

**KENWOOD**

# **NXR-700/ NXR-800**

**VHF DIGITAL BASE-REPEATER/ UHF DIGITAL BASE-REPEATER  
INSTRUCTION MANUAL**

**BASE-REPETIDOR DIGITAL VHF / BASE-REPETIDOR DIGITAL UHF  
MANUAL DE INSTRUCCIONES**

**BASE-RELAIS NUMÉRIQUE VHF/BASE-RELAIS NUMERIQUE UHF  
MODE D'EMPLOI**

# NXR-700 / NXR-800 INSTRUCTION MANUAL

## VHF DIGITAL BASE-REPEATER / UHF DIGITAL BASE-REPEATER

### THANK YOU!

We are grateful you purchased this **Kenwood** repeater. We believe this easy-to-program repeater will be highly effective in your communications system, and will keep personnel operating at peak efficiency.

**Kenwood** incorporates the latest in advanced technology into all of our products. As a result, we feel strongly that you will be pleased with the quality and features of this product.

### PRECAUTIONS

- Do not expose the unit to rain or moisture; to prevent fire or electric shock.
- Do not open the unit under any circumstances; to avoid risk of electric shock.
- Do not expose the unit to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the unit in excessively dusty and/or humid areas, nor on unstable surfaces.
- If you detect an abnormal odor or smoke coming from the unit, disconnect the power from the unit immediately. Contact your **Kenwood** service center or dealer.

### NOTICES TO THE USER

#### 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.

- ◆ 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.



#### CAUTION

- ◆ This repeater is intended for use as a fixed base station with the antenna located outdoors on the rooftop or on an antenna tower.
- ◆ Use only the supplied DC cord.
- ◆ Do not remove the ferrite core attached to the DC cord. Doing so may cause interference with radio communications.

### UNPACKING AND CHECKING EQUIPMENT

**Note:** The following unpacking information is for use by your **Kenwood** dealer, an authorized **Kenwood** service center, or the factory.

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

| Item                              | Part Number | Quantity |
|-----------------------------------|-------------|----------|
| Front glass                       | B10-2781-XX | 1        |
| Dressed screw                     | N08-0563-XX | 1        |
| Bracket                           | J29-0725-XX | 2        |
| Flat head machine screw           | N32-4008-XX | 4        |
| Handle and screw set              | K01-0421-XX | 1        |
| DC cord                           | E30-3344-XX | 1        |
| Lead wire with connector (15 pin) | E37-1381-XX | 1        |
| Fuse (7.5 A)                      | F05-7521-XX | 1        |
| Instruction Manual                | B62-1994-XX | 1        |
| Serial number sticker             | B42-7325-XX | 1        |

### INSTALLATION

To install the handles onto the front panel of the repeater, align the handles with the holes on the front panel, then secure the handles using the supplied screws.

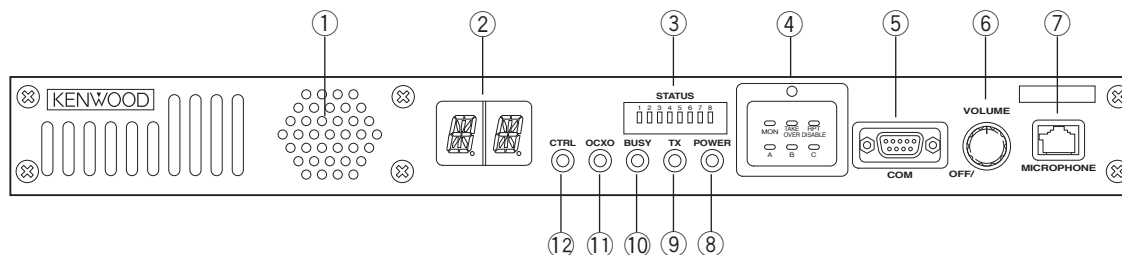
Please consult your dealer for installing the repeater and antenna.

