

RESPIRATOR VOICE AMPLIFIER

The Respirator Voice Amplifier (RVA, Figure 1) is a wearable rugged voice communication device designed for professionals who need to clearly and loudly talk with e.g. the CBRN respiratory mask fitted (there is no need to remove it). The RVA withstands temperature, vibration, water, salt fog and dust.

The RVA provides the interface (standard TRS 3.5 mm Jack connector) for dynamic microphone audio input like the CBRN respiratory full/half face mask microphone (Tactical Air Purifying Respirator Microphone, TAPRM) mounted in the exhalation valve cover/cap of the mask.

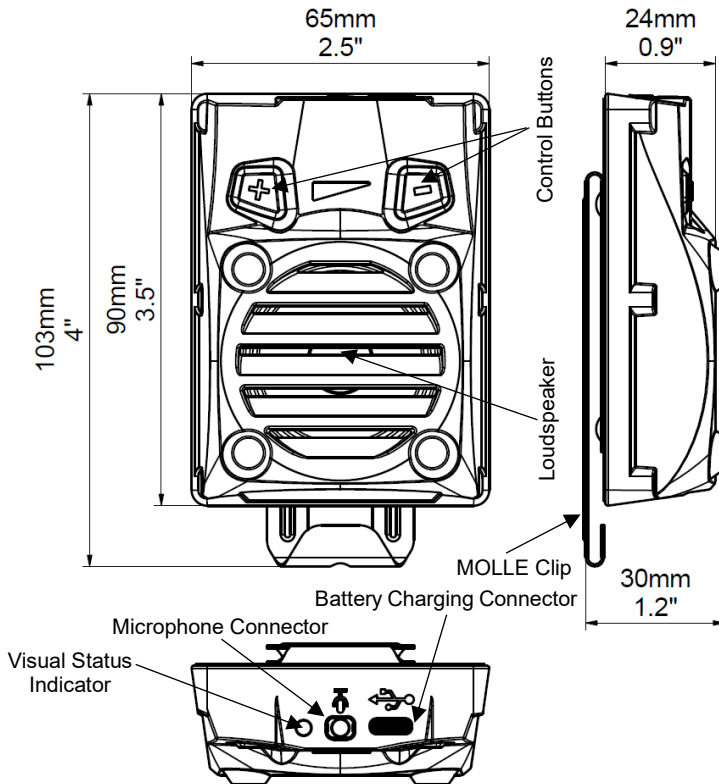


Figure 1: Respirator Voice Amplifier (RVA)

The RVA is equipped with integrated rechargeable battery (via standard USB Type-C interface) including sophisticated charging/battery management and Visual Status Indicator. There are two control buttons to adjust the voice output level as well as to turn the device on and off. It can be attached to tactical gear via the MOLLE compatible clip or pouch.

1. INTERCONNECTION AND FITTING

Connect the cable leading from the microphone to the RCA 3.5 mm Jack Receptacle (Figure 1, "Microphone Connector").

Clip the RCA to the MOLLE attachment, vest, pocket or waistbelt (Figure 1, "MOLLE Clip"). If necessary, use the velcro fastener strip to securely fasten the microphone cable.

2. TURNING ON

Short press the "+" or "-" button to turn the RVA on (Figure 1, "Control Buttons") – indicated by the green lighting/flashing Visual Status Indicator (Figure 1, "Visual Status Indicator").

The voice picked up by the microphone is loudly reproduced by the RVA (Figure 1, "Loudspeaker").

If the RVA does not turn on, connect the charger and wait for at least 1 minute before trying to turn it on again.

3. MICROPHONE CONNECTION DETECTION

The RVA is equipped with automatic detection and evaluation of the correct functionality of the microphone – if the connected microphone is functional, its connection/disconnection is signalized by a short flash of the blue Visual Status Indicator when the RVA is turned on.

4. VOLUME UP/DOWN + BOOST MODE

Use "+" and "-" buttons to adjust the volume to the desired level – 5 steps with the same volume level on turned on as it showed before turned off. Each step is announced by short flash of the blue Visual Status Indicator.

The Boost Mode is activated by simultaneous holding the "+" and "-" buttons for 2 seconds. This mode which doubles the maximum volume level is announced by triple flash of the blue Visual Status Indicator. Pressing any "+" or "-" button terminates this mode (boost level is not stored in the device's memory for the further RVA turning on).

An acoustic feedback may occur if the RVA gets close to the microphone – increase the distance between the RVA and the microphone, reduce the output volume or disconnect and (re)connect the microphone!

5. TURNING OFF

The RVA can be turned off by holding the "+" or "-" button for 2 seconds.

6. AUTOMATIC SHUTDOWN

If the RVA is turned on without a microphone connected and neither button is pressed nor a microphone is connected, it will automatically turn off after 10 minutes.

If the microphone is disconnected while the RVA is turned on and neither button is pressed nor the microphone is (re)connected, the RVA is automatically turned off after 10 seconds.

The RVA is automatically turned off after 8 hours if a microphone is connected and no button is pressed within this period.

Automatic shutdown of the RVA can also occur if the built-in continuous test identifies any device fault or if the internal battery voltage drops too low and a functional battery charger is not connected.

7. BATTERY VISUAL STATUS INDICATOR

A fully charged battery is indicated by the green lighting Visual Status Indicator.

If the battery is discharged but it still allows at least 8 hours of the RVA operation, the green Visual Status Indicator flashes long. If a minimum of 4 hours of operation is enabled, it flashes moderately long. With one hour or less of operation remaining, it flashes fast.

8. BATTERY CHARGING

Connect standard USB Charger using USB-C cable (USB Type-C to USB Type-A cable is included in the package) to the RVA USB Type-C Receptacle (Figure 1, “Battery Charging Connector”).

Standard charging time is less than 2 hours. Charging is indicated by the lighting/flashing blue Visual Status Indicator – fast flashing indicates a fast charging state, slow flashing indicates a state, when charging will be completed within approx. 15 minutes. When the battery is charged ($\geq 95\%$ of its capacity), the Visual Status Indicator lights permanently blue.

The battery should be charged at temperatures (0 to +45) °C.

9. MAINTENANCE, CLEANING, STORAGE AND RECYCLING

The user should check correct operation before use. If significant voice distortion or other impairment is found, the RVA should no longer be used.

The RVA is water resistant. However, do not subject it to running water and do not immerse it in water. If the RVA comes into contact with water, wipe it, shake out any water inside loudspeaker and connectors compartment and let air dry.

Wipe the RVA with clean, damp cloth. Do not use solvents.

The RVA integrated battery should be stored at more than 50 % capacity which is indicated by green permanent lighting of the turned on RVA Visual Status Indicator. During long storage period, it should be maintained (re-charged) every 3 months. Do not store the RVA at temperatures exceeding +45°C, for example on a dashboard or windowsill. Do not store the RVA at temperatures below -20°C.

The RVA is covered by the WEEE directive 2002/96/EC and is recyclable. Dispose the product in accordance with national regulation (use local recycling system for electronic products).