

PERSONAL PA SYSTEM

ER-1000 WR

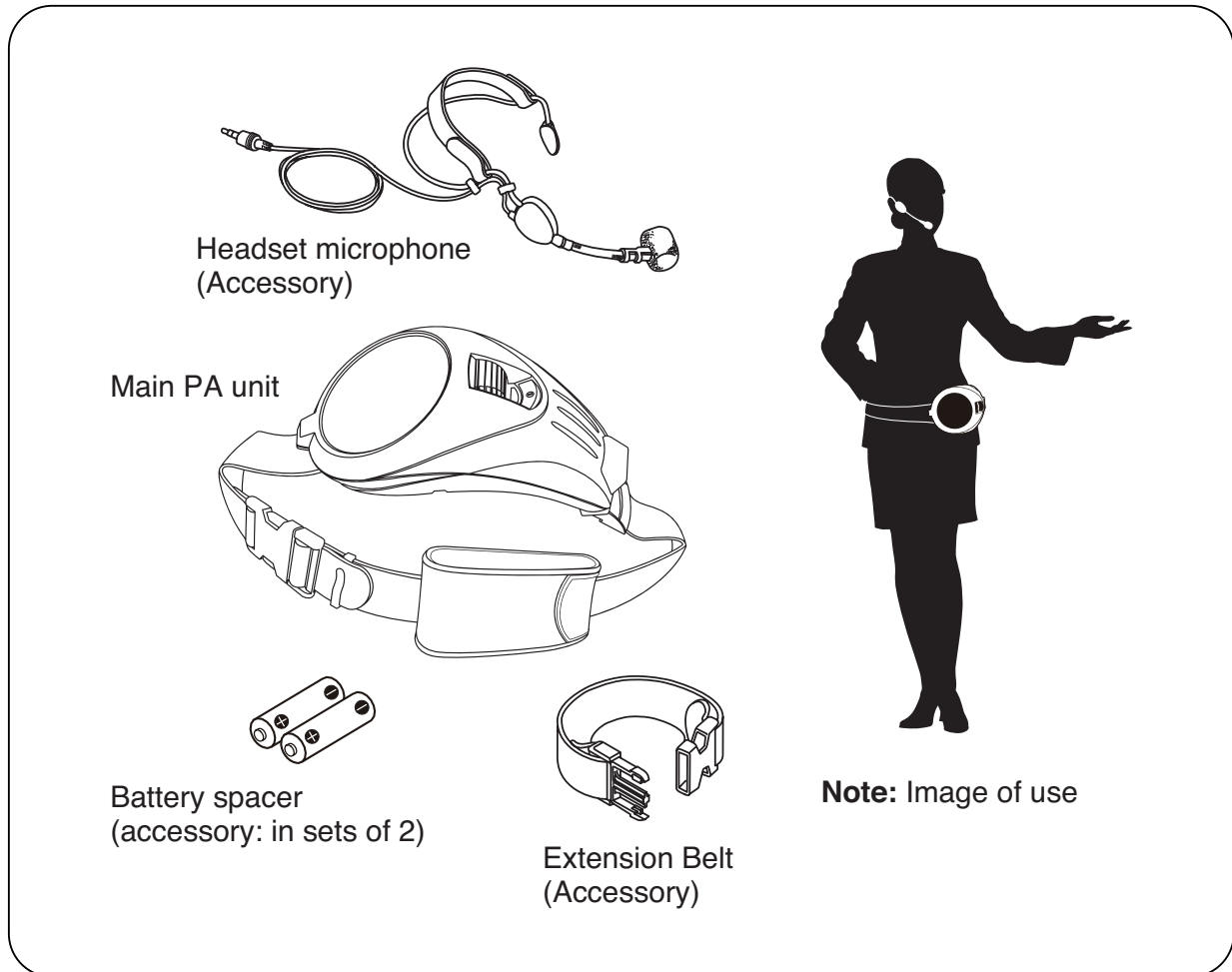


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Thank you for purchasing TOA's Personal PA system.
Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.



CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.

When the Unit is in Use

- Be sure to observe the following instructions. Failure to do so may cause hearing impairment.
 - Reduce the volume to its lowest setting before use.
 - Never use the unit close to a person's ear.
 - Do not point the unit toward anyone when conducting operational tests.
- Do not open the battery cover forcibly by finger to prevent finger or fingernail injury. Use a coin to remove the battery cover when it is hard to remove.
- To prevent a fire or electric shock, never open nor modify the unit. Leave all servicing such as inspection, adjustment, and repair inside the unit to your nearest TOA dealer.
- Take a firm hold of both buckles when fastening or unfastening the Belt. The Belt is elastic, so if one hand is removed when it is being fastened or unfastened, the buckles could spring out and hit something, possibly causing injury.
- 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 nor put the battery into a fire.
 - Avoid mixed use of new and old batteries, and batteries of different types.
 - Never charge batteries of the type which are not rechargeable.
 - Do not solder a battery directly.
 - Be sure to use the specified type of batteries.
 - Avoid locations exposed to the direct sunlight, high temperature and high humidity when storing batteries.
 - When the unit is not in use for 10 days or more, be sure to take the batteries out of the unit.

