Entries
- 127 GID Class-of-Service Entries
- 5000 Fleets (UID/GID User Lists)
- Group Call Inter-Site Limits
- Remote Site Programming
- Real-Time Activity MonitoringNXR/Network Interface Diagnostics
- Call Logging / Event Download
- Remote System Firmware Updates

#### FM MODES – GENERAL

- 25 & 12.5 kHz Channels
- Encryption/ANI Board Control

#### FM CONVENTIONAL MODE

- 16 QT/DQT Repeater Control Built-in
- Hang Timer / Time Out Timer / CW ID
- External FM Controller Interface
- EIA Voter Tone Generation
- Voting

#### FM TRUNKED MODE

- External LTR® Controller Interface
- External MPT Controller Interface



### Options



 $<sup>\</sup>ensuremath{^{\star}}$  Required for 6.25 kHz trunking or frequency stability to observe the regulations.

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

## Main Specifications

RECEIVER           Sensitivity         Digital @ 6.25kHz (3% BER) Digital @ 12.5kHz (3% BER)         0.27 μV Digital @ 12.5kHz (3% BER)         0.33 μV Digital @ 12.5kHz (3% BER)         0.30 μV           Selectivity         Analog @ 25/30 kHz Analog @ 25/30 kHz B5 dB (± 30 kHz) B5 dB (± 12.5 kHz)         87 dB (± 25 kHz) B1 dB (± 12.5 kHz)         87 dB (± 25 kHz) B1 dB (± 12.5 kHz)         87 dB (± 25 kHz) B1 dB (± 12.5 kHz)         87 dB (± 12.5 kHz) <th></th> <th></th> <th>NXR-700</th> <th>NXR-800</th>			NXR-700	NXR-800	
K2	GENERAL		<u>'</u>		
Channel Spacing	Frequency Range	K	146-174 MHz	450-480 MHz	
Channel Spacing		K2	136-154 MHz	480-512 MHz (RX) / 477-512 MHz (TX)	
Digital   6.25 / 12.5 kHz   6.25 / 12.5 kHz   3.125 / 5 / 6.25 kHz		К3		400-430 MHz	
PLL Channel Step         2.5/3.125/5/6.25 kHz         3.125/5/6.25 kHz           Frequency Stability         Radio only with KXK-3 (M)         ± 1.5 ppm           With KXK-3 (M2)         ± 1.0 ppm           Operating Voltage         10.8 - 15.9 V DC           Operating Temperature Range         -30° C to +60° C (22° F to + 140° F)           Antenna Impedance         50 Ω           Dimensions (W x H x D) Projections not included         483 x 44 x 331 mm           Weight (net)         5 kg           RECEIVER           Sensitivity           Digital @ 6.25kHz (3% BER)         0.27 μV           Digital @ 12.5kHz (3% BER)         0.33 μV           Analog (2 26 SiNAD)         93 dB (± 30 kHz)         87 dB (± 25 kHz)           Analog @ 25/30 kHz         93 dB (± 12.5 kHz)         87 dB (± 25 kHz)           FM Hum & Noise         Analog @ 25/30 kHz         60 dB           Analog @ 12.5 kHz         85 dB (± 12.5 kHz)         81 dB (± 12.5 kHz)           Spurious Response         100 dB           Audio Distortion (Ext. SP)         3 W (at 4Ω, less than 5% distortion)           TRANSMITTER         5 dB           RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM	Channel Spacing	Analog	12.5 / 15 / 25 / 30 kHz	12.5 / 25 kHz	
Frequency Stability   Radio only   With KXK-3 (M)   ± 1.5 ppm   ± 0.5 ppm		Digital	6.25 / 12.5 kHz	6.25 / 12.5 kHz	
With KXK-3 (M)	PLL Channel Step		2.5 / 3.125 / 5 / 6.25 kHz	3.125 / 5 / 6.25 kHz	
With KXK-3 (M2)         ± 1.0 ppm           Operating Voltage         10.8 - 15.9 V DC           Operating Temperature Range         -30° C to +60° C (-22° F to + 140° F)           Antenna Impedance         50 Ω           Dimensions (W x H x D) Projections not included         483 x 44 x 331 mm           Weight (net)         5 kg           RECEIVER           Sensitivity           Digital @ 6.25kHz (3% BER)         0.27 μV           Digital @ 12.5kHz (3% BER)         0.33 μV           Analog (12 dB SINAD)         0.30 μV           Selectivity           Analog @ 25/30 kHz         93 dB (± 30 kHz)         87 dB (± 25 kHz)           Analog @ 25/30 kHz         85 dB (± 12.5 kHz)         81 dB (± 12.5 kHz)           FM Hum & Noise           Analog @ 25/30 kHz         55 dB           Analog @ 12.5 kHz         93 dB (± 30 kHz)         85 dB (± 50 / 100 kHz)           Spurious Response         93 dB (± 50 / 100 kHz)         93 dB (± 12.5 kHz)           Response         100 dB         93 dB (± 100 / 100 kHz)         93 dB (± 100 / 100 kHz)           TRANSMITTER         73 dB         93 dB (± 100 / 100 kHz)         93 dB (± 100 / 100 kHz)           FM Hum & Noise         73 dB         94 dB (± 100 /	Frequency Stability	Radio only	± 1.5 ppm		
