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

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

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

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

BASE-RIPETITORE DIGITALE VHF/ BASE-RIPETITORE DIGITALE UHF  
**MANUALE DI ISUTRUZIONI**

VHF DIGITAL BASE-REPEATER/ UHF DIGITAL BASE-REPEATER  
**BEDIENUNGSANLEITUNG**

VHF DIGITALE BASIS REPEATER/ UHF DIGITALE BASIS REPEATER  
**GEBRUIKSAANWIJZING**

# 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

- ◆ 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. (except U.S.A. and Canada)
- ◆ This repeater is designed for a 13.2 V DC power source! Never use a 24 V DC or higher source to power the repeater.
- ◆ 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.

The AMBE+2 voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc. This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to extract, remove, decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form. U.S. Patent Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

### 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 (15 A)                       | F05-1537-XX | 1        |
| Instruction Manual                | B62-XXXX-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

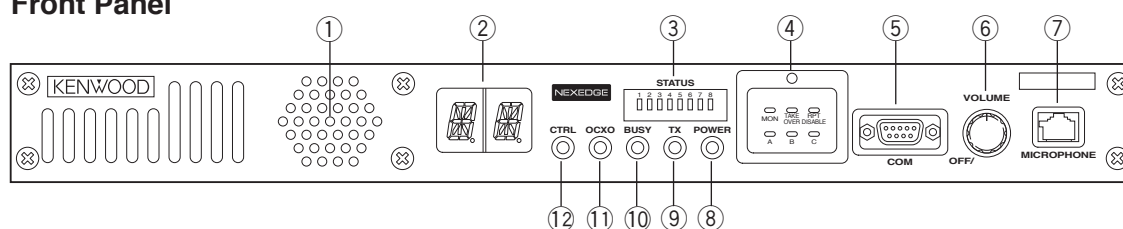
Connect an optional KMC-30, KMC-35, or KMC-9C **Kenwood** microphone to the **MICROPHONE** jack on the front panel.

### OCXO UNIT (KXK-3):Option

The OCXO unit (KXK-3) is an Oven Controlled Crystal Oscillator (OCXO) unit.

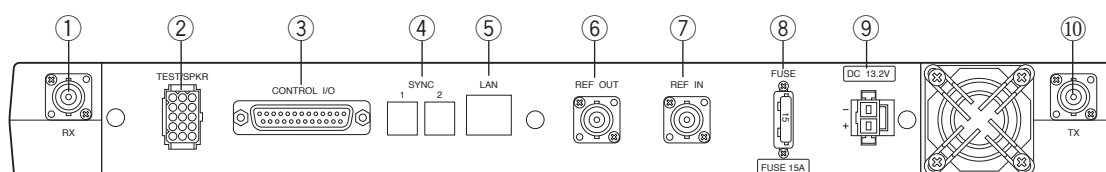
## CONTROLS AND FUNCTIONS

### ■ 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. (NXDN mode)
- ④ **Programmable Function keys**  
Press these keys to activate their programmable functions.
- ⑤ **COM jack**  
Connect to the PC using a RS-232C standard DB9 (Female) cross cable.
- ⑥ **VOLUME control**  
Turn clockwise until a click sounds, to unmute the audio. Rotate to adjust the audio. Turn counterclockwise fully to mute the audio.
- ⑦ **MICROPHONE jack**  
Connect a microphone to this 8-pin modular jack.
- ⑧ **POWER indicator**  
Lights green when power is supplied to the **DC 13.2V** jack. Blinks red 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 (KXK-3).  
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 control channel status while using Digital trunking :  
Lights Green when the repeater is used as control channel.  
Blinks Green when using a non-dedicated control channel.

### ■ 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 a repeater controller or a remote panel to this DB-25 interface.
- ④ **SYNC 1 / 2 jack**  
Connect to another repeater to use synchronous frame signaling for digital trunking.
- 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 15 A blade fuse into this fuse holder.
- ⑨ **DC 13.2V jack**  
Connect a 13.2 V DC power supply to this jack.
- ⑩ **TX OUT jack**  
Connect a TX antenna or a duplexer to this BNC receptacle.

