



## User Guide

### MTG-100

### Digital Wireless Tour Guide System



**MTG-100T**

**MTG-100R**

**MIPRO** MIPRO Electronics Co., Ltd.

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AS130415

Design and specifications are subject to change without prior notice

**100% Made In Taiwan**

## IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use the apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus(including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over. 
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. When the main plug or appliance coupler used as the disconnect device, it shall remain readily operable.
16. Please keep the unit in a good ventilation environment.
17. The appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

## WARNING

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



**CAUTION:** To reduce the risk of electric shock, do not remove any cover. No user-serviceable parts inside. Refer servicing to qualified service personnel only.



The lightning flash with arrowhead symbol within the equilateral triangle is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within the equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying this appliance.

## CAUTION

To prevent electric shock, do not use this polarized plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

## Federal Communication Commission Interference Statement

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 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.

**FCC Caution:** To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void 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. 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.

## IC

This device complies with Industry Canada licence-exempt RSS-210 standard.

"Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device."

This device complies with RSS-310 of Industry Canada. Operation is subject to the condition that this device does not cause harmful interference.

## Disposal



2005-08-13

Dispose of any unusable devices or batteries responsibly and in accordance with any applicable regulations.

### **Disposing of used batteries with domestic waste is to be avoided!**

Batteries/NiCad cells often contain heavy metals such as cadmium(Cd), mercury(Hg) and lead(Pb) that makes them unsuitable for disposal with domestic waste. You may return spent batteries/accumulators free of charge to recycling centres or anywhere else batteries/accumulators are sold.

By doing so, you contribute to the conservation of our environment!

1	Product Overview
2	Key Features
3	MTG-100R Receiver Controls and Indicators
4	MTG-100T Transmitter Controls and Indicators
5	LCD Screen
5	Setting Up Receiver
8	Setting Up Transmitter
13	Wearing Neck Lanyards
13	MTG-100T Transmitter Audio Input
14	MTG-100R Receiver Audio Input
15	MTG-100R Receiver Earphones Storage
16	Optional Microphone Accessories for MTG-100T Transmitters
17	Optional Earphone Accessories for MTG-100R Receivers
18	MTG-100C-12 12-Slot Storage and Charger Carry Case
24	MTG-100C-28 28-Slot Storage and Charger Carry Case

## Product Overview

MTG-100 is an innovative digital wireless tour guide system. It is ultra compact, lightweight and easy to use. Digital design provides crystal-clear audio quality, secured and reliable transmission and insensitive to interference attributes that are unmatched by the deficiency of simple analog design systems.

This system comprises of durable MTG-100R portable receiver, MTG-100T portable transmitter and MTG-100C-12 or MTG-100C-28 storage and charger carry case. It operates in the license-free ISM band. Each band is preset with 16 switchable frequencies and 4 compatible systems are available ensuring several different tours or groups can be operated at the same venue without interfering with each other.

ISM band requires no user licensing; thus, no worries about changing groups and channels when operating in multiple countries.

Built-in lithium polymer rechargeable battery is used instead of regular battery to resolve the troubles of changing battery and save you a significant amount of money years to come.

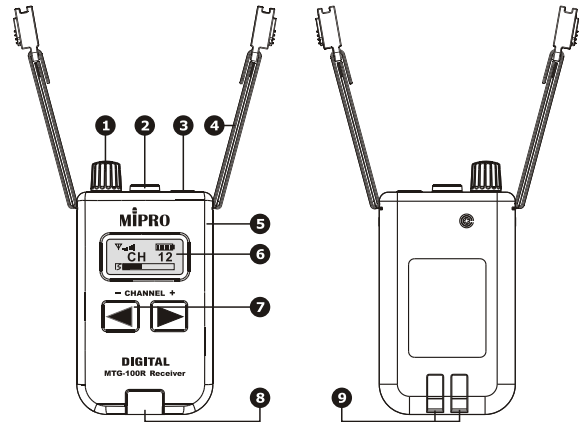
User-friendly 12 and 28 slots storage and charger carry cases are available for small to large, indoor or outdoor applications for guides, interpreters or presenters to communicate effectively to a group of people, rejecting irritating surrounding noise. MTG-100 is the best choice for functional features and high performance wireless tour guide system.

