



MPlus

RA1000S



Multipurpose Motorcycle Communication Neckband

User Manual

FCC ID:2AU2ARALP9

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1. General Information

1.1 Reading and storing the user manual



This user manual accompanies this MPlus, Multipurpose Motorcycle Communication Neckband (hereafter referred to as the “device”), and contains important information on setup and use.

Read the user manual carefully before using the device. This particularly applies to the safety instructions. Failure to do so may result in personal injury or damage to the device.

Keep the user manual for further use. Make sure to include this user manual when passing the device on to third parties.

1.2 Proper use

The device is exclusively designed as an intercom and hands-free device for motorcyclists. It is only intended for private use and not suitable for commercial purposes.

Only use the device as described in this instruction manual. Any other use is considered improper and may result in damage to property or persons.

The manufacturer or vendor cannot be held liable for damages or injury incurred through improper or incorrect use.

1.3 Explanation of symbols

The following symbols and signal words are used in this user manual, on the device or on the packaging.



WARNING!

This signal symbol/word designates a hazard with moderate risk, which may result in death or severe injury if not avoided.

NOTICE!

This signal word warns of possible damage to property.



This symbol provides you with useful additional information on handling and use.

IP67

The device is protected from the ingress of dust and water.



This mark indicates compliance with technical and design requirements for telecommunication terminal equipment in Japan.



This symbol means that the device does not exceed the specified concentration limits for specific hazardous substances in electrical and electronic equipment.



Devices marked with this symbol meet all applicable Community regulations for the European Economic Area.

REACH

This mark indicates that the device is compliant with the EU REACH regulation (EC) No 1907/2006.



This FCC mark certifies that the electromagnetic interference from the device is under the limits approved by the Federal Communications Commission in the US.




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2. Safety instructions

WARNING! Risk of explosion or leakage!

- The built-in rechargeable battery may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 40 °C (104 °F) or incinerate the rechargeable battery.
- Keep the rechargeable battery away from hot surfaces and direct sunlight.
- Do not expose the device to extreme temperatures. Normal operating temperatures are -10 °C (14 °F) to +45 °C (113 °F). Extreme temperatures may cause the built-in rechargeable battery to generate heat, rupture, or ignite. Using the rechargeable battery in this manner may result in a loss of performance and a shortened life expectancy.
- Only charge the device indoors.
- If the battery leaks, do not allow battery acid to come into contact with skin, eyes or mucous membranes.
- In the event of contact with battery acid, immediately flush the applicable areas with plenty of clean water and consult a physician.

WARNING! Risk of injury!

-  Excessive sound pressure from earphones and headphones can cause hearing loss.
- Avoid using the device at high volume levels for long periods to avoid permanent hearing damage. Keep the volume at a modest level.
- Audio warnings, alerts and environmental noises may sound different when wearing the device. Be aware of how these signals differ in terms of their sound so that you are able to recognise the signals in corresponding situations.
- Observe your country's regulations for the use of mobile phones, headsets and hands-free devices in traffic. In some countries or regions, it is prohibited by law to ride motorcycles while wearing headsets or earbuds.
- Always focus your attention on safe driving when using the device. Fail to do so may result in traffic accidents, resulting in injury or death.
- Avoid using the device at gas stations, fuel depots or around explosives.
- Ensure that your vision is not blocked or hampered while using the device. This may cause traffic accidents.
- The device generates, uses and can radiate radio frequency energy and, if not 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.

- Turn the device off and refrain from using the device in places where wireless communication is not allowed (e.g. airplanes, hospitals).
- The magnetic fields generated by the device could affect pacemakers and implanted defibrillators. Therefore make sure there is a distance of at least 10 cm between the device and the pacemaker/defibrillator.
- Make sure that children do not play with the plastic wrapping. They may get caught in it when playing and suffocate.
- The device contains small parts which may be a choking hazard. Not suitable for children under age 3.
- Children must not play with the device.

