NEXEDGE
P25

NX-5700H
VHF Digital & FM Analog Mobile Radio

STANDARD

■ GENERAL FEATURES

- 110 W (136-174 MHz) Model
- 110 W (39-50 MHz) Model *1
- 1024 CH-GID / 128 Zones
- Multi-Digital Operation in NXDN/P25
- Support NX-5000 Remote Control Head Options
- Multi-RF Deck Configuration Available
  (Lovband, VHF, 380-470, 450-520, 7&800)
- Built-in Micro USB A-B Interface
- Horn Alert / Public Address
- Built-in GPS Receiver
- Built-in Bluetooth® Module
- Built-in 56-bit DES Encryption
  (4 keys programmable by KPG-D1)
- Optional 256-bit AES Encryption
- 12 Watt Audio Output
- DB-25 & Molex 9-pin Accessory Connector
- Active Noise Reduction (ANR)
- KPG-D1N Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G

■ DIGITAL – P25 MODE

- P25 Conventional
- P25 Phase 1 Trunking Option
- P25 Phase 2 Trunking Option
- Conv/Trunking OTAR Option
- Packet Data Option for P25 OTAR & GPS
- Conventional Voting Scan Option
- Text Data
- Radio Authentication

■ DIGITAL – NXDN® MODE

- NXDN® Conventional
- NXDN® TYPE-C (Gen1/Gen2) Trunking
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
  (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

■ ANALOG MODE

- Conventional Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display,
  Selective/Group Call, Emergency Status,
  Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display,
  Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

NX-5000HBF Mobiles include:
- High Power Radio
- User Guide

1. Future Release

OPTIONAL FEATURES & CONFIGURATIONS

■ GENERAL FEATURES

- 4000 Channel (KWD-5000CH)
- Front Panel Programming (KWD-5001FP)
- microSD/microSDHC Memory Card Slot (KWD-5002SD)
- Built-in Bluetooth® Module for Data (KWD-5003BT)
- Remote Control by Subscriber Units (KWD-5007RC)

■ DIGITAL – P25 MODE

- Conventional Features (Factory Installed)
- Phase 1 Trunking Features (KWD-5101TR)
- Phase 2 Trunking Features (KWD-5101TR & 5102TR)
- Conventional OTAR (KWD-5103RK)
- Trunking OTAR (KWD-5103RK & 5106DT)
- Conventional Voting Scan (KWD-5105VT)
- Packet Data required for Trunked OTAR/GPS (KWD-5106DT)

■ MOUNTING & REMOTE CONFIGURATIONS
(Order L-5029~L-5038 for KENWOOD Factory assembling)

- KCH-19 Basic Control Head
- KCH-20R Featured Control Head
- KCH-21R Handheld Control Head
- Single Remote Control Head
  (KRK Kit & KCT-71 or KCT-77 Cable required)
- Dual Remote Control Heads
  (KCH-19/20R/21R & KRK Kit & KCT-71 or KCT-77 Cables required)
- Multiple RF Decks
  (KRK Kit & KCT-71 or KCT-77 Control Cable)

RF Deck Only

MUST purchase necessary accessories separately

NX-5700HBF NX-5700HBF (110W, 136-174 MHz) RF Deck Only, NXDN Conv/Trunk & P25 Conv
(Remote Control Head, Microphone, Bracket, DC Cable not included)

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REMOTE CONTROL KITS

KCH-19M	Basic Control Panel
KRK-14HM	Control Head Interface Kit for KCH-19M
KCH-20RM	Full Featured Remote Control Panel **Note**: - microSD License (KWD-5002SD) and Bluetooth SPP License (KWD-5003BT) are **NOT** required for both **KCH-20RM** and **connected RF Decks**.KCH-20RM and connected RF Decks can be used of microSD and Bluetooth SPP with **NO** License Activation. - Remote configuration only. No Internal Speaker included. KES-5/3 is required.
KCH-21RM	Hand Held Control Head for Long Cable *Requires KCT-77M2 (17 ft.) **Note:** - Bluetooth SPP License (KWD-5003BT) is NOT required for both KCH-21RM and connected RF Decks.KCH-21RM has built-in Bluetooth SPP license that will also activate the connected RF Decks.
KCH-21RM-S	Hand Held Control Head with Short Cable (4 ft.) **Note:** - Bluetooth SPP License (KWD-5003BT) is NOT required for both KCH-21RM and connected RF Decks.KCH-21RM has built-in Bluetooth SPP license that will also activate the connected RF Decks.

