

# U-TUBE 20 WIRELESS UHF DUAL CHANNEL MICROPHONE SET

WWW.MADBOY-AUDIO.COM

# **Table of Contents**

# **Safety Instructions**



CAUTION: To reduce the risk of electric shock, do not remove cover (or back). No user-serviceable parts inside. Only refer servicing to qualified service personnel.

#### **Explanation of Graphical Symbols**



The lightning flash & arrowhead symbol, within an equilateral triangle, is intended to alert you to the presence of danger.



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and servicing instructions.

### WARNING

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

1. Read Instructions - All the safety and and operating instructions should be read before the appliance is operated.

2. Retain Instructions - The safety and operating instructions should be reatained for future reference.

3. Heed Warnings - All warnings on the appliance and in the operating instructions should be adhered to.

**4. Follow Instructions -** All operating and use instructions should be followed.

5. Attachements - Do not use attachements not recommended by the product manufacturer as they may cause hazards.

6. Water and Moisture - Do not use this unit near water. For example, near a bathtub or in a wet basement and the like.

7. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer.

**7 A.** An appliance and cart combination should be removed with care. Quick stops, excessive force, and uneven surfaces may cause an overturn.

8. Ventilation - The appliance should be situated so its location does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation slots.

 Heat - the appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.

**10. Power Sources** - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.

**11. Grounding or Polarization** - Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.

12. Power-cord Protection - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.

**13. Cleaning** - Unplug this unit from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

**14. Power lines** - An outdoor antenna should be located away from power lines.

15. Nonuse Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.

16. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure throung openings.

**17. Damage Requiring Service** - The applianec should be serviced by qualified service personnel when:

- A. The power supply cord or plug has been damaged; or
- B. Objects have fallen into the appliance; or
- C. The appliance has been exposed to rain; or
- D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
- E. The appliance has been dropped, or the enclosure damaged.

**18. Servicing** - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

#### Note:

To CATV system installer's (U.S.A): This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected as close to the point of cable entry as practical.

# FCC Information (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!:

This product, When installed as indicated in th instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by MadBoy may void your authority, granted by the FCC, to use this product.

2. IMPORTANT: When connecting this product to accessories and/ or another product use only high quality shielded cables. Cable(s) supplied with this product must be used. Follow all installation instructions. Failure to follow could void your FCC authorization to use this product in U.S.A.

3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurances that your use of this product will not result harmful interference with other electronic devices. This equipment generates/ uses Radio frequencies and, if not installed and used according to the instructions found in the owner's manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC Regulations does not guarantee that interference will not occur in all installations. If this product is found to be source of interference, which can be determined by turning the unit "Off" and "On", pleas try to eliminate the problem by using one of the following measures.

Relocate either this product or the device that is being affacted by the interference.

Use power outlets that are on different branch (circuit breaker or fuse) circuits of install AC line Filter(s).

In case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300-ohm ribbon lead change the lead-in to coaxial type cable.

If these corrective measures do not produce satisfactory results, please contact your local retailer authorized to distribute MadBoy products. If you cannot locate appropriate retailer, please contact MadBoy, Aittatie 6, 96100 Rovaniemi, FINLAND.

#### CAUTION

The apparatus is not disconnected from the AC power source so long as it's connected to the wall outlet, even if the apparatus itself is turned off. To fully insure that the apparatus is indeed fully void if residual power, leave unit disconnected from the AC outlet for at least fifteen seconds.

#### CAUTION: READ THIS BEFORE OPERATING YOUR UNIT

1. To ensure the finest performance, please read this manual carefully.Keep it in a safe place for future reference.

2. Install your unit in a cool, dry, clean place- away from windows, heat sources, and too much vibration, dust, moisture of cold. Avoid sources of hum (transformers, motors). To prevent fire or electrical shock, do not expose to rain and water.

3. Do not operate unit upside-down.

**4.** Never open the cabinet. if a foreing object drops into the set contact your dealer.

 Place the unit in a location with adequate air circulation. Do not interfere with this proper ventilation; this will cause the internal temperature to rise and may result in a failure.

6. Do not use force on switches, knobs or cords. When moving the unit, first turn the unit off. Then gently disconnect the power plug and the cords connecting to the other equipment. Never pull the cord itself.

