

# RMD2400 Kit

# RMD2400HD Kit

WIRELESS MICROPHONE



# RMD2400 - RMD2400HD

## INTRODUCTION

First of all, thank you for choosing a product **FiveO Montarbo**®. The **RMD2400** works in ISM 2.4 GHz free band. With the intelligent frequency hopping it can help to avoid interference effectively and ensure the working quality. It is intelligent as it can mute automatically in bad channel quality or high error code rate. It uses the GFSK to be digital modulation/demodulation. It can memorize the matched devices and one **RMD2440** receiver can match with several **RMD2410** and **RMD2420** transmitters though only one **RMD2410** or **RMD2420** transmitter can be used once. The transmit distance is more than 25 meters in open space. It is suitable for using in KTV, home, classroom, conference and other audio equipment.

The system features as follows:

- Operating Band: ISM 2.4 GHz free band;
- GFSK digital modulation/demodulation;
- Intelligent Frequency Hopping;
- Automatic mute in bad channel quality or high error code rate;
- Memorize matched devices;
- One receiver can match with several transmitters though one transmitter can be used at once;
- More than 25 meters transmit distance in open place;
- Power/pairing status indicator;
- Apply to KTV, home, classroom, conference, audio equipment.

For further information about your **RMD2400**, please check our website [www.montarbo.com](http://www.montarbo.com)

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### **PACKAGE CONTENTS RMD2400 - Cod. 5005040**

Receiver RMD2440  
Handheld Trasmmitter RMD2410  
Owner's manual  
Warranty certificate

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### **PACKAGE CONTENTS RMD2400HD - Cod. 5005041**

Receiver RMD2440  
Bodypack Trasmmitter RMD2420  
Headset Microphone RMD2430  
Owner's manual  
Warranty certificate

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# RMD2400 - RMD2400HD

## SAFETY RELATED SYMBOLS



The symbol is used to indicate that some hazardous live terminals are involved within this apparatus, even under the normal operating conditions.



The symbol is used in the service documentation to indicate that specific component shall be only replaced by the component specified in that.

Documentation for safety reasons:



Protective grounding terminal.



Alternating current/voltage.



Hazardous live terminal.

ON

Denotes the apparatus turns on.

OFF

Denotes the apparatus turns off, because of using the single pole switch, be sure to unplug the AC power to prevent any electric shock before you proceed your service.

**WARNING** Describes precautions that should be observed to prevent the danger of injury or death to the user.



Disposing of this product should not be placed in municipal waste and should be separate collection.

**CAUTION** Describes precautions that should be observed to prevent danger of the apparatus.

## WARNING

### • Power Supply

Ensure the source voltage matches the voltage of the power supply before turning ON the apparatus.

Unplug this apparatus during lightning storms or when unused for long periods of time.

### • External Connection

The external wiring connected to the output hazardous live terminals requires installation by an instructed person, or the use of ready-made leads or cords.

### • Do not Remove any Cover

There are maybe some areas with high voltages inside, to reduce the risk of electric shock, do not remove any cover if the power supply is connected.

The cover should be removed by the qualified personnel only. No user serviceable parts inside.

### • Fuse

To prevent a fire, make sure to use fuses with specified standard (current, voltage, type). Do not use a different fuse or short circuit the fuse holder.

Before replacing the fuse, turn OFF the apparatus and disconnect the power source.

### • Protective Grounding

Make sure to connect the protective grounding to prevent any electric shock before turning ON the apparatus.

Never cut off the internal or external protective grounding wire or disconnect the wiring of protective grounding terminal.

### • Operating Conditions

This apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on this apparatus.

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

Do not use this apparatus near water. Install in accordance with the manufacturer's instructions. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat. Do not block any ventilation openings.

No naked flame sources, such as lighted candles, should be placed on the apparatus.

## IMPORTANT SAFETY INSTRUCTIONS

- **Read these instructions.**
- **Follow all instructions.**
- **Keep these instructions.**
- **Heed all warnings.**
- **Only use attachments/accessories specified by the manufacturer.**

### • **Power Cord and Plug**

Do not defeat the safety purpose of the polarized or grounding type plug.

A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety.

If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

### • **Cleaning**

When the apparatus needs a cleaning, you can blow off dust from the apparatus with a blower or clean with rag etc.