## REPEATER OPERATION

**Note:** Please consult your dealer for programming the repeater. Due to the frequency stability on the 6.25 kHz bandwidth channel, when operating the repeater using an optional OCXO unit, allow the unit to warm up for 24 hours after turning the power on. After turning on the power, wait for approximately 10 seconds for the VCXO or 5 minutes for the OCXO (when mounting) to warm up. During this time, the CH/STATUS Display will blink. The keys will function when they are pressed.

When power is applied to the unit, the **POWER** indicator lights green. Turn the **VOLUME** control clockwise until a click sounds, to unmute the audio. Rotate to adjust the audio. Turn the **VOLUME** control counterclockwise fully to mute the audio.

The **BUSY** indicator lights green while receiving a signal and the **TX** indicator lights red while transmitting.

## TRANSCEIVER OPERATION

### ■ Receive

Adjust the volume to your desired level. You may need to readjust the volume if you are having interference while receiving 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

## NOTIFICATION

This equipment complies with the essential requirements of Directive 1999/5/EC.  
The use of the warning symbol ⓘ means the equipment is subject to restrictions of use in certain countries.  
This equipment requires a licence and is intended for use in the countries as below.

## NOTIFICATION

Cet équipement est conforme aux principales exigences de la Directive 1999/5/CE.  
L'usage du symbole d'avertissement ⓘ signifie que l'équipement est soumis à des restrictions d'usage dans certains pays.  
Cet équipement nécessite un contrat de licence et il est destiné à être utilisé dans les pays ci-dessous.

## AVISO

Este equipo cumple con los requisitos esenciales de la Directiva 1999/5/CE.  
El uso del símbolo de advertencia ⓘ significa que el equipo está sujeto a restricciones de uso en ciertos países.  
Este equipo requiere una licencia y está destinado para utilizarse en los siguientes países.

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| AT | BE | DK | FI | FR | DE | GR | IS |
| IE | IT | LI | LU | NL | NO | PT | ES |
| SE | CH | GB | CY | CZ | EE | HU | LV |
| LT | MT | PL | SK | SI | BG | RO |    |

ISO3166

## AVVISO

La presente apparecchiatura è conforme ai requisiti fondamentali della Direttiva 1999/5/CE.  
L'uso del simbolo di avvertenza ⓘ indica che l'apparecchiatura è soggetta alle limitazioni d'uso in vigore in determinati paesi.  
Questa apparecchiatura è concepita per essere utilizzata in tutti i paesi.  
L'apparecchiatura deve essere provvista di licenza e n'è consentito l'uso nei seguenti paesi.

## HINWEIS

Dieses Gerät erfüllt die grundlegenden Anforderungen der Richtlinie 1999/5/EG.  
Das Alert-Zeichen ⓘ be-deutet, dass dieses Gerät in manchen Ländern bestimmten Verwendung-seinschränkungen unterliegt.  
Für dieses Gerät ist eine Lizenz erforderlich; es ist für die Verwendung in den unten aufgeführten Ländern vorgesehen.

## KENNISGEVING

Deze apparatuur voldoet aan de vereisten van Richtlijn 1999/5/EG.  
Het gebruik van het waarschuwings-symbool ⓘ betekent dat dit apparaat in bepaalde landen aan gebruiksbe-perkingen onderhevig is.  
Voor deze apparatuur is een licentie nodig en is bedoeld voor gebruik in onderstaande landen.

|    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|
| AT | BE | DK | FI | FR | DE | GR | IS |
| IE | IT | LI | LU | NL | NO | PT | ES |
| SE | CH | GB | CY | CZ | EE | HU | LV |
| LT | MT | PL | SK | SI | BG | RO |    |