CABLES

KCT-23M2	DC Cable (75/110W) 10 feet
KCT-23M4	DC Cable (75/110W) 23 feet
KCT-71M2	Remote Control Cable (17 feet)
KCT-71M3	Remote Control Cable (25 feet)
KCT-71M4	Remote Control Cable (1.6 feet)
KCT-71A50	KCT-71A Extended Control Head Cable (up to 50 ft. max.) **Note**: Please specify exact length at 1ft. increments when ordering. **Caution**: Extended control head cables exhibit a loss in speaker audio power to the control heads.
KCT-71A100	KCT-71A Extended Control Head Cable (up to 100 ft. max.) **Note**: Please specify exact length at 1ft. increments when ordering. **Caution**: Extended control head cables exhibit a loss in speaker audio power to the control heads.
KCT-77M2	Remote Control Cable for KCH-21RM (17 feet)
KCT-90USB	USB Mobile Cable for SD Card Direct Access Support **Note**: microSD function requires KWD-5002SD license.
KCT-91MRS	DB25 Cable for Mobile Relay Station (Conventional Only) **Note**: - Mobile Relay Station requires Multi RF Deck Configuration. The cable requires between Decks. - Built-in GPS and Bluetooth are not available with Mobile Relay Station.

MOBILE INSTALLATION ACCESSORIES

KCT-72M	External Accessory Connection Cable for KCH-19M / KCH-20RM
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).
KMB-36	Mounting Bracket for NX-5000 High Power RF Deck
KRA-40GM	GPS Antenna

CONTROL STATION INSTALLATION ACCESSORIES

KMC-9C	Control Station Desktop Microphone (8-pin mod. plug) **Note: NOT compatible with TDMA operations**
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) **Note: Compatible with FDMA (analog / NXDN) and TDMA operations (P25 Phase 2 and DMR)**

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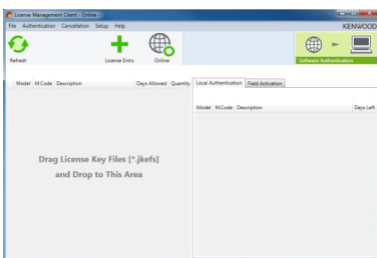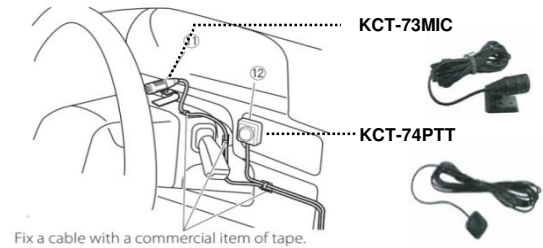## MICROPHONES AND SPEAKERS

KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug)
KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)
KES-5	External speaker, 40W max input **Note:** requires KAP-2 (PA/HA unit) or KCT-72M (connection cable) installed.
KCT-73MIC	External Microphone kit w/ 9.8 ft. cord for Safer Driving
KCT-74PTT	External PTT Switch kit w/ 9.8 ft cord for Safer Driving

Hands-free operation

To promote driver safety and meet hands-free regulations in certain regions, NX-5000 series mobile offers external microphone and PTT as options.

<u>NOTE</u>: Connecting to the radio via DB25 terminal on backside of RF Deck or via optional KCT-72 "Connection Cable" on backside of KCH-19M and KCH-20R*.

KCT-73MIC is not compatible with other NX/TK-mobile radios.

KCT-73MIC

KCT-74PTT

Fix a cable with a commercial item of tape.

KPT-300LMC
License Management Client

KPT-300LMC is a <u>required</u> software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from our website and is also supplied with applicable software, such as KPG-D1K, KAS-12, and KPG-AE1/DE1.

