

Downhole Specifications

| | GeoWave® II | SlimWave® | MaxiWave® |
|--|--|--|---------------------------------------|
| SEISMIC ACQUISITION | | | |
| Data rate optimization on cable | Fully automatic | | |
| Bandwidth @ -3 dB, 1/4 ms | 1,666 Hz max | | |
| Telemetry data rate | Up to 3 Mbit/s on 23,000 ft (7,000 m) cable Up to 4.2 Mbits/s | | |
| Sample rate | 1/4, 1/2, 1, 2, 4 ms | | |
| DAS SigmaWave Compatibility | Yes / DAS Above | | |
| Data transmission | True 24 bits. Lossless, gapless. Up to 4.2 Mbits/s | | |
| Sensor type | Geophone SGHT-15 | Geophone SGHT-15 | Geophone SGO-15HT or Geophone SGHT-15 |
| Multiple sensor mounting per component | standard dual, optional-quad | optional-quad | no |
| Max number of levels | 120 | 24 | 100 |
| Standard tool spacing | 15 m (50 ft) | | |
| Max tool spacing | 61 m (200 ft), can be increased by adding GDU II as a booster | Max 1000 m between SHTU (telemetry) and last SAU (level) | 20 m between levels |
| Maximum Length of Array | 3,000 m (9842 ft) | 1,000 m (3281 ft) | 2,000 m (6560 ft) |

| SURFACE SYSTEM | | | |
|------------------------|---|--|--|
| Acquisition panel | WaveLab II | | |
| Software acquisition | WaveControl | | |
| Recording | Standard and Continuous | | |
| Event detection | Threshold or ratio function methods | | |
| System test | Gain and distortion Noise and offset Pulse test | | |
| Supply voltage & Freq. | 85-264 Vac / 110-330 Vdc, 47-63 Hz | | |
| Power output | 1,200 W | | |
| Physical | 1 rack 19" 3U 31Kg (68lbs) + 1 rack 19" 5U 28Kg (62lbs) | | |

| LOGGING CABLE/DEPLOYMENT | | | |
|---------------------------------|----------------------------|-------------------------|----------------------------|
| Hepta cable | yes | yes | yes |
| 3 conductors | yes | yes | no |
| Coax | no | yes | no |
| Mono cable | no | yes (reduced data rate) | no |
| Deployment fast | Standard/Deployment system | Standard | Standard/Deployment system |



| | GeoWave® II | SlimWave® | MaxiWave® |
|--|---------------------------|--------------------------|--------------------------|
| ELECTRICAL @25°C | | | |
| Pre-amp gain | 0, 18, 36 dB | 20 or 40 dB | |
| ADC | 24 bits Delta Sigma | | |
| At 18 dB and 2 ms Full scale input signal Equivalent input noise | 200 mV rms 170 nV rms | 200 mV rms 158 nV rms | 200 mV rms 158 nV rms |
| At 36 dB and 2 ms Full scale input signal Equivalent input noise | 25 mV rms 150 nV rms | 20 mV rms 100 nV rms | 20 mV rms 100 nV rms |
| Instantaneous Dynamic Range | 127 dB at 2 ms, 0 db Gain | 122 dB | 122 dB |
| Distortion | 0.001% | | |
| Crosstalk | >100 dB | | |

| MECHANICAL | | | |
|-------------------|--|--|--|
| Min tool diameter | 2" 3/4 (70 mm) | 1"11/16 (43 mm) without pads | 3"1/2 (89 mm) without pads |
| Min well diameter | 3" (76 mm) | 2"1/4 (57 mm) | 4" (101 mm) |
| Max well diameter | 22" (559 mm) | 13" (330 mm) | 12.2" (310 mm) |
| Length (level) | 1.216 mm (47"7/8) | 1110 mm (43"5/7) | 440 mm (17") |
| Weight (level) | 18.9 Kg (41.6 lbs) | 6,5 Kg (14,3 lbs) | 8 Kg (17,6 lbs) |
| Anchoring arm | Standard 7" arm (options 5", 9"5/8, 13",20", 22") | Standard 7" arm (options 3"1/2, 5"1/2, 9"5/8, 13"3/8) | Standard 9"5/8 arm (options 7", 13"3/8) |
| Anchoring ratio | >7:1 (7" arm) | >10:1 (7" arm) | >4:1 (7" arm) |

| ENVIRONMENT | | | |
|--------------------|-------------------------------|--|---|
| Temperature rating | 205°C (400°F) operating temp. | 135°C (275°F) operating temp., 150°C (302°F) peak | 135°C (275°F) operating, 150°C (302°F) peak. |
| Pressure rating | 30,000 psi (2,070 bars) | 14,500 psi (1,000 bar) | 17,400 psi (1,200 bar) |

| ACCESSORIES | | | |
|---------------------|-----|-----|-----|
| Tension/compression | yes | yes | yes |
| Gamma ray | yes | yes | yes |
| CCL | yes | yes | yes |

Note: Sercel reserves the right to change its specifications without prior notice.

GeoWave II

| MAXIMUM NUMBER OF LEVELS | | | | |
|--------------------------|---------------|------|---------|---------|
| Intertool Spacing | Sampling rate | | | |
| | 4-2 ms | 1 ms | 1/2 ms | 1/4 ms |
| 10 m (33 ft) | 120 | 90 | 45 (45) | 22 (22) |
| 15 m (50 ft) | 110 | 85 | 42 (42) | 20 (22) |
| 20 m (66 ft) | 100 | 85 | 42 (42) | 20 (22) |
| 30 m (100 ft) | 90 / 85 | 42 | 20 (20) | 8 (22) |
| 40 m (131 ft) | 75 | 42 | 20 | 8 |
| 60 m (200 ft) | 50 | 42 | 20 | 8 |

Maximum number of levels for Real-Time Lossless Data Transmission - All types of Acquisition

(*for Microseismic ONLY in Downhole Conditions ONLY)

Number of GDU II boosters for Split Array Configuration (middle section) : 1 booster every 70 meters (230 feet), up to 10 boosters. Bottommost booster separation from the topmost shuttle of the bottom section - maximum 30 meters (100 feet)

Maximum Array Length - 3000 meters (9850 feet)

| REQUIRED HST RATE (MBITS/S) | | | | |
|-----------------------------|---------------|------|--------|--------|
| Number of levels | Sampling rate | | | |
| | 4-2 ms | 1 ms | 1/2 ms | 1/4 ms |
| 8 | 1 | 1 | 1 | 1 |
| 20 | 1 | 1 | 1,7 | 3,3 |
| 25 | 1 | 1,1 | 2,1 | 4,1 |
| 30 | 1 | 1,3 | 2,5 | |
| 40 | 1 | 1,7 | 3,3 | |
| 60 | 1,3 | 2,5 | | |
| 80 | 1,7 | 3,3 | | |
| 100 | 2,1 | 4,1 | | |
| 120 | 2,5 | | | |

FIGURES FOR HST V2

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