### MICROPHONE

Connect an optional KMC-30, KMC-35, or KMC-9C **Kenwood** microphone to the **MICROPHONE** jack on the front panel.

### CONTROLS AND FUNCTIONS

#### ■ Front Panel



- ① **Speaker**
- ② **CH/STATUS Display**  
Two 17-segment digits display the channel number, name, or status.
- ③ **STATUS indicator**  
Indicates the status of the repeater.
- ④ **Programmable Function keys**  
Press these keys to activate their programmable functions.
- ⑤ **COM jack**  
Connect to PC. Conform to RS-232C standard.
- ⑥ **VOLUME control**  
Turn clockwise until a click sounds, to unmute the volume. Rotate to adjust the volume. Turn counterclockwise fully to mute the volume.
- ⑦ **MICROPHONE jack**  
Connect a microphone to this 8-pin modular jack.

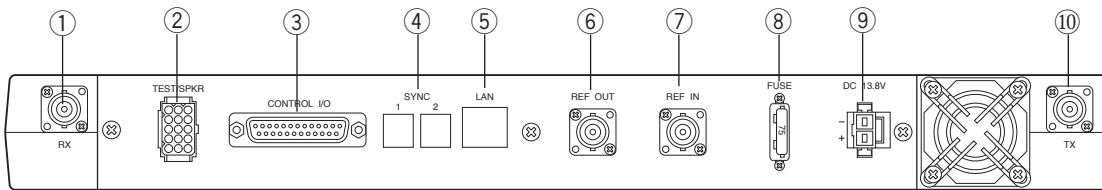
- ⑧ **POWER indicator**  
Lights green when power is supplied to the **DC 13.8V** jack. Blinks when an abnormal voltage is present.
- ⑨ **TX indicator**  
Lights red while transmitting.
- ⑩ **BUSY indicator**  
Lights green while a signal is being received.
- ⑪ **OCXO indicator**  
The OCXO indicator shows the state of the reference 10 MHz oscillator :  
Lights Green when using a reference signal from an optional OCXO unit.  
Lights Orange when using a reference signal from another repeater.

Lights red when no reference signal is available or when an error occurs.

Does not light when the reference signal is an internal VCXO signal.

- ⑫ **CTRL indicator**  
The CTRL indicator shows the RCCH status while using Digital trunking :  
Lights Green when the repeater is used as RCCH.  
Blinks Green when using a non-dedicated channel, and RCCH is used as RDCH.  
Does not light when using RDCH.

## ■ Rear Panel



- ① **RX IN jack**  
Connect an RX antenna or a duplexer to this BNC receptacle.
- ② **TEST/SPKR jack**  
Test input/output jack. Connect an external speaker to this jack.
- ③ **CONTROL I/O jack**  
Connect an repeater controller to this DB-25 interface.
- ④ **SYNC 1/2 jack**  
Connect to other repeater to use synchronous frame signal.
- ⑤ **LAN jack**  
Connect to Ethernet.
- ⑥ **REF OUT jack**  
Connect to another repeater within the site to supply a reference signal.
- ⑦ **REF IN jack**  
Connect from another repeater within the site to receive a reference signal.
- ⑧ **FUSE**  
Insert 7.5 A blade fuses into these fuse holders.
- ⑨ **DC 13.8V jack**  
Connect a 13.8 V DC power supply to this jack.
- ⑩ **TX OUT jack**  
Connect a TX antenna or a duplexer to this receptacle.

## REPEATER OPERATION

**Note:**Please consult your dealer for programming the repeater. When operating the repeater using an optional OCXO unit, allow the unit to warm up for 24 hours after turning the power on.

When power is applied to the unit, the **POWER** indicator lights green.

Turn the **VOLUME** control clockwise until a click sounds, to unmute the volume. Rotate to adjust the volume. Turn the **VOLUME** control counterclockwise fully to mute the volume. The **BUSY** indicator lights green while receiving a signal and the **TX** indicator lights red while transmitting.

