JTS®

# WA-88

## UHF PLL Wireless Portable Active Speaker

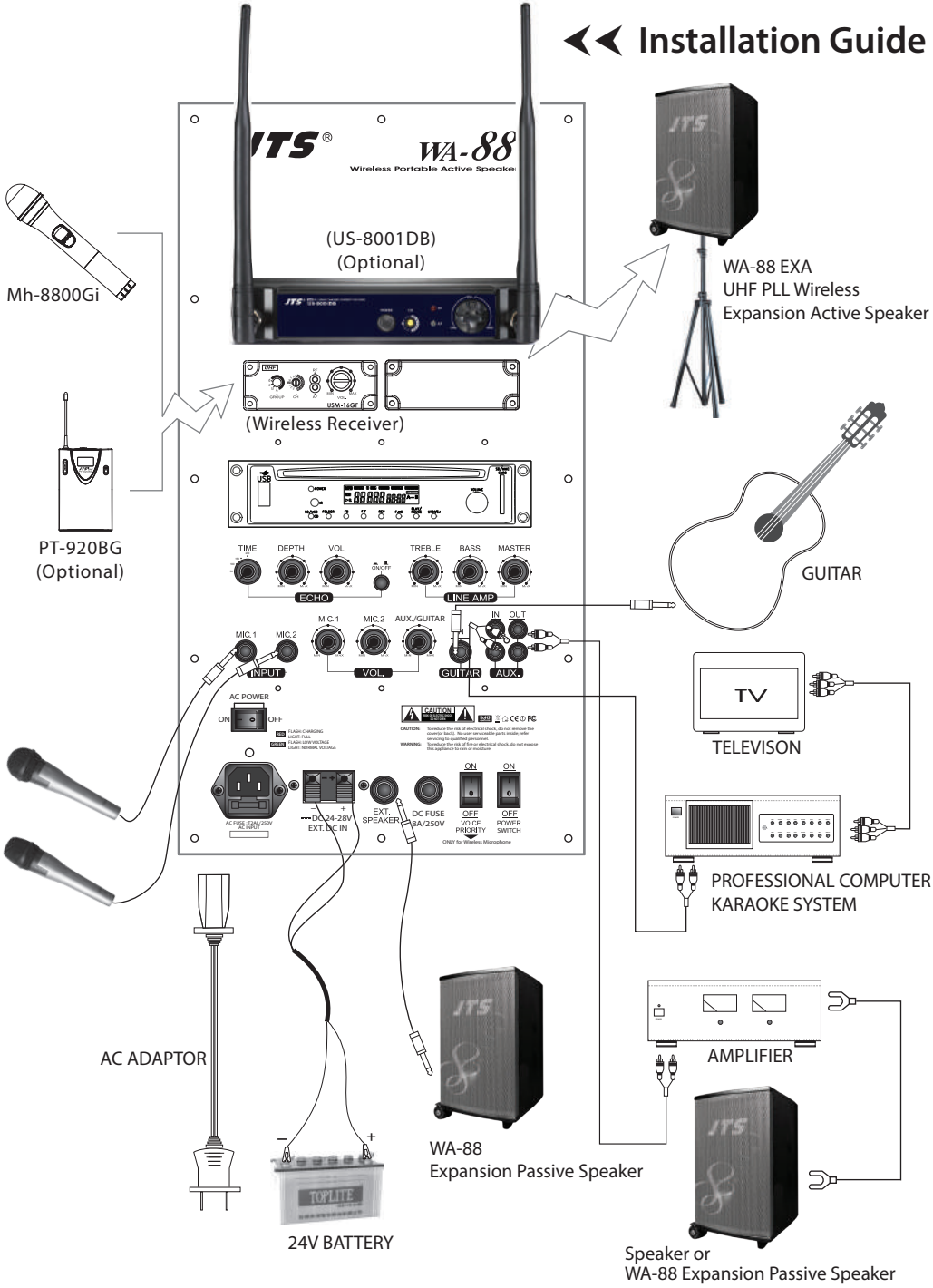
*Portable Active Speaker*

# TABLE OF CONTENTS


| | |
|---|---|
| Installation Guide | 01 |
| Features | 02 |
| Specification | 03 |
| Panel Identification | 06 |
| Wireless Module | 08 |
| CD/MP3 Player Operation | 09 |
| Safety Instructions | 13 |


Thank you for choosing the JTS® wireless systems. In order to obtain the best efficiency from the systems, you are recommended to take a few minutes to read this instruction manual carefully.

