Clarity Hardware

MultiCOM

HW   ENG

Phone: +420 251 013 400

Fax: +420 251 013 401

clarity@dataapex.com

www.dataapex.com

DataApex Ltd.

Petrzilkova 2583/13

158 00 Prague 5

The Czech Republic

Author: zte

Contents

To facilitate the orientation in the **MultiCOM** manual and **Clarity** chromatography station, different fonts are used throughout the manual. Meanings of these fonts are:

Instrument (blue text) marks the name of the window, to which the text refers.

Open File (italics) describes the commands and names of fields in **Clarity**, parameters that can be entered into them or a window or dialog name (when you already are in the topic describing the window).

WORK1 (capitals) indicates the name of the file and/or directory.

ACTIVE (capital italics) marks the state of the station or its part.

The bold text is sometimes also used for important parts of the text and the name of the **Clarity** station. Moreover, there are text sections written in format other than normal text. These sections are formatted as follows:

Note: Notifies the reader of possibly interesting information.

Caution: Warns the user of possibly dangerous or very important information.

▌**Marks the problem statement or trouble question.**

Description: Presents any closer information on the problem, describes its causes etc.

Solution: Marks the response to the question, presents a procedure how to remove it.

1 MultiCOM converter

This manual describes the use of the **MultiCOM** USB to RS232 converter. **MultiCOM** is the device which connects to the PC via the USB slot and provides 6 serial 9-pin ports to the computer. It is also equiped with a free USB port for the connection of the USB hardware key.

MultiCOM converter has been developed for the handling of devices in the LC and GC systems controlled via the RS232 serial interface. When connected to a standard PC, the **MultiCOM** needs no power supply (it is powered from the **USB**), but can also be powered (if need be) from the external power supply adapter.

Fig 1: MultiCOM - face

The side panel contains two **USB** connectors (one for the connection to the PC, the other for the **USB** hardware key) and the power supply connector. The front panel contains six standard serial 9-pin (plug) ports, each with its own LED communication state indicator.

1.1 Side panel

Fig 2: Side panel

Green LED status:

- **No light** – not connected to **USB**, the driver is not installed or is in suspend mode.
- **Continual light** – idle state, no communication.
- **Blinking 10100000** (two short consecutive blinks) – only sending data (from the **USB** to the COM port).
- **Blinking 01011111** (two short consecutive drop-outs in the continual shine) – only receiving data (from the COM port to the **USB**).
- **Blinking 1:1** (2 Hz frequency) – both sides are in communication, receiving and sending data.

1.2 Brief technical overview

- 6 RS-232 (non-isolated fully configurable serial ports DB9M).
- 1 **USB** port for the **USB** hardware key (or another device with low power consumption).
- 1 **USB** port for connection to the PC.
- Powered from **USB** or external power supply.
- **USB** ports has USB-A connectors and are fully compliant with USB Spec Rev 1.1.

2 Requirements

- The **MultiCOM** converter can be used on any PC with the following operating systems: **MS Windows 7/Vista/XP/2000** (incl. the **64- bit** Windows **7** or **Vista**).
- The PC must have a free **USB** slot (either USB 1 or USB 2 slot).

. . . .

Caution: It is highly recommended to connect the **MultiCOM** converter directly to the PC (not via **USB** hubs etc.)

3 Installation

Ensure that you have **Administrator** access rights in your Windows OS before you proceed with the installation.

Caution: It is necessary to run the pre-installer before the installation (at the time of the first connection of the **MultiCOM** device) to the computer.

There are two possibilities how to install the **MultiCOM** pre-installer into the PC:

- as a part of the **Clarity** installation or
- separately as a standalone product

Note: Created COM ports are numbered from the first unused COM number (usually COM3).

3.1 The MultiCOM Converter with Clarity

- Install **Clarity** from the **Clarity** Installation CD.

Clarity ver. 2.7 and newer:

- On the Choose Components screen unfold the *Utils* section and check the **Multicom** driver.
- Continue the installation to finish.

