



GURALP SYSTEMS

CMG-EAM

Embedded Acquisition Module

The Guralp CMG-EAM is a low-power, flexible data hub suitable for all seismic installations, from autonomous stations to large arrays. This unit is an updated version of our CMG-DCM



Using a full Linux operating system, the EAM is a stable and robust unit which can be deployed long-term with confidence. Its unrivalled configurability gives you all the power of a bespoke data flow system at a fraction of the cost. As a stand-alone unit, the EAM is rugged enough to withstand the harshest environments, using a specially-designed hard disk caddy and secure, durable connectors throughout.



Features:

Under 0.75 W average power consumption

Stable and robust for total autonomy

Multi-user Linux operating system

Ethernet or wireless LAN

Full TCP/IP support with PPP

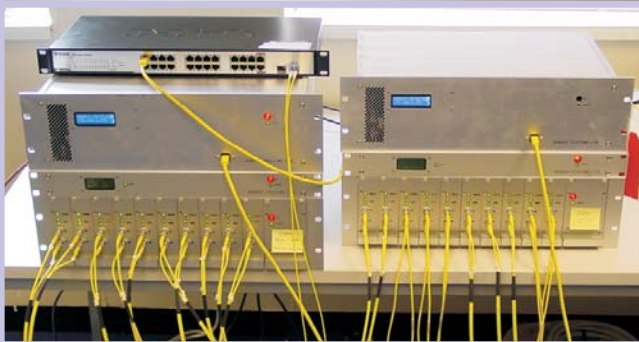
Optional on-board PCMCIA modem

Remote configuration with on-board Web server

Optional SEEDLink and CD1.0/1.1 support

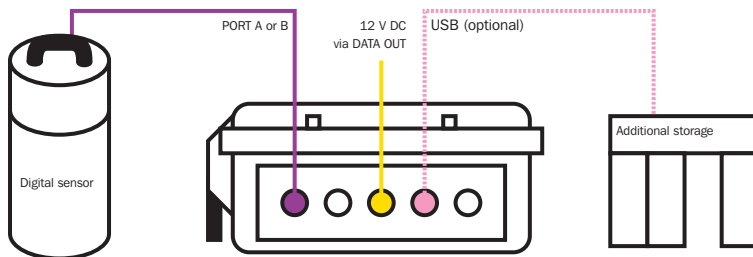
Flash and USB mass storage as standard

Stand-alone, rack-mount, borehole and sensor-integrated variants available



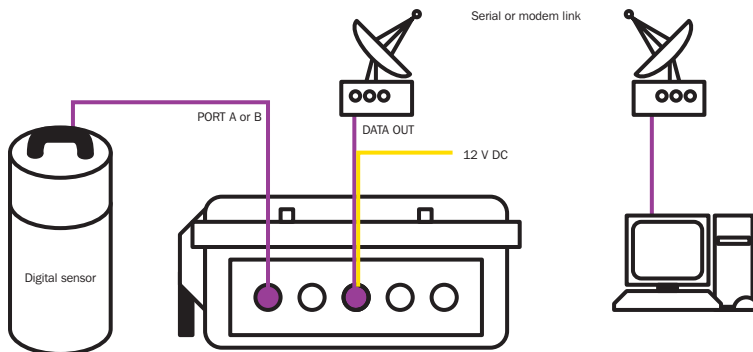
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Applications



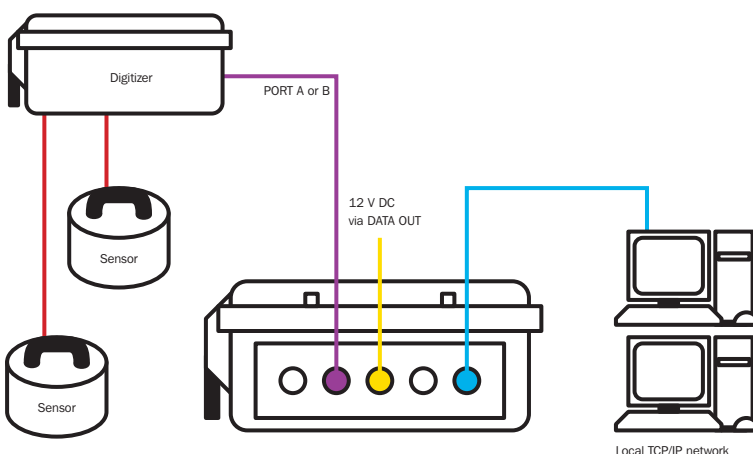
Autonomous data storage

The EAM uses a standard USB hard drive, replaceable in the field with no loss of data. Self-contained, low power installations can have over 40 Gb of storage space, ideal for long-term experiments in remote locations. If desired, add a satellite



Long-range telemetry

The EAM can combine signals from several instruments and transmit them over a serial modem or VSAT link. Alternatively, PPP and SLIP capabilities allow you to use a modem link as an extension of your local network. A PCMCIA modem can be installed inside the EAM for ease of use. The EAM also supports external AT modems.