2. GENERAL DESCRIPTION

TOA's ER-1000 WR is a compact, lightweight, hands-free portable public address system with a rated power output of 6 watts (9-Volt DC when used with six AA-type batteries).

The system can be wrapped snugly around the waist and using the supplied headset microphone allows both hands to remain free, making it ideal for such applications as conducting factory tours, directing traffic, instructing in sports facilities, and security-and-safety-related applications.

3. FEATURES

- A thin speaker designed to be curved to follow the contours of the body can be fitted firmly around the waist with an elastic Belt and provides freedom of movement.
- Since the power switch and volume control are located in the center of the Main PA unit, the Main PA unit can be operated easily and placed on either side of the body.
- Equipped with a 10 cm (4") cone speaker that uses a light and highly functional neodymium magnet, allowing for sound to travel over a wide range (with 180° directivity) and ensuring the system's volume is loud enough to be used even outdoors.
- Connecting a commercially available audio player to the auxiliary input terminal (AUX) allows music to be reproduced while the user is talking.
- Operates on six AA-type alkaline (LR-6) or black manganese (R6PU) batteries. Using the supplied Battery Spacer allows the system to be powered using just four AA-type batteries, though the volume will not be as loud as when six batteries are used.
- Commercially available nickel-metal hydride batteries (HR15/51) can also be used to power the Personal PA, providing an environmentally friendly and economical choice.
- The Belt also contains a pouch, which permits storage of such items as an audio player, spare batteries or the Battery Spacer.

4. PRECAUTIONS WHEN USING

- The Personal PA is not waterproofed. Avoid using it in locations where it could be exposed to rain or splashing from water.
- Should any of the following irregularities occur, immediately turn off the power and consult your TOA dealer. Continuing to use the product without following this instruction may cause a malfunction.
 - When water or foreign objects get inside the product
 - When sound is not produced (after confirming batteries are inserted properly and kept fully charged)
- Do not leave the product in damp or dusty places, or where it is subjected to direct sunlight, nor near heaters or in cars where the windows are closed, or somewhere where it can be exposed to oily fumes or steam. Any of these can cause malfunctions.
- When using indoors, the influence of such things as reverberations from walls or ceilings can make it more likely to generate feedback* compared with when the product is used outdoors, and this makes it impossible to increase the volume. When using indoors, set the volume at 5 or lower. (Conditions vary according to the user's environment.)
- Do not use the product with sound distorted for a long time. The Main PA unit can become overheated, possibly leading to malfunctions.
- When using a mobile phone near this product, noise may be produced, but this is not a malfunction. Keep mobile phones as far away as possible from the product.
- Suddenly moving from a cold outdoors area into a warm interior setting may cause water (condensation) to build up inside the product. Caution is urged as condensation may cause malfunctions.
- When using in public places, take care not to become a nuisance for others nearby.
- To clean, be sure to first switch off the power, then wipe with a dry cloth. When extremely dirty, use a soft cloth dampened in neutral detergent. Never use benzene, thinner or chemically-treated towels, which may damage the product's finish.

* Feedback is a squeal or howl from speaker caused by speaker sound entering the microphone, which is amplified by the amplifier again and is further output from the speaker.

5. NOMENCLATURE AND FUNCTIONS

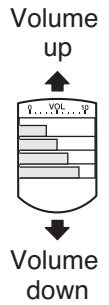
[Personal PA – Top Side]

Volume Control [VOL]

Volume increases as this knurled roller is rotated toward the speaker and decreases as it is rotated away from the speaker.

Note

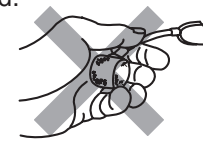
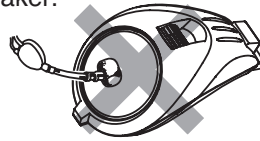
- The auxiliary (AUX) input volume cannot be adjusted. The volume must be adjusted at the connected external device.
- To avoid feedback, do not direct the microphone toward the speaker or bring the microphone close to the speaker. Also, avoid cupping the microphone with the hand.



Keep microphone away from speaker.

Do not cup microphone in hand.

If feedback occurs, keep the microphone away from the speaker or reduce the volume.



Speaker

Point the speaker in the direction desired.

Power Indicator

Lights when the power is switched on, and goes out when switched off.

Note

A dark or unlit indicator is a sign that the batteries are weak. Replace the batteries with fresh ones.

Microphone Jack [MIC]

Monaural 3.5 mm (1/8") mini-jack (–30 dB* / 3 k Ω), phantom power supply. (*0 dB = 1 V) Insert the plug of the supplied headset microphone into this jack.

Using this jack simultaneously with the AUX input jack causes both sounds to be mixed and output.

Auxiliary Input Jack [AUX]

Stereo 3.5 mm (1/8") mini-jack (–10 dB* / 2 k Ω) (*0 dB = 1 V)

Connect commercially available audio players or other external equipment to this jack. Use a stereo mini-plug cable (without resistor).