## Key Features

- Operates on user license-free ISM bands.
- Industry's only true diversity design prevents signals dropouts and ensures maximum reception quality.
- Long distance and stable receiving range.
- Interference-free from Bluetooth, Wi-Fi and 2.4GHz wireless transmission.
- Encrypted digital technology enables secure audio transmission, preventing unauthorized listening.
- Proprietary 16-bit audio compression technology ensures crystal-clear sound quality.
- Miniaturized, lightweight receiver can be worn comfortably around the neck with a lanyard or fit inside any pocket.
- Easy to use, durable, reliable quality and affordable price.
- Both receiver and transmitter have built-in long-lasting and fast-charge lithium polymer rechargeable battery.
- Innovative automatic shut-off timer reduces battery consumption.
- LCD displays battery level and other parameters.
- Channel lock-to avoids accidental changes. (PC Control Interface)
- Convenient 12 or 28-slot storage and charger carry case for easy charging, storage and manage inventory.
- Ethernet interface (MTG-100C-28) allows system setting and management.
- Weight: MTG-100R: 65 g / 2.3 oz (battery included).  
MTG-100T: 65 g / 2.3 oz (battery included).
- Dimensions(WxHxD): 45 × 84 × 21mm /  
1.8 × 3.3 × 0.8".

## MTG-100R

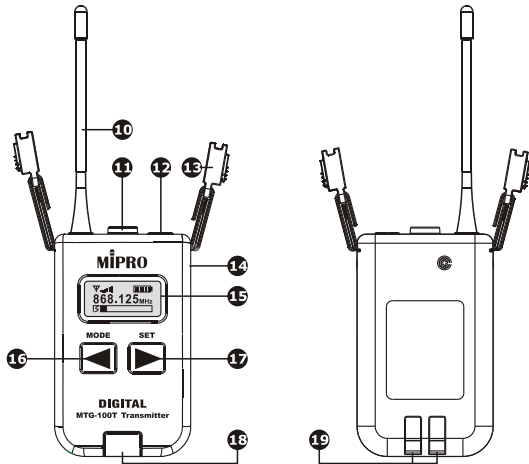
### Receiver Controls and Indicators



- ➊ **Volume Control:** 1-20 levels volume adjustment.
- ➋ **Power button:** Press and hold for 2 seconds to power on & off.
- ➌ **3.5mm Jack:** Insert earphones or headphones here.
- ➍ **Lanyards & Buckle:** Detachable neck lanyards.
- ➎ **Housing:** Holds internal circuitry and build-in rechargeable battery.
- ➏ **LCD Display:** Display channel, RF & audio signals and battery status.
- ➐ **Channel Buttons:** 16 factory preset channels.  
◀ one channel down; ▶ one channel up.
- ➑ **ACT Sync (synchronization) Port:** Automatic channel synchronization. (to sync, insert into the charging cell and align charging contact points)
- ➒ **Charging Contacts:** Rechargeable battery contact points.

## MTG-100T

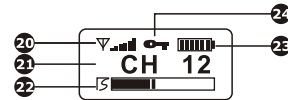
### Transmitter Controls and Indicators



- ⑩ **Antenna:** Transmitting antenna.
- ⑪ **Power button:** Press and hold for 2 seconds to power on & off.
- ⑫ **3.5mm Audio Input:** Accepts Microphone-input or Line-input.
- ⑬ **Lanyards & Buckle:** Detachable neck lanyards.
- ⑭ **Housing:** Holds internal circuitry and build-in rechargeable battery.
- ⑮ **LCD Display:** Display channel, RF & audio signals and battery status.
- ⑯ **MODE button:** To select functions.
- ⑰ **SET button:** To set and change parameter values.
- ⑱ **ACT Sync (synchronization) Port:** Automatic channel synchronization. (to sync, insert into the charging cell and align charging contact points)
- ⑲ **Charging Contacts:** Rechargeable battery contact points.

## LCD Screen

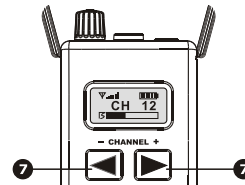
Displays current settings and indicators



- ⑳ **Received/Transmitted RF Signals**
- ㉑ **Current Function Display**
- ㉒ **Received/Transmitted Audio Signals**
- ㉓ **Battery Level Indicator** (battery icon will flash when battery level is low)
- ㉔ **Locked icon**

## Setting Up Receiver

Press ◀ or ▶ channel button for a factory pre-set channel. Channels CH 01 ~ 16 will be displayed accordingly.