# Installation Guide

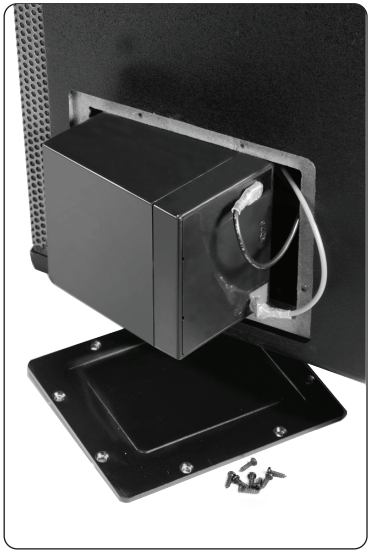


# Features

1. A portable active speaker with slot-loading CD module, ECHO sound-effect processor with Time/Depth/Echo volume control,Treble/Bass control, Guitar input and AUX in/output with volume control, two wired microphones inputs with independent volume control, PLL wireless module with wireless microphone voice priority function, and extending speaker output.
2. Using AC 115 or 230 power that contains 120 Watts(4Ω) output.
3. Adopting bi-amp design with high quality active crossover, and 8-inch woofer that provide the best sound quality.
4. The Power amplifier uses IC circuit design that not only provides high efficiency and better sound quality, but also protects overheat and short circuit.
5. Adopting high-quality, toroidal transformer design.
6. Using medium-density wood fiberboard as the speaker box.
7. Detachable wheels and trolley create the convenience for free moving.
8. Equipped with speaker floor stand socket for heightening use.
9. Equipped with USB & SD card function, Slot-loading CD player with LCD display can withstand 180 degree swing and falter,which is suitable to use in any kind of outdoor environment.
10. PLL UHF wireless microphone system, which is able to reach over 80M without any interference.
11. Two sealed lead-acid batteries with automatic charging design.The charger will be activated immediately when AC power is plugged in,and AC power switch is in "ON" .
12. Two rechargeable batteries with 12V/5Ahr capacity each that could be used over 3.5 hours with in general volume & over 7.5 hours with low volume.
13. Uninterrupted power supply (UPS) design that will automatic switch to DC battery without any effect when pulling out the AC power cable.
14. Two-steps LED charger indicator (Red and Green LED) with low voltage detection. It would flash red light when charging, and light red when full charged, and would light green when the voltage is normal, and flash green light under the low voltage.
15. Independent power switch for CD/MP3 player that could extend the battery using time.
16. Removable battery
17. Optional US-8001DB equipped with detachable BNC antenna.

Notice:

1. Please charge the rechargeable batteries more than 8 hours for first time operation.
2. Please refresh the batteries every three months when not using. The batteries will be damaged if left unused for a long time. (over three months)
3. Refresh the rechargeable battery before operation each time to ensure the best performance.



Removable battery

## WA-88

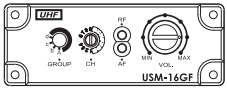
AC Power : 115V or 230V
DC power : 24V~30V
Lead-acid Battery : 12V/5AH*2
Woofer : 8” 8Ω/100W
Tweeter : piezoelectric
Echo Time (ms) : 49.2/98.3/147.5/196.6
Sensitivity of MIC1/MIC2 : -47dB/600Ω
Sensitivity of AUX IN/GUITAR : -11dB/10K
AUX Output : -3dB/600Ω
Treble Control : ±10dB at 10KHz
Bass Control : ±10dB at 100Hz
Power Output : 120W
Power Consumption : 180VA
THD% : <0.5% at 1 Watt output
S/N ratio : >60dB at 50W output
Build-in Audio : CD module
Control Switcher : ECHO, Priority, Power
Rotary switch : MIC1, MIC2,AUX,TIME,
DEPTH, ECHO Vol,
TREBLE, BASS, MASTER
Dimension : 310mm(W)*515mm(H)*380mm(D)
Weight : 24.6Kg

