

GSR-12PC / GSR-16PC Recorders

Features

- Rugged, Portable and Highly Versatile PC-Based Recording Technology
- Integrated 12 or 16 Bit Digitiser System
- 2 x 3 differential or 5 x 3 single ended channels
- GeoDAS Data Acquisition and Analysis Program
- GPS Time Receiver (Optional)



Outline

The **GSR-12PC/GSR-16PC** Seismic Recorder is a high performance PC based Data Acquisition System for a wide application field using the **GeoDAS** data acquisition and data analysis software. GeoDAS offers data acquisition facilities as well as **comprehensive data analysis tools**. It provides a complete solution to researchers for seismic monitoring, after shock studies, noise measurements, vibration measurements and structural monitoring.

The **GSR-12PC/GSR-16PC** is capable to perform both continuous and event-based recording of data. These recording facilities in combination with the reliable, field-proven **GeoDAS** data analysis tools make this instrument one of the most accurate and versatile among portable recorders available today. This unique combination of high performance digitiser and the powerful software allows for the acquisition of microseismic, broadband and strong motion signals in a single field unit.

The standard **GSR-12PC/GSR-16PC** recorder allows signals from almost any type of sensor including seismometers, accelerometers or geophones to be acquired using a 12 Bit or 16 Bit Digitiser.

Level triggering, STA/LTA triggering, CAV triggering as well as permanent recording can be configured as per the demand of the particular application.

The **GeoDAS** software runs under **Windows 2000/XP**. The **GSR-12PC/GSR-16PC** is available with up to 2 x 3 differential or 5 x 3 single ended channels. It facilitates therefore monitoring of a complete structure with just one recorder. Using the standard Windows networking tools TCP/IP access from the office to a remotely operating GSR-12PC/GSR-16PC is possible for both data retrieval and the configuration of the recorder.

Different output options are available such as data streaming, alarm signals, alert and notification messages through SMS or E-Mail.

The **GSR-12PC/GSR-16PC** in combination with **GeoDAS** is the ideal, compact and extremely cost effective PC-based recording approach.

Specifications GSR-12PC / GSR-16PC Recorders

Data Acquisition System

GSR-xxPC is based on GeoSIG GeoDAS software. GeoDAS is a highly versatile and flexible data acquisition system. GeoDAS is capable of recording continuous data or triggered event data very efficiently using all comprehensive features of the Microsoft Windows operating systems.

Sensor

All GeoSIG sensors as well as other sensors compatible with input hardware specifications can be connected.

Laptop Computer:

Pentium IV Processor

14-inch LCD Screen
512 Mbyte RAM
60 Gbyte Harddisk
Windows 2000/XP

(due to the rapid changes in the PC technology the specifications herein represents the minimum specifications)

Recording Period

The minimum hard disk capacity (40 Gbyte) allows several days (Approximately 5 Gbyte per day using maximum configuration) of continuous recording depending on the sampling rate and the number of channels selected. When the disk is full the oldest data is replaced with new data and therefore at any time the recorder stores the current data. However, if a trigger occurs, the event data is saved and will not be overwritten even though the disk gets full.

Trigger

A software event trigger is incorporated in the GSR-xxPC. Trigger parameters can be configured locally or from an external computer. Based on state-of-the-art trigger algorithms in GeoDAS such as level, STA/LTA or CAV, the trigger facility is ideal for recording event files containing the most relevant data for the area of interest.

Data Transfer

Remote connections to the recorder can be achieved by any method that exists in the industry to remotely connect to a computer. Alternatively data can be backed up on CD's using the laptop's CD-Writer or copied to any industry standard external storage medium which can be connected to a laptop.

Digitiser

A/D Converter: 2 x 3 differential or 5 x 3 single ended
12 or 16 Bit
Sampling rates: 25, 50, 100, 200, 500, 1000 SPS per channel
Noise: < 1 LSB RMS for 12 Bit differential mode
< 5 LSB RMS for 16 Bit differential mode
Input Fullscale Voltage: ± 10 , ± 5 , ± 2.5 and ± 1.25 V selectable
Storage Medium: Internal fixed Hard Disk with a capacity depending on the application. Minimum 20 Gbyte is recommended

Power Supply

Type: Switched power supply
Internal battery: Rechargeable, 12 VDC, 7.2 Ah
Lead battery
Autonomy: 2 hours continuous
Charger: 90 - 260 VAC External Power Supply

Timing

Internal time interface: Computer Real-Time clock
External time interface: GPS (optional)
External Connections:
POWER: 230 VAC or 12 VDC Power Input
SENSOR: Sensor Analog Inputs (1 – 5 connectors)
GPS: GPS Time Receiver (optional)

Environment / Housing

Operational temperature: -20 °C to +50 °C
Size: 470 x 370 x 180 mm
Weight: 10 kg (incl. 1 battery)
Type: Weather sealed box
Protection: IP65 excl. laptop

LED indicators

AC green: AC available
RUN green: operation
EVENT yellow: permanent or event recording
ERROR red: warnings and errors

Self Test

Sensor Test signal and permanently active battery charging controller.