7. Do not attempt to clean the unit with chemical solvents: this might damage the finish. use clean, dry cloth.

8. Be sure to read the "Troubleshooting" section on common operating errors before concluding that your unit is faulty.

9. This unit cosumes a fair amount power even when the power switch is turned off. We recommend that you unplug the power cord from the wall outlet if the unit is not going to be used for a long time. This will save electricity and help prevent fire hazards. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.

**10.** To prevent lightning damage, pull out the power cord and remove the antenna cable during electrical storm.

11. Thegeneral digital signals may interfere with other equipment such as tuners or receivers. Move the system farther away from such equipment if interference is observed.

#### Note:

Please check the copyright laws in your country before recoding from records, compact discs, radio, etc. Recording of copyrighted material may infringe copyright laws.

#### Voltage Selector (General Model Only)

Be sure to position the voltage selector to match the voltage of your local power lines before istalling the unit.

## FOREWORD

Thanks for purchasing this product, please read this instruction carefully so that can understand how to operate the product of the style you bought correctly. Please store this instruction in a safe place after reading as a reference in the future.

This professional series wireless microphone system used an efficient American, low consumption discharging technique with a super sensitive UHF high broadband frequency receiver and controlled with 10ppm crystal, matched with an independent developed mobile frequency compression, expander circuit, image frequency limiting circuit, a multiple checked silent and noisy circuit, switch impact noise defect circuit, resist reverberation circuit and changed output controlled slowly...ect, And designed by a computer EDA system and finished on its item named pattern line .Every system is available to an excellent electric function by Q.C. strictly.

### INTRODUCTION

Your new wireless Series system is designed to give you the best of both sound reinforcement worlds: the freedom of a wireless system, and the excellent quality. This manual covers each of the Series system : The Vocal Artist-UHF, The Presenter-UHF, The headset-UHF, and The Guitarist-UHF.

### SYSTEM FEATURES

All UHF Series systems offer a variety of exceptional features, including:

1. **Multiple System Use**: Up to several UHF systems can be used in the same performance space. Each system must be set at a different frequency. (Frequency marked on the back of the receiver)

2. **Simultaneous Output Use**: Unbalanced 1/4' phone plug and balanced XLR output connectors may be used simultaneously to different external devices.

3. **Range**: UHF Series transmitters will work at a distance of up to100 meters (about 300 ft.) from the receiver.

4. **Noise Squelch**: Squelch circuit analyzes signal strength and quality so that can reduces the likelihood of noise burst due to environmental RF (radio frequency) noise.

5. Low Battery Warning Light: A red light on the body-pack and hand -held transmitters warns the user that there is less than one hour of battery life left.

### SYSTEM TYPE

*The Vocal Artist-UHF* is a hand-held system designed for singers who desire the high quality of microphones and the freedom of wireless performance.

*The Presenter-UHF* is a body-pack system designed for public speakers who prefer an inconspicuous , hands-free lavalier microphone.

*The Headset-UHF* is a body-pack system designed for users in physically active applications, who desire the freedom of hand-free microphone.

*The Guitarist-UHF* is a body-pack system designed for use with electric guitars, basses, and other electric instruments.

# INSTALLING AC ADAPTOR CORD INTO POWER CABLE RETAINER

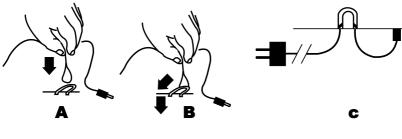
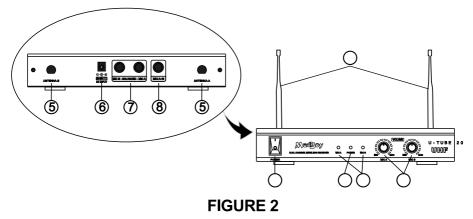


FIGURE 1

1.Refer to Figure 1. Turn the receiver over and locate the power cable retainer. Pinch the ac adaptor cord approximately 6 inches from the dc plug, forming a small loop (A). Hold the cord vertical to the retainer and lower the tip of loop into the curved portion of retainer.

2.Keeping the cord vertical to the receiver, pull the cord under the tab towards front of the receiver (B), then pull down, locking the cord into the retainer(C).