ISO3166

CE0168 ⓘ

**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.

## Addendum

### Terminal Description

#### MIC (Modular Jack)

| Pin NO. | Pin Name | Description    | Specification          | I/O | Notes |
|---------|----------|----------------|------------------------|-----|-------|
| 1       | NC       | Not used       | Not used               | –   |       |
| 2       | SB       | Power Output   | 13.8 V                 | O   |       |
| 3       | GND      | GND            | GND                    | –   |       |
| 4       | PTT      | PTT Signal     | Input Impedance 100 kΩ | I   |       |
| 5       | MICG     | MIC GND        | MIC GND                | –   |       |
| 6       | MIC      | MIC Input      | 600 Ω                  | I   |       |
| 7       | HOOK     | Hook Detection | Input Impedance 100 kΩ | I   |       |
| 8       | NC       | Not used       | Not used               | –   |       |

#### COM (D-SUB 9 Pin) CONNECTOR

| Pin NO. | Pin Name | Description         | Specification               | I/O | Notes |
|---------|----------|---------------------|-----------------------------|-----|-------|
| 1       | CD       | Carrier Detect      | Conform to RS-232C standard | I   |       |
| 2       | RD       | Receive Data        | Conform to RS-232C standard | I   |       |
| 3       | SD       | Send Data           | Conform to RS-232C standard | O   |       |
| 4       | DTR      | Data Terminal Ready | Conform to RS-232C standard | O   |       |
| 5       | SG       | GND                 | GND                         | –   |       |
| 6       | DSR      | Data Set Ready      | Conform to RS-232C standard | I   |       |
| 7       | RTS      | Request to Send     | Conform to RS-232C standard | O   |       |
| 8       | CTS      | Clear to Send       | Conform to RS-232C standard | I   |       |
| 9       | CI       | Ringer DET          | Conform to RS-232C standard | I   |       |

#### TEST/ SPEAKER CONNECTOR

| Pin NO. | Pin Name | Description             | Specification                     | I/O | Notes           |
|---------|----------|-------------------------|-----------------------------------|-----|-----------------|
| 1       | SB       | Power Output            | 13.8 V                            | O   |                 |
| 2       | SB       | Power Output            | 13.8 V                            | O   |                 |
| 3       | NC       | Not used                | Not used                          | –   |                 |
| 4       | GND      | GND                     | GND                               | –   |                 |
| 5       | GND      | GND                     | GND                               | –   |                 |
| 6       | SPG      | Speaker GND             | Speaker GND                       | –   |                 |
| 7       | RD       | RX Audio Output         | Load impedance 4.7 kΩ             | O   | not De-emphasis |
| 8       | RSSI     | RSSI Signal Output      | Output Level 0 to 5 V             | O   |                 |
| 9       | SPI      | Internal Speaker Input  | Short with "SPO"                  | I   |                 |
| 10      | AO1      | Open Collector Terminal | Allowable current value MAX 200mA | O   |                 |
| 11      | AO2      | Open Collector Terminal | Allowable current value MAX 200mA | O   |                 |
| 12      | SPO      | External Speaker Output | Output Level 3W (5%Distortion)    | O   |                 |
| 13      | AO3      | Open Collector Terminal | Allowable current value MAX 200mA | O   |                 |
| 14      | AO4      | Open Collector Terminal | Allowable current value MAX 200mA | O   |                 |
| 15      | AO5      | Open Collector Terminal | Allowable current value MAX 200mA | O   |                 |

