

# MULTITOUR SYSTEM

Model: MTS-300



**[User Manual]**

## Manufacturer's Declaration

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### ■ This product meets the following standards:

#### ◆ Federal Communications Commission Interference Statement

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.

#### FCC INFORMATION

The Federal Communication Commission Radio Frequency Interference Statement includes the following paragraph:

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.

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

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

#### ◆ Europe – EU Declaration of Conformity

This device complies with Directive 2014/53/EU issued by the Commission of the European Community.

#### ◆ WEEE Statement

Electrical and electronic equipment must be disposed of at the end of their lifespan separately from household waste.

Please dispose of this equipment at your local waste collection

Or recycling center. Please help to protect our environment.



#### ◆ Safety and Electromagnetic Emissions Certificates

##### Standard Compliance

- RoHs compliant
- European Directive 2011/65/EU

##### Certificates

- CE
- FCC
- NCC

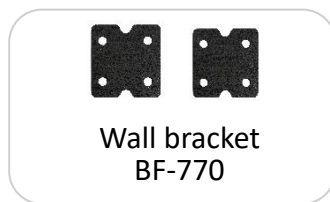
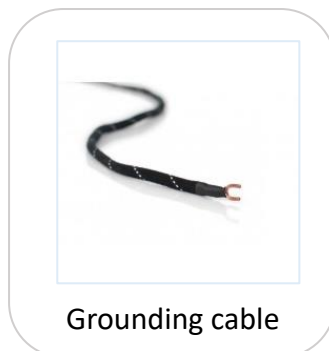
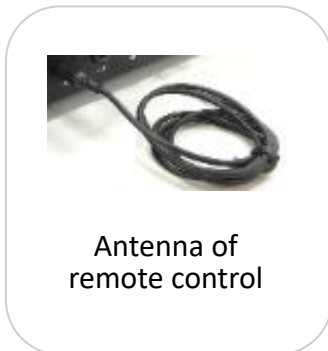
## Table of Contents

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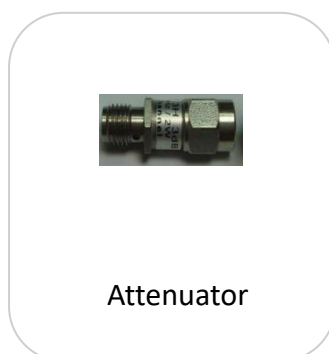
■ System components.....	1-2
■ Product overview.....	3-4
■ Display overview.....	4
■ Connecting instruction.....	5
■ Application & Installation before use.....	6-8
■ General operation.....	9-10
■ Advanced operation.....	10-14
■ Compatible receiver <i>OMG-100R+</i> .....	14-15
■ Troubleshooting.....	15-16
■ Specifications.....	16

■ **System components**

◆ **Standard**

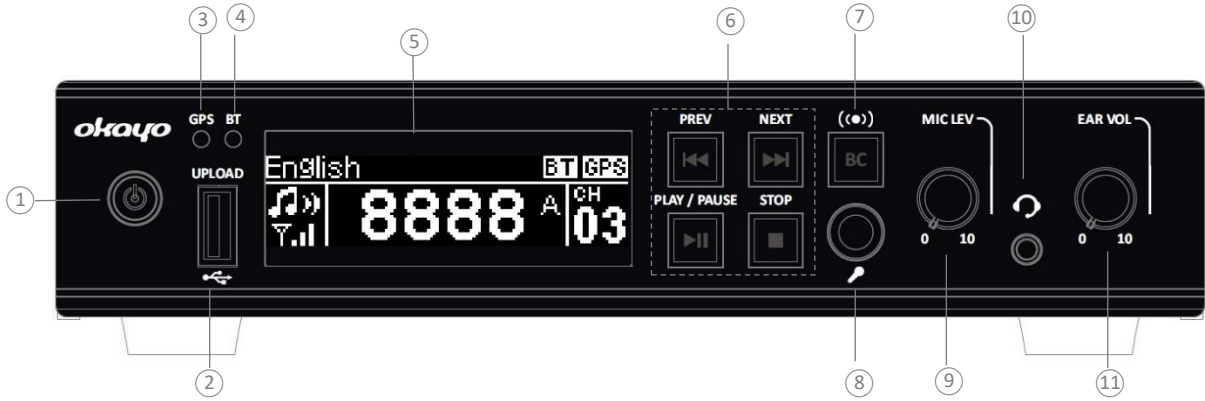


- **Optional**



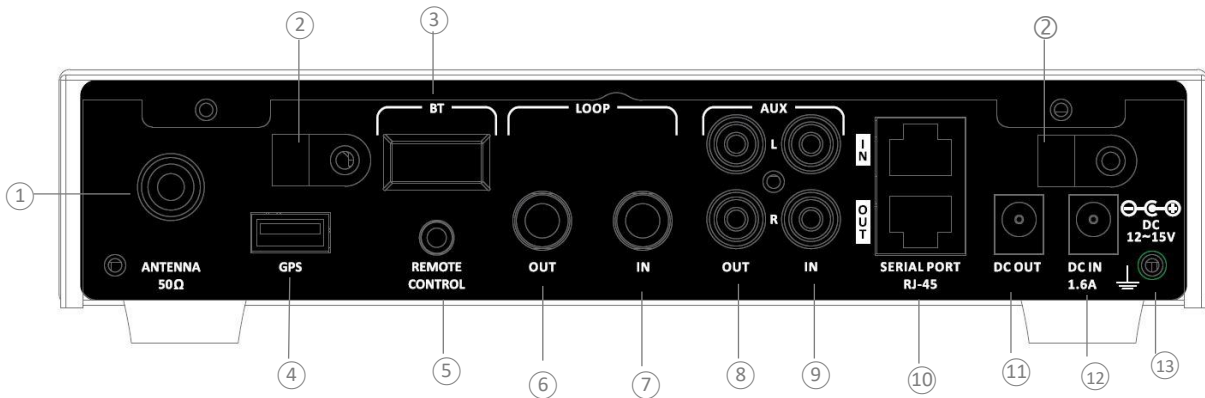
■ **Product overview**

◆ **Front panel**



- ① Power button
- ② Audio/GPS data uploading port
- ③ GPS indicator
- ④ Bluetooth indicator
- ⑤ OLED Display
- ⑥ Audio playback control
- ⑦ Broadcast button
- ⑧ 6.3 mm microphone jack
- ⑨ Mic-in level control
- ⑩ 3.5 mm headphone/headset-mic jack
- ⑪ Headphone volume control

