

KENWOOD

NX-5000 series

USER GUIDE

GUIDE DE L'UTILISATEUR

GUÍA DEL USUARIO

The illustration shows operation panel attached models.



JVCKENWOOD Corporation

B5A-0056-00 (K)

VHF DIGITAL TRANSCEIVER

NX-5700 NX-5700(B)

UHF DIGITAL TRANSCEIVER

NX-5800 NX-5800(B)

USER GUIDE



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Firmware Copyrights

The title to and ownership of copyrights for firmware embedded in KENWOOD product memories are reserved for JVC KENWOOD Corporation.

THANK YOU

We are grateful you have chosen **KENWOOD** for your Digital Transceiver applications.

This User Guide covers only the basic operations of your radio. Ask your dealer for information on any customized features they may have added to your radio. For using details instruction manual, refer to the following URL.
http://manual2.jvckenwood.com/en_contents/search/

CONTENTS

NOTICES TO THE USER	3
PRECAUTIONS	4
TERMINAL DESCRIPTIONS.....	5
UNPACKING AND CHECKING EQUIPMENT	6
SUPPLIED ACCESSORIES.....	6
PREPARATION	7
ORIENTATION	9
OPERATION PANEL (ATTACHED PANEL OR KCT-19).....	9
DISPLAY.....	10
BASIC OPERATION	12
SWITCHING POWER ON/ OFF.....	12
ADJUSTING THE VOLUME	12
SELECTING A ZONE AND CHANNEL.....	12
TRANSMITTING	12
RECEIVING.....	12

NOTICES TO THE USER

- ◆ Government law prohibits the operation of unlicensed radio transmitters within the territories under government control.
- ◆ Illegal operation is punishable by fine and/or imprisonment.
- ◆ Refer service to qualified technicians only.

Safety: It is important that the operator is aware of, and understands, hazards common to the operation of any transceiver.



WARNING

- ◆ **EXPLOSIVE ATMOSPHERES (GASES, DUST, FUMES, etc.)**
Turn OFF your transceiver while taking on fuel or while parked in gasoline service stations. Do not carry spare fuel containers in the trunk of your vehicle if your transceiver is mounted in the trunk area.
- ◆ **INJURY FROM RADIO FREQUENCY TRANSMISSIONS**
Do not operate your transceiver when somebody is either standing near to or touching the antenna, to avoid the possibility of radio frequency burns or related physical injury.
- ◆ **DYNAMITE BLASTING CAPS**
Operating the transceiver within 500 feet (150 m) of dynamite blasting caps may cause them to explode. Turn OFF your transceiver when in an area where blasting is in progress, or where "TURN OFF TWO-WAY RADIO" signs have been posted. If you are transporting blasting caps in your vehicle, make sure they are carried in a closed metal box with a padded interior. Do not transmit while the caps are being placed into or removed from the container.

One or more of the following statements may be applicable:

FCC WARNING

This equipment generates or uses radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

INFORMATION TO THE DIGITAL DEVICE USER REQUIRED BY THE FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can generate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer for technical assistance.

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

PRECAUTIONS

Observe the following precautions to prevent fire, personal injury, and transceiver damage.

- Do not attempt to configure the transceiver while driving; it is too dangerous.
- Do not disassemble or modify the transceiver for any reason.
- Do not expose the transceiver to long periods of direct sunlight, nor place it near heating appliances.
- If an abnormal odor or smoke is detected coming from the transceiver, switch the transceiver power off immediately, and contact your **KENWOOD** dealer.
- Use of the transceiver while you are driving may be against traffic laws. Please check and observe the vehicle regulations in your area.
- Do not use options not specified by **KENWOOD**.
- Do not put the plastic bag used for packing of this equipment on the place which reaches a small child's hand. It will become a cause of suffocation if it wears flatly.
- Do not place the transceiver on unstable surfaces.
- Keep the volume as low as possible to protect your hearing.
- Always switch the transceiver power off before installing optional accessories.
- To dispose of batteries, be sure to comply with the laws and regulations in your country or region.



CAUTION

- ◆ The transceiver operates in 12 V negative ground systems only! Check the battery polarity and voltage of the vehicle before installing the transceiver.
- ◆ Use only the supplied DC power cable or a **KENWOOD** optional DC power cable.
- ◆ Do not cut and/or remove the fuse holder on the DC power cable.
- ◆ Do not place the microphone cable around your neck while near machinery that may catch the cable.



