RPA01

Radio Microphone Transmitter

Product Manual

This equipment is designed and manufactured to conform to the following EC standards:

Radio Type Approval: EN 300 422-1:v1.2.2, EN 300 422-2:v1.1.1

EMC: EN 301 489-9:v1.3.1, EN 301 489-1:v 1.6.1, EN 50121-4:2006, ENV 50204:1995

Safety: EN60065:2002

Failure to use the equipment in the manner described in the product literature will invalidate the warranty.

A 'Declaration of Conformity' statement to the above standards, and a list of auxiliary equipment used for compliance verification, is available on request.

This product must be disposed of in accordance with the WEEE directive.

RoHS

This product is RoHS compliant.

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1 Description

The RPA01 Roving PA Radio Microphone Transmitter is a multi-channel UHF handheld microphone, which is designed to work with the Radio Microphone Receiver installed within the ASL Station Announcement Points, either SAP01 or SAP02, and within the RRM02 Remote Radio Microphone Receiver. It is normally used for making remote announcements to station platforms.

The unit incorporates an internal aerial and microphone, and has ten selectable channels. The unit features a LCD display to show the selected channel number and the battery level. This Radio Microphone has excellent microphone acoustics, and its front facing microphone gives low susceptibility to acoustic feedback. It also generates a non-standard pilot tone frequency that gates the ASL RMR01/RMR02 Radio Microphone Receivers, to prevent announcements from non-authorised transmitters from being heard.

This lightweight and strong Radio Microphone has large PTT and channel selection buttons, and a symmetrical design, which provides the operator with ergonomic comfort, and easy operation, even while wearing gloves. Strength is ensured by a robust plastic enclosure, and a protective rubber edge strip, which also provides the unit with impact resistance and good water ingress protection.
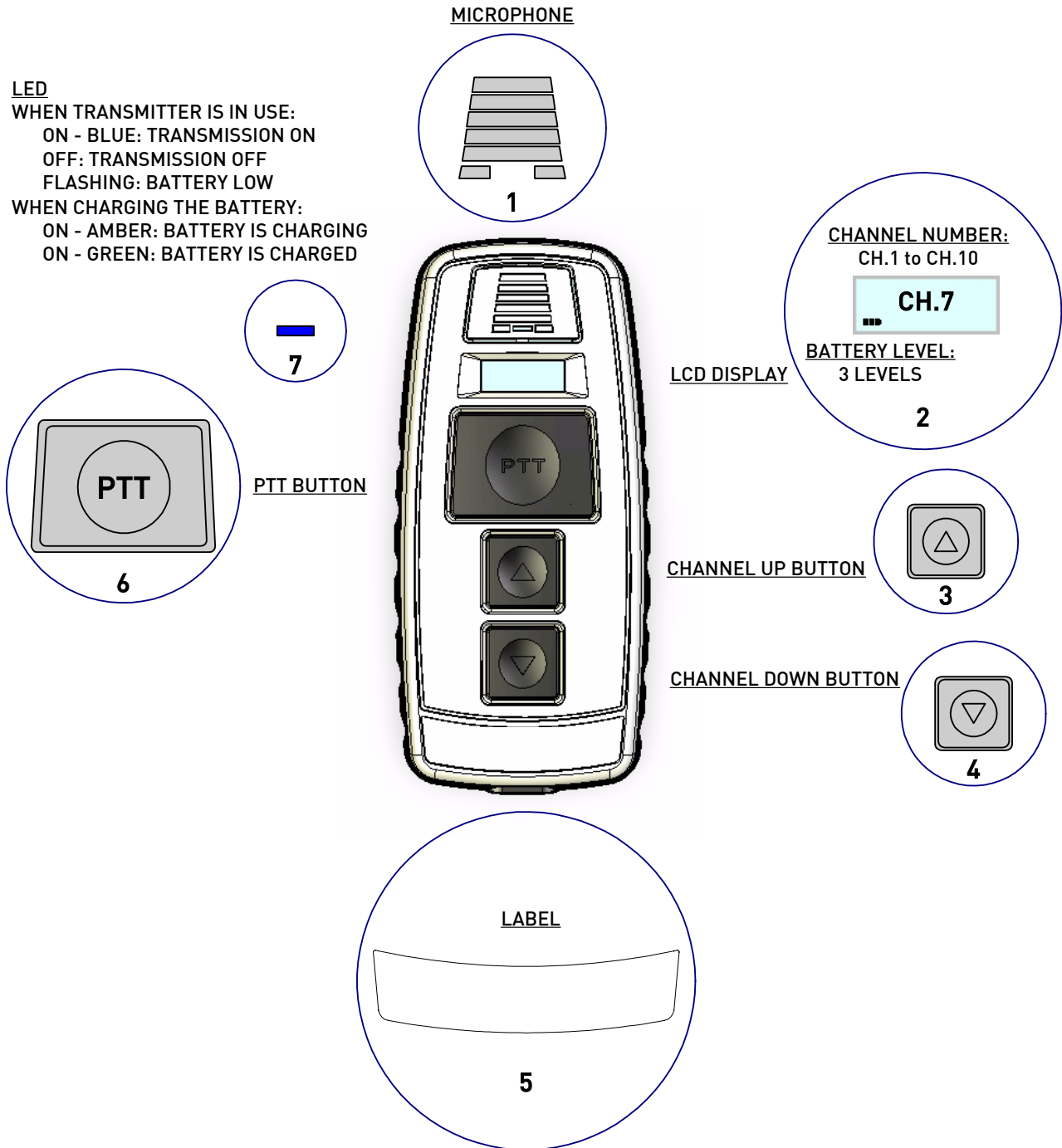
The unit uses a built-in Lithium Polymer rechargeable battery. This is an advanced battery technology which provides low weight and long run times. A fully charged battery generally lasts for up to 7 hours of continuous talk time, which translates to several days of normal operational use. The RCS01 4-bay RPA Transmitter Charging Station is available, and can be ordered separately if required.