◆ **Rear panel**



- ① Rod antenna (TNC connector)
- ② Cable grip (to screw on the system by user)
- ③ Bluetooth sensor
- ④ GPS receiver connection

- ⑤ Antenna jack of remote control
- ⑥ 6.3 mm loop output
- ⑦ 6.3 mm loop input
- ⑧ RCA aux output (L & R)
- ⑨ RCA aux input (L & R)
- ⑩ RJ-45 serial port (in & out)
- ⑪ DC-OUT jack
- ⑫ DC-IN jack
- ⑬ Grounding

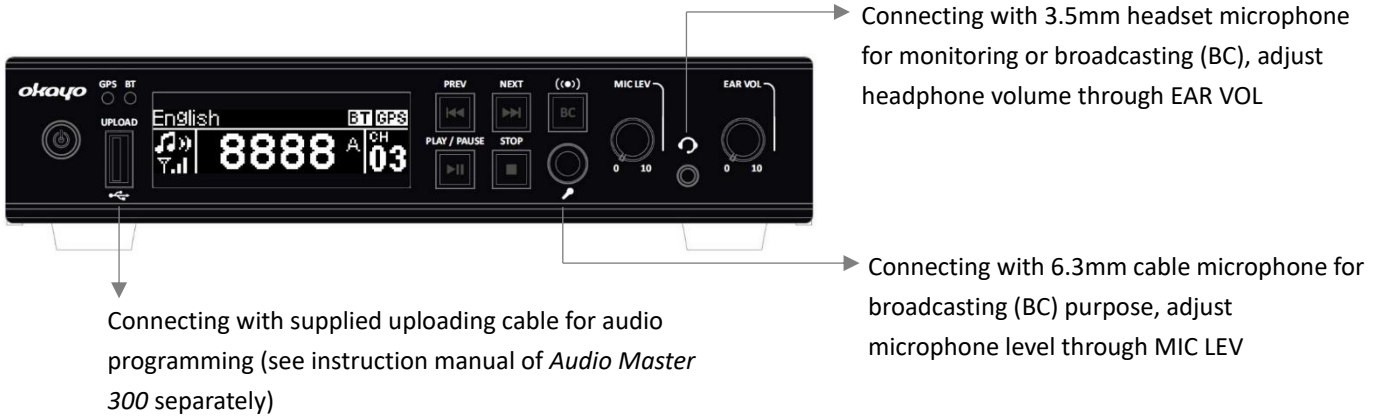
### ■ Display overview



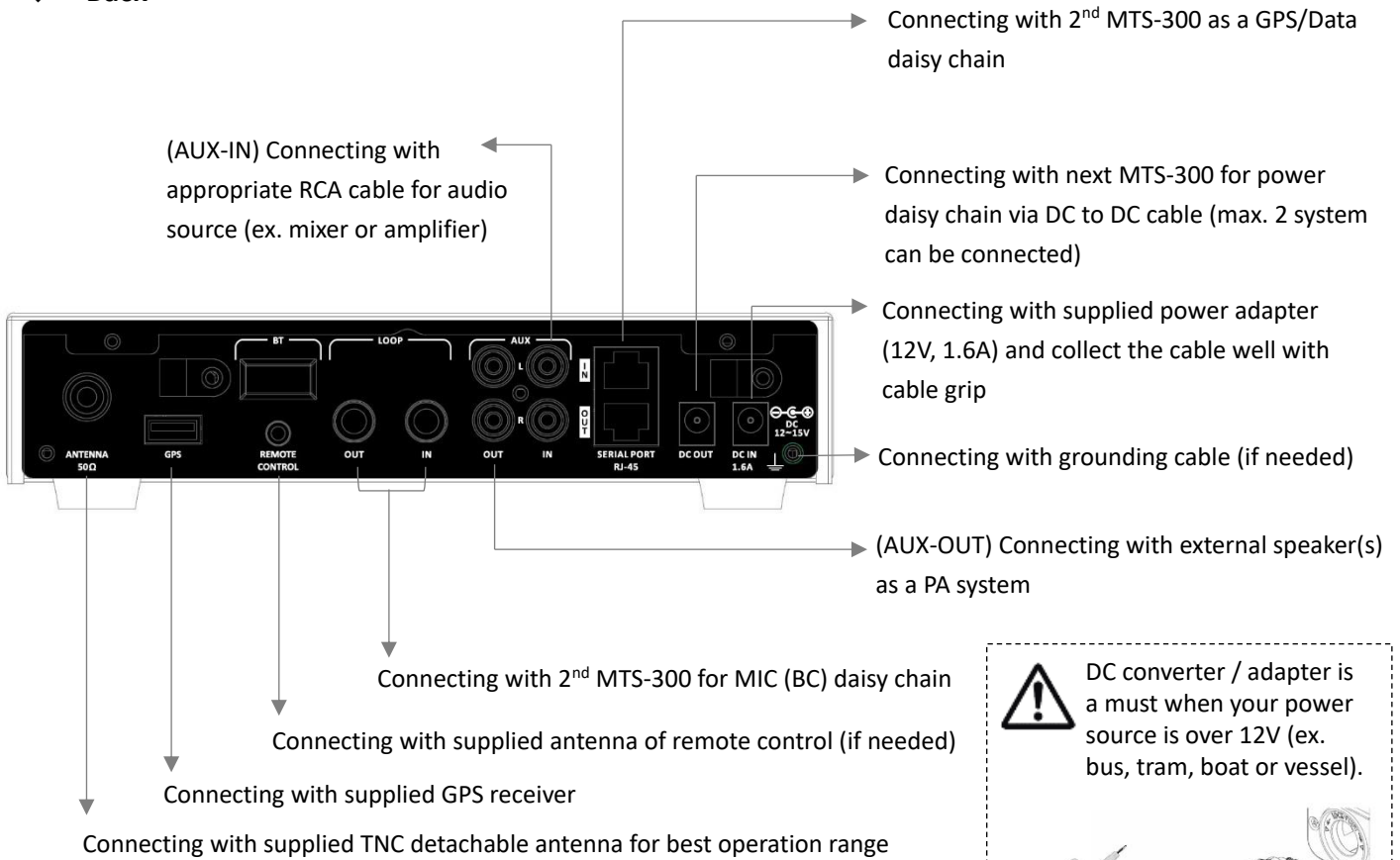
- ① Selected language
  - Number 1~32
  - English character if edited on *Audio Master 300*
- ② Audio mode
  - Guide 🎵»
  - Leader 📻» (*default*)
- ③ RF power
  - Low 📶. (*default*)
  - Mid 📶.
  - Hi 📶.
- ④ Bluetooth
  - *Default: Deactivated (no character shown on the screen)*
- ⑤ GPS
  - *Default: Deactivated (no character shown on the screen)*
- ⑥ Channel number
  - *Default channel: No. 01*
  - Number of channels may vary upon various models and frequency band.
- ⑦ Track number
  - *Default track: No. 1*
  - Max 9,999 tracks per language
- ⑧ Route
  - *Default: All (no character shown on the screen)*
  - Specific route A, B or C can be defined via okayo's proprietary *Audio Master 300*.

