

## **Quick Start Guide**

# **PR900 Series Digital Repeater**

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## Safety Instruction

In order to safely and efficiently use this digital repeater, please read the following information.

- Maintenance can only be carried out by the professionals, do not disassemble it by yourself.
- The configuration and installation without the local wireless radio management department's permission is forbidden by the law.
- Regarding to installation of antenna, lightning protection measures have to be performed,otherwise it may result in a serious loss of life and property.
- Be sure to use the qualified accessories,such as power supply, antenna, lightning protection device, feeder, duplexer, etc., and install them correctly, otherwise it may result in damage to the repeater.

## **General Disclaimer**

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The figures in this guide are for reference only. If the figure is different with the actual product, please refer to the actual product. The accessories provided with the product may vary with product models and functions, please refer to the actual product in the packing box.

## **RF radiation information**

This product only meets the application requirements on RF energy radiation. The user must be acutely aware of the hazards brought by RF radiation, and able to take corresponding measures to meet the prescribed requirements of RF radiation.

# 1 GET TO KNOW YOUR REPEATER

## 1.1 Accessories with the Product

Item	Quantity
Repeater	1
AC Power Cable	1
Rack mount	2
Cross Flat Head Screw(M3)	6
PR900 Series Digital Repeater Quick Start Guide	1
Warranty Card	1

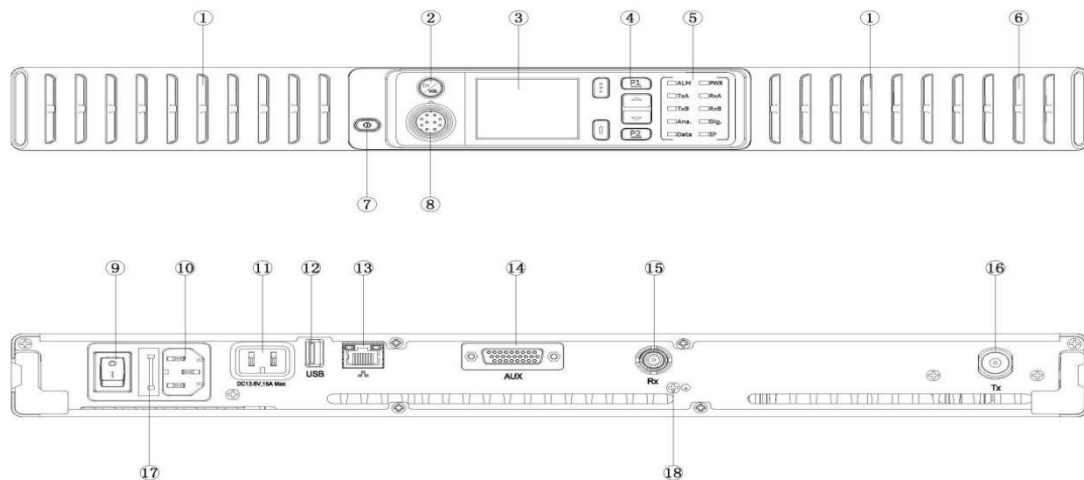
## 1.2 Specifications

Item	Parameter
Dimensions (W*H*D)	436*44.5*366.4mm
Weight	8.5Kg
Frequency	Refer to product label
AC Power Supply	AC100-240V@50/60Hz
DC Power Supply	DC13.6V ± 15%
Transmitted Power	1-50W
Operating Temperature	-30℃ ~ +60℃
Storage Temperature	-40℃ ~ +85℃

### 1.3 Notice

- It should be arranged in dry and ventilated environment while the repeater is working.
- The power switch should be off until all the accessories have been installed.
- Do not touch the antenna port and avoid to high-frequency radiation.
- Do not optionally disassemble or refit the repeater lest fault or accident occurred.
- Do not operate the repeater by wet hand lest personal injury or repeater fault.
- The storage environment should be far away from corrosive solid, liquid and gas.

### 1.4 Components

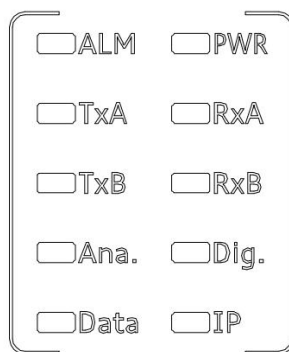


#### Component Description

No.	Name	No.	Name
1	Cooling Port	10	AC Power Socket
2	Channel/Volume Button	11	DC Power Socket
3	LCD Display	12	USB Port
4	Multi-functional Button	13	LAN Port

5	LED Indicator	14	AUX Port
6	Speaker	15	Rx Port (BNC type)
7	Power on Button	16	Tx Port(N type)
8	Accessory Port	17	Power Fuse (F15AL250V)
9	AC Power Switch	18	Grounding Screw

### 1.5 LED(LED Indicators)



Indicator	Indicator Name	Status	Description
ALM	Alarm Indicator	Red	Repeater works abnormally, the alarm information can be checked through menu.
PWR	Power Indicator	Red	Power on normally.
TxA	Timeslot 1 Transmitting Indicator	Red	Transmitting at analog or digital timeslot 1.
RxA	Timeslot 1 Receiving Indicator	Green	Receiving at analog or digital timeslot 1.
TxB	Timeslot 2 Transmitting Indicator	Red	Transmitting at digital timeslot 2 .
RxB	Timeslot 2 Receiving	Green	Receiving at digital timeslot 2.

