

**Modulized Wireless Portable Amplifier System**

**Operation manual**



**OHSAS 18001**



**GREEN PRODUCT**



**IF DESIGN AWARD**



**HKEIA AWARD**



**TAIWAN  
EXCELLENCE**



**TAIWAN GOOD  
DESIGN**





Please read and follow the instructions in this manual thoroughly to obtain optimum results from this unit. We also recommend that you keep this manual handy for future reference.

### Safety Precautions


- Be sure to read the instructions in this section carefully before use.
- Make sure to observe the instructions in this manual as the conventions of safety symbols and messages regarded as very important precautions are included.


Safety symbols and messages described below are used in this manual to prevent bodily injury and property damage which could result from mishandling. Before operating your product, read this manual first and understand the safety symbols and messages so you are thoroughly aware of the potential safety hazards.

 <b>WARNING</b>	Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.
 <b>CAUTION</b>	Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

Make sure to observe the following handling precautions so that a fire or personal injury does not result from leakage or explosion of the battery.

- Do not short, disassemble, heat or put the battery into a fire.
- Never charge batteries of the type which are not rechargeable.
- Do not solder a battery directly.
- Be sure to use the specified type of battery.
- Note the correct polarity when inserting a battery in the unit.
- Avoid locations exposed to the direct sunlight, high temperature and high humidity when storing batteries.

 <b>WARNING</b>	To prevent the electromagnetic wave from badly influencing medical equipment, make sure to switch off the unit's power when placing it in close proximity to the medical equipment.
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 <b>CAUTION</b>	Battery discharge naturally according to a certain pattern even not in use. For best performance and a prolonged lifespan, battery <b>should</b> be charged regularly after every use or every month when the system is in storage and not being used! CD player optical pick up head is a very delicate device and sensitive to humidity. Please avoid using it in high humidity area to avoid damage! .
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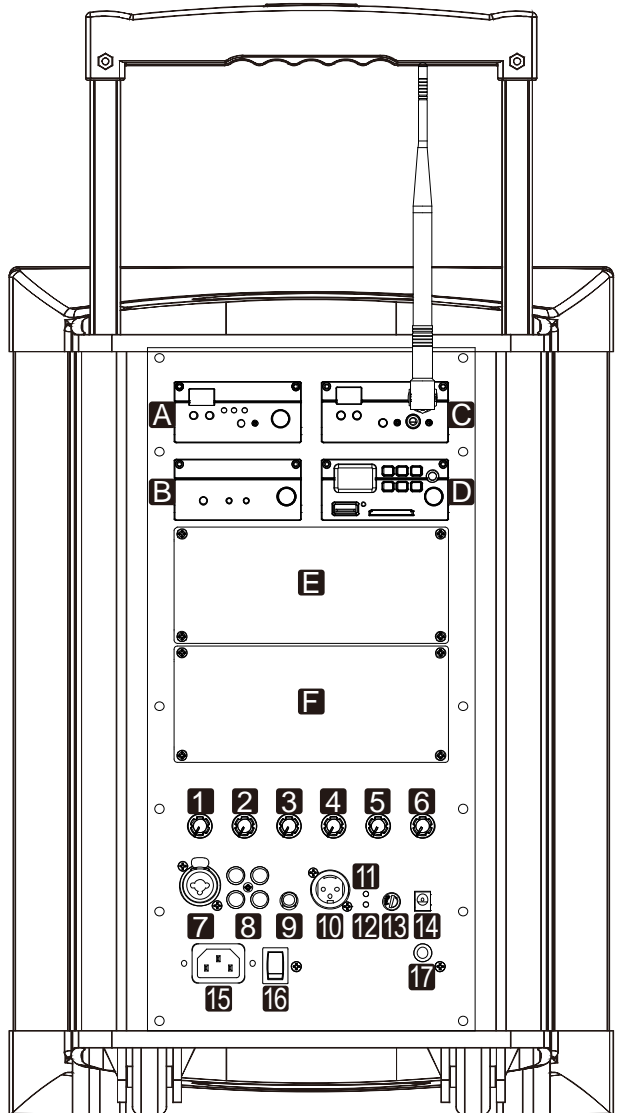
**CHALLENGER 1000 (Master)**

