



μ MATRIX-S USB Driver Installation Guide

relay monitoring systems Pty Ltd

Advanced Protection Devices



User Guide



Test Manual



Relay Software



μ MATRIXwin



μ MATRIX User's Guide

About This Manual

The μ MATRIX User Guide is designed as a generic document to describe the common operating parameters for all relays built on this platform. Some specific relay applications are described but for detailed information the individual data sheets and product manuals should be consulted.

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To download a PDF version of this guide:

www.rmspl.com.au/digital/umatrixinfo.pdf

To download further μ MATRIX software & documentation:

www.rmspl.com.au/umatrix.htm

To check compatibility of software UMX files with hardware versions:

www.rmspl.com.au/digital/compatibility.pdf



How this guide is organised

Introduction

Installing the drivers

Installing the USB drivers

Installing the VCP drivers

Checking the Installation



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Introduction

This procedure is for Windows 2000 or Windows XP with SP2 or later. In order to complete these steps the user must have “Administrator” privileges as the Windows registry and system resources will be modified.

The uMATRIX-S USB Port is configured as a Virtual Communications Port (VCP) and is operated through one of the PC COM ports.

In order to maintain compatibility with the existing, RS232C based uMATRIX products it is essential that the USB drivers installed for uMATRIX-S occupy one of the communications ports COM1 to COM4.

Access to available COM ports on your PC can be made by opening the Device Manager (located in “Control Panel\System”, then select the “Hardware” tab and click “Device Manager”) and select “View > Devices by Type”. All used COM ports should show up in the “Ports (COM and LPT)” section.

If all of these COM ports are occupied by existing devices, either hardware COM ports or other VCP drivers, one of them will have to be released for use by uMATRIX-S. Hardware devices will have to be disabled and uninstalled and VCP devices will have to be moved to another COM port.

Also, after the drivers are installed, plugging the uMATRIX-S device into a different physical USB port, on the PC, to the one used for driver installation will force Windows to assign another COM port. This should be avoided where COM1 to COM4 are already allocated.

Having established that a free communication port between COM1 and COM4 is available the USB drivers can be installed. A ZIP file containing the driver files needed for this process can be found at www.rmspl.com.au/umatrix.htm. These files should be downloaded, un-zipped and placed in a temporary folder on the PC – for example c:\TEMP.

It is a good idea to temporarily disconnect your PC from your local area network or internet connection by unplugging the network cable from the back of the PC, or disable the Wireless Network connection. This is not mandatory but certain networks have been found to significantly slow the installation process.

Driver installation needs to be done only once. All uMATRIX-S devices are shipped from the factory with the same USB Serial number (not to be confused with the device Serial Number shown on the front panel label) so that they will all use the same VCP drivers and COM port. This enables you to have a large number of uMATRIX-S devices but only allocate a single PC COM port to access them. The penalty for this is that only one uMATRIX-S device can be connected to your PC at a time. Connecting multiple devices to your PC will corrupt data and may cause Windows to crash.



Installing the drivers

The driver installation is a 2 step process. The first step loads the USB drivers into the Windows registry and the second step connects the uMATRIX-S device to the VCP within Windows. Both steps must be completed successfully to be able to communicate with the uMATRIX-S device.