The Radio Microphone Transmitter is supplied with belt clip with lanyard fixing as standard. The standard lanyard is suitable for rail and general transport use, having breakaway links to ensure that the user is not injured if the microphone is trapped in moving equipment. The belt clip can be removed by replacing the standard rear plate with a rear plate without belt clip, which is also supplied with the RPA01.

Refer to the SAP product manual [Table 1, page 18] for details of the SAP and the Radio Microphone Receiver.

2   Operation

2.1   Controls and Indicators

MICROPHONE

1

LED
WHEN TRANSMITTER IS IN USE:
    ON - BLUE: TRANSMISSION ON
    OFF: TRANSMISSION OFF
    FLASHING: BATTERY LOW
WHEN CHARGING THE BATTERY:
    ON - AMBER: BATTERY IS CHARGING
    ON - GREEN: BATTERY IS CHARGED

7

CHANNEL NUMBER:
CH.1 to CH.10

CH.7

BATTERY LEVEL:
3 LEVELS

2

LCD DISPLAY

PTT

PTT BUTTON

6

PTT

CHANNEL UP BUTTON
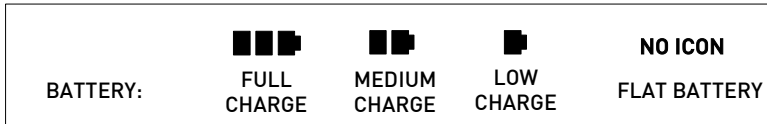
3

CHANNEL DOWN BUTTON

4

LABEL

5

1 Microphone

Front facing microphone gives low susceptibility to acoustic feedback.

2 LCD Display

The LCD display shows the currently selected channel number, and the battery level.

Three battery levels are shown via 3 icons:

	▉▉▶	▉▉▶	▉▶	**NO ICON**
BATTERY:	FULL CHARGE	MEDIUM CHARGE	LOW CHARGE	FLAT BATTERY

> ⓘ The RPA01 transmitter is powered by a rechargeable battery. A new battery must be charged for at least 2 hours before being used for the first time. It reaches its optimum capacity after a few cycles of use.
>
> A fully charged battery should last up to 7 hours of continuous talk time, which translates to several days of normal operational use. However it is recommended that the RPA01 transmitter is returned to its charging bay on a daily basis to completely eliminate the risk of the batteries running flat when the unit is in service.
>
> The battery must be charged in-situ using the RCS01 Charging Station, which can be ordered separately. Please, refer to the RCS01 Charging Station Product Manual for further details [Table 1, page 18].

3 & 4 Channel Up & Down Button

Pressing either channel button momentarily powers the unit up, and holds power on for a few seconds; the unit then shows the currently selected channel number on the LCD display.

Subsequent presses of the Channel Up and Down buttons then increment or decrement the channel. Note that the microphone does not broadcast during this time, to allow the user to view and change channel without making an announcement. Once the channel has been selected pressing PTT will enable transmission on the selected channel.

5 Label

An adhesive label for use with water-resistant ink is supplied. Customised label to order.

6 PTT Button

Push To Talk button activates the transmission when pressed.

