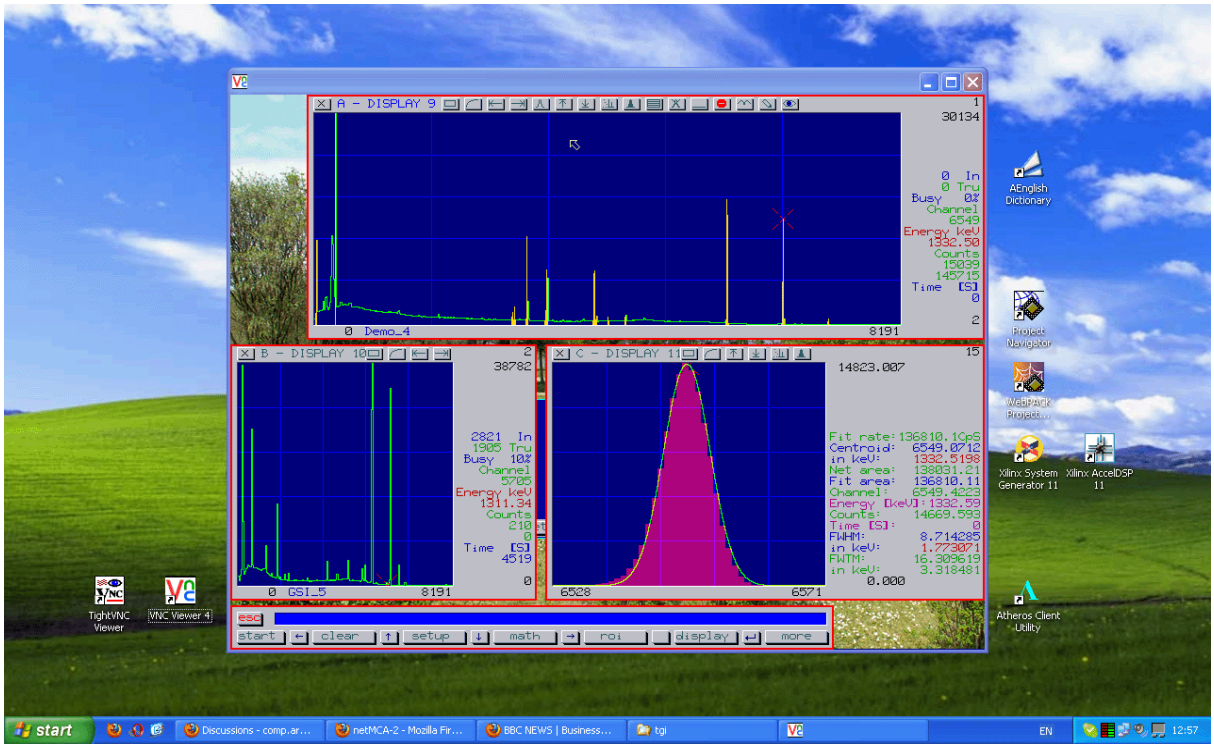
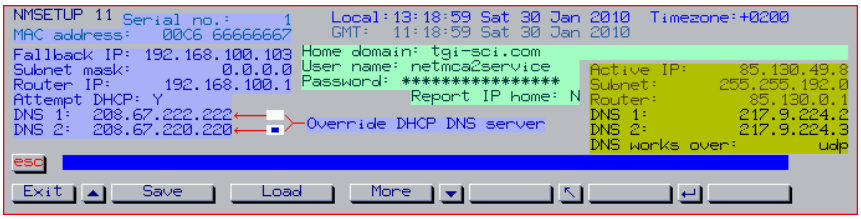
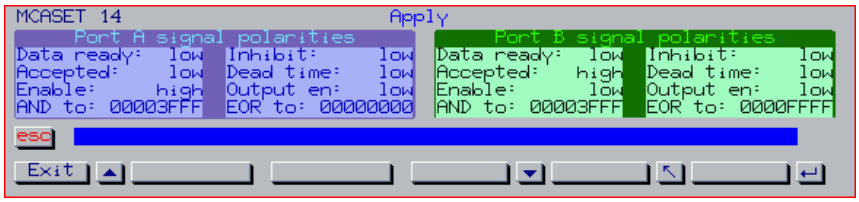
# NetMCA-2 Technical Data



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# 1. Overview

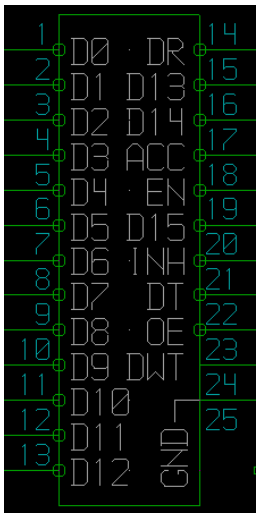
The netMCA-2 is a dual input miltichannel analyzer (MCA). It has two MCA ports, each on a D-25 female connector with a "standard" (i.e. widely practiced) pinout.
The netMCA-2 relies on an Ethernet connection to communicate to the outside world; it does so via RFB (VNC) and http, thus being accessible from practically any PC, windows, linux etc. without the need for any MCA specific software to be running on that PC. In other words, the PC is used simply as a terminal - screen, keyboard and mouse - to the netMCA-2 which contains all the software it takes to do spectrum acquisition, storage and evaluation, as well as to import/export spectra, transfer data over ftp etc.