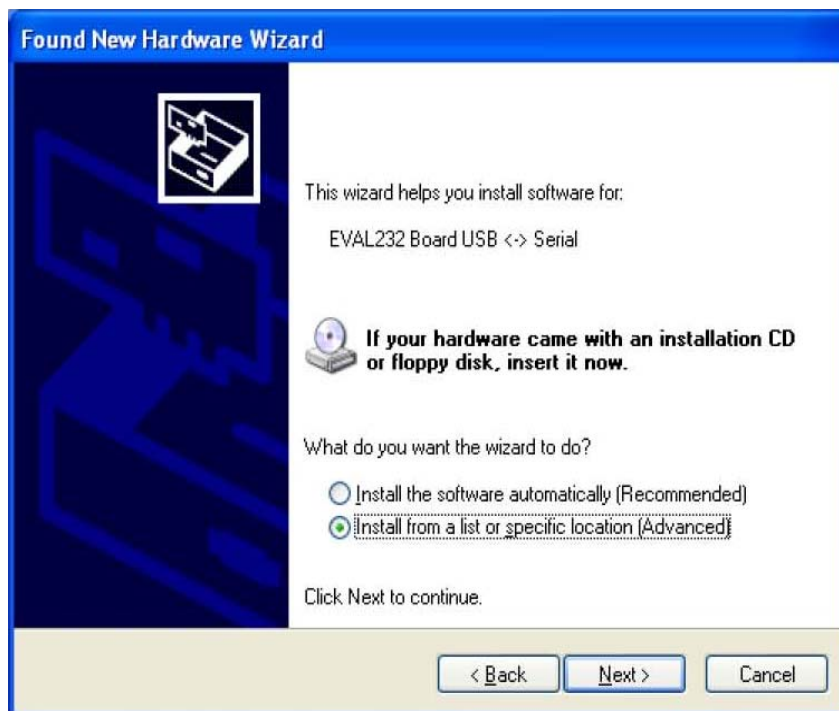
Installing the USB drivers

Connect the uMATRIX-S USB Port to a free USB port on the PC. Follow the steps outlined below.

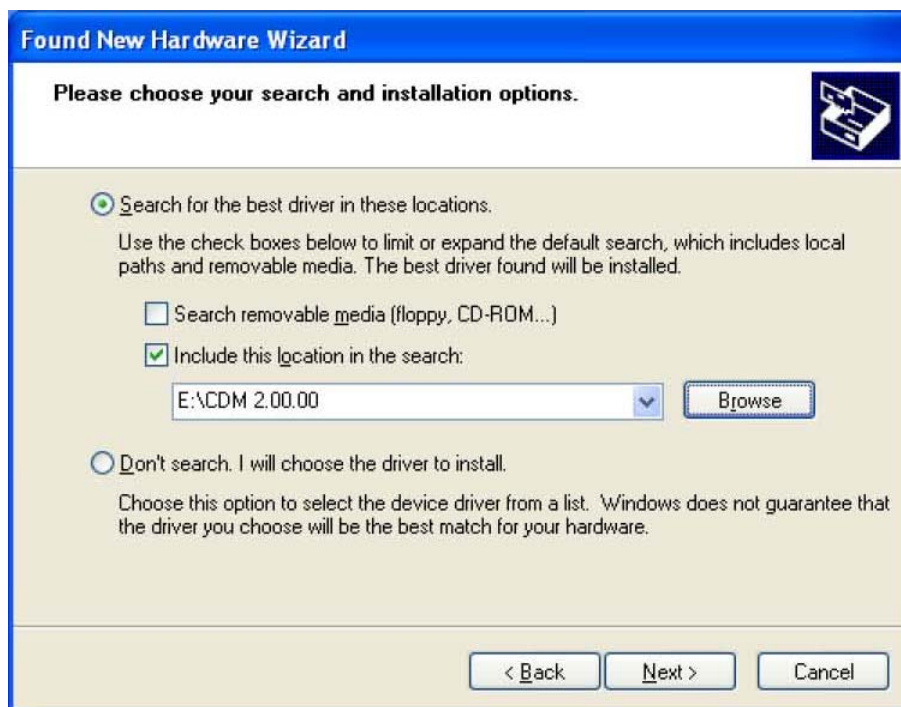
- After a short delay the following Wizard should appear



- Select “No, not at this time” and click “Next”.



- Select “Install from a list or specific location (Advanced)” and click “Next”.



- Select “Search for the best driver in these locations” and tick the “Include this location in the search”. Browse and select the location of the temporary folder that you placed the unzipped driver files in before starting this process. Click “Next” to proceed.