WARNING

- ◆ For passenger safety, install the transceiver securely using the supplied mounting bracket and screw set so the transceiver will not break loose in the event of a collision.

TERMINAL DESCRIPTIONS

ACC (D-SUB 25 Pin Connector)

Pin No.	Name	I/O	Description	Specification
1	NC	—	Not used	
2	COM1_RXD	I	Serial Data Input	RS-232C compatible
3	COM1_TXD	O	Serial Data Output	↑
4	AUX1/O9	I/O	Programmable Function I/O 9	Input Impedance 100 kΩ Output Impedance 100 Ω
5	DI	I	Data Input	0.5 V p-p (Typ.) Input Impedance 20 kΩ
6	MI2	I	MIC Signal Input	5 mVrms(Typ.) (STD Deviation) Input Impedance 600 Ω
7	GND	—	Ground	Ground
8	AUX1/O8	I/O	Programmable Function I/O 8	Input Impedance 100 kΩ Output Impedance 470 Ω
9	COM2_TXD	O	Serial Data Output	TTL (0V - 5V)
10	COM2_RXD	I	Serial Data Input	↑
11	GND	—	Ground	Ground
12	AUX1/O7/BER_DATA	I/O	Programmable Function I/O 7	Input Impedance 100 kΩ Output Impedance 100 Ω
13	AUX1/O6/BER_CLK	I/O	Programmable Function I/O 6	↑
14	SB	O	DC Power (Switched B) Output	13.6 V ±15% 2 A (Max)
15	AUXO2	O	Programmable Function O 2	Open Drain R (dc): 60 mΩ (Max) Idc (Max)= -500 mA
16	AUXO1	O	Programmable Function O 1	↑
17	AFO	O	AF Signal Output	0.7 V p-p (Typ.) Output Impedance 100 Ω
18	GND	—	Ground	Ground
19	DEO	O	RX Detected Signal Output	0.28 Vp-p (Typ.) Output Impedance 100 Ω
20	AUX1/O5	I/O	Programmable Function I/O 5	Input Impedance 100 kΩ Output Impedance 470 Ω
21	AUX1/O4	I/O	Programmable Function I/O 4	↑
22	AUX1/O3	I/O	Programmable Function I/O 3	↑
23	AUX1/O2	I/O	Programmable Function I/O 2	↑
24	AUX1/O1	I/O	Programmable Function I/O 1	↑
25	ME	—	Mic Ground	Ground

Speaker Jack (3.5 mm Phone Jack) 4 W/ 4 Ω

Pin No.	Name	I/O	Description	Specification
1	SPO	O	External Speaker Output	4 Ω (Min)
3	GND	—	Ground	Ground

DC Input Connector

Pin No.	Name	I/O	Description	Specification
Red	B	I	DC Power Input	13.6 V ±15%
Black	GND	—	Ground	Ground

Ignition Sense Input Terminal

Pin No.	Name	I/O	Description	Specification
Yellow	B	I	Ignition Sense Input	13.6 V ±15%

Microphone Jack

Pin No.	Name	I/O	Description	Specification
1	BLC	O	Mic Backlight Control	Output Impedance 1 kΩ
	D+	I/O	USB Serial Data I/O	USB 2.0
2	SB	O	DC Power (Switched B) Output	13.6 V ±15% 200 mA (Max)
3	GND	—	Ground	Ground
4	PTT	I	PTT	Input Impedance 47 kΩ
	TXD	O	PC Serial Data from Radio	UART TTL (0V to 5V)
5	ME	—	Mic Ground	Ground
	MIC	I	Mic Signal Input	Input Impedance 600 Ω
6	VBUS	I	USB VBUS	5 V/1 mA (Typ.)
	HOOK	I	Hook	Input Impedance 1 kΩ
7	RXD	I	PC Serial Data to Radio	UART TTL (0V to 5V)
	D-	I/O	USB Serial Data I/O	USB 2.0
8	DM	I/O	Mic Data Detection	High Impedance

RF Antenna Terminal

50 Ω impedance

GPS Antenna Terminal

50 Ω impedance

UNPACKING AND CHECKING EQUIPMENT

Note:

- ◆ The following instructions are for use by your **KENWOOD** dealer, an authorized **KENWOOD** service facility, or the factory.

