

Geophone Testing – Hydrophone Testing – Vibrator Testing

Bird Dog III

**Versatile Quality Control System
Three Test Units in One!**



General Purpose QC Tool:



32-bit, high speed, ADC chip for lower noise and increased accuracy

- Three different operation with a single unit
- 8 Gigabytes of Data Storage, Expandable to 16
- GPS based time and location saved for every record
- Stable and rugged unit for use in all conditions
- Three-Component Test Mode, checks 3 elements at once to save time and effort
- All test data saved in non-volatile memory for later download and retrieval



Connects to PC via Ethernet or optional Wi-Fi, provides control, data download and real time display and analysis of data and results

Operation Modes:

Geophone TestsQC individual element or strings of geophones - Measures Resistance, Impedance, Sensitivity, Distortion, Polarity, Damping Frequency and Leakage, verifies polarity and performance

Hydrophone TestsQC individual hydrophones or streamer sections - Measures electrical and acoustic properties, verifies accuracy and output

Vibrator TestsQC vibrator performance in the field, using independent accelerometers - Includes amplitude and phase displays, force and distortion analysis, verifies correct ground force calculation and polarity

Included Software Features:

- Includes "Test" Software for Geophones Testing
 - Time Domain and Frequency Domain
 - Records and Prints all Test Results
- Includes "Test" Software for Hydrophones Testing
 - Sweep Test – Phase and Amplitude Errors
 - Pulse Test – Measure Differences from Stored Response
- Includes "Vibrator QC Software" for Vibrator Analysis
 - Time and Frequency Domain Tests
 - Measures Output Force and Phase Error
 - Measures Distortion and Start Time Differences

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Bird Dog System Options:

- Standard BD3-3
 - BD3-3 Unit
 - Geophone Wiring Harness – Connects Three Elements or Geophone Strings to unit
- BD3-3 with Vibrator QC Kit
 - BD3-3 Unit
 - Two Magnetic Accelerometers
 - Vibrator Interface Box – Connects True Reference and independent accelerometers to Bird Dog unit
 - Records pilot signal, reaction mass acceleration, baseplate acceleration and ground force signals
- BD3-3 with Hydrophone QC Kit
 - BD3-3 Unit
 - Hydrophone Sound Tube – Provides Uniform Input to Hydrophone Elements
 - Hydrophone Amplifier – Matches Hydrophone Output to BD3-3
 - Hydrophone Cable Set – Matching cables and connectors for hydrophones and tester

Bird Dog Specification

Electrical	
A/D	32 bit high-speed sigma delta converter
Anti-Alias Filters	85% of Nyquist frequency
Low Cut Filter	User Selectable – DC, 0.1 Hz, 2 Hz
Filter Type	User Selectable – Linear, Minimum Phase
Sample Rates	¼, ½, 1, 2, 4, 8 ms
Max Input @ High Gain	0.31 Volts peak to peak
Max Input @ Low Gain	5.00 Volts peak to peak
Power Wake/Sleep	0.48/0.01 watts per channel
Input Impedance	20k Ohms
Clock Sync	GPS or VHF/Wire
Test Types	Geophones, Hydrophones and Vibrator Accelerometers
Performance	
Dynamic Range	126 dB
% THD	0.0012 %
Crosstalk	Better than -125 dB
CMRR	> 100 dB

Physical	
# Channels	3
Temperature	-40°C to +85°C
Humidity	0 to 100%
Size	14" x 5½" x 3" (356 x 140 x 76 mm)
Weight	3.4 lbs (1.55 kg)
Data Storage (Internal 8GB CF)	480 hours for 3 channels @ 2ms
Data Format	32-bit float IEEE SEG-Y/SEG-D
LEDs	GPS/Recording LED, Battery LED
VibQC Option	+/- 12 volt Input

