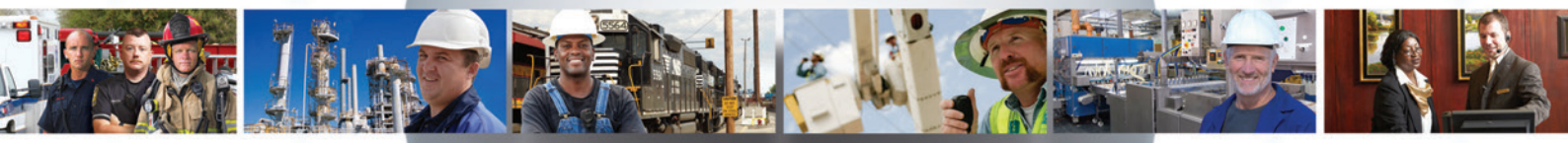
KENWOOD

NEXEDGE®-ability



NEXEDGE® KENWOOD DIGITAL SYSTEMS

NEXEDGE® is KENWOOD's innovative digital conventional and trunked radio solution, designed to meet the highest demands of today's radio system environment and to provide users with a multitude of NEXEDGE®-abilities to transform their demanding daily operations.

NEXEDGE®-ability

Communications play a critical role in your ability to respond to and prepare for events from daily operations to critical incidents, and all at the fast pace of today's industries. To meet that pace, business, industry and public safety communications requirements have evolved from the basics of user-friendliness and ease of operation to the innovative features enabled by the latest digital technologies. For the first time in the history of the communications industry, you have a new kind of choice with NEXEDGE®. A choice that meets your basic needs and exceeds them with the power and versatility of NEXEDGE®-abilities. Each of these key digital abilities has been developed specifically to perfectly align with your requirements for a robust and versatile digital network.

Intelligibility	*Superior Audio Quality*
Reliability	*Fault Tolerant by Design*
Flexibility	*Easy Configuration Changes*
Scalability	*Expands to Meet Your Requirements*
Manageability	*Fleet Management at Your Fingertips*
Durability	*Engineered to Meet Stringent Military Specifications*

Intelligibility

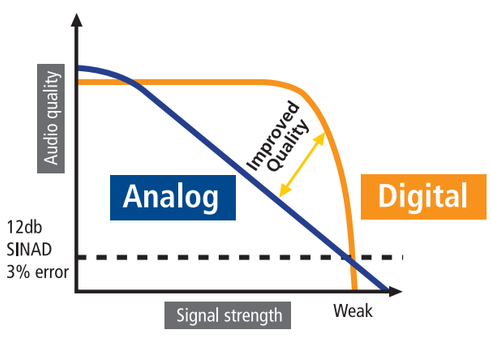
NEXEDGE®

NEXEDGE® uses the AMBE+2™ VOCODER, a state-of-the-art voice digitization and compression technology offering enhanced Forward Error Correction (FEC) and noise reduction for superior clarity at varying signal strengths for all digital call features.

Advanced Digital Processing

A key element of the NXDN® air interface is the AMBE+2™ vocoder which digitizes speech while retaining natural voice nuances, performs noise reduction, introduces FEC and compresses voice data to accommodate land mobile radio spectrum bandwidth and data rates. Next, the radio's digital signal processor (DSP) protocol packages the vocoder, signaling, control, and FEC data together, converting it to a uniquely filtered 4-Level FSK digital waveform that modulates the transmitter. This results in a low bit-error-rate (BER) digital air interface so you get robust communications even in weak signal strength areas.

Digital VOCODER

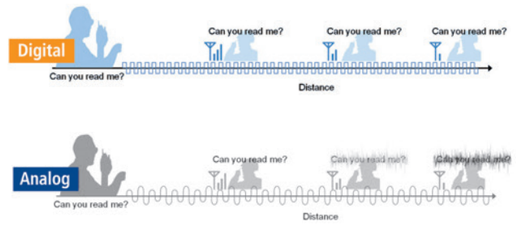


Extended Coverage

As RF signal strength weakens with distance, analog reception becomes increasingly noisy and intermittent. NXDN®'s low BER improves reception in fringe areas, thereby "effectively" increasing coverage by as much as twenty percent over analog.

Furthermore, compared to 12.5 kHz bandwidth operation, the narrower 6.25 kHz bandwidth enabled by the FDMA technology of NXDN® means that receiver filters are narrower and can thus reduce noise. The net result is superior clarity over a wider coverage area.

Coverage differences in fringe areas



Digital Call Features

All NEXEDGE® units support common call features in both digital conventional and trunked modes.

- **All Group Call** A selectable All Call Group ID (GID) calls all talk groups on the system for facility-wide announcements, emergencies and critical incidents.
- **Paging Call** Up to five UID unit-to-unit pages are dated, time stamped and stored for recall and review. This is useful for unattended radio messages and non-voice selective paging operations.
- **Emergency Call** Subscriber units can declare an Emergency to a console, an individual, a group or all groups. This signal can be triggered by manual key, a footswitch (mobiles) or Man-Down Switch (portables).

Reliability

NEXEDGE® systems use the NXDN® digital air interface, a suite of digital communications protocols using 4-Level FSK (4LFSK) modulation capable of operating in 12.5 kHz and 6.25 kHz bandwidths. NEXEDGE® voice security enhances personnel safety, reduces risk and thwarts possible information breaches by protecting sensitive communications for your facilities and operations.

Rock Solid Stability

NXDN® is capable of both 12.5 kHz and 6.25 kHz bandwidth channel operation to ensure rock-steady frequency stability, exceeding all regulatory and emissions mask requirements in all bands. NEXEDGE® systems do not drift and cause adjacent channel interference issues in a properly coordinated spectrum.