A,B&D. Slot for receiver/MP3/Bluetooth module

C. Slot for receiver/transmitter/MP3/Bluetooth module

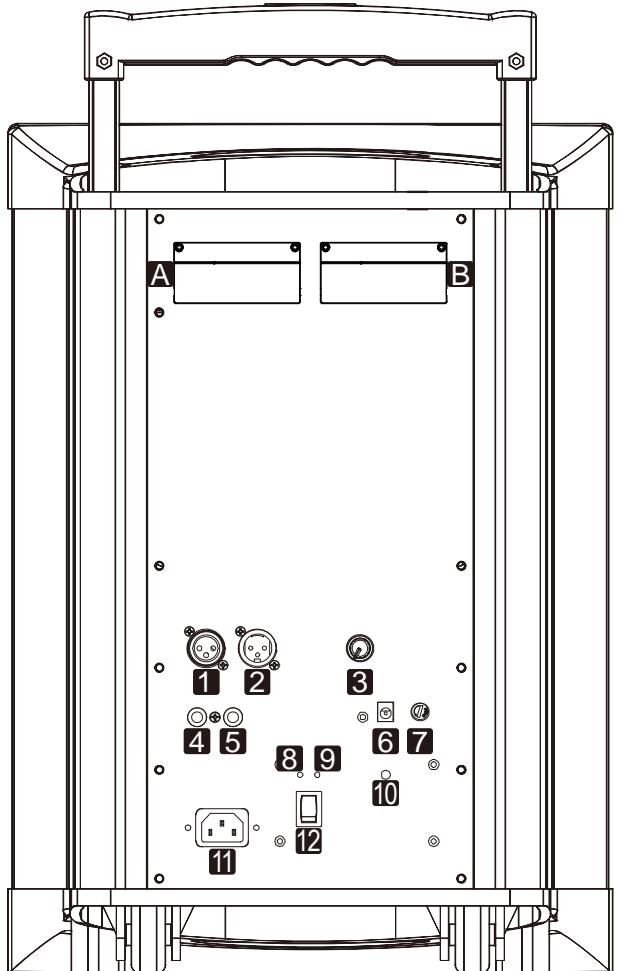
E&F. Slot for other modules (CD player, DVD player, MP3+Bluetooth player...)

1. Wired microphone volume control
2. Line-in volume control
3. Tape/DVD power+volume control
4. Tone volume control (BASS)
5. Tone volume control (TREBLE)
6. Master volume control
7. Wired microphone input
8. Line input/output
9. Voice priority
10. Slave output
11. Battery low indicator (RED)
12. Charging indicator
13. Fuse
14. 24~32V DC input
15. AC input
16. Power switch
17. Speaker out