Operating Voltage         10.8 - 15.9 ∨ DC           Operating Temperature Range         -30° C to +60° C (22° F to +140° F)           Antenna Impedance         50 Ω           Dimensions (W x H x D) Projections not included         483 x 44 x 331 mm           Weight (net)         5 kg           RECEIVER           Sensitivity           Digital @ 6.25kHz (3% BER) Digital @ 12.5kHz (3% BER) Di		With KXK-3 (M)	± 0.5 ppm		
Operating Temperature Range		With KXK-3 (M2)	± 1.	0 ppm	
Antenna Impedance   50 Ω	Operating Voltage		10.8 - 15.9 V DC		
Dimensions (W x H x D)   Projections not included	Operating Temperature Range		-30° C to +60° C (-22° F to + 140° F)		
Skg   Skg	Antenna Impedance		50 Ω		
Skg   Skg	Dimensions (W x H x D) Projections not included		483 x 44 x 331 mm		
Digital @ 6.25kHz (3% BER)	Weight (net)		5 kg		
Digital @ 6.25kHz (3% BER)   0.27 μV   Digital @ 12.5kHz (3% BER)   0.33 μV   0.33 μV   0.30 μV	RECEIVER			5	
Digital @ 12.5kHz (3% BER)	Sensitivity				
Analog (12 dB SINAD)   0.30 μV	•	Digital @ 6.25kHz (3% BER)	!		
Selectivity         Analog @ 25/30 kHz Analog @ 12.5 kHz         93 dB (± 30 kHz) 87 dB (± 25 kHz)           FM Hum & Noise         Analog @ 25/30 kHz Analog @ 12.5 kHz         60 dB Analog @ 12.5 kHz           Intermodulation Distortion         85 dB (± 50 / 100 kHz)           Spurious Response         100 dB           Audio Distortion (Ext. SP)         Less than 2% (at 0.3 W)           Audio Output (Ext. SP)         3 W (at 4Ω, less than 5% distortion)           TRANSMITTER         5 W to 0.5 W           Spurious & Harmonics         5 W to 0.5 W           FM Hum & Noise         55 dB           Analog @ 25/30 kHz Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1B, 8K30FTW, 4K00F1E,					
Analog @ 25/30 kHz Analog @ 12.5 kHz   93 dB (± 30 kHz) 85 dB (± 12.5 kHz)   81 dB (± 25 kHz)		Analog (12 dB SINAD)	0.30 μV		
Mailog @ 12.5 kHz   85 dB (± 12.5 kHz)   81 dB (± 12.5 kHz)	Selectivity				
FM Hum & Noise         Analog @ 25/30 kHz Analog @ 12.5 kHz       60 dB         Intermodulation Distortion       85 dB (± 50 / 100 kHz)         Spurious Response       100 dB         Audio Distortion (Ext. SP)       Less than 2% (at 0.3 W)         Audio Output (Ext. SP)       3 W (at 4Ω, less than 5% distortion)         TRANSMITTER         RF Power Output       5 W to 0.5 W         Spurious & Harmonics       73 dB         FM Hum & Noise       55 dB         Analog @ 25/30 kHz Analog @ 12.5 kHz       50 dB         Audio Distortion       Less than 1% at 1000 Hz         Modulation       16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F7W, 4K00F1E,					
Analog @ 25/30 kHz Analog @ 12.5 kHz Analog @ 12.5 kHz  Intermodulation Distortion  Spurious Response  Audio Distortion (Ext. SP)  Audio Output (Ext. SP)  RF Power Output  Spurious & Harmonics  FP Power Output  Spurious & Harmonics  FM Hum & Noise  Analog @ 25/30 kHz Analog @ 12.5 kHz  Analog @ 12.5 kHz  Audio Distortion  Audio Distortion  Less than 1% at 1000 Hz  Best han 1% at 1000 Hz  Audio Distortion  Modulation  Modulation  60 dB  85 dB (± 50 / 100 kHz)  87 dat 0.3 W)  88 distortion  5 W to 0.5 W  5 Uto 0.5 W  5 D dB  4 analog @ 12.5 kHz  5 D dB  4 Less than 1% at 1000 Hz  16 κΟρ 3Ε, 11 κΟρ 3Ε, 8Κ 3Ορ 1Ε, 8Κ 3Ορ	FM Hum O Naisa	Analog @ 12.5 KHZ	85 GB (± 12.5 KHZ)	81 dB (± 12.5 KHZ)	
