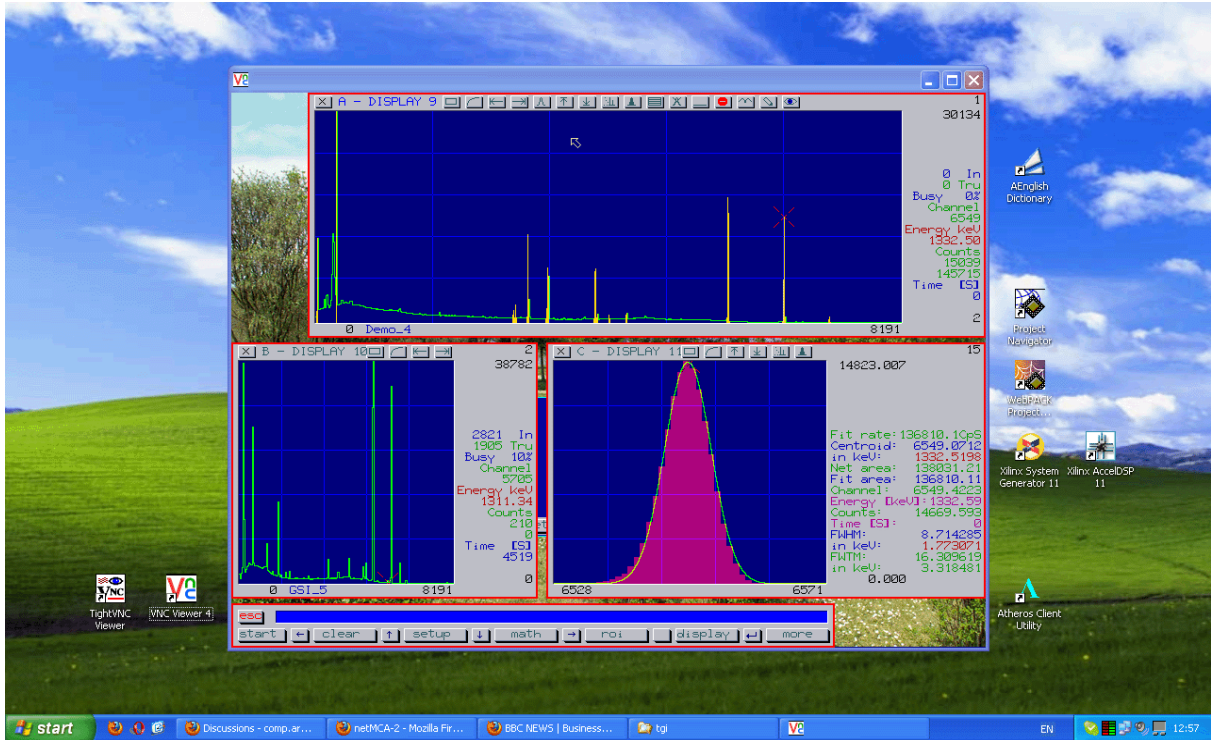


NetMCA-2 Technical Data



```

NMSETUP 11 Serial no.: 1 Local:13:18:59 Sat 30 Jan 2010 Timezone:+0200
MAC address: 00C6 66666667 GMT: 11:18:59 Sat 30 Jan 2010
Fallback IP: 192.168.100.103 Home domain: tgi-sci.com
Subnet mask: 0.0.0.0 User name: netmca2service
Router IP: 192.168.100.1 Password: *****
Attempt DHCP: Y Report IP home: N Active IP: 85.130.49.8
DNS 1: 208.67.222.222 Subnet: 255.255.192.0
DNS 2: 208.67.220.220 Router: 85.130.0.1
Override DHCP DNS server DNS 1: 217.9.224.2
DNS 2: 217.9.224.3 DNS works over: udp
    
```



```

MCASET 14 Apply
Port A signal polarities
Data ready: low Inhibit: low
Accepted: low Dead time: low
Enable: high Output en: low
AND to: 00003FFF EOR to: 00000000
Port B signal polarities
Data ready: low Inhibit: low
Accepted: high Dead time: low
Enable: low Output en: low
AND to: 00003FFF EOR to: 0000FFFF
    
```

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1. Overview

The netMCA-2 is a dual input multichannel 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.

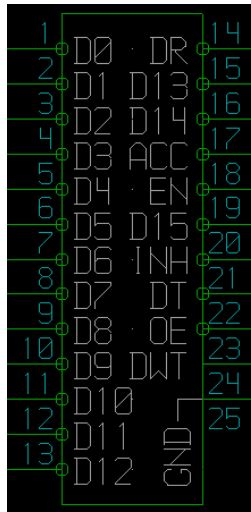


Figure 3.1. – D-25 connector pinout

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

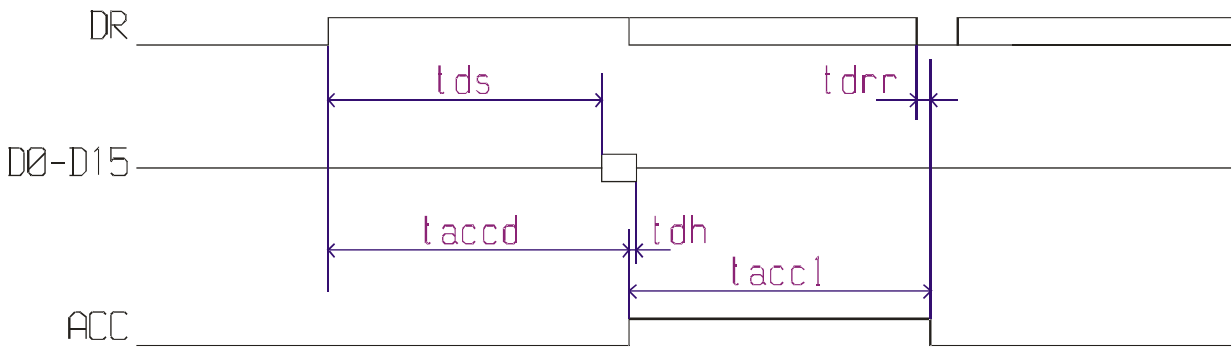
Characteristic	Symbol	Minimum	Maximum	Unit
Power Supply Voltage	Vp	-0.5	16	V
Input Voltage	Vi	-0.5	+5.5	V
Output current per pin	Io	-100	100	mA

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 t_{accd} for a minimum of 33 nS will be acquired.