



QUICK REFERENCE GUIDE

HR106X DIGITAL REPEATER



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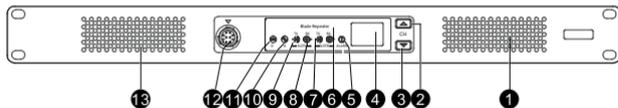
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Product Overview

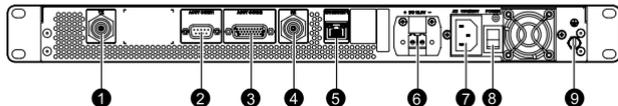
Front Panel



No.	Part Name	No.	Part Name
1	Air Inlet for PA	8	Timeslot A RX Indicator
2	Volume/Channel + Key	9	Timeslot A TX Indicator
3	Volume/Channel - Key	10	Analog Mode Indicator
4	Seven-segment Display	11	Digital Mode Indicator
5	Alarm Indicator	12	Audio/Programming Interface
6	Timeslot B RX Indicator	13	Air Inlet for Power Supply
7	Timeslot B TX Indicator	/	/

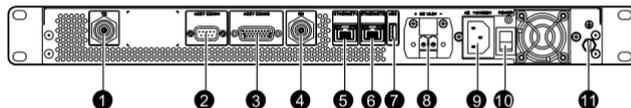
Rear Panel

Basic Version



No.	Part Name	No.	Part Name
1	TX Antenna Connector	6	DC Power Inlet
2	Monitor/Tuning Interface	7	AC Power Inlet
3	Accessory Connector	8	AC Power Switch
4	RX Antenna Connector	9	Ground Screw
5	Ethernet Interface	/	/

Advanced Version



No.	Part Name	No.	Part Name
1	TX Antenna Connector	7	USB Connector
2	Monitor/Tuning Interface	8	DC Power Inlet
3	Accessory Connector	9	AC Power Inlet
4	RX Antenna Connector	10	AC Power Switch
5	Ethernet Interface 1	11	Ground Screw
6	Ethernet Interface 2	/	/

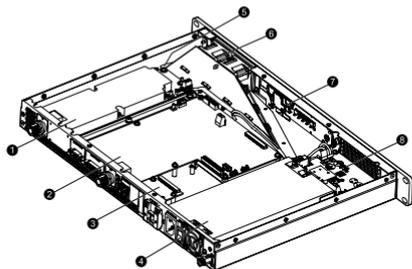


NOTE

In routing mode, the Ethernet interface 1 and Ethernet interface 2 must serve as LAN port and WAN port respectively.

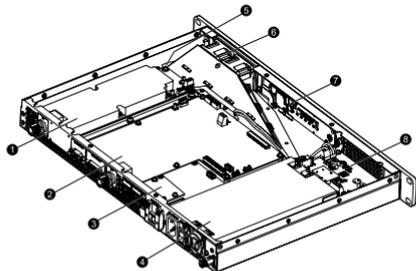
Internal Parts

Basic Version



No.	Part Name	No.	Part Name
1	PA Module	5	Wind Scooper
2	Main Board	6	Fan
3	Network Board	7	Control Panel
4	Power Supply Module	8	Float Charging Board

Advanced Version



No.	Part Name	No.	Part Name
1	PA Module	5	Wind Scooper
2	Main Board	6	Fan
3	Coprocessor	7	Control Panel
4	Power Supply Module	8	Float Charging Board

Installation

To ensure optimum performance and reliability of the repeater, read the following instructions carefully.

Installation Requirements

Environmental Conditions

The repeater must be installed in a dry and well-ventilated place. The operating temperature ranges from -30°C to $+60^{\circ}\text{C}$, and the relative humidity is 95%.

Installation Site

The repeater can be installed in a rack, bracket, and cabinet, or on a desk.



NOTE

For more information, refer to the Safety Information Booklet.

Pre-installation Tasks

Preparing the Tools

- Phillips screwdriver
- T-10 torx screwdriver
- Spanner
- Anti-static gloves
- Multimeter

Checking the Power Supply

Before you install the repeater, make sure that the power supply meets the following requirements:

- DC power voltage: $13.6\pm 15\%$ V

- AC power voltage: 100–240 V

Installation Procedure

To install the repeater, do as follows:

1. Wear the anti-static gloves.
2. Place the repeater to a proper location.



NOTE

If the repeater is installed in outdoor environments with frequent thunderstorms, such as the top of mountains or buildings, you must install an external lightning protection module (optional) on the network interface.

3. Connect the antenna, feed line, power cord and ground cable to the repeater.



NOTE

- You must purchase the antenna and feed lines separately.
- You must prepare a ground cable.

4. Ground the repeater through the ground screw located on the rear panel.

Post-installation Check

To check whether the repeater works properly, do as follows:

1. Turn the repeater on.
2. Observe the LED indicators and the display in the front panel.
 - If the repeater works properly, the power supply indicator on the float charging board glows yellow or blue, and the display shows the current channel.
 - If not, the power supply indicator glows red, and the display shows the alarm code.



NOTE

For details, see Checking the Status.

Basic Operations

Turning On or Off the Repeater

- If the repeater is connected to a DC power supply, press the power switch on the DC power supply to turn on or off the repeater.
After turn-on, if the power supply indicator turns red, the repeater goes into locked status. You must switch off the DC power supply for four seconds, and then switch on the power supply again.
- If the repeater is connected to an AC power supply, press the **AC Power Switch** in the rear panel to turn on or off the repeater.
After turn-on, the power supply indicator turns yellow.

Changing the Channel

Press the **Volume/Channel +** or **Volume/Channel -** key to change the channel.

The current channel number appears on the display of the repeater.

Adjusting the Volume

1. Long press the **Volume/Channel +** key for five seconds to switch the repeater from channel mode to volume mode.
2. Press the **Volume/Channel +** or **Volume/Channel -** key to increase or decrease the volume.

If you do not have any operation for greater than five seconds or if you long press the **Volume/Channel +** key again within five seconds, the repeater switches to channel mode.

Checking the Status

Repeater

Indicator	Description	Repeater Status
Digital Mode	Blue	The repeater is operating in digital mode.
Analog Mode	Yellow	The repeater is operating in analog mode.
Alarm	Red	The repeater is not working properly, and the display shows the alarm code.
Timeslot A TX	Red	<ul style="list-style-type: none">• Analog mode: The repeater is transmitting.• Digital mode: The repeater is transmitting on timeslot A.
Timeslot A RX	Green	<ul style="list-style-type: none">• Analog mode: The repeater is receiving.• Digital mode: The repeater is receiving on timeslot A.
Timeslot B TX	Red	Digital mode: The repeater is transmitting on timeslot B.
Timeslot B RX	Green	Digital mode: The repeater is receiving on timeslot B.

Network Interface

Indicator	Description	Repeater Status	
Ethernet Interface	LED 1	Flashing	The network interface card is transmitting data.
	LED 2	Glowing	The data transmission rate is 1000 Mbps/100 Mbps.
		Off	The data transmission rate is 10 Mbps.

Power Supply

Indicator	Description	Repeater Status
Power Supply (Visible through the Air Inlet for Power Supply)	Yellow	The repeater is supplied by an AC power.
	Blue	The repeater is supplied by a DC power.
	Red	The repeater cannot be turned on.