

**Disposal**



2002-09-12

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!

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Design & specifications are subject to change without prior notice

AS100615

**MIPRO**

**Headworn Microphone Series**

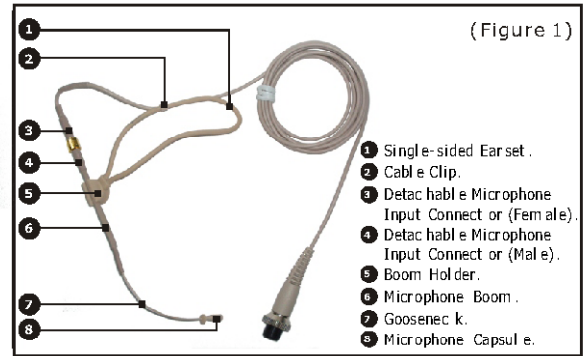
**User Guide**



**Parts:**

- ✎ MU-1FL: Large single-sided earset.
- ✎ MU-1FM: Medium single-sided earset.
- ✎ MU-1FS: Small single-sided earset.
- ✎ Foam Windscreen.
- ✎ MU-3M: Ultra-mini microphone capsule module.
- ✎ Carrying Case.

**Part Names And Functions**

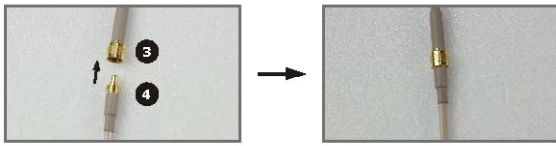


**Key Features:**

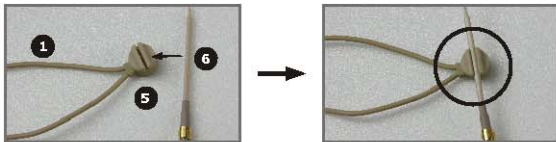
- ✎ This innovative lightweight "enclosed ear " design is different from the traditional "hook" design. The flexible and pressable material ensures an ultra secure, comfortable fit with or without glasses and will not fall off during during performances.
- ✎ Headworn frames comes standard in three different sizes ( small / medium / large) to fit different performers.
- ✎ Detachable microphone capsule design allows secured, easy hook-up and maintenance with the headworn frame and connecting cable.
- ✎ Featuring an ultra low-profile 3mm capsule diameter with high sensitivity and omni-directional characteristics. Sweat-proof and replaceable foams.
- ✎ Thin yet rugged microphone capsule boom can be bent and adjusted in any directions and positions.
- ✎ The patented, swiveling ear hook design allows an inward rotating for a secured directional position.

**Assembly Illustrations of MU-13:**

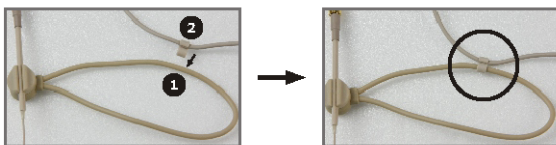
Plug male MMCX ④ connector into female MMCX ③ socket and fasten firmly.



Select a suitable size (S, M or L) single-sided earset ①. Attach the microphone boom into the microphone boom holder.

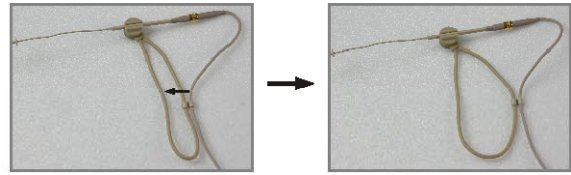


Clip the cable ① and earset ② together firmly in place.

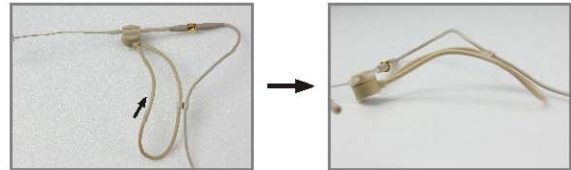


**CAUTION:** If noise or signal drop-out occurs, double check if the connection of MMCX is loose. Fasten firmly in place, if it is. A loose MMCX connection may produce noises and unstable signal transmission.

Widen and adjust the earset proportional to fit user's ear.

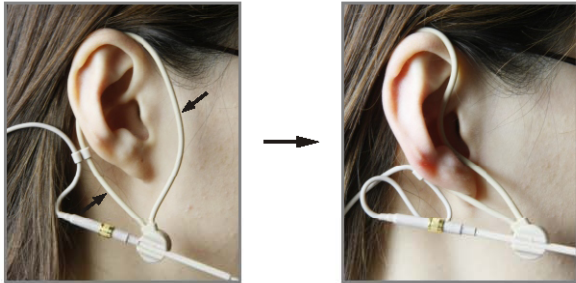


Bent inward to form an appropriate curvature.