#### Control I/O (D-SUB 25 Pin) CONNECTOR

| Pin NO. | Pin Name | Description                   | Specification           | I/O | Notes                 |
|---------|----------|-------------------------------|-------------------------|-----|-----------------------|
| 1       | NC       | Not used                      | Not used                | –   |                       |
| 2       | NC       | Not used                      | Not used                | –   |                       |
| 3       | NC       | Not used                      | Not used                | –   |                       |
| 4       | AI1      | Programmable Function Input 1 | Input Impedance 47 kΩ   | I   |                       |
| 5       | AI2      | Programmable Function Input 2 | Input Impedance 47 kΩ   | I   |                       |
| 6       | AI3      | Programmable Function Input 3 | Input Impedance 47 kΩ   | I   |                       |
| 7       | DG       | Digital GND                   | Digital GND             | –   |                       |
| 8       | TD       | TX Audio Input                | Input Impedance 600 Ω   | I   | not Pre-emphasis      |
| 9       | TA       | TX Audio Input                | Input Impedance 600 Ω   | I   | Pre-emphasis          |
| 10      | RD       | RX Audio Output               | Load Impedance 4.7 kΩ   | O   | not De-emphasis       |
| 11      | RA       | RX Audio Output               | Load Impedance 4.7 kΩ   | O   | De-emphasis           |
| 12      | RXG      | RX Signal GND                 | RX Signal GND           | –   |                       |
| 13      | SPM      | Speaker Mute                  | Input Impedance 47 kΩ   | I   |                       |
| 14      | BER CLK  | For Bit Error Rate Clock      | CMOS                    | O   |                       |
| 15      | EMON     | External Monitor Switch       | Input Impedance 47 kΩ   | I   |                       |
| 16      | EPTT     | External PTT Switch           | Input Impedance 47 kΩ   | I   |                       |
| 17      | SC       | Squelch Control               | Output level 0 or 3.3 V | O   |                       |
| 18      | BER DAT  | For Bit Error Rate Data       | CMOS                    | O   |                       |
| 19      | TXG      | TX Signal GND                 | TX Signal GND           | –   |                       |
| 20      | IO1      | Programmable Function I/O 1   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |
| 21      | IO2      | Programmable Function I/O 2   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |
| 22      | IO3      | Programmable Function I/O 3   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |
| 23      | IO4      | Programmable Function I/O 4   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |
| 24      | IO5      | Programmable Function I/O 5   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |
| 25      | IO6      | Programmable Function I/O 6   | Input Impedance 47 kΩ   | I/O | Output level 0 or 5 V |

#### LAN (Modular Jack)

| Pin NO. | Pin Name | Description | Specification                 | I/O | Notes    |
|---------|----------|-------------|-------------------------------|-----|----------|
| 1       | TD+      | TX Signal + | Conform to IEEE802.3 standard | O   | 100 Mbps |
| 2       | TD-      | TX Signal – | Conform to IEEE802.3 standard | O   | 100 Mbps |
| 3       | RD+      | RX Signal + | Use Designated Transformer    | I   | 100 Mbps |
| 4       | NC       | Not used    | Not used                      | –   |          |
| 5       | NC       | Not used    | Not used                      | –   |          |
| 6       | RD-      | RX Signal – | Use Designated Transformer    | I   | 100 Mbps |
| 7       | NC       | Not used    | Not used                      | –   |          |
| 8       | NC       | Not used    | Not used                      | –   |          |

#### SYNC 1, 2 Connector (There are two connectors)

| Pin NO. | Pin Name | Description                  | Specification    | I/O | Notes |
|---------|----------|------------------------------|------------------|-----|-------|
| 1       | FRMA     | RS-485 Differential Signal A | Conform to RS485 | I/O |       |
| 2       | NC       | Not used                     | Not used         | –   |       |
| 3       | NC       | Not used                     | Not used         | –   |       |
| 4       | FRMB     | RS-485 Differential Signal B | Conform to RS485 | I/O |       |

**RX ANT** Impedance 50 Ω  
**TX ANT** Impedance 50 Ω

**REF IN** External Reference Signal Input (10 MHz). Impedance : more than 1 kΩ  
**REF OUT** Reference Signal Distribution (10 MHz). Load Impedance : more than 20 Ω

Addendum

Description de la borne

MIC (Prise modulaire)

| N° de broche | Nom de broche | Description                      | Caractéristiques        | E/S | Remarques |
|--------------|---------------|----------------------------------|-------------------------|-----|-----------|
| 1            | NC            | Non utilisé                      | Non utilisé             | –   |           |
| 2            | SB            | Puissance développée             | 13,8 V                  | S   |           |
| 3            | GND           | GND (terre)                      | GND (terre)             | –   |           |
| 4            | PTT           | Signal PTT (poussez-pour-parler) | Impédance entrée 100 kΩ | E   |           |
| 5            | MICG          | MIC GND                          | MIC GND                 | –   |           |
| 6            | MIC           | Entrée MIC                       | 600 Ω                   | E   |           |
| 7            | HOOK          | Détection de support             | Impédance entrée 100 kΩ | E   |           |
| 8            | NC            | Non utilisé                      | Non utilisé             | –   |           |