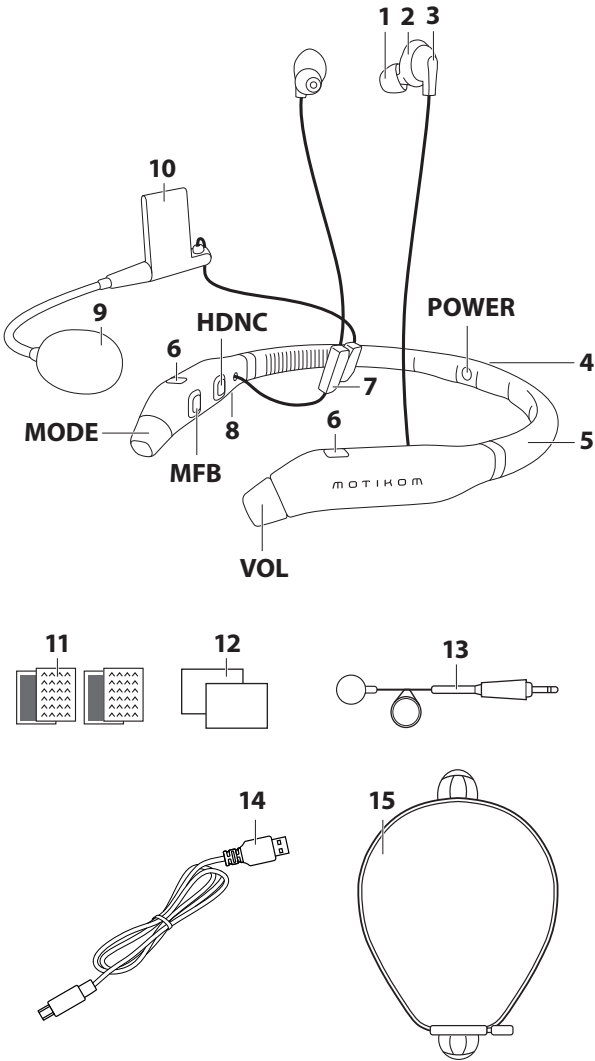
NOTICE! Risk of damage!

- Never disassemble or modify the device.
- Do not open the housing; instead, have a qualified professional perform repairs. Contact a qualified workshop for this. Liability and warranty claims are waived in the event of repairs performed by the user, improper connection or incorrect operation.
- If the device is damaged, the manufacturer, its customer service or a

person with similar qualifications must replace it to avoid risks.

- Only parts that comply with the original device data may be used for repairs. This device contains electrical and mechanical parts which are essential for providing protection against sources of danger.
- Only charge the device with the provided or a compatible USB cable.
- Do not use the device when charging.
- Check the device for external visible damage before you use it. Do not operate device if it is damaged.
- Do not drop or sit on the device.
- Do not immerse the device in water or other liquids.
- Store the device in a clean, dust-free environment.
- Do not use any aggressive cleaners, brushes with metal or nylon bristles or sharp or metallic cleaning utensils such as knives, hard scrapers and similar items. They could damage the surfaces.
- Never submerge the device in water or other liquids.
- Make sure that no water or other liquids penetrate the housing.

3. Device overview



Components	
1	Ear tips (left and right), 3 sets (Size: S, M, L)
2	EcoFits Ear Gel, 2 sets (Size: S, L)
3	Earpieces (left and right)
4	LED lights (backside)
5	Neckband
6	Microphone
7	Microphone connector
8	USB charging port (underside)
9	Boom microphone
10	Attachment flap
11	Hook-and-loop fasteners (2 sets)
12	Double-sides tape (2 sets) (spare pieces)
13	Wired microphone
14	USB cable (Type-A USB plug to micro USB plug)
15	Carrying case

Controls	
POWER	Power button
MFB	Multi-function button
HDNC	HDNC & ambient button/Reset button
MODE	Mode knob
VOL	Volume knob

4. Checking the device and package contents

1. Take the device out of the packaging.
2. Check to make sure that all parts are included (see chapter “Device overview”).
3. Check whether the device or the individual parts exhibit damage. If this is the case, do not use the device. Contact customer service.

5. Charging the device

⚠ WARNING! Risk of injury!

- Do not charge when the device is in use or if it is wet. Make sure it is dry before charging.
- Only charge the device with the supplied or a compatible USB cable.
- Only charge the device at temperatures between 0 and 40 °C.
- Always unplug the device after charging has been completed.



