Rugged, High-Performance Digital and Analog GPR Controller

SIR® 4000

www.geophysical.com

The SIR® 4000 is GSSI's first high-performance GPR data acquisition system designed to operate with analog and digital antennas. This controller bridges the legacy of our traditional analog antennas with our next-generation of digital offerings. Combined, this allows true versatility and flexibility by supporting a wide range of users, beginner to advanced, in numerous applications.

The SIR 4000 offers unique collection modules, including Quick 3D, UtilityScan®, StructureScan™ and Expert Mode for efficient data collection and visualization. It also incorporates advanced display methods and filtering capabilities for 'in-the-field' processing and imaging. Fully integrated, the SIR 4000 provides a simple user interface, plug-and-play GPS integration, and Wi-Fi enabled data transfer functionality.

Typical Uses

- Utility designation
- Concrete inspection
- Mining and geology
- Environmental assessment
- Archaeology
- Forensics

Flexible Design

- Compatible with all GSSI analog and digital antennas
- Several deployment options for in-field accessibility
- WiFi , USB or Ethernet file transfer

Integrated System

- Windows® 8 based user interface
- Ruggedized, high-resolution 10.4" LED display
- Plug-and-play GPS capability

Deliver Results

- Up to 800 KHz transmit rate
- 32-bit output data format
- 20,000 ns max time range

"With recent technological advancements, we've seen superior data quality in real-time, rather than relying on post-processing in the office. It's a real advantage when we can make decisions in the field."

Brad Rister, University of Kentucky Transportation Center

SIR® 4000 Specifications

System	
Antenna Support	Compatible with all GSSI antennas
Number of Channels	Records data from 1 single-frequency antenna or 1 dual-frequency antenna
Data Storage	32 GB
Display	Enhanced 10.4" LED display with internal high brightness, Active matrix 1024 x 768 resolution and 32-bit color
GPS	Data logged internally
Display Modes	Linescan, Linescan plus O-scope, Wiggle trace Full 3D, 256 color bins are used to represent the amplitude and polarity of the signal
Data Acquisition	
Data Format	RADAN™ (.dzt)
Output Data Format	32-bit
Scan Interval	User-selectable, up to 400 scans/sec
Number of Samples per Scan	256, 512, 1024, 2048, 4096, 8192, 16384
Operating Modes	Continuous (time) or survey wheel (distance triggered) or point mode
Time Range	0-20,000 nanoseconds full scale, user-selectable Gain: manual adjustment from -42 to +126 dB Number of segments in gain curve is user-selectable from 1 to 8
Standard Real-Time Filters	Infinite Impulse Response (IIR) - Low and High Pass, vertical and horizontal Finite Impulse Response (FIR) - Low and High Pass, vertical and horizontal
Advanced Real-Time Filters	Migration, Surface Position Tracking, Signal Noise Floor Tracking, Adaptive Background Removal
Automatic System Setups	Storage of an unlimited number of system setup files for different survey conditions and/or antenna deployment configurations
Automatic Antenna Recognition	Automatic recognition of Smart Antennas to allow maximum compliant transmit rate
Languages	
	English, Chinese, Japanese, French
Operating	
Operating Temperature	-20°C to 40°C external (-4°F to 104°F)
Battery	Inspired Energy Ni2040ED, 3 hour runtime*
Transmit Rate	Up to 800 KHz (International), US/Canada and CE rates depend on antenna model
Input/Output	
Available Ports	Antenna inputs analog and digital (one at a time), DC power input, Serial RS232 (GPS port), Accessory connector, HDMI video output, Ethernet to PC, USB 2.0 port, mini USB
WiFi	802.11B/G
Ethernet	RJ45 100BT Ethernet
USB Host	USB host with external keyboard support, USB flash drive support and USB HUB support
Mechanical	
Dimensions	14x10x2.75 in (36x25x7 cm)
Weight	10 lbs (4.53 kg) with battery
Relative Humidity	<95% non-condensing
Storage Temperature	-40°C to 60°C (-40°F to 140°F)

*battery life dependent on level of display brightness

Antennas and accessories sold separately
FCC, RSS-220 and CE Compliant

See Our Website For More Information

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