- Windows may warn that the drivers are uncertified depending on the update status of your copy of Windows. If you get the following screen:



- Click “Continue Anyway”.
- The following screen should appear showing that the USB driver files are being installed:





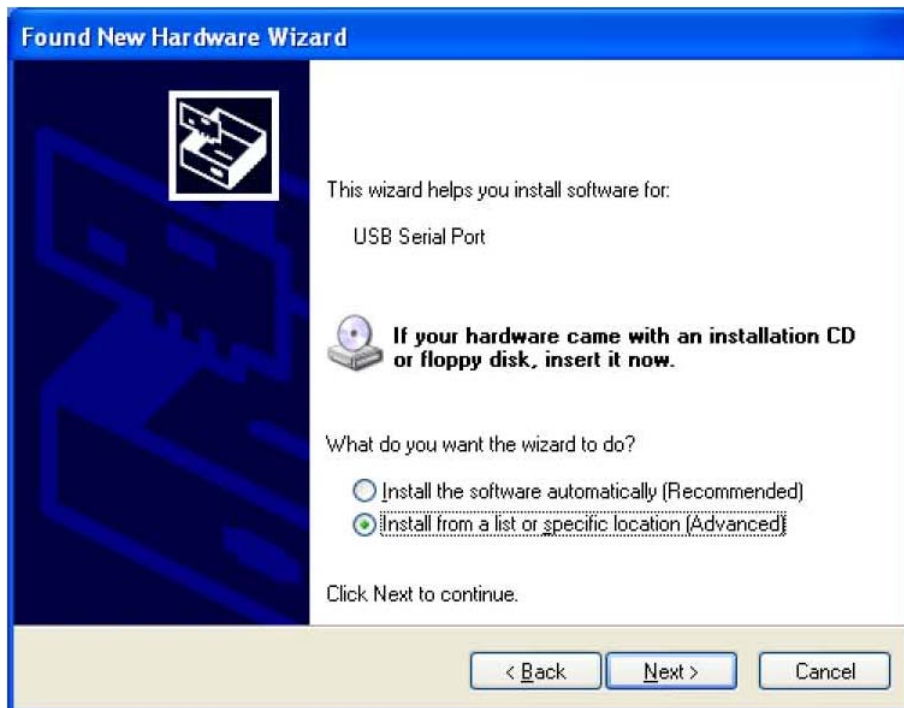
- When completed, click “Finish” to complete installation of the first step of the process.

Installing the VCP drivers

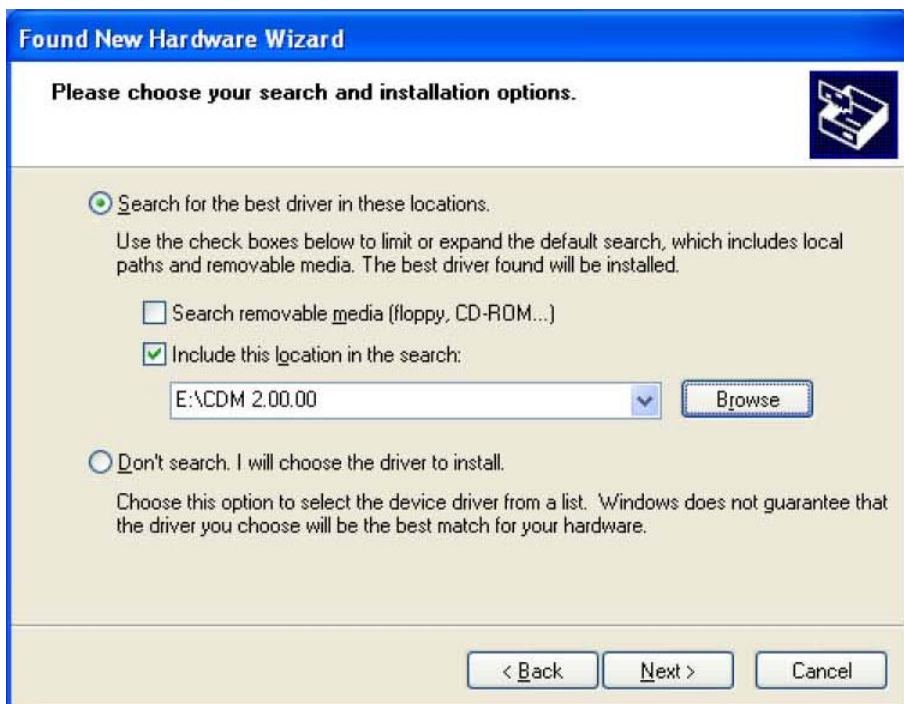
After loading the USB drivers, a short delay will occur and the following Wizard should appear.