<u>NOTE</u>: A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "**Account Request Form**" and return to the Land Mobile Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form.

Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows XP

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key **Note:** specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSE OPTIONS

<u>**TO PLACE AN ORDER FOR SOFTWARE:**</u>
1. **Complete a Software License Key Request Form.**
2. **Submit along with your PO to the Land Mobile Order Desk via:**
   a) **E-Mail: coca@us.jvckenwood.com**
3. **License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.**

Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.

FIELD PROGRAMMING UNIT (FPU)

KPG-D1K	License Key for KPG-D1K Programming Software for NX-5000 Portable/Mobile (Windows® Vista/7/8/8.1) *Note: Requires KPT-300LMC for authentication*

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FIELD PROGRAMMING UNIT (FPU)

P25 Trunked Programming Capability (licensed by either 1 or 2 below):
1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK and AK
• For NX-5000 series radios.
• KWD-ASK-MK (Master Key): For trunked system operator (SYSOP). Required for activating KWD-ASK-AK Access keys. Securely embeds/encrypts the HSID.
• KWD-ASK-AK (Access Key): For Dealers/contractors. Activated by KWD-ASK-MK Master Key.
• KPG-D1K supports up to 16 KWD-ASK-AK Access Keys (16 trunked networks).

2. Software Key Type: System Key File (SKF)- See L-5005
• For NX-5000 series radios.
• 3-digit HEX System ID (HSID) with verifiable written authorization required from SYSOP.
• Utilized by both SYSOPs and Dealers/Contractors. But Dealers/Contractors must be permitted from SYSOP to order and use SKF.
• Kenwood ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form.
• The *.SKF securely embeds/encrypts the HSID.

OVER THE AIR PROGRAMMING (OTAP)

KPG-180AP	OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) **NXDN** Conventional and Type-C **Air** Communication Profile and One(1) **NXDN** Conventional and Type-C **IP** Communication Profile ***Note:*** *- Requires KPT-300LMC for authentication* *- Radio to Radio OTAP for <u>P25 Conventional system</u> requires <u>KWD-AP3-P25</u> license.* *- NEXEDGE Type-D Trunking and DMR System not supported.*

SOFTWARE UPGRADE LICENSES FOR KPG-180AP
Note: Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.

-- IMPORTANT NOTES--

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.
Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles
Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.
Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

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RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:
1. **Complete a Radio Feature Request Form.**
2. **Submit the completed form along with your PO to the Land Mobile Order Desk via:**
   a) **E-Mail: coca@us.jvckenwood.com**
3. **License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.**

Note: Radio Feature License Keys are transferable from one radio to another radio within 72 hours of activation. If a Radio Feature License is transferred to another radio within the 72 hour window, the 72 hour clock is reset.

Offline Authentication Option	
KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License *Note:* *- Must purchase Radio Feature Licenses separately.* *- Can be used with only one (1) Account Registration Key.* *- Requires KPT-300LMC V1.10 or higher.* *- Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB.* *Warranty Information:* *- Damaged USB License Storage "KWD-OFL-USB"* *a. Remaining Licenses will not be warranted.* *b. Licenses not uploaded to the License Management Server will not be warranted.*

General Radio Features	
KWD-5000CH	License Key for 4000 Channel Expansion
KWD-5001FP	License Key for Front Panel Programming
KWD-5002SD	License Key for microSD Memory Card Slot Activation
KWD-5003BT	License Key for Bluetooth Data (Required for Data Communication) **Note**: Voice Communication for Bluetooth Head Set does NOT require KWD-5003BT. You can pair with any Bluetooth audio device without this option.
KWD-5007RC	License Key for Remote Control by Subscriber Units **Note:** - P25 Mode is NOT available. - This license may be used by Administrator due to Stun/Revive/Kill. - The license is required for only Transmitting of Remote Control. - PC command for Remote Control does NOT require the license.

P25 Radio Features	
KWD-5101TR	License Key for P25 Phase 1 Trunking **Note:** Required for Link Layer Authentication
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5101TR)
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)
KWD-5105VT	License Key for P25 Conventional Voting Scan
KWD-5106DT	License Key for P25 Trunking OTAR / GPS Note: Conventional (OTAR/GPS) DO NOT require KWD-5106DT.