Detachable BNC antenna

# Specification ➤➤

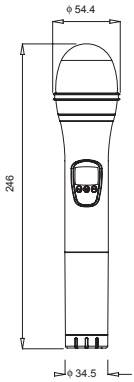
## Standard

### USM-16GF UHF PLL Diversity Receiver Module




Frequency Range..... 502~960 MHz
Frequency Stability..... ±10KHz
S/N Ratio..... >100dB
RF Receiption..... Antenna diversity
Mute..... Noise and Pilot Tone Squelch
Controls..... AF/RF LED indicators at line out
Operation Voltage..... 12-18VDC
Output Connector..... 0dB / 4.7kΩ (40kHz Div)
Dimension(mm)..... 84mm(W)* 31mm(H)* 140mm(D)

### Mh-8800Gi UHF PLL Handheld Transmitter

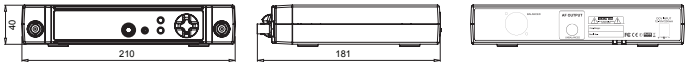



Frequency Preparation..... PLL Synthesized Control
Carrier Frequency Range... 502~960 MHz
RF Outputs..... 10mW
Stability..... ±10KHz
Frequency Deviation..... ±48KHz
LCD Display..... Channel, Battery Fuel Gauge, Swnsitivity
Controls..... Power On/Off, Mode Setting, AF Level, Channel Up/Down Lock-on Mode
Spurious Emissions..... <-60 dBC
Audio Frequency Response 50~16,000 Hz
Battery..... UM3, AA 1.5V*2

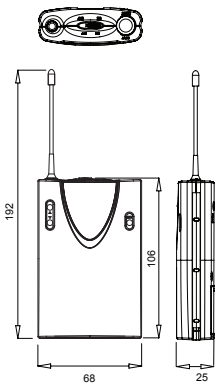
## Optional

### US-8001DB UHF PLL Dual Channel Diversity Receiver

Frequency Preparation..... PLL Synthesized Control
Carrier Frequency Range... 502~960 MHz
S/N Ratio..... > 105dB
T.H.D..... <0.6%@1KHz
Display..... LED
Display Contents..... Antenna A/B, RF/AF Status
Controls..... Power On/Off, Channel Selecting, Audio Level
Audio Output Level..... -12dB
AF Output Impedance..... 600Ω
Squelch..... Pilot Tone, Noise and Mute
Operation Voltage..... 12-18 VDC, 150mA
Output Connector..... 1 Balanced XLR socket
1 Unbalanced Ø6.3mm phone jack
Dimension(m/m)..... 210mm (W)* 40mm (H)* 181mm (D)