- Fully charge the device before first use and when the battery power is low.
- When the battery power is low, the LED lights [4] becomes red and starts to blink. Recharge the device.
- The device cannot be used during charging.

1. Plug the micro USB plug (smaller end) of the USB cable [14] into the USB charging port [8].
 2. Plug the type-A USB plug (larger end) of the USB cable into the USB port of a compatible USB power source (e.g. USB port of a computer) for charging.
- During charging, the LED lights [4] will become red.

3. The red LED lights will turn off when the device is fully charged. Unplug the USB cable from the USB power source and disconnect the USB cable from the USB charging port of the device.

6. Putting on the device

6.1 Attaching the EcoFit Gels

1. Select the EcoFit Gels [2] (S or L) which fit comfortably and securely in the conchas (depressions leading to the opening of ear canals) of your ears.

The EcoFit Gels help reducing noise levels from the surroundings.

2. Attach the EcoFit Gel to the earpieces [3].

6.2 Attaching the ear tips

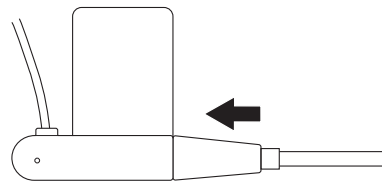
1. Select the ear tips [1] (S, M or L) which rest comfortably and securely in the opening of your ear canals.
2. Attach the ear tips to the earpieces [3].

6.3 Attaching the boom or wired microphone to a helmet

Besides the microphones [6] on the neckband [5], you can use the boom microphone [9] or wired microphone [13] for clearer voice transmission.

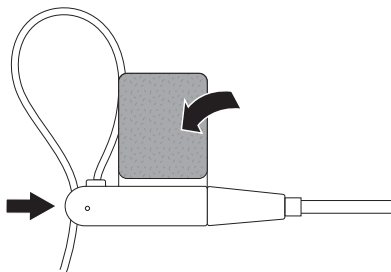
To attach the boom or wired microphone to a helmet:

1. Insert the boom microphone or wired microphone into the jack on the attachment flap [10].



Note: The jack on the attachment flap has a special shape which allows the microphone to be inserted in one way only.

2. Attach one side of a pair of hook-and-loop fastener [11] to the attachment flap.



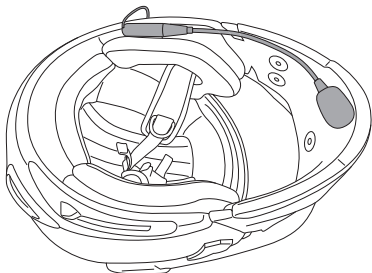
Note: You can adjust the length of the cable extending outside of the helmet by snapping the cable into the catch at the end of the attachment flap.

3. Attach the other side of a pair of hook-and-loop fastener on the inside of your helmet. This must be done on the right hand side of your helmet.

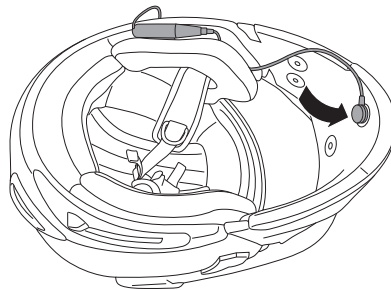


4. Press the pair of hook-and-loop fastener together so that the microphone is fixed in place on your helmet.

Boom microphone

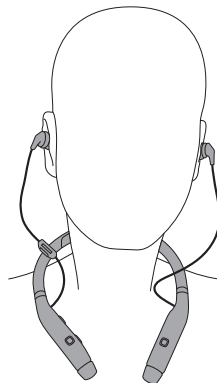


Wired microphone

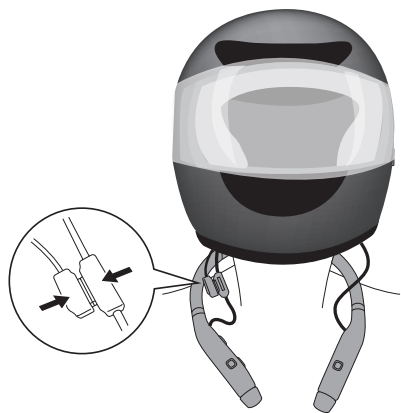


Note: Attach the wired microphone to the helmet with a pair of hook-and-loop fastener.