Analog @ 12.5 kHz         55 dB           Intermodulation Distortion         85 dB (± 50 / 100 kHz)           Spurious Response         100 dB           Audio Distortion (Ext. SP)         Less than 2% (at 0.3 W)           Audio Output (Ext. SP)         3 W (at 4Ω, less than 5% distortion)           TRANSMITTER           RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         55 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F7U, 4K00F1E,	FIVI Hum & Noise	Analog @ 25/30 kHz	60	J 4B	
Intermodulation Distortion         85 dB (± 50 / 100 kHz)           Spurious Response         100 dB           Audio Distortion (Ext. SP)         Less than 2% (at 0.3 W)           Audio Output (Ext. SP)         3 W (at 4Ω, less than 5% distortion)           TRANSMITTER           RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         55 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F7U, 4K00F1E,					
Spurious Response         100 dB           Audio Distortion (Ext. SP)         Less than 2% (at 0.3 W)           Audio Output (Ext. SP)         3 W (at 4Ω, less than 5% distortion)           TRANSMITTER           RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         50 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,					
Audio Distortion (Ext. SP)       Less than 2% (at 0.3 W)         Audio Output (Ext. SP)       3 W (at 4Ω, less than 5% distortion)         TRANSMITTER         RF Power Output       5 W to 0.5 W         Spurious & Harmonics       73 dB         FM Hum & Noise       55 dB         Analog @ 25/30 kHz       50 dB         Analog @ 12.5 kHz       50 dB         Audio Distortion       Less than 1% at 1000 Hz         Modulation       16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,					
TRANSMITTER           RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         55 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F7W, 4K00F1E,	Audio Distortion (Ext. SP)		Less than 2% (at 0.3 W)		
RF Power Output         5 W to 0.5 W           Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         55 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,			3 W (at $4\Omega$ , less	3 W (at $4\Omega$ , less than 5% distortion)	
Spurious & Harmonics         73 dB           FM Hum & Noise         55 dB           Analog @ 25/30 kHz         50 dB           Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,	TRANSMITTER				
## Analog @ 25/30 kHz  Analog @ 12.5 kHz  Audio Distortion  Modulation  Audio Distortion  ## Analog @ 12.5 kHz  Audio Distortion  ## Analog @ 12.5 kHz  ## Bodd  ## Analog @ 25/30 kHz  ## Bodd  #	RF Power Output		5 W to 0.5 W		
Analog @ 25/30 kHz Analog @ 12.5 kHz  Audio Distortion  Modulation  Audio Distortion  Less than 1% at 1000 Hz 16K0F3E, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,	Spurious & Harmonics		73 dB		
Analog @ 12.5 kHz         50 dB           Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,	FM Hum & Noise				
Audio Distortion         Less than 1% at 1000 Hz           Modulation         16K0F3E, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E,	<u> </u>				
Modulation         16K0F3E, 11K0F3E, 8K30F1E,           8K30F1D, 8K30F7W, 4K00F1E,		Analog @ 12.5 kHz			
8K30F1D, 8K30F7W, 4K00F1E,					
	Modulation				

Analog measurements made per TIA/EIA 603 and specifications shown are typical. Kenwood reserves the right to change specifications without prior notice or obligation.

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AMBE+2<sup>™</sup> is a trademark of Digital Voice Systems Inc.

Windows<sup>®</sup> and Windows 2000/XP/Vista<sup>®</sup> are registered trademarks of Microsoft Corporation.

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NEXEDGE<sup>™</sup> is a trademark of Kenwood Corporation in U.S.A. and some countries.

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.

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