Don't use solvents such as benzol, alcohol, or other fluids with very strong volatility and flammability for cleaning the apparatus body. Clean only with dry cloth.

### • **Servicing**

Refer all servicing to qualified personnel. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

The mains plug is used as the disconnect device, the disconnect device shall remain readily operable.

Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### FCC Rules and Regulations

**MARKUS wireless receivers are certified under FCC Rules part 15 and transmitters are certified under FCC Rules part 74. Licensing of MARKUS equipment is the user's responsibility and licensability depends on the user's classification, application and frequency selected.**

### **NOTE**

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 radiate 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 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 into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Montarbo®** declares that this wireless microphone is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

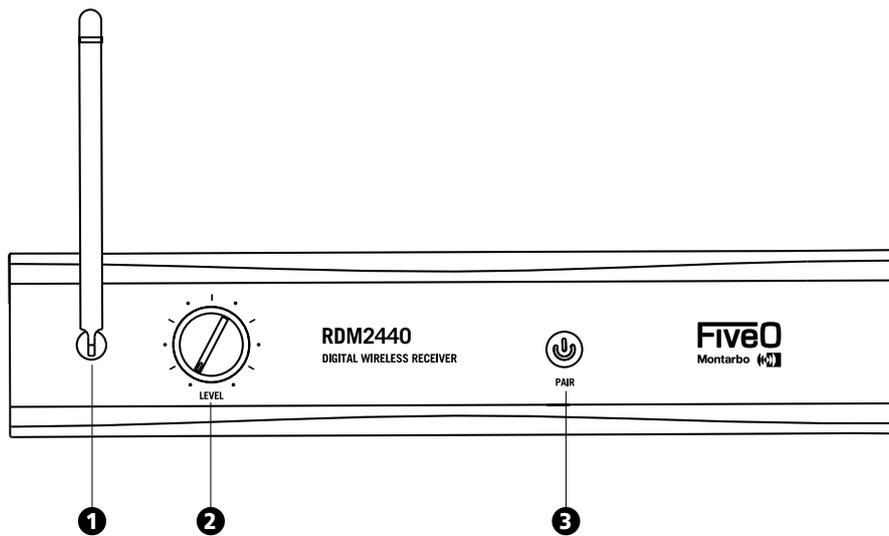


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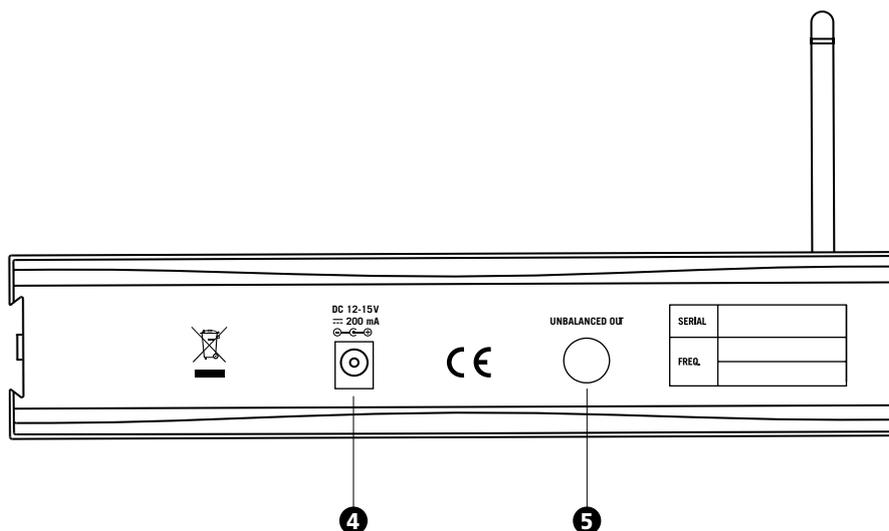
## DESCRIPTION

## RECEIVER

### Front panel



### Rear panel



## RECEIVER INSTALLATION

### Location

For best operation the receiver should be at least 1 meter above the ground and at least 1 meter away from a wall or metal surface to minimize reflection. Keep the receiver antenna away from noise sources such as other digital equipment, microwave ovens, as well as away from large metal objects. Keep **RMD2440** receiver 9 meters away from wireless access points.

