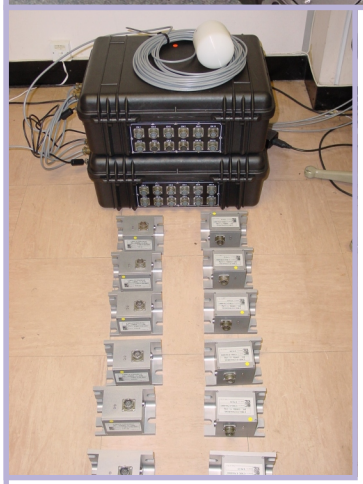
GURALP SYSTEMS

CMG-DM24S12AMS

acquisition and monitoring system

The CMG-DM24S12AMS is a self-contained acquisition and monitoring system, designed for use with CMG-5U uniaxial sensors.



Together with an optional digital instrument (*e.g.* a CMG-5TD) for measuring free-field ground motion, up to 12 CMG-5U sensors can be attached to the DM24S12AMS to provide high-quality data suitable for modal analysis and modelling.

Features

12-channel digitising capacity

External digital inputs

GPS distribution

8 auxiliary 16-bit channels

On-board laptop PC with Scream! acquisition software

Connectivity through modem, LAN, or USB

Mains, battery, or external DC power

The CMG-DM24S12 is a similar unit, but lacking the on-board PC. Data from the DM24S12 can be relayed over a serial link to a DCM for storage, or to your own systems.

Other self-contained systems can be produced to your specification.

Distributed by:

Güralp Systems Limited, 3 Midas House,
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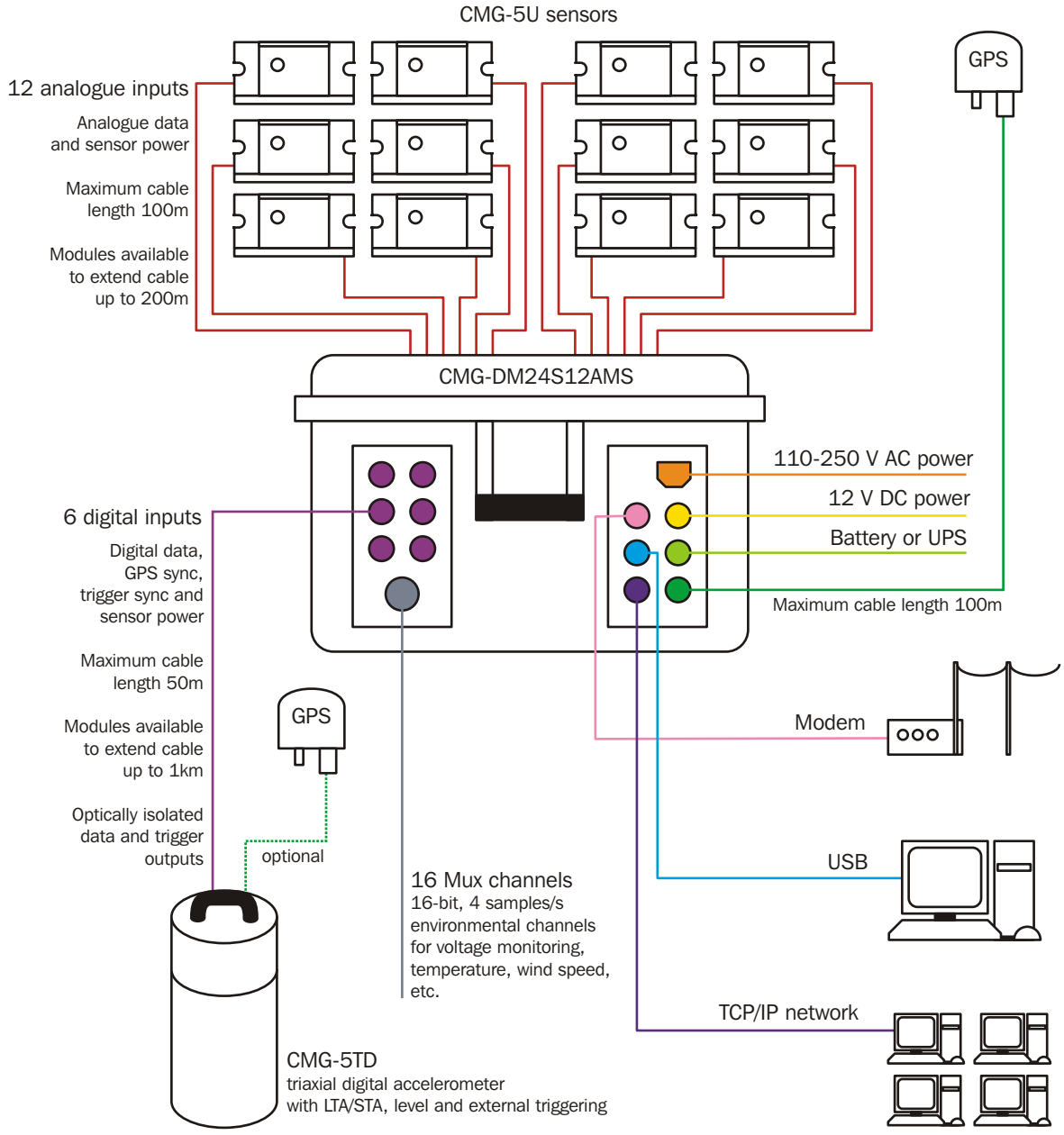
Array design



The array layout for a typical CMG-DM24S12AMS installation is shown above.