Using this jack simultaneously with the microphone jack causes both sounds to be mixed and output. This jack can also be used for monaural applications, however at a reduced volume.

Note

Since the AUX volume cannot be adjusted at the Personal PA, adjust the output volume of the connected external device.

Power Switch

Pressing this switch turns on the power and allows announcements to be made from the microphone and auxiliary inputs. To turn off the power, press the switch again.

Note

After use, be sure to turn off the power switch, confirming that the power indicator is unlit. If the power is left on for prolonged periods of time, the batteries will more quickly drain.

Dustproof Cap

Insert this cap into the unused input jack (MIC or AUX) to prevent poor contact caused by dust. Inserted into the AUX jack when shipped from factory.

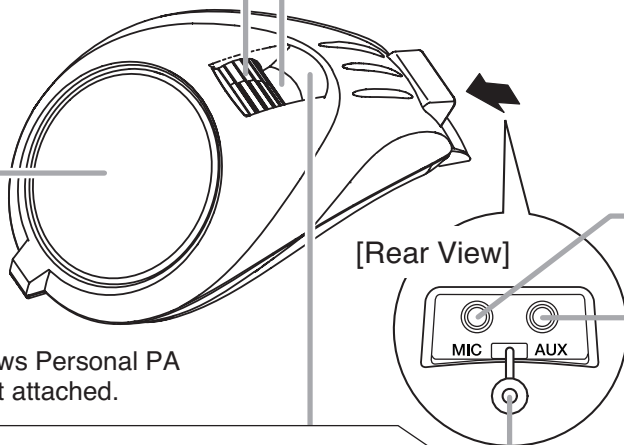
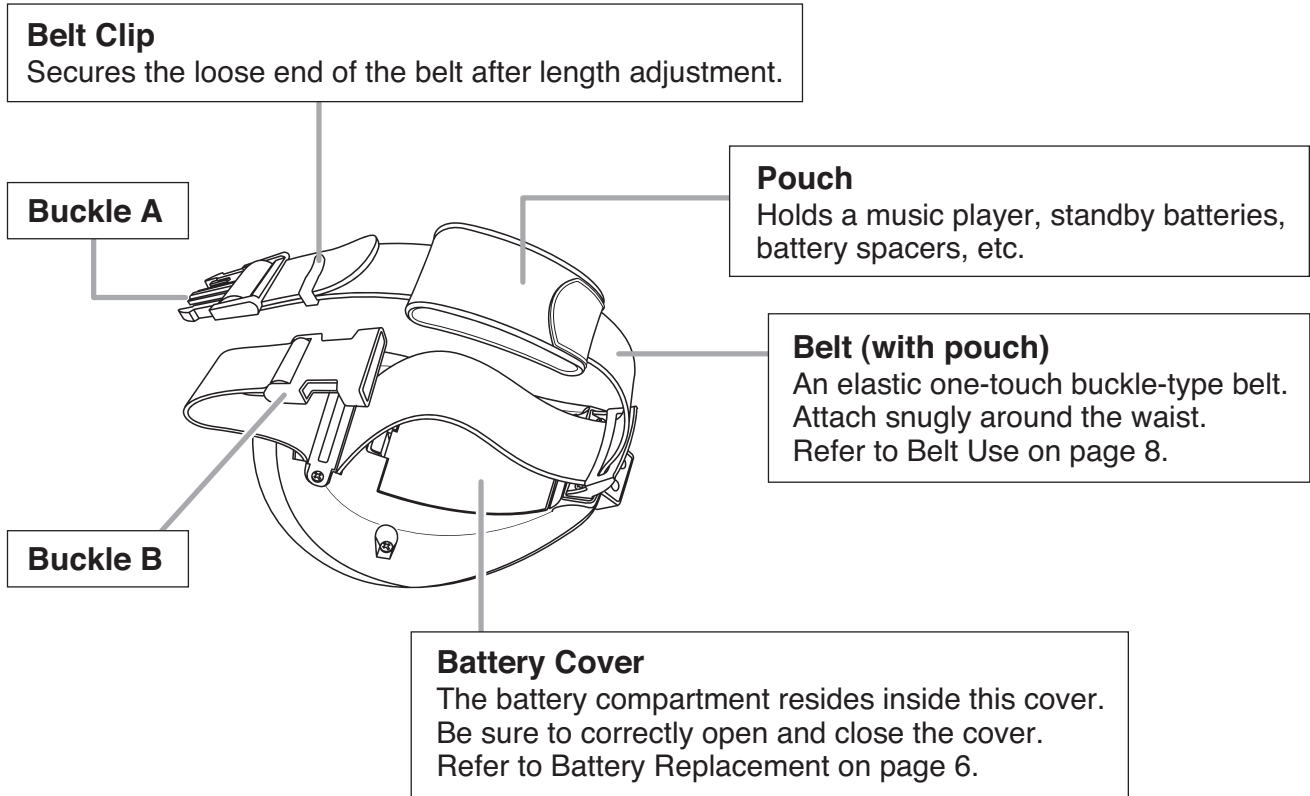
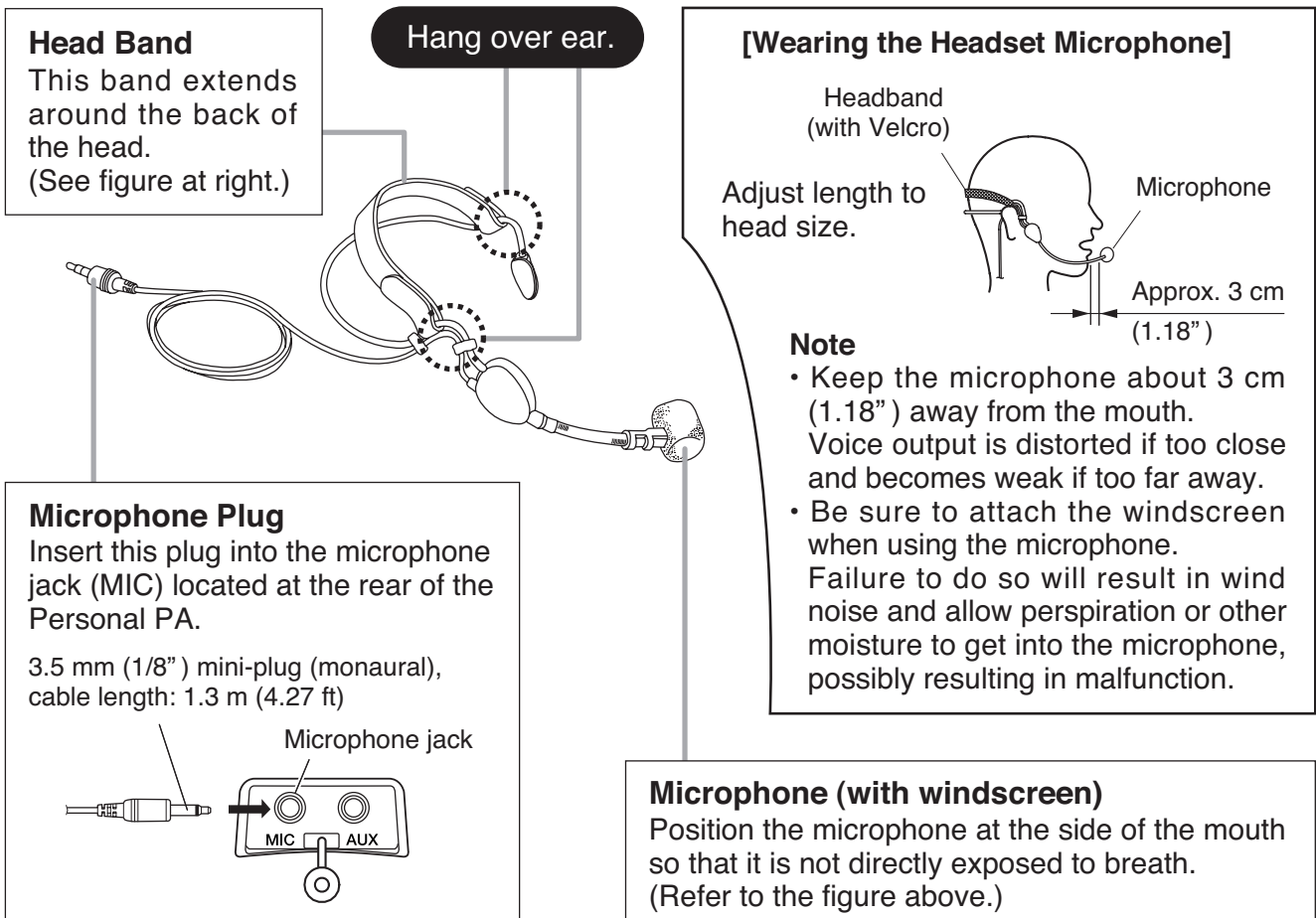


