

Acoustic Release

The Choice for Small Instrument Recovery



Quick Facts

- Affordable, reliable design using unique patent pending release mechanism
- For use at depths up to 300 meters and with safe loads up to 20 kg (2x safety)
- Deployment time: 1 Year, 3x margin of safety
- Acoustic command, status reporting and ranging
- 4096 unique ID codes
- GPS integrated position logging

ARC-1

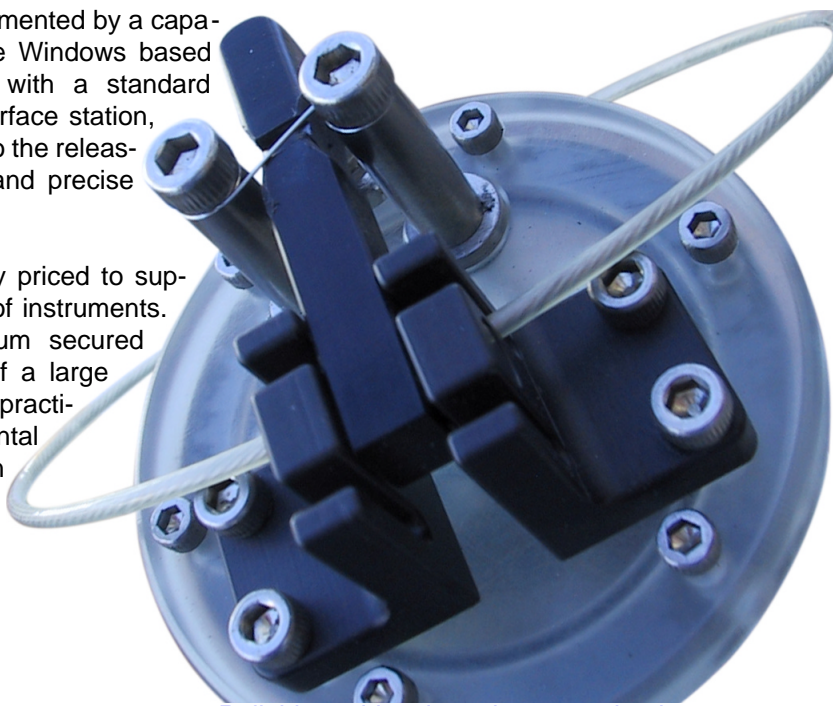
Rapid Action Acoustic Release For Light Loads

Acoustic releases can greatly enhance coastal and inland water research by supporting instrument deployment beyond diver depth, and recovery without a need for diving. However, most commercial releases are designed for large loads and deep-water deployment, making them inefficient in the coastal environment. Electrolytic wire releases (often referred to as burn wire releases) are available for light loads. Yet, the wire corrosion process is slow, will not work well in fresh water and may be impeded by marine growth. Further, existing light-load releases often use very simple acoustic control systems that do not provide much feedback.

The ARC-1 is a state-of-the-art acoustic release, designed specifically for light loads up to 20 kg and working depths up to 300 meters. ARC-1 is made possible by a breakthrough in release mechanism design. The true burnwire mechanism (patent pending) explosively melts a wire in a few thousandths of a second, enabling a very simple and reliable design that requires just a single moving part.

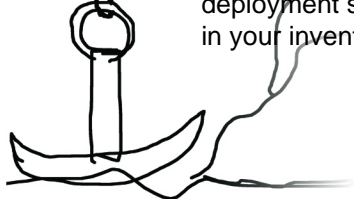
The elegant mechanism is complemented by a capable acoustic control system. The Windows based control software in conjunction with a standard Desert Star STM-1 or STM-10 surface station, supports transmitting commands to the releases, obtaining status information and precise ranging.

ARC-1 is designed and affordably priced to support deploying an extensive field of instruments. A total of 4096 unique checksum secured address codes enable the use of a large number of units in any area and practically eliminate the risk of accidental release. A GPS integrated position log keeps track of the position and deployment status of each release in your inventory.



Reliable rapid-action release mechanism

Patent Pending



Technical Specifications

Size & Construction:	27.5" (690 mm) L x 2.25" (57 mm) D, high-impact clear Lexan
Machanism:	True burn wire. Wire melts in < 0.01 sec. Works in fresh and salt water. One moving part.
Operating Depth:	300 m maximum
Holding Power:	20 kg with 2x margin of safety
Mission Life:	1 year max. recommended. Estimated battery life is 3 years
Battery:	4 x 'AA' alkaline and one 'D' size 3.6 V lithium cell
Acoustic Control:	Control, status and precise ranging. 4096 ID codes. GPS integrated position logging. Frequency hopping acoustic telemetry, highly resistant to reverberations. 46-52 kHz
Surface station:	Standard STM-1 or STM-10, connected to Windows PC. Windows control software.



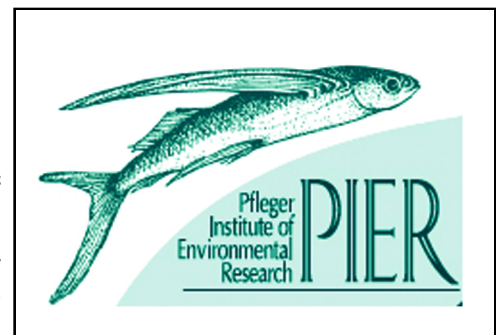
20 kg holding power, 2x safety

System Selector Guide

- ARC-1: Acoustic release, 20 kg holding power, 300 m depth rating
- STM-1/46: Surface station for mounting in dry location, 46 kHz transducer
- STM-10/46: Surface station in splash-proof case. For vessel of opportunity operations.

Special Thanks

The ARC-1 acoustic release was designed in response to a requirement by the Pflieger Institute of Environmental Research (P.I.E.R.). Pflieger made this development possible by purchasing a larger number of units, and taking a very active role in the testing of the new design. The project is an excellent example of progress that can be achieved through close cooperation between scientific and commercial members of the underwater industry. Desert Star Systems thanks the team at P.I.E.R. for their ongoing support.



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