7 LED

When the RPA01 transmitter is in use:

OFF	▭	Transmission is disabled.
ON Blue	🔵	PTT button is pressed and the Radio Microphone is transmitting.
FLASHING Blue	🔵	Battery needs to be recharged.

When the RPA01 transmitter is placed in the Charging Station:

ON Amber	🟧	Battery is charging.
ON Green	🟩	Battery is charged.

2.2 Making an Announcement

> (i) • If using with a SAP01 fitted with a Radio Microphone Receiver, then in order to be able to make an announcement from the Radio Microphone the key-switch located on the SAP01 internal panel should the selected to RADIO MIC position using the associated KABA key.
>
> • If using with a SAP02 fitted with a Radio Microphone Receiver, then in order to be able to make an announcement from the Radio Microphone the Radio Microphone needs to be enabled through the **RADIO MIC – ON/OFF** button on the SAP02 front panel. When the Radio Microphone is enabled the **RADIO MIC – SELECTED** LED on the front panel is illuminated.

> ⚠ A fully charged battery should last up to 7 hours of continuous talk time, which translates to several days of normal operational use. However it is recommended that the RPA01 transmitter is returned to its charging bay on a daily basis to completely eliminate the risk of the batteries running flat when the unit is in service.
>
> The battery must be charged in-situ using the RCS01 Charging Station, which can be separately ordered. Please, refer to the RCS01 Charging Station Product Manual for further details [Table 1, page 18].

CHANNEL

△ ▽
UP   DOWN

LCD DISPLAY

CH.7

1. If necessary, select the channel on which the Radio Microphone transmits, by pressing the channel UP/DOWN buttons.

   Pressing either channel button momentarily powers the unit up, and holds power on for a few seconds; the unit then shows the currently selected channel number on the LCD display.

   Subsequent presses of the Channel Up and Down buttons then increment or decrement the channel. Note that the microphone does not broadcast during this time, to allow the user to view and change channel without making an announcement. Once the channel has been selected pressing PTT will enable transmission on the selected channel.

> ⚠ If no battery level icon is displayed on the left bottom corner of the display, then the battery needs to be recharged.

LOUDSPEAKER

**ANNOUNCEMENT
IN PROGRESS**
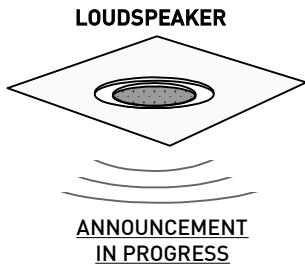
2. If in the audio zone into which the broadcast will be made, then listen for any existing broadcast, and, if appropriate, wait for this to end before starting your broadcast.

PRESS TO TALK BUTTON

PTT

PRESS AND HOLD

3. To initiate an announcement, press and hold the PTT (Push To Talk) button.

LED

LED = ON

LCD DISPLAY

CH.7
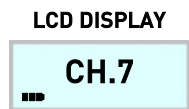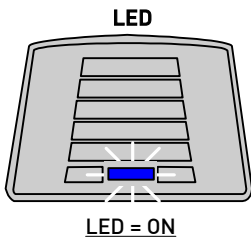
The LED on top of the Radio Microphone illuminates blue.

The current channel selection and battery level are shown on the LCD display

LED
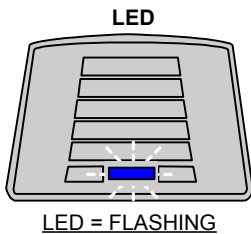
LED = FLASHING

⚠ A flashing LED indicates that the battery needs to be recharged.

LOUDSPEAKER

CHIME SOUNDING
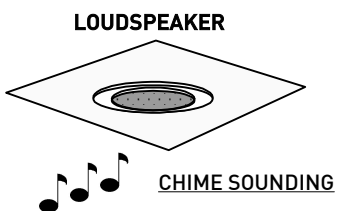
4. Assuming a higher priority source is not already broadcasting to the associated zone, 1-2 seconds after pressing the PTT the broadcast will commence, and a chime will sound (if configured at the Router).

After the chime has ended you can make your broadcast.

5. Talk in a normal speaking voice directly into the microphone grille at the top of the Radio Microphone observing right positioning of the microphone.
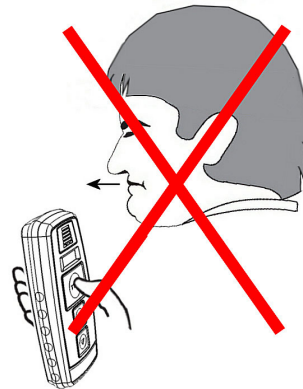
> (i) Whilst the Radio Microphone is operated, with an ASL SAP Station Announcement Point fitted with a Radio Microphone Receiver:
>
> • The **RADIO MIC BUSY** LED illuminates on the SAP01 front panel.
>
> • The **RADIO MIC – ACTIVE** LED illuminates on the SAP02 front panel.