CONNECTEUR COM (D-SUB 9 broches)

| N° de broche | Nom de broche | Description              | Caractéristiques             | E/S | Remarques |
|--------------|---------------|--------------------------|------------------------------|-----|-----------|
| 1            | CD            | Détection de porteuse    | Conforme au standard RS-232C | E   |           |
| 2            | RD            | Réception de données     | Conforme au standard RS-232C | E   |           |
| 3            | SD            | Emission de données      | Conforme au standard RS-232C | S   |           |
| 4            | DTR           | Terminal de données prêt | Conforme au standard RS-232C | S   |           |
| 5            | SG            | GND (terre)              | GND (terre)                  | –   |           |
| 6            | DSR           | Poste de données prêt    | Conforme au standard RS-232C | E   |           |
| 7            | RTS           | Demande pour émettre     | Conforme au standard RS-232C | S   |           |
| 8            | CTS           | Voie libre               | Conforme au standard RS-232C | E   |           |
| 9            | CI            | Tonalité DET             | Conforme au standard RS-232C | E   |           |

CONNECTEUR TEST/MICROPHONE

| N° de broche | Nom de broche | Description                 | Caractéristiques                    | E/S | Remarques              |
|--------------|---------------|-----------------------------|-------------------------------------|-----|------------------------|
| 1            | SB            | Puissance développée        | 13,8 V                              | S   |                        |
| 2            | SB            | Puissance développée        | 13,8 V                              | S   |                        |
| 3            | NC            | Non utilisé                 | Non utilisé                         | –   |                        |
| 4            | GND           | GND (terre)                 | GND (terre)                         | –   |                        |
| 5            | GND           | GND (terre)                 | GND (terre)                         | –   |                        |
| 6            | SPG           | Haut parleur GND            | Haut parleur GND                    | –   |                        |
| 7            | RD            | RX Sortie Audio             | Impédance de charge 4,7 kΩ          | S   | pas de désaccentuation |
| 8            | RSSI          | RSSI Sortie signal          | Niveau de sortie 0 à 5 V            | S   |                        |
| 9            | SPI           | Entrée haut parleur interne | Court avec "SPO"                    | E   |                        |
| 10           | AO1           | Borne de collecteur ouvert  | Valeur de courant admissible 200mA  | S   |                        |
| 11           | AO2           | Borne de collecteur ouvert  | Valeur de courant admissible 200mA  | S   |                        |
| 12           | SPO           | Sortie haut parleur externe | Niveau de sortie 3W (Distorsion 5%) | S   |                        |
| 13           | AO3           | Borne de collecteur ouvert  | Valeur de courant admissible 200mA  | S   |                        |
| 14           | AO4           | Borne de collecteur ouvert  | Valeur de courant admissible 200mA  | S   |                        |
| 15           | AO5           | Borne de collecteur ouvert  | Valeur de courant admissible 200mA  | S   |                        |

CONNECTEUR Commande E/S (D-SUB 25 broches)