### Output Connection

There is one audio output on the rear panel: unbalanced 1/4" TRS phone jack. Use shielded audio cable for the connection between the receiver and the mixer or speaker.

### Power Connection

Connect the supplied power adapter to the DC power input on the back of the receiver. Please keep the plug from being detached by an accidental tug on the cord.

***The receiver has no power Off / On switch.*** The receiver will be energized whenever the power adapter is connected and plugged into the AC outlet. Unplug the power supply from the AC outlet when the system is not in use-both for safety and conserving energy.

### Antenna

Rotate the permanently attached antenna vertically to get the best reception.

## RECEIVER CONTROLS AND FUNCTIONS

### 1 Antenna

Position the antenna vertically.

### 2 LEVEL Control

- Adjust the volume
- Indicate pairing status: on --- connected with RMD2410 transmitter  
off --- not connected with any device  
blinking --- in pairing status

### 3 PAIR button

- Indicate the receiver is on by lightening.
- Press and hold for about 5 seconds to enter in pairing status.

### 4 Power input jack

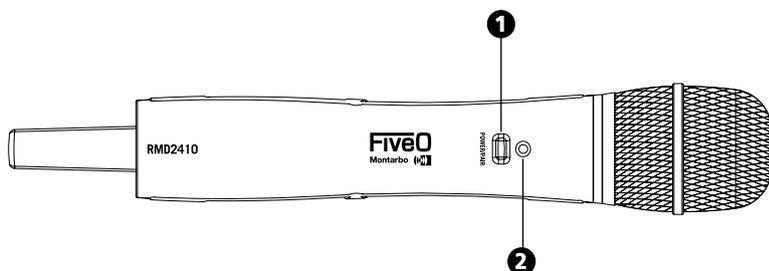
connect the DC plug with the supplied in-line AC adapter.

### 5 UNBALANCED OUT

Unbalanced audio output jack: 1/4" TRS phone jack which can help to output.

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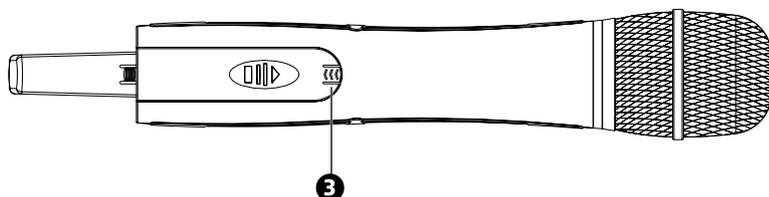
## HANDHELD TRANSMITTER



### 1 POWER/PAIR Button

- Power on/off the **RMD2410** by pressing and holding for about 5 seconds
- Pair the transmitter and receiver by pressing and holding for about 5 seconds

- 2 LED Indicator:** on --- the **RMD2410** is on or/and in pair  
off --- the **RMD2410** is off  
blinking --- in pairing status or short of power

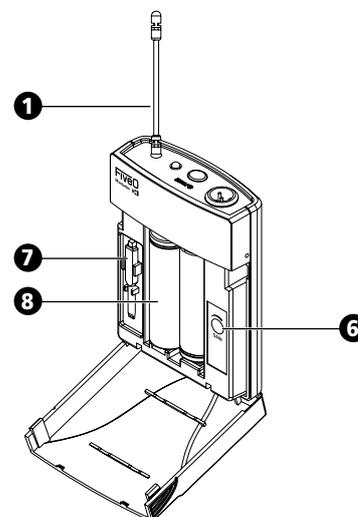
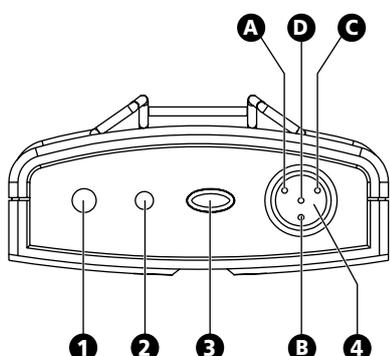


### 3 RMD2410 transmitter battery selection and installation

Two alkaline AA batteries are recommended. When inserting the battery, observe correct polarity as marked inside the battery compartment. Please stop using and change batteries when the led is blinking (not in the pairing status) which indicates short of power.

