MARINE SURVEY SYSTEMS

Geo-Sense Filter/Gain Interface

DATA RECORDING SYSTEMS

- Interfaces Geo-Sense UHR single channel mini-streamers to any Third Party recording system
- Provides high quality analogue frequency filters and a two-stage analogue gain

Description

The Geo-Sense filter/gain interface is designed to operate with the Geo-Sense mini-streamers and allows the Geo-Sense mini-streamers to be used with ANY digital recording system.

The interface is also designed to accept signal input, via BNC cable, from any other type of streamer.

It is a stand-alone unit that applies high quality, non-distorting analogue filters and two-stage gains to a single-channel seismic signal.

If you are working with a seismic recording system that has no suitable analogue front-end, then the Geo-Sense filter/gain interface would be an essential part of your system.

Analogue Frequency Filtering

THERE ARE FOUR SETTINGS FOR THE ANALOGUE FREQUENCY FILTERING:

1) bandpass filter of 80 Hz - 2.5 kHz - This is usually the best setting for the sparker spectrum. Other filter settings can be provided.

2) high-pass (low-cut) filter of 80 Hz - To remove low frequency noise, it is usually sufficient to filter only the low frequencies, which are difficult to remove digitally.

3) low-pass (high-cut) filter of 2.5 kHz - To cut out the high frequencies.

4) no filter

Analogue Gain

To minimize distortion and to avoid saturation, the seismic signal is amplified in two stages:

- **0-6-12-18 dB** (four levels), the 1st stage gain is applied after the high-pass filter;
- **0-6-12-18 dB** (four levels), the 2nd stage gain is applied after the low-pass filter.

By using the maximum gain setting for both stages, you can achieve a total amplification of 36 dB.

Operational Features

→ Dedicated 4-pin connection to power the pre-amplifier of the Geo-Sense streamer and to receive the signal.

→ Standard BNC connections for signal output to any seismic recorder and signal input from any Third Party streamer.

→ Audio output to headphone on front panel.

→ Mains power 110-230 V AC / 50-60 Hz.

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back side of the unit.

Geo-Sense Mini-Streamer with Interface unit.

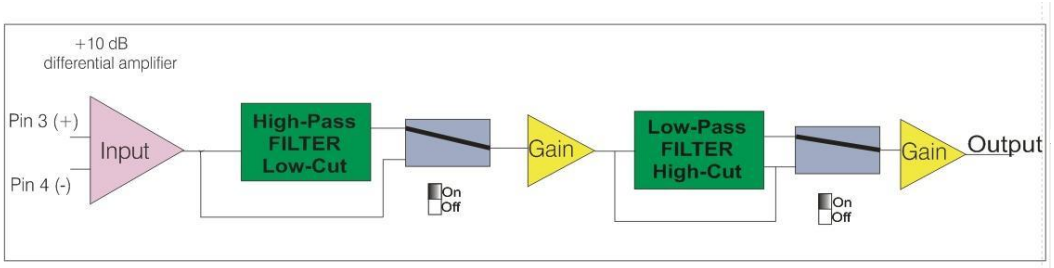
Filter & Gain Parameters

FIRST STAGE
Switchable high-pass (low-cut) filter / 80 Hz 4th order.

SECOND STAGE
Switchable amplifier / 0-6-12-18 dB.

THIRD STAGE
Switchable low-pass (high-cut) filter / 2.5 kHz 4th order.

FOURTH STAGE
Switchable amplifier / 0-6 -12-18 dB.



Connections

DEDICATED GEO-SENSE STREAMER CONNECTION
The 4-pin connection is used for both the signal input from the streamer and the 12 V DC power supply to the streamer's internal pre-amplifier. This power supply replaces the standard battery box (which is normally also provided with the mini-streamer). The four pins are assigned as follows:

- Pin 1 +12 V DC power to pre-amplifier;
- Pin 2 Ground shield (earth);
- Pin 3 Positive (+) signal from pre-amplifier;
- Pin 4 Ground signal from pre-amplifier.

BNC INPUT AND OUTPUT
The two BNC connections at the rear of the unit are for the single-ended input from the streamer, and the signal output to any digital recorder (with four settings for signal level voltage peak to peak of 0.3,1, 3 and 10 V).

Optional Functions

DEDICATED GEO-SENSE STREAMER CONNECTION
Customised filter settings are available on request.