

## Datasheet

# Lightweight Actuation Transponder (LAT)



### Description

Part of Sonardyne's Coastal Acoustic product range, the Type 8044 Lightweight Actuation Transponder (LAT) is a low-cost acoustic device that provides cable-less, through water control of subsea electrical equipment. Applications for the LAT include activating the inflation of buoyancy bags and opening or closing valves.

The high-power version of the LAT is capable of delivering a short, high current burst suitable for firing detonators. It has an open-circuit disconnect on the output pins when not active, and a fail-safe drive circuit for additional safety.

The output from the LAT can be configured to provide multi-width and multi-pulse electrical outputs to suit a wide range of requirements. A rugged underwater connector ensures reliable activation.

The LAT is remotely controlled from the surface using a low-cost deck unit supplied with a dunking transducer and 10 metres of cable. The deck unit is used to program the acoustic identity of the LAT from several thousand available and then test the unit prior to deployment.

Once in the water, the deck unit can measure ranges to the transponder and after sending a secure actuation command, relocate the transponder.

The LAT can also be interrogated from the surface to determine its position on the seabed and provide confirmation of electrical activation.

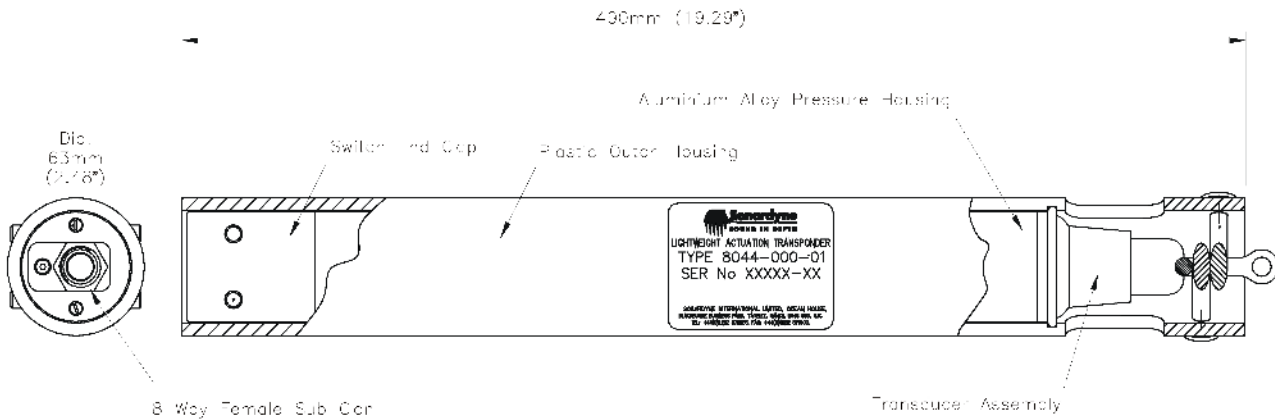
LATs are also compatible with Sonardyne's ROV-Homer and Homer-Pro target relocation systems. Deployed at a point of interest, the LAT can be interrogated, weeks or years later, to provide range and direction guidance to a ROV pilot or diver wishing to home back on to it.

### Key Features

- Provides acoustic command and actuation of subsea electrical devices
- Configurable signal output to suit customer electronics
- Depth rated to 500 metres
- Up to 34 months deployment with Long-life Lithium battery pack
- Rugged, compact design
- Robust underwater connector
- Hundreds of secure identities; field programmable with deck unit
- Compatible with ROV-Homer and Homer-Pro relocation systems and Scout and Prospector positioning system

# Specifications

## Lightweight Actuation Transponder (LAT)



Feature	Type 8044-000-01 Standard LAT	Type 8044-000-02 High Power LAT
Depth Rating	500 Metres	500 Metres
Operating Frequency	HF (35-50kHz)	HF (35-50kHz)
Transmit Source Level	185dB re 1µPa @1m	185dB re 1µPa @1m
Receive Sensitivity	<110dB re 1µPa	<110dB re 1µPa
Number of Unique Addresses	400 (Field Program)	400 (Field Program)
Switch On (No On/Off switch)	Continuously Operating	Continuously Operating
Battery Life	Alkaline 18 months Long Life Lithium 34 months	18 months 34 months
Actuation Current	120 mA max (Increasing with shorter pulse widths)	> 2.4 A
Actuation Pulse Voltage	10-15 V dc	10-12 V dc
Actuation Pulse Width	2 seconds typical (Other options available upon request)	> 100ms
Actuation Pulses Per Command	1 (Other options available upon request)	1
Total Number of Actuations	> 100,000 (2 seconds @ 1mA load)	> 50 (100 ms at 2.4 A)
Connector Type	8 way Sub con MCBH8FAL/2-0 Bulkhead Female	8 way Sub con MCBH8FAL/2-0 Bulkhead Female
Mechanical Construction	Plastic/ S/Steel / Aluminium Alloy (Anodised)	Plastic/ S/Steel / Aluminium Alloy (Anodised)
Dimensions (LxDia)	63 mm (2.4") x 490 mm (19.3")	63 mm (2.4") x 490 mm (19.3")
Weight in Air	1.7 kg	1.7 kg
Weight in Water	0.4 kg	0.4 kg
Deck Unit	Type 7967-000-02 (Includes Transducer and 10 metres of cable)	

### Ordering Information

Type 8044-000-01	Lightweight Actuation Transponder (LAT)
Type 8044-000-02	High Power Lightweight Actuation Transponder (LAT)
Type 7967-000-02	LAT Surface Control System
317-5115	Mating connector tail (50 cm)