

VE432

The ultimate response in digital vibrator control



- Auto-adaptive to changing ground conditions
- Reliable QC link and full data base integrity
- Enhanced multiple fleet management
- Expanded graphic interface for efficient quality assurance
- State-of-the-art hardware and software to preserve your investment



VE432

General



Bar Graph QC Display

The VE432 is a new generation of Vibrator Digital Control System, using a fully auto-adaptive servomechanism. It enables the use of all advanced Vibroseis techniques such as :

- pseudo-random sweeps
- multiple simultaneous sources in flip-flop or slip-modes(*)
- coded sweeps
- cascaded (**) sweeps

The VE432 is fully compatible with most satellite DGPS and Glonass receivers, for integrated tracking of source positions.

Digital Pilot Generator (DPG)

The DPG is connected to the data acquisition system through an Ethernet link and acts as a master control unit for the VE432 system.

The DPG can be :

- either fully integrated with the SN388 acquisition system,
- or connected to any other type of acquisition system, using its own graphic user interface.

Digital Servo Drive (DSD)

Installed in each vibrator, the DSD performs real time control of the vibrator ground force, computes and transmits complete attribute set for QC data base.

VE432 Main features

Signal generation

Up to 4 different simultaneous pilot signals are generated by the DPG. A pilot or a sweep signal is generated from an operator-defined library of 32 basic signals combined with up/down, phase shift parameters. Basic signals are defined by their frequency range, frequency vs. time law, time duration, tapers and amplitude vs. time law. A single DPG can handle up to 4 vibrator fleets with a total of 28 vibrators.

Digital vibrator control

By an automatic identification procedure, the VE432 digital model is adapted to any type of vibrator without the need for manual adjustment. The fully digital auto-adaptive servomechanism performs an optimal control which minimizes the phase and distortion and maximizes the fundamental output. Optimal digital control allows :

- fast sweep rate,
- combination of sweep segments with no dead time, used in cascaded (**) sweeps or multiple simultaneous source application,
- pseudo-random sweeps, for environmentally friendly vibration.

Enhanced real-time Quality Control

The DSD integrates a complete set of functions for automatic sensor tests. The check for coherence between all the measurements contributes to quality assurance, ensuring that the vibrator generates the proper sweep, without any risk of polarity inversion. A complete QC data base is generated for real-time or post-processing analysis including:

- phase
- distortion
- fundamental ground force

(*) i.e. : slip-sweep invented by P.D.O.

(**) Exxon patent

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