Fully networked installations

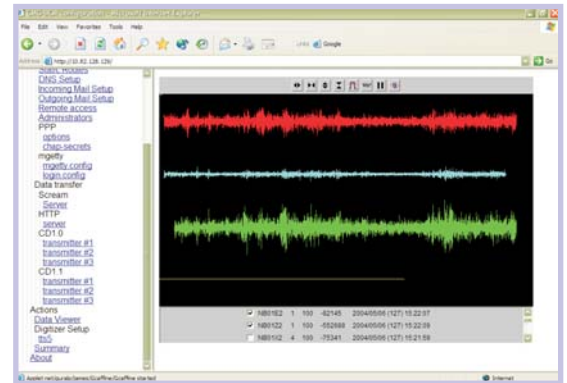
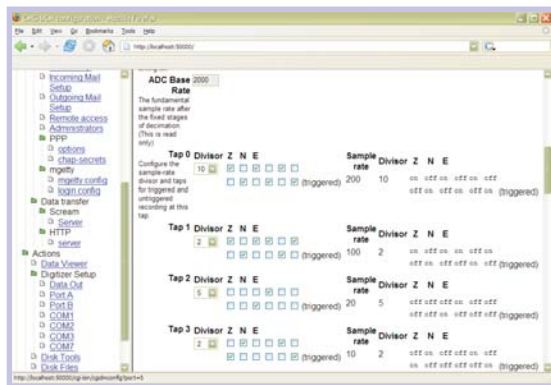
The EAM is ideal for installations on local networks, with a choice of Ethernet or 802.11b ("Wi-Fi") wireless LAN technology, and a fully configurable and scriptable Linux operating system.

The EAM is compatible with all Guralp digital equipment, and can be retrofitted as a module onto existing hardware.

A rack-mounted EAM unit (the CMG-NAM), with additional serial ports, can handle the data transmission requirements of an entire array.

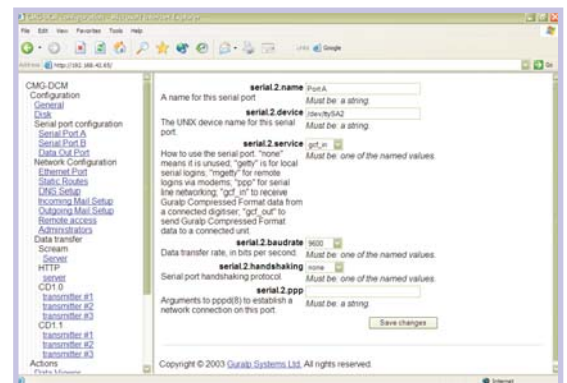
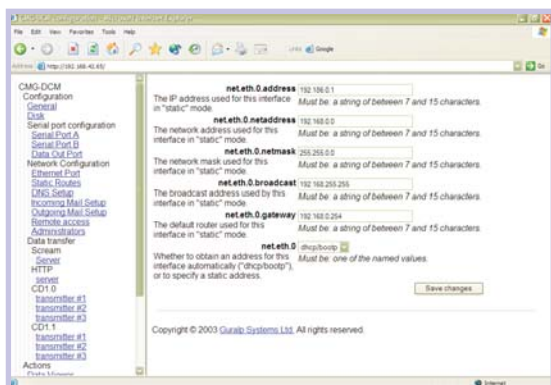
Web server interface

The EAM provides a secure Web server, giving authorized users access to its configuration options, and allowing them to monitor incoming data streams in real time.



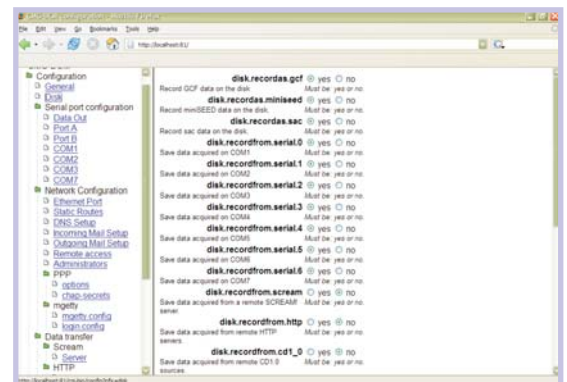
Through the EAM, administrators can configure or control Guralp digitizers and digital instruments from anywhere on the network.

The EAM has extended options for network and serial interfaces, including PPP support. Without rebooting, you can configure any serial port to input or output GCF data, communicate with modems, or provide access to the Linux shell.



The EAM is fully compatible with Guralp Systems' Scream! software, and can gather data from Scream! servers or send to clients as desired.

The DCM can record directly to disk in GCF, miniSEED, or sac formats. It can also build full CD1.0/CD1.1 frames.



Specifications

Operating system	Ultra low power variant of Familiar Linux
Communication technologies supported	RS232, RS422, PCMCIA modem Ethernet (10BaseT / 100BaseT) Wireless LAN (802.11b)
Internet technologies supported	TCP/IP PPP HTTP, HTTPS server and client Other Linux-supported protocols on request
Seismic network protocols	Firewall and routing capabilities Scream! (Antelope/Earthworm) Optional SEEDLink Optional CD1.0/1.1
Form factors	Stand-alone (3 ports & 7 ports), rack-mounted (8/16/24/32 ports), sensor-integrated, borehole
Port types	Data in/out, modem, console (user-configurable)
Flash memory	512 Mb +
Onboard disk type	Güralp USB & Firewire
Disk capacity	40 Gb +
Filing system	Hot-swappable, journalling, Windows FAT32 compatible
Direct disk recording formats	GCF, miniSEED, sac
External disks	Unlimited USB mass storage
Operating temperature	-40 to +60 °C with managed disk heating
Power consumption	<0.75W + power pass-through