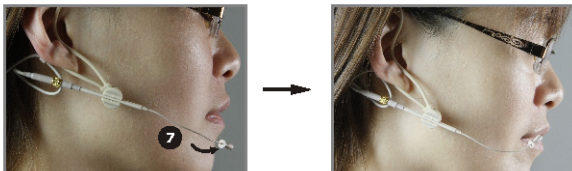
**Wearing MU-13 Earset Microphone:**

Place the earset over your ear. Press against your earlobe and reshaped for a comfortable and snug feel. (Move your head up & down and sideways few times to ensure it is not loosely fitted)



**Adjustment of MU-13:**

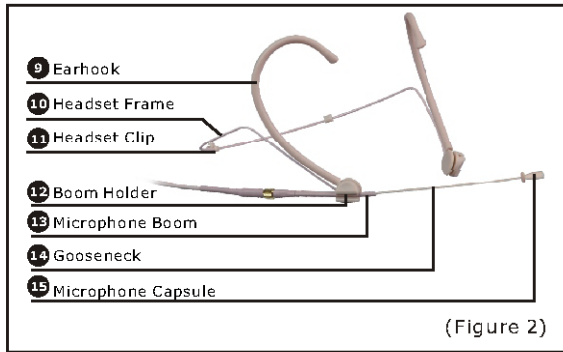
For ideal location, position the microphone boom **7** so the microphone is about 1cm of the corner of your mouth.



**Parts:**

- ✎ MU-2FL: Large dual-sided headworn frame.
- ✎ MU-1FM: Medium single-sided earset.
- ✎ MU-1FS: Small single-sided earset.
- ✎ Foam Windscreen.
- ✎ MU-3M: Ultra-mini microphone capsule module.
- ✎ Carrying Case.
- ✎ User Manual.

**Part Names And Functions**

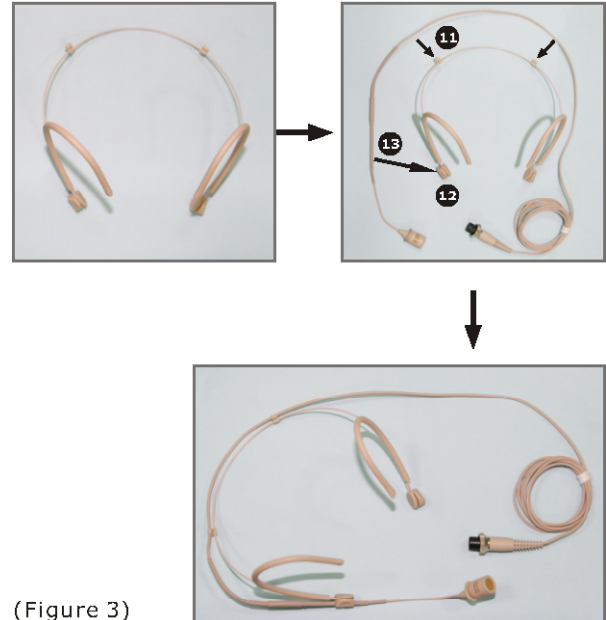


**Key Features:**

- ✎ Lightweight, ergonomic frames are available in three different sizes ( large / midium / small ) to fit different performers. Secure fit around the ears prevent falling off during performances.
- ✎ Detachable microphone capsule design allows easy set-up and maintenance with the headworn frame and connecting cable.
- ✎ Available for an ultra low-profile 3mm capsule diameter with high sensitivity omni-directional condenser ( MU-23 ) and 10mm sized uni-directional condenser ( MU-210 ). Sweat-proof and replaceable foams.
- ✎ Very thin yet rugged microphone capsule boom can be bent and adjusted in any directions and positions.
- ✎ The patented, swiveling earhook design allows an inward rotating for a secure directional position.

