Geophysical Data Systems

Next Generation
Vibrator Control System
GDS - II

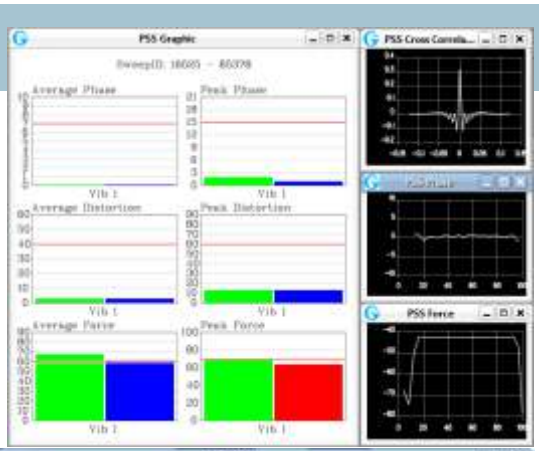
- NEW Full Nodal Acquisition Compatibility
- NEW True TDMA Radio Communications
- NEW High Production Operations
- NEW Up to Four Simultaneous Sweeps
- NEW Navigation Tablet PC
- NEW Low-Frequency Sweep Mode
- NEW Nodal Mode Observer Software
- NEW Vib Signature Stored to USB Flash Drive
- Adaptive Operation with Cable System
- Built-in Vibrator License-free Network
- Built-in GPS
- Built-in RTCM Correction Support

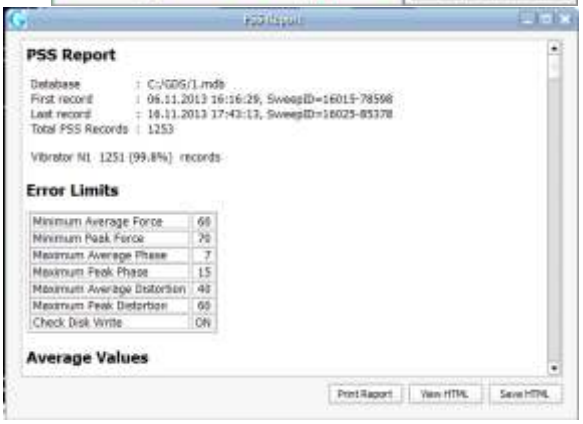
GDS - II Control System Features

- Encoder and Decoder Modes of Operation
- Supports Cable and Nodal Acquisition System Operation
- Completely Compatible with the All Servo-Hydroulic Vibrators
- Automatic Calibration for Any Vibrator
- Supports Dual-accelerometer Circuits for Redundancy
- Features New GPS-disciplined Accurate Timing Module
- Contains True TDMA Radio Modem (time-slot broadcasts). In the Stand-alone mode GDS TDMA Modem provides interface to other sources for mixed operation: Shooting, Impulsive, Air Gun
- Features New Low-Frequency Sweep Algorithm
- Built-in GPS Receiver (or External GPS Receiver)
- Built-in Group Network Radio, License-free Operation: Collects Group Ready, Group COG, Group PSS, Distribution of RTCM Correction
- Two USB connections for Vib Signature Recording and Computer/Tablet Connection (Navigation, Vibrator QC, Observer's Operation Software)
- Up to Four Simultaneous Sweeps Supported by a single Encoder
- Multi-lingual support (Computer software and GDS-II controller display)
- Supports all High Productive Vibraseis Methods: HFVS (ExxonMobil), Slip-Sweep (Shell), ZenSeis (ConocoPhillips, ISS/DSSS (BP)
- USB Drive HFVS (ExxonMobil) Recording: True Reference, RM & BP Acceleration, GPS, Mass & Valve LVDT and Torque Motor Current

GDS - II Software Features:

