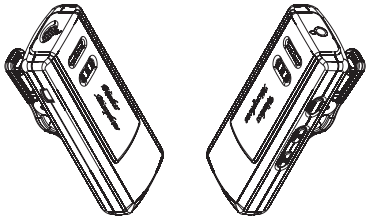
WIRELESS MICROPHONE

2.4GHz Wireless Stereo Transmitter & Receiver



Type	Users Guide
Home communication equipment	This products are registered fit for a home radio wave. It can be use for residential area or every place.

caution for the users safety

Please read the Instruction carefully and follow the rule.

CAUTION : In case user is injured or cause of death due to misusage of transmitter/receiver

Do not impact on transmitter/receiver.
Do not place transmitter/receiver in a high temperature.
Do not touch charger with wet hand.
Avoide from damp or water.
Do not place transmitter/receiver where children can reach.

Switch off transmitter/receiver in area where risk to explosion.

Switch off transmitter/receiver in airplain, It may causes problem of interfere with radio waves

Do not use transmitter/receiver while driving

For safety

Please read the manual book carefully and follow the rules

Caution : In case user is injured or transmitter/receiver is damaged due to misusage of transmitter/receiver

	Do not place transmitter/receiver or chargers nearby or inside of heating device (ex.: stove, microwave over, etc)
	Do not modify, disassemble or repair under user's discretion..
TM Korea	Please use qualified charger.
	Do not use product near microwave oven or wireless LAN.
	Do not wear earphone for long or do not use at high volume for long

Getting Prepared

Operation Guide

Appendix

What is the 2.4GHz GFSK Wireless?

It is a wireless communications device that uses 2.4GHz wireless frequency and is able to connect the transmitter and the receiver in an open space (lecture hall) of about 15 to 30 meters in diameter.
It is distinguished from the conventional Bluetooth by the enabling of listening to the transmission with out delay.

Examples of 2.4GHz wireless transmitter/receiver usage

. Listening to and recording music, conversations and lectures

. Listening to music by connecting wireless to multimedia device or computer

. May be used as Walkie-Talkies (Set 2 to be bought separately)

This Usage Instructions gives information on how to connect and use the wireless transmitter/receiver. Data transmission using Bluetooth, computer, or any other multimedia products of other makers is not available.

※ **Please note that :**
We are not held responsible for any problems caused by using this product in ways other than its original purpose.

There may be some difficulty in hearing/recording when used in noisy places or outdoors, due to the noise in the environment and/or interfering electronic waves.

When connecting and registering (Pairing the wireless transmitter/receiver, use in close distance if possible.

Operation Guide

- Information before use the products.

Checking the components

Basic Components


WMT-20/TX
Transmitter


WMR-20/RX
Receiver


Audio Cable


Recharger


Usage Instructions

Additional Components (to be bought separately)


Stereo
Earphones


3.5Φ Stereo
Transmitter
Input Cable


External high-quality
microphone

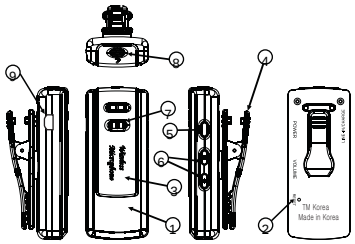

Spare battery
pack


additional charger


voice recorder

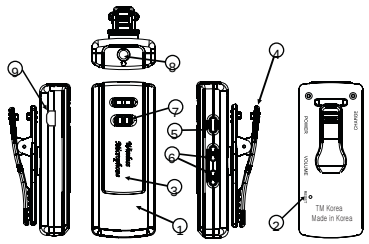
* Some item may be changed for improving of product performance.

