güralp

GÜRALP DATA BOX

A PRELOADED DATA CENTRE IN A BOX

A powerful seismic data streaming, archiving, event detection and monitoring solution, in a box.

KEY FEATURES

> 18 months recording for a network of ~ 20 instruments
> Real-time SeedLink restreaming
> miniSEED and metadata archiver
> Network State-of-Health dashboard with alerting
> Event detection and location
> Compatible with third party miniSEED seismic analysis software

APPLICATIONS

Advanced seismic data management and event monitoring for:

> National seismic networks
> Monitoring and research observatories
> Aftershock monitoring
> Structural health monitoring
> Microseismic networks
> Early warning installations

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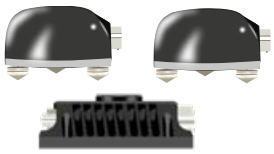
GÜRALP DATA BOX
THE 4TB GÜRALP DATA BOX, COMES FULLY INSTALLED WITH GÜRALP DATA CENTRE SOFTWARE, REGISTRY SERVER AND DISCOVERY COMPONENTS, SO ITS READY TO GO!

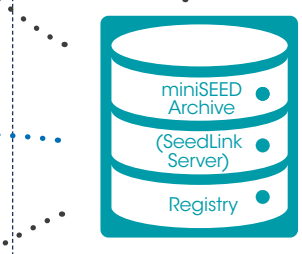
GÜRALP DATA CENTRE

REMOTE ACCESS FOR CONFIGURATION AND DATA FORWARDING

INSTRUMENT STATE OF HEALTH CONFIGURATION AND MONITORING

SEISMIC DATA FLOW





OPTIONAL MAGNA MODULE

GDC, SUPPORTED ON GDB, HOSTED SYSTEMS, OR CLOUD DEPLOYMENTS

ACCESS DATA FROM ANYWHERE VIA WEBPAGE WITH RELIABLE DOWNLOAD AND ARCHIVING

COMPATIBLE WITH MINISEED APPLICATIONS FOR ANALYSIS E.G. EARTHWORM AND SEISCOMP3

MANAGE AND MONITOR YOUR ENTIRE SEISMIC NETWORK THROUGH A SINGLE APPLICATION (DISCOVERY)

Data archiving and distribution made simple

Güralp Data Box (GDB) is a powerful data archiving and forwarding solution that adds a layer of redundancy to seismic data acquisition workflow. GDB comes loaded with Güralp Data Centre (GDC) software designed to manage network configurations ranging from individual instruments to extensive distributed arrays. It provides efficient handling of multiple data streams while maintaining long-term reliability.

GDC consists of several applications that provide system state of health monitoring, data collection, download, streaming and remote configuration with quality assurance capabilities.

Also included is MAGNA, an advanced event detection and processing framework module. MAGNA delivers continuous waveform monitoring and automatic seismic trigger identification and filtering. Detected events are analysed in real-time and passed to the integrated location engine to determine epicentre position, magnitude and ground motion estimates. Shake-maps and preliminary event summaries, provide users with rapid situational insight for seismic monitoring and early-response applications.

Güralp Data Box supports multi-scale sensor networks

GDB, vastly extends the range of powerful tools available through Güralp Discovery software and Minimus firmware, empowering you to manage a seismic network at any scale. An optional failover mode automatically switches between different connections in event of failure. e.g. cellular to satellite.

Güralp Data Box software components

- SeedLink ringserver - real-time ingestion and streaming of miniSEED data
- miniSEED data archive: manage waveform data, digitiser and instrument response files
- Registry server - automatically identifies instruments on the network without the requirement for fixed IP addresses
- Güralp responder service - collects and distributes state of health information from Güralp devices on the network.
- GDC monitoring service – sends periodic state of health information packets on the network's performance and performs latency monitoring.
- Güralp Discovery application: An integrated application for configuring and monitoring GDC, managing Güralp stations, and providing advanced analysis and diagnostic tools.

GDC uses the miniSEED data format and SeedLink communication protocol for integration with established acquisition and analysis systems such as SeisComP3 and Earthworm.

Pre-installed and ready to go!

The GDB is supplied with all software components pre-loaded, licensed and fully integrated, ensuring minimum setup time.

Upon power-up, instruments can be detected, configured and brought online using built-in network management and system health monitoring tools. This supports rapid deployment for permanent or temporary seismic installations with minimal integration into existing infrastructure.

The GDB's compact form factor makes it suitable for installation in field huts, observatory racks and mobile deployments where space may be restricted.

Alternative set-up options

On the basis that no two network requirements are the same, we also have the flexibility to offer GDC as a Cloud-base service or software solution:

Cloud GDC
Access all GDC tools including archiving, forwarding and interrogation via a cloud-hosted service, with maintenance, upgrades and infrastructure management handled by Güralp specialist.

Hosted GDC
For organisations that prefer to manage operations in-house there is the option to deploy GDC on your own infrastructure. This solution includes full access to archiving, forwarding and analysis tools, for a one-off licence fee with optional annual support for updates and bespoke development.

Key features

Registry Server, Discovery Client, SeedLink ringserver, web server and miniSEED file storage/archive/database
SeedLink Protocol for realtime restreaming to systems such as SeisComP3 and Earthworm
Browser-based control and data retrieval
Compact form factor, measuring just 170 mm × 95 mm × 30 mm
4 TB internal storage capacity with option for GDB+ offering expandable storage capability for larger networks

Güralp Data Box

SPECIFICATIONS

SOFTWARE	
Operating system	Linux
COMMUNICATION PROTOCOLS	
Interfaces / Connections	Ethernet (10/100/1000BASE-T), Dual-HDMI, USB
Internet technologies supported	Network services: SeedLink streaming, secure remote access (SSH), Supports secure web access (HTTPS), firewall and routing configuration
DATA FORMATS	
Data recording	miniSEED and supports dataless SEED
Data streaming protocols	SeedLink, Modbus
Guralp Data Box internal storage	4 TB Solid state (SSD) Other options available
OPERATION AND POWER USAGE	
Power supply voltage	5 V DC (USB3.0) or option of mains adaptor
Power consumption	Nominal 10 W
ENVIRONMENTAL / PHYSICAL	
Operating temperature range	0 °C to +70 °C
Dimensions height × width × depth	170 mm × 95 mm × 30 mm
Ports:	1 x Ethernet port 2 x HDMI (display) 1 x USB keyboard socket 1 x USB mouse socket

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