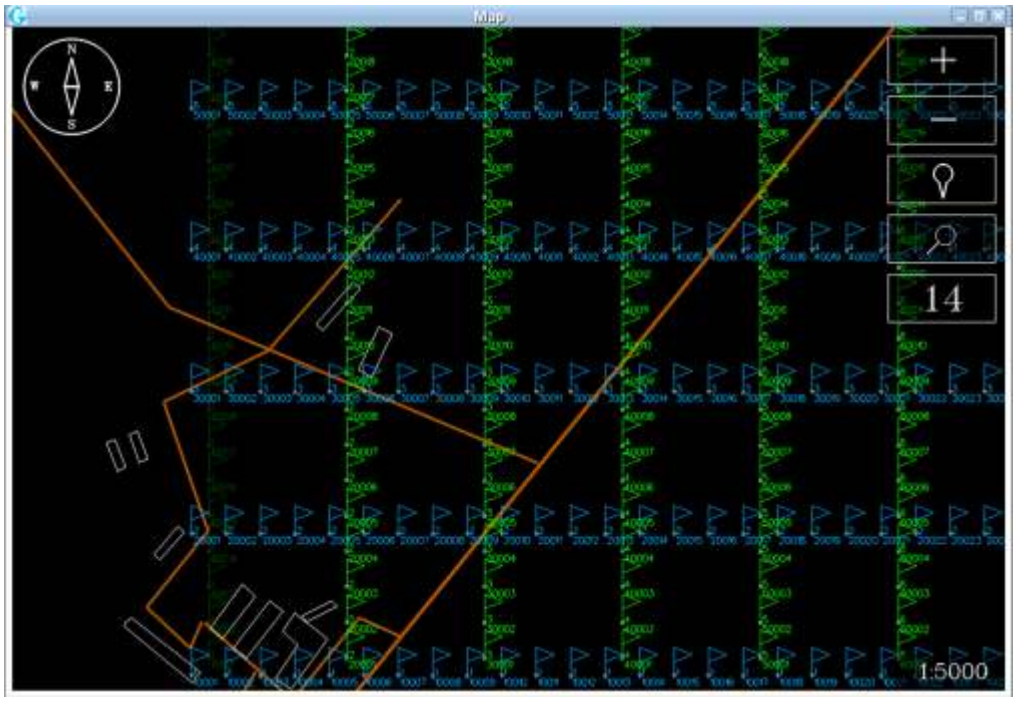
- Encoder function (Observer's Interface), Vibrator QC, GIS and Stand-alone Navigational Mode of Operation
- Software Master and Slave Mode
- Supports Cable and Nodal Acquisition System Operations
- Multi-lingual support (Computer software and GDS-II controller display)
- Adaptive Operation Mode - Spectral Sweep Control
- Multiple Map Windows Display Mode
- Selected Source Point and Active Receiver Array Display
- Setup for Time and Distance Separation Operations
- Improved Checksum Change Detection Control Algorithm

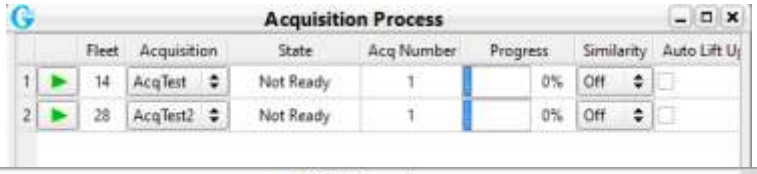


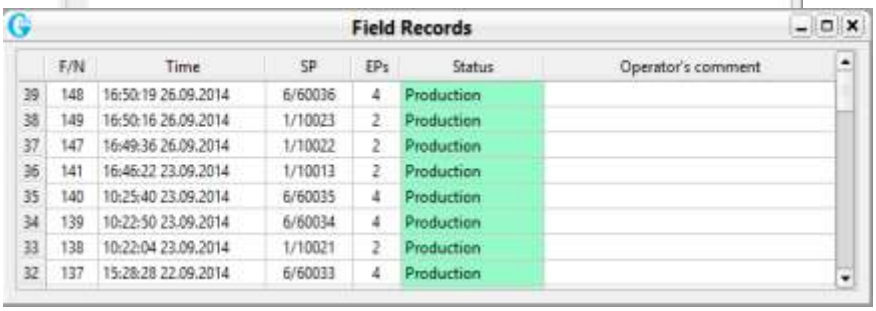


Map Window Functions:

- Input for SPS (SPS, RPS, XPS) and SP1 File Formats
- Multiple Locations Display in open windows
- Supports Google's KML Files
- COG Display
- Completed Source Points Display
- Active Receiver Array Display