## **RECEIVER FEATURES (FIGURE 2)**



1. Power Switch : Turns receiver power on/off.

2. **Power On Indicator**: This red light glows when the receiver is plugged into a electrical outlet and switch is pushed, it indicates that the receiver is on.

3. **Signal Indicators**: The green light of signal A/B glows when RF(radio frequency) signals are received from the transmitter antenna. When A light is glowing, the channel A is being used, when B light is glowing, the channel B is being used.

4. **Volume Control**: Rotate A/B channel's knobs to increase or decrease the volume of the receiver output.

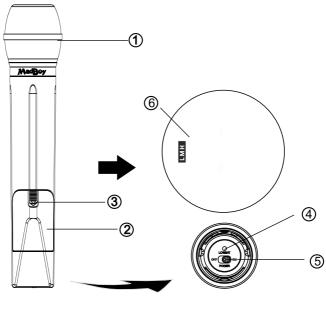
5. Antenna.

6. **Power Input Connector** : Connect the ac adapter to this jack and then plug into an ac electrical outlet. ( please use supplied AC adapter)

7. **1/4**" **Phone Jack Audio Output Connector** : Including A and B channel signal output, Plug an 1/4" phone audio cable from this connector to the input to your mixer.

8. **1/4**" **Phone Jack Audio Output Connector**: An unbalanced audio cable with a 1/4"phone plug(such as a standard guitar cable)can be used between this connector and your amplifier input.

## **MICROPHONE-TRANSMITTER FEATURES (FIGURE 3)**



**FIGURE 3** 

1. Grille: Protects the cartridge and help reducing the breath sounds and wind noise.

2. Battery Cover: Open it to install the battery.

3. Lock Sheet On Battery Cover: Unlock or lock the battery cover.

4. Lower Battery Indicator: Red light glows when it is lack of power and should renew the battery.

5. Power Switch: Power ON/OFF the transmitter.

# **OPERATING THE VOCAL ARTIST-UHF SYSTEM**

1. Refer to Figure 7, Connect the supplied power connector into the INPUT jack in the back of the receiver. Insert the adapter's cable into the power cable retainer. Plug the power connector into the wall socket or other power source. Push the power switch on the face of the receiver, the red POWER light on the receiver will glow.

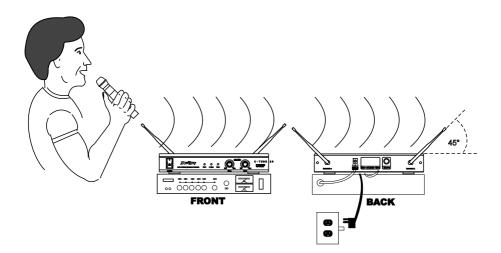
2. Connect the receiver's XLR AUDIO OUTPUT connector to the mixer input using an XLR to XLR audio cable or connect 1/4" Audio output connector of receiver to the amplifier input by a 1/4" to 1/4" phone plug cable.

3. Insert supplied TNC plug of antenna into the TNC Antenna terminal. That in the back of the receiver. And fully rotate clockwise, position the antennas at a 45 angle from vertical.

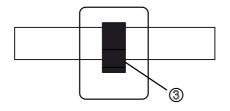
4. Slide the transmitter's POWER/OFF switch to the POWER position, the indicator shines for a moment at that time, the receiver's SIGNAL A/B lights will glow.

5. Talk or sing into the microphone. "AF" auto signal indicative light of receiver is glowing according to the volume of transmitter.

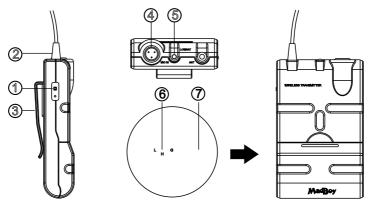
6. Adjust receiving volume knob, and the volume adjustment of mixer or amplifier to get a suitable volume.



# ATTACHING THE BODY-PACK TRANSMITTER\* TO BELT OR GUITAR STRAP (FIGURE 4)



#### FIGURE 4 BODY-PACK TRANSMITTER\* FEATURES (FIGURE 5)



**FIGURE 5** 

- 1. Power Switch: Power ON/OFF the transmitter.
- 2. Antenna: Transmit the RF signal of transmitter.
- 3. Belt Clip: Attach the transmitter to the belt or guitar strap.