5. Place the neckband [5] around your neck, with the opening of the neckband facing forward. Then, insert the earpieces [3] (with the ear tips attached) into the opening of your ear canals.



6. Put on your helmet and connect the microphone to the microphone connector [7] on the neckband.



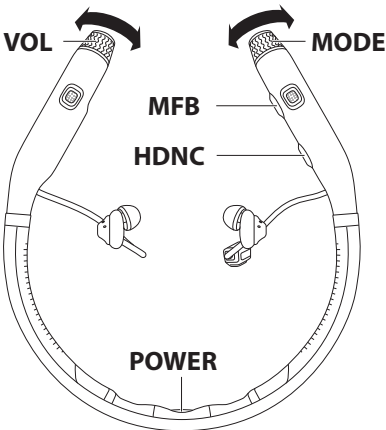
Note: The microphone connector has a special shape which allows the microphone to be connected in one way only.

7. Operation

7.1 General controls



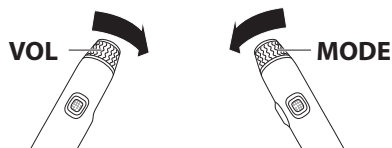
- Use the buttons and knobs below for operation.
- During setup and use, voice prompts are available to notify you of current operation status.



POWER	Power button
MFB	Multi-function button
HDNC	HDNC & ambient button/Reset button
MODE	Mode knob
VOL	Volume knob

7.2 Power on or off

- If you are holding the device in hand, press and hold **POWER** for 4 seconds;
- If you are wearing the device around your neck with both hands available, turn **VOL** clockwise and **MODE** anticlockwise at the same time;



- If you are wearing the device around your neck with only one hand available, turn and hold **VOL** clockwise for 4 seconds.



You hear a voice prompt regarding battery level (high/medium/low) when the device is powered on.

7.3 Turning Bluetooth on or off

Bluetooth must be turned on to enable intercom pairing or mobile phone pairing.

- Press **HDNC** for 3 to 5 seconds to turn on or off Bluetooth.

7.4 Intercom pairing

To connect two devices for intercom conversation:

1. Press **MFB** and **HDNC** buttons at the same time and then release the buttons when you hear the voice prompt "Intercom pairing".
2. When another device is found in the vicinity, press **MFB** once on either device.



Each device can be paired with another two devices for "one-on-one" intercom communication. See chapter "Two-way intercom".

7.5 Mobile phone pairing

1. Turn on the Bluetooth feature of your mobile phone. Make sure it is discoverable.
2. Press **MFB** and **HDNC** buttons at the same time and then release the buttons when you hear the voice prompts "Intercom pairing" and then "Phone pairing".

Note: You will hear the voice prompt "Remote control pairing" if you keep pressing the buttons after the voice prompt "Phone pairing". This feature (remote control pairing) is still under development.

3. On your mobile phone, select "Motikom - Plus" from the list of available devices for pairing.

7.6 Second device pairing

The device is capable of pairing with a second Bluetooth device such as a second mobile phone or GPX device.


1. Turn on the Bluetooth feature of your Bluetooth device. Make sure it is discoverable.
2. Press **MFB** and **HDNC** buttons at the same time and then release the buttons when you hear the voice prompt "Intercom pairing".
3. Press **MFB** and **HDNC** buttons again at the same time and then release the buttons when you hear the voice prompt "Second device pairing".
4. On your Bluetooth device, select "Motikom - Plus" from the list of available devices for pairing.

7.7 Pairing with a compatible device

The device is capable of pairing with a third party neckband. However, the Bluetooth programming of the third party neckband must be compatible with this device and using HFP protocol.

1. Turn on the Bluetooth feature of your third party neckband.
2. Press **MFB** and **HDNC** buttons at the same time and then release the buttons when you hear the voice prompts "Intercom pairing".

- Press **MFB** button and then release the button when you hear the voice prompt “Pairing mode”.
The device will start searching for the third party neckband and pair with it.