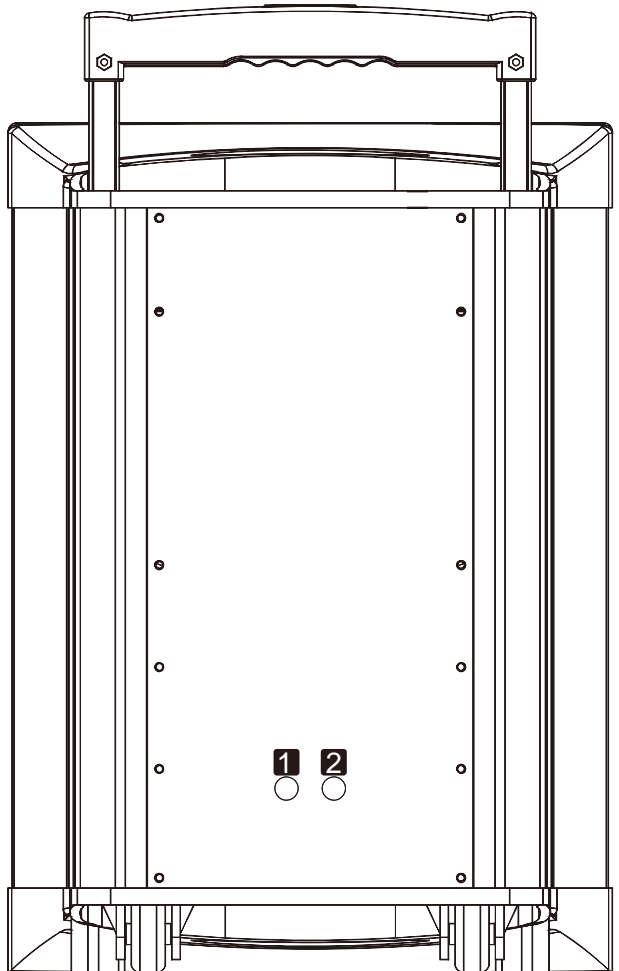
**CHALLENGER Companion powered speaker**

- A. Slot for receiver/MP3/Bluetooth module
- B. Slot for receiver/transmitter/MP3/Bluetooth module
- 1. Audio link input
- 2. Audio link output
- 3. Volume control
- 4. Speaker out (switched)
- 5. Speaker out (unswitched)
- 6. 24~32V DC input
- 7. Fuse
- 8. Power status indicator (RED)
- 9. Power status indicator (GREEN)
- 10. Charging indicator
- 11. AC input
- 12. Power switch



## CHALLENGER Companion passive speaker

1. Speaker input
2. Speaker output



### **Operating procedures**

After unpacking the unit for the first time, please charge the unit for at least 6 hours before operation. This is absolutely necessary as the built-in rechargeable batteries might have been discharged naturally due to long shipment and storage time, even though it has been fully charged in the factory prior to shipment.

To operate this portable sound unit, switch on the main POWER switch. If the Battery low indicator also glows, it means the batteries are weak and please recharge them.

The main POWER switch does NOT switch on the other devices as each of them has individual Power/Volume control. To operate each of them, you must switch them on accordingly.

### **Operating the dynamic wired microphone**

To use a cable microphone, simply plug it into the MIC IN socket. The mic socket accepts both phone and Cannon jack. Rotate the dedicated volume control knob and master volume control, amplified sound could be heard from the speaker when voice is spoken into the cable microphone.

### **Operating the wireless microphone system**

To operate the wireless system, just switch on the power/volume control on the module panel and the matching transmitter. Please set the same channel on both the transmitter and receiver before operation. Please as well make sure that master volume control is set to minimum level before turning the unit on, especially working on a wireless version! Set the Master volume control to the mid position. Rotate the volume control knob on receiver panel clockwise to the desired levels. When voice is spoken into the transmitter, amplified sound should be heard over the built-in speaker.

### **Voice Priority (Ducking) operation**

Voice Priority operation is only necessary when CD or other acoustic device is playing. If the Voice Priority switch is put to ON position, the ducking function will be activated. While the music is playing, a voice input from either a wired or wireless microphone will temporarily override and turn down the volume of the background music and voice could be heard clearly. Background music will return to its original setting when no audio input is entering the microphone for a certain time. However, if the microphone is not switched off, the music entering the microphone will also activate the voice priority function. So, Voice priority is best operated using microphones with on/off switch.