## Volume Control

- Insert the earphones or headphones and slowly turn up the volume to a comfortable, safe sound level.
- "Mute" is lowest volume level. "VOL 20" is highest volume level.

## Warning

- **Avoiding Hearing Damage** - Permanent hearing loss may occur if earphones or headphones are used at high volume. Set the volume to a safe level.



"No Sound"





"Lower Volume"





"Increase Volume"

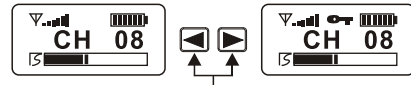


To **Lock** Receiver Channel:

- Press and hold both buttons  for approx. 3 seconds.
- The " " icon then appears on the display. The receiver channel is now locked and the ability to change channels manually is inoperative.

To **Unlock** Receiver Channel:

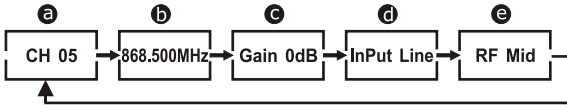
- Press and hold both buttons  for approx. 3 seconds.
- The " " icon disappears. The receiver channel is now unlocked. Pressing the buttons will now allow the user to manually change the receiver channel UP/DOWN as normal.



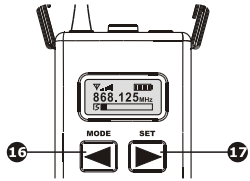
Press and Hold Buttons Simultaneously

### Setting Up Transmitter

Press "MODE" button for one of the five functions.



- a) Channel
- b) Frequency
- c) Sensitivity Level
- d) Audio Input Source
- e) RF Output Power



### Channel Set-Up

- Press **MODE** button until **CH** mode appears.
- Press **SET** button once to activate function. **CH 00** blinks once when activated.
- Press **SET** button increases the channel number by one.
- Press **MODE** button to confirm and save the change.



### Frequency

- The displayed frequency corresponds to the selected channel number. Frequency cannot be changed.



### Sensitivity Level Set-Up

- Gain Levels: Microphone Input (-12dB~9dB)  
Line Input (-12dB~3dB).
- Press **MODE** button until **Gain** mode appears.
- Press **SET** button once to activate function. Gain **0** dB blinks once when activated.
- Press **SET** button for **-12, -9, -6, -3, 0, or 3** dB.
- Press **MODE** button to confirm and save the change.

### Note:

- \* Approximately 70% of the level indicator is optimal and recommended.





### Audio Input Source Set-Up

- Press **MODE** button until **InPut** mode appears.
- Press **SET** button once to activate function. InPut **Mic** or **Line** blinks once when activated.
- Press **SET** button for either **Mic** (Microphone) or **Line** (Line level).
- Press **MODE** button to confirm and save the change.

#### Note:

- \* Mic-level provides biased power for electret condenser microphone.
- \* Line-level provides audio transmission of MP3/CD/DVD player.

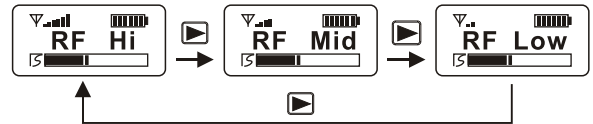


### RF Output Power Set-Up

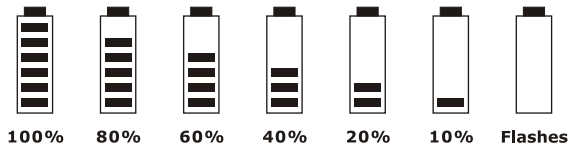
- Press **MODE** button until **RF** mode appears.
- Press **SET** button once to activate function. RF **Hi**, **Mid** or **Low** blinks once when activated.
- Press **SET** button for **Hi**, **Mid** or **Low** power.
- Press **MODE** button to confirm and save the change.

#### Notes:

- \* Low or Mid setting is recommended for indoor, smaller environment.
- \* Hi setting has 10mW RF power output.



## Battery Level Status



Charge the battery when zero or one level indicator (10%) remains or when the battery icon is flashing indicating a lower battery level. Power will shut-off automatically if continuous use without charging to protect battery from being overly discharged.

### Note:

- \* MTG-100R/MTG-100T has a built-in, non-user-replaceable rechargeable battery. Please contact local authorized MIPRO distributor or dealer service provider for servicing.