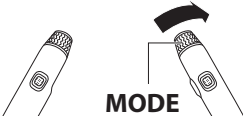
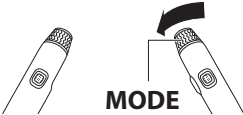


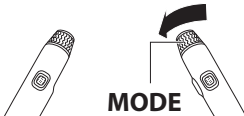
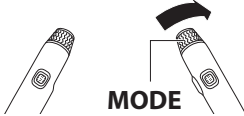
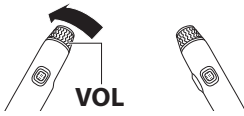
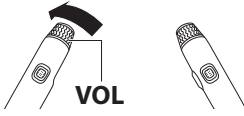

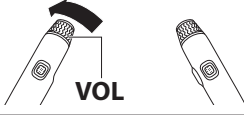
Controls for intercom calls with the third party neckband must be performed on this device.

7.8 Notes on pairing

- Pairing is not possible during intercom calls, phone calls or music listening.
- To stop before successful pairing, press **MFB** twice successively.
- If the pairing process is not completed within one minute, pairing will be automatically cancelled.
- The device will automatically connect with your last paired Bluetooth device when it is within the device’s Bluetooth range (10 m). If necessary, press **MFB** button once to prompt this device to actively search for the previously paired Bluetooth device.

7.9 Handling phone calls

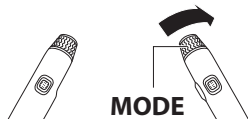
Basic handling	
Answer an incoming call.	Turn MODE clockwise and then release. <div>  </div>
Reject an incoming call.	Turn MODE anticlockwise and then release <div>  </div>

End a call.	Turn MODE anticlockwise and then release. <div>  </div>
Redial the last called number.	Turn MODE clockwise and hold for 2 seconds. <div>  </div>
Mute a call.	Turn VOL anticlockwise and hold for 2 seconds. <div>  </div>
Unmute a call.	Turn VOL anticlockwise and then release. <div>  </div>
Increase the volume.	Turn VOL clockwise and then release. <div>  </div>
Decrease the volume.	Turn VOL anticlockwise and then release. <div>  </div>

Handling two phone calls

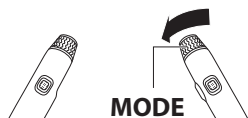
Answer a new incoming call and put the current call on hold.

Turn **MODE** clockwise and then release.



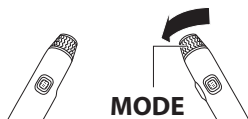
Reject a new incoming call without interrupting the current call.

Turn **MODE** anticlockwise and then release.



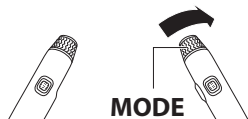
End the current call and switch to the call which is on hold.

Turn **MODE** anticlockwise and then release.



Switching between the current and the hold calls.

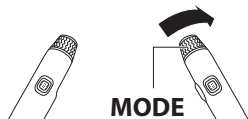
Turn **MODE** clockwise and then release.



Handling phone calls during intercom

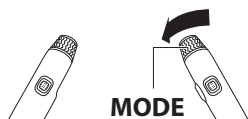
Answer an incoming phone call during intercom.

Turn **MODE** clockwise and then release.



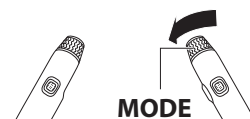
Reject an incoming phone call during intercom.

Turn **MODE** anticlockwise and then release.



End the current phone call and switch back to intercom.

Turn **MODE** anticlockwise and then release.



7.10 Activating voice control of your mobile phone

- Turn **MODE** clockwise and hold for 2 seconds to activate the voice control function (e.g. Siri and Google Assistant).

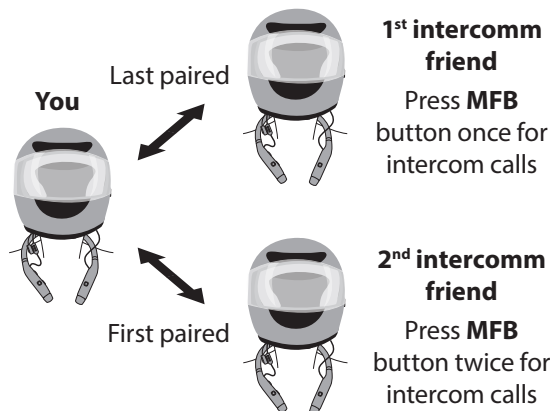


- If you have paired with two mobile phones, only the voice control function of the first paired mobile phone can be activated.