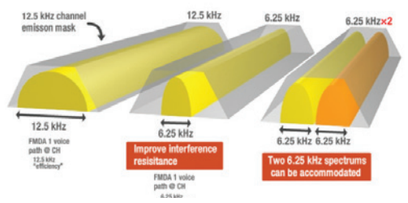
Channelize

NEXEDGE® equipment will program on any channel center or offset (2.5, 3.125, 5, 6.25, 7.5 kHz PLL channel steps), providing more potential to find frequencies, which is important where narrower channel migration is being forced or there is a need to maximize use of geographical licenses and use split-channels where permitted.

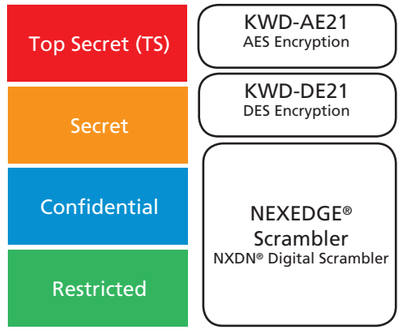
Voice & Data Security

The NXDN® digital air interface offers inherent security against casual electronic eavesdropping, and subscriber units also include the NXDN® 15-bit key scrambling function for secure voice & data. IP links are further secured through VPN tunneling to authenticate and encrypt all inter-site communication. KENWOOD offers AES & DES encryption option modules for government-grade security against more sophisticated adversaries. These modules have a unique embedded crypto-ESN that will erase its encryption keys (zero-ize) if an attempt is made to place it in any other radio unit. In addition, if greater than 15 radio-password attempts are made, the module's encryption keys are also erased, preserving the fleet's current secure voice integrity.

NXDN® 12.5 & 6.25 kHz



Secure Voice



User Validation

All NEXEDGE® system configurations validate unit and group IDs for subscriber access. Commercial and private operators can easily activate & deactivate subscriber units via remote programming or system management software. This is ideal for organizations with frequent personnel changes, so radios can be used by contractors, vendors and seasonal/temp workers.

ESN Radio Validation

Each NEXEDGE® subscriber radio has a unique and unchangeable factory embedded Electronic Serial Number (ESN) that can be validated for trunked system access. In the event a radio is lost, stolen or compromised, disabling the ESN will deny access while all other radios continue to communicate in their talk groups without disruption. The operator's original ID numbering system is preserved because only one subscriber unit is disabled and not one or more talk groups shared by many users.

Radio Password Protection

Each radio can have a required password to authorize operation, thus adding an extra level of security against unsanctioned radio use.

Flexibility

NEXEDGE® supports both NXDN® digital and analog modes via a common transceiver technology, which creates a self-paced migration path to accommodate budgetary, administrative, organization and timeline demands.

Conventional Mixed Mode

Current analog and NXDN® digital fleets can share the same frequency in conventional Mixed Mode, providing service to aging analog fleet radios as new digital radios are deployed. NEXEDGE® radios, capable of both conventional analog and digital operation, can talk to both old and new radios. The Mixed Mode operation is available in base, repeat and direct modes in the following bandwidth combinations: 25 or 12.5 kHz analog with 12.5 or 6.25 kHz NXDN® (25 kHz mode capable equipment is only available where permitted by government regulations).

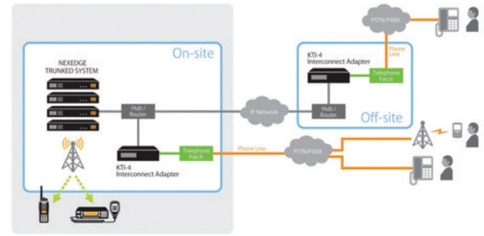
Trunked Channel Shared Mode

NEXEDGE® trunked system traffic channels can be shared with existing external analog conventional or analog trunked logic controllers, extending service to analog fleets as they transition to NXDN® trunking.

Telephone Interconnect System

The Interconnect Adapter (KTI-4), connected to a NEXEDGE® Trunked System, converts analog telephone voice into digital and enables communication between a telephone and a radio. It connects to PABX/PSTN through analog telephone patch equipment like the Zetron M30/M735.

Telephone Interconnect System



OAA: Over-The-Air-Alias

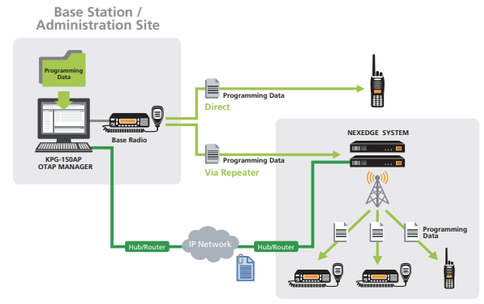
A calling unit's User ID (UID) alphanumeric alias is sent over the air and displayed on the receiving unit's LCD, so there is no need to program every fleet alias in every radio.

OTAP: Over-The-Air-Programming

The NEXEDGE® OTAP Manager software (KPG-150AP) provides wireless programming for subscriber units in the field. Over-the-air changes to large fleets will result in huge savings by cutting down on extensive travel, labor and fuel costs as well as in lost productivity caused by radio downtime.