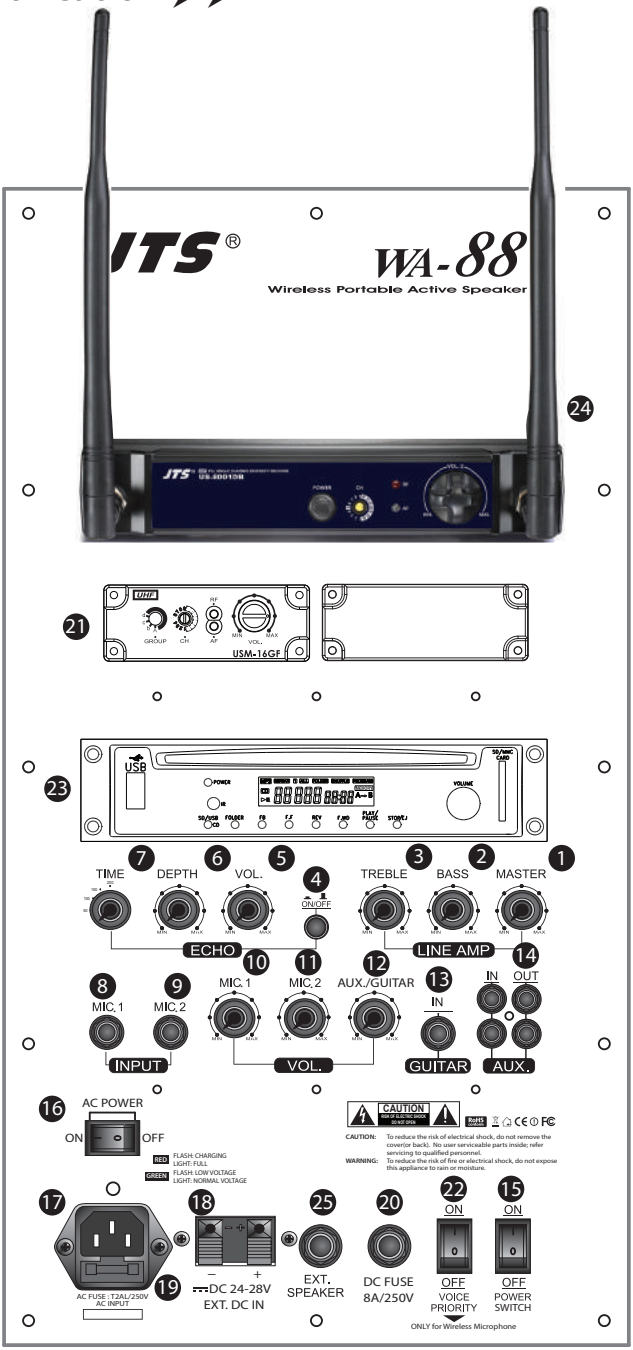



### PT-920BG UHF PLL Handheld Transmitter




Frequency Preparation..... PLL Synthesized Control
Carrier Frequency Range..... 502~960 MHz
RF Outputs..... 10mW
Stability..... ±10KHz
Frequency Deviation..... ±48KHz
LCD Display..... Battery Fuel Gauge
Controls..... Power On/Off, AF Level,
Channel Up/Down, Lock-on Mode
Output connector..... 4P mini XLR
Spurious Emissions..... <-50 dBC
Audio Frequency Response.. 40~18,000 Hz
Battery..... UM3, AA 1.5V*2

# Panel Identification >>



## WA-88 BACK PANEL

■ Volume and Effect Control

1. Master volume control: for all sound except AUX input/output
2. Bass tone control: for all sound except AUX input/output
3. Treble tone control: for all sound except AUX input/output

■ Echo Function

4. Echo ON/OFF:
5. Echo volume control:
6. Echo time delay control: for MIC1/MIC2 and wireless module
7. Echo repeat control: for MIC1/MIC2 and wireless module

■ Wired Microphone Control

8. MIC1 input (φ6.3 phone jack): with independent volume control and echo effect
9. MIC2 input (φ6.3 phone jack): with independent volume control and echo effect
10. MIC1 volume control: for MIC1 input
11. MIC2 volume control: for MIC2 input

■ AUX Function

12. AUX volume control: for Guitar and AUX input & output
13. Guitar input
14. AUX input & output: with RCA jack

■ Power & Battery Function

15. Main Power Switch
16. AC Power Switch:Only when AC Power switch is in “ON”, the external AC power will connect to the system.
17. 3P type AC power socket: whatever power switch is in “ON” or not, as soon as AC power is connected, and AC power switch is in “ON”, it will charge the batteries.

    Charger Indicator Status
    Red and Flashing: Charging
    Red and Light: Full
    Green and Flashing: Low Voltage
    Green and Light: Normal Voltage

Notice:
Normally charging would take between 6 to 8 hours to be full charged

18. External 24V battery input: Outside DC input would not charge the batteries.
19. AC Fuse:T2AL/250V for AC input
20. DC Fuse: 8A/250V for DC input

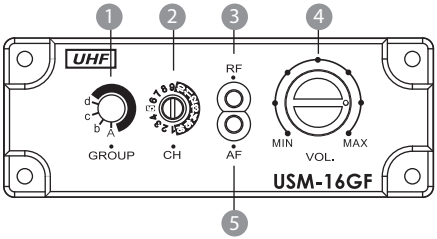
■ Wireless Module and Control

21. Wireless module: with independent volume control and echo effect
22. Wireless Microphone priority switch: Switching to “ON”, all other sound source will be eliminated as soon as wireless microphone begins being used.

■ CD/MP3 Player Module and Extended Speaker

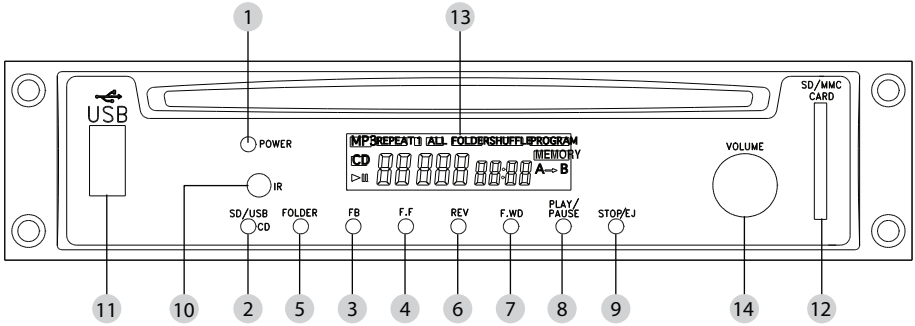
23. CD/MP3 player module: with independent power switch
24. US-8001DB Dual channel diversity receiver. (Optional)
25. Extended speaker terminal (φ6.3 phone jack): suggested using 8Ω external speaker since it will be parallelly connected with internal speaker.

