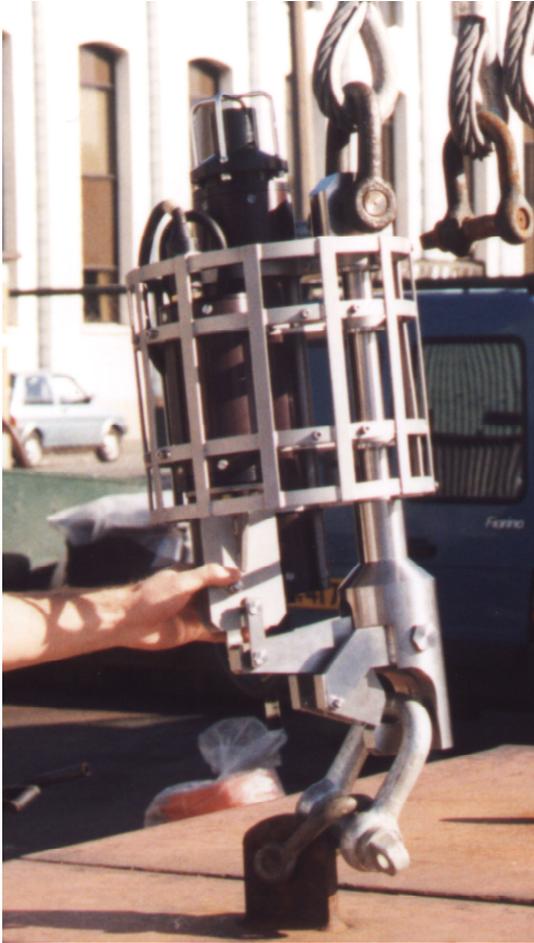


Acoustic Release

Systems



4 tonne certified in-line release package



The standard release is motor actuated, alternatively a relay output may be provided to energise an external mechanism. The battery life of the package is dictated by the parameters of the transponder as the release mechanism only draws power when the motor is driven. The transponders have a single-chip microcontroller at their heart for timing and control functions. The transponder remains in a low power sleep mode until commanded by the Transponder Control Unit. The deployment listening life of the transponder may be from three months to ten years depending on the size and type of battery pack used. Microswitches in the release mechanism monitor the safe and fired limit positions so that the transponder may telemeter the release state back to the surface unit. Once a release has been fired the transponder enters a ranging mode so that the unit can be tracked to the surface and recovered.

Marine Electronics manufactures a range of Acoustic Release Systems covering a wide range of applications. Due to the modular construction employed, custom solutions to specific requirements may be provided at low cost. Parameters of the release system that may be customised include the acoustic frequency, transducer beam pattern, release load, operating depth, package style, actuation method, and battery size/type.

The operational frequency may be selected from 7kHz for long range operation to 100kHz for shallow water or short range applications. Transducers may be either spherical for omni-directional use, cylindrical for shallow water use or piston for deep water use.

The standard release package is rated at 250kg when moored in line. These basic units may drive a secondary or tertiary hook to amplify the load rating. The example shown in the main photograph is rated at 4 tonnes. The primary release is motor driven with a single rotating shaft penetrating the pressure housing. Units may be manufactured for depth ratings to 6000m, the standard units being rated at 1000m.

The release may be supplied as a stand-alone remote package to connect to an external transponder or third party trigger mechanism. Alternatively the release may be incorporated into the transponder base.

Features Include:

- **Choice of Operating Frequency from 7khz to 100kHz**
- **Operational Depths to 6000m**
- **Mechanical or Electrical Release Units**
- **Multiple Release Outputs**
- **Release Loads to 5 tons**
- **Choice of Packaging Format**

Standard 250kg release hook details



A pair of 250kg remote release units



Small portable pair of remote release units with separate battery pack transponders and Transponder Control Unit (TCU) with Remote Active Transducer (RAT)



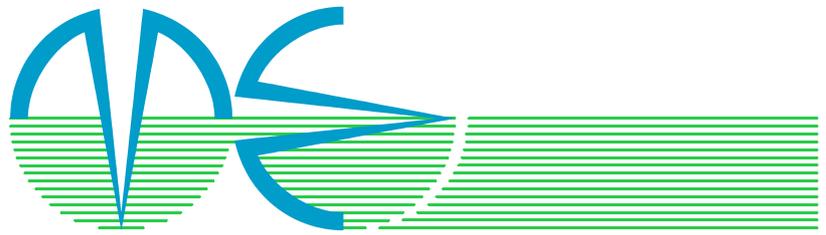
Transponder Control Unit with Remote Active Transducer and 50m cable reel



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Acoustic Release

Systems



The Marine Electronics range of Acoustic Release Systems are designed to be easily installed, robust and reliable. The basic release mechanism consists of a DC motor driven rotating shaft protruding from a pressure housing which releases a hook and allows the attached load to drop off. The standard release unit can handle loads up to 250kg, alternatives are available for loads up to 5 Metric Tons. The acoustic link used to communicate with the release is based on Marine Electronics proven multi-frequency time delay method giving reliability in the most hostile environments. The release mechanism can be either mounted in the base of the Transponder or operated as a stand alone unit with a cable connecting it to the Transponder. The surface control unit to operate the release is the model 348 which communicates with the transponder via a remote active transducer for the electrical to acoustic interface. The standard acoustic frequencies operate in the 30KHz band giving ranges up to 1500 metres with alternative versions available in the frequency range 7KHz to 100KHz.

SPECIFICATIONS

ENVIRONMENTAL

Storage Temperature -10°C to +60°C

Operating Temperature 0°C to +40°C

MECHANICAL

Housings available in anodised aluminium or stainless steel

Tube diameters from 102mm to 153mm

Release loads from 250kg to 5 Tons

Depth rating 1000m to 6000m

ELECTRICAL

Listening life from 3 months to 10 years

Battery packs made from either rechargeable Nickel Metal Hydride
Alkaline Manganese or
Lithium Sulphur Dioxide

Transmit and Receive Frequency in the range of 7kHz to 100kHz

Armed and Fired position detection switches

Automatic ranging mode on release

Range timing accuracy to 0.1m

Magnetic and mechanical on/off switches
Low standby current.



OPTIONS AVAILABLE

- Integral or remote release mechanisms
- Mechanical or electrical release mechanisms
- Release loads to 5 Tons
- Multi-release mechanisms from one Transponder
- RS232 communication
- Intelligent acoustic telemetry
- Choice of acoustic telemetry format
- Contact closure or voltage outputs for remote control of subsea devices
- External battery packs for diver replacement



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