Power can be supplied to the system using mains or batteries, which can be optionally recharged when mains power is available.

The built-in PC includes Ethernet, USB and internal modem connectivity options.

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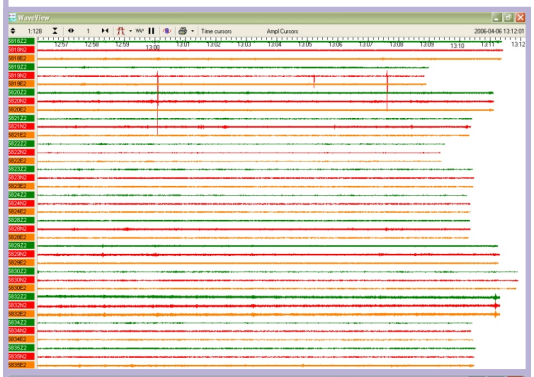
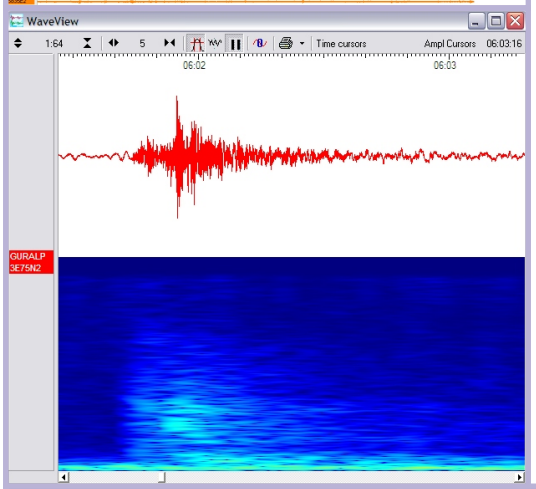
Included software



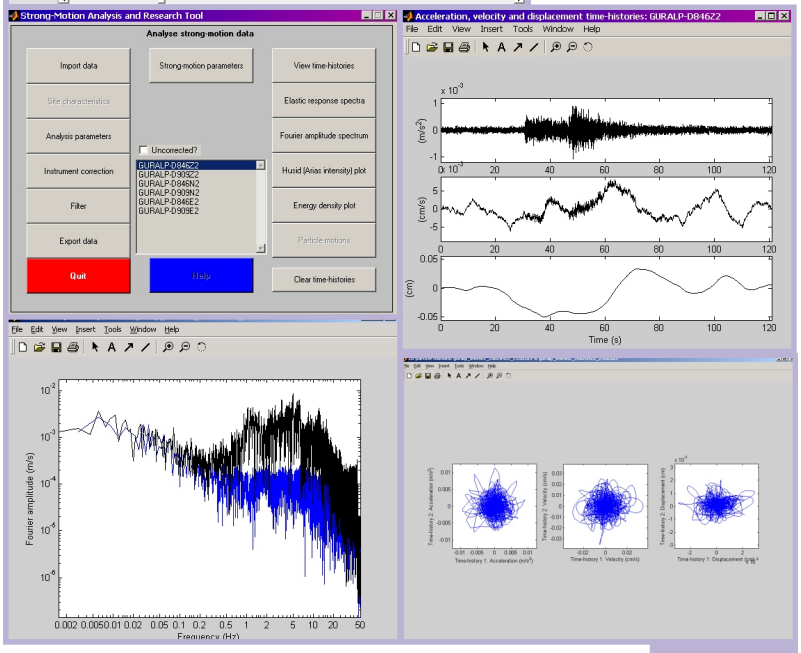


The built-in laptop PC comes with Güralp Systems' Scream! and ART software ready installed and configured.

With Scream!, you can view and record incoming data, examine events, and apply filters.

You can also configure the digitizer output and triggering parameters. The CMG-DM24S12AMS automatically connects all the attached instruments to a common trigger line, so that a trigger detected by any instrument is capable of triggering the entire array.

Scream! can record data in several commonly-used formats (GCF, sac, UFF, *etc*.) to the laptop's internal hard disk.



ART works closely with Scream! to apply standard strong-motion analysis techniques to recorded events, including uncorrected and corrected acceleration, velocity and displacement plots; Fourier amplitude spectra; Arias intensity plots; particle motion graphs in 2 or 3 dimensions, and more.

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Specifications

Channels	12 @ 24 bits + 6 digital inputs
Input voltage range	±10 V (±20 V optional) differential
Input impedance	1 MΩ / 10 nF
ADC converter type	5th-order single-bit low pass □-Σ
Output format	24-bit
Dynamic range	137dB @ 40 samples/s
Absolute accuracy	0.5%
Common-mode rejection	120 dB @ 10 Hz
DSP sampling rate	32 kHz
Output rates available	4 @ 1000 – 1 samples/s
Decimation filters	2, 4, 5, 2×4, 2×5, 4×4
Anti-alias filters	3-pole
Low pass filters	FIR
Out-of-band rejection	140 dB
In-band ripple	–140 dB
DSP trigger modes	STA/LTA, level, external, software
Timing source precision	8×10^{-7}
Optional precision RTC	1.7×10^{-8} (30 mW power cost)
Calibration signal generator	Amplitude/frequency adjustable sine, swept sine, step or PRBS
Transfer interfaces	RS232, RS422, IEEE.1394
Optional smart sensor interface	SSI I^2C/1-wire interface
Power supply	12 – 36 V DC
Current at 12 V DC	84 mA (without GPS)

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