- **Programs Subscribers Over-the-Air**
- **Full & Partial Programming**
- **OTAP Session Scheduling**
- **Auto Retries & Pass / Fail Logging**
- **Fail Safe**
- **Works with all NEXEDGE® Subscribers**
- **Adds savings for operators and customers.**

NEXEDGE® OTAP (KPG-150AP)

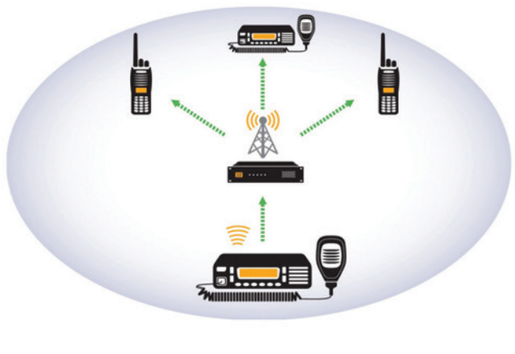


Scalability

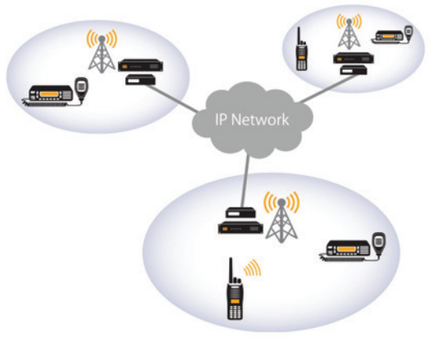
NEXEDGE® is configurable in traditional conventional, conventional IP networks and trunked networks. Many modes are either included or available as software license upgrades. NEXEDGE® digital modes employ common feature sets and functions and are continually upgraded.

NEXEDGE®

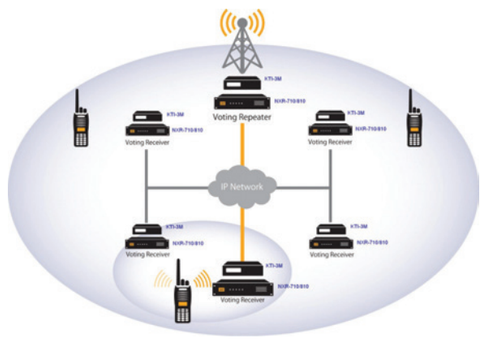
Conventional System



Conventional IP Network



Voting Receiver System



Digital Conventional Systems

NEXEDGE® conventional systems offer capabilities beyond analog conventional systems. With large unit ID and talk group ID capacity, users can identify and segment different departmental/agency groups and sub-groups on shared channels. Mixed Mode allows service to both analog and digital fleets at the same time.

- **RAN (Radio Access Number)** base units include a 16 RAN capacity conventional repeater controller for 16 user group site sharing (RAN range: 1-64; this is similar to CTCSS/DCS use in FM).
- **1,000 GIDs** Large talk group ID capacity for group selective calling.
- **1,000 UIDs** Large unit ID capacity for individual selective calling.
- **Mixed Channel Type** FM & NXDN® conventional units can share the same RF channel. Both subscriber units and bases demodulate incoming analog FM or NXDN® digital calls and talkback or repeat the same mode (this is on conventional channels only with 12.5 kHz narrow bandwidth).

Digital Conventional IP Networks

NEXEDGE® Conventional IP Networks offer wide area coverage or coverage fill-in extensions.

- **16 or 48 Site* Configurations** NEXEDGE® Conventional IP links up to 16 or 48 digital conventional repeaters into one system for wide area coverage or coverage fill-in extensions.
- **Beacon Signals** As users roam throughout the network, the subscriber units use the beacon signals to choose the best repeater for communications.
- **Normal or Automatic Site Roam (per Zone)** Subscriber zone can be programmed for "Normal Channel Select," for traditional conventional operation, and/or "Automatic Site Roam," which allows subscribers to scan for site beacon signals to lock on to in order to make or receive network calls.
- **Receiver Voting** Voting systems extend the portable talk-in range of an NXR-710/810 conventional repeater by utilizing a cluster of receivers linked to the repeater site. Portable signal strength data (RSSI) is sent via IP link to the repeater site which compares and selects the receiver site with the best audio quality for re-transmission.

** Version 2.0 or later and certain routing type required [16 (unicast); 48 (multicast)] for maximum number of repeaters per network.*

Digital Trunked Systems

NEXEDGE® trunked mode provides increased call capacity, enhanced call capabilities, improved security and faster communications with less user interaction than conventional systems.

- **Fast System Access** Channel selection is automatic so no user monitoring is required.
- **Enhanced Efficiency** Enhanced Efficiency Users share a pool of channels per site, enabling easier access during peak hours.
- **30 Channels @ Site** NEXEDGE® trunked sites are capable of handling up to 30 channels each, making them compatible with any VHF/UHF/800/900 MHz trunked site requirement.
- **Message Trunking** Users are granted a traffic channel for the length of a two-way call to reduce interruptions by utilizing fewer system resources.
- **Transmission Trunking** Users are granted a traffic channel only during each push-to-talk, optimizing channel resources during peak traffic hours.
- **3,000 GIDs** Large talk group capacity for fleet dispatch operations.
- **3,000 UIDs** Large Unit ID capacity for private unit-to-unit calling.
- **Call Queuing** Automatically stacks call requests when the system is busy and processes calls when a channel becomes available.
- **8 Priority Levels with Preemption** Processes the call queue in order of priority. Preemption allocates a talk path for priority personnel, dispatch and emergency calls.
- **4 Priority Monitor ID's** Automatically switches radios to a higher priority call, such as from a dispatcher or supervisor, even when the user is on a lower priority call.
- **Late Entry** Permits subscriber units to join a group or individual call already in progress after powering on or upon entering the system coverage area.
- **Broadcast Call** Calls all fleets or all units in a fleet in emergencies and for critical incident response.
- **Remote Group Add** Adds a new GID to subscriber units remotely over-the-air to form a workgroup for emergencies, special events, special operations or critical incidents.