Recommendations for Optimum Results

a. The Radio Microphone should be held so that the microphone is 5-10 cm from the operator's mouth.

b. A loud speaking voice should be adopted, but there is no need to shout.

c. Announcements underneath a speaker should be avoided due to the possibility of feedback.

d. If possible, face towards the nearest receiver antenna.

PRESS TO TALK BUTTON
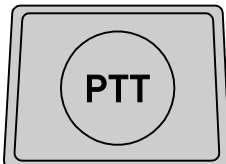
RELEASE

6. To end the announcement, release the PTT button. As soon as the PTT is released the system automatically resets, ready for the next announcement.

2.3　　　Carrying the RPA01
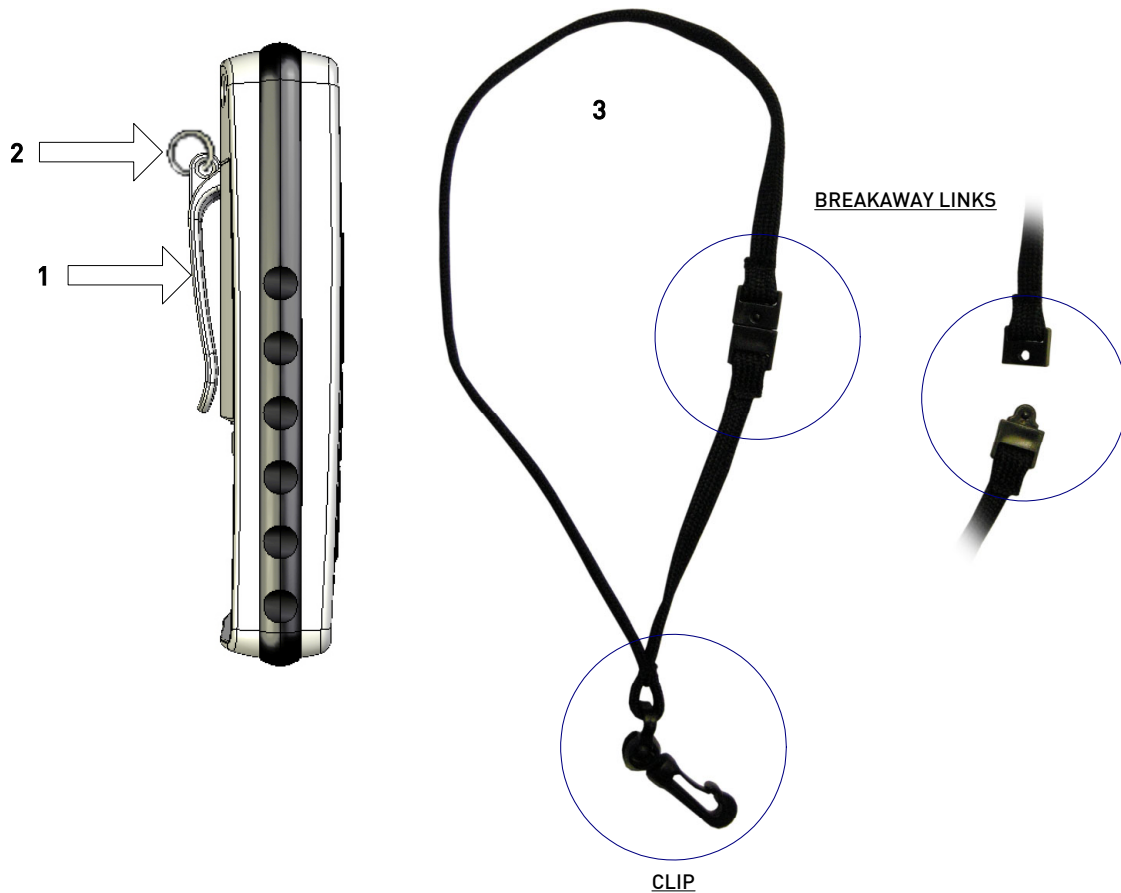
1　Belt Clip

As standard the Radio Microphone Transmitter is supplied with belt clip with lanyard fixing, but is also available without the belt clip.

2　Metal Ring

For lanyard fixing.