Carefully unpack the transceiver. We recommend that you identify the items listed below before discarding the packing material. If any items are missing or have been damaged during shipment, file a claim with the carrier immediately.

SUPPLIED ACCESSORIES

DC power cable (with fuses)	1
• 15 A fuse.	2
Mounting bracket.	1
Screw set	
• 5 x 16 mm self-tapping screw	4
• M4 x 6 mm hex-headed screw with washer	4
• Spring washer.	4
• Flat washer	4
Microphone (with cable)	
• KMC-35 (NX-5700/ NX-5800 only)	1
Microphone hanger (with 4 x 16 mm self-tapping screws)	1
User guide.	1

PREPARATION



WARNING

Various electronic equipment in your vehicle may malfunction if they are not properly protected from the radio frequency energy which is present while transmitting. Typical examples include electronic fuel injection, anti-skid braking, and cruise control. If your vehicle contains such equipment, consult the dealer for the make of vehicle and enlist his/her aid in determining if they will perform normally while transmitting.

■ Power Cable Connection



CAUTION

The transceiver operates in 12 V negative ground systems only! Check the battery polarity and voltage of the vehicle before installing the transceiver.

- 1 Check for an existing hole, conveniently located in the firewall, where the power cable can be passed through.
 - If no hole exists, use a circle cutter to drill a hole, then install a rubber grommet.
- 2 Run the power cable through the firewall and into the engine compartment.
- 3 Connect the red lead to the positive (+) battery terminal and the black lead to the negative (–) battery terminal.
 - Place the fuse as close to the battery as possible.
- 4 Coil the surplus cable and secure it with a retaining band.
 - Be sure to leave enough slack in the cables so the transceiver can be removed for servicing while keeping the power applied.

■ Installing the Transceiver



WARNING

For passenger safety, install the transceiver securely using the supplied mounting bracket and screw set, so the transceiver will not break loose in the event of a collision.

Note:

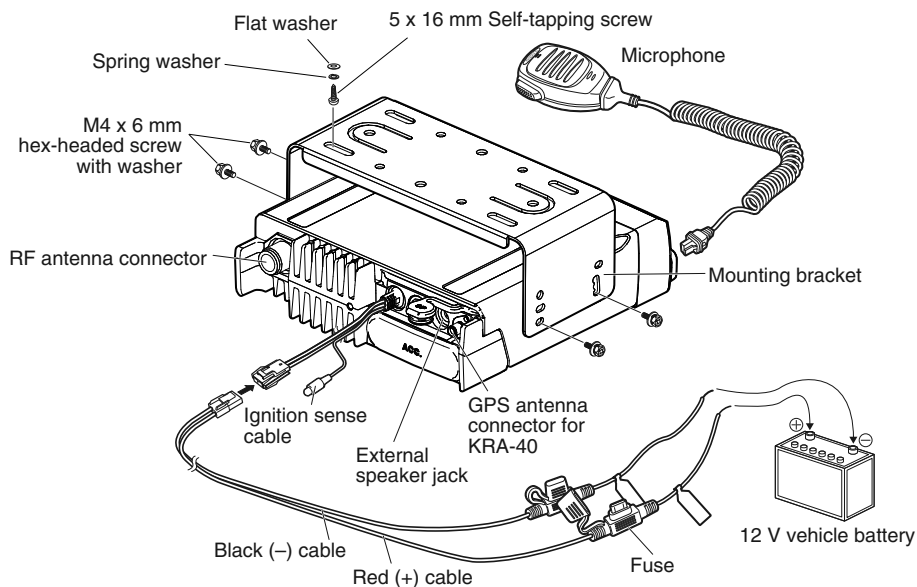
- ◆ Before installing the transceiver, check how far the mounting screws will extend below the surface. When drilling mounting holes, be careful not to damage vehicle wiring or parts.

- 1 Mark the position of the holes in the dash, using the mounting bracket as a template. Using a 4.2 mm (5/32 inch) drill bit, drill the holes, then attach the mounting bracket using the supplied screws.
 - Mount the transceiver within easy reach of the user and where there is sufficient space at the rear of the transceiver for cable connections.
- 2 Connect the antenna and the supplied power cable to the transceiver.
- 3 Slide the transceiver into the mounting bracket and secure it using the supplied hex-headed screws.
- 4 Mount the microphone hanger in a location where it will be within easy reach of the user.
 - The microphone and microphone cable should be mounted in a place where they will not interfere with the safe operation of the vehicle.