Clarity ver. 2.6 and older:

- When selecting the type of installation, choose *Custom*.
- On the next screen, the **Utils** section (on the bottom of the list) is checked and grayed. Select it and click the *Details...* button.
- In the available selection, check the checkbox next to the **MultiCOM drivers** item and press the *OK* button. Follow the installation process to its end.
- Continue the installation to finish.
- Connect the **MultiCOM** device to the PC via the supplied **USB** cable. "Found New Hardware" message will appear on the Windows taskbar and the LED diodes on the **MultiCOM** will slowly start to light up. Wait until all shine and the taskbar displays the message "New hardware is installed and ready to use".
- During the installation process, the Hardware Installation dialog with information that the software for **MultiCOM** has not passed the Windows Logo testing may appear.

Fig 3: Windows Logo Testing Message

- In such case, click the *Continue Anyway* button

3.2 The MultiCOM Converter without installing Clarity

● Install the pre-installer found on the **MultiCOM** installation CD (run the DPINST.EXE file).

- -
Caution: Install the pre-installer before plugging in the **MultiCOM** device.
- -
Note: The **MultiCOM** pre-installer on the **Clarity installation CD** can only be used during the installation of the **Clarity** software. If new installation/re-installation is needed, the **MultiCOM installation CD** should be used instead or the driver should be downloaded from the **DataApex** web pages www.dataapex.com.

● Connect the **MultiCOM** device to the PC via the supplied USB cable. "**Found New Hardware**" message will appear on the Windows taskbar and the LED diodes on the **MultiCOM** will slowly start to light up. Wait until all shine and the taskbar displays the message "New hardware is installed and ready to use".

● During the installation process, the Hardware Installation dialog with information that the software for **MultiCOM** has not passed the Windows Logo testing may appear.

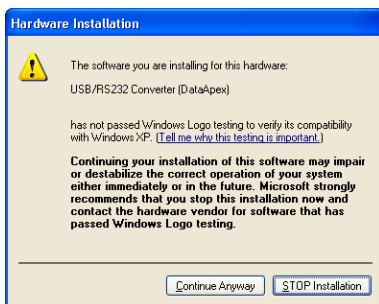*Fig 4: Windows Logo Testing Message*

● In such case, click the *Continue Anyway* button.

4 Troubleshooting

While using the MultiCOM under the Windows 2000 operating system with the Service Pack installed, unplugging the MultiCOM device from the PC while the PC runs may cause the computer to crash.

Solution: Unplug the **MultiCOM** from the **USB** only after the PC has been turned off.

5 Tables and specifications

Description of the DB9M connector

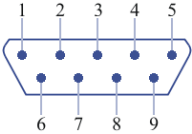The particular pins of the **MultiCOM** DB9M connectors are used as follows:

Fig 5: DB9M connector scheme

Tab 1: Description of the connector pins:

Pin	Name	Direction	Description
1	CD	←	Carrier Detect
2	RXD	←	Receive Data
3	TXD	→	Transmit Data
4	DTR	→	Data Terminal Ready
5	GND		System Ground
6	DSR	→	Data Set Ready
7	RTS	←	Request to Send
8	CTS	←	Clear to Send
9	RI	←	Ring Indicator

Tab 2: Complete possibilities of channel configuration:

Parameter	Value
Data Bits	5, 6, 7 or 8
Stop Bits	1, 1.5[a] or 2
Parity Type	None, Even, Odd, Mark, Space
Baud Rates	300, 600, 1200, 1800, 2400, 4000, 4800, 7200, 9600, 14400, 16000, 19200, 28800, 38400, 51200, 56000, 57600, 64000, 76800, 115200, 128000, 153600, 230400, 250000, 256000, 460800, 500000, 576000, 921600[b]

Notes:
a – 5-bit only
b – 7 or 8 data bits only

Tab 3: Technical data:

Parameter	Value
Converter type:	USB to RS232

Parameter	Value
Number of COM ports:	6, unisolated
USB ports:	1 port to the PC, 1 free port for the hardware key or other low consumption device
USB port connectors:	USB-A
Dimensions:	120 x 105 x 22 mm
Weight:	280 g
Power supply:	from the PC via the USB cable or external