- Select “No, not at this time” and click “Next”.



- Note that the installation is now for “USB Serial Port”. If the installation is for “USB <-> Serial” then the first part of the process has not worked properly and will have to be repeated.
- Select “Install from a list or specific location (Advanced)” and click “Next”.



- Select “Search for the best driver in these locations” and tick the “Include this location in the search”. Browse and select the location of the temporary folder that you placed the unzipped driver files in before starting this process. Click “Next” to proceed.
- Windows may warn that the drivers are uncertified depending on the update status of your copy of Windows. If you get the following screen:



- Click “Continue Anyway”.

The following screen should appear showing that the VCP driver files are being installed:





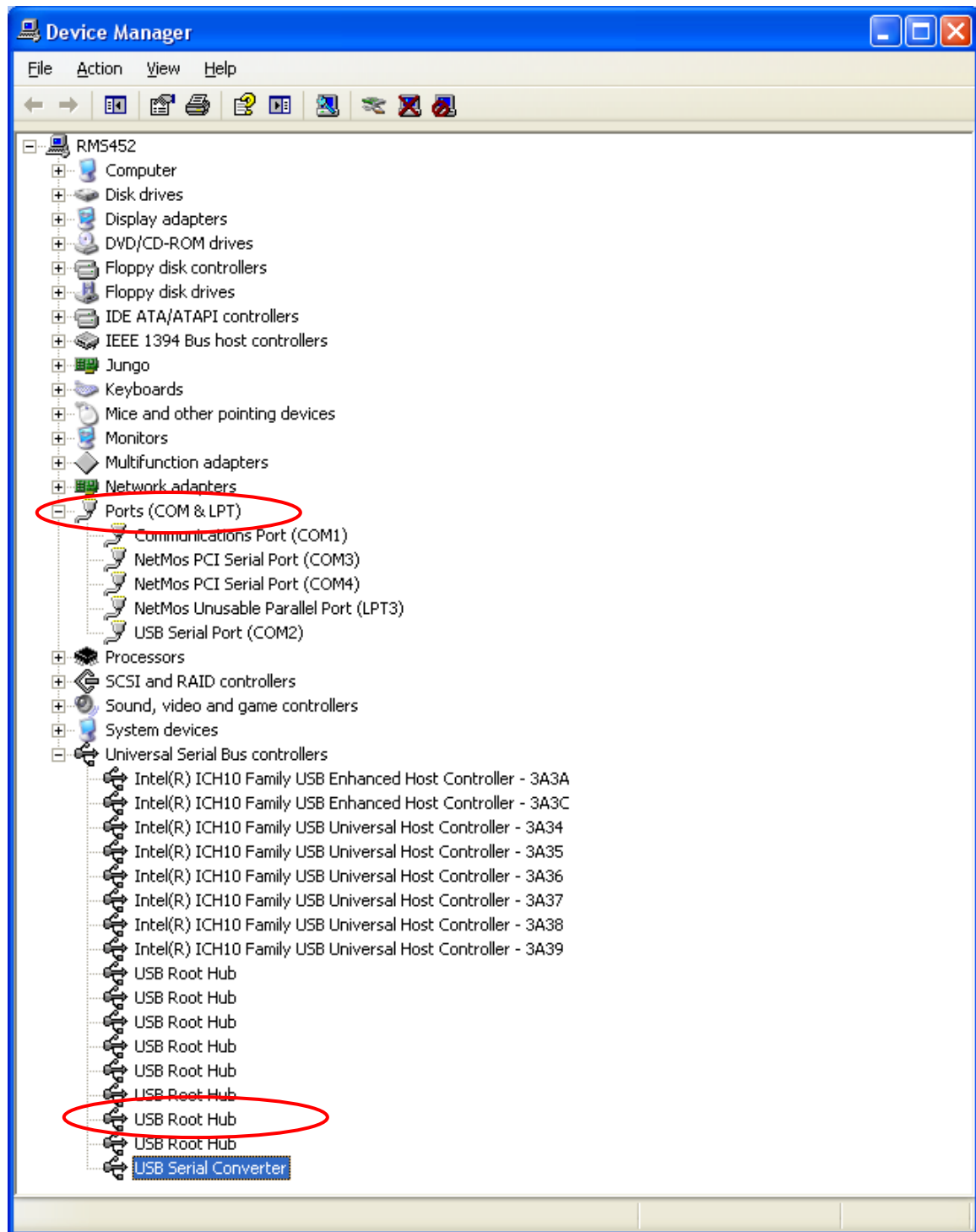
- When completed, click “Finish” to complete installation of the first step of the process.