## Battery and Power

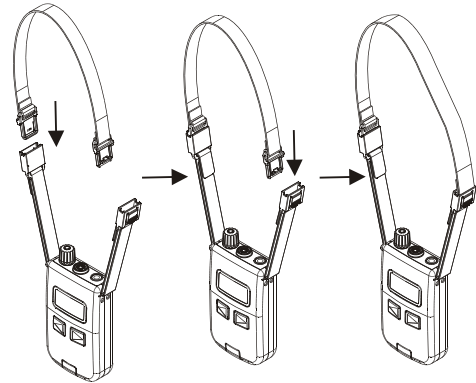
- Built-in rechargeable lithium-polymer battery.
- Up to 14 hours of operation when fully charged.
- **Fast-charge time:** about 2.5 hours. (charges up to 80% of battery capacity)
- **Full-charge time:** about 4.5 hours.

### Note:

- \* Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Battery life and number of charge cycles vary by use and settings.

## Wearing Neck Lanyards

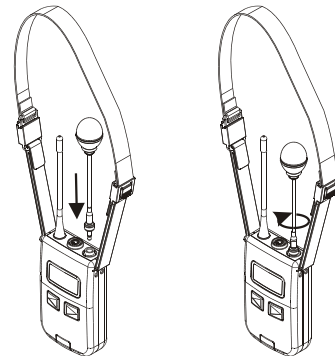
Insert into both side-release buckles and adjust the straps for ideal length.



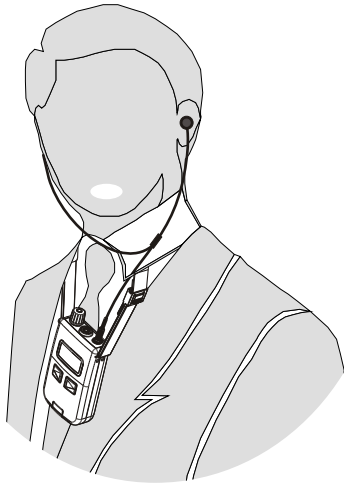
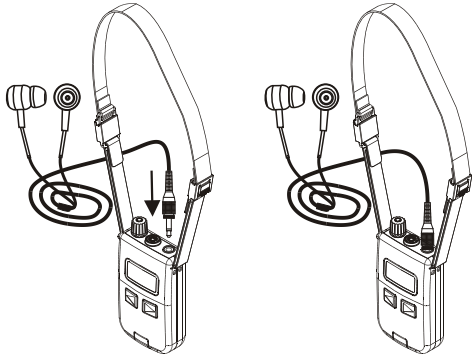
## MTG-100T Transmitter Audio Input

**MM-202P:** Mini-Gooseneck Microphone (once plugged, it can be used as a handheld)

Insert & fasten the optional MM-202P microphone. Select **MODE** and Input **Mic**.

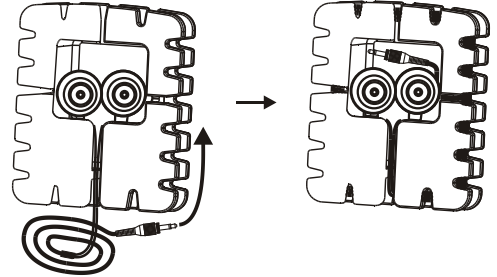


### MTG-100R Receiver Audio Input



### MTG-100R Receiver Earphones Storage

Each set of earphones can be stored orderly in the provided convenience storage case.

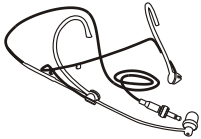


**Optional Microphone Accessories for MTG-100T Transmitters**

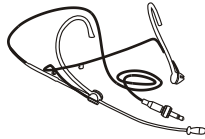
**MM-202P:** Mini-Gooseneck Microphone with 3.5mm screw-lock plug.



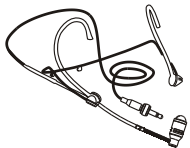
**MU-101P:** Headworn Microphone with 3.5mm screw-lock plug.