Function of each part (Transmitter WMT-20)



No.	Name	Function	Remarks
1	CASE-FRONT		
2	RESET S/W		
3	DECO-FRONT		
4	CLIP		
5	POWER S/W		refer to the page 12
6	VOLUME S/W	VOL Up/ VOL Down	
7	LENS-LED	Indicating charge display/connection	refer to the page 11
8	MICROPHONE		refer to the page 15
9	LINE-IN/CHARGE	External device/Charger/microphone	

Function of each part (Receiver WMR-20)



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6	VOLUME S/W	VOL Up / VOL Down	
7	LENS-LED	Indicating charge display/connection	refer to the page 11
8	LINE-OUT	Earphone/ Line out output	refer to the page 16
9	CHARGE	Connection of charger/spare battery pack	

Button function (Transmitter WMT-20)

POWER SWITCH	Short pressing	Power on, try to connect
	Short pressing while operating	Mute function on/off, mixing voice
	Long pressing while operating	Power off
+	Shortly while playing back music	Volum up (MAX: 7)
-	Shortly while playing back music	Volum down (MIN: 0)
	Long pressing	LED for indicating operation(blue) on/off
RESET	All State	Recet Trensmitter
MIC	Input	Internal microphone
LINE-IN/CHARGE	Input	High sensitivity microphone
	Input	3.5φ stereo transmitter input cable
	Charge	Charging, spare battery pack

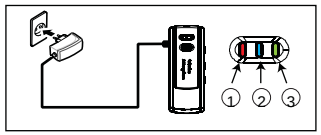
※ When used as microphone, volume +/- does not work. It works when music is transmitted.

BUTTON FUNCTION (TRANSMITTER WMR-20)

POWER SWITCH	SHORT PRESSING	POWER ON TRY TO CONNECT
	LONG PRESSING WHILE OPERATING	POWER OFF
+	SHORT PRESSING	VOLUM UP (MAX. 19)
	LONG PRESSING	REINFORCE BASS LOW TONE
-	SHORT PRESSING	VOLUM DOWN (MIN. 0)
	LONG PRESSING	LED FOR INDICATION OPERATION (BLUE)
RESET	ALL STATE	RECET RECEIVER
EAR	OUT PUT	CONNECTING WITH EARPHONE
	OUT PUT, LINE-OUT	VOICE RECORDER
		CONNECT TO EXTERNAL DEVICES WITH AUDIO CABLE * control volume appropriately when connecting with Line-Out device
CHARGE		CHARGER, SPARE BATTERY PACK

FOR CHARGEING TRANSMITTER&RECEIVER

TWhen you purchase product, please use after full battery charging.



① Display discharge : Red blinking (It means that need to charge)
② Display connection : blue blinking (connection of transmitter/receiver is being us
* Blue maintaining of On mode (no connecting, disconnected)
③ Display charge : Green LED is on while charging, green LED is off when fully charged.

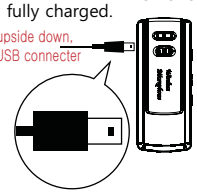
when charge is completed

When the green LED which indicates charge is off, then separate trasmitter or receiver from the charger.

When battery is not sufficient

While using product, red LED which indicates discharge blinks

*If the usb jack is pluged upside down, it may cause damage of USB connecter and product damage.

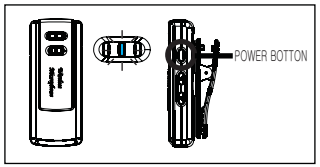


Check the groove of terminal

notice

*Must use qualified charger.
*While battery is charging, you can use the Transmitter/Receiver.

TURN OFF/ON



To turn on power press power button of wireless transmitter/receiver shortly.
Blue Led which indicates connection is on.

Once product connection is completed, blue LED of wireless transmitter/receiver blinks in for 0.5sec cycle, connection is made normally and available to use.

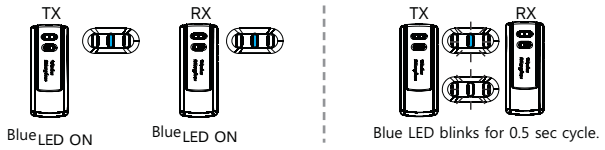
To turn of power press power button of transmitter/receiver longer(more than 2 sec), then the red LED indicating discharge blinks once and the blue LED turns off completely transmitter/receiver shortly.

notice

***After trun off power, check if blue LED is turned off..**

Method to register and connect receiver with transmitter.

standby for registration -> complete connection

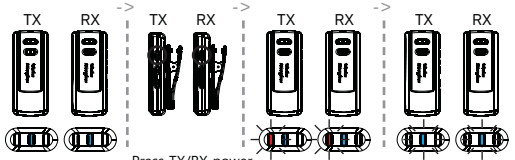


notice

Exsting registered ID does not need to be re-registered unless user is changed.