| N° de broche | Nom de broche | Description                                     | Caractéristiques            | E/S | Remarques                 |
|--------------|---------------|-------------------------------------------------|-----------------------------|-----|---------------------------|
| 1            | NC            | Non utilisé                                     | Non utilisé                 | –   |                           |
| 2            | NC            | Non utilisé                                     | Non utilisé                 | –   |                           |
| 3            | NC            | Non utilisé                                     | Non utilisé                 | –   |                           |
| 4            | AI1           | Entrée fonction programmable 1                  | Impédance entrée 47 kΩ      | E   |                           |
| 5            | AI2           | Entrée fonction programmable 2                  | Impédance entrée 47 kΩ      | E   |                           |
| 6            | AI3           | Entrée fonction programmable 3                  | Impédance entrée 47 kΩ      | E   |                           |
| 7            | DG            | GND numérique                                   | GND numérique               | –   |                           |
| 8            | TD            | TX Entrée audio                                 | Impédance entrée 600 Ω      | E   | pas de pré-accentuation   |
| 9            | TA            | TX Entrée audio                                 | Impédance entrée 600 Ω      | E   | Pré-accentuation          |
| 10           | RD            | RX Sortie Audio                                 | Impédance de charge 4,7 kΩ  | S   | pas de désaccentuation    |
| 11           | RA            | RX Sortie Audio                                 | Impédance de charge 4,7 kΩ  | S   | Désaccentuation           |
| 12           | RXG           | GND Signal RX                                   | GND Signal RX               | –   |                           |
| 13           | SPM           | Haut parleur en sourdine                        | Impédance entrée 47 kΩ      | E   |                           |
| 14           | BER CLK       | Pour l'horloge des taux d'erreur sur les bits   | CMOS                        | S   |                           |
| 15           | EMON          | Commutateur de moniteur externe                 | Impédance entrée 47 kΩ      | E   |                           |
| 16           | EPTT          | Commutateur PTT externe                         | Impédance entrée 47 kΩ      | E   |                           |
| 17           | SC            | Commande du silencieux                          | Niveau de sortie 0 ou 3,3 V | S   |                           |
| 18           | BER DAT       | Pour les données des taux d'erreur sur les bits | CMOS                        | S   |                           |
| 19           | TXG           | GND Signal de transmission                      | GND Signal de transmission  | –   |                           |
| 20           | IO1           | Fonction programmable E/S 1                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |
| 21           | IO2           | Fonction programmable E/S 2                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |
| 22           | IO3           | Fonction programmable E/S 3                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |
| 23           | IO4           | Fonction programmable E/S 4                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |
| 24           | IO5           | Fonction programmable E/S 5                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |
| 25           | IO6           | Fonction programmable E/S 6                     | Impédance entrée 47 kΩ      | E/S | Niveau de sortie 0 ou 5 V |

LAN (Prise modulaire)

| N° de broche | Nom de broche | Description | Caractéristiques                   | E/S | Remarques |
|--------------|---------------|-------------|------------------------------------|-----|-----------|
| 1            | TD+           | Signal + TX | Comforme au standard IEEE802.3     | S   | 100 Mbps  |
| 2            | TD-           | Signal – TX | Comforme au standard IEEE802.3     | S   | 100 Mbps  |
| 3            | RD+           | Signal + RX | Utiliser le transformateur désigné | E   | 100 Mbps  |
| 4            | NC            | Non utilisé | Non utilisé                        | –   |           |
| 5            | NC            | Non utilisé | Non utilisé                        | –   |           |
| 6            | RD-           | Signal – RX | Utiliser le transformateur désigné | E   | 100 Mbps  |
| 7            | NC            | Non utilisé | Non utilisé                        | –   |           |
| 8            | NC            | Non utilisé | Non utilisé                        | –   |           |

Connecteurs SYNC 1, 2 (Il y a deux connecteurs)

| N° de broche | Nom de broche | Description                  | Caractéristiques  | E/S | Remarques |
|--------------|---------------|------------------------------|-------------------|-----|-----------|
| 1            | FRMA          | Signal Différentiel A RS-485 | Conforme au RS485 | E/S |           |
| 2            | NC            | Non utilisé                  | Non utilisé       | –   |           |
| 3            | NC            | Non utilisé                  | Non utilisé       | –   |           |
| 4            | FRMB          | Signal Différentiel B RS-485 | Conforme au RS485 | E/S |           |

RX ANT      Impédance 50 Ω  
TX ANT      Impédance 50 Ω

REF IN      Entrée signal de référence externe (10 MHz). Impédance : supérieure à 1 kΩ  
REF OUT     Distribution signal de référence (10 MHz). Impédance de charge : supérieure à 20 Ω

## MANDATORY SAFETY INSTRUCTIONS TO INSTALLERS AND USERS

- Use only manufacturer or dealer supplied antennas.
- Antenna Minimum Safe Distance: **180 cm (6 feet)**.
- Antenna Gain: **0 dBi** 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. **180 cm (6 feet)**.
- 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.



Maintain a separation distance from the antenna to person(s) of at least **180 cm (6 feet)**.

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.

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