

Quick Start Guide 1219A Micro Beacon

Model Types

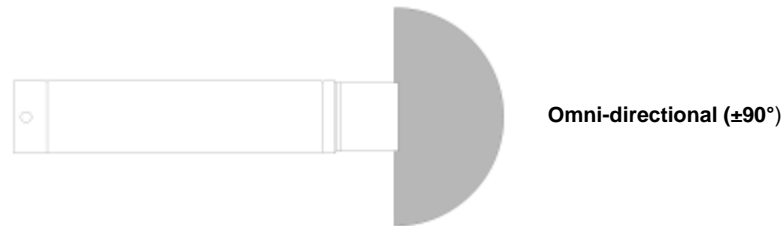
| Model | Beam Pattern | SPL | Dia. | Length | Survival Depth |
|-------|--------------|-------|------|--------|----------------|
| 1219A | ±90° | 183dB | 52mm | 244mm | 600m |

Weight in Air/Water: 870/380g

Packing List

- 1219A Beacon
- EPW050025 - Mains USB charger with USB lead
- BCN-1010-8002 - Acoustic support disc
- KIT-121x Plug 'O' Ring

Beam Pattern



Handling

Although these beacons are resistant to mechanical vibration and shock, every effort should be made to avoid careless handling.

Beacon Support and Mounting

The beacon must be held securely by means of a mechanical clamp or clamps and to not overstress the beacon's main tube. To avoid corrosion, any attachments must be electrically isolated and preferably non-metallic.

NOTE: - Damage to the beacon's anodising must be avoided at all cost, as this will reduce the operational life of the beacon.

When mounting a beacon, its position should be considered to maximise its operational performance. Beacons need to be mounted so that there is a clear and unobstructed sound path between the transducer and the ship's tracking system.

1219A Micro Beacon



Operation

WARNING: - Before deployment:-
Fit 1219A connector plug to prevent water ingress.

- For transportation and storage ensure Connector Plug has been fully removed. In this configuration the beacon is switched off.
- For normal operation, switch beacon ON by inserting Connector Plug.
- Channel configuration controlled by 'Beacon Editor' Software (V1.5 or above) via micro USB lead to Beacon.
- Charge battery by connecting micro USB lead to Beacon and computer USB port. Fast charging available by connecting to Mains USB charger.

NOTE: - High internal temperatures may occur if the beacon is left out in direct, strong sun light. This may lead to reduced battery operational life span and reduced charge capacity or failure during charging. A 72°C thermal fuse is included in the battery pack(s) which will render the beacon inoperative should this temperature be exceeded.

NOTE: - The 1219A is atmospherically vented when the connector plug is removed for safety during battery charging. Caution should be applied during operations where high atmospheric pressure is allowed to enter and be sealed within the beacon housing. When the beacon is transported to a lower atmospheric environment the beacon should be vented before decompression.

Channel Configuration

- Remove Connector Plug.
- Connect Micro USB link lead to Beacon and to PC USB port
- Check LED is flashing in End Cap
- Use Beacon Editor Software to select or confirm Channel configuration.
- Remove Micro USB cable.
- To extend battery life, only fit Connector Plug when ready to use or test.

Functionality

Using an AAE PAM tester:

- Select matching channel in the transponder testing function. PAM will transmit, receive and display turnaround times. It should be possible to achieve short ranges in air (1 metre typical).

Charging

- Remove Connector Plug to vent Beacon.
- Connect micro USB lead to Beacon and to either a PC USB port or the mains USB charger.
- Check LED in End-cap flashing rate for charge status.
- On starting a charge cycle the Beacon will start in trickle charge mode for at least 2 minutes to check the condition of the battery.
- Charge status of battery can be seen in 'Beacon Editor'.
- Upon completion of charge wait 30 minutes prior to sealing the Beacon.

