

#### ● GENERAL FEATURES

- 50W (136-174 MHz) Model
- 45W (400-470, 450-520 MHz) Models
- 260 CH-GID / 128 Zones
- 10 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function/Status LCD Icons
- Transmit/Busy/Call Alert/Warn LED
- Blue Function/Status LED
- On/Off Power Control
- 4 Up/Down Selectors
- 6 Front PF Keys
- Emergency/AUX Key
- 4W Speaker Audio
- Zone / CH Number Voice Announcement
- DB-15 Accessory Connector
- 6 Programmable AUX I/Os
- KPG-141D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP-54 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input<sup>1</sup>
- Transparent Data Mode<sup>1</sup>
- Built-in GPS Receiver

#### ● DIGITAL COMMON

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming<sup>2</sup>
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging<sup>1</sup>
- Remote Stun/Kill<sup>1</sup>
- Remote Check<sup>1</sup>
- Short & Long Data Messages<sup>1</sup>
- GPS Location with Voice<sup>1</sup>
- NXDN® Scrambler Included

#### ● DIGITAL CONVENTIONAL MODE

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

#### ● DIGITAL TRUNKING MODE

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect<sup>3</sup>
- Transmission Trunked Mode<sup>3</sup>
- Message Trunked Mode<sup>3</sup>
- Call Queuing with Priority<sup>3</sup>
- Late Entry (UID & GID)<sup>3</sup>
- 4 Priority Monitor ID's<sup>3</sup>
- Remote Group Add<sup>1</sup>
- Failsoft Mode

#### ● MULTI-SITE IP NETWORKS COMPATIBLE

- 60,000 GIDs / UIDs
- Wide Area Group Call
- Auto Roaming Registration
- Group Registration

#### ● MULTI-SYSTEM COMPATIBLE

- 8 Trunked Networks<sup>4</sup>
- UID Lists for each network

#### ● SCAN

- Single Zone / Multi-Zone / List Scan
- Single Priority Scan (Conventional)

#### ● ANALOG MODE - GENERAL

- 25 & 12.5 kHz Channels
- Conventional & LTR® or MPT Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT & Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler (16 Codes)

#### ● MPT ZONES\*

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

#### ● FleetSync®II (FM)

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages<sup>1</sup>

#### ● MDC-1200

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

\* Optional feature



## Options

**KMC-35**  
Microphone  
(Supplied)



**KES-3**  
External Speaker



**KLF-2**  
Line Filter



**KCT-60**  
DB 15-to-15 Pin  
Molex Adaptor Cable



**KMC-36**  
Microphone  
with Keypad



**KES-5**  
External Speaker  
(requires KCT-60 option)



**KCT-18**  
Ignition Sense Cable  
(requires KCT-60 option)



**KRA-40G**  
GPS Antenna



**KMC-9C**  
Desktop Microphone



**KMB-10**  
Key Lock Adapter



**KCT-36**  
3m Extension Cable  
(for KCT-60)



**KPS-15**  
DC Power Supply



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

|                                    |                          | NX-720HG                                  | NX-820HG        |
|------------------------------------|--------------------------|---|-----------------|
| <b>GENERAL</b>                     |                          |   |                 |
| <b>Frequency Range</b>             | Type 1                   | 136-174 MHz                               | 450-520 MHz     |
|                                    | Type 2                   |   | 400-470 MHz     |
| <b>Number of Channels</b>          |                          | 260                                       |                 |
| <b>Zones</b>                       |                          | 128                                       |                 |
| <b>Max. Channels per Zone</b>      |                          | 250                                       |                 |
| <b>Channel Spacing</b>             | <b>Analog</b>            | 12.5 / 15 / 25* / 30* kHz                 | 12.5 / 25* kHz  |
|                                    | <b>Digital</b>           | 6.25 / 12.5 kHz                           | 6.25 / 12.5 kHz |
| <b>Operating Voltage</b>           |                          | 13.6 V DC $\pm$ 15%                       |                 |
| <b>Operating Temperature Range</b> |                          | -22° F to +140° F (-30° C to +60° C)      |                 |
| <b>Frequency Stability</b>         |                          | $\pm$ 1.0 ppm                             |                 |
| <b>Antenna Impedance</b>           |                          | 50 $\Omega$                               |                 |
| <b>Dimensions (W x H x D)</b>      | Projections not included | 6.30 x 1.69 x 5.35 in (160 x 43 x 136 mm) |                 |
| <b>Weight (net)</b>                |                          | 2.87 lb (1.3 kg)                          |                 |
| <b>FCC ID</b>                      | Type 1                   | K44431100                                 | K44431200       |
|                                    | Type 2                   |   | K44431201       |
| <b>IC Certification</b>            | Type 1                   | 282F-431100                               |                 |
|                                    | Type 2                   |   | 282F-431201     |

Analog measurements made per TIA/EIA 603 and specifications shown are typical.  
Specifications are subject to change without notice, due to advancements in technology.  
\*25 kHz is not for sale in the USA or US territories.