# 2. Features

- two D-25 MCA ports with "standard" pinouts
- independent and simultaneous operation of the two ports
- coincidence driven operation of the two ports
- comes spectrum acquisition and evaluation ready
- works over the Internet using a regular PC with no special MCA software
- 10/100 Ethernet
- internal HDD (diskless option also on offer)
- powered by 12V, 0.5A typ - wall adapter included in shipment
- on site reprogrammable port logic for customer specific interfaces

# 3. Signal Description

Figure 3.1. shows the pinout of the two D-25 MCA port connectors.




## Figure 3.1. – D-25 connector pinout

### Table 3.1. – signals description on the D-25 connectors

| Signal | Pin | Direction | Function |
|---|---|---|---|
| D0 - D15 | 1-13,15,16,19 | Inputs | D15 Input data signals. Active low "by standard", however polarity is programmable via an EOR mask in the MCA setup |
| DR | 14 | Input | Data Ready - programmable polarity |
| ACC | 17 | Output | Data accepted – programmable polarity |
| EN | 18 | Output | Enable signal to ADC |
| OE | 22 | Output | Output enable signal to ADC |
| DT | 21 | Input | Dead time input from ADC, programmable polarity |
| INH | 20 | Input | Inhibit signal, programmable polarity |
| DWT | 23 | N.A. | Dwell time, not used in ADC mode |
| GND | 24 | N.A. | System ground |

# 4. Electrical specifications

## Table 4.1. Absolute maximum ratings

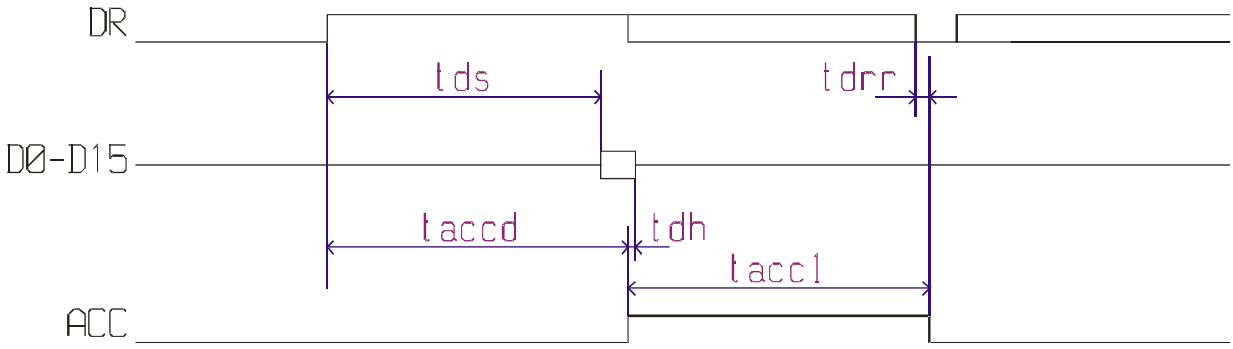
| Characteristic | Symbol | Minimum | Maximum | Unit |
|---|---|---|---|---|
| Power Supply Voltage | Vp | -0.5 | 16 | V |
| Input Voltage | Vi | -0.5 | +5.5 | V |
| Output current per pin | Io | -100 | 100 | mA |

## Table 4.2. Recommended operating conditions

| Characteristic | Symbol | Minimum | Typical | Maximum | Unit |
|---|---|---|---|---|---|
| Power Supply Voltage | Vp | 11 | 12 | 13 | V |
| Input Voltage Low | Vil | 0 | - | 0.8 | V |
| Input Voltage High | ViH | 2 | - | 5.5 | V |
| Output Voltage 1 | Voh | - | 3.3 | - | V |

## Table 4.3. Timing Characteristics

| Symbol | Description | Min | Max | Unit |
|---|---|---|---|---|
| tds | Data setup to DR assertion | -440 | - | nS |
| tdh | Data hold after ACC asserion | 0 | - | nS |
| taccd | DR asserted to ACC asserted | 450 | 500 | nS |
| taccl | ACC asserted | 450 | 500 | nS |
| tdrr | DR release to ACC release | 33 | - | nS |




When operating in coincidence mode, only events with overlapping taccd for a minimum of 33 nS will be acquired.