CAUTION

When replacing the fuse in the DC power cable, be sure to replace it with a fuse of the same value. Never replace a fuse with one that is rated with a higher value.



■ Using the microSD memory card

Regarding the installation of microSD memory card, please ask your dealer.

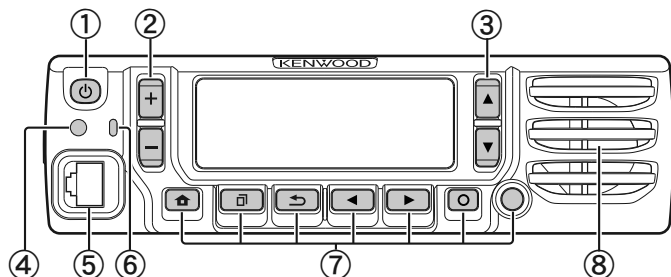
- microSD memory cards (Class 2 or higher) and microSDHC memory cards (Class 2 or higher) can be used.
- SDXC memory cards cannot be used.
- This transceiver is not guaranteed to operate with all microSD memory cards. (Operations are confirmed on memory cards for the following brands: SanDisk, TOSHIBA and Panasonic.)

Compensation Disclaimer

Data stored on the microSD memory card may be altered or lost due to problems with this transceiver. We do not accept liability in respect of the data stored on your microSD memory card, failure to save the data properly, loss of data, and any direct or indirect damages.

ORIENTATION

OPERATION PANEL (ATTACHED PANEL OR KCH-19)



① **[⏻] (Power) switch**

Press to switch the transceiver ON or OFF.

② **[+] / [-] keys**

Press to activate its programmable function. The default key setting is **[Volume Up]/ [Volume Down]**.

③ **[▲] / [▼] keys**

Press to activate its programmable function.

The default key setting is **[Channel Up]/ [Channel Down]**.

④ **Illumination sensor**

Sensor for Auto Dimmer Function.

⑤ **Microphone jack**

Insert the microphone plug into this jack.

⑥ **TX/RX Indicator**

A LED colors inform you of the current transceiver status.

Lights red while transmitting, green while receiving.

⑦ **[⏏] / [☰] / [↵] / [◀] / [▶] / [O] / Auxiliary (orange) keys**

Press to activate their programmable functions.

[⏏] : The default key setting is **[Clear]**.

[☰] : The default key setting is **[Menu]**.

[↵] : The default key setting is **[Squelch Off Momentary]**.

[◀] : The default key setting is **[Zone Down]**.

[▶] : The default key setting is **[Zone Up]**.

[O] : The default key setting is **[Function]**.

Auxiliary (orange) : The default key setting is **[None]**.

⑧ **Speaker**

Internal speaker.

For details on programming functions to the keys on your transceiver, please contact your dealer or refer to the instruction manual available from the following URL.

http://manual2.jvckenwood.com/en_contents/search/

DISPLAY

Basic Frame



Display Area	Description
Function Indicator Area	Displays the various function icons, signal strength indicator, battery power indicator and clock.
Main Area	Display the information of the transceiver such as Channel number and Zone number.
Key Guide Area	Display the key functions for [F], [F], [F] and [F] keys.

Function Indicator

Indicator	Description
	Displays the signal strength.
	The channel is using high transmit power.
	The channel is using medium transmit power.
	The channel is using low transmit power.
	In Digital mode
	In Analog mode
	The Bluetooth function is activated.
	Connected to Bluetooth device.
	The GPS position is determined. Blinks when the GPS is unable to determine the position.
	Non-priority Scan (green icon) or Priority Scan (red icon) is in progress. Blinks when the scan is paused.
	Indicates Priority channel (1). There are four priority channels (1 to 4) and each channel has its own indicator.
	The current channel is added to the scanning sequence.