Checking the installation

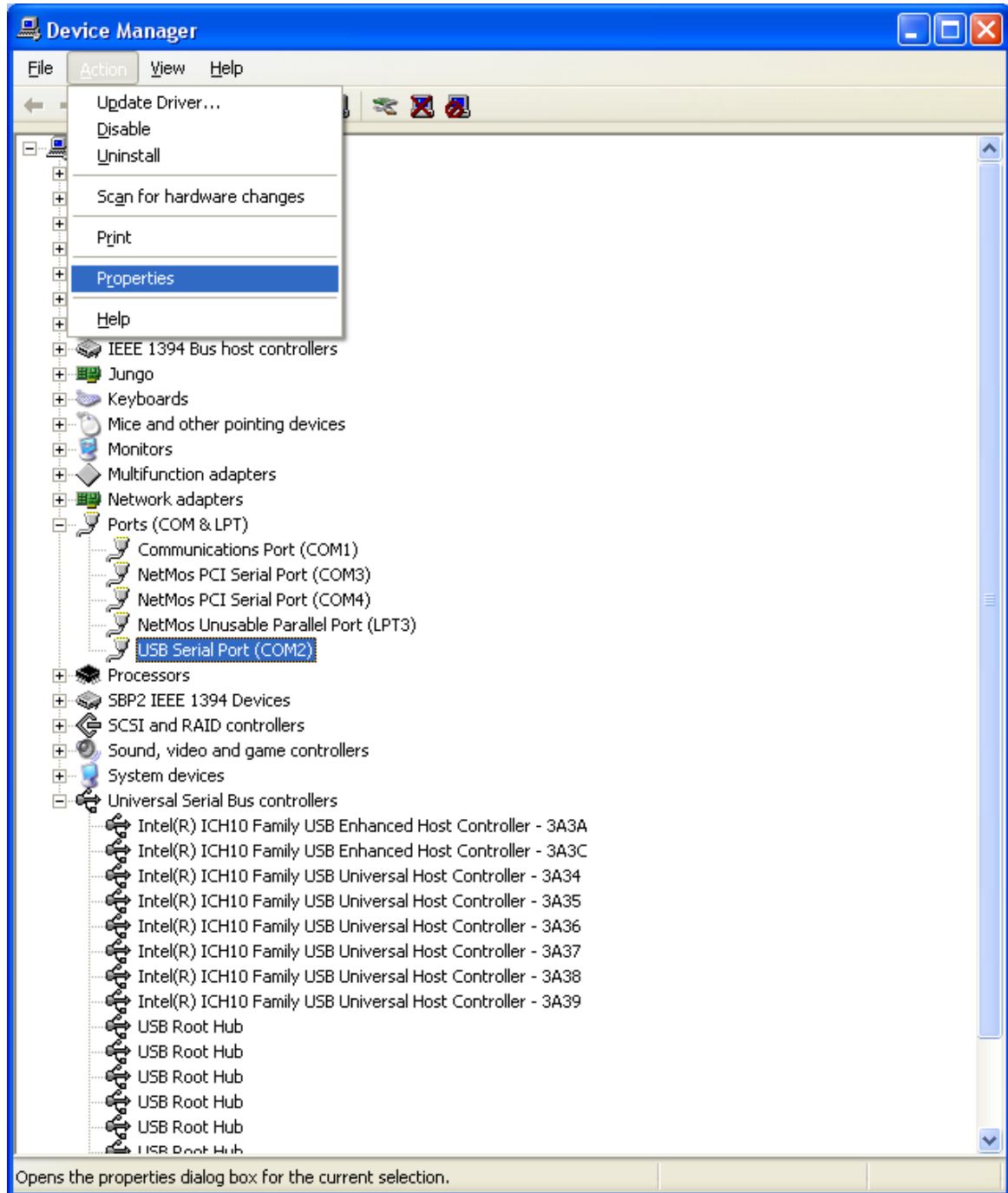
The driver installation can be checked by opening the Device Manager (located in “Control Panel\System”, then select the “Hardware” tab and click “Device Manager”) and select “View > Devices by Type”. The uMATRIX device should then appear as a “USB Serial Converter” at the bottom of the “Universal Serial Bus controllers” section.