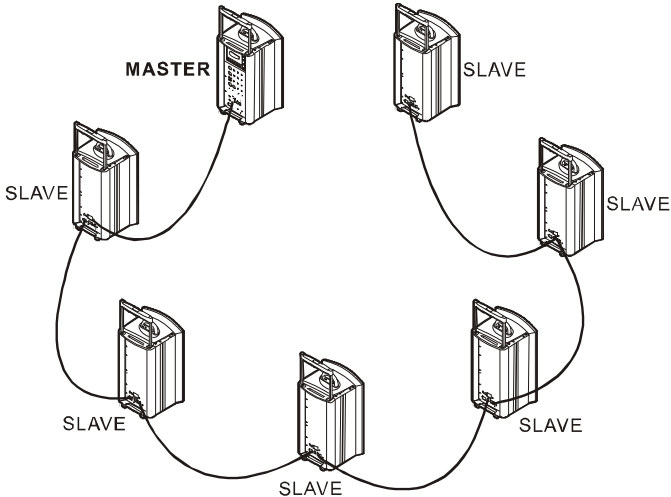
### **Battery Charging**

Internally, the CHALLENGER 1000 contains two 12V/5AH maintenance free lead acid batteries, which have no memory effect.

When the batteries are weak, the battery low indicator LED will stay RED. To charge the batteries, simply plug in the AC power supply, the charging process will start automatically.

While charging, the charging indicator will flash GREEN. When batteries are fully charged, the charging indicator will stay GREEN.

## Wired Audio Link



The CHALLENGER 1000 could be operated as MASTER as well as SLAVE. This depends on the setting of Master/Slave selector switch. However, the CHALLENGER Slave can only be operated as SLAVE.

In order to operate Audio Link, you must have a CHALLENGER 1000 unit that operates as a MASTER. Only one unit is allowed to act as MASTER and the other(s) MUST operate as SLAVE(s). A MASTER unit is capable of connecting up to about 20 SLAVE units.

For the MASTER unit, the MASTER/SLAVE selector switch must be set to MASTER mode. The CHALLENGER SLAVE unit does not have this selector. If you have two units of CHALLENGER 1000, you could use one as Master and the other CHALLENGER 1000 as slave. To do that, just put the MASTER/SLAVE selector switch of the second CHALLENGER 1000 to SLAVE mode. For the MASTER unit, Audio Link IN jack should NOT be connected. To operate Audio Link, connect the Output jack of the MASTER to the Audio Link IN jack of the 1st SLAVE unit. The Output jack of this SLAVE should be connected to the Input jack of the 2nd SLAVE unit. Similar connection shall continue as such for the following SLAVE units.

### Volume Control for MASTER or SLAVE

When used on the MASTER, it controls the MASTER as well as all the SLAVE units. When used on the SLAVE unit, it only controls that particular SLAVE unit volume. Maximum number of SLAVE units to be connected with a MASTER is about 20.

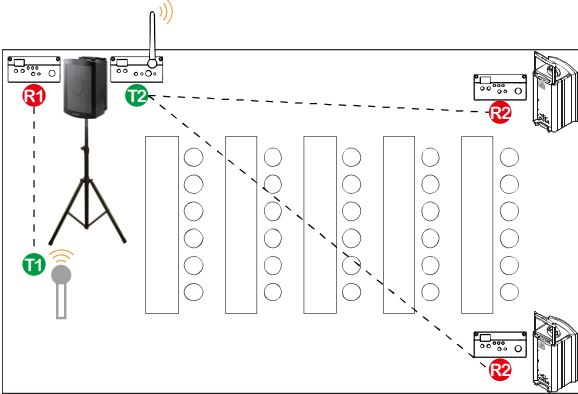
Remark: There should NOT be a connection between the last SLAVE unit output and the input of the MASTER unit.

### Wireless Audio Link

Different from Wired Audio Link, with new SLAVE's capability of installation of receiver and transmitter modules it eliminates all cable connection and largely extends the number limit of SLAVES.