7.11 Two-way intercom

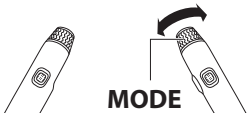
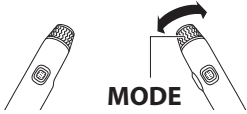
Each device can be paired with another two devices for "one-on-one" intercom communication.

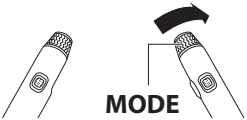
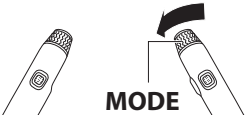
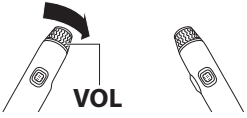
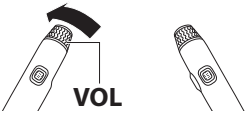
If you have paired with another two devices:



- The last paired device is regarded as the 1st intercom friend. Press **MFB** button **once** to connect or disconnect the intercom communication with the 1st intercom friend.
- The first paired device is regarded as the 2nd intercom friend. Press **MFB** button **twice** to connect or disconnect the intercom communication with the 2nd intercom friend.
- When your intercom friend is already having a phone call or an intercom call with another device user, you will hear a voice prompt and low-tone beep sounds, signifying a busy call. In this case, try calling later.
- If one of the two paired devices is out of the intercom range (150 m), the device will keep on searching for that device for up to 1 hour (a repeating signal sound can be heard). Press **MFB** button to stop searching for the out-of-range device.
- If your device is paired with two mobile phones, only the first paired mobile phone can be controlled during intercom calls.

7.12 Controlling the media player of your mobile phone

Start playback.	Start music playback from the media player of your mobile phone.
Pause playback.	Turn MODE in any direction and then release. 
Resume playback.	Turn MODE in any direction and then release. 

Go to next track.	Turn MODE clockwise and then release twice. 
Go to previous track (or beginning of current track if it has been played for more than 3 seconds).	Turn MODE anticlockwise and then release twice. 
Increase the volume.	Turn VOL clockwise and then release. 
Decrease the volume.	Turn VOL anticlockwise and then release. 

7.13 Hybrid Dynamic Noise Cancellation system

Hybrid Dynamic Noise Cancellation (HDNC™) consists of 5 levels (1–5). Level 1 is the default level.

- Press **HDNC** to cycle through the levels. Press the button once to go one level up or twice successively to go one level down.



Active Noise Cancellation levels

Level 1: Ultimate noise cancelling level

Level 2: Medium noise cancelling level

Level 3: Mild noise cancelling level

Level 4: Natural surrounding sound level

Level 5: Talk through level

You can still listen to music and hear your own voice in all levels.

7.14 Talk through mode

Talk through mode allows you to hear ambient sound even while using the device. In talk through mode, you cannot make or answer phone calls, listen to music or have intercom conversation.

- Turn **VOL** anticlockwise and hold for 2 seconds to turn on talk through mode.



- Turn **VOL** anticlockwise and then release to turn off talk through mode.



7.15 Resetting to factory default

1. While the device is powered on, press **HDNC** for 8 seconds and release the button when you hear the voice prompt “Factory reset”.
2. Press **MFB** button to confirm the factory reset.

7.16 More product information

Visit www.motikom.com for more information.

8. LED lights

The connection and operation status can be easily checked through the colours and patterns of the LED lights [4] on the device. Refer to the table below.

Colour and pattern	Status
Flashing blue once intermittently	Powered on without any devices connected.
Flashing blue twice intermittently	Powered on with device connected.
Flashing red intermittently	Battery level is low.
Left LED light flashing red	Intercom pairing is in progress.
Flashing red and blue	Bluetooth pairing with mobile phone is in progress.
Solid red	Charging is in progress
Flashing red and blue alternately	Factory reset is requested.