LED Charge Rate indicator:-

| Blink Rate | Function |
|--------------|-----------------------|
| 2 Seconds | Trickle Charging |
| 1 Second | Normal Charging |
| 0.5 Second | Fast Charging |
| Permanent on | Charge Complete |
| Uneven blink | Error, charge stopped |

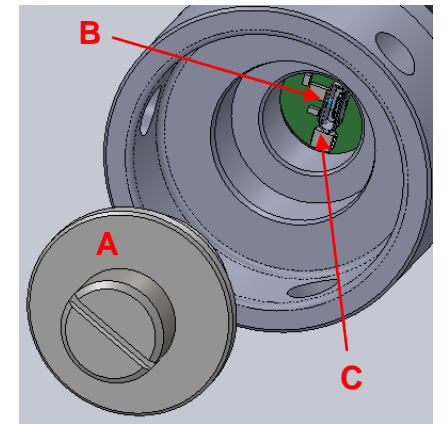
The recommended operating temperature for the Mains USB charger is 0 to 40°C.

NOTE: - If a charge cycle is interrupted before completion, wait 30 minutes before continuing to ensure a full charge is achieved.

Charging Times

| | |
|------------------------|--------------------------|
| Computer USB port: | 8 hour (Standard charge) |
| VAC Mains USB charger: | 4.0 hours (Fast charge) |

Connector End-Cap



Key
A. 1219A Connector Plug.
B. Micro USB Connector.
C. LED Charge indicator.

Maintenance

NOTE: Ensure 1219A connector plug 'O' ring and sealing face are cleaned and greased regularly for reliable operation.

Initial Inspection

- Inspect the beacon for obvious signs of mechanical damage or corrosion.

Before charging / channel configuration

- Before connecting to the Beacon, ensure all USB connections are not damaged.

'O' Ring

- Typical 'O' ring guidelines are to check their integrity and are clean, ensure all seals and sealing faces are undamaged and contamination free, with a light covering of O-ring lubricant.

Contact Applied Acoustic Engineering for spares and assistance.

Compatibility

AAE Easytrak- Tone Channel

| Channel | RXF1 (Hz) | RXF2 (Hz) | TXF1 (Hz) | TAT (ms) | Pulse Width (ms) |
|---------|-----------|-----------|-----------|----------|------------------|
| A0 | 17500 | - | 30000 | 30 | 2 |
| A1 | 18500 | - | 28000 | 30 | 2 |
| A2 | 19500 | - | 26000 | 30 | 2 |
| A3 | 20500 | - | 29000 | 30 | 2 |
| A4 | 21500 | - | 27000 | 30 | 2 |
| A5 | 22500 | - | 30000 | 30 | 2 |
| A6 | 18000 | 20000 | 27000 | 60 | 2 |
| A7 | 18000 | 21000 | 28000 | 60 | 2 |
| A8 | 18000 | 22000 | 30000 | 60 | 2 |
| A9 | 18000 | 23000 | 29000 | 60 | 2 |
| B0 | 20000 | 18000 | 30000 | 60 | 2 |
| B1 | 20000 | 21000 | 29000 | 60 | 2 |
| B2 | 20000 | 22000 | 28000 | 60 | 2 |
| B3 | 21000 | 18000 | 27000 | 60 | 2 |
| B4 | 21000 | 20000 | 26000 | 60 | 2 |
| B5 | 21000 | 22000 | 28000 | 60 | 2 |
| B6 | 21000 | 23000 | 30000 | 60 | 2 |
| B7 | 22000 | 18000 | 26000 | 60 | 2 |
| B8 | 17000 | - | 25000 | 30 | 2 |
| B9 | 19000 | - | 25000 | 30 | 2 |

Sigma II Quickset- Spread Spectrum

| Channel | Wakeup Freq (Hz) | Reply Code | Transponder TAT (ms) | Responder TAT (ms) |
|---------|------------------|------------|----------------------|--------------------|
| AA | 18000 | 17 | 75 | n/a |
| AB | 18500 | 18 | 75 | n/a |
| AC | 19000 | 19 | 75 | n/a |
| AD | 19500 | 20 | 75 | n/a |
| AE | 20000 | 21 | 75 | n/a |
| AF | 20500 | 22 | 75 | n/a |
| BC | 21000 | 23 | 75 | n/a |
| BD | 21500 | 24 | 75 | n/a |

iXblue

Compatible channels as detailed below: -

The Interrogate Frequency is selectable from 19.5kHz to 22.5kHz in 1kHz steps.