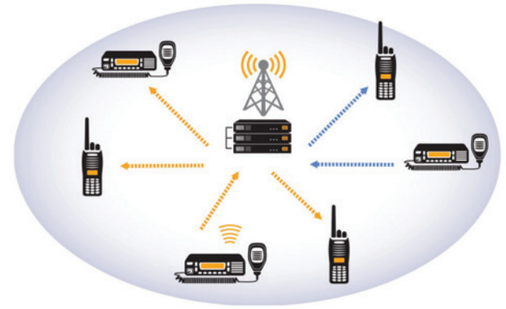
Digital Trunked Wide Area IP Networks

The network option leverages the power of IP to link NEXEDGE® digital trunked sites for wide area roaming and calling capabilities.

- **16 or 48 Site* Network** Multiple trunked sites can be linked together in one network across a campus, city, county, region or for interstate communications.
- **LAN/WAN Connectivity** Scalable networks can be created over existing IT assets, private microwave, spread-spectrum links or carrier services using standard 10/100 Base-T Ethernet switches and routers. IPSEC VPN tunneling provides encryption and authentication for secure communications links within any IP network.
- **Automatic Roaming** Subscriber units automatically search for the best accessible sites while moving through a network using advanced control channel hunting algorithms and RF signal strength (RSSI) monitoring to make accurate and resource-sensitive roaming and registration decisions.
- **NEXEDGE® Bridge** Up to 8 individual trunked networks can be linked with NEXEDGE® Bridge (KPG-157SB). Subscribers from each network can make/receive voice and data calls to/from any trunked network.

** Version 2.0 or later and certain routing type required [16 (unicast); 48 (multicast)] for maximum number of repeaters per network.*

Trunked System

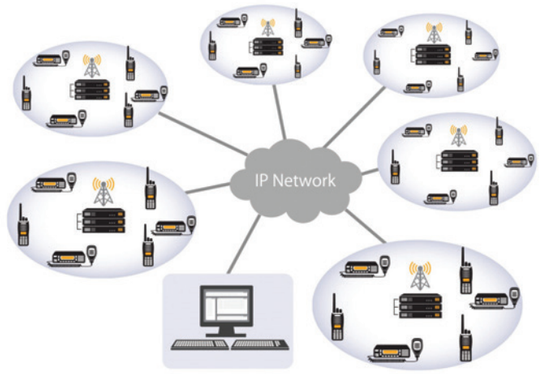


- **Failsoft Mode** When trunking capability is disabled, the system reverts to conventional operation so basic communications can continue.
- **ESN Validation** Each subscriber unit has a unique factory-embedded ESN validated by the system to protect against unauthorized access.
- **Control/Traffic Channel Switching** Designates a Traffic Channel as a new Control Channel should the original become disabled. Disabled Traffic Channels are automatically removed from service.

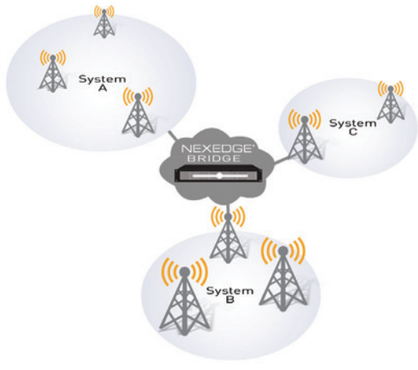
NXDN Type-D Trunked System

This economical alternative to the Type-C trunked system is decentralized and thus does not need a control channel, making available an additional traffic channel. It is also compatible with Icom's IDAS® digital radio system.

Trunked Wide Area IP Network



Bridge NEXEDGE® Network



Manageability

NEXEDGE®

NEXEDGE® Application Software and Dispatch system effectively and efficiently manage your fleet.

Centralized System Management

The NEXEDGE® System Manager (KPG-110SM) for NXDN® trunked sites and networks reduces operation and maintenance costs with remote programming, firmware uploading, subscriber unit access management, monitoring and diagnostic capabilities, all from a secure Windows® based application via on-site direct connection, IP connection or dial up modem.

- **Secure Access** USB secure hardware keys limit System Manager and site access to authorized personnel only.
- **System Parameters** Operators are provided with full site and network configuration control by remote connection. Sites can be accessed directly on-site or through dial up modem or IP connection.
- **Subscriber Privileging** UID/GID validation, 127 UID / 127GID Class-of-Service entries and 5,000 Fleet UID/GID lists permit operators to grant certain access privileges, call types, inter-site call capabilities and queue priority to any groups and/or individuals on a system.
- **Real-Time Activity Monitoring** All site traffic can be monitored in real time for management and troubleshooting purposes.
- **Call Logs** Operators can download detailed call activity of any channel, site, individual or group for traffic, security and incident analysis.
- **Channel Loading** Graphs peak usage and blocking statistics to identify possible system traffic / capacity issues.
- **NXR Diagnostics** Operators can remotely monitor each NXR unit's hardware and Ethernet network interface to identify possible problems at any site.
- **NXR Firmware Uploading** Operators can remotely update operational firmware in all NXR units without having to drive to a site.

NEXEDGE® Repeater Monitor

The KPG-149RM application enables around-the-clock remote IP monitoring of all repeaters on an NXDN® single-site or multi-site trunked network and on NXDN® conventional IP networks. This software alerts supervisors and technical personnel of systemic problems or failures of any repeater at any site. Also, the KPG-149RM can be set to sound a PC alarm and send multiple emails or SMS text messages upon receiving an alert, with all events recorded in a log file.

- **Repeater Diagnostics Via IP**
- **WAV File Alarms**
- **Email/SMS Alert Notifications**
- **Log File Download**
- **Single-Site Trunked & Multi-site Networks**
- **Conventional & Conventional IP**
- **Network Link Notification** When a trunked network IP link is disrupted, the site reverts to single-site trunked operation and can broadcast a network link message over the air and sound an alert tone to a system operator's and on-call technician's radios.