■ Connecting instruction

◆ Front



◆ Back



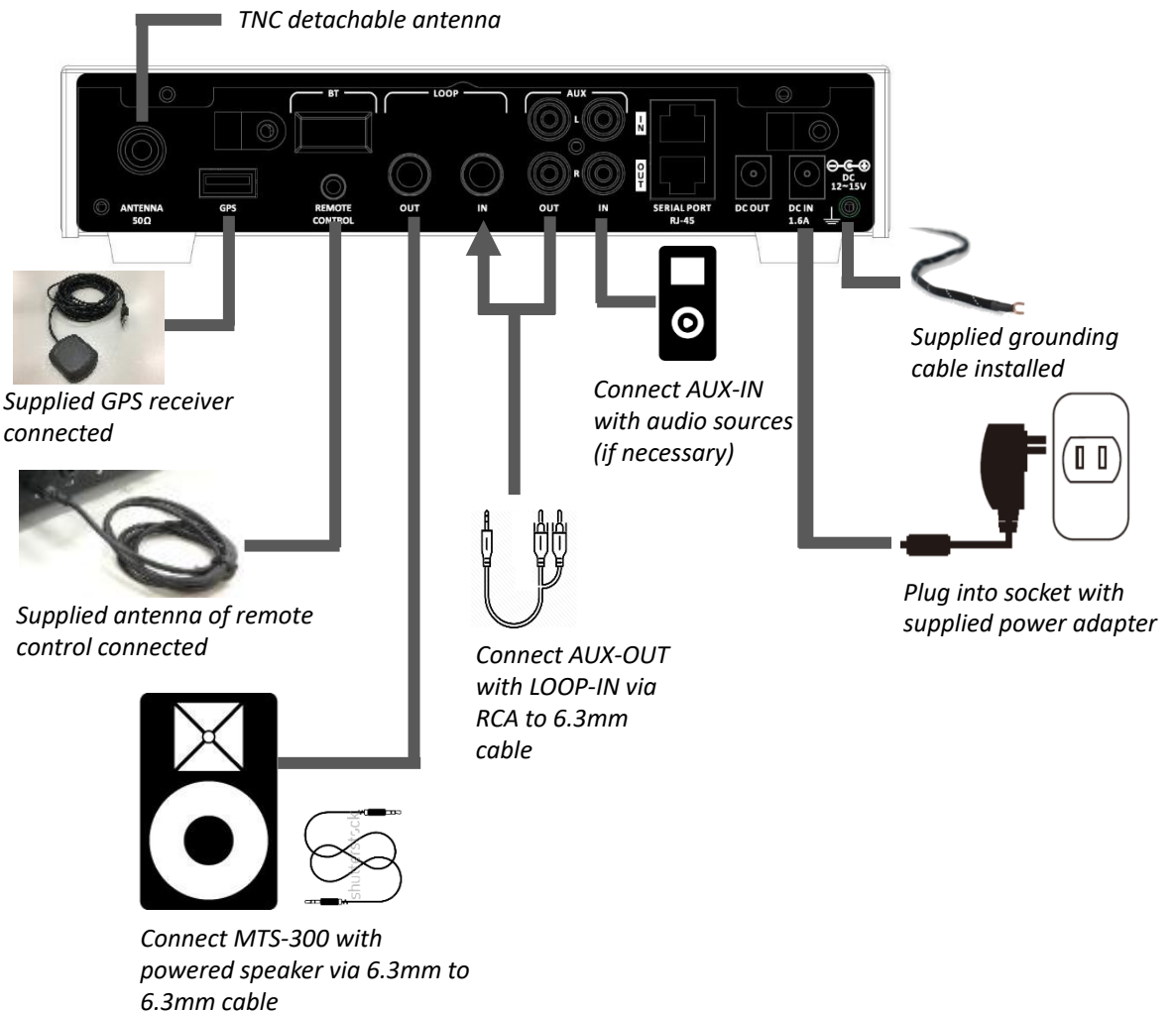
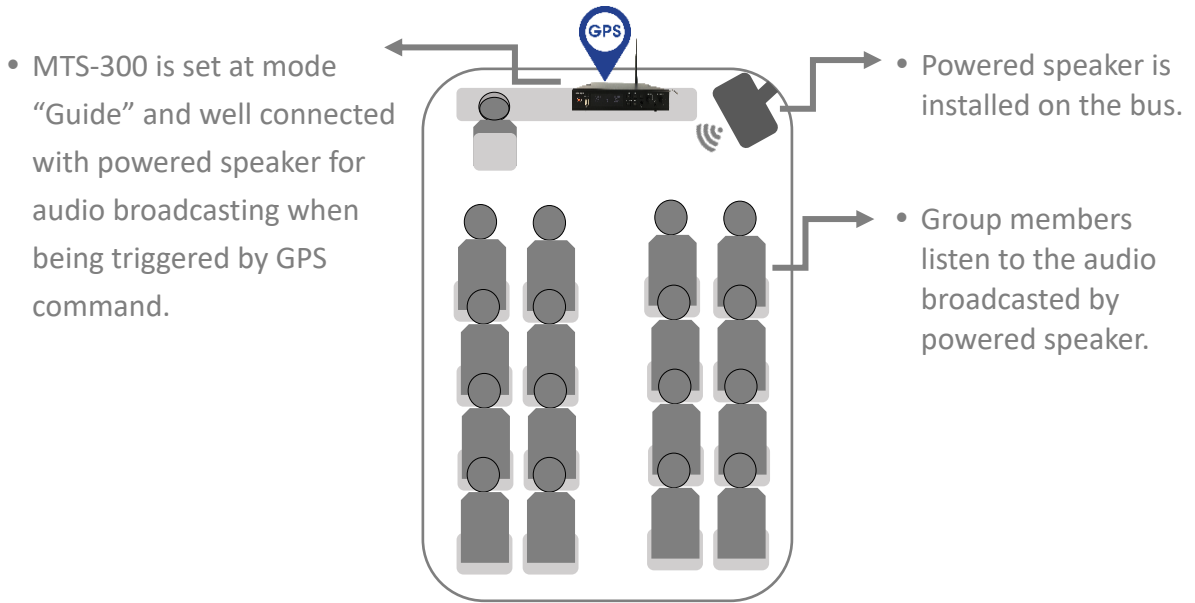
**!** DC converter / adapter is a must when your power source is over 12V (ex. bus, tram, boat or vessel).

