



## **NCC2002** **Network Control Center**

The NCC2002 Network Control Center enables the interconnection of up to 16 MR2002 Strong Motion Recorders in a star topology network. Data acquisition and recording is performed by the MRs. The MRs act as autonomous units. Their activities are co-ordinated by the NCC. The NCC monitors on-line the operating status of each MR in the network and performs common trigger, time synchronization for all connected MRs (common sampling), high and low level alarm activation, etc. The alarm combinations and levels as well as the common trigger master/slave configurations are all individually programmable, so the user can set-up the network as is best suited to his application.

The NCC acts as a software switch to provide normal access to any MR in the network. Data retrieval and parameter setting in all connected MRs is possible through the NCC. The NCC may be connected directly to a central analysis computer for on-line surveillance and data analysis. A time code receiver may be connected to the NCC. It automatically sets the internal clock in the NCC. The NCC broadcasts the time information to all connected MRs. The NCC may be equipped with a data storage device (SRAM or RAM card). This allows a redundant storage of all recordings. The NCC performs an automatic download of the recordings of the MRs.

## Technical Specification NCC2002

### 1. Microprocessor

■ Firmware	The multitasking operating system ensures communication with all connected MRs with the time code receiver and with the RS-232 port 'at the same time'. If vital tasks have to be executed, less important tasks will be delayed. The NCC collects information from the MRs by a polling procedure. The MR is always passive, i.e. it only replies to the questions of the NCC. This ensures a highly reliable communication between NCC and MR as any malfunction of the MR or the interconnection line is detected immediately
■ Common trigger	trigger voting logic (up to 32 AND combinations)
■ Common alarm	trigger voting logic (up to 32 AND combinations) for two alarm levels (OBE/SSE)
■ Time base	internal 20 ppm clock with battery-backup
■ Time code receiver	DCF / GPS or IRIG-B (optional)

### 2. Power Supply

■ Internal	Lead-acid gel battery, 7Ah, for microprocessor only
■ External	16 .. 36 V DC
■ Power consumption	Microprocessor: 150 mA @ 12 V Communication unit 50 mA @ 12 V (per MR)

### 3. I/O

■ Interfaces	RS-232 for PC, optional 2nd RS-232 for time code receiver
■ Interconnection to MR	fiber-optic 850 nm Tx/Rx (up to 3 km) current-loop 4 - 20 mA Tx/Rx (up to 1 km)
■ Relays	3 Relays (rating max. 60 V DC), Alarm 1 & 2: normally open, Error: normally closed

### 4. Display

■ LCD	Status information, Peak values of last event
■ LED	Power, Run, Communication, Error/Warning
■ Indicator Panel	up to 32 LEDs to show alarm/trigger status of MRs (optional)

### 5. Physical Characteristics

■ Housing	aluminum 483mm x 266mm x 280 mm, 19" rack system
■ Weight	approx. 10 kg
■ Protection degree	IP 54
■ Environmental	(according to IEC 68-2-1 and IEC 68-2-2)
humidity	95 % RH
temperature	0° to 50° C
■ Shock survival	30 g (11 ms half sine, IEC 68-2-7)
■ Vibration survival	1 g (sweep 5-35 Hz, 1 octave/minute, IEC 68-2-6)