Press the point 3 and slide out the battery cover. Carefully insert two fresh AA alkaline batteries as the polarity marks indicate. Replace the battery cover and slide it in.

## BODYPACK TRANSMITTER



### 1 Antenna

It is a flexible antenna. To get effective transmission, never cover the antenna with hand, clothes, etc. during operation, and always position the transmitter nearby the receiver.

- 2 LED Indicator:** on --- the **RMD2420** is on or/and in pair  
off --- the **RMD2420** is off  
blinking --- in pairing status or short of power

### 3 POWER/PAIR Button

- Power on/off the **RMD2420** by pressing and holding for about 5 seconds
- Pair the transmitter and receiver by pressing and holding for about 5 seconds

### 4 MINI 4P Connector

This connector is used to connect the unit with the **RDM2430** headset microphone.

- A** Pin 1: GND
- B** Pin 2: Phantom power supply for condenser microphone
- C** Pin 3: For guitar, bass and keyboards
- D** Pin 4: For dynamic or condenser microphone

### 5 RDM2430 headset microphone

Preset Impedance: 680  $\Omega$   
Frequency Response: 50 Hz ÷ 12 kHz  
Sensitivity: -65 dB  $\pm$  3 dB at 1kHz  
Directional:  $\Phi$ 12 x 180 mm ( $\Phi$ 0.47" x 7.1")  
Weight: 22g (0.049lb)

### 6 GAIN Level Control

The gain level can be adjusted by using the supplied driver to rotate the control.

### 7 Driver

This driver can be used to adjust the gain of the body pack transmitter.

### 8 Battery compartment

Two alkaline AA batteries are recommended. When inserting the battery, observe correct polarity as marked inside the battery compartment. Please stop using and change batteries when the led is blinking (not in the pairing status) high indicates short of power.

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## PAIRING INSTRUCTION

Power on the **RMD2440** receiver and **RMD2410** handheld digital wireless microphone or **RMD2420** body pack transmitter, press and hold the pair button of them at the same time for about 5 seconds, then, the LED of the **RMD2410** or **RMD2420** and the volume circle of the **RMD2440** will blink to show they are in pairing status. After the pairing is successful both indicators will be light constantly.

As the system can memorize the pairing devices, once you paired them together you can use them without re-pairing until you have exit the pairing by pairing **RMD2410** or **RMD2420** with other receiver. Though one **RMD2440** receiver can pair with lots of **RMD2410** and **RMD2420**, only one transmitter (either **RMD2410** or **RMD2420**) can be used once. The last pairing successful transmitter will be the active transmitter until it powered off or exited the pairing. So if you paired two transmitters with **RMD2440** and want to use the first transmitter, you should power off the second transmitter.

## TECHNICAL SPECIFICATIONS

### RECEIVER

Frequency	2.404 ~ 2.476 GHz
RF Sensitivity	-78 dBm
Transmission Distance	> 25 m (distance insight)
Frequency response	50 Hz $\pm$ 15 kHz (16bit - 38.4 kHz)
Distortion	0.05 @ 1kHz
SNR	> 89 dB
Transmission Delay	18 ms
Power Supply	DC 12 V $\approx$ 200m A

### BODYPACK TRANSMITTER / HANDHELD TRANSMITTER

Carrier Frequency	2.404 ~ 2.476 GHz
Transmitting Power	10 dBm MAX ERP (Effective Radiated Power)
Transmission Distance	> 25 m (distance insight)
Frequency response	50 Hz $\pm$ 15 kHz (16bit - 38.4 kHz)
Distortion	0.05 @ 1kHz
SNR	> 89 dB
Transmission Delay	18 ms
Power Supply	AA x 2
Battery Life	> 20 hours



**EN** The information contained in this manual have been carefully drawn up and checked. However no responsibility will be assumed for any incorrectness. This manual cannot cover all the possible contingencies which may arise during the product installation and use. Should further information be desired, please contact us or our local distributor. Elettronica Montarbo srl can not be considered responsible for damages which may be caused to people and things when using this product. Specifications and features are subject to change without prior notice.

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**EN** The product is made in PRC under license of Elettronica Montarbo srl. The product is compliant with the EU legislation.

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