The Reply Code is selectable from 00 to 09, 22 & 23 for a total of 12 codes.

Turn-Around-Time is selectable from 20 milliseconds to 200 milliseconds in 1 millisecond steps.

Kongsberg HPR3

| Channel | RXF1 (Hz) | TXF1 (Hz) | Trans TAT (ms) | Pulse Width (ms) |
|---------|-----------|-----------|----------------|------------------|
| 01 | 20492 | 29762 | 30 | 10 |
| 02 | 21552 | 30488 | 30 | 10 |
| 03 | 22124 | 31250 | 30 | 10 |
| 04 | 22727 | 31847 | 30 | 10 |
| 05 | 23364 | 32468 | 30 | 10 |
| 06 | 24038 | 27173 | 30 | 10 |
| 07 | 24510 | 27777 | 30 | 10 |
| 08 | 25000 | 28409 | 30 | 10 |
| 09 | 26042 | 29070 | 30 | 10 |
| 11 | 21552 | 27173 | 30 | 10 |
| 22 | 22727 | 28409 | 30 | 10 |
| 33 | 23923 | 29762 | 30 | 10 |
| 44 | 25126 | 31250 | 30 | 10 |
| 55 | 26455 | 32468 | 30 | 10 |

Kongsberg HiPAP

| Channel | RXF1 (Hz) | RXF2 (Hz) | TXF1 (Hz) | Trans TAT (ms) | Pulse Width (ms) |
|---------|-----------|-----------|-----------|----------------|------------------|
| 12 | 21000 | 21500 | 29250 | 60 | 10 |
| 13 | 21000 | 22000 | 29750 | 60 | 10 |
| 14 | 21000 | 22500 | 30250 | 60 | 10 |
| 15 | 21000 | 23000 | 30750 | 60 | 10 |
| 16 | 21000 | 23500 | 27250 | 60 | 10 |
| 17 | 21000 | 24000 | 27750 | 60 | 10 |
| 18 | 21000 | 24500 | 28250 | 60 | 10 |
| 21 | 21500 | 21000 | 28500 | 60 | 10 |
| 23 | 21500 | 22000 | 29500 | 60 | 10 |
| 24 | 21500 | 22500 | 30000 | 60 | 10 |
| 25 | 21500 | 23000 | 30500 | 60 | 10 |
| 26 | 21500 | 23500 | 27000 | 60 | 10 |
| 27 | 21500 | 24000 | 27500 | 60 | 10 |
| 28 | 21500 | 24500 | 28000 | 60 | 10 |
| 31 | 22000 | 21000 | 28750 | 60 | 10 |
| 32 | 22000 | 21500 | 29250 | 60 | 10 |
| 34 | 22000 | 22500 | 30250 | 60 | 10 |
| 35 | 22000 | 23000 | 30750 | 60 | 10 |
| 36 | 22000 | 23500 | 27250 | 60 | 10 |
| 37 | 22000 | 24000 | 27750 | 60 | 10 |
| 38 | 22000 | 24500 | 28250 | 60 | 10 |
| 41 | 22500 | 21000 | 28500 | 60 | 10 |
| 42 | 22500 | 21500 | 29000 | 60 | 10 |
| 43 | 22500 | 22000 | 29500 | 60 | 10 |
| 45 | 22500 | 23000 | 30500 | 60 | 10 |
| 46 | 22500 | 23500 | 27000 | 60 | 10 |
| 47 | 22500 | 24000 | 27500 | 60 | 10 |
| 48 | 22500 | 24500 | 28000 | 60 | 10 |
| 51 | 23000 | 21000 | 28750 | 60 | 10 |
| 52 | 23000 | 21500 | 29250 | 60 | 10 |
| 53 | 23000 | 22000 | 29750 | 60 | 10 |
| 54 | 23000 | 22500 | 30250 | 60 | 10 |
| 56 | 23000 | 23500 | 27250 | 60 | 10 |
| 57 | 23000 | 24000 | 27750 | 60 | 10 |
| 58 | 23000 | 24500 | 28250 | 60 | 10 |
| 61 | 23500 | 21000 | 28500 | 60 | 10 |
| 62 | 23500 | 21500 | 29000 | 60 | 10 |
| 63 | 23500 | 22000 | 29500 | 60 | 10 |
| 64 | 23500 | 22500 | 30000 | 60 | 10 |
| 65 | 23500 | 23000 | 30500 | 60 | 10 |
| 67 | 23500 | 24000 | 27500 | 60 | 10 |
| 68 | 23500 | 24500 | 28000 | 60 | 10 |
| 71 | 24000 | 21000 | 28750 | 60 | 10 |
| 72 | 24000 | 21500 | 29250 | 60 | 10 |
| 73 | 24000 | 22000 | 29750 | 60 | 10 |
| 74 | 24000 | 22500 | 30250 | 60 | 10 |
| 75 | 24000 | 23000 | 30750 | 60 | 10 |
| 76 | 24000 | 23500 | 27250 | 60 | 10 |
| 78 | 24000 | 24500 | 28250 | 60 | 10 |
| 81 | 24500 | 21000 | 28500 | 60 | 10 |
| 82 | 24500 | 21500 | 29000 | 60 | 10 |
| 83 | 24500 | 22000 | 29500 | 60 | 10 |
| 84 | 24500 | 22500 | 30000 | 60 | 10 |
| 85 | 24500 | 23000 | 30500 | 60 | 10 |
| 86 | 24500 | 23500 | 27000 | 60 | 10 |
| 87 | 24500 | 24000 | 27500 | 60 | 10 |