# Wireless Module ➤➤




1. Group Selector
2. Channel Selector
3. RF LED
4. Wireless MIC Volume Control
5. AF LED

# CD/MP3 Player Operation




1. POWER ：ON : Press Power to switch on the power. OFF：Press and hold Power to switch off the power.
2. SD / USB / CD : Press this key will changed to USB, SD or CD mode.
3. ⏮ FB : Select backward. Then press “ PLAY / PAUSE “ back to normal playing.
4. ⏭ FF : Select forward. Then press “ PLAY / PAUSE “ back to normal playing.
5. FOLDER : Select files. Available for playing MP3 format. Press each FOLDER key a time, it will change to next catalogue.
6. REV : Press to desired previous track number.
7. F.WD : Press to desired next track number.
8. PLAY / PAUSE : Press once stat to play, press again pause to stop.
9. STOP/ EJECT : Press to stop playing and press to disk ejected gradually.
10. Infrared window：Pick up signal from the remote controller.
11. USB Connector
12. SD Connector : Accepts SD Card and MMC Card.
13. LCD Display :
    - MP3：When being MP3 mode, the display panel shows MP3.
    - CD：When being CD mode, the display panel shoes CD.
    - ▶II When in playing mode, it display ▶, when pausing, the panel shows II
    - REPEAT 1：When repeatedly playing the single track, it shows REPEAT 1. ∘
    - REPEAT ALL：When all songs at the folders are playing repeatedly, it shows REPEAT ALL .
    - REPEAT FOLDER : When it appears REPEAT FOLDER, it refers to playing the tracks repeatedly from a specific folder.
    - SHUFFLE：When Random playback.
    - PROGRAM：When playback program tracks.
    - MEMORY：When playback memory tracks.
    - A→B：When repeat playing between A and B.
    - 88 Under the MP3 mode, it will appear the folder numbers.
    - 888：Display the current playing track.
    - 88:88：Display the time for the current playing track.

14. VOLUME :

- This player can accepts 12 cm discs like CD, CD-R, CD-RW , MP3 disks and USB and SD / MMC reader playing, but please do not intend to play the CD-ROM / CD-I / CDV, 8 cm discs or computer CD.
- This player can accepts format MP3 and WMA
- Insert a disc into disc slot with the playback side down and playback starts automati cally. Track number and playing time will be displayed.
- To pause playback or normal playback, press PLAY/PAUSE or press ▷II on the remote controller,
- Press REV, F.WD, or ⏮ ⏭ on the remote controller, for desired next or previous track number. CD player will continue playback while display selected tracks.
- To stop playback, press STOP/EJECT or press ■ once on the remote controller. Press STOP/EJECT once to stop playback, LCD will show total track numbers and total time played. Press again to stop CD play. Press 3rd disc will quietly eject. Press fourth disc will be inserted again.
- Press FB, FF or ◀◀ or ▶▶ on the remote controller, to activate fast forward or reverse Until desired section is located.
- FOLDER : Play the catalogue with MP3 file to change the select catalogue,
  To select the catalogue with MP3 form in playing program, may use FOLDER key in the face plate or remote controller to select next catalogue.
  Press each FOLDER key a time; it will change to next catalogue

Note :

- When inserts the disk into CD player or takes out the disk, it is necessary to let CD player insert disk and return automatically. It is prohibited to push or take out the disk by hand before the disk completely return from CD player, thus will cause the machine to be broken down and unable to operate normally.