FleetSync® is a registered trademark of JVCKENWOOD Corporation.  
LTR® is a registered trademark of Transcript International.  
AMBE+2™ is a trademark of Digital Voice Systems Inc.  
Windows® is a registered trademark of Microsoft Corporation.  
NXDN® is a trademark of JVCKENWOOD Corporation and Icom Inc.  
NEXEDGE® is a trademark of JVCKENWOOD Corporation.

|  |                                    | NX-720HG   | NX-820HG  |
|--|------------------------------------|--|-----------|
| <b>RECEIVER</b>                              |                                    |  |           |
| <b>Sensitivity</b>                           | <b>Digital @ 6.25 kHz (3% BER)</b> | 0.20 $\mu$ V   |           |
|  | <b>Digital @ 12.5 kHz (3% BER)</b> | 0.28 $\mu$ V   |           |
|  | <b>Analog (12 dB SINAD)</b>        | 0.25 $\mu$ V   |           |
| <b>Selectivity</b>                           | <b>Analog @ 25 kHz</b>             | 80 dB  |           |
|  | <b>Analog @ 12.5 kHz</b>           | 70 dB  |           |
| <b>Intermodulation</b>                       | <b>Analog</b>                      | 70 dB ( $\pm$ 50, 100 kHz)   |           |
| <b>Spurious Response</b>                     | <b>Analog</b>                      | 85 dB  | 80 dB     |
| <b>Audio Distortion</b>                      |                                    | Less than 3%   |           |
| <b>Audio Output</b>                          |                                    | 4 W / 4 $\Omega$   |           |
| <b>TRANSMITTER</b>                           |                                    |  |           |
| <b>RF Power Output</b>                       |                                    | 50-30-5 W  | 45-30-5 W |
| <b>Spurious Response</b>                     |                                    | 73 dB  | 75 dB     |
| <b>FM Hum &amp; Noise</b>                    | <b>Analog @ 25 kHz</b>             | 50 dB  |           |
|  | <b>Analog @ 12.5 kHz</b>           | 45 dB  |           |
| <b>Audio Distortion</b>                      |                                    | Less than 3%   |           |
| <b>Modulation</b>                            |                                    | 16K0F3E*, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D |           |
| <b>GPS**</b>                                 |                                    |  |           |
| <b>TIFF (Time to First Fix) - Cold Start</b> |                                    | < 60 seconds   |           |
| <b>TIFF (Time to First Fix) - Hot Start</b>  |                                    | < 10 seconds   |           |
| <b>Horizontal Accuracy</b>                   |                                    | < 10 meters  |           |

\*\* Accuracy specs are for long-term tracking (95th percentile values > 5 satellites visible at a nominal - 130 dBm signal strength)

Footnotes from front:

<sup>1</sup> Require NX subscriber unit PC Serial Interface compatible software application (e.g. Kenwood AVL & Dispatch Messaging software) or hardware (e.g. console).

<sup>2</sup> Requires Kenwood OTAP Management software.

<sup>3</sup> These trunked features are primarily system programming and operational dependent. Priority Monitor also requires NX subscriber settings.

<sup>4</sup> Up to 8 different Trunked networks can be configured per radio (each in a zone)

## Applicable MIL-STD & IP

| MIL Standard                             | MIL 810C<br>Methods/Procedures | MIL 810D<br>Methods/Procedures | MIL 810E<br>Methods/Procedures | MIL 810F<br>Methods/Procedures | MIL 810G<br>Methods/Procedures |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>Low Pressure</b>                      | 500.1/Procedure I              | 500.2/Procedure I, II          | 500.3/Procedure I, II          | 500.4/Procedure I, II          | 500.5/Procedure I, II          |
| <b>High Temperature</b>                  | 501.1/Procedure I, II          | 501.2/Procedure I, II          | 501.3/Procedure I, II          | 501.4/Procedure I, II          | 501.5/Procedure I, II          |
| <b>Low Temperature</b>                   | 502.1/Procedure I              | 502.2/Procedure I, II          | 502.3/Procedure I, II          | 502.4/Procedure I, II          | 502.5/Procedure I, II          |
| <b>Temperature Shock</b>                 | 503.1/Procedure I              | 503.2/Procedure I              | 503.3/Procedure I              | 503.4/Procedure I, II          | 503.5/Procedure I              |
| <b>Solar Radiation</b>                   | 505.1/Procedure I              | 505.2/Procedure I              | 505.3/Procedure I              | 505.4/Procedure I              | 505.5/Procedure I              |
| <b>Rain</b>                              | 506.1/Procedure I, II          | 506.2/Procedure I, II          | 506.3/Procedure I, II          | 506.4/Procedure I, III         | 506.5/Procedure I, III         |
| <b>Humidity</b>                          | 507.1/Procedure I, II          | 507.2/Procedure II, III        | 507.3/Procedure II, III        | 507.4                          | 507.5/Procedure II             |
| <b>Salt Fog</b>                          | 509.1/Procedure I              | 509.2/Procedure I              | 509.3/Procedure I              | 509.4                          | 509.5                          |
| <b>Dust</b>                              | 510.1/Procedure I              | 510.2/Procedure I              | 510.3/Procedure I              | 510.4/Procedure I, III         | 510.5/Procedure I              |
| <b>Vibration</b>                         | 514.2/Procedure VIII, X        | 514.3/Procedure I              | 514.4/Procedure I              | 514.5/Procedure I              | 514.6/Procedure I              |
| <b>Shock</b>                             | 516.2/Procedure I, II, V       | 516.3/Procedure I, IV          | 516.4/Procedure I, IV          | 516.5/Procedure I, IV          | 516.6/Procedure I, IV          |
| <b>International Protection Standard</b> |                                |                                |                                |                                |                                |
| <b>Dust &amp; Water Protection</b>       | IP54: Radio itself             |                                |                                |                                |                                |

To meet MIL-810 and IP grade, Microphone & Cover for D-sub15 & SP connector have to be connected.

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