4. Audio Input Jack: It is TAF 3 pins connector, it is suitable for lavalier system/ headset system/guitar and instrument system.

5. Low Battery Indicator: Red light glows when it is lack of power and should renew the battery.

6. State Setting Switch: Set the using state of lavalier system/headset system/ guitar system.

7. Gain Adjusting Volume: Adjust the transmitter audio input gain.

\* Optional

# **OPERATING THE PRESENTER-UHF SYSTEM**

1. Refer to Figure 8, Connect the supplied power connector into the INPUT jack in the back of the receiver. Insert the adapter's cable into the power cable retainer. Plug the power connector into the wall saocket or other power source. Push the power switch on the face of the receiver, the red POWER light on the receiver will glow.

2. Connect the receiver's XLR AUDIO OUTPUT connector to the mixer input using an XLR to XLR audio cable or connect 1/4" Audio output connector of receiver to the amplifier input by a 1/4" to 1/4" phone plug cable.

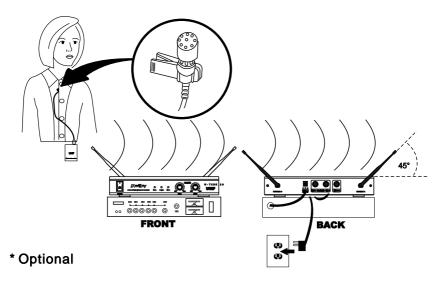
3. Insert supplied TNC plug of antenna into the TNC Antenna terminal. That in the back of the receiver. And fully rotate clockwise, position the antennas at a 45 angle from vertical.

4. Press the lavalier\* microphone into the mounting clip and attach it to your garment. Do not cover the microphone with your clothing, and keep it approximately 8 to 20 inches below your chin. (See Figure 6) Insert the other side into audio socket and fully rotate.

5. Slide the recessed transmitter POWER/OFF switch to the POWER position, the indicator shines for a moment at that time, the receiver's SIGNAL A/B lights will glow.

6. When talk or sing into the microphone, "AF" Indicative light of receiver's channel A/B will flash according to the volume of the microphone .

7. Adjust receiving volume knob, and the volume adjustment of mixer or amplifier to a suitable volume. Transmitter gain may need to be adjusted. (Refer to the Transmitter Audio gain Adjustment section.)



# **OPERATING THE HEADSET-UHF SYSTEM\***

1. Refer to Figure 9, Connect the supplied power connector into the INPUT jack in the back of the receiver. Insert the adapter's cable into the power cable retainer. Plug the power connector into the wall saocket or other power source. Push the power switch on the face of the receiver, the red POWER light on the receiver will glow.

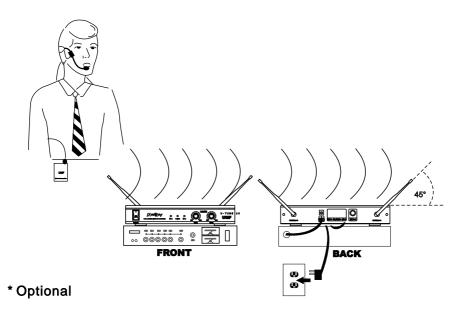
2. Connect the receiver's XLR AUDIO OUTPUT connector to the mixer input using an XLR to XLR audio cable or connect 1/4" Audio output connector of receiver to the amplifier input by a 1/4" to 1/4" phone plug cable.

3. Insert supplied TNC plug of antenna into the TNC Antenna terminal. That in the back of the receiver. And fully rotate clockwise, position the antennas at a 45 angle from vertical.

4. If using the headset for the first time, refer to the tag attached to the headset for assembly instructions, the other side insert into the Audio Soket and fully rotate.
5. Slide the recessed transmitter POWER/OFF switch to the POWER position the indicator shines for a moment at that time, the receiver's SIGNAL A/B lights will glow.
6. When talk or sing into the microphone, "AF" Indicative light of receiver's channel

A/B will flash according to the volume of the microphone .

7. Adjust receiving volume knob, and the volume adjustment of mixer or amplifier to a suitable volume. Transmitter gain may need to be adjusted. (Refer to the Transmitter Audio gain Adjustment section.)