Figure shows Personal PA without belt attached.

[Personal PA – Underside]



[Headset Microphone (Accessory)]



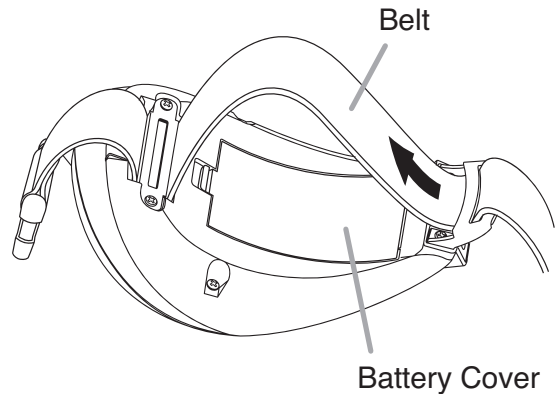
6. BATTERY REPLACEMENT

AA-type alkaline (LR6), black manganese (R6PU) or nickel-metal hydride (HR15/51) batteries can be used to power the product. Please use only a single type of battery.

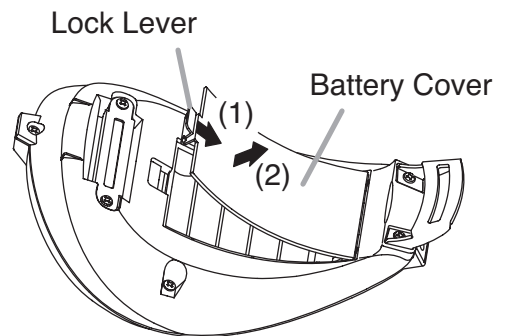
Notes

- Batteries are not included. Please purchase separately.
- Explanatory diagrams for Steps 2 to 4 omit the Belt.

Step 1. Loosen the Belt to permit the Battery Cover to be opened or closed.
Since the battery storage space is concealed beneath the Belt, loosen the belt in the direction indicated by the arrow.



Step 2. Shift the Lock Lever in the directions indicated by the arrow and unlock the Battery Cover to remove it.
Steps (1) and (2) must be carried out in order.



When the Battery Cover is Hard to Remove:

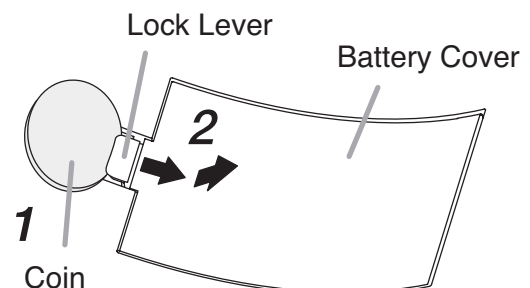
The Battery Cover is made with a lock to prevent it from being inadvertently opened. If batteries are not inserted properly and the Battery Cover is forced into place, or some sort of impact causes the batteries to rise out of place, it may lead the Battery Cover to become distorted and difficult to remove.

When the Battery Cover is difficult to remove, press down on the center of the Battery Cover to put it back in its proper shape. Using an object such as a coin will make it easier to open.

[Using a coin to remove the battery cover]

Step 1. Insert the coin into the Battery Cover's Lock Lever.

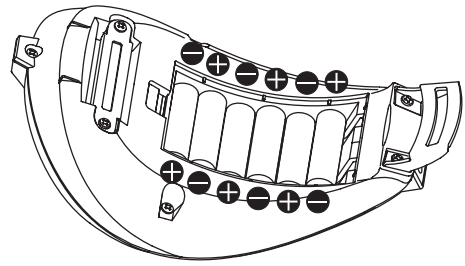
Step 2. Firmly push the coin into the Lock Lever and then raise the Battery Cover.



Step 3. Insert six AA-type batteries.

Notes

- Batteries are not all positioned facing the same direction. Take note of the positive (+) and negative (–) ends on the batteries and insert them correctly in the directions indicated.
- Ensure the batteries are firmly inserted into the storage space. Trying to force the Battery Cover into place when batteries are raised can break the Battery Cover or make it difficult to remove.

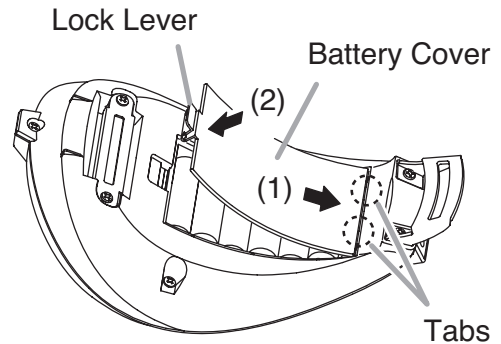


Step 4. Replace the Battery Cover.

Insert the tabs of the Battery Cover into the Main PA Unit and then push the Lock Lever in the direction indicated by the arrow. Steps (1) and (2) must be carried out in order.

Note

Please confirm that the Battery Cover's Lock Lever is secured firmly in place.



7. USING THE BATTERY SPACER (ACCESSORY)

Inserting two supplied Battery Spacers allows the Personal PA to operate on four AA-type batteries.

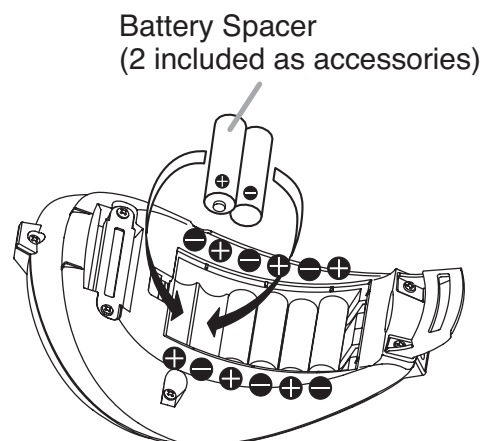
Insert the Battery Spacer in accordance with the battery polarity indicators, as shown in the figure.

CAUTION

When using four batteries (using the Battery Spacers) instead of six, ensure that all batteries used are new. If old and new batteries are mixed, batteries may leak or explode, possibly causing fire or injury.