3　Lanyard

Breakaway lanyard suitable for rail and general transport use. The breakaway links automatically snap if the Radio Microphone Transmitter is trapped in moving equipment, ensuring that the user is not injured.

Standard ribbon dimensions: 8 mm width x 240 mm length (approximately).

3   Maintenance

3.1   Charging the Battery

A new battery must be charged for at least 2 hours before being used for the first time. It reaches its optimum capacity after a few cycles of use.

A fully charged battery should last up to 7 hours of continuous talk time, which translates to several days of normal operational use. However it is recommended that the RPA01 transmitter is returned to its charging bay on a daily basis to completely eliminate the risk of the batteries running flat when the unit is in service.

The rechargeable battery built into the RPA01 transmitter is of Lithium Polymer composition and thus can be recharged without being fully discharged. However, they will benefit from an occasional complete discharge.

> ⚠ • The battery must be charged in-situ using the RCS01 Charging Station, which can be separately ordered. Typically it takes 2 hours to recharge a flat battery. Please, refer to the RCS01 Charging Station Product Manual for further details [Table 1, page 18].
>
> • Keep battery charging contacts clean, by wiping them with a soft cloth.

3.2   Cleaning the Microphone

Clean the exterior surfaces with a cloth that has been slightly moistened with water. A mild detergent solution may be used. Be sure to wipe away any detergent residue with a clean water-dampened cloth.

After a long period of use the microphone grille may become blocked with dust and debris, leading to reduced audio quality. If the grille cannot be easily cleaned, then the RPA01 should be returned to a service agent for cleaning.

> ⚠ Do not immerse the RPA01 transmitter in water or other liquid.

3.3   Replacing the Battery

The built-in LiPo (Lithium Polymer) battery has a lifespan of more than 1000 recharging cycles under normal conditions. This translates to approximately 3 years of battery life for normal use.

Once the battery ceases to hold enough charge for a full day use it should be replaced.

1

2

3

4
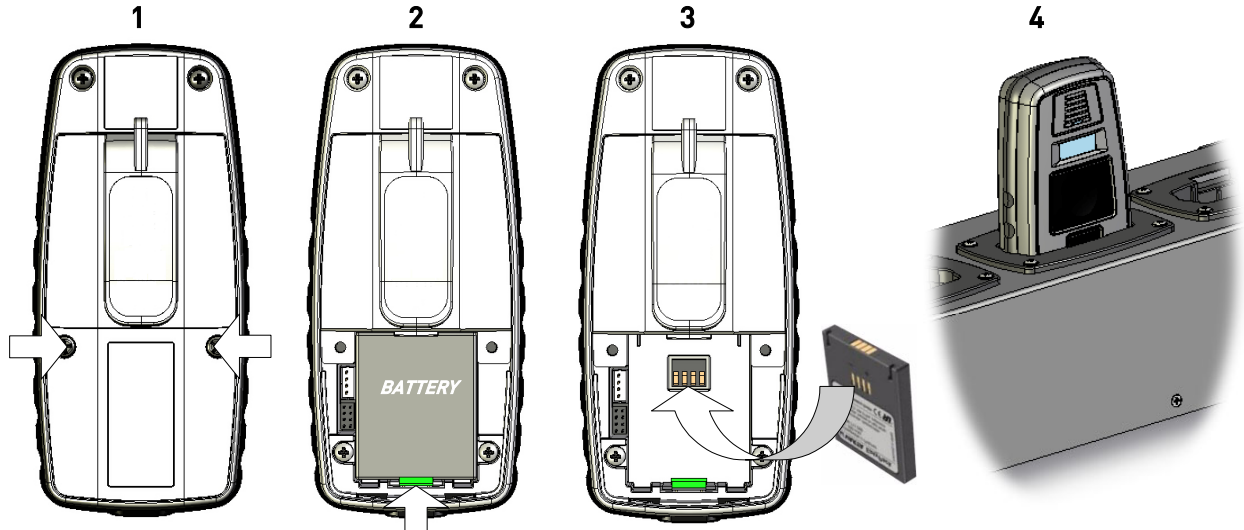
1. REMOVE SCREWS USING 2 MM ALLEN KEY OR DRIVER.
2. REMOVE THE BATTERY COVER.

1. RELEASE THE CLIP AT THE BOTTOM OF THE RPA01 CASE.
2. REMOVE THE BATTERY.

1. FIT THE NEW BATTERY IN PLACE SO THAT THE BATTERY CONTACTS MEET THE TRANSMITTER CONTACTS.
2. RE-FIT THE BATTERY COVER.

FULLY CHARGE THE NEW BATTERY BEFORE USE. IT TAKES ABOUT 2 HOURS. PLEASE REFER TO SECTION "3.1 Charging the Battery".