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Encryption & Option Modules

KWD-AE30K
AES FIPS140-2 & DES Encryption Module (Multi-Key)
Order a Labor Code **L-5003** if installation is required.
KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device.
KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1).
Note: Required for Link Layer Authentication
[Intrinsically Safe Option]- Must be Kenwood installed for I.S.

KWD-AE31K
AES & DES Encryption Module (Multi-Key)
Order a Labor Code **L-5004** if installation is required.
Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device.
KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)
Note: Required for Link Layer Authentication
[Intrinsically Safe Option]- Must be Kenwood installed for I.S.

KPG-AE1K
AES/DES Encryption Software Key Loader for KWD-AE31K
Authentication by KPT-300LMC is required
Note: KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A)

KPG-DE1K
DES Encryption Software Key Loader for KWD-AE31K
Authentication by KPT-300LMC is required
Note: KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1)

FleetSync® & NEXEDGE® AVL & MESSAGING

KAS-10
FleetSync & NEXEDGE AVL & Messaging Software
with NEXEDGE Trunking VoIP Dispatch
Note:
- Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with
Windows® XP, VISTA & 7 and Microsoft®MapPoint®2006/2009/2010 (certain format bitmap images can be
imported). Refer to KAS-10 product spec sheets and manuals for details.
- NEXEDGE Gen2, Type-D Trunking and DMR System not supported.

SERVICE RELATED ACCESSORIES

KPG-46XM
Full Speed USB Programming interface cable
Note: This cable with USB mode may be used for SD Card Direct Access.

KPG-115
Encryption Key Loader Interface Cable for Motorola KVL-3000/3000 Plus/4000

KPG-115AUT
KVL-4000 Radio Authentication Cable
Note: Only capable for P25 Radio Authentication. Not available for Encryption Key Loading.

KWD-ASK-AK
Access Key for KPG-D1K P25 trunked programming
Notes: Enables P25 Trunked system programming privileges in a KPG-D1K.
• For NX-5000 series only
• Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key
• Must have KPG-D1K
• Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in
battery. USB Key must be replaced since the expiration set up dose not work after 3 years.

KWD-ASK-MK
Master Key for activating KWD-ASK-AK Access Keys
- Restricted Purchase Requirements -
Notes:
• For NX-5000 series only.
• Sold to trunked system operator (SYSOP) or SYSOP authorized entities only
• Must have KPG-D1K
• SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form.
• Purchase KWD-ASK-AK Access Keys if needed.

INSTALLATION / TUNING CHARGES

L-5001
Factory Activation of Radio Feature Licenses (per Radio)
Note: Must purchase Radio Feature Licenses separately.
KPT-300LMC's History Menu will not display the Radio Features activated by Factory.

L-5006
NX-5700/5800 Programming (with basic TX/RX check)

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INSTALLATION / TUNING CHARGES, CON'T

L-5005

KPG-D1K System Key File (SKF)
Note: Enables P25 Trunked system programming privileges in a KPG-D1K.
- Restricted Purchase Requirements -
• Trunked system operator (SYSOP) must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form.
• Must have KPG-D1K.
• Kenwood ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form.
• Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file.
• 3-digit HEX HSID are securely encrypted & embedded in the *.SKF file.

L-5051

P25 CAP Compliance of Non-Encrypted Radio - Disable Built-in DES

-- IMPORTANT NOTES regarding ENCRYPTION MODULES--

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See www.bis.gov for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later):
a) Initial Destination: Initial delivery point if different from Ultimate Destination
(customer distribution center, headquarters, dealership, manufacturer's representative)
* Business/Agency Name:
* Address:
* Contact Person Name:
* Contact Phone:
b) Ultimate Destination: Final delivery point(s); deployment/distribution
* Business/Agency Name:
* Address:
* Contact Person Name:
* Contact Phone:
c) Intended Use of Radios: Law enforcement, security, operations, etc.

KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping
A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a dealer or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.