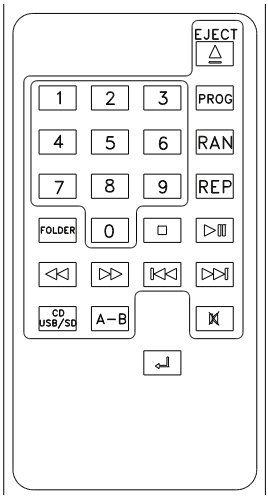
SD / MMC Card

- Insert SD Card or MMC Card into the insert hole of SD/MMC CARD in the face plate. Pull the card to get stuck with the tenon. It then finished the assembly. When taking out the card, please push the card to the bottom and then release to shout it out. Please don’t use the force to pull it out. If so, it will damage the card and the machine.
- Press SD / USB / CD or SD / USB / CD on the remote controller. Selects SD then press PLAY / PAUSE or ▷II on the remote controller to playing.
  As for other playing operation way, please refer to the operation way in PLAYING and THE FUNCTIONS RESPECTIVELY ON THE REMOTE CONTROLLER.

USB

- Insert USB into the insert hole of USB in the face plate. If don't need to use USB, may take it off directly.
- Press SD / USB / CD or SD / USB / CD on the remote controller. Selects USB then press PLAY / PAUSE or ▷II on the remote controller to playing.
  As for other playing operation way, please refer to the operation in PLAYING and THE FUNCTIONS RESPECTIVELY ON THE REMOTE CONTROLLER.

# THE FUNCTIONS RESPECTIVELY ON THE REMOTE CONTROLLER




■ EJECT [⏏]: Press to stop playing and press to disk ejected gradually.

■ [PROG] can memorize the self-set playing procedure.

1. To play the ordinary music of CD, USB SD Card: Press [PROG] key a time, and then select the number 0~9 from the combination key, for example: press 2 and 3, then LCD will display "23", then press [◀] Confirm key to complete memory setup; LCD will display "23:01".
   If press "5" again, and press [◀] key, LCD will display "05:02", and so it has set "23" and "05" as memorized songs. And press [▷II] play key, it will play all of the memo rized songs. Meanwhile, LCD indicator will display "MEMORY" and the playing song numbers. If want to cancel all of the memorized songs, press [PROG] key for 2 times repeatedly.

2. To play MP3 form of CD, USB, SD Card: Press [PROG] key once, and select the song numbers 0~9 from the catalogue of combination key, for example: press 2 and then press [◀] Confirm key, and then press 3, and then press [◀] key, then LCD will display 02 03:01", so it has set up 02 as memorized in the catalogue, 03 is the song in the catalogue and 01 is the first memorized song. Repeat this way to operate and memorized more songs. After confirmation the memorized playing songs, then press [▷II] play key to play all the memorized songs. Meanwhile, LCD indicator will display "MEMORY" and the playing song number. If want to cancel all of the memorized songs, press [PROG] key for 2 times repeatedly

■ [RAN]: A random selection is played from alive labile tracks. Press [RAN] and LCD it shows SHUFFLE. Then press [|◀◀] or [▶▶|] can selection from alive labile tracks.

■ RAP : Repeat mode.

1. To play the ordinary music of CD, USB SD Card: Press once LCD it shows REPEAT ALL : Repeat by the songs in all. Press again LCD it shows REPEAT 1 : Repeat by the song in the folder. Press the 3rd time, LCD display will eliminate the word REPEAT, and cancel Repeat Playing function.
2. To play MP3 form of CD, USB, SD Card: Press each RAP key a time; it will change to 〝 REPEAT ALL 〞 , 〝 REPEAT FOLDER 〞 , 〝 REPEAT 1 “, the last to cancel Repeat Playing function. 〝 REPEAT FOLDER 〞 : Repeat all the songs in the folder.

■ Numeral 0 ~ 9 : Select numerals. Selects the track from numerals.

■ FOLDER: Play the catalogue with MP3 file to change the select catalogue, and LCD display will show catalogue item. Press FOLDER one time can change one catalogue item.

■ ▷II : PLAY / PAUSE. Press once is pause and LCD it shows II. Press again to play and LCD it shows ▶ .

■ ■ : Stop to play。

■ ⏮ : Skip to the former track.

■ ⏭ : To next track.

■ ◀◀ : Press once to activate fast reverse. Presses again cancel fast reverse. Then Press ▷II , back to normal play.

■ ▶▶ : Press once to activate fast forward. Presses again cancel fast forward. Then Press ▷II , back to normal play.

■ CD USB/SD : Selection USB, SD or CD. Then press ▷II to start playing.