> ⚠️
> 1. DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
> 2. REPLACE ONLY WITH THE SAME (**VARTA EASYPACK 550**) OR EQUIVALENT TYPE.
> 2. DISPOSE OF BATTERY CAREFULLY TO AVOID ENVIRONMENTAL DAMAGE.
> 3. DO NOT DISPOSE OF BATTERY IN A FIRE.

3.4 Replacing a Broken Belt Clip Plate

Use this procedure to replace a broken belt clip plate with a new one.
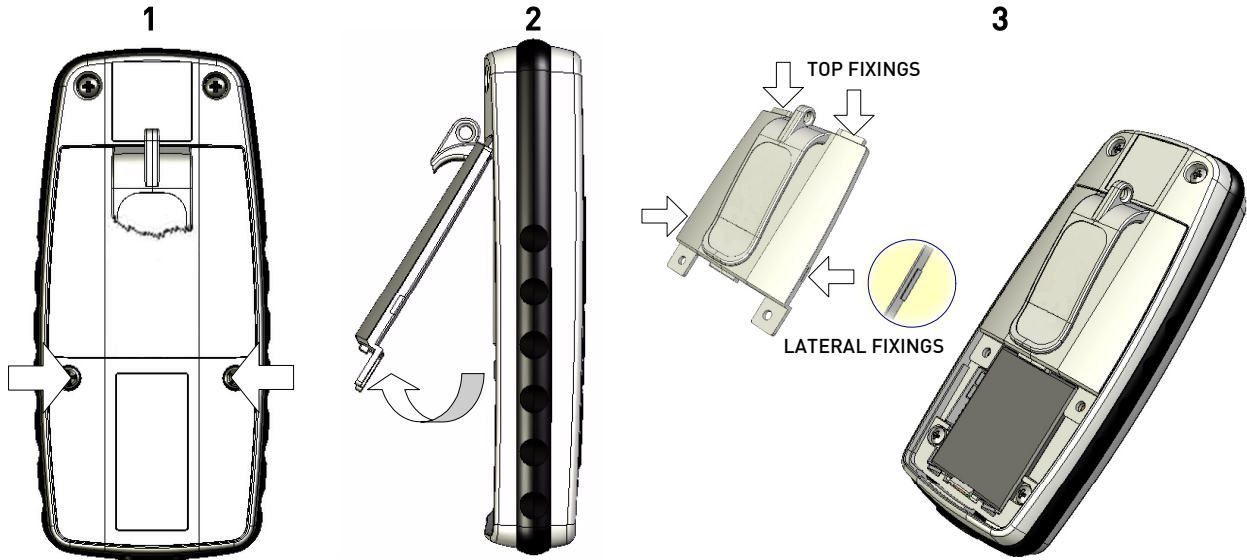
1

2

3

TOP FIXINGS

LATERAL FIXINGS

1. REMOVE SCREWS USING 2 MM ALLEN KEY OR DRIVER.
2. REMOVE THE BATTERY COVER.

LIFT THE PLATE TO REMOVE.