**MU-23P:** Headworn Microphone with 3.5mm screw-lock plug.



**MU-53HNP:** Premium Headworn Microphone with 3.5mm screw-lock plug.



**Optional Earphone Accessories for MTG-100R Receivers**

**E-5S:** Single-sided Earphone with 3.5mm mini-jack plug



**E-10S:** Stereo Earphones with 3.5mm mini-jack plug



**E-20S:** Stereo Headphones with 3.5mm mini-jack plug



**MTG-100C-12** 12-Slot Storage and Charger Carry Case

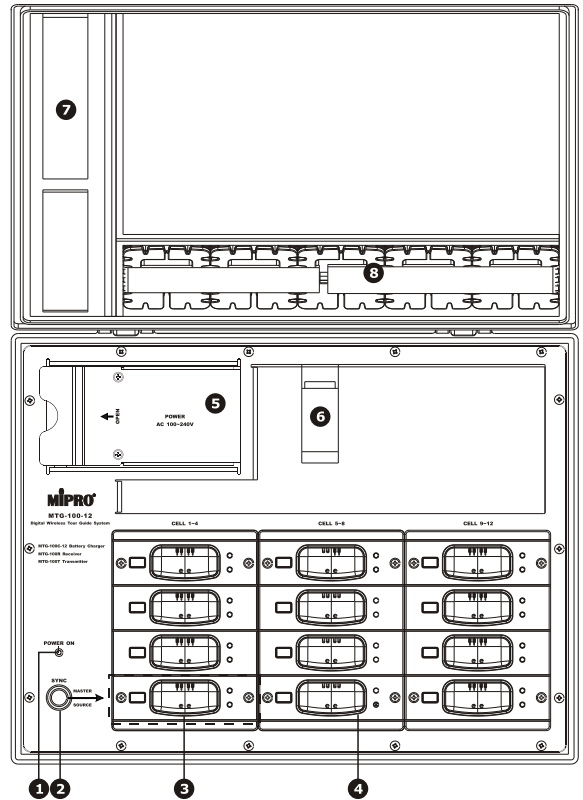
**Key Features**

- The protective case provides a convenient way to charge, carry and store your entire system.
- Quick-charge 12 systems (10 receivers and 2 transmitters) for < 4 hours.
- Each charging slot has individualized charging circuitry. Separate charging "red" and ready "green" indicator lights.
- Synchronizes all receivers to the same transmitter channel with a touch of an innovative 'Sync' button.
- Organize 10 earphones and 2 headset microphone neatly in one case.
- Built-in certified 100~250V AC switching power supply with well-vented design.
- 26W maximum power consumption.
- Net Weight: < 6 kg (13 lbs).  
Excluding systems and accessories.
- Dimensions (W x H x D): 403 x 133 x 306 mm /  
15.9 x 5.2 x 12 "



**MTG-100C-12**

**Charger Controls and Indicators**



- 1 Power Indicator:** Green LED indicator indicates power is switched on.
- 2 SYNC button:** To synchronize all receivers to the same transmitter channel. Insert transmitter into Master/Source cell #4.

- ③ **SYNC Master Cell:** Insert and align the battery contact points.
- ④ **Charging Cells:** 12 cells to charge or store receivers and transmitters.
- ⑤ **AC Power Supply Storage:** Stores AC power cord.
- ⑥ **Back Storage:** Stores headworn and/or mini-gooseneck microphones, neck lanyards and user guide.
- ⑦ **AC Power Cord Storage:** 12 cells to charge receivers and transmitters.
- ⑧ **Earphones Storage:** Stores earphones and its storage cases.

### Charging the Transmitters and Receivers

- Plug the power cord into the built-in AC power outlet and then plug it into a power outlet. Power on.
- Insert the receivers and/or transmitter into the charging cells. Make sure the battery contact points are aligned with those inside the charging cell.

### Viewing Charging Status

- **Charging:** red LED indicator ("Charging" appears and LCD is lit).
- **Charged:** green LED indicator (ready. LCD is not longer lit).

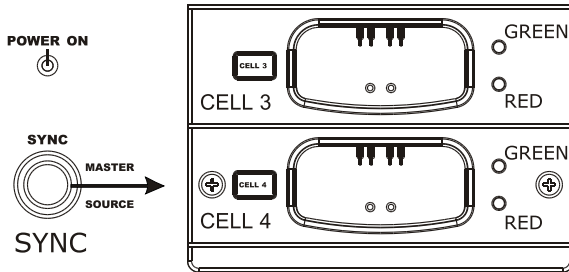
### Note:

- \* Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Battery life and number of charge cycles vary by use and settings.