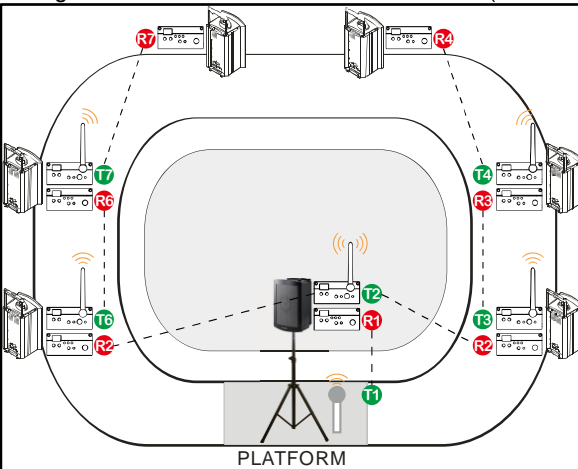
Application: For crowds of 1000 to 2000. (e.g., speeches or forums)

Configuration: One Master + several SLAVES (with receiver module built in)



Application: For crowds of over 3000. (e.g., stadiums)

Configuration: One Master + several SLAVES (with receiver and transmitter module built in)



T:Transmitter R: Receiver **Module number:1,2,3,...**

**T1 goes to R1, T2 goes to R2, T3 goes to R3, T4...**



## Maintenance-free Lead Acid battery

Guidelines for maintenance-free Batteries:

1. Battery should operate at temperatures between 15°C ~ 50°C. To ensure a longer life span, it should be kept between 5°C ~ 35°C. For optimum result, 20°C ~ 25°C will be ideal. When temperature falls 15 degrees below zero, battery will undergo some changes in its chemical contents and therefore cannot be recharged. Operating the battery at higher temperature will result in higher capacity but shorter lifespan, whereas lower temperatures operation has a longer lifespan but less capacity.
2. **If the battery is not recharged 72 hrs after it is completely used, it will be permanently damaged.**
3. When the battery is being charged, the internal gases will be electrolyzed into water at the negative charge, maintaining the battery's storage abilities with no water added. However, erosion at the charged ends of the battery will cause poor performance.
4. The battery's cycle lifespan (no. of charge and discharge cycle) is determined by the degree at which power is dissipated, especially the degree of discharged each time it is used and the recovery charging method. For normal use, the battery can be used for longer hours when less power is dissipated each time and vice versa. At 25°C, maintenance-free batteries could be charged 150 ~ 200 times at 100% discharge each time.
5. Decrease in capacity, internal short circuit, deformation in appearance, erosion of charged ends and decrease in open circuit voltage are symbols indicating battery is approaching the end of its life cycle.
6. When two batteries are used in parallel connection, the resistance of the cables should be kept equal.

Properties of the Lead Acid Battery:

1. Has no memory effect. Can be charged anytime, even when the recharge indication light is off.
2. Performance and efficiency are affected by changes in the environment, especially temperature and humidity. (Best operated between 20°C ~ 25°C)
3. Battery discharge naturally according to a certain pattern even not in use. **For best performance and a prolonged lifespan, it should be recharged every month even when not in use.**
4. Under normal circumstances, battery could last for about a year.
5. When the battery's life expires, possible indicators include internal short-circuit, decrease in capacity, deformation in appearance, erosion of charged ends and decrease in operating voltage.

User's Precautions:

1. **For first-time use, charge the battery for 10 hrs until it is fully charged.**
2. To maintain performance and lifespan, if product has not been used for 3 months after the initial shipment, please fully charge the battery.
3. **Before each use, it's advisable to charge the battery to its full capacity.**
4. The average lifespan of the battery is one year. The user is advised to change the battery after one year of use.
5. The current consumption is in direct ratio with load current. The more current consumption, the less the operation time.
6. **Warranty will be void if the battery is not charged for a prolong period as it may lose all its charge and could never be recovered again.**

## **FCC Caution**

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could avoid the user's authority to operate this equipment. (Example - use only shielded interface cables when connecting to computer or peripheral devices.

This device complies with Part 15 of the FCC Rules and RSS-123 of Canada. 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.



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