

# KENWOOD

Listen to the Future

## NEXEDGE®

# NX-220E/320E

NEXEDGE® VHF/UHF Digital & FM Portable Radios

## NXDN®

FleetSync®  
by KENWOOD

5-tone



NX-220E2/320E2

NX-220E/320E

NX-220E3/320E3

### ● GENERAL FEATURES

- 5 W (136-174 MHz) Models
- 5 W (400-470 MHz) Models
- Meets ETSI EN Standards
- 260 CH-GID / 128 Zones (LCD Models)
- 64 CH-GID / 4 Zones (Non LCD Models)
- 12-Key Keypad Models
- 8 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function / Status LCD Icons
- Transmit / Busy / Call Alert / Warn LED
- On / Off Volume Knob
- 16-Position Mechanical Selector
- 4 Front PF Keys (LCD Models)
- 3 Side PF Keys
- Emergency / AUX Key
- Built-in Motion Sensor
- 500 mW Speaker Audio
- Zone / CH Number Voice Announcement
- KMC-48GPS Speaker Mic Option
- KPG-141D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input\*1
- Transparent Data Mode\*1

### ● DIGITAL – GENERAL

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

### ● DIGITAL – CONVENTIONAL MODE

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call\*3
- Mixed FM / Digital Operation
- Conventional IP Networks
- Site Roaming

### ● DIGITAL – TRUNKING MODE

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

### ● MULTI-SITE IP NETWORK COMPATIBLE

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

### ● SCAN

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

### ● FM MODES – GENERAL

- 25, 20 & 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync® / II, MDC-1200, DTMF\*3
- QT / DQT & 2-Tone (Conventional Zones only)\*3
- 5-Tone Encode / Decode (Conventional Zones Only)\*3
- Voice Inversion Scrambler (16 Codes)

### ● FleetSync® / II (FM)

- PTT ID ANI / Caller ID\*3
- Selective / Group Call\*3
- Emergency, Status & Text Messages\*1

### ● MDC-1200

- PTT ID ANI / Caller ID\*3
- Emergency, Radio Check & Inhibit

\*1 Requires NX subscriber unit PC Serial Interface compatible software application (e.g. Kenwood AVL & Dispatch Messaging software) or hardware (e.g. console).

\*2 Non LCD Models -Pre-programmed key operation

\*3 Non LCD Models -Some screen / key-based functions are not available.

\*4 These trunked features are primarily system programming and operational dependent. Priority Monitor also requires NX subscriber settings.

<http://nexedge.kenwood.com>

## Options

■ **KNB-55L**  
Li-Ion Battery  
(1480mAh)



■ **KNB-56N**  
Ni-MH Battery  
(1400mAh)



■ **KNB-57L**  
Li-Ion Battery  
(2000mAh)



