

CHIRPceiver Data Sheet

Sub-bottom profiling applications in diverse sediments require multiple frequency bands to support diverse survey requirements. The HMS-622 CHIRPceiver and transducer arrays and vehicles fill this wide range of survey needs.



LF and HF Tow Vehicle



ULF and HF Side Mount

The frequency band supported by the HMS-622 include standard LF (1kHz-10kHz), and optional ULF (200Hz-2kHz) and HF (8kHz-3KHz). It can be easily configured for up to 50kHz with a standard 2 channel transceiver. CW frequencies can also be programmed within the respective band. The transducer and hydrophone arrays are configured to perform both the transmit and the receive functions of the system.

The HMS-622 CHIRPceiver uses a flexible Graphical User Interface connected via Ethernet that allows the user to set

CHIRP or CW modes of operation, Start and Stop frequencies, and Pulse Lengths and Power Level for the output pulses. The receiver controls allow for Gain and Attenuation as well as Diagnostic modes.

The user selectable direct A/D input allows the user to input data for the HMS-620 Bubble Gun or other analogue seismic system. The HMS-622 CHIRPceiver will also support multi-ping modes for higher along track resolution when operating in water depths deeper than a given ping rate. All sonar data is logged in SEG Y format using industry standard acquisition software.

Features

- CHIRP acoustic pulses in standard LF band (1kHz- 10kHz), and optional ULF (200Hz-2kHz) and HF (8kHz-23kHz) bands provide bottom penetration through many sediment types
- Flexible transducer array options for a variety of vessel configurations
- Industry Standard Ethernet Interface for Data and Control
- Universal input power supply operates from 85 to 240 VAC
- Dual-Channel True 24-bit A/D Range
- Direct A/D Input Available for the FSI Bubble Gun™ or other Analog Seismic Systems
- Seabed Classification
- Industry standard SEG Y output

Technical Specifications

Channels.:	Ultra Low Frequency, optional. Low Frequency supplied as standard. High Frequency, optional.
Trigger:	Internal or External.
Pulse Length:	User Programmable for CHIRP and CW modes (15% duty cycle).
Preamplifier gain:	42 dB in 3 dB increments.
Preamplifier attenuation:	-42 dB in 3 dB increments.
A/D Input:	24bit up to 192KHz.
Software Controls:	Software control through system Ethernet port.
Ultra Low Frequency Specifications:	-
Transmitter and Transducer:	QTY 2 AT-650 Transducers.
Power output:	2.3 kw, 15% duty cycle at 650Hz for 204 dB re 1 μ Pa @ 1 m nominal, 4 kw maximum at reduced duty cycle.
Frequency range:	Sweeps in the 200Hz to 2kHz band.
Transducer radiation:	Omni.
Low Frequency Specifications:	-
Transmitter and Transducer:	Array sizes from 1 to 4 Low Frequency 3.5 kHz Transducers for Towed and

Over the Side Systems and 4 to 35 for Hull Mounted Systems.

Power output: 2.3 kw, 15% duty cycle at 3.5 kHz for 212 dB re 1 μ Pa @ 1 m nominal, 4 kw maximum at reduced duty cycle.

Frequency range: Sweeps in the 1kHz to 8kHz band.

Transducer radiation: 45° Conical (for a 2x2 4-element array)

High Frequency Specifications: -

Transmitter and Transducer: One 7-element high frequency transducer.

Power output: 1 kw, 15% duty cycle at 15 kHz for 214 dB re 1 μ Pa @ 1 m nominal, 4 kw maximum at reduced duty cycle.

Frequency range: Sweeps in the 8kHz to 23kHz band.

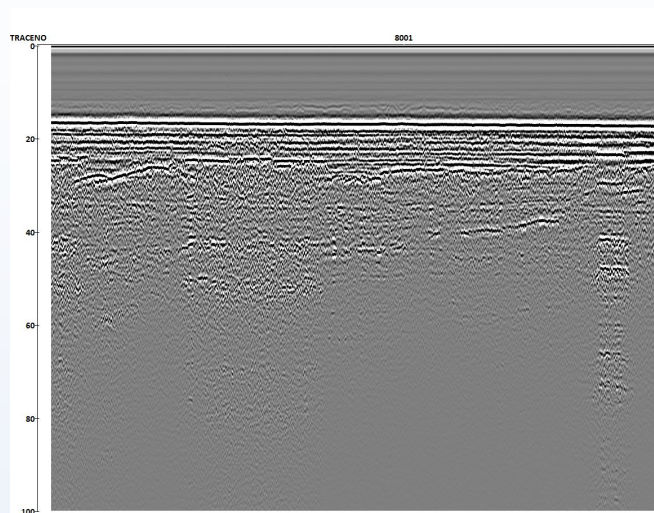
Transducer radiation: 27° conical.

Transmit Power: 0-42 dB in 3 dB minimum increments.

Gallery



Top end power supply and Analogue A/D electronics module. The secondary module is only required for Low Frequency and Ultra Low Frequency transducers.



CHIRPceiver Data - 2 by 2 high frequency transducer array.