Notes

- There is no designated place in which to insert the Battery Spacer.
- Make sure the Battery Spacer's positive (+) and negative (–) indicators match the battery polarity indicators on the main PA unit.
- A single Battery Spacer can be used (allowing the system to be powered by five batteries).
- When operating on four AA-type batteries, volume will not be as loud as when six batteries are used.
- When disposing of old batteries, take care that the Battery Spacer is not also thrown away.



8. BELT USE

The Personal PA can be worn on either side of the body. (Belt length: 55 – 120* cm or 1.8 – 3.94* ft). Adjust the Belt to the correct length before fastening it.

* The 120 cm (3.94 ft) length is when the Belt is stretched out to its maximum extent. When worn, consider a Belt length of 100 cm (3.28 ft) of waist size when clothes are worn as a rule-of-thumb standard.

8.1. Extension Belt ER-1000PJ (Accessory)

- Use this Extension Belt when the Belt length is too short.
- The Extension Belt allows the Belt length to be extended by about 30 cm (1 ft).
- When the Extension Belt is used, consider the length to extend from 90 cm to 150 cm (2.95 – 4.92 ft) (waist sizes are when clothes are worn) as a rule-of-thumb.
- Please refer to the accessory instruction manual supplied with ER-1000PJ for details on how to extend the belt.

CAUTION

Please take a firm hold of both buckles when fastening or unfastening the Belt.

The Belt is elastic, so if one hand is removed when it is being fastened or unfastened, the buckles could spring out and hit something, possibly causing injury.

8.2. Image of Use

- The Belt should be worn while fitting snugly around the waist.
- Direct the speaker to face listeners.
- Wiring from such items as the headset microphone or audio players should be maneuvered behind the back and tucked into the Belt so it does not dangle and get in the way.

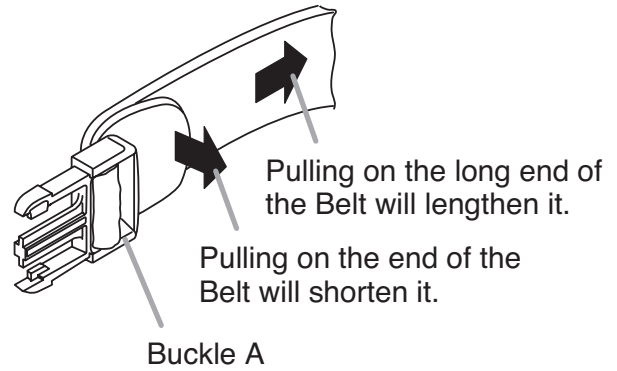


8.3. Fastening the Belt

Step 1. Adjust the length of the Belt.
The length of the Belt is adjusted on the Buckle A side.

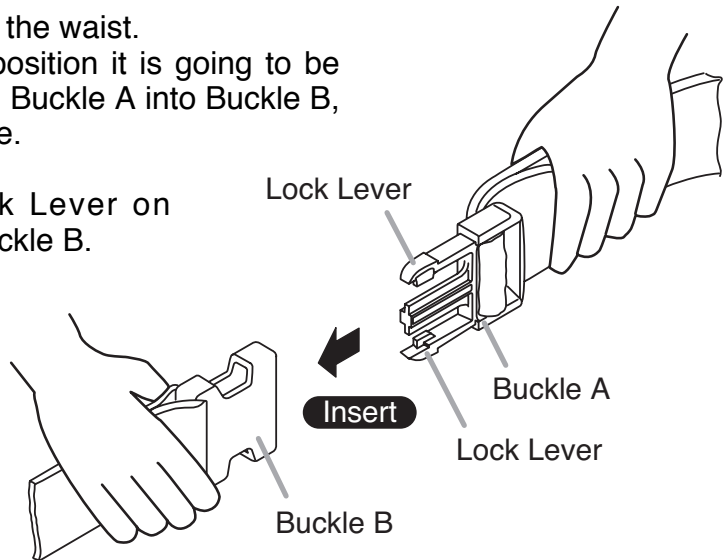
Note

To ensure a snug fit around the waist, adjust the length when worn while the belt is being stretched.



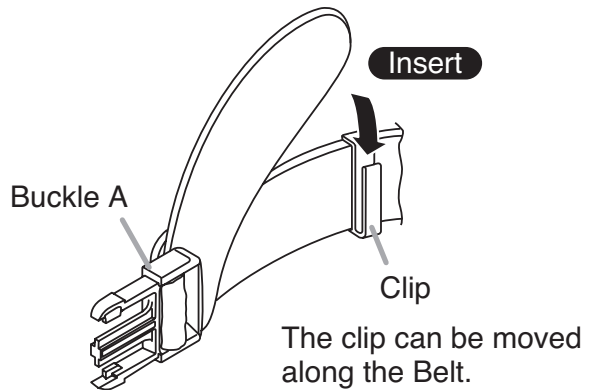
Step 2. Fasten the Main PA Unit around the waist.
Place the Main PA unit in the position it is going to be worn, pull on the Belt and fasten Buckle A into Buckle B, inserting it until it clicks into place.

Please confirm that the Lock Lever on Buckle A is fully inserted into Buckle B.