The image shows a small, rectangular DC converter/adapter device with a cable attached. It is labeled 'DC CONVERTER' and '12V 1.6A'. The device is shown in a perspective view, highlighting its compact size and the cable connection.



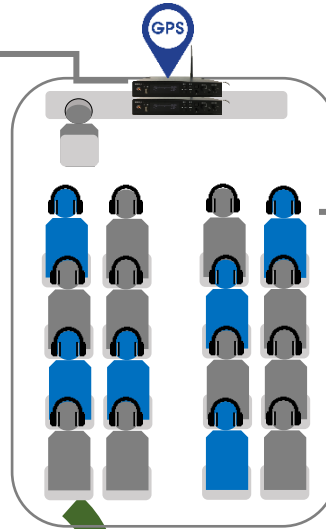
■ **Application & Installation before use**

◆ **GPS PA system for 1 language for cruise or city tours**

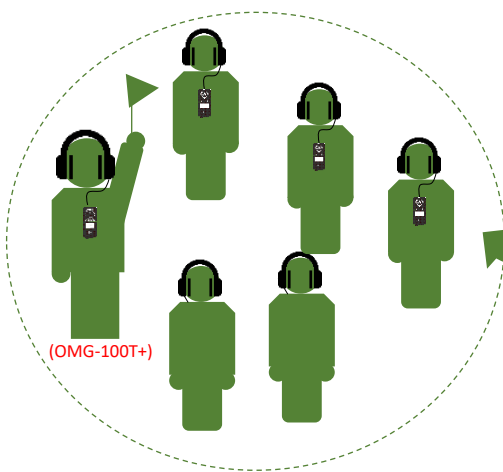


◆ GPS commentary system for multi-languages with 1-languagae guided walking tour

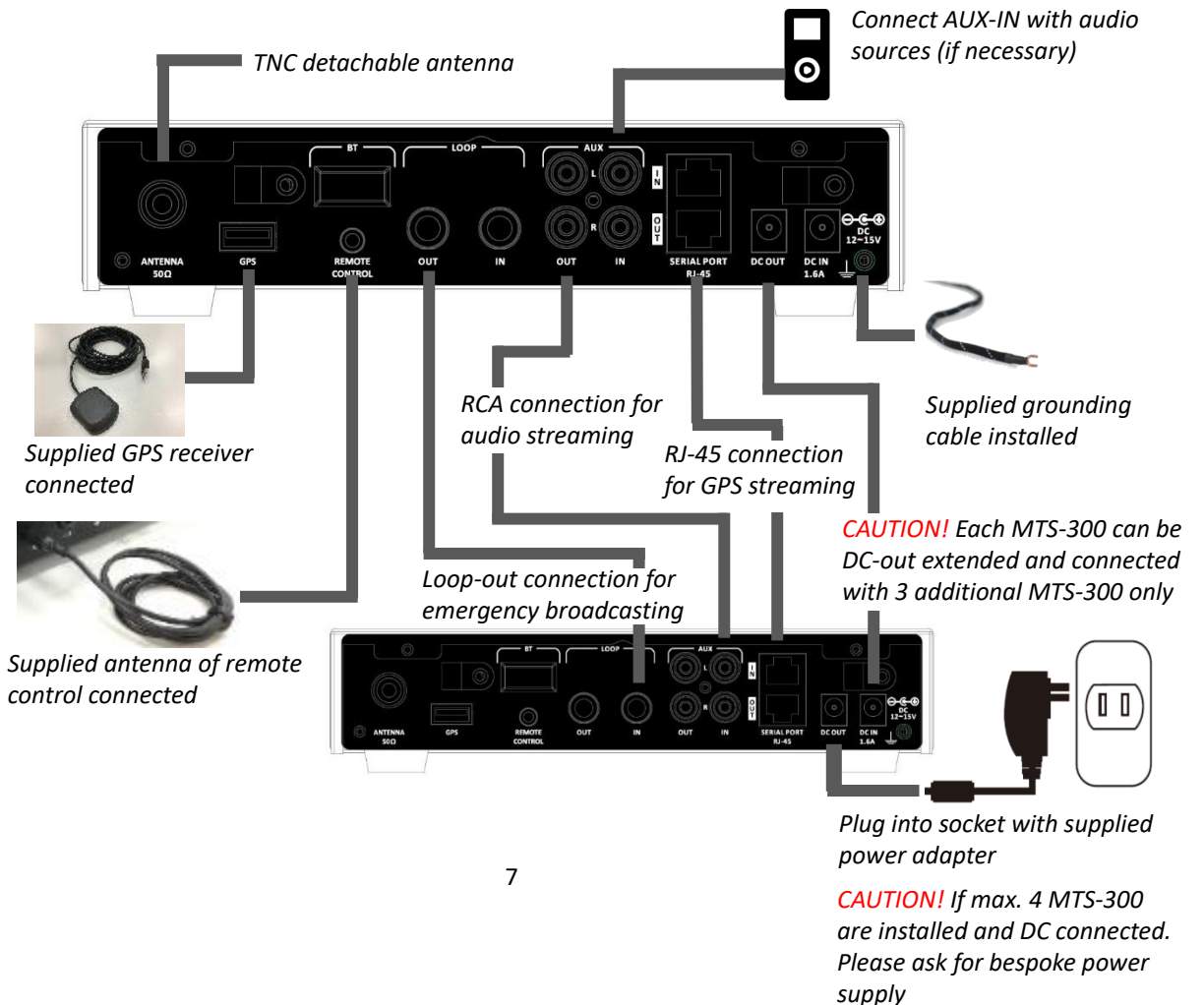
- Max. 4 MTS-300s can be connected as a system.
- After 4 separate channels (languages) are correctly adjusted on MTS-300s, respective audio tracks will be transmitted when being triggered by GPS command.



- Group members have *OMG-100R+* with mode Listen to hear different GPS-triggered audio tracks respectively from MTS-300s.