# **OPERATING THE GUITARIST-UHF SYSTEM\***

1. Refer to Figure 10, Connect the supplied power connector into the INPUT jack in the back of the receiver. Insert the adapter's cable into the power cable retainer. Plug the power connector into the wall saocket or other power source. Push the power switch on the face of the receiver, the red POWER light on the receiver will glow.

2. Insert supplied TNC plug of antenna into the TNC Antenna terminal. That in the back of the receiver. And fully rotate clockwise, position the antennas at a 45 angle from vertical.

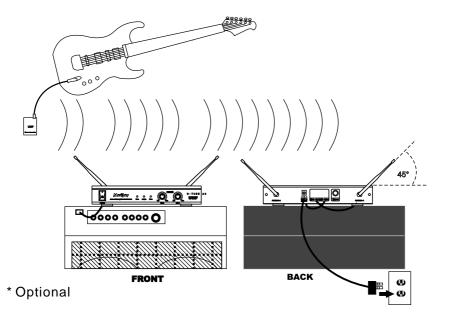
3. Connect the receiver's 1/4" PHONE JACK AUDIO OUTPUT connector to amplifier input, using a standard guitar cable.

4. Connect your guitar or bass to the transmitter input jack with a instrument Adaptor and fully rotate.

5. Adjust the volume control on your guitar to desired level. To match wireless output to that of wired system, see Receiver Volume Adjust for the Guitarist-UHF.

6. Slide the recessed transmitter POWER/OFF switch to the POWER position the indicator shines for a moment at that time, the receiver's SIGNAL A/B lights will glow.

7. When play the guitar, "AF" Indicative light of receiver's channel A/B will flash according to the volume of the microphone .



## RECEIVER VOLUME ADJUSTMENT FOR THE GUITARIST-UHF

1. Plug instrument directly into guitar/bass amp. Set volume and tone controls on both the instrument and amplifier for a clean signal with desired tonal quality and volume. DO NOT change these setting for the rest of volume adjustment.

2. Unplug instrument from the amplifier input and plug into the transmitter. Plug the receiver into amplifier input.

3. Adjust receiver volume control until sound quality matches that achieved in step 1.

## **RECEIVER SQUELCH ADJUSTMENT**

The squelch control on the receivers is factory preset for optimum performance. No further adjustment is normally required. It is possible to adjust the squelch control setting to emphasize either signal quality or system range:

• Turning the squelch control clockwise allows a lower quality signal through (more noise before muting), but increases operating range. (turn to MAX)

• Turning the squelch control counterclockwise causes the receiver to demand a higher quality signal(less noise before muting ), but decreases operating range. (turn to MIN)

To return the receiver squelch control to the factory setting , rotate it to the mid-range position.

# TRANSMITTER AUDIO GAIN ADJUSTMENT

The audio gain control on transmitter has been factory-at the mid-range position for best performance in most applications. This may be necessary for soft singers or talkers, or guitar or basses with low outputs.

- To Increase Gain: Rotate the transmitter gain control clockwise with the screwdriver to increase audio gain.
- To Reduce Gain: Rotate the transmitter gain control counterclockwise with the screwdriver to reduce audio gain.
- To return audio gain to the factory setting, rotate the transmitter audio gain control to the mid position.

# TIPS FOR ACHIEVING MAXIMUM PERFORMANCE

- Make sure you can always see a receiver antenna from the transmitter position.
- Keep the distance from transmitter to receiver antenna as short as possible.
- Point receiver antennas away from each other at a 45 angle from vertical.
- Avoid placing the receiver antennas near metal surfaces and obstruction.
- Monitor battery fuel gauge and replace battery as soon as red light is on.
- If stacking or rack mounting receivers In a multiple-system use situation, do not allow antennas to touch or cross.

• Perform a walk-through before performance or presentation .If dead spots are found , adjust location of receiver .If dead sports remain ,mark spots and avoid.