Note

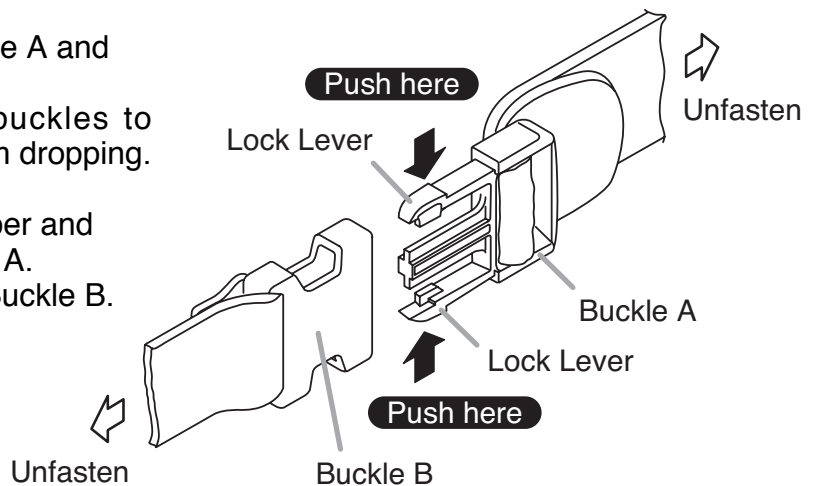
Tuck the extra part of the Belt into the Belt Clip as shown in the figure on the right, and it will not get in the way.



8.4. Unfastening the Belt

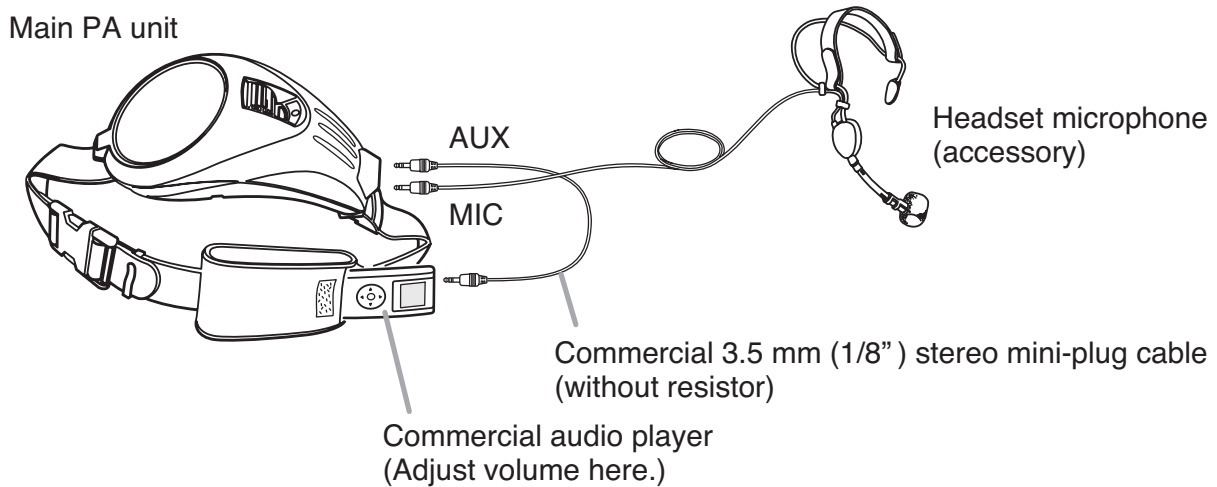
Step 1. Take a firm grip of both Buckle A and Buckle B.
Hold both (of the Belt's) buckles to prevent the Main PA unit from dropping.

Step 2. Simultaneously press the upper and lower Lock Levers on Buckle A.
Buckle A will unfasten from Buckle B.





9. PERSONAL PA SYSTEM – SMART USE

- Connecting a commercially available audio player to the auxiliary (AUX) input jack allows background music to be provided while the user is talking.



- **Replace batteries if any of the following situations occurs:**
 - (1) The power indicator becomes dark or unlit during operation.
 - (2) The power indicator becomes too dark or bright depending on volume fluctuations.
 - (3) The volume decreases or sound is distorted during normal operation.
- **Check the following if the power indicator does not light when the power switch is set to the ON position:**
 - (1) Are the specified batteries correctly inserted?
Correctly insert only specified batteries. (Refer to Battery Replacement on Page 6.)
 - (2) Are batteries drained?
Replace all batteries with fresh ones. (Refer to Battery Replacement on Page 6.)
- **Check the following if announcements cannot be made using the supplied headset microphone:**
 - (1) Is the headset plug correctly connected to the PA's microphone jack (MIC)?
Refer to Headset Microphone on Page 5.
 - (2) Is the PA's power switch set to the ON position?
Refer to Nomenclature and Functions on Page 4.
 - (3) Is the PA's volume (VOL) control set to the appropriate position?
Refer to Nomenclature and Functions on Page 4.
- **Check the following if the connected audio player cannot be played:**
 - (1) Is it correctly connected to the PA's auxiliary (AUX) input terminal?
Refer to Nomenclature and Functions on Page 4.
 - (2) Is the PA's power switch set to the ON position?
Refer to Nomenclature and Functions on Page 4.
 - (3) Is the audio player's volume control set to the appropriate position?
The volume of the AUX terminal cannot be adjusted at the Personal PA. Adjust the output volume of the connected audio player.
 - (4) Is the 3.5 mm (1/8") stereo mini-plug cable (without resistor) being used?
Use of a monaural mini-plug cable could reduce volume.