NEXEDGE® Repeater Monitor
KPG-149SA

Download on the App Store

This app for the iPhone/iPad can notify staff of remote repeater incidents. Note that it is designed specifically for use with the KPG-149RM PC software. Owning to iOS restrictions, the app is unable to detect incidents while the smart device is in sleep mode or when the app is in the background, but since the PC-based KPG-149RM monitors repeaters around the clock, it can notify the smart device user via email (Alert Mail) at any time.

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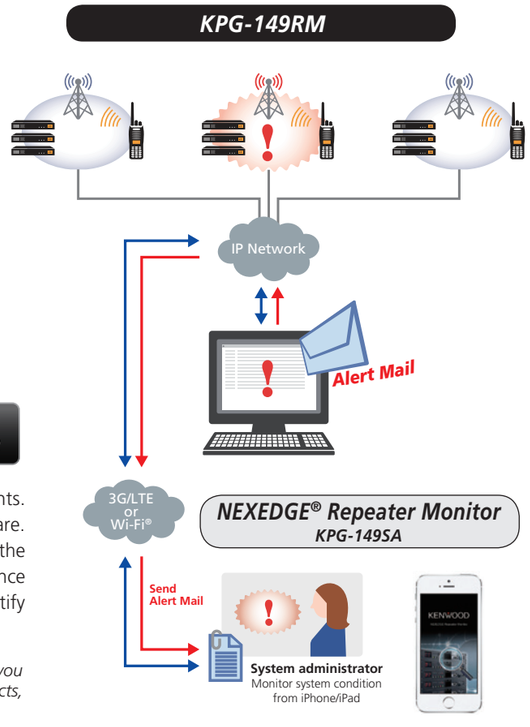
KPG-149RM

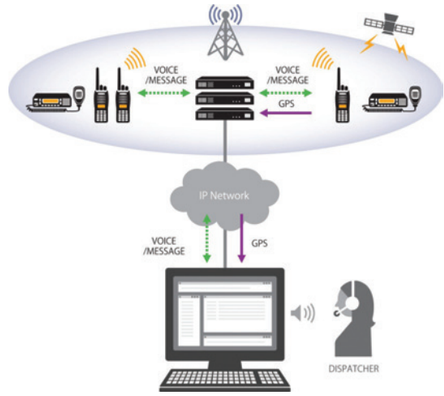


NEXEDGE® AVL & Messaging

KENWOOD's KAS-10 dispatch application easily integrates with a NEXEDGE® control station radio for operation on all system types or as a virtual PC radio via an IP connection to a NEXEDGE® network. The voice/messaging and AVL functions run independently.

- **999 Mobile ID Capacity**
- **NEXEDGE® Conventional & Trunked Systems**
- **Analog Conventional & LTR® Systems**
- **Microsoft® MapPoint® 2006/2009/2010/2011 Mapping**
- **Google Earth™ Maps (KML Output)**
- **NEXEDGE® VoIP Dispatch over Conventional & Trunked IP Network**
- **100 Group Scan with 4 Priority Monitor ID's**
- **NXDN® Voice Scrambling**
- **Dispatch Console Window**

KAS-10

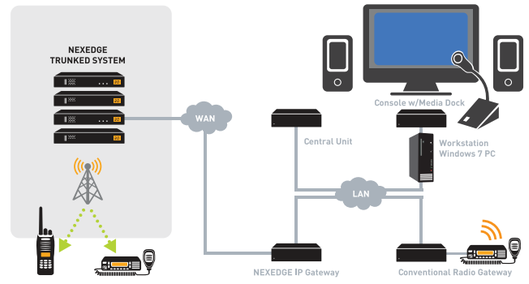


MAX Dispatch

KENWOOD's MAX Dispatch System is a pure end-to-end, IP-based telecommunications console system designed for medium to large business or industrial applications.

- **IP Gateway Connection to NEXEDGE® Trunked Repeater Group, Individual, Emergency, Status, Encryption**
- **Analog/NEXEDGE® Conventional Radio Gateway**
- **Patching at Dispatch Console**
- **Network Redundancy & Hot Standby Provide 99.999% Availability**
- **System-Wide Aux I/O**
- **Supports Distributed Console System Design**

KENWOOD's Dispatch System

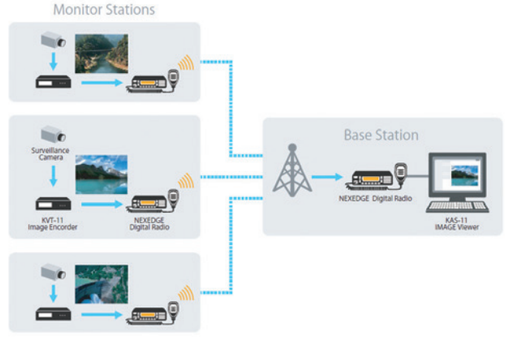


Wireless Image System

This innovative system consists of a monitor station (KVT-11) and a base station (KAS-11), linked via NEXEDGE® digital transceivers. Still images are transmitted from the remote site to the base station computer, which serves as the control center. Several sites can be monitored simultaneously.