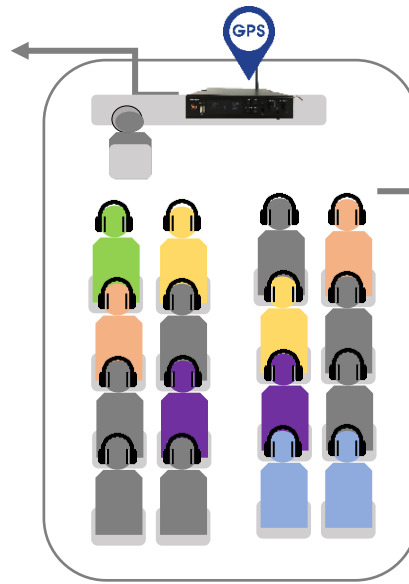
The whole group can still carry *OMG-100R+* with mode Listen when they are out of the bus to continue the trip with the guide (*OMG-100T+* with mode Live).



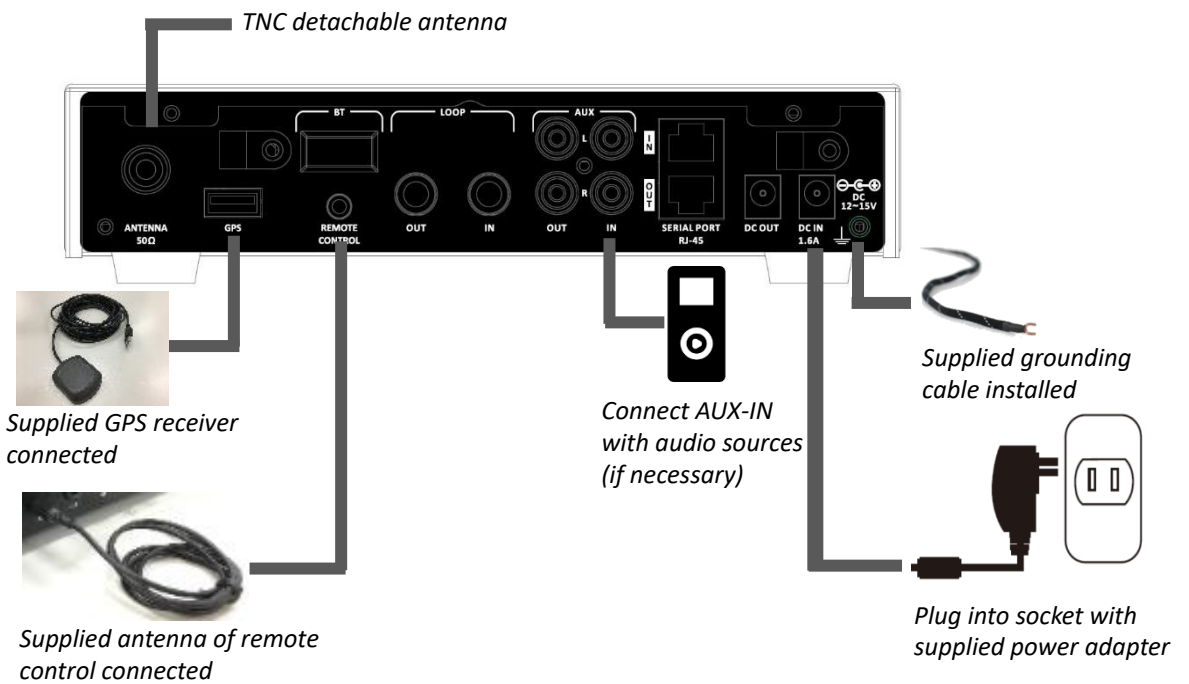
# MultiTour System MTS-300

## ◆ GPS commentary system for 32 languages (mode: Leader)

- MTS-300 is set *at mode Leader* and will send command of specific track number to *OMG-100R+ with mode Guest* being carried by group members when being triggered by GPS command.



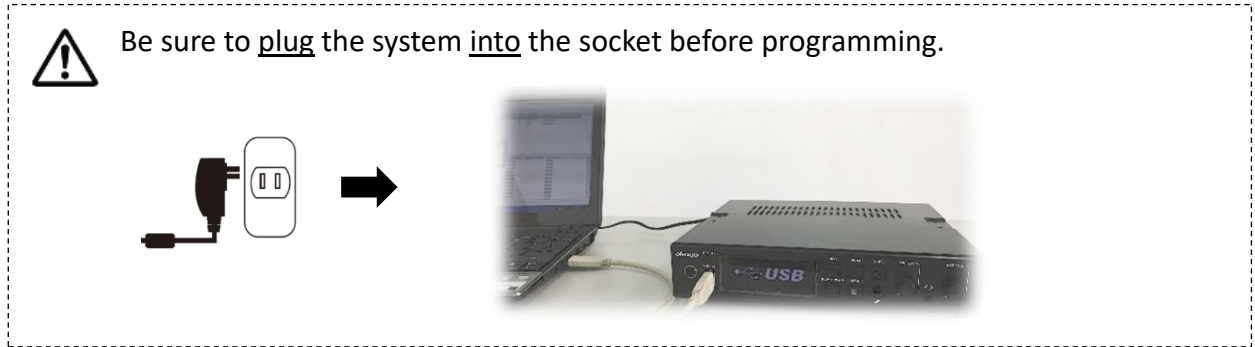
- *OMG-100R+ with mode Guest* being carried by group members will play audio in their own languages when it receives GPS command from MTS-300.



### ■ General operation

#### ◆ Program your audio tracks in advance

Connect MTS-300 with your computer via supplied uploading cable. Compile audio tracks and correct GPS coordinate list via proprietary software *Audio Master 300* (see user manual of *Audio Master 300* separately) and then upload the audio project onto MTS-300 before your tour.



#### ◆ Power on

Press the power button for 1 second to turn on.

#### ◆ Define your language

Default language (pre-set on *Audio Master 300*) will automatically be selected when MTS-300 is on. To change the language, press and keep pressing buttons ►|| and ■ simultaneously for 3 seconds until "language" on top of the screen flashes. Then, press button ◀◀ or ▶▶ to select another preferred language. You can also press and hold button ◀◀ or ▶▶ to fast rewind or forward the language selection. Finally, press button ►|| to confirm new selection.

#### ◆ Assign your channel

Channel will automatically be locked when MTS-300 is on. To change the channel, press and keep pressing buttons ◀◀ and ▶▶ simultaneously for 3 seconds until "channel number" flashes. Then, press button ◀◀ or ▶▶ to select another preferred channel. You can also press and hold button ◀◀ or ▶▶ to fast rewind or forward the channel selection. Finally, press button ►|| to confirm new selection.