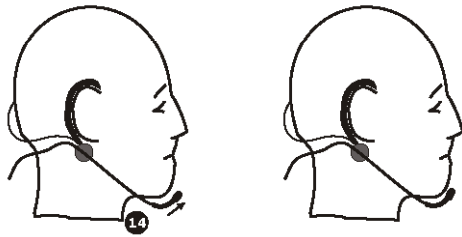
**Illustration of MU-23 Assemble:**

Select a suitable headset frame size. Attach the microphone boom 13 into the microphone boom holder 12 . Insert the cable by clipping into the headset frame 11 (see diagram 3)



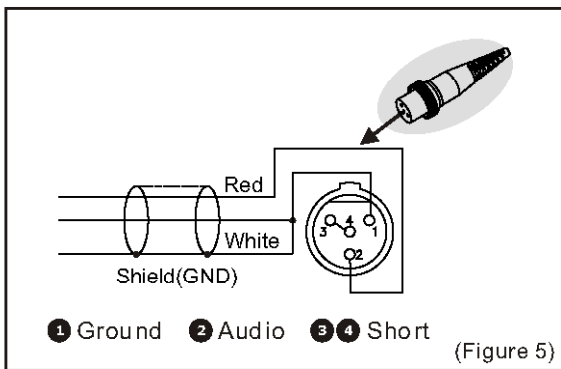
**Adjustment of MU-23:**

For ideal location, position the gooseneck 14 so the microphone is about 1cm of the corner of your mouth.



(Figure 4)

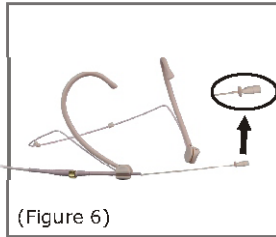
**Illustrations:**



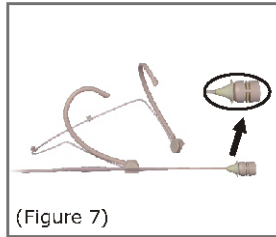
(Figure 5)

**How to Obtain Ideal Sound Quality When Wearing Headworn Microphone?**

1. Position the microphone and boom so that the microphone is about 1.0 ~ 1.5cm (0.4 ~ 0.6-inch) of the right or left corner of your mouth to minimize breath or "popping" noise.
2. Omni-directional (Figure 6) and Uni-directional (Figure 7) types are available. Ideal way to wear "Omni" type is to have microphone capsule closer to the corner of the mouth with about 1.0 ~ 1.5cm away (see Figure 8 and 9) to minimize breath or "popping" noise for ideal sound quality. (See Figure 10).
3. "Uni" type is directional. During live performance, it has stronger bass sound and higher dynamic range, better suited for "music" effect. However ideal wearing position for Uni is more complicated than Omni. Apart from the sensitivity level changes due to distances away from mouth, it is more susceptible to the Proximity effect and popping noise. In theory, it is recommended to position uni-directional capsule in front of mouth for ideal sound quality. However this position is vulnerable to the problems of popping noise, and affects both types of capsules. In reality, the ideal wearing position for sound quality refers to picture 11 (about 45 degree angle and 1.0 ~ 1.5cm distance away from the edge of mouth).
4. Amplified system is recommended during sound check for adjusting the ideal microphone position.



(Figure 6)



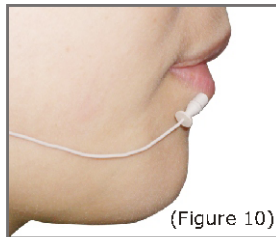
(Figure 7)



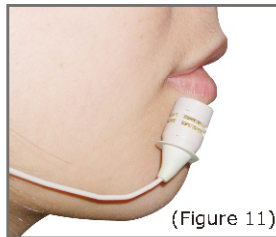
(Figure 8)



(Figure 9)

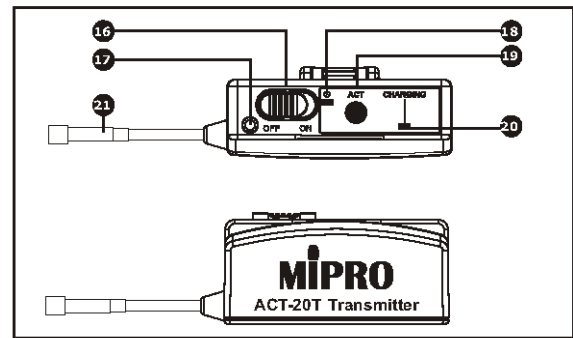


(Figure 10)



(Figure 11)

Part Names And Functions



- 16 **Power Switch:** Switch to "ON" to power on; switch to "OFF" to power off.
- 17 **Charging Socket:** Plug in to recharge battery by the attached MIPRO charger (switching adapter) ONLY. Use other chargers with different specifications may damage this device.
- 18 **Power Indicator Status:**
  - Normal Battery** - The Power Indicator will lit for 1 second and then goes off.
  - Low Battery** - The Power Indicator will flash continuously indicating the battery level is low and needs to be recharged within 10 minutes.
  - ACT syncs successfully:** The Power Indicator will lit for 1 second and goes off.
  - ACT syncs unsuccessfully:** The Power Indicator will flash continuously for 5-6 seconds. Possible cause is wrong receiver or transmitter frequency band was used. Check and ensure both receiver and transmitter have te same frequency bands.