■ **KBP-5**  
6 AA Alkaline  
Battery Case



■ **KSC-25**  
Rapid Charger



■ **KSC-30**  
Regular Charger  
for Ni-MH Batteries



■ **KSC-256**  
Rapid Rate 6-Unit  
Charger



■ **KMC-45**  
Speaker Microphone



■ **KMC-21**  
Speaker Microphone



■ **KMC-48GPS**  
GPS Speaker  
Microphone



■ **KRA-22/23**  
VHF/UHF Helical  
Antenna



■ **KRA-26/27**  
VHF Helical/UHF  
Whip Antenna



■ **KMB-30**  
Wall Mount Bracket  
for KSC-256



■ **KEP-2**  
2.5mm Earphone  
Kit for KMC-45



■ **KHS-7/7A**  
Single Muff Headset



■ **KHS-8BL**  
2-wire Palm Mic.  
w/Earphone



■ **KHS-9BL**  
3-wire Palm Mic.  
w/Earphone



■ **KHS-10-OH**  
Heavy-Duty Noise  
Reduction Headset



■ **KHS-21**  
Headset w/Boom Mic.  
& PTT



■ **KHS-22**  
Headset w/Boom Mic.  
& PTT



■ **KHS-29F**  
Clip Mic. w/Earhanger



■ **EMC-7**  
Clip Mic. w/Earhanger  
& PTT



■ **KBH-12**  
Belt clip



■ **KWR-1**  
Water Resistant Bag



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-220                                | NX-320      |
|---|--------------------|---------------------------------------|-------------|
| <b>GENERAL</b>                                  |                    |                                       |             |
| Frequency Range                                 |                    | 136-174 MHz                           | 400-470 MHz |
| Number of Channels                              | LCD models         | 260 ch                                |             |
|   | Non LCD models     | 64 ch                                 |             |
| Zones   | LCD models         | 128 zone                              |             |
|   | Non LCD models     | 4 zone                                |             |
| Max. Channels per Zone                          | LCD models         | 250 ch                                |             |
|   | Non LCD models     | 16 ch                                 |             |
| Channel Spacing                                 | Analogue           | 12.5 / 20 / 25 kHz                    |             |
|   | Digital            | 6.25 / 12.5 kHz                       |             |
| Operating Voltage                               |                    | 7.5 V DC ± 20%                        |             |
| Battery Life (5-5-90)                           | KNB-55L (1480 mAh) | Approx. 8.5 hours                     |             |
|   | KNB-56N (1400 mAh) | Approx. 8.5 hours                     |             |
|   | KNB-57L (2000 mAh) | Approx. 11.5 hours                    |             |
|   |                    | -30° C to +60° C                      |             |
| Operating Temperature Range                     |                    | -30° C to +60° C                      |             |
| Frequency Stability                             |                    | ± 2.0 ppm                             | ± 1.0 ppm   |
| Antenna Impedance                               |                    | 50 Ω                                  |             |
| Dimensions (W x H x D) Projections not included | LCD models         | 56.0 x 110.5 x 36.9 mm (radio only)   |             |
|   |                    | 56.0 x 110.5 x 37.5 mm (with KNB-55L) |             |
|   | Non LCD models     | 56.0 x 110.5 x 39.5 mm (with KNB-57L) |             |
|   |                    | 56.0 x 110.5 x 37.5 mm (radio only)   |             |
| Weight (net)                                    | LCD models         | 210 g (radio only)                    |             |
|   |                    | 305 g (with KNB-55L)                  |             |
|   | Non LCD models     | 330 g (with KNB-57L)                  |             |
|   |                    | 205 g (radio only)                    |             |
| Applicable Standards                            | ETSI R & TTE       | EN 300 086, EN 300 113, EN 300 219,   |             |
|   |                    | EN 301 489, EN 301 166                |             |
|   |                    | EN 60065, EN 60950-1, EN 60215        |             |
|   | ETSI Safety        | EN 60065, EN 60950-1, EN 60215        |             |

|  |                | NX-220  | NX-320 |
|--|----------------|---|--------|
| <b>RECEIVER</b>  |                |   |        |
| Sensitivity (Analogue)<br>(25kHz / 20kHz / 12.5kHz)                  | EIA 12dB SINAD | 0.28 μV / 0.28 μV / 0.32 μV   |        |
|  | EN 20dB SINAD  | -3 dB μV (0.35 μV) / -3 dB μV (0.35 μV) / -1 dB μV (0.45 μV)  |        |
| Sensitivity (Digital)<br>(12.5kHz / 6.25kHz)                         | 3% BER         | 0.32 μV / 0.25 μV   |        |
|  | 1% BER         | -1 dB μV (0.45 μV) / -4 dB μV (0.32 μV)   |        |
| Adjacent Channel Selectivity (Analogue)<br>(25kHz / 20kHz / 12.5kHz) |                | 76 dB / 74 dB / 68 dB   |        |
| Intermodulation (Analogue)   |                | 65 dB   |        |
| Spurious Response Rejection (Analogue)                               |                | 75 dB   |        |
| Audio Distortion   |                | Less than 3%  |        |
| Audio Output   |                | 500 mW / 8 Ω  |        |
| <b>TRANSMITTER</b>   |                |   |        |
| RF Power Output  | High / Low     | 5 W / 1 W   |        |
| Modulation Limiting (Analogue)                                       |                | ± 5.0 kHz at 25 kHz   |        |
|  |                | ± 4.0 kHz at 20 kHz   |        |
|  |                | ± 2.5 kHz at 12.5 kHz   |        |
| Spurious Emission  |                | -36 dBm ≤ 1 GHz, -30 dBm > 1 GHz  |        |
| FM Noise (EIA)<br>(Analogue, 25 kHz / 20 kHz / 12.5 kHz)             |                | 45 dB / 45 dB / 40 dB   |        |
|  |                | Less than 3%  |        |
| Modulation Distortion  |                | 1.8 kΩ  |        |
| Microphone Impedance   |                | 16K0F3E, 14K0F3E, 14K0F2D, 12K0F2D, 8K50F3E, 7K50F2D, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D |        |
| Modulation   |                |   |        |

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

Fleetsync® is a registered trademark of Kenwood 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 registered trademark of Kenwood Corporation and Icom Inc.

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## 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 |
|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Low Pressure                             | 500.1/Procedure I              | 500.2/Procedure I, II          | 500.3/Procedure I, II          | 500.4/Procedure I, II          | 500.5/Procedure I, II          |
| High Temperature                         | 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          |
| Low Temperature                          | 502.1/Procedure I              | 502.2/Procedure I, II          | 502.3/Procedure I, II          | 502.4/Procedure I, II          | 502.5/Procedure I, II          |
| Temperature Shock                        | 503.1/Procedure I              | 503.2/Procedure I              | 503.3/Procedure I              | 503.4/Procedure I, II          | 503.5/Procedure I              |
| Solar Radiation                          | 505.1/Procedure I              | 505.2/Procedure I              | 505.3/Procedure I              | 505.4/Procedure I              | 505.5/Procedure I              |
| Rain                                     | 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         |
| Humidity                                 | 507.1/Procedure I, II          | 507.2/Procedure II, III        | 507.3/Procedure II, III        | 507.4                          | 507.5/Procedure II             |
| Salt Fog                                 | 509.1/Procedure I              | 509.2/Procedure I              | 509.3/Procedure I              | 509.4                          | 509.5                          |
| Dust                                     | 510.1/Procedure I              | 510.2/Procedure I              | 510.3/Procedure I              | 510.4/Procedure I, III         | 510.5/Procedure I              |
| Vibration                                | 514.2/Procedure VIII, X        | 514.3/Procedure I              | 514.4/Procedure I              | 514.5/Procedure I              | 514.6/Procedure I              |
| Shock                                    | 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> |                                |                                |                                |                                |                                |
| Dust & Water Protection                  | IP54/55                        |                                |                                |                                |                                |

To meet MIL-810 and IP grade, the 2-pin connector has to be connected.

## Listen to the Future

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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