### Keep your battery contact surfaces clean

- Dirty contact points are a main source of charging problems. Regular cleaning is required for optimal performance. To clear dirt and residue, gently clean the contacts with a soft cloth. Pure alcohol may be used to remove grease and other contaminants.

### SYNC (Channel Synchronization)



The SYNC function facilitates channel synchronization between receivers and transmitter automatically.

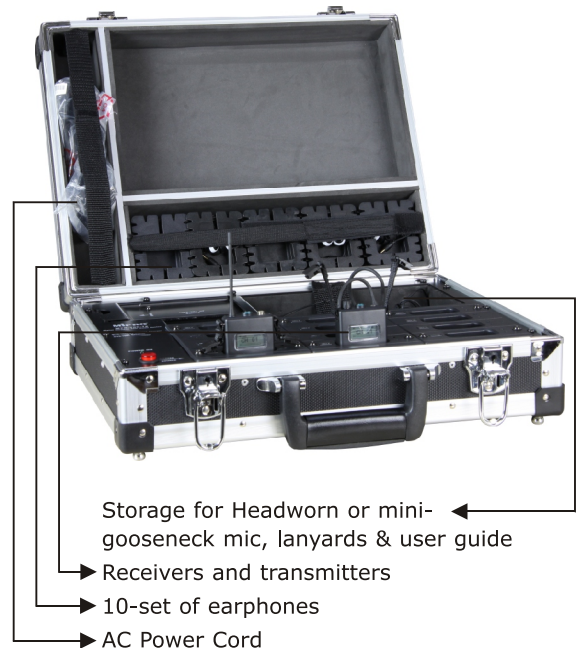
- Power on the charger.
- Insert the transmitter into cell #4, marked as Master/Source.
- Insert 1~11 receivers in charging cells.
- Make sure all battery contact points are aligned with those inside the cell.
- Press and release the SYNC button to activate synchronization.
- SYNC button will lit for approx. 2 seconds once activated.
- When channels are synchronized, SYNC button will no longer be lit.

#### Notes:

- \* Receivers and transmitter can be powered on or off during synchronization.
- \* Synchronization works even if a receiver is placed inside the Master/Source cell that is the same intended channel.

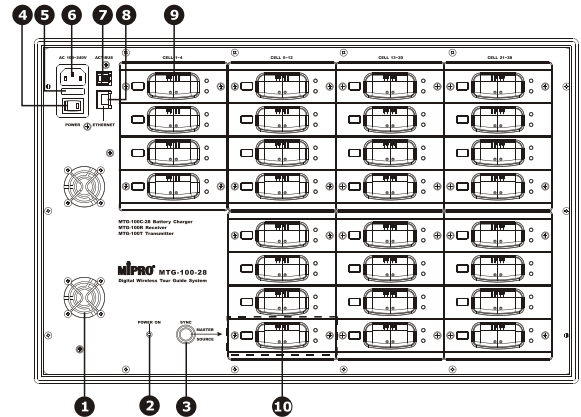


### Storage Placement



**MTG-100C-28** 28-Slot Storage and Charger Carry Case**Key Features**

- The protective case provides a convenient way to charge, carry and store your entire system.
- Quick-charge 28 systems (24 receivers and 4 transmitters) for < 4 hours.
- Each charging slot has individualized charging circuitry. Separate charging "red" and ready "green" indicator lights.
- Synchronizes all receivers to the same transmitter channel with a touch of an innovative 'Sync' button.
- Organize 24 earphones and 2 headset microphones neatly in one case.
- Built-in certified 100~250V AC switching power supply with well-vented design.
- Ethernet interface allows system setting and management.
- 80W maximum power consumption.
- Net Weight: < 9 kg (20 lbs).  
Excluding systems and accessories.
- Dimensions (W x H x D): 530 x 190 x 330 mm /  
20.9 x 7.5 x 13 "

**MTG-100C-28****Charger Controls and Indicators**

- 1 Ventilating Fan:** During charging, keep air ventilated and do not cover or block the fan.
- 2 Power Indicator:** Green LED indicator indicates power is switched on.
- 3 SYNC button:** To synchronize all receivers to the same transmitter channel. Insert transmitter into Master/Source cell #12.
- 4 Power switch.**
- 5 Power Fuse:** 1A/250V.
- 6 AC Power Socket:** Built-in universal AC 100~240V switching power.
- 7 ACT-BUS:** Static IP set up interface.
- 8 ETHERNET:** Ethernet Interface Port.
- 9 Charging Cells:** 28 cells for a mixture of transmitters and receivers.
- 10 SYNC Master Cell:** Insert and align the battery contact points.