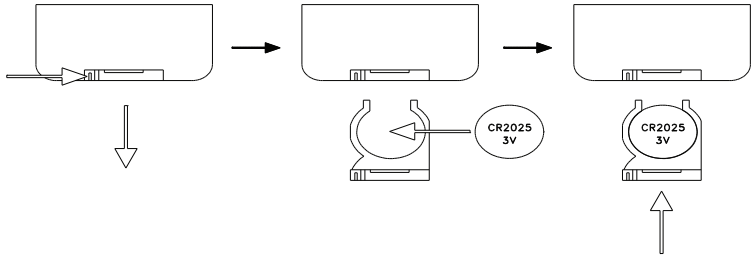
■ A→B : It is the zone memory function. During Playing State, press A→B A point will start to memorize. Press again to memorize B point, and stop memorizing at the same time, and start repeating playing point A - B Memory Zone. Press again to cancel A→ B Function.

■ 🔇 : ON / OFF Mute.

■ ◀ : confirmation : Execution.

■ When using the remote controller, the remote controller shall be appointed to the receiving hole of face plate. The optimal receiving distance is 3 meters. (the available distance is 5 meters.) The batteries ( model CR2025 3V) shall be put into the remote controller.

■ Battery installation of remove controller




1. Press and hold the tenon located on lower left-hand corner of the rear remote controller, pull out the battery set by the slot at the right.
2. Place the battery〈positive electrode faces upwards〉according to its correct polarity.
3. Push the battery compartment back to the fixed position.

## While setting up and installing this machine

- Do not wet the machine
  Do not exposure to rain, or heavy humidity to prevent fire or electric shock.

- Confirming the intensity of the place for setting the machine
  Install the machine in a place that can bear one's own weight or steady shelf. It can prevent the machine from causing casualties or property loss while dropping.

- Do not touch the loudspeaker terminal
  High impendence of loudspeaker terminal can reach the voltage of 110V, please do not touch it, in order to avoid electric shock.

- Do not involve the cable
  While pulling out the plug, please don't involve the cable; the electric wire damage is apt to cause the fire. Be sure to hold the plug to pull out.

- Do not damage the cable
  Do not prune, twist, damage or change the cable definitely. Moreover avoid using it in the place close to electric heater and do not place a heavy object and machine itself on the cable may cause electric shock and fire.

- Do not use the voltage of power out of appointing
  Limit the use of the voltage of the power stipulated in the machine, if use higher voltage will cause electric shock or fire.

- Pay attention to the place to set up
  Avoiding installing the machine on the moist and dust, airtight space, the directly sunlight penetrates or close to the electric heater, the place of soot or the vapor is apt to cause electric shock or fire.

- While moving the machine, please pull out the plug
  It may cause electric shock or fire if not pulling out the plug while moving the machine.

## While using this machine

■ When in case there are unusual states to take place
While using the machine that is stating any abnormal state, please get in touch with the distributor as quickly as possible after closing the power and pulling out the plug at once,

Please do not continue using the machine, it may cause electric shock or fire,

- If find that the machine smolders or smells until strange smell.
- When if there are water or object fall into the machine.
- If at the time of the machine drops or outer housing damage.
- If at the time of the electric cable or wire damage.
- When the machine emits the unusual sound or has no sound.

■ When thunders & lightning occurring, do not touches the plug
Do not touch the plug while the thunder & lightnign occurring, it may cause shock by electricity.

■ Do not put any object into the machine
Do not put any object; it may cause the spark or electric shock.

■ Clean up the plug and socket
If the dust is piled up on the plug and socket for a long time, it is apt to cause the fire, Please clean up regularly and insert the plug firmly on the socket.

■ When maintain and do not use this machine for a long time
When maintain and do not use this machine for a long time, please must pull out the plug in order to consider safty and may cause shocking by electricity and fire.

■ Do not open the upper housing of machine or overhaul the inside by oneself
In order to avoid shocking by electricity, should not open the upper housing of machine definitely,because it contains the high voltage of parts in the machine. The movements such as inside Overhauling, adjustment and repairing, etc., please trust the distributor to deal with it.

■ Before turn on the power of machine, please adjust volume to the lowest level

■ Do not place any article on the machine
Please do not place any article on the machine, it may drop and cause personnel's injury carelessly.

■ The sound is unstable for a long time (twist), please do not use it
This is a sign of a trouble; it is apt to cause loudspeaker generating heat and fire to use continuously.

■ Clean up the inside regularly
Notify your distributor to clean up the machine regularly. if the dust is piled up on the machine for a long time it is apt to cause damage & fire.

JTS®

WA-88

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