

## Lightweight Release Transponder (LRT)/ Pop-Up Buoy

The Lightweight Release Transponder (LRT) has been developed from transponders used to accurately position hundreds of seismic receiver nodes. It has both receive and transmit functions, unlike similar low-cost release transponders, enabling accurate slant ranges to be measured, release actuation to be confirmed and its position to be determined.

The LRT is depth rated to 500m making it the ideal choice for use in continental shelf waters. Field replaceable alkaline or lithium battery packs give a listening life of 18 months and 4 ½ years respectively. A 'screw-off' release mechanism ensures a positive release action that overcomes any biological growth and all external parts are made of high strength plastics that provide excellent corrosion resistance.

The Type 7967 surface control unit comprises a low-cost deck unit and remote transducer on 10 metres of cable. The deck unit is initially used to program the acoustic identity of the LRT, test the transponder and load the release 'bit' prior to deployment. Once deployed, the deck unit can measure ranges to the transponder and prior to sending a secure release command, relocate the transponder. The deck unit can be controlled via RS232 enabling raw range data to be logged to a PC.

The transponder is compatible with Sonardyne's **ROV-Homer** and **Homer-Pro** target relocation systems. Deployed at a point of interest and weeks or years later, the LRT can be interrogated to provide range and direction guidance to a ROV pilot or diver wishing to home back on to it. Furthermore, the transponder's exact seabed co-ordinates can be quickly and easily determined using Sonardyne's **ROV-Trak** system, calibrated from a dGPS positioned vessel. A rope canister is also available with 75 metres of rope for pop-up buoy applications.



Type 7986 LRT

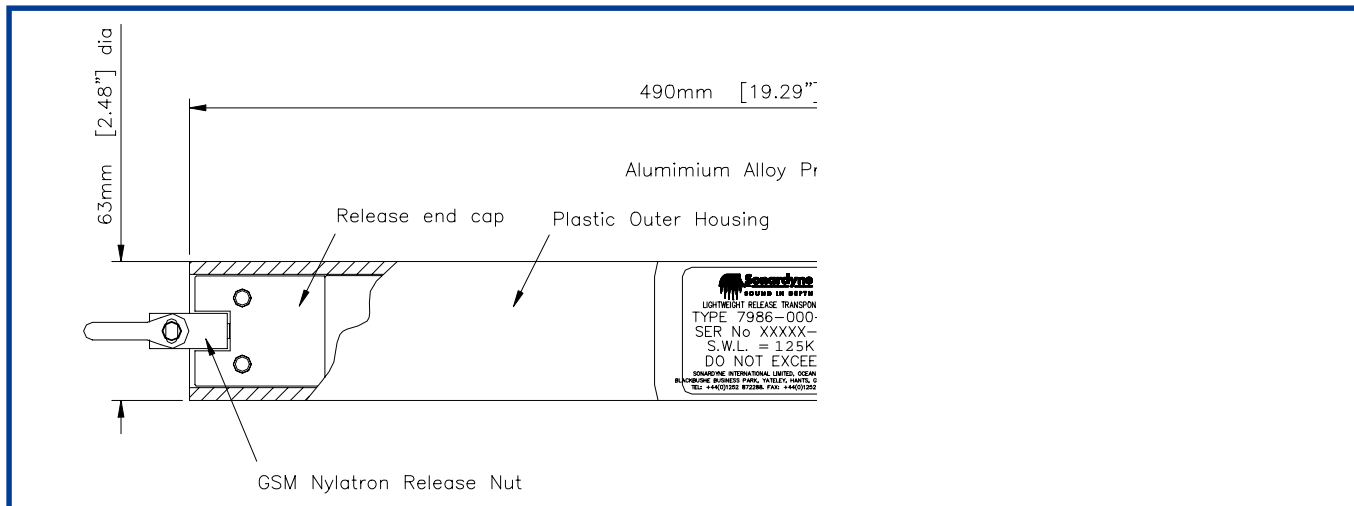


LRT with Rope Canister

### Key Features

- ▮ **Safe Working Load (SWL) of 125 kg.**
- ▮ **Depth rated to 500 metres.**
- ▮ **Upto 4.5 years deployment with long-life Lithium battery pack.**
- ▮ **Thousands of secure identities; field programmable with deck unit.**
- ▮ **Reliable, 'screw-off' release.**
- ▮ **Rugged, compact design.**
- ▮ **Compatible with ROV-Homer, Homer-Pro relocation systems and ROV-Trak positioning system.**
- ▮ **Optional rope canister with 75m of 1200kg breaking-strain rope.**

# TECHNICAL SPECIFICATION



Type 7967 Surface Control Unit shown with dunking transducer, LRT with rope canister and floats.

Type No.	7986-000-01
Depth Rating	500 metres
Safe Working Load (at 4:1 ratio)	125 kg
Release Load	125 kg
Breaking Load	500 kg
Proof Load (Note: A Proof Test Certificate can be provided upon request)	250 kg
Frequency	Sonardyne HF (35-50kHz)
Transmit Source Level	185 dB re 1µPa @ 1 metre
Receive Sensitivity	< 110 dB re 1µPa
Number of Unique Identities	3600, Field programmable
Weight in Air/ Weight in Water	1.75kg/0.4kg
LRT Surface Control System (Includes transducer and 10m of cable)	Type 7967-000-02

## DEFINITIONS

**Safe Working Load** - The maximum recommended working load. This is set as a quarter (1/4) of the Breaking Load and allows for factors such as corrosion, fatigue, shock loads, harmonic loads, manufacturing defects and material defects.

**Release Load** - The maximum in-line load that the whole assembly can release whilst guaranteeing safe and reliable operation. Note that as the load is released in water, this is determined by the maximum upthrust from the buoyancy.

**Breaking Load** - The load that induces structural failure in one or more parts of the instrument causing the load to part from the release mechanism.

**Proof Load** - The load to which the actual unit has been tested in the factory. This load should be periodically applied to demonstrate that the unit is still in a safe condition. This is usually twice (x 2) the SWL. A Proof Load Certificate can be provided upon request.

## ORDERING INFORMATION

Type 7986-000-01 Lightweight Release Transponder (LRT)

CPN: 620-5772

Type 7967-000-02 LRT Surface Control System

CPN: 620-5793

Type 7986-009 Rope Canister

CPN: 650-1602

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Rope deployment following a secure 'release' command from the surface.

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