1. TIGHTLY FIT THE NEW PLATE BY PUSHING IT INTO PLACE.
2. RE-FIT THE BATTERY COVER.

3.5 Fitting a Belt Clip Plate

Use this procedure to replace a rear plate without belt clip plate with a belt clip plate.
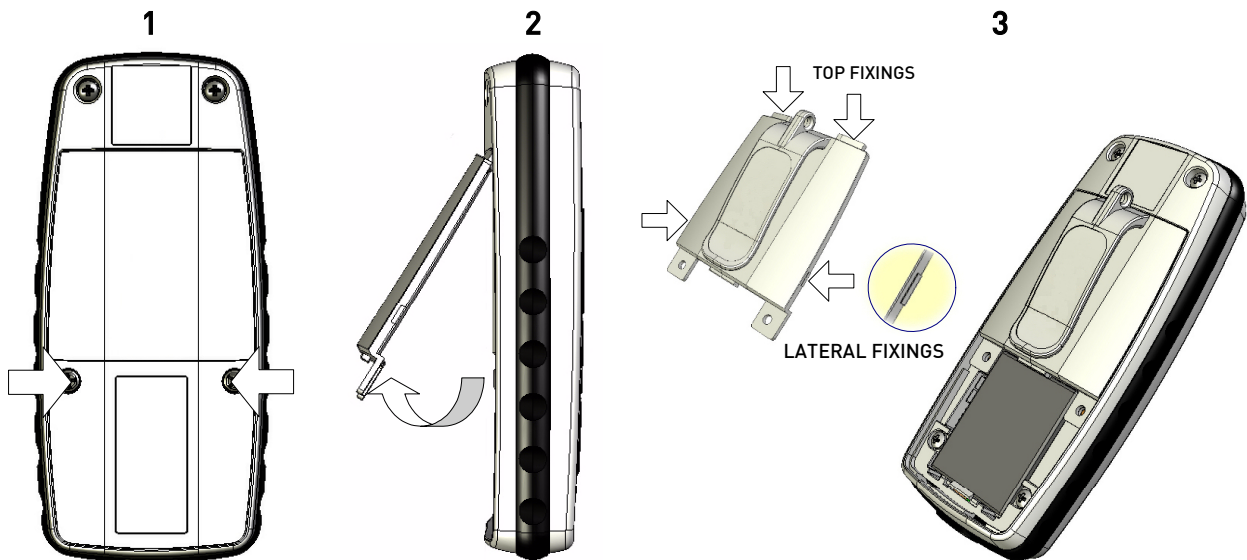
1

2

3

TOP FIXINGS

LATERAL FIXINGS

1. REMOVE SCREWS USING 2 MM ALLEN KEY OR DRIVER.
2. REMOVE THE BATTERY COVER.

LIFT THE PLATE TO REMOVE.

1. TIGHTLY FIT THE NEW PLATE BY PUSHING IT INTO PLACE.
2. RE-FIT THE BATTERY COVER.

3.6　　　Fitting a Rear Plate without Belt Clip

Use this procedure to replace a belt clip plate with a rear plate without belt clip.
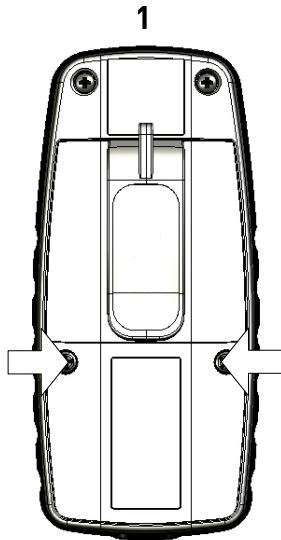
1　　　　　　　　**2**　　　　　　　　**3**
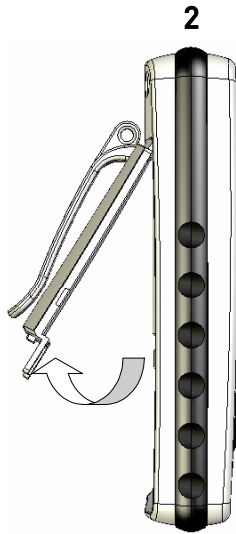
TOP FIXINGS

LATERAL FIXINGS

1. REMOVE SCREWS USING
   2 MM ALLEN KEY OR
   DRIVER.
2. REMOVE THE BATTERY
   COVER.

LIFT THE PLATE TO REMOVE.
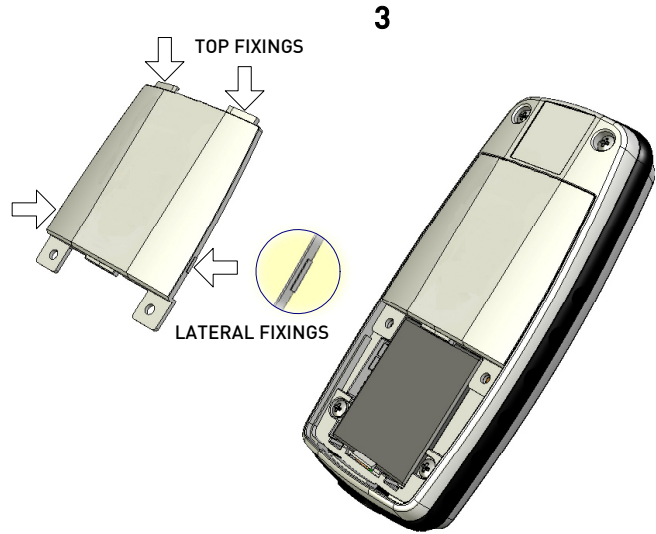
1. TIGHTLY FIT THE NEW PLATE BY
   PUSHING IT INTO PLACE.
2. RE-FIT THE BATTERY COVER.