V-NAV

Channels 0001 to 7199 are supported

Operational Life

Listening life 1219A -30 days min (at 2°C)

Operational life 1219A -30 hours at 1.0pps (AAE Easytrak CH)
-24 hours at 1.0pps (HiPAP / HPR400)

Troubleshooting

Check for external damage to the USB connector and transducer.

Check that the Beacon is recognised by 'Beacon Editor' Software, and the correct channel selected.

Check that battery is charged.

Are you out of range? Maybe a higher powered unit is required. Are you within the beam pattern of the transducer? The beacon may not be 'illuminating' the vessel on account of obstructions or severe ray bending due to thermoclines.

Transportation by Air

All equipment should be switched off prior to air transportation. Switching off is achieved by removing the Connector Plug from the Beacon.

NiMH Battery Packs


This battery pack is **not** classified as dangerous goods for transportation by air.

Any paperwork accompanying beacons that use these battery types should state this clearly.

End of Life Recycling / Disposal

Within the EU all electronic components and batteries must be taken for separate collection at the end of their working life under EU WEEE directives. Applied Acoustics as a manufacturer within the EU will responsibly dispose of any returned end of life Applied Acoustics components / batteries through a registered WEEE scheme. In order to prevent uncontrolled waste disposal and promote re-cycling please return any end of life Applied Acoustic components shipping paid by sender to our UK head office. There may be a charge for this service. Please contact Tech Support for a RMA number prior to shipping.



 Applied Acoustic Engineering Ltd has made every effort to ensure that the information contained in this guide is correct at time of print. However our policy of continual product improvement means that we cannot assume liability for any errors which may occur. Please refer to operation manual for further information.

Spares

The following beacon spares are available from stock. Please reference the model number and serial number of the unit you require spares for.

KIT-1219A 'O' Rings 'O' rings for 1219A

KIT-121x Spare Plug Replacement Connector Plug

KIT-121x USB Replacement USB Connector

KIT-121x,131x Battery 1219A Replacement Battery

Battery Replacement

In due course, rechargeable batteries will require replacement and this can be achieved quite simply with the 1219A Series. We recommend a maximum 3 year life for re-chargeable packs. Replace battery packs with Applied Acoustic Engineering battery packs only. Applied Acoustic Engineering battery packs are constructed with numerous safety features for long operational life.



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Thank you for choosing AAE Technologies Ltd as one of your equipment suppliers. We hope you experience many years of reliable operational use from our products.



Modulus Technology Ltd carries out all technical support, servicing and repairs for all companies in the AAE Technologies Group. If you have any technical issues with our products please contact the Modulus Technology team:

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