### Charging the Transmitters and Receivers

- Plug the power cord into the built-in AC power outlet and then plug it into a power outlet. Power on.
- Insert the receivers and/or transmitter into the charging cells. Make sure the battery contact points are aligned with those inside the charging cell.

### Viewing Charging Status

- **Charging:** red LED indicator ("**Charging**") appears and LCD is lit).
- **Charged:** green LED indicator (ready. LCD is not longer lit).

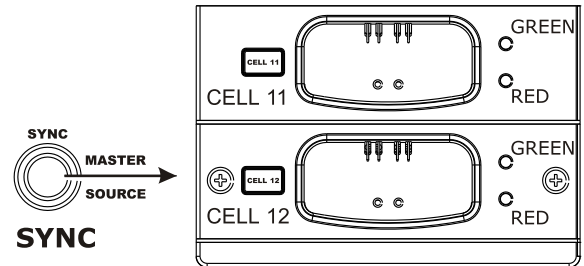
#### Note:

- \* Rechargeable batteries have a limited number of charge cycles and may eventually need to be replaced. Battery life and number of charge cycles vary by use and settings.

### Keep your battery contact surfaces clean

- Dirty contact points are a main source of charging problems. Regular cleaning is required for optimal performance. To clear dirt and residue, gently clean the contacts with a soft cloth. Pure alcohol may be used to remove grease and other contaminants.

### SYNC (Channel Synchronization)



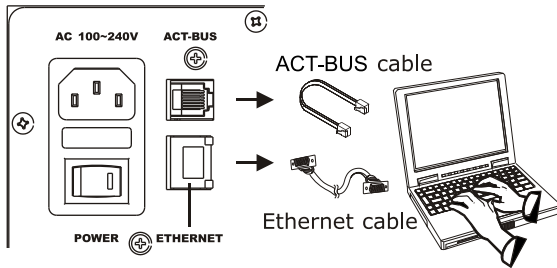
The SYNC function facilitates channel synchronization between receivers and transmitter automatically.

- Power on the charger.
- Insert the transmitter into cell #12, marked as Master/Source.
- Insert 1~27 receivers in charging cells.
- Make sure all battery contact points are aligned with those inside the cell.
- Press and release the SYNC button to activate synchronization.
- SYNC button will lit for approx. 2 seconds once activated.
- When channels are synchronized, SYNC button will no longer be lit.

#### Notes:

- \* Receivers and transmitter can be powered on or off during synchronization.
- \* Synchronization works even if a receiver is placed inside the Master/Source cell that is the same intended channel.

## Software Installation & Management



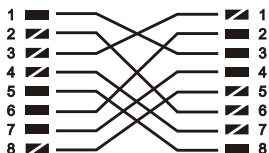
## Manual Internet IP Set-Up

- Connect MIPRO-DV to the ACT-BUS socket.
- Start the optional managing software from the PC, power off the charger carry case, hold the SYNC button and then restart the power, the internet IP manual set-up will show up in the PC screen accordingly.

## Ethernet Networking Interface

- Connect one end of an Ethernet cable to the Ethernet port on charger carry case. Connect the other end to a PC Ethernet port.
- PC networking enables multi monitoring and controls.

EIA/TIA T568B Crossover Diagram



## Terminal Set-Up

**Baud Rates:** 115200

**Data bit:** 8

**Parity:** None

**Stop bit:** 1

**Flow Control:** None

### Note:

- \* Optional accessories are required prior to making internet connection between Ethernet and ACT-BUS interface ports.

## Auto Shut-off Timer for Receivers

- Each receiver has a built-in 6-hour factory preset auto shut-off timer to prevent wasted battery hours.
- Receiver LCD screen will display "**TIME OUT**" for 30 seconds prior to auto shut-off.
- Power-on the receiver manually after auto shut-off.
- The optional software enables different auto shut-off timers option.

### Storage Placement

Bottom Case for Transmitters and Receivers Storage



Transmitters and Receivers

Top Case for Power Cords and Neck Lanyards Storage



Headworn frames or mini-gooseneck mics

Headworn microphone booms

AC Power Cord

Earphones and Headworn Microphones Storage



Headworn microphones

24-set of earphones