Indicator	Description
	The Scrambler function is activated.
	The Encryption function is activated.
	The Encryption (AES) function is activated.
	The Encryption (DES) function is activated.
	The Talk Around function is activated.
	The Monitor or Squelch Off is activated.
	The External Speaker is activated.
	The External Speaker (Internal + External) is activated.
	The Noise Reduction function is activated.
	Blinks when an incoming call matches your Optional Signaling.
	A message is stored in memory. Blinks when a new message has arrived.
	The microSD memory card is recognized.
	The microSD memory card is not recognized.
	The Site Lock function is activated.
	The Broadcast Call function is activated.
	The Surveillance function is activated.
	The Horn Alert function is activated.
	The Public Address function is activated.
	AUX A is activated.
	AUX B is activated.
	AUX C is activated.
	The Lone Worker function is activated.
	The Compander function is activated.
	The Operator Selectable Tone function is activated.
	Blinks during Auto Recording.
	The Key Lock function is activated.

BASIC OPERATION

SWITCHING POWER ON/ OFF

Press [⏻] to switch the transceiver ON.

Press [⏻] again to switch the transceiver OFF.

ADJUSTING THE VOLUME

Press the key programmed as [**Volume Up**] to increase the volume. Press the key programmed as [**Volume Down**] to decrease the volume.

SELECTING A ZONE AND CHANNEL

Select the desired zone and channel using the keys programmed as [**Zone Up**]/ [**Zone Down**] and [**Channel Up**]/ [**Channel Down**].

- The transceivers may have names programmed for zones and channels. The zone name and channel name can contain up to 16 and 14 characters respectively. While selecting a zone, the zone name will appear above the channel name.
- If programmed by your dealer, your transceiver will announce the zone and channel numbers as you change them.

TRANSMITTING

- 1 Select the desired zone and channel.
- 2 Press the **PTT** switch and speak into the microphone. Release the **PTT** switch to receive.
 - The LED indicator lights red while transmitting and green while receiving a signal. This indicator can also be disabled by your dealer.
 - For best sound quality, hold the microphone approximately 1.5 inches (3 ~ 4 cm) from your mouth.

RECEIVING

Select the desired zone and channel. If signaling has been programmed on the selected channel, you will hear a call only if the received signal matches your transceiver settings.

KENWOOD

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MANDATORY SAFETY INSTRUCTIONS TO INSTALLERS AND USERS

- Use only manufacturer or dealer supplied antennas.
- Antenna Minimum Safe Distance: **60 cm (2 feet)**, **50% duty Cycle**.
- Antenna Gain: **0 dBd** referenced to a dipole.

The Federal Communications Commission has adopted a safety standard for human exposure to RF (Radio Frequency) energy which is below the OSHA (Occupational Safety and Health Act) limits.

- Antenna Mounting: The antenna supplied by the manufacturer or radio dealer must not be mounted at a location such that during radio transmission, any person or persons can come closer than the above indicated minimum safe distance to the antenna, i.e. **60 cm (2 feet)**, **50% duty Cycle**.
- To comply with current FCC RF Exposure limits, the antenna must be installed at or exceeding the minimum safe distance shown above, and in accordance with the requirements of the antenna manufacturer or supplier.
- Vehicle installation: The antenna can be mounted at the center of a vehicle metal roof or trunk lid, if the minimum safe distance is observed.
- Base Station Installation: The antenna should be fixed-mounted on an outdoor permanent structure. RF Exposure compliance must be addressed at the time of installation.

Antenna substitution: Do not substitute any antenna for the one supplied or recommended by the manufacturer or radio dealer.

You may be exposing person or persons to excess radio frequency radiation. You may contact your radio dealer or the manufacturer for further instructions.



WARNING

Maintain a separation distance from the antenna to person(s) of at least **60 cm (2 feet)**, **50% duty Cycle**.

“This transmitter is authorized to operate with a maximum duty factor of 50%, in typical push-to-talk mode, for satisfying FCC RF exposure compliance requirements.”

You, as the qualified end-user of this radio device must control the exposure conditions of bystanders to ensure the minimum separation distance (above) is maintained between the antenna and nearby persons for satisfying RF Exposure compliance. The operation of this transmitter must satisfy the requirements of Occupational/Controlled Exposure Environment, for work-related use, transmit only when person(s) are at least the minimum distance from the properly installed, externally mounted antenna. Transmit only when people outside the vehicle are at least the recommended minimum lateral distance away from the antenna/vehicle.