#### ◆ Play your audio track

2 ways are available to start a track.

##### • *GPS trigger*

Activate GPS function beforehand via supplied remote control or setting menu (see instruction on page 11 "Source menu"). Then, connect MTS-300 with supplied GPS receiver which needs to be placed correctly for successful GPS positioning. When MTS-300 enters a specific area, it will start the defined playback automatically. *Note audio tracks cannot be stopped or paused manually*

when they are triggered via GPS receiver. Only button BC can be pressed for emergent notice (tracks are currently paused).

- **Manually**

Press button ◀◀ or ▶▶ to select a track, then press button ▶▶ to start the playback. Press and hold button ◀◀ or ▶▶ to fast rewind or forward the track is also available. To stop or pause the track, simply press button ■ or ▶▶.

- ◆ **Monitor audio tracks via headphone**

Connect 3.5 mm headphone or headset mic and tune the volume control at appropriate position to monitor audio tracks which were uploaded and saved in MTS-300. *Note all audio signals except mic-in can be monitored.*



Kindly note listening at highly volume for long periods may damage your hearing.

- ◆ **Broadcast your emergent message**

When an audio track is playing, you can press button BC to temporarily pause the track and broadcast your message via 6.5 mm microphone or 3.5 mm headset microphone. When your message finishes, press button BC again to release the notice. *Note microphone volume is recommended to be set at appropriate level to avoid hearing damage.*

- ◆ **Power off**

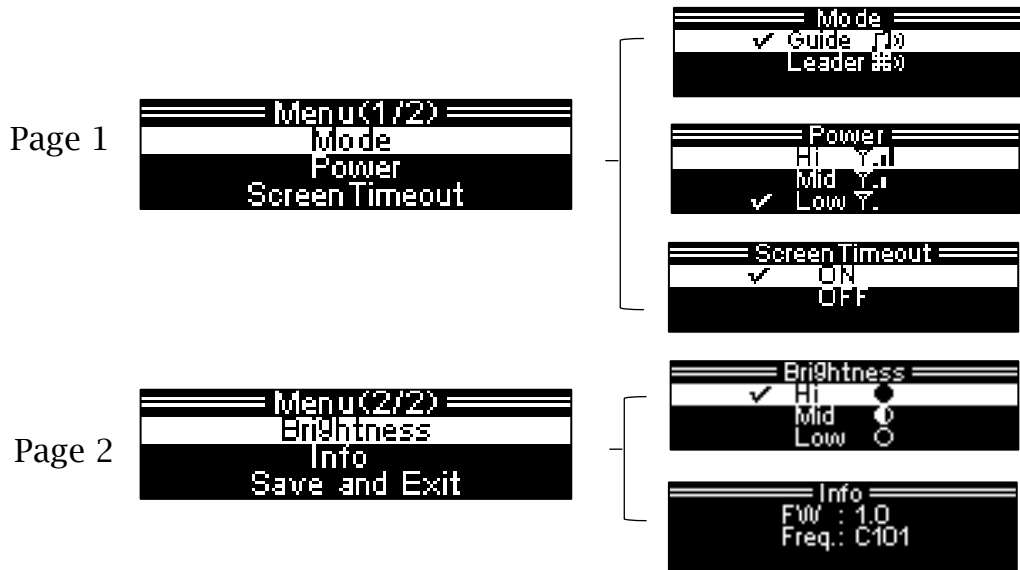
Press the power button for 2 seconds to turn off.

- **Advanced operation**

- ◆ **Setting menu**

You can adjust various settings upon preference. See steps below.

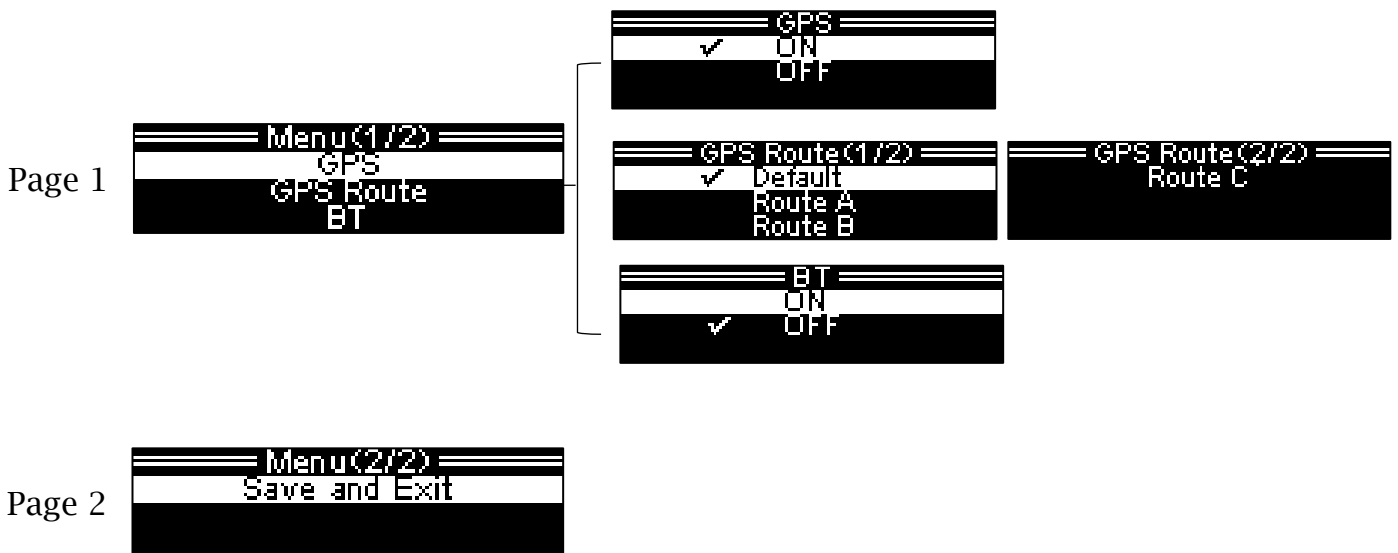
- Press and hold buttons ■ and ⏻ simultaneously to turn MTS-300 on.
- Setting menu shows up. Press button ◀◀ or ▶▶ to select the setting you intend to adjust and then press button ▶▶ to confirm and enter the selected setting.
- To change the selection, press button ◀◀ or ▶▶ and then press button ▶▶. Symbol ✓ shows up on the front and it will return to home page of setting menu automatically.
- To exit the setting menu, select “Save and Exit” and then press button ▶▶ to leave.