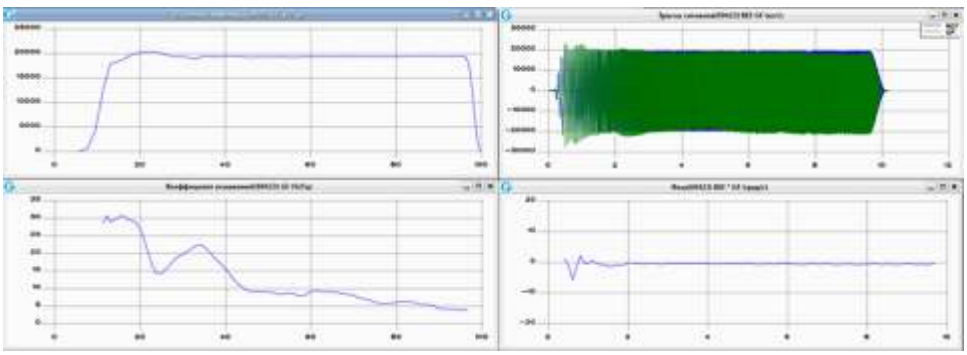


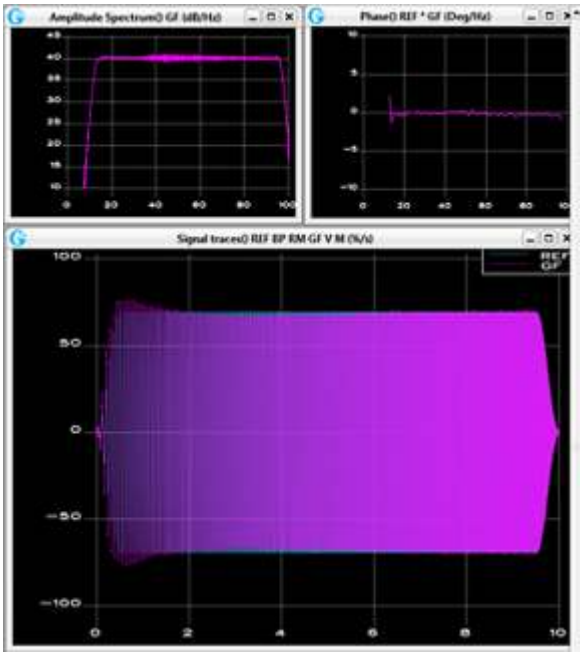
Observer's Operations Functions:

Display Currently Active and Ready Sources
Support for High Production Operation
Observer's Log Window
List of All and Completed Source Points
Complete List of Receiver Points
Job Setup Dialog
Progress Report Functions

Source QC Options:

- PSS Display in Classic Graphic and Text Forms
- Comprehensive PSS Report Function, Coordinate Report and Time Break Time Report
- Map Representation of Completed PSS reports
- Radio Similarity QC and Stand-alone QC Options:
  - ✓ Signal Traces and Oscilloscope Mode
  - ✓ Fundamental Force Plot
  - ✓ Frequency vs Time Plot
  - ✓ Frequency Response
  - ✓ Peak Amplitude
  - ✓ Phase
  - ✓ Amplitude Spectrum
  - ✓ Delay Calculation
  - ✓ Correlation
  - ✓ Distortion





GDS - II Decoder Configuration:

Voice Radio in
True TDMA Mode
to Maximize Production Rate

USB Flash Drive
To Save Vib Signature

GPS Antenna
or
External GPS
Receiver

Navigation Tablet
with Vehicle Mount

Local Vib Network Antenna
(License-free)
Group COG
Group Ready
RTCM Corrections

Generic specifications:

Supply voltage:	9 - 36 VDC
Power consumption:	16 W
Sweep types:	Linear, dB/Oct, dB/Hz, T-Power, Adaptive, Pulse, Segments, Pause, Low-Freq
Sweep frequency range:	1 - 250 Hz
Tapers:	Cosine and Blackman
Addressed vibrators:	32 Vibrators and Groups
Start time accuracy:	± 1 usec (±25 usec in Legacy Mode)
Accelerometer sensitivity:	25 mV/g
Built-in GPS:	Javad TR-G2, Javad TR-G3, Novatel OEM Star, Novatel OEM 6
Dimensions:	308 x 296 x 200 mm (12.20 x 11.50 x 7.90“)
Weight:	6 kg
Operating temperature:	-10° to +60° C
Storage temperature:	-40° to +70° C

Geophysical Data Systems

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