Registering of transmitter/receiver

Turn on power and hold it for long simultaneously, then the first red LED indicates current ID settings, and afterward when the red LED turns on again it becomes to ID setting mode. Pressing +-key, then red LED indicates the changed ID. After set relevant ID, turn power off.



Blue LED ON

Press TX/RX power button shortly several times

Red LED blinks

Blue LED blinks for 0.5 sec cycle.

Re-connecting of wireless transmitter/receiver

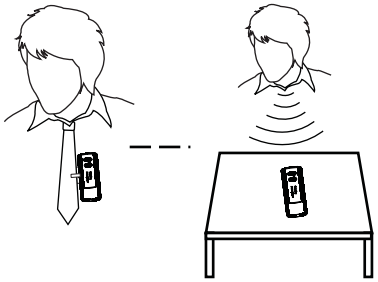
If you want to use wireless transmitter/receiver again after turning power off, turn wireless transmitter/receiver power on and use after checking if blue LED blinks for 0.5 sec cycle.

notice

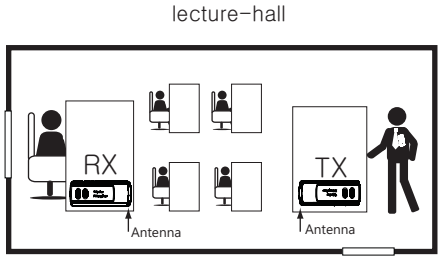
*Even if the connection is cancelled while transmitter/receiver is in use due to distance or obstacle, as wireless transmitter receiver tried to re-connect automatically until power is on, it can be used whenever you move to place where connection is available.

WEARING WAY OF TRANSMITTER(TX)

For lecture application fix it on your chest area using clip, for recording place it around subject to record



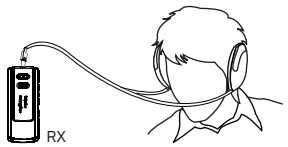
TX TX

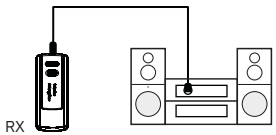


※ Aligning of wireless transmitter/receiver antennas facing each other gains better receiving sensitivity.

Wearing way of receiver (RX)

When earphone is used, fix the receiver with clip or put in briefcase. When it is connected with peripheral device by audio cable, put it aside.





※ Raising volume of audio device reduces receiver battery consumption less than raising receiver (RX)

Storage for Transmitter/Receiver

- Please store it after Power completely off
- Do not keeping it over 50℃ or inside a Car in a hot temperture
- Do not keeping it in damp or wet place

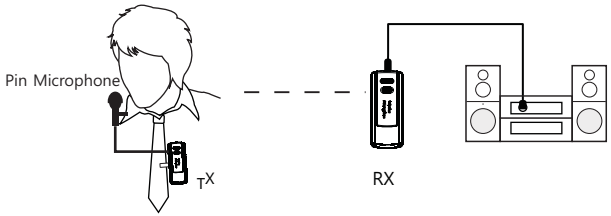
OPERATION GUIDE

VOICE TRANSMITTER (TX)

Voice can be transmitted to receiver wirelessly through transmitter.
You can listen by connecting earphone to receiver or by connecting to external audio device (voice recorder/Amp) with audio cable.

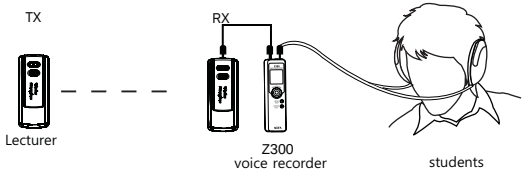
Deliver voice using high sensitivity microphone in lecture

You can use transmitter or high sensitivity microphone which you need to buy.



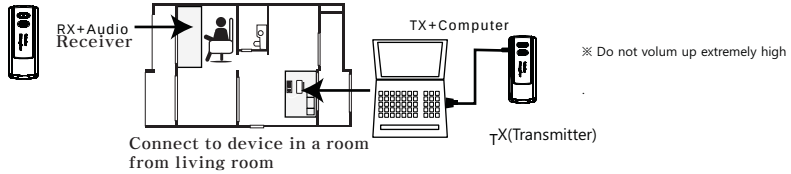
VOICE RECORDING

By connecting voice recorder to the receiver, listening and recording are available.



