NCC2002 / NETWORK CONTROL CENTER

SAFETY IS OUR PRIORITY

APPLICATIONS
Seismic Monitoring Solutions for safety related applications in:
- Nuclear Power Plants
- Nuclear Fuel Storage Plants
- Nuclear Fuel Enrichments Plants
- LNG Terminals
- Oil & Gas (sensitive sites)

DATASHEET: NCC2002
The NCC2002 Network Control Center enables the interconnection of up to 16 MR2002 Strong Motion Recorders in a star topology network.
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 coordinated 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.

### Technical specification

**Microprocessor/Firmware**

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**: NTP (Network Time Protocol)

**Power Supply**

- **Internal**: Lead-acid battery, 7Ah or 9Ah, for microprocessor only
- **External**: 10 .. 36 V DC
- **Power consumption**: Microprocessor: 150 mA @ 12 V
  Communication unit: 50 mA @ 12 V (per MR)

**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) configurable:
  - Normally open or normally closed (individually)
  - For Alarm 1 or 2, Warning, Error or Common trigger

**Display**

- **LCD**: Status information, Peak value of last event
- **LED**: Power, Run, Polling, Error
- **Indicator Panel**: Up to 32 LEDs to show alarm/trigger status of MRs (optional)

**Dimensions**

- **Housing**: Aluminum 483 x 266 x 280 mm (LxWxH), 19" rack system
- **Weight**: Approx. 10 kg
- **Protection degree**: IP 54

**Regulation**

- **EMI/RFI**: In compliance with IEC 61000
- **Environmental**: In compliance with IEC 60068
  - **Heat**: 0°C up to 50°C (with battery)
    -20°C up to +70°C (without battery)
  - **Humidity**: up to 100% RH (non condensing)

**Ordering Information**

Please contact your local representative or SYSCOM Instruments SA.

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