◆ **Source menu**

You can activate GPS/Bluetooth or set preferred route via source menu. See steps below.

- Press and hold buttons **▶||** and **⏻** simultaneously to turn MTS-300 on.
- Source menu shows up. Press button **◀◀** or **▶▶** to select the source/route you intend to activate/set and then press button **▶||** to confirm and enter the selection.
- To change the selection, press button **◀◀** or **▶▶** and then press button **▶||**. Symbol **✓** shows up on the front and it will return to home page of source menu automatically.
- To exit the setting menu, select “Save and Exit” and then press button **▶||** to leave.



◆ **Custom route plan**

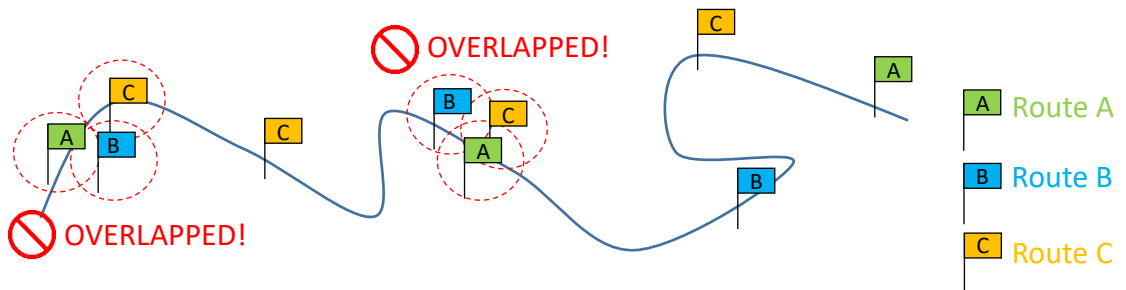
You can assign specific route A, B or C for your tour. Route type will show up on the screen if it's assigned on source menu beforehand (see instruction on page 11 "Source menu"). *Note three (3) tour routes need to be defined beforehand on Audio Master 300.*



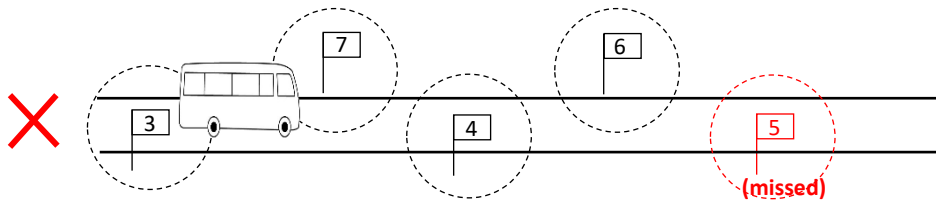
When specific route is defined (A, B, or C), max. 1 POI (point of interest) is allowed to miss and MTS-300 can still trigger the POI after last missing one. However, if 2 POIs are missing, the user (driver) will need to press button **▶▶** on MTS-300 to select correct audio track MTS-300 currently locates to re-activate GPS triggering.



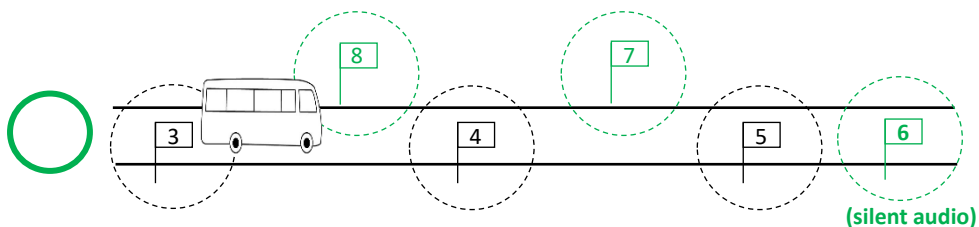
NO overlapped triggering range is allowed in same MTS-300 even audio tracks are defined in different routes.



Due to allowance of max. 1 missing POI, additional silent audio (fake audio) needs to be created (see **POI 6** in following sample **O**) if your route plan includes 3 in-order POIs but they are potentially reverse in direction. See samples below.



- Your route plan: POI 3 ➔ 4 ➔ 5 ➔ 6 ➔ 7
- The route plan MTS-300 actually runs: POI 3 ➔ 4 ➔ 6 (5 will be missed) ➔ 7



- Your route plan: POI 3 ➔ 4 ➔ 5 ➔ 7 ➔ 8
- The route plan MTS-300 actually runs: POI 3 ➔ 4 ➔ 5 (6 is allowed to be missed) ➔ 7 ➔ 8

◆ **Background music**

Our MTS-300 allows to play ambient music when no audio tracks are playing for 5 seconds. 3 ways are available below.


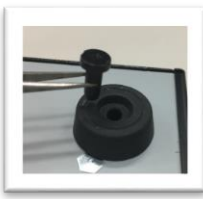


- ① Inbuilt default music which needs to be compiled on *Audio Master 300* in advance.
- ② Connect with other audio sources (ex. mp3 player or mobile) via AUX-IN jack on the back.
- ③ Activate Bluetooth (see instruction on page 11 “Source menu”) and wirelessly connect your mobile with MTS-300 for audio streaming.



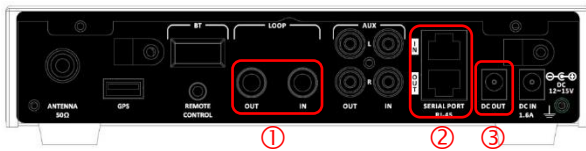
Note Above mentioned audios (inbuilt default music, AUX-IN and Bluetooth) are not recommended to play altogether which will confuse listeners.

◆ **System daisy chain**

Before daisy-chain, activate auto-on function by tuning the switch underneath. See instructions below.

Step 1.	Step 2.	Step 3.	Step 4.
Find the footpad where shows ON/OFF label.	Take the insertion out and remove the footpad.	Tune the switch to “ON”.	Assemble the footpad back.
			

Max. 4 systems are connected simultaneously, and following connections are required for successful application.



- ① 6.5 mm to 6.5 mm cable for Broadcast (MIC) daisy chain
- ② RJ-45 to RJ-45 cable for GPS/Data daisy chain
- ③ DC to DC cable for power daisy chain

Further, master system becomes the main controller for functions below.



- ① Power control
- ② Remote control
- ③ Audio track
- ④ GPS trigger

When max. 4 systems are connected, symbol  shows up on the screen of slave system which has only 2 functions at this step.