Listening music

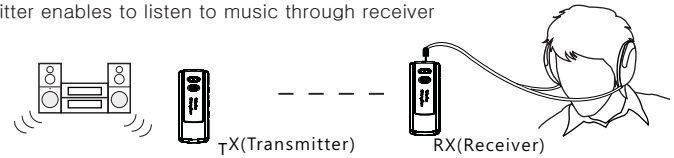
Listening music through receiver is available by connecting 3.5ϕstereo cable(to be bough separately), voice can be transmitted to receiver through microphone by pressing power button of transmitter shortly.



※ Do not volum up extremely high

Listening music by receiver

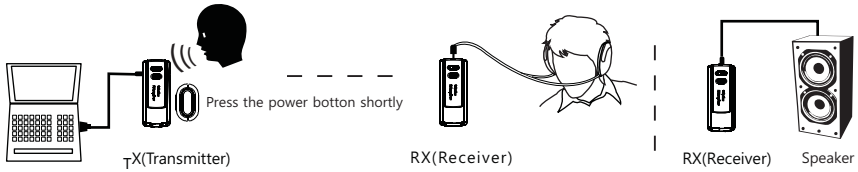
Placing transmitter nearby of speaker or connecting external high sensitivity microphone to transmitter enables to listen to music through receiver



Mixing music + my voice

When listening to music using 3.5ϕ stereo cable (to be bought separately), voice can be transmitted to receiver through microphone by pressing power button of transmitter shortly.

※ To remove, press the Power button shortly again.



※ Do not raise volume of device connected to transmitter too high in order to prevent product damage.

APPENDIX

Standard duration of battery usage and recharge, Q&A, specification of transmitter

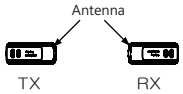
Battery charge and standard operating hours

Charge hours	Standard operating hours	
About 1~1.5 hours	Playback hours(average)	playback hours(Max.)
	approx 6 hours	approx 8 hours

notice

Battery operating hours can be changed depends on the state of charge or condition of use and how volum high is

YOU THINK IT'S MALFUNCTIONING? (Q&A)

QUESTION	EXPLANATION
No operation is available at all	-Press power button softly -Charge the battery sufficiently -Press reset button. (by using little pin)
No green lamp is turned on when in charging	-Check if "UBS plug" of charger is plugged into "UBS jack" properly
No sound from receiver	-Check if microphone plug is inserted into transmitter UBS jack properely. -Adjust volume by volume control switch. -Check if receiver and connecting plug are insteresd properly
Too much noise	-Volum donw of external device and volum up of Transmitter  -Facing each other antennas, it gains better receiving sensitivity

Specification of wireless transmitter/receiver

Description	Over view	Notice
working frequency	2,400~ 2.483 GHz	ISM band
data transmittance	GFSK	4Mbps
modulation band width	4MHz	
communication protocol	bilateral time sharing method	time sharing sequential communication
operational power source	DC3.7V, CHARGEABLE BATTERY	100~220V, 60Hz, 350mA
radio wave form	FID	radio wave modulation digital information
receiving sensitivity	-90dBm	@0.1% BER
transmitting sensitivity	+10dBm	maximum output
TX electric current	50~60mA	32ksps @10dBm
RX electric current	45~55mA	32ksps @-90dBm
power consumption	≒ 200mW	maximum power consumption
operating temperature range	-10~+60℃	standard of ambient temperature and humidity
Headphone	output 50mW /32Ω	
Line out output	300mV/1KΩ	

Regulatory Statements to be included in the Users Guide for Sputnik

USA-Federal Communications Commission (FCC)

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.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of 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. If not installed and used in accordance with the instructions, it 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 tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna
-Increase the distance between the equipment and the receiver.
-Connect the equipment to outlet on a circuit different from that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

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

Caution: Exposure to Radio Frequency Radiation.

To comply with FCC RF exposure compliance requirements, for mobile configurations, a separation distance of at least 20 cm must be maintained between the antenna of this device and all persons.

This device must not be co-located or operating in conjunction with any other antenna or transmitter.