## TRANSCIVER OPERATION

### ■ Receive

Adjust the volume to your desired level. You may need to readjust the volume when you receive a message from your dispatcher or another member in your fleet.

- The **BUSY** indicator lights green while a signal is being received.

### ■ Transmit

- 1 Listen to the channel before transmitting, to make sure it is not being used.
- 2 Press the microphone **PTT** switch, then speak in your normal speaking voice.
  - The **TX** indicator lights red while transmitting.
- 3 When you finish speaking, release the **PTT** switch.

KENWOOD

UNITE OCXO  
**KXK-3**

**KENWOOD**  
Kenwood Corporation

MODE D'EMPLOI

UNIDAD OCXO  
**KXK-3**

**KENWOOD**  
Kenwood Corporation

MANUAL DE INSTRUCCIONES

OCXO UNIT  
**KXK-3**

**KENWOOD**  
Kenwood Corporation

© B62-2022-00 (M)  
09 08 07 06 05 04 03 02 01 00

INSTRUCTION MANUAL

### PRECAUTIONS

- Do not drop the unit.
- Avoid jarring the unit, causing vibrations or strong impacts.
- Do not expose the unit to rain or moisture; to prevent fire or electric shock.
- Do not open the unit under any circumstances; to avoid risk of electric shock.
- Do not expose the unit to long periods of direct sunlight, nor place it close to heating appliances.
- Do not place the unit in excessively dusty and/or humid areas, nor on unstable surfaces.

### NOTICES TO THE USER

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

One or more of the following statements may be applicable to this equipment.

#### 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.

- ◆ 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.

### UNPACKING AND CHECKING EQUIPMENT

**Note:** The following unpacking information is for use by your **Kenwood** dealer, an authorized **Kenwood** service center, or the factory.

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

| Item                         | Part Number | Quantity |
|------------------------------|-------------|----------|
| Panhead sems screw W         | N67-3008-XX | 5        |
| Flat cable                   | E37-1405-XX | 1        |
| Lead wire with mini pin plug | E31-3269-XX | 1        |
| Lead wire with connector     | E37-1406-XX | 1        |
| Instruction Manual           | B62-2022-XX | 1        |

### INSTALLATION

Please consult your dealer for installing the OCXO unit.

**Note:** When installing the OCXO unit, be sure to note the direction of the unit.



Authorized Representative:  
Kenwood Electronics Europe B.V  
Amsterdamseweg 37, 1422 AC Uithoorn, Netherlands

## **MANDATORY SAFETY INSTRUCTIONS TO INSTALLERS AND USERS**

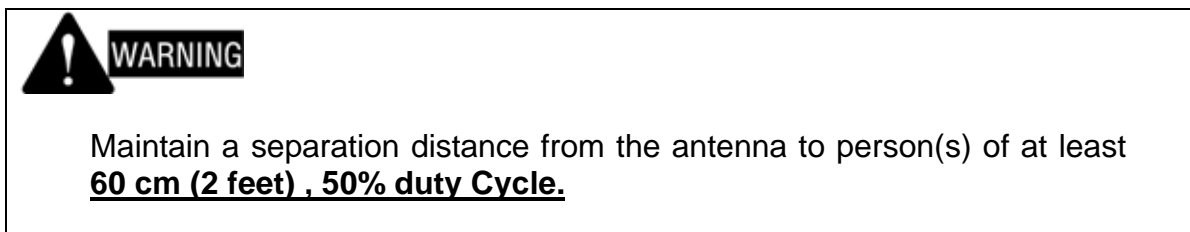
- Use only manufacturer or dealer supplied antenna.
- **Antenna Minimum Safe Distance: 60 cm (2 feet), 50% duty Cycle.**
- Antenna Gain: **0** dBd referenced to a dipole.

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.



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