Similarly, the device should also show up in the “Ports (COM and LPT)” section as “USB Serial Port (COMx)” where x is the COM Port windows has assigned to the uMATRIX-S.

An example of this is shown below.



If the USB Serial Port is not COM1 to COM4 you will have to change it using the “Properties” of the device (located by selecting the USB Serial Port, clicking on the “Action” menu item and clicking on “Properties”).



This will bring up the Properties menu for the USB Serial Port as follows.





Selecting the “Port Settings” tab and then clicking “Advanced” will reveal the current settings for the allocated COM port as follows.

Advanced Settings for COM2

COM Port Number:

USB Transfer Sizes
Select lower settings to correct performance problems at low baud rates.
Select higher settings for faster performance.

Receive (Bytes):

Transmit (Bytes):

BM Options
Select lower settings to correct response problems.

Latency Timer (msec):

Timeouts

Minimum Read Timeout (msec):

Minimum Write Timeout (msec):

Miscellaneous Options

- Serial Enumerator
- Serial Printer
- Cancel If Power Off
- Event On Surprise Removal
- Set RTS On Close
- Disable Modem Ctrl At Startup

OK
Cancel
Defaults



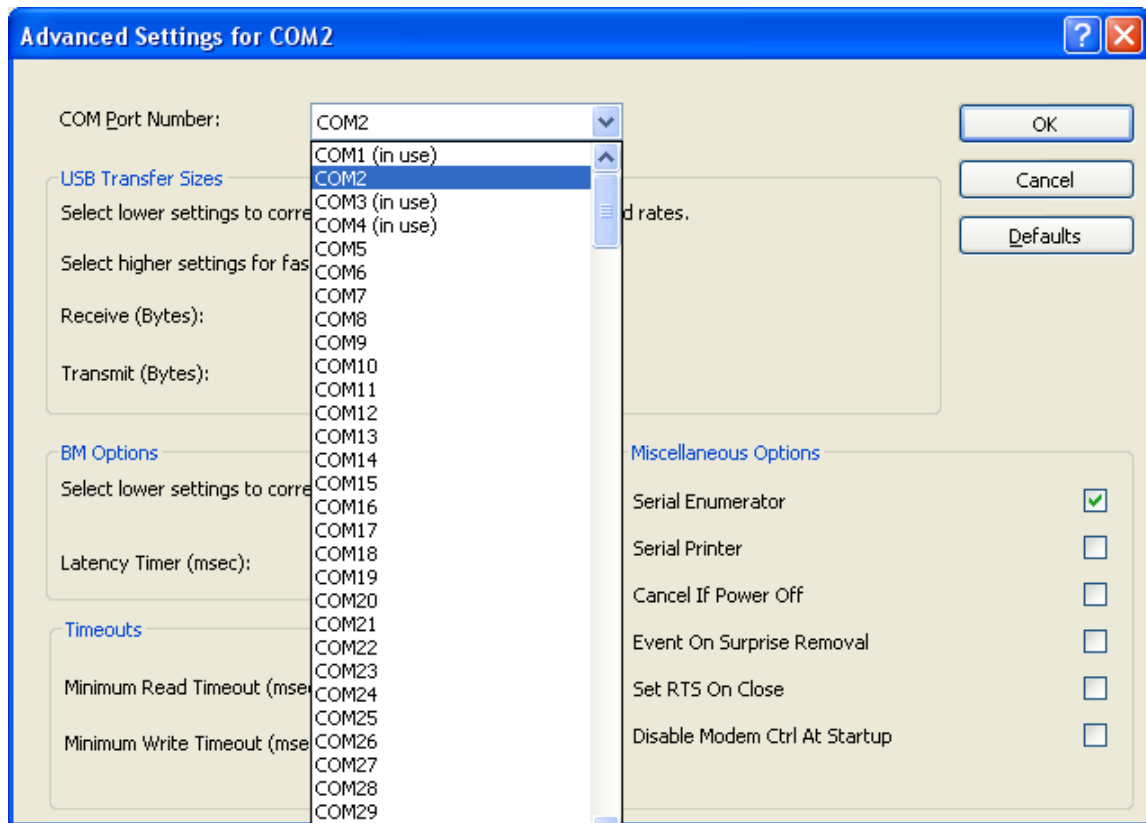
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Clicking on the “V” control to the right of the COM Port Number will reveal all possible COM ports and their current allocations.



The desired COM port can then be selected and “OK” pressed twice to make the selection.

The device should now be ready to use with the uMATRIXWin application shipped with your uMATRIX-S device.

Some points to note:

- Only one uMATRIX-S device can be connected to your PC at one time.
- uMATRIXWin must be set to use the same COM port Windows has assigned to the USB Serial Port.
- Plugging the uMATRIX-S device into a different physical USB port on the PC to the one used for driver installation will force Windows to assign another COM port. This should be avoided where COM1 to COM4 are already allocated.
- Do not disconnect the USB cable between the PC and the uMATRIX-S device during data transfers. This will cause Windows to lock up the USB port and uMATRIXWin to hang. To recover from this, shut uMATRIXWin down and disconnect the USB cable. When you reconnect the cable and re-start uMATRIXWin the communication channel should have recovered. If this does not recover the connection, Windows may have to be re-started.



