



GURALP SYSTEMS

CMG-DM16R16DCM Digitizer and Communications Module

The Guralp CMG-DM16R16DCM is a combined digitizer and network communications unit which provides a convenient way to connect multiple analogue instruments to your network.



It is particularly useful for converting legacy equipment and environmental signal sources for use with modern communication systems.

The unit is housed in a standard 2U 19" rack enclosure, with individual input channels conveniently accessed through BNC connectors on the front panel or "D"-type connectors at the rear. The differential power supply is fully isolated to prevent ground loops.

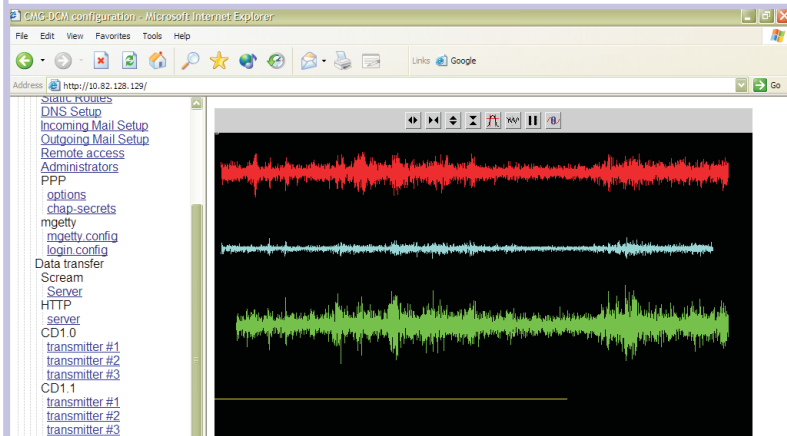
The DM16R16DCM is equipped with an internal Guralp Systems DCM data communications module, providing extensive data transfer and conversion facilities.

Features

- 16 low noise 16-bit ADCs
- Multiple selectable output rates from 200 to 1 sample/s
- STA/LTA and level triggering
- Triggered and continuous streams output simultaneously
- Remotely configurable using Scream!
- Synchronized UTC timestamped data using a single low power GPS module
- Internal DCM module with Linux OS
- Web server and secure shell access

Distributed by:

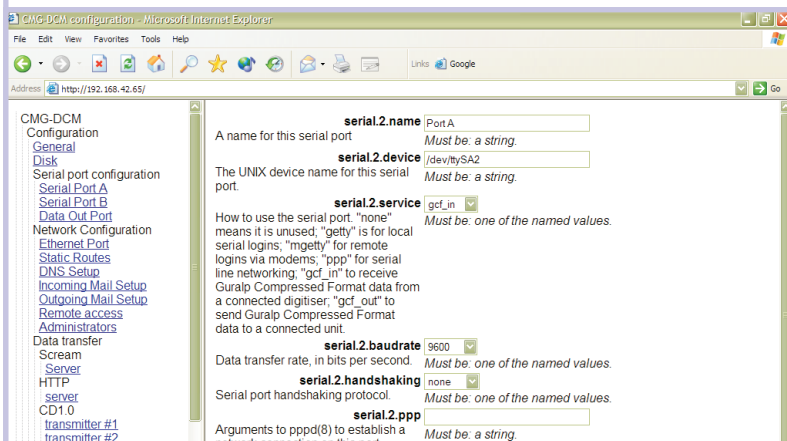
DCM features



The DCM component provides a low-power, flexible data hub suitable for all seismic installations, from autonomous stations to large arrays.

Using a full Linux operating system, the DCM is a stable and robust unit which can be deployed long-term with confidence.

Features



- < 0.7 W power consumption
- Stable and robust for total autonomy
- Multi-user Linux operating system
- Full TCP/IP support with PPP
- Optional on-board PCMCIA modem
- Remote configuration with on-board Web server

- Remote access with secure shell
- Digitizer console access and scripting
- Simultaneous conversion to CSS3.0 (flat file), SAC, MiniSEED and full SEED
- Supports Scream!, DSS, CD1.0 and CD1.1 protocols
- Pass-through digitizer access from Scream!
- CRM/SAM compatible serial interface

Digitizer component specifications

Channels	16 @ 16 bits
Input voltage range (surface)	±10 V differential with transient protection
Input impedance (surface)	1 MΩ / 10 nF
Output format	16 bits @ 100 samples/s
Noise free resolution	17.5 bits @ 5 samples/s
Absolute accuracy	0.5% (0.1 % optional)
Common-mode rejection	100 dB @ 50 Hz
DSP sampling rate	2 KHz
Output rates available	200 .. 1 samples/s
Decimation filters	2, 3, 4, 5, 8, 10
Low pass filters	FIR
Out-of-band rejection	140 dB
In-band ripple	-140 dB
DSP trigger modes	STA / LTA
Timing source precision	8×10^{-7}
Optional precision RTC	5×10^{-8} (oven controlled)
External width	437 mm (19")
External height	42 mm (2U)
External depth	305mm
Front panel	483 mm × 44 mm
Power supply	12 – 36 V DC
Current at 12 V DC	250 mA

DCM component specifications

Operating system	Ultra low power variant of Familiar Linux
Output types	RS232 Ethernet (10BaseT / 100BaseT)
Internet technologies supported	TCP/IP PPP/SLIP HTTP, HTTPS server and client Other Linux-supported protocols on request Firewall and routing capabilities
Direct recording formats	CSS3.0 (flat file), SAC, GCF, miniSEED, SEED
Seismic network protocols	Scream! (Antelope/Earthworm) CD1.0/1.1
Flash memory	128 Mb +
Operating temperature	-20 to +60 °C
Power consumption (average, 3 × 100 samples/s at 20 °C)	0.55 W recording to Flash 0.65 W transmitting to network