- **Remote Wireless Camera**
- **Base Monitoring / Image Viewer**
- **NEXEDGE® System Compatible**
- **900KB VGA-Res Color or B&W Images**
- **MPEG-4 AVC/H.264 Video Compression**
- **Transfers in 1.5 Minutes or Less**

Wireless Image System



Durability

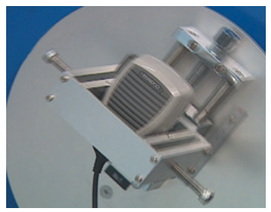
NEXEDGE® Repeaters, Base Stations, Portables, and Mobiles must meet the demanding needs of heavy industrial applications and tough job requirements. Quality control is ensured by subjecting each new model to a battery of stringent tests before it is launched. And all our products are compliant with MIL-810 and IP54/55 weather-proofing.

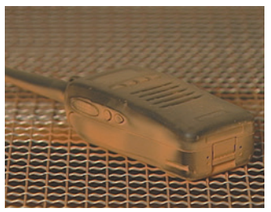
Products to Withstand Mission-critical Operations

At JVCKENWOOD, R&D and design work are undertaken in our own plants, located throughout the world. Meticulous care is paid to every detail – ensuring, for instance, that a radio is easy to use even in noisy environments, and that it can reliably withstand harsh conditions.

NEXEDGE® radios have to pass a variety of grueling tests to verify that they meet or exceed standards for extreme temperature, water/dust intrusion, vibration, and impact. Thorough quality control procedures assure that these products can be entrusted with mission-critical operations. No wonder, then, that NEXEDGE® radios have earned such a high reputation for dependability.

Rain test


Flex test


Dust test


Key punch test


Drop test

Water intrusion test


Vibration test


Temperature test

Intrinsically Safe ATEX/IECEX-certified (NX-230EX-330EX)

Our focus on enhancing durability and reliability is clearly seen in our range of intrinsically safe ATEX/IECEx-certified radios for use in potentially explosive atmospheres such as oil refineries, chemical plants and grain silos. As well as carbon-composite construction and IP67-compliant environmental sealing, they are equipped with LCD screens that can withstand a steel ball impact test.

Going Forward

The KENWOOD SOLUTION DEVELOPERS Program welcomes experts in software and hardware development who are interested in creating new solutions for NEXEDGE® radios and systems. This initiative is facilitated by the KPT-110SDK Software Development Kit.

KENWOOD KSD SOLUTION DEVELOPERS

KENWOOD SOLUTION DEVELOPERS Program

To ensure that individual communications systems stay flexible and efficient going forward, JVCKENWOOD has created the KENWOOD SOLUTION DEVELOPERS (KSD) Program. Top-notch independent application developers — who often work closely with our engineering and R&D teams — have been selected to create innovative and unique solutions which integrate seamlessly with KENWOOD NEXEDGE® digital radios and systems.

The KSDProgram community develops applications that cover messaging, tracking, mobile device integration and other voice/data solutions. This work is aided by the KPT-110SDK Software Development Kit, which greatly reduces the amount of code required to write NXIP-conformed software, thus reducing time-to-market.

We also encourage specialists and vendors to join the KDSProgram community in developing support tools, hardware and accessories that will contribute to making NEXEDGE® digital radios and systems even more efficient and convenient.

For more details on the KENWOOD SOFTWARE DEVELOPMENT Program, please check out the website and click on the region supporting the program.

URL: http://www.kenwoodsolutiondevelopers.com/

KPT-110SDK (ver. 2.0)
Software Development Kit for NEXEDGE®

The KPT-110SDK Software Development Kit for NEXEDGE® facilitates development of applications* for dispatch, AVL, etc. that communicate with NEXEDGE® systems using an IP network.

The KPT-110SDK enables software developers with a basic understanding of the IP interface to write NXIP-conformed software applications. Use of the KPT-110SDK effectively reduces the amount of code required in writing the NXIP protocol, thus makes development easier and less time consuming, helping to significantly decrease time-to-market.

The KPT-110SDK contains a Class Library and Sample Source Code, which is a program written in C# for simple NEXEDGE® voice and data communications.

** Microsoft Windows-based applications*

- **KPT-110SDK is available for use with: NEXEDGE® Trunked System (NXR-x00srs, Firmware version 3.0 or later) and NEXEDGE® Conventional System (NXR-x00srs, Firmware version 4.0 or later).**
- **Voice Call: Group Call, Individual Call**
- **Data Call: GPS, Short Message, Status Message, etc.**
- **Encryption*1**
- **Development of application using Voice Call (AMBE+2™) is enabled using the USB-3000™ by Digital Voice Systems Inc. (DVSI)**

**1 DES/AES encryption is not available.*

Software Development Environment

Operating system	Microsoft® Windows® 8 (32-bit/64-bit) Microsoft® Windows® 7 SP1 (32bit /64-bit) Microsoft® Windows® Vista SP2 (32-bit) Microsoft® Windows® XP SP3 (32-bit)	
Required software	Microsoft® Visual Studio® Professional 2012 Microsoft® Visual Studio® 2010 Professional SP1	
.NET Framework® version	Microsoft® .NET Framework® 4.5* Microsoft® .NET Framework® 4 SP1**	
Development language	Visual C#®	
Recommended PC hardware specifications	CPU	Multi-core 32-bit (x86) or 64-bit (x64) processor, 1GHz minimum
	RAM	At least 2GB (32-bit) or 4GB (64-bit)
	Sound card	On-board sound controller with Direct X support
	Microphone	Frequency range: 300Hz to 3400Hz

** Standard equipped on Microsoft® Windows® 8.*
*** Microsoft® .NET Framework® 4 SP1 is compatible on Microsoft® Windows® XP and Vista operating systems.*

Line-up

NEXEDGE®

Winning acclaim among professionals worldwide, the NEXEDGE® line-up continues to expand with new models, new features, and new options. Support for mixed FM/digital operation ensures smooth migration from legacy systems, with all the benefits of advanced digital technology such as increased effective coverage area and low noise for superior clarity.