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Australian Content

Unless otherwise stated the product(s) quoted are manufactured by RMS at our production facility in Melbourne Australia. Approximately 60% of our sales volume is derived from equipment manufactured in house with a local content close to 90%. Imported components such as semi-conductors are sourced from local suppliers & preference is given for reasonable stock holding to support our build requirements.

Quality Assurance

RMS holds NCSI (NATA Certification Services International), registration number 6869 for the certification of a quality assurance system to AS/NZS ISO9001-2000. Quality plans for all products involve 100% inspection and testing carried out before despatch. Further details on specific test plans, quality policy & procedures may be found in section A4 of the RMS product catalogue.

Product Packaging

Protection relays are supplied in secure individual packing cardboard boxes with moulded styrene inserts suitable for recycling. Each product & packing box is labeled with the product part number, customer name & order details.

Design References

The products & components produced by RMS are based on many years of field experience since Relays Pty Ltd was formed in 1955. A large population of equipment is in service throughout Australia, New Zealand, South Africa & South East Asia attesting to this fact. Specific product & customer reference sites may be provided on application.

Product Warranty

All utility grade protection & auxiliary relay products, unless otherwise stated, are warranted for a period of 24 months from shipment for materials & labour on a return to factory basis. Repair of products damaged through poor application or circumstances outside the product ratings will be carried out at the customer's expense.

Standard Conditions of Sale

Unless otherwise agreed RMS Standard Terms & Conditions (QF 907) shall apply to all sales. These are available on request or from our web site.



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