



GÜRALP CMG-DM16-R8

SEISMOMETER DATA ACQUISITION UNIT

8 CHANNEL, 16-BIT, BROADBAND



This module is built inside a standard 1U-19in rack enclosure. The eight individual differential input channels are connected to the outside signals through isolated BNC plugs. The BNC plugs are marked with channel letters from A to H. Alternative inputs are provided from the rear of the 19in rack enclosure.

The input stages of all the differential amplifiers are protected against excessive input voltages and limited to $\pm 10V$. The differential amplifiers have an input impedance of 1M. Each input is furnished with an inductor and capacitor network to filter out the high frequency signals and enable a minimum of 100dB of common mode rejection.

To minimise ground loops the differential power supply is isolated. Two sets of dedicated dc-dc converters ensure low noise dc supply voltages to the input stages and the digitizer electronics.

TIMING OF THE DIGITIZER

An external GPS input is provided. If more than one DM16 unit is to be used, the GPS timing signal can be cascaded between different DM16 modules, eliminating the need for multiple GPS units.

CMG-DM16-R8 SPECIFICATION

SEISMIC CHANNELS

Number of Channels	8 @ 16-bits
Inputs	Differential with transient protection ±10 Volts input range
Input Impedance	1 MW, 10 nano Farad
Common Mode Rejection	100 dB at 50Hz

GPS

External GPS (CMG-GPS2)	GPS can be connected with 50 metres of cable
GPS Power	Supplied via the GPS connector on the digitizer
GPS Time Format	NMEA

DIGITIZER SIGNAL PROCESSOR

Type and Speed	M56002, 20 Mhz
Hardware Sampling Rate	2 Khz
Selectable Sample Output Rates available from the DSP	Up to three separate rates are available. User selects each in serial, beginning with 200 sps and dividing the prior rate by 2, 3, 4, 5, 8 or 10. Examples: 200, 100, 10 sps or 100, 40, 4 sps. The sample rates must be integers.
Anti-alias Filters	3 pole
Low Pass Filters	FIR
Out of Band Rejection	140dB
In band ripple	- 140dB
Trigger Modes	STA/LTA

DIGITIZER PERFORMANCE

Standard Output Format	16-bits @ 100sps
Noise-free Resolution, NPR	17.5 bits @5sps
Absolute Accuracy	Standard - 0.5%, Optional - 0.1%
Type	Successive approximation

CLOCK

Oscillator	Standard - 8×10^{-7} , Optional (oven-controlled) - 5×10^{-8}
Interface for External Receiver	GPS
Sync for External Receiver	<200 msec

POWER

Customer Power Supply	+12 to 36 Vdc
Current at 12 Vdc	250 mA

PHYSICAL

1U-19in rack mount	
Width	437mm external
Depth	42mm external
Height	305mm external
Front Panel	483mm x 44mm

OUTPUT OPTIONS

RS232	100 ft
RS422	500 ft