#### TROUBLESHOOTING

PROBLEM	INDICATOR STATUS	SOLUTION
No sound.	Red transmitter indicater is not flash	Slide transmitter POWER ON/OFF switch to ON position. Make sure battery is inserted properly, observing battery ("+-"), If battery is inserted properly, replace with fresh battery
No sound.	Red transmitter indicater is flash	Slide transmitter MUTE/ON switch to ON position
No sound.	Red receiver POWER light off.	Make sure ac adapter is securely plugged into electrical outlet and into dc input connector. Make sure ac electrical outlet works and supplies proper voltage.
No sound.	Receiver signal Indicators A/B lights glowing.	Turn up receiver volume control. Confirm that the output connections from the receiver to the external equipment are secure
No sound.	Receiver signal Indicators A/B lights off. Transmitter and receiver POWER lights glowing	Confirn transmitter's and receiver'sfrequencies match. Move transmitter transmitter closer to receiver
Sound level differs from level of a cabled instrument.	Receiver signal Indicators A/B lights glowing.	Adjust transmitter gain level to compessary. Adjust receiver volume as necessary.
Sound level differs with different guitars.	Receiver signal Indicators A/B lights glowing.	Readjust transmitter gain level to compensate for differences in guitar outputs
Distortion level increases gradually	Receiver Signal Indicators A/B lights and transmitter LOW BATTERY light glowing	Replace transmitter battery
Bursts of noise or other audibleradio signals present.	Signal Indicators A/B lights on	Ldentify potential sources of interference (other RF- sources) and tum off, remove or use a wireless system operating on a different frequency.
Momentary loss of sound as transmiitter is moved around performing area.	Receiver signal Indicators A/B lights off when sound is lost	Repositeon receiver and perform walk-through test again. If audim dropouts persist, mark "dead" spots and avoid them during performance

### SYSTEM SPECIFICATIONS

RF Carrier Frequency Range: Approximately 460 to 860 MHZ (Available frequencies depend on applicable regulations in country where system is used). Operating Range: 100m(approximately 300ft)under typical conditions Audio Frequency Response: 50 to 15,000Hz,±3dB THD: <1% Mobile stste Range:> 100dB

### **Operating Temperature Range**

-29 to 74  $^{\ast}\text{C}$  (-20 to 165 F)NOTE:Battery characteristics may limit this range

#### **RECEIVER SPECIFICATION**

Power Requirements	12-18V DC nominal, 300mA
Signal/Noise Ratio	MORE THAN 85dB
Border Upon Channel Rejection	MORE THAN 70dB
Image & Spurious Rejection	MORE THAN 70dB
Audio Output Level	0- ±300mV
Receiving Sensitivity	-105dBm
Dimensions	218MM X 140MM X 35MM

#### HAND-HELD TRANSMITTER SPECIFICATIONS

RF power	10dBm (50Ω)
Harmonic rejection	>-60dBc
Max. frequency deviation	>65KHz
Current consumption	<95mA(2AA)
Cartidge	Dynamic/Cardioid
Battery	2XAA(Alkaline battery)

#### **BODY-PACK TRANSMITTER SPECIFICATIONS**

RF power	10dBm (50Ω)
Harmonic rejection	>-60dBc
Max. frequency deviation	>65KHz
Current consumption	<95mA(2AA)
Cartidge	Dynamic/Cardioid
Battery	2XAA(Alkaline battery)

### **OPTIONAL ACCESSORIES**

1/4" to 1/4" Cable (The Guitarist-UHF only)
1/4" to Miniature Connector
1.8 Meter (6 ft.) Receiver-Mixer Cable
Body-Pack Transmitter

### **Declaration of Conformity**

I hereby declare that the product

#### Wireless Microphone transmitter, U-TUBE 20 series

satisfies all the technical regulations applicable to the product within the scope of Council Directives. 2006/95/EC, 2004/108/EC and 99/5/EC

EN 50371:2002 EN 60065:2002+A1:2006 EN 301489-1 V1.8.1, EN 301489-9 V1.4.1 EN 300422-1 V1.3.2, EN 300422-2 V1.2.2

#### All essential radio test suites have been carried out.

NOTIFIED BODY: EMCCert Dr. Rasek Address:



Boelwiese 5 91320 Ebermannstadt Germany EU Identification Number: 0678

#### MANUFACTURER or AUTHORISED REPRESENTATIVE

#### Address

MadBoy Audio International Oy Aittatie 6 96100 Rovaniemi Finland

This declaration is issued under the sole responsibility of the manufacturer and, if applicable, his authorised representative.

#### Point of contact:

Marko Tervaniemi Tel: +358 40 700 4848 Fax: +358 16 316 191

Rovaniemi, Finland, 25.6.2009

Marko Tervaniemi, CEO MadBoy Audio International Oy



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