3.7 Spare Parts

ASL Part Number	Additional Information
RCS01	RCS01 Charging Station Manufacturer/Supplier: Application Solutions (Safety and Security) Limited Manufacturer/Supplier Part No.: RCS01 Manufacturer/Supplier Description: 4-bay charging station for RPA01 transmitter
RPA01-BAT	Lithium Polymer Battery Manufacturer/Supplier: VARTA Microbattery Manufacturer/Supplier Part No.: 66590 711 099 Manufacturer/Supplier Description: EasyPack 550 mAh PoLiFlex battery
RPA01-CLIP	Rear Plate with Belt Clip and Lanyard Fixing with Ring Manufacturer/Supplier: Application Solutions (Safety and Security) Limited Manufacturer/Supplier Part No.: RPA01-CLIP Manufacturer/Supplier Description: Rear plate with belt clip, lanyard fixing, and metal ring
RPA01-LANYARD	Lanyard Manufacturer/Supplier: Application Solutions (Safety and Security) Limited Manufacturer/Supplier Part No.: RPA01-LANYARD Manufacturer/Supplier Description: Breakaway lanyard
RPA01-REAR	Rear Plate without Belt Clip Manufacturer/Supplier: Application Solutions (Safety and Security) Limited Manufacturer/Supplier Part No.: RPA01-REAR Manufacturer/Supplier Description: Rear plate without belt clip/lanyard fixing

4 Product Specification

General

Effective Radiating Power (ERP) .... 10 mW
Audio Frequency Response.. 200 Hz – 10 kHz
Antenna..internal dipole
Grid Spacing .... 25 kHz
Operating Frequencies ....10 frequencies in the Channel 70 licence free band
selectable by internal rotary switch
Frequencies available from ASL on request

Pilot Tone Frequency .... non-standard
compatible with ASL RMR01/RMR02 Radio Microphone Receivers and
RRM02 Remote Radio Microphone Receiver

Battery
    Type...VARTA EasyPack 550
    Talk Time... up to 7 hours
    Type... Lithium polymer, built-in
    Life Time ....up to 3 years
    Life Cycle...>1000
    Self-discharge...5% per month (less after first month)
Format ....plastic case and buttons
Colour .... grey case, black buttons and rubber strip[1]
Lanyard .... with breakaway links
8 mm width x 240 mm length ribbon (approx.)

Environmental

Temperature (storage and operating) .... $-5\ °C$ to $+50\ °C$
Humidity Range..0% to 93% non-condensing

Safety and EMC

Radio Type Approval ....EN 300 422-1:v1.2.2, EN 300 422-2:v1.1.1
EMC.. EN 301 489-9:v1.3.1, EN 301 489-1:v 1.6.1, EN 50121-4:2006, ENV 50204:1995
Safety EN60065:2002

Dimensions and Weight

Dimensions (H x W x D) .... 141 mm x 65 mm x 39 mm (including belt clip)
Weight..166 g

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[1] Refer to ASL for different colour options.

5 Reference Documents

Additional reference information may be found in the following documentation, available from ASL's website: www.asl-control.co.uk

Table 1 Reference Documents

Ref. No	Title	Filename Ref	Origin
1	SAP01 Product Manual	U-0464-0414	ASL
2	SAP02 Product Manual	U-0464-0454	ASL
3	RRM02 Product Manual	U-0464-0589	ASL
4	RCS01 Charging Station Product Manual	U-0618-0103	ASL

Service and Warranty

+---+
| Name and Address of Authorised Distributor: |
| |
| |
| |
| |
| |
| |
+---+

This product carries a full warranty. For full details of warranty and service agreements, please contact the Authorised Distributor who supplied the product to you.

Exclusions

The warranty does NOT cover:

1. Customer misuse, including incorrect installation.
2. Damage other than manufacturing defects.
3. Transit / Courier damage.
4. Incorrect voltage or power supply used.
5. Incorrect input signal.
6. Abnormal environmental operating conditions.
7. Damage incurred by accident, fire, lightning or other hazard
8. Modification to the unit or inexpert / attempted repair.
9. No fault found – where no fault can be found after extensive testing, indicating user error or failure in ancillary equipment.
10. Electronic assemblies which are improperly packed when returned for repair or service.

Should any of the above apply, Application Solutions (Safety and Security) Limited reserves the right to raise any relevant charges to the customer.

Application Solutions (Safety and Security) Limited shall not be liable for any indirect, special or consequential loss or damage (including without limitation any loss of profits) arising from the use of this product or for any breach of this warranty.

In the interest of continual product development, Application Solutions (Safety and Security) Limited reserves the right to make changes to product specification without notice or liability.