Base-Repeaters

Built tough for 24/7 reliability and fully supporting mixed FM/digital operation, NEXEDGE® base-repeaters sport a slim form factor to save space.

NEXEDGE® Digital & FM Base-Repeater
NXR-700/800/900

Key Features
- Frequency Range
  - ◆VHF: 146-174 MHz (NXR-700)
  - ◆UHF: 450-480 MHz, 440-470 MHz, 370-400 MHz (NXR-800)
  - ◆800 MHz: RX: 806-825, TX: 851-870 MHz (NXR-900)
- 0.5-5 W, 5-25 W RF Output (NXR-700/800)
- 100-360 mW RF Output (NXR-900)
- Built-in IP Interface for sending remote control command in both conventional and trunking modes
- NXDN Digital Air Interface
- AMBE+2™ Vocoder for Natural Sounding Digital Voice
- Operates in NXDN Digital Conventional and FM Analog Modes, even on the same channel
- Autosenses Received Mode (Digital or Analog)
- 30 Channel Scanning Base Station (Conventional Mode)
- System Manager software provides USB Secure Key Access, Activity Monitoring, Network Diagnostics, Call Logging, Remote Firmware Updating and many more features
- Digital Multi-Site Trunking via Software License

NEXEDGE® Digital & FM Base-Repeater
NXR-710/810

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NXR-710)
  - ◆UHF: 450-520 MHz, 400-470 MHz (NXR-810)
- RF Output
  - ◆VHF: 50 W @ 50% duty, 25 W @ 100% duty
  - ◆UHF: 40 W @ 50% duty, 25 W @ 100% duty
- NXDN Digital Air Interface
- AMBE+2™ Vocoder for Natural Sounding Digital Voice
- Operates in NXDN Digital Conventional and FM Analog Modes, even on the same channel
- Autosenses Received Mode (Digital or Analog)
- 30 Channel Scanning Base Station (Conventional Mode)
- Digital - Single-Site Trunking (future upgrade)
- IP Interface for sending remote control command in conventional mode (option)
- Multi-Site IP Network Mode (via KTI-3 option)

Repeater & Base Optional Units

KTI-3
Network Interface Unit

KTI-4
Telephone Interconnect Adapter

IP Network Connector for the NXR-710/810 Series – KTI-3

The Conventional IP Network feature is available for NXR-710/810 repeaters with the Network Interface Unit KTI-3.

Telephone Interface Adapter for the NXR-700/800/900 Series – KTI-4

The KTI-4 Telephone Interconnect Adapter adds telephone system connectivity to the NXR-700/800/900 based trunking system with an analog telephone patch, such as the Zetron M30, M735 or others. It is ideal for customers with intentions to enhance the flexibility of their networks by connecting their trunking system to a telephone line.

NXDN®

Mobile Radios

Offering intuitive operation with ergonomic controls and a high-visibility display, NEXEDGE® mobile radios provide extensive FM/digital capabilities on the road.

NEXEDGE® Digital & FM Mobile Radio
NX-700/800/900

NEXEDGE® Digital & FM Mobile Radio – High Power
NX-700H/800H

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-700/700H)
  - ◆UHF: 450-520 MHz, 400-470 MHz, 380-400 MHz (NX-800/800H)
  - ◆800 MHz: RX: 851-870 MHz, TX: 806-825 / 851-870 MHz (NX-900)
- RF Output
  - ◆VHF: 1-30 W (NX-700)
    10-50 W (NX-700H)
  - ◆UHF: 1-30 W: 1-25W for 490-520 MHz (NX-800)
    10-45 W: 10-40W for 490-512 MHz, 10-35 W for 512-520 MHz (NX-800H)
  - ◆800 MHz: 5-15 W (NX-900)
- AMBE+2™ Vocoder for Natural Sounding Digital Voice
- Digital Conventional and Digital Trunking Modes
- Multi-Site Digital Trunking
- Multi-Site IP Network Compatible

NEXEDGE® Digital & FM Mobile Radio with or without Integrated GPS
NX-720(G)/820(G)/920(G)

NEXEDGE® Digital & FM Mobile Radio with or without GPS – High Power
NX-720H(G)/820H(G)

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-720(G)/720H(G))
  - ◆UHF: 450-520 MHz, 400-470 MHz, 350-400 MHz (NX-820(G)/820H(G))
  - ◆800 MHz: RX: 851-870 MHz, TX: 806-825 / 851-870 MHz (NX-920(G))
- RF Output (Operation guaranteed for 1-5W)
  - ◆VHF: 5-30 W (NX-720(G))
    5-30-50 W (NX-720H(G))
  - ◆UHF: 5-30 W (NX-820(G))
    5-30-45 W (NX-820H(G))
- 800 MHz: 5-15 W (NX-920(G))
- Integrated GPS module for NX-720G/820G/720HG/820HG/920G (requires KRA-40GM external antenna)
- AMBE+2™ Vocoder for Natural Sounding Digital Voice
- Operates in NXDN Digital Conventional and FM Analog Modes, even on the same channel
- Digital Conventional and Digital Trunking Modes
- Multi-Site Digital Trunking
- Multi-Site IP Network Compatible

NEXEDGE® Digital & FM Mobile Radio
NX-740/840

NEXEDGE® Digital & FM Mobile Radio – High Power
NX-740H/840H

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-740/740H)
  - ◆UHF: 400-470 MHz, 450-520 MHz (NX-840/840H)
- RF Output
  - ◆VHF: 5-25 W (NX-740)
    5-25-50 W (NX-740H)
  - ◆UHF 5-25 W (NX-840)
    5-25-45 W (NX-840H)
- GPS Capability via Optional DB-15 Connection
- Signalling modes include QT/DQT, FleetSync®, MDC-1200, DTMF & 2-Tone

Portable Radios

Drawing on decades of KENWOOD engineering expertise, NEXEDGE® portable radios stand out for their superb operating ease and impressive performance.

