高频器件集市

RC-FM-d5W2 0.5W FM Transmitter user manual

V101

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Power supply requirements: The 0.5W FM transmitter is powered by a USB Type C interface, with a power supply voltage of 5V and a consumption current of no more than 500mA.

Input audio signal: 3.5mm stereo audio socket, requires the use of a 3.5mm male audio cable.

Transmission interface: The transmitter side is an SMA female head with external threads and internal holes. It is necessary to use SMA male connector and internal thread internal needle signal wire connection. The signal line requires a characteristic impedance of 50 ohms, and it is recommended to use Teflon material with a recommended specification of 50-3. The line length should not be less than 2 meters.

Antenna requirements: At the operating frequency, it should be a 50 ohm pure resistive load, and the SWR should not exceed 1.5.

Please note that due to the transmitter's transmission power of 0.5W, it will not damage the transmitter even in total reflection mode, so the antenna requirements are not high. The more the antenna meets the requirements, the farther the transmission distance.

Operation sequence description:

1. Connect antenna
2. Connect audio input cable
3. Connect the power and turn on the power
4. Input audio

front panel

Rear panel

Panel Description

front panel

1. LCD display window, displaying transmission frequency and power
2. ▲▼ Up and down buttons to adjust the transmission frequency and power
3. The red LED indicator light displays the emission status, and if it stays on for a long time, it indicates the current 1MHz step

Rear panel

1. SMA antenna interface, with external thread and internal hole. Wiring that requires the use of internal threads and needles
2. Audio input socket, using a 3.5mm AUX interface, which is a common 3.5mm headphone jack
3. USB-C power socket, power socket only supports power supply and does not support data transmission

KEY

Frequency setting

▼KEY: The default state is to adjust the frequency downwards with a step of 0.1MHz. When the frequency drops to 76MHz, it will automatically loop back to 108MHz.

Long press the down button(▼) for 3 seconds to switch to 1MHz step and the LED remains on. Long press the down button(▼) again for 3 seconds to switch back to 0.1MHz step and the LED goes off.

▲KEY: The default state is to increase the frequency with a step of 0.1MHz. When the frequency reaches 108MHz, it will automatically loop back to 76MHz.

RF power setting

Long press the up button(▲) for 3 seconds to enter the output power setting state. The output defaults to the maximum power, at which point the output power is approximately 500mW, and the LCD displays 【 P10 】. Press the down(▼) or up button(▲) to achieve a change in output power. Press the down button(▼) once to decrease the output power by one level, and press the up button(▲) once to increase the output power by one level.

The power can be adjusted between P01 and P10, with a power of approximately 10mW in P01 and around 500mW in P10. (Considering that the transmitter may be connected to a power amplifier, power adjustment is not a cyclic setting.)

If the button is not pressed again within approximately 3 seconds, the power adjustment mode will automatically switch to the default frequency adjustment state.

Every time the button is pressed, the LED will flash.

After stopping all buttons for 5 seconds, the LED flashes and the machine saves the current transmission frequency and power. The next time it is powered on, it will automatically work at the saved frequency and power.

Attention:

Sleep state

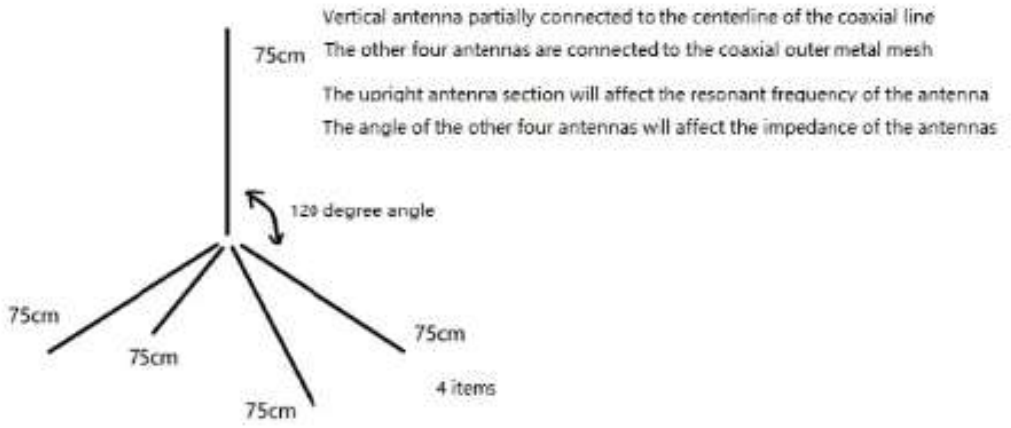
If the transmitter stops inputting audio signals for one minute, it will trigger transmitter sleep, at which point the transmitter stops transmitting. Re input the audio signal or press any button to wake up and enter the transmission mode again (waking up by pressing the button will adjust the transmission frequency, and the current working frequency needs to be confirmed).

Antenna knowledge:

An antenna is an open device that emits electromagnetic waves, and its operating frequency is determined by the antenna structure and size.

The available bandwidth that common GP antennas can provide is limited. For example, the antenna I handcrafted has the lowest reflection (-20dB) between 89.3 and 91.3MHz, and can provide standing waves not exceeding 1.2 in this frequency range. When our transmitter works with this antenna, the operating frequency should be within the range of 89.3~91.3MHz. This can achieve the optimal launch distance.

Antenna data:



Actual antenna:

The antenna uses 2mm copper wire and can be replaced by other conductors.

Antenna cannot use variable length materials such as rod antennas.

If permanent use is required, please take waterproof and lightning protection measures to ensure safety!