9. Cleaning

- Wipe the device off with a damp cloth. Then let all parts dry completely.
- For the best acoustic performance, regularly clean the ear tips with a dry and soft brush.

10. Storage

- Store the device in the carrying case [15] and in a dry, clean and dust-free location.
- Keep the device away from direct sunlight.
- Keep the device out of the reach of children.

11. Troubleshooting

Some problems may be caused by minor faults, which you can rectify yourself. To do so, follow the instructions in the following table. If this does not correct the problem, contact the Customer Service. Do not repair the device yourself.

Fault	Possible cause and solution
The device does not operate.	Make sure the device is properly charged.
Intercom cannot be established.	Make sure the two neckbands are within the device's Bluetooth intercom range (150 m).
Bluetooth pairing cannot be established with your mobile phone.	<ul style="list-style-type: none">• Make sure your device is within the device's Bluetooth range (10 m).• Make sure your device's Bluetooth function is turned on and discoverable.• The device is connected to another device. Disconnect the paired device and perform Bluetooth pairing again.• There are too many Bluetooth devices near the device. Turn off the Bluetooth function on the unused devices to avoid interference.

Poor sound quality or distorted sound.	Make sure your device is within the device's Bluetooth range (10 m). Move your device closer to the device.
Noise-cancelling is not working.	<ul style="list-style-type: none">• Make sure noise-cancelling has been activated.• Make sure the device is sufficiently charged.

12. Technical data

Model:	RA1000S
Input:	DC 5 V / 0.5 A
Operating time:	up to 72 hours (HDNC only) up to 25 hours (Music + HDNC) up to 20 hours (Intercom)
Weight:	152 g (neckband only)

FCC statement

NOTE: 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.

The SAR limit of USA (FCC) is 1.6 W/kg averaged over one gram of tissue. Device type RA1000S (FCC ID: 2AU2ARALP9) has also been tested against this SAR limit.

The highest SAR value reported under this standard during device certification for use when properly worn on the head is 0.07W/kg.

Simplified EU declaration of conformity

Hereby, AUDIKOM TECHNIK LIMITED declares that the radio equipment type [designation of type of radio equipment is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: www.motikom.com

The Bluetooth max. EIRP is 18.13 dBm.

The SAR limit of Europe is 2.0 W/kg. The device has also been tested against this SAR limit. The highest SAR value reported under this standard during product certification for use at the ear is 0.042W/kg. The device is in compliance with the requirements.

Manufacturer address:

Blk 1, 16/F, Grand Central Plaza, 138 Shatin Rural Committee Road, Shatin, N.T., Hong Kong China

13. Disposal

13.1 Disposal of the packaging

- Dispose of the packaging separated into single type materials. Dispose of cardboard and carton as waste paper and foils via the recyclable material collection service.

13.2 Disposing of old devices

Old devices must not be disposed of with household waste!



If the device can no longer be used, every user is required by law to dispose of old devices separately from their household waste, e.g. at a collection point in their community/borough. This ensures that old devices are recycled in a professional manner and also rules out negative consequences for the environment. For this reason, electrical devices are marked with the above symbol.

Batteries and rechargeable batteries must not be disposed of with household waste!



As a consumer, you are required by law to turn in all batteries and rechargeable batteries, regardless whether they contain harmful substances* or not, at a collection point in your community/borough or in a retail outlet so that they can be disposed of in an environmentally friendly manner.

Bring the device, in their entirety, (together with the battery) to your collection point and make sure that they are in a uncharged state!

* labelled with: Cd = cadmium, Hg = mercury, Pb = lead

Note: The device contains a rechargeable battery which cannot be replaced. The rechargeable battery must be removed from the device before it is scrapped. To do so, wrap the device around with a towel and use a hammer to smash the housing. Make sure your eyes and hands are protected to avoid injury. Please note the removal of rechargeable battery is not reversible.

FCC statements:

The device has been evaluated to meet general RF exposure requirement, The device can be used in portable exposure condition without restriction

Federal Communication Commission (FCC) Radiation Exposure Statement

Power is so low that no RF exposure calculation is needed.

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.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications or changes to this equipment. Such modifications or changes could void the user's authority to operate the equipment.

