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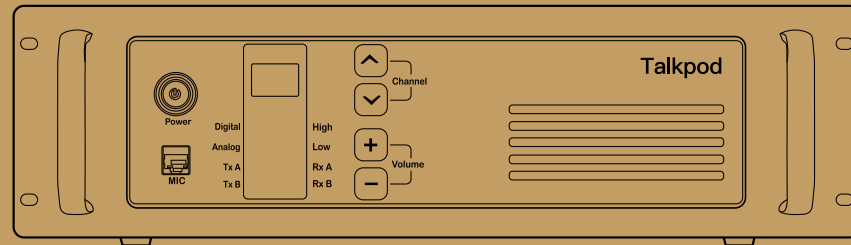
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## DR30 DMR Digital Repeater User Manual



Thanks for your favor in our product.  
This manual is helpful for you to quickly know how to use the product.

This manual is applicable to the following product:  
**DR30 DMR Digital Repeater**

## User Instruction

Please read the manual carefully before using this product, so that you can more easily operate the repeater. When you are using this product, we think that you have read the manual.

- Please keep the manual, in order to offer reference or user of this product.  
In order to safeguard the legitimate rights and interests of you from infringement please seriously truthfully fill in when buying the company' s products (with door repair service card), and ask for the purchase vouchers of real and effective.
- This product relates to upgrade or improve, the company reserves the right to change this manual at any time (about software and hardware specifications) without prior notice.

All specifications mentioned product specifications and information is only for reference.

- Although all words carefully check, it is hard to avoid errors , the company reserves the final interpretation.

## SafetyTips

For your safe and efficient use of the repeater, please read the information below.

- Maintenance work must be carried out by professionals, do not disassemble.
- Set up and installation must be approved by the local radio management department.
- User must do a good job when installing repeater antenna to protect from the lightning, or it may lead to serious loss of life and property.
- Be sure to use qualified power, duplexers, antennas, lightning protection devices, feeders, splitters and other appropriate accessories and proper installation, as this may cause broken to repeater.

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### Short press

After press the button and quick release button.

- Long press:

Press and hold the button after 2 seconds then release the button.

- Analog channel:

Only analog channel can be on the communication.

- Adaptive channel, digital or analog channel.

Digital or analog signals can be on the communication (repeater will judge the digital signals or analog signals according to the received signals, and then transmit the same kind of signals the same as received signals).

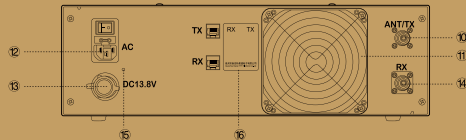
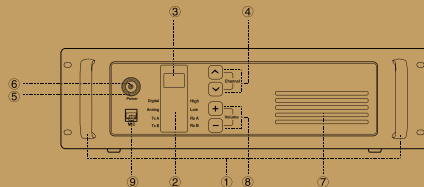
## Open – package inspection

Before use, please open the packing box, carefully check the repeater in the packaging carton and attached accessories. If any items lost or damaged in handling, please immediately contact the deliveryman or dealer.

### Accessories

Model name	Quantity
Repeater	1
Power cable	1
Programming cable	1
Software	1
Manual	1
Warranty card	1

## Get familiar with the repeater



Model name	Instruction
1	Handle
2	Front panel function
3	Digital display tube
4	Channel
5	Power (indicator light)
6	Power (on/off)
7	Speaker
8	Volume
9	Microphone jack
10	TX signals jack
11	Radiator fan
12	Power socket jack
13	DC 13.8V
14	RX signals jack
15	Earthing screw
16	Frequency sticker

Panel button functions are as follows

Power (on/off): press this button to turn on/off the repeater

Channel ↑ : press this button to change the channels up

Channel ↓ : press this button to change the channel down

Volume -: press this button shortly to turn down the volume, the speaker will show the indicator sound of volume change

Volume +: press this button shortly to turn up the volume, the speaker will show the indicator sound of volume change

Panel LED indicator light are as follows:

DIGITAL: Channel for the digital or analog/digital double channel, the indicator light is on when the repeater forwards the digital signal.