\* When ACT button is pressed on the receiver, bring ACT port of the transmitter within 30cm of the same ACT (IR) port of the receiver. Transmitter will lock automatically and synchronizes to the selected receiver frequency.

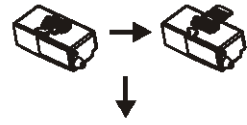
- 19 **ACT (IR) Port:** Receives receiver signals automatically to synchronize frequency.
- 20 **Charging Indicator:** Still "Red" indicates battery is being charged; Still "Green" indicates the battery is charged and ready to be used. Fully charge may take up to 3-4 hours.
- 21 **Connecting Cable and Socket:** Plug and fasten the connector of the microphone boom into socket.

### Key Features:

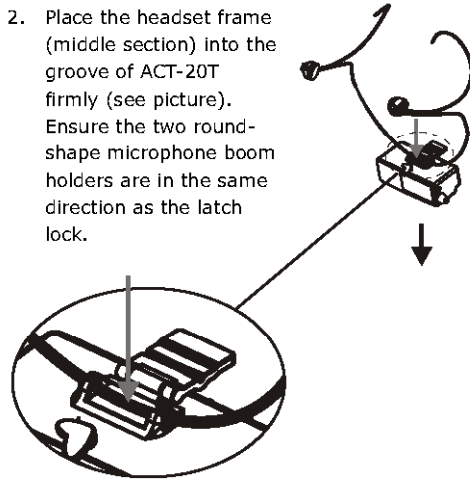
- ✍ Industry's lightest UHF PLL-synthesized switchable transmitter. Works flawlessly with all MIPRO ACT receivers.
- ✍ Can be attached to MU-23 headworn microphone for a true wireless experience with no bodypack and no wired cable, allowing complete freedom of mobility for performers.
- ✍ Built-in rechargeable lithium battery for money savings.
- ✍ 6~8 Hours of operation per charge.

### How to Install the Headworn Transmitter and Microphone:

1. Unfasten the latch lock by turning it sideways. Open the latch upward.

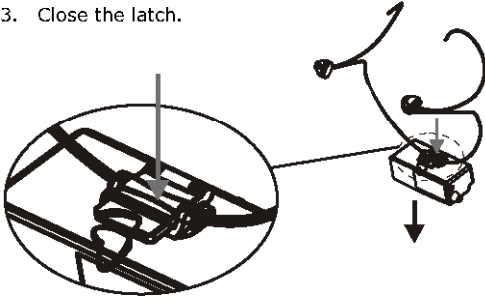


2. Place the headset frame (middle section) into the groove of ACT-20T firmly (see picture). Ensure the two round-shape microphone boom holders are in the same direction as the latch lock.

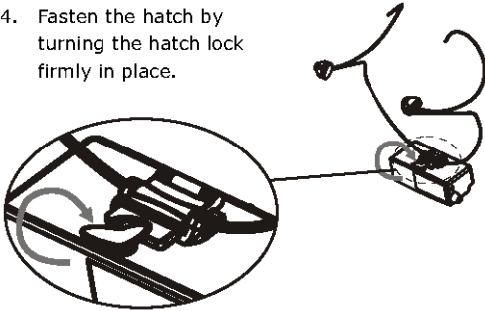




3. Close the latch.

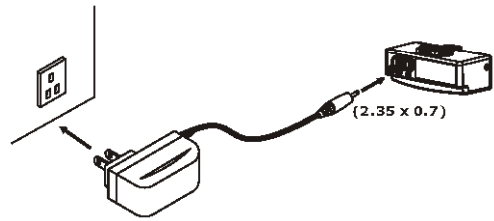


4. Fasten the hatch by turning the hatch lock firmly in place.



### Battery Charging:

Plug the supplied charger (17) into an AC socket. During charging, Charging indicator (20) turns red. When fully charged, the Charging indicator turns green.



### Cautions:

1. When charging it is VITAL to use the supplied MIPRO battery charger ONLY to avoid insufficient voltage or current. Do not exceed the input supply voltage as it may damage the battery charger, rechargeable battery and transmitter itself. The output of MIPRO DC power supply is 12V/0.2A.
2. Turn the power "OFF" when ACT-20T is charging.
3. To ensure safety DO NOT CHARGE the ACT-20T with battery chargers from other brands.

THIS DEVICE COMPLIES WITH PART 74 OF THE FCC RULES AND RSS-123 Issue1 OF CANADA.

OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.