SYSCOM

NCC in a Box
Seismic Network Controller

The NCC in a box interconnects up to 8 MR2002 Strong Motion Recorders in a star topology network to form a multichannel recording system. Data acquisition and recording is performed by the MRs. The MRs act as autonomous units. Their activities are co-ordinated by the NCC in a box. The interconnection between the remote Recorders with Sensors and the NCC is of fiber optical type, the data transmission is handled by a reliable protocol. The interconnection is not affected by EMI/RFI (electro magnetic interference/radio frequency interference).

- Monitors continuously the operating status of each MR in the network (trigger condition, alarm condition, state-of-health) and the quality of the interconnection lines
- Performs the common trigger (simultaneous recording on all channels)
- Has an alarm voting logic for two independent alarm criteria

- Acts as a software switch and provides a single point access for data retrieval and parameter setting to all MRs in the network.
- Broadcasts the time information to all connected MRs (relative time synchronization in the network)
- May be connected to a time code receiver to provide absolute time synchronization.
- May be connected to a PC for continuous monitoring and automatic data-retrieval (EMON software) and data analysis (EAW/ VIEW2002 software)
- May be equipped with a device for remote communication (term-server for Ethernet connection, internal analogue modem, GSM M2M communication engine)
- May initiate communication to a remote host or send an e-mail or text-message (SMS) in case of an alarm or a malfunction of any of the devices in the network

SYSCOM Instruments
A Pleasure to Measure

Technical Specification NCC in a box

Microprocessor/Firmware

Architecture	A multitasking operating system ensures that vital tasks are treated with high priority
Communication	The NCC collects information from the MRs by a polling procedure. The MR is always passive, i.e. it only replies to the inquiries 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) – any of the combinations leads all the MRs in the network to start recording
Common alarm	alarm voting logic (up to 2 x 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

Power Supply

Supply voltage	90 up to 250 VAC 50/60 Hz with internal Lead-acid gel battery, 2 x 9 Ah
Power consumption	Microprocessor: 150 mA @ 12 V
	Communication unit: 50 mA @ 12 V (per MR)

I/O

Interfaces	RS-232 for PC/Communication devices
	Up to 115200 baud, full handshake, galvanically separated
	Internal sub-D 9 pin connector (2x)
Interconnection to MR	Up to 8 fiber-optic cables, 62.5/125µ, 850 nm Tx/Rx (length up to 3 km)
	Communication speed up to 115200 baud, individually settable
	Internal SMA connector, cable gland for FO cable
Relays	3 AC 230V/3A relays for status output
	Configuration of activation, polarity and holding time via software.
	Pluggable terminal block

Display

LCD	Status information, Peak values of last event, State-of-Health information
LED	Power, Run, Communication, Error/Warning

Physical Characteristics

Housing	Aluminum 404 x 313 x 141mm (LxWxH)
Weight	approximately 12 kg
Protection degree	IP 65 (splash-proof)
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)