NEXEDGE® Digital & FM Portable Radio
– LCD/Keypad

NX-200(G)/300(G)/410(G)

NEXEDGE® Digital & FM Portable Radio
– Simplified

NX-200S/300S

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-200(G)/200S)
  - ◆UHF: 400-470 MHz (NX-300(G)/300S)
    450-520 MHz, 380-400 MHz (NX-300(G))
  - ◆800 MHz: RX: 851-870 MHz; TX: 806-825 MHz, 851-870 MHz (NX-410)
- RF Output (High / Low)
  5 W / 1 W (NX-200(G)/200S/300(G)/300S/410(G))
- 512 CH-GID / 128 Zones (Models with LCD); 64 CH-GID / 4 Zones (Models without LCD)
- Multi-Site Digital Trunking
- Multi-Site IP Network Compatible
- Built-in GPS models available (requires KRA-43G antenna)

NEXEDGE® Digital & FM Portable Radio

NX-220/320/420

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-220)
  - ◆UHF: 400-470 MHz, 450-520 MHz, 350-400 MHz (NX-320)
  - ◆800 MHz: RX: 851-870 MHz; TX: 806-825 MHz, 851-870 MHz (NX-420)
- RF Output (High / Low)
  5 W / 1 W (NX-220/320/420)
  3 W / 1 W (800 MHz)
- 260 CH-GID / 128 Zones (Models with LCD); 64 CH-GID / 4 Zones (Models without LCD)
- Multi-Site Digital Trunking
- Multi-Site IP Network Compatible

NEXEDGE® Digital & FM Portable Radio

NX-240/340

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-240)
  - ◆UHF: 400-470 MHz, 450-520 MHz (NX-340)
- RF Output (High / Low)
  5 W / 1 W (NX-240/340)
- The First NXDN System Radio to Feature Digital Conventional Mode Only
- Simple, Future-proof, and Cost-effective Solution for Your Business
- Offers Wide Coverage Area with Inherent Secure Voice, 6.25 kHz Spectrum Efficiency, and 5W Max. RF Output
- Signalling modes include CTCSS/DCS, FleetSync®, MDC-1200, DTMF & 2-Tone
- Digital and Analog Scramblers built-in

ATEX/IECEx-Certified Radios

The latest additions to the NEXEDGE® line is the ATEX/IECEx-Certified radios, fully compliant with strict international requirements to provide peace of mind as well as cutting-edge FM & digital performance.

NEXEDGE® Digital & FM Portable Radio
– Intrinsically Safe ATEX/IECEx-Certified

NX-230EX/330EX

Key Features
- Frequency Range
  - ◆VHF: 136-174 MHz (NX-230EX; signal transmission between 157.1625 MHz and 157.9125 MHz may suffer inference from GPS)
  - ◆UHF: 400-470 MHz (NX-330EX)
- RF Output: 1.2 W (NX-230EX/330EX; meets the upper limit of ATEX directive)
- 512 CH-GID / 128 Zones
- Designed for use in potentially explosive atmospheres such as oil refineries, chemical plants, grain silos, pipeline and other chemical applications
- IP Code: IP65/IP67
- Digital Conventional Mode only
- Digital and Analogue Scramblers built-in
- Integrated GPS module (requires KRA-43G ATEX/IECEx-certified antenna)

ATEX & IECEX Certifications

Complies with both the ATEX Directive (ATmospheres Explosive) and the IECEx (International certification system for Ex products) Scheme to ensure the safe functioning of equipment and protective systems with respect to the risks of explosion covered by these standards. As listed below, the various classes relate to the use in specific environments.

Gas Certification

ATEX Gas Protection: II 2GEx ib IIC T4 Gb
IECEx Gas Protection: Ex ib IIC T4 G

II	Use enabled in Group II environments such as chemical industries, refineries, etc.
2G	High-level of protection, suitable for use in Sector G (Gas), Zones 1 and 2.
Ex	The product is explosion-proof equipment.
ib	Type of intrinsic safety protection.
IIC	Protection in the most explosive gas environments (hydrogen, acetylene, etc.).
T4	Device surface temperature will not exceed 135°C; Class T4 covers gasses and vapours in classes T1, T2, and T3.
Gb	Protection level suitable for Sector G (Gas)

Dust Certification

ATEX Dust Protection: II 2D Ex ib IIIC T110°C Db
IECEx Dust Protection: Ex ib IIIC T110°C Db

II	Use enabled in Group II environments such as chemical industries, refineries, etc.
2D	High-level of protection, suitable for use in Sector D (Dust), Zones 21 and 22.
Ex	The product is explosion-proof equipment.
ib	Type of intrinsic safety protection.
IIIC	Protection in conductive dust environments.
T110°C	Surface temperature will not exceed 110°C.
Db	Protection level suitable for Sector D (Dust).

Mining Certification

ATEX Mining Protection: I M2 Ex ib I Mb
IECEx Mining Protection: Ex ib I Mb

I	Use enabled in Group I mining environment.
M2	High-level of protection. The equipment does not operate in a potentially explosive atmosphere, and must be de-energized when an explosive atmosphere is encountered.
Ex	The product is explosion-proof equipment.
ib	Type of intrinsic safety protection.
I	The equipment is protected for use in an explosive gas environment (methane).
Mb	Protection level suitable for Sector M (Mining)

Specifications are subject to change without notice, due to advancements in technology.

KENWOOD

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