



# SIR-20

## Rugged, High-Performance Dual-Channel GPR Data Acquisition System

The GSSI SIR-20 is a powerful, versatile multi-channel data acquisition system coupled with a rugged Panasonic ToughBook PC. The Microsoft Windows-based data acquisition and processing software provides the user with a familiar operating environment for collecting, storing, processing and transferring data. Application specific processing functions enable the user to present the interpreted GPR results in practical, useful formats.

The SIR-20 control unit provides the reliability and flexibility users demand from the world leader in ground penetrating radar. The SIR-20 is compatible with all GSSI antennas, allowing the user to address the full range of GPR applications. Whether mounted on a vehicle, a cart-based system or mobile on-site, the SIR-20 will provide the highest quality data, day-in and day-out.

### Typical Uses

- Road structure assessment
- Bridge deck inspection
- Rail bed inspection
- Concrete inspection
- Archaeology
- Geological investigation
- Mining



### Flexible Design

- Dual channel system - collect data using any two GSSI antennas
- Rugged Panasonic ToughBook computer provides familiar Windows environment

### Integrated System

- Ideal for vehicle mounted applications- operates in either 120 volts AC or 12 volts DC
- GPS compatible

### Deliver Results

- Large data storage
- USB ports for system flexibility



# SIR-20 System Specifications

System																																																			
Antennas	Compatible with all GSSI antennas																																																		
Number of Channels	Records data from 1 or 2 hardware channels simultaneously; 1 to 4 data channels, selectable																																																		
Data Storage	Internal memory: 80 GB Internal Optional (External): Any standard PC peripheral using the PC parallel port, USB port or PCMCIA port																																																		
Display	13.3 inch color LCD Display on a Panasonic ToughBook Laptop																																																		
Display Modes	Linescan and O-scope, 3D In linescan display, 256 color bins are used to represent the amplitude and polarity of the signal.																																																		
Data Acquisition																																																			
Data Format	RADAN (.dzt)																																																		
Scan Rate Examples	Output Data Format: 8- or 16-bit, selectable																																																		
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Scan Rate Interval	User-Selectable																																																		
Samples per Scan	256, 512, 1024, 2048, 4096, 8192																																																		
Operating Modes	Free run, survey wheel, point mode																																																		
Time Range	0-8,000 nanoseconds full scale, user-selectable Gain: Manual adjustment from -20 to +100 dB. Number of segments in gain curve is user-selectable from 1 to 8.																																																		
Filters	Individually filter the scans in the time domain. Low and High Pass, Infinite Impulse Response (IIR), Finite Impulse Response (FIR), Boxcar and Triangular filter types are available.																																																		
Automatic System Setups	Storage of an unlimited number of system setup files for different survey conditions and/or antenna deployment configurations.																																																		
Languages																																																			
	English																																																		
Operating																																																			
Operating Temperature	-10°C to 40°C external (14°F to 104°F)																																																		
Battery	12 V DC – 18 amp hour, external																																																		
Transmit Rate	Up to 500 KHz (International only)																																																		
Input/Output																																																			
Available Ports	Antenna inputs (2), Survey wheel, Marker, DC power input, Serial RS232 (GPS port) on ToughBook, Compact Flash memory, USB master slave																																																		
Mechanical																																																			
Dimensions	18.4 x 15.5 x 6 in (466 x 395 x 174 mm)																																																		
Weight	27 lbs (12.2 kg), with ToughBook																																																		
Operating Temperature	-10°C to 40°C external																																																		
Relative Humidity	<95% non-condensing																																																		
Storage Temperature	-40°C to 60°C																																																		

Antennas and accessories sold separately. CE and FCC Compliant.



www.geophysical.com • sales@geophysical.com

12 Industrial Way • Salem, NH 03079-2837  
Tel: (603) 893-1109 • Fax: (603) 889-3984