

HARC

HydroAcoustic Remote Controller



Features

- Reliable underwater remote control
- Man portable and rugged surface transmitter unit
- Miniature low power embedded underwater receiver unit
- Selective addressing and control of multiple underwater devices.
- Programmable command set to suit host requirements.
- Flexible interface to underwater host packages.
- Operational ranges in excess of 10km

Remote control of a wide range of underwater host packages is easily and effectively achieved with the L-3 Nautronix HydroAcoustic Remote Controller HARC. HARC provides reliable remote control of multiple, uniquely addressed underwater devices in support of specific operational scenarios.

HARC consists of two main sub-systems — the surface deployed Transmitter system and the underwater Receiver system.

The Transmitter equipment is lightweight, portable and designed for ease of deployment and operation from small surface vessels such as a Rigid Inflatable Boat. This equipment consists of a Control Unit, a Battery Supply Unit and a hydroacoustic dunking projector. The intuitive operator interface consists of a single front panel with embedded membrane switches, alphanumeric display and status LED that can be customised to meet specific operator requirements.

The Receiver equipment consists of a DSP based hydroacoustic modem provided on single low power PCB and a small hydrophone designed for installation in and integration with an underwater host package.

HARC has been extensively proven in the field with range reliability in excess of 10km, subject to environmental conditions.

OPTIONS

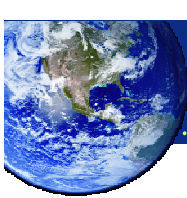
- Repeater Beacons to extend the range and complexity of operation.
- Communication of status information from HARC Receiver to Transmitter



communications

Nautronix

Strengthening Defence Capability Through Australian Ingenuity and Global Reach



HARC employs L-3 Nautronix' well proven, Direct Sequence Spread Spectrum signalling technology to ensure secure and reliable long range operation in the harshest of underwater environments.

The HARC Transmitter employs unique address codes for selective addressing of multiple packages with a set of control commands such as System [ARM], [ACTIVATE] or [DEACTIVATE] tailored to suit application requirements.

After signal reception and demodulation of a valid coded signal, the HARC Receiver will output one or more trigger signals to its host package. For example Trigger 1 [ARM], Trigger 2 [ACTIVATE] or Trigger 3 [DEACTIVATE]. Extra commands and signal I/O can be provided to meet specific application and operational requirements.

HARC TRANSMITTER

Description	IP68 rated deck box with flat membrane panel operator interface
Function	Selection and Transmission of HARC acoustic control signals
Voltage Input	24 Vdc (nominal) 3 A to 40 A
Power Output	Hydroacoustic power 25 W to 1000 W
Dimension	W 177.8 x L 228.7 x H 235.0 mm
Weight	4.5 kg
Environment	Sunlight, water, oil, shock and weather resistant
Temperature	Operational -30 °C to + 50 °C



HARC Transmitter & Projector

HARC HYDROACOUSTIC PROJECTOR

Description	Broadband piezoelectric hydroacoustic projector
Function	Underwater transmission of the HARC acoustic control signals
Beam Pattern	Omni-directional ± 1 dB
Signal Type	Hydroacoustic Spread Spectrum centered at selectable carrier
Input Power	Up to 1000 W
Dimension	Spherical 165 mm diameter
Weight	6.3 kg in air
Environment	Sunlight, water, oil, shock and weather resistant

HARC RECEIVER

Description	Embedded low power DSP Modem
Function	Receives and decodes HARC acoustic control signals
Voltage Input	7 to 24 Vdc (12 V nominal)
Input Current	100 mA at 12 V
Dimension	W 63 x L 110 x H 12 mm
Weight	40 g
Temperature	Operational -30°C to + 50°C



HARC Receiver

HARC HYDROPHONE

Description	Broad-band piezoelectric hydroacoustic receiver
Function	Receives HARC acoustic signals
Beam Pattern	Omni-directional ± 1 dB
Dimension	Spherical 34 mm diameter
Weight	300 g in air
Environment	Sunlight, water, oil, shock and weather resistant



HARC Receiver Hydrophone