- ① Define your language
- ② Change your channel

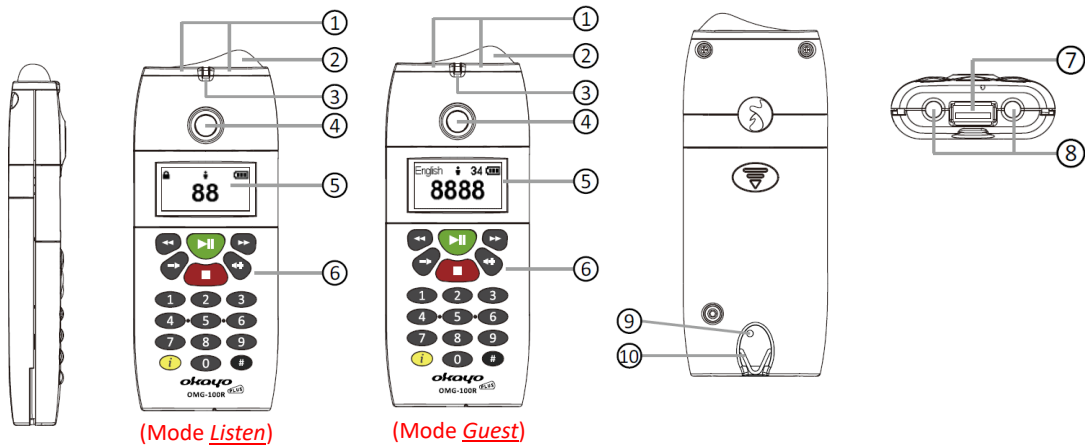
*Note Three (3) sources of background music (listed on page 13 "Background music") will NOT be daisy chained but can only work in its own system.*



AUX jacks are NOT allowed to be connected with slave device to avoid audio chaos.

## Compatible receiver **OMG-100R+**

### Interface



- ① Infrared sensor
- ② Antenna
- ③ Charging/RF LED indicator
- ④ Hearing aid compatible (HAC\*) speaker
- ⑤ Backlit LCD screen
- ⑥ Soft-touch keypad
- ⑦ Charging/Uploading connector
- ⑧ Headphone jacks. 3.5 mm
- ⑨ Reset key
- ⑩ Lanyard hole

*\*Users with hearing assistive devices can directly list to speaker.*


◆ **To work with MTS-300 with mode Leader** 





OmniGuide OMG-100R+ needs to be set at mode “Guest” (see user manual of OMG-100T/R+ separately) to receive the command of track number from MTS-300. OMG-100R+ will start to play the specific track in its language after command receipt.

◆ **To work with MTS-300 with mode Guide** 

While MTS-300 is set at mode Guide, max. 2 devices of connection will be allowed for duo-language application (see instruction on page 13 “System daisy chain”). OmniGuide OMG-100R+ will be set at mode “Listen” (see user manual of OMG-100T/R+ separately) and set at same channel as one of MTS-300.

■ **Troubleshooting**

Trouble	Solution
Why can't I turn the system on?	<ul style="list-style-type: none"> <li>• Check if your power source is with correct voltage (12V).</li> <li>• Check if the system is connected with supplied adapter already.</li> </ul>
Why can't I hear anything from bodypack receiver?	<ul style="list-style-type: none"> <li>• Check if the bodypack receiver is turned on.</li> <li>• Check if selected channel on both system and receiver is same.</li> <li>• Check if the volume of bodypack receiver is tuned at appropriate level.</li> <li>• Check if the system is powered on.</li> <li>• Check if the bodypack receiver is set at correct mode (Guest/Listen).</li> <li>• Check if the system is set at appropriate mode (Guide/Leader).</li> </ul>
Why can't the system be triggered by GPS receiver?	<ul style="list-style-type: none"> <li>• Check if the GPS receiver is connected well and positioned at correct location.</li> <li>• Check if GPS function is activated via remote control or pre-set on source menu (see instruction on page 11 “Source menu”).</li> <li>• Check if all audio tracks are well programmed with correct GPS coordinates via <i>Audio Master 300</i>.</li> <li>• Check if GPS route is pre-set correctly.</li> <li>• Check if preset triggering range of POIs are overlapped.</li> </ul>
Why is the operation range shorter?	<ul style="list-style-type: none"> <li>• Check if the attached antenna is fixed well.</li> <li>• Adjust the RF power in the setting menu.</li> </ul>
 <b>Memory Error</b>	<ul style="list-style-type: none"> <li>• Check if inbuilt SD card exists.</li> <li>• Check if inbuilt SD card is installed well.</li> <li>• Potential defects on inbuilt SD card.</li> </ul>

 <b>File Error</b>	<ul style="list-style-type: none"> <li>• Re-upload audios via <i>Audio Master 300</i> and try again.</li> <li>• If the image still shows up, potential defects in files saved in inbuilt SD card.</li> </ul>
 <b>RF Error</b>	<ul style="list-style-type: none"> <li>• Potential defects on RF function.</li> </ul>
 <b>BT Error</b>	<ul style="list-style-type: none"> <li>• Potential defects on Bluetooth function.</li> </ul>
 <b>GPS Error</b>	<ul style="list-style-type: none"> <li>• Make sure GPS data are compiled correctly.</li> <li>• Check if GPS receiver is connected well.</li> <li>• Potential defects on GPS receiver.</li> </ul>

■ **Specifications**

Antenna	TNC connector
Frequency response	20 Hz ~ 20 kHz
Audio format	High quality audio compression
File format	FAT-16 / FAT-32
Memory	SD card, 8 GB, expandable
Headphone output	0.2 W @ 32 ohm
RF output power	<ul style="list-style-type: none"> <li>• Hi: 17 dBm</li> <li>• Mid: 13 dBm</li> <li>• Low: 10 dBm</li> </ul>
Inputs	<ul style="list-style-type: none"> <li>• Mic in: 3.5 mm &amp; 6.3 mm</li> <li>• Aux in: RCA</li> <li>• Loop in: 6.3 mm</li> </ul>
Outputs	<ul style="list-style-type: none"> <li>• Ear mic out: 3.5 mm</li> <li>• Aux out: RCA</li> <li>• Loop out: 6.3 mm</li> </ul>
Power requirements	100 ~ 240 V AC / 12 V DC, 1.6 A switching power supply
Operation range	>100 m (line of sight @ Mid power)
Dimensions (W x D x H)	215 x 208.7 x 51 mm
Weight	1.4 kg

✧ **Specifications are subject to change without prior notice.**



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