ANALOG: Channel for analog channel or analog / digital double channel, the indicator light is on when the repeater forwards the analog signal.

HIGH: When TX, the indicator light when the channel is in high power.

LOW: When RX, the indicator light when the channel is in low power.

TxA: Digital channel time slot 1 TX instructions or analog TX instructions.

RxA: Digital channel time slot 1 Rx instructions or analog Rx instructions.

TxB: Digital channel time slot 2 TX instructions.

RxB: Digital channel time slot 2RX instructions.

Also panel has the following parts :

Digital tube:Used to display the current channel.

External interface:When repeater is equipped with inside duplexer, you will only need one antenna, and please install this antenna to ANT TX jack ⑩, while when it is not equipped with inside duplexer, you need to install two antennas, one is for transmitting and the other is for receiving, and please place these two antennas in right jack. TX one to ⑩ and RX one to ⑭.

TX8 crystal joint is TX device's programming interface.

RX8 crystal joint is RX device's programming interface.

## Basic Operation

Turn on/off the repeater:

When repeater is off, press " Power (on/off)" shortly to turn on the repeater, the light turns green after the repeater on, when repeater is on, press Power (on/off) for 3 seconds to turn off the repeater, the light turns yellow.

Select Channel :

This repeater can be programmed 100 channels, press ↑ or ↓ to change the channel number. Press ↑ or ↓ for long time can change the channel quickly.

When the current channel in the repeater is analog, the ANALOG indicator light turns on.

When the current channel in the repeater is digital, the DIGITAL indicator light turns on.

When the current channel in the repeater is adaptive channel (digital/analog channel), the indicator light will turn on different color according to what type of mode repeater is on.

When the repeater standby, the DIGITAL indicator light turns on.

Transit:

Repeater's TX frequency and RX frequency are different, repeater will TX the signal which they Rx in Current channel, and repeater will gain the weak signal to high signal, so that enlarge the communication range, meanwhile will play the sound received with the speaker (digital channel doesn't support this function).

Note: If the repeater has a duplexer inside, frequency must be within 1MHz of duplexer's frequency range.

If the repeater doesn't have a duplexer inside, frequency range is only restricted by software.

Adjust volume :

Press volume + or - to adjust the volume (volume is only available for analog channel)

Programming Settings:

Some parameters of the repeater can be set up by programming, in order to meet your requirements better, these parameters include channel TX frequency,

TX power, Rx frequency, noise level, CTCSS/DCS, color code, channel and other working parameters, etc. Users can ask the local dealer for details.

Program the frequency:

Circuits in this repeater, TX and RX are independent, so when programming the frequency, it also should be programmed separately.

User should connect programming cable with repeater's crystal interface TX8 at the back of repeater when programming the TX device's frequency.

User should connect programming cable with repeater's crystal interface RX8 at the back of repeater when programming the Rx device's frequency.

## Technical parameters

Specification	
Model	DR30
Frequency range	136-174/400-470MHz
Channel capacity	100
Frequency stability	2.5ppm
Working temperature	-30°C~+60°C
Working Voltage	220V/110V AC ±15%/13.8V DC ±15%
Dimension (HxWxD)	133mmx483mmx330mm
Weight	11kg

Receiver	
Reference sensitivity (analog)	0.25uV@12dB SINAD
Adjacent channel selectivity	ETSI 60dB12.5KHz170dB@25KHz
Reference sensitivity (digital)	0.22uV/-120dBm0.35uV/120dBm
Spurious response rejection	≥70dB
Rated audio output	+1~-3dB
Rated audio distortion	<5%
FM noise	≥45dB25KHz/40KHz12.5KHz

Transmitter	
RF power output	25W/50W (Two kinds of duplexer available, before purchasing, please let us know which kind you need)
Antenna Impedance	50Ω
Radiated spurious emission	-36dBm<1GHz-30dBm>1GhZ
FM noise	45dB@25KHz; 40dB@12.5KHz
Modulation distortion	<5%
Digital protocol	ETSI -TS102361-1, -2, -3
Frequency modulation	16kΦ3E(analog) 4FSK(digital)
Modulation limiting	2.5KHz@12.5KHz, ±5KHz@25KHz