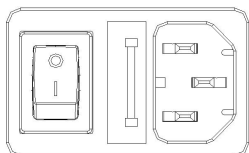
	Indicator		
Ana.	Analog Working Mode Indicator	Green	Repeater is working at analog mode.
Dig.	Digital Working Mode Indicator	Green	Repeater is working at digital mode.
Data	Data Transfer Indicator	Green	Repeater is transferring data currently.
IP	IP Connection Indicator	Green	The link of IP connection between repeaters is normal.
		Orange	The link of IP connection between repeaters is abnormal.
		Off	The link of IP connection between repeaters is no IP connection.

## 1.6 Power Supply Mode

The repeater supports three types of power supply mode, AC power supply, DC power supply and hybrid power supply. When adopting AC power supply and connecting the battery together, the repeater can use AC power supply normally and charge the battery automatically.

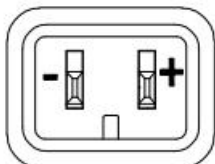
### 1.6.1 AC Power Supply

AC power socket is shown as the following figure. AC power range is AC100-240V@50/60Hz.



### 1.6.2 DC Power Supply








DC power socket is shown as the following figure. The repeater supports DC power supply and DC power range is  $13.6V \pm 15\%$ .



### 1.6.3 Hybrid Power Supply

AC power supply socket connects with AC power, at the same time DC power socket connects with the battery. Notice, connecting DC power is not allowed working at hybrid power supply mode. When AC power supply is normal, AC power shall charge the battery. When AC power supply is faulty, the battery shall supply the repeater.

## 1.7 Multi-functional Buttons

Button	Description	Button	Description
	Back Button		Up Button
	Menu/Confirm Button		Down Button
	Programmable 1 Button		Programmable 2 Button
	Channel/Volume Button		















Remark, the P1 and P2 buttons can be configured through CPS(Customer Programming



Software).

## 1.8 LCD (LCD Status Symbols)

The various icons may be displayed on the LCD. The status description of icons is listed as the following form.



Icon Name	Icon	Status Description
Power Supply Mode		The current power supply mode is AC power supply.
		The current power supply mode is DC power supply.
Alarm		The repeater is at alarm status.
Mute		The repeater is working at mute mode.
Speaker		The speaker is on.
Accessory		Accessory is connected with the repeater.
Repeater Working Mode		Master repeater in IP connection
		Slave repeater in IP connection
		Single station
IP Network Connection		IP network connection abnormal
		IP network no IP connection
		IP network connection normal
Transmit Power		The transmit power of current channel is high-power mode.
		The transmit power of current channel is

		low-power mode.
Disable		The repeater has been disabled.


## 2 BASIC OPERATIONS


### 2.1 Power on/off Repeater


AC Power Supply : 

When the repeater is turned off, press the AC Power Switch  on the rear panel to turn on, the light of AC power indicator is on. Then press the Button  on the front panel to power on the repeater, Power Indicator "PWR" is on. After the repeater working normally, operation screen shall be displayed on the LCD.

When the repeater is turned on, press the Button  to turn off the repeater directly, and press AC Power Switch  to power off.

DC Power Supply : 

When the repeater is turned off, press the Power on Button  on the front panel to power on the repeater, Power Indicator "PWR" is on. After the repeater working normally, operation screen shall be displayed on the LCD.

When the repeater is turned on, press the Power on Button  to power off the repeater directly.

### 2.2 Voice and Data Transfer

When transferring, the Data Transfer Indicator "Data" is on. If the transferred data is analog, the Analog Working Mode Indicator "Ana." is on simultaneously. If the transferred data is digital, the Digital Working Mode Indicator "Dig." is on simultaneously. The working parameters of each channel, such as TX/RX frequency and CDCSS/CTCSS can be assigned by distributor.



An analog channel can be programmed with one group of CDCSS/CTCSS encoding and decoding

list. When receiving CDCSS/CTCSS on the channel, the repeater will transfer voice and data according to programmed CDCSS/CTCSS encoding and decoding list.

## **2.3 Channel Switch**

Press Channel/Volume Button and enter channel switch mode, then switch channel through press Up/Down Button.

## **2.4 Power Switch**

The transmit power of the repeater can be set as high-power mode and low-power mode through CPS(Customer Programming Software). To switch power through the programmable button P1 is as default. When the icon of "  "is displayed on the LCD screen, the repeater is working at high-power mode. When the icon of "  "is displayed on the LCD screen, the repeater is working at low-power mode.

## **2.5 Alarm**

When the abnormal case occurs with the repeater, the Alarm Indicator"ALM" shall be light on. At the moment, the end customer shall contact with the local distributor.

# **3 MAINTENANCE AND CLEANING**

In order to ensure the repeater works with its favourable performance, and extend its service life, please know well the following contents, so as to make preferably maintenance and cleaning for the repeater.

## **3.1 Maintenance**

- Ensure to put the repeater at the ventilated and easy radiating environment.

- Do not put the irrespective materials on the repeater, guarantee effective heat dissipation.
- Do not puncture or scrap the repeater with the sharp and hard materials.
- Do not store the repeater at the environment with corrosive electronic circuit materials.
- Do not soak the repeater in corrosive, liquor or water.

### **3.2 Cleaning**

- Termly wipe the dust attached on the repeater using the clean and dry fleece-free cloth or brush, to keep it clean.
- If the buttons, control rotary knobs, display and port of the repeater is dirty, it may be cleaned using the fleece-free cloth with neutral detergent. It is prohibited to use the highly corrosive chemical agent, such as non-neutral detergent, alcohol, spray or oil preparations, etc.
- After cleaning, ensure the repeater dry completely, otherwise do not power on.