

GeoRes System HC-D

GeoRes System HC-D	High Capacity Seabed Data Acquisition, and RAID System
Station Capacity	Scalable: User Specified number of Subsea modules
High Speed Fiber Optics	Interfaces to 8 Backbone Arrays or 8 SATs
Chassis Expansion	Scalable: Up to 8 chassis
Sample Interval	¼ms, ½ms, 1ms, 2ms, 4ms
Record Length	32 seconds with no intra-time
Overlapping records	System can time stamp and store overlapping timing
Data Format on Disc	SEGD Rev2, SEGY Rev1
Data Storage System	Internal 2 terabyte RAID or External Raid if required.
Recording Modes	Time Break Trigger, Continuous Acquisition Overlapping Shooting (System overlapping: time stamp on header)
Remote Control	Can be operated remotely via secure network
GPS Synchronization	Better than 1 part in 10 million
Flexible Architecture	GeoRes HC system architecture is designed to be flexible for easy software upgrades and use with HC-A and HC-W chassis.
Operating Temperature	0 to +50 °C
Storage Temperature Range:	-20 to 70 °C
Auxiliary Module	Twelve 24-Bit Analog inputs for source reference
Power Supply	120-240 VAC

All specifications subject to change without notice

GeoRes System Tests

The seismic channel performance and sensor tests can be performed by the GeoRes System. The user can choose a partial or complete set of tests that can be run in sequence. The user can also choose to display all of the results or only the failures. In the tests described below, the system software automatically controls the Channel Input Switch Positions and Test Oscillator Settings during the tests. All tests can be run at all sample intervals and preamp gains of the GeoRes Seis Channels.

- Harmonic Distortion
- Impulse Response
- Equivalent Input Noise
- Gain Accuracy
- Common Mode Rejection
- Crossfeed (multi-channel)
- Instantaneous System Dynamic Range
- Geophone Impedance and THD



GeoRes System HC-D

Features and Specifications

- Built-in GPS
- Built-in full resolution test signal generator
- Scalability up to 8 chassis
- Continuous recording mode
- Compatible with vibratory, explosive and impulsive energy sources
- 12 analog inputs for source signal recording
- 8 high speed fiber optic telemetry paths with full redundancy for Backbone or SAT Subsea Systems
- 24-bit delta-sigma ADC
- 1 Hz to 1600 Hz freq. response
- <1 µsec. of UTC (GPS clock)
- Operating Temperature: 0° C to +50° C
- Selectable Gains:
 - X1, X2, X4, X8, X16, X32, X64
 - 0, 6, 12, 18, 24, 30, 36 dB
- Sample Intervals:
 - .25, .5, 1, 2, 4 milliseconds

Max input signal: 1.80 Vrms @ 0 Gain
Total Dynamic Range: 140 dB
System Dynamic Range @ 0dB Gain: 126 dB @ 4 msec SI 124 dB @ 2 msec SI 120 dB @ 1 msec SI 117 dB @ .5 msec SI 106 dB @ .25 msec SI
Equivalent Input Noise @ 2 msec SI: 1.13 µV @ Gain 0 dB .58 µV @ Gain 6 dB .33 µV @ Gain 12 dB .22 µV @ Gain 18 dB .19 µV @ Gain 24 dB .18 µV @ Gain 30 dB .17 µV @ Gain 36 dB
Input Impedance: 20 kohms/0.06 µf Difference Mode 5 kohms Common Mode

System Dynamic Range @ 2 msec SI 124 dB @ Gain 0 dB 123 dB @ Gain 6 dB 122 dB @ Gain 12 dB 120 dB @ Gain 18 dB 115 dB @ Gain 24 dB 110 dB @ Gain 30 dB 105 dB @ Gain 36 dB
Total Harmonic Distortion: 0.001%
Common Mode Rejection: 80db
Gain Accuracy: 1%
Anti-Alias Filter: Rejection @ Nyquist: 130 dB Frequency @ -3 dB: 0.83 Nyquist Linear or Minimum Phase
GPS Time Standard: <1 ppm
Mounts in a standard 19" rack.

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