[Plug name and shape]

Stereo plug	Monaural plug
	

10. SPECIFICATIONS

Power Source	Alkaline battery (LR6): 6 pieces (9 V DC) or 4 pieces* ¹ (6 V DC) Rechargeable nickel metal hydride (NiMH) battery (HR15/51): 6 pieces (7.2 V DC) or 4 pieces* ¹ (4.8 V DC) Black manganese battery (R6PU): 6 pieces (9 V DC) or 4 pieces* ¹ (6 V DC)
Output	6 W (rated) and 10 W (max) when 6 AA batteries (9 V DC) are used. 3 W (rated) and 4 W (max) when 4 AA batteries* ¹ (6 V DC) are used.
Battery Life	Voice operation* ² : Approx. 8 hours (when 6 or 4* ¹ alkaline batteries are used) AUX stereo input operation (music reproduction)* ³ : Approx. 4.5 hours (when 6 or 4* ¹ alkaline batteries are used) Approx. 5.5 hours (when 6 or 4* ¹ NiMH batteries are used) Approx. 3 hours (when 6 or 4* ¹ black manganese batteries are used)
Audible Range* ⁴	Voice operation: Approx. 80 m or 87.49 yd (when 6 alkaline batteries or NiMH batteries are used) Approx. 40 m or 43.74 yd (when 4* ¹ alkaline batteries or NiMH batteries are used) Note: The transmission distance when black manganese batteries are used is approximately 80% of each of the above mentioned distances.
Reproducing Frequency Range	300 Hz – 14 kHz (deviation: –26 dB)
Headset Microphone	Ear-on type, electret condenser microphone, sensitivity: –47 dB (0 dB = 1 V/1 Pa, 1 kHz), cord length: 1.3 m (4.27 ft), 3.5 mm (1/8") mini-plug (monaural), with headband and windscreen
Input	MIC: –30 dB* ⁵ , 3 kΩ, 3.5 mm (1/8") monaural mini-jack, phantom power supply. AUX* ⁶ : –10 dB* ⁵ , 2 kΩ, 3.5 mm (1/8") stereo mini-jack (supporting monaural applications* ⁷)
Maximum Belt Length	55 – 120* ⁸ cm (1.8 – 3.94* ⁸ ft), 90 – 160* ⁹ cm (2.95 – 5.25 * ⁹ ft) (when wearing a ER-1000PJ Extension Belt)
Operating Temperature	0 to 40 °C (32 to 104 °F)
Finish	Front case: ABS resin, dark grayish purple Rear case: ABS resin, dark grayish purple Grille: Surface-treated steel plate, dark grayish purple, paint Belt: Elastic rubber, black
Dimensions	133 (w) x 96 (h) x 222 (d) mm (belt excluded) (5.24" x 3.78" x 8.74")
Weight	Main PA unit (belt included, batteries excluded): 480 g (1.06 lb) Headset microphone: 50 g (0.11 lb)

*¹ When the supplied battery spacers are used.

*² Battery life during voice output usage represents the period of time when the Personal PA is continuously used with the volume control set to a position that does not cause feedback.
Reference standard: JEITA (Japan Electronics and Information Technology Industries Association) TT-4501B

- *3 Battery life during AUX stereo input represents a value actually measured when music is continuously reproduced with a commercial audio player connected to the auxiliary (AUX) input terminal. It varies depending on the connected external equipment's volume output or the type of music source.
- *4 Transmission range is measured on a quiet street with the Personal PA loaded with fresh batteries. Range varies depending on surrounding environmental conditions, such as battery consumption, ambient noise levels, wind direction and obstacles. (Reference standard: JEITA TT-4501B)
- *5 0 dB = 1 V
- *6 Adjust the volume of the auxiliary (AUX) input at the connected external device.
- *7 Volume during monaural operation is smaller than during stereo operation.
- *8 The 120 cm (3.94 ft) length is when the Belt is stretched out to its maximum extent. When worn, consider a Belt length of 100 cm (3.28 ft) (of waist size when clothes are worn) as a rule-of-thumb standard.
- *9 The 160 cm (5.25 ft) length is when the Belt is stretched out to its maximum extent. When worn, consider a Belt length of 150 cm (4.92 ft) (of waist size when clothes are worn) as a rule-of-thumb standard.

Notes

- Prepare batteries separately, as they are not supplied with the product.
- The design and specifications are subject to change without notice for improvement.

[Accessories]

Headset microphone (with headband and wind screen)	1
Belt (attached to the Personal PA)	1
Extension belt	1
Battery spacer	2

