HMS-12KM CHIRP SUB-BOTTOM PROFILER

Hull Mounted Seismic Profiler

Extreme deep water sub-bottom profiling applications (4Km to 12Km) require an array of 16 to 36 low frequency transducers installed in a hull-mounted sea chest. An acoustic window is used to reduce the attenuation of the signal through the vessel hull for improved signal to noise of the system. The HMS-12KM system with the HMS-622 CHIRPceiver™ and hull mounted transducer arrays fills this range of survey requirements. The frequency bands supported by the HMS-12KM include LF (1KHz-10KHz) and HF (8KHz-23KHz) with a standard 2 channel transceiver. CW frequencies can also be programmed within the respective band. The transducer arrays are configured to perform both the transmit and the receive functions of the system. The high frequency channel is primarily used to detect a bottom finding pinger in the deepest water depth, but it is also used for high resolution sub-bottom in shallower areas. The transducers are wired to a junction box containing the SCP-10KM Software Controlled Preamplifier which is collocated with the sea chest. The output of the preamplifier is permanently connected through a shipboard cable to a topside junction box which provides the interface to the HMS-622 CHIRPceiver and workstation.

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, Pulse Lengths, and Power Level for the output pulses. The receiver controls allow for Gain and Attenuation as well as Diagnostic modes. 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 SEGY format using industry standard acquisition software.

. FEATURES/BENEFITS

- Dual frequency operation with CHIRP acoustic pulses in standard bands; LF (1KHz-10KHz), HF (8KHz-23KHz) provide bottom penetration through many sediment types
- Flexible transducer array options for a variety of vessel configurations
- Remotely programmable low-noise pre-amp with high/low pass filters
- Universal input power supply operates from 85 to 240 VAC
- Industry standard SEGY output
- Multi-ping mode for higher resolution in deeper water depths

32 Element 12KM LF Array
with Preamp and Junction Box

SPECIFICATIONS

HMS-12KM System Specifications

IHA-XX-LF Low Frequency Channel
Transmitter and transducer:

Array sizes from 16 to 35 Low Frequency 3.5 KHz Transducers

- 16 Element transducer array for 6Km performance
- 32 Plus element array for 12Km performance

Power output:

@ 4.0KW, 15% duty cycle at 3.5 kHz for
223 dB re 1 µPa @ 1 m nominal

Frequency range:

Sweeps in the 1kHz to 8kHz band

Transducer radiation:

10° fore/aft, 20.5° athwart (for a 4x8 32-element array)

IHA-1-HF High Frequency Channel

One 7-element high frequency transducer

Transmitter transducer:
Power output:

@ 1 KW, 15% duty cycle at 15 kHz for
214 dB re 1 µPa @ 1 m nominal

Frequency range:

Sweeps in the 8kHz to 23kHz band

Transducer radiation:

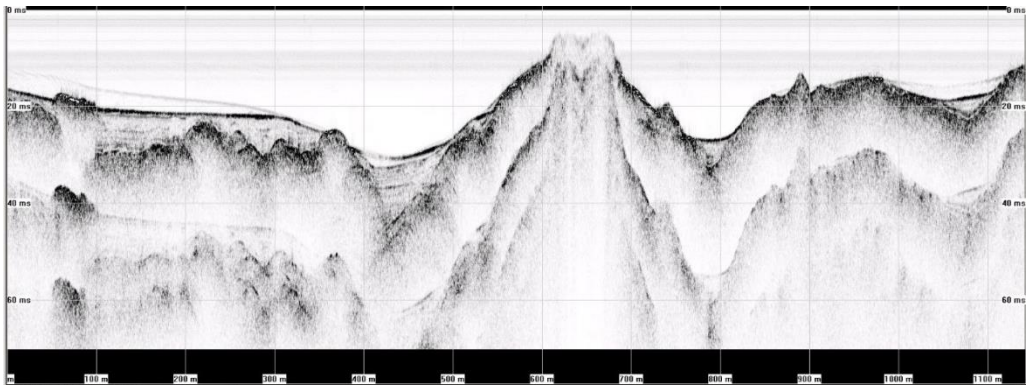
15° conical

Power amplifiers (one for each channel)

- Power amplifier type: PMW（D type）
- efficiency：＞80%
- output power：≥10kW
- output resistance：25~200 Ohms
- duty cycle：≤20% full power
- dynamical range：＞70dB
- harmonic distortion：≤1%
- frequency：1kHz~25kHz

HMS-622 CHIRPceiver™ Controls — **Software control through system Ethernet port**

Trigger:	Internal or External
Frequency:	LF (1KHz-8KHz), HF (8KHz-23KHz) Chirp and CW
Pulse Length:	User Programmable for Chirp and CW modes (20% duty cycle)
Transmit Power:	0-42 dB in 3 dB minimum increments
Preamplifier gain:	0-42 dB in 3 dB increments
Preamplifier attenuation:	0-(-42) dB in 3 dB increments
A/D Input:	24bit up to 192KHz



Specifications Subject to Change Without Notice
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