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PodWare Installation Guide

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System Requirements

PodWare is intended for a PC computer running a 32-bit Windows[™] operating system (NT, 2000, XP, 98*, ME*), and the .NET Framework (see below).

PodWare is a powerful application capable of running many complex windows concurrently. It therefore requires a computer with sensible levels of resources. For acceptable performance, the computer must have at least:

Pentium 450MHz processor

128MB RAM

Also, when controlling devices with RS-232 or BvNet ports, the best comms performance will be achievable if the computer has a native RS-232 port.

*Note that whilst operation with Windows[™] 98 or Millennium Edition is theoretically possible, this is not recommended because of the resource limitations these operating systems impose. If you do use one of these operating systems, you should not attempt to run any other applications at the same time as PodWare, and we would recommend that you only open one or two control panels at a time.

Running the Installation

If PodWare has been supplied to you on a CD-ROM, place this in your CD-ROM drive. If it does not start automatically, browse to it and double-click the file setup.exe. Alternatively, download PodWare from your vendor's web site and double-click setup.exe. When the installer starts, follow the instructions.

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DotNet Framework

PodWare has been developed using modern software engineering techniques, using an up-to-date language and development tools. It runs on the Microsoft .NET Framework V1.1 or V2.0, one of which must be installed on the computer which is to run PodWare. Most versions of Microsoft Windows comes with .NET as standard these days. When installing PodWare on a computer, the installation process will check if a suitable .NET Framework is on the machine. If not, it will ask the user to install it from the distribution medium (usually the PodWare installation CD-ROM).

Alternatively, the .NET Framework V2.0 is available for free download from:

<http://www.microsoft.com/downloads/details.aspx?familyid=0856EACB-4362-4B0D-8EDD-AAB15C5E04F5&displaylang=en>

Connecting to the Device(s)

PodWare can communicate with devices which have either an RS-232 port (allowing a single device to be connected), or BvNet ports (allowing multiple devices to be connected).

RS-232

If your computer has a native RS-232 (serial) port, just connect this to the device you wish to control using an RS-232 extension cable (a straight-through female-to-male).

If your computer does not have an RS-232 port, you can use one of the recommended USB/Serial adapters (see below).

BvNet

The Linea Research BvNet Adapter is the recommended means for connecting your computer to a network of BvNet devices. This will achieve the best performance and will provide the correct connectivity without the need for special cables. You can connect your computer to the BvNet Adapter using either RS-232 (in which case the Adapter will need to be used with a Power Supply), or using USB (in which case this will power the Adapter).

Connect the BvNet Out socket on the BvNet Adapter to the BvNet In socket of the first device you wish to control, then the BvNet Link socket of this device to the BvNet In socket of the next device, and so on. The order in which the devices are connected is not important. The last device in the 'chain' needs no connection to the Link socket. Although standard RJ45 Ethernet

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patch cables can be used to make these connections, we recommend using the Neutrik Ethercon locking type. Cat5 cabling should be used for the BvNet network.

If you are in a fix and have no BvNet Adapter, it is possible to use one of the recommended RS-232/RS-485 adapters (with one of the recommended USB/Serial adapters if your computer does not have a native RS-232 port) (see below).

Please note however that using an RS-485 adapter rather than the BvNet Adapter will not achieve full performance because:

The Automatic Direction control scheme employed in these adapters does not drive the network lines with low impedance for both positive and negative excursions, so the performance reduces as the network length is increased (the total network length, not just the length to the first device).

The adapter has no knowledge of the low-level operation of the BvNet network protocol, and cannot orchestrate message passing in a controlled manner, leading to excessive packet collisions and thus reduced communications performance/speed.

The BvNet interface has the required intimate knowledge of the BvNet protocol, and will drive the network at all times with low impedance, so a long network may be employed with no loss of performance.

RS-485 adapters can however be made to work if the network is reasonably short and there is only one or perhaps two devices in the system.

Running PodWare

Click the Start button in the Windows Taskbar, then select Programs, Linea Research PodWare. Application Authorisation

When PodWare is launched for the first time on a PC, or is installed into a different directory, it will ask for an Authorisation Code to be entered. This code will either be printed on the CD-ROM, or will be available from your dealer. Enter the code and click Done. PodWare will then start.

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Quick Start

Set the **Com port** using the menu item Network>Com Port

Click the **Online** toolbar button (the one with the red triangle)

Double-click on one of the devices which appear in the tree view to **Launch the panel**

When the progress bar indicates *ready*, **adjust** the controls as required

Firmware

Firmware is what we refer to as the software which runs inside a device. Most Linea Research products which are controllable from PodWare have firmware which can be updated by the user. When you launch a panel for a device in PodWare, it may recommend that you update the firmware in the device. PodWare Help provides instructions on how to do this.

Recommended Adapters

Not all adapters can be assumed to work since their designs do vary, and some have been found not to work reliably with PodWare. We have tested the following adapters and can recommend them for use with PodWare:

USB/Serial

Most adapters using the FTDI chipset or the Prolific chipset should operate correctly, *but make sure you download the latest drivers.*

We can recommend the following:

Aten UC232A - see <http://www.aten.com>

Easysync USB-COM-PL - see <http://easysync.co.uk>

Since this type of adapter uses standard USB and RS-232 pin-outs, no special cables are required.

RS-232/RS-485

There appears to be no universal standard on how these adapters pin-out the RS-485 port, so we cannot include general connection details. We have tested and can recommend the following:

B&B Electronics 485SD9R – see <http://www.bb-europe.com> or <http://www.bb-elec.com>

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You will need a special cable for connecting the RS-485 port of the adapter to a BvNet device. The 485SD9R has a female D9 connector on the RS-485 side.

It is recommended that you get the RJ45 end by cutting one end off a standard Ethernet PC to hub (patch) cable, and attach a MALE D9 to the cut end.

The only connections you need are:

RJ45	Colour	D9M
1	White/orange	3
2	Orange	2
5	White/blue	4

Please note the potential performance limitations of this approach rather than using the Linea Research BvNet adapter as discussed above.

Ethernet/Serial

PodWare should operate with most Ethernet-to-serial adapters which use a "Virtual Com Port". However, we have only tested the following adapter, and is therefore the only one we can recommend:

Moxa NPort Express DE-311 from B&B Electronics - see www.bb-europe.com or <http://www.bb-elec.com>

Follow the installation instructions supplied with the adapter, and map it to an unused COM port (COM port 3 and upwards are often available for use).

The NPort express device may be used in one of three ways with PodWare:

RS-232 directly to the device

This is used for 1:1 connection to a single device which has an RS-232 port.

On the Moxa NPort adapter, set the switches to SW1=off, SW2=off, SW3=off, to select RS-232 mode.

Because the pin-out of the RS-232 connector on the adapter is for "Data Communications Equipment" (DCE) rather than for "Data Terminal Equipment" (DTE), it is necessary to connect the adapter to the device via a Null Modem cable, or use a male-male Null Modem converter to correct the connectivity. The latter is supplied with a Moxa NPort adapter.

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RS-232 to the Linea Research BvNet adapter

Used for controlling a network of devices on a BvNet network.

Set the adapter up the same as for direct RS-232 mode above.

Connect the RS-232 port of the connector to the RS-232 port of the BvNet adapter.

Again, you will usually need to use a Null Modem cable or a Null Modem converter.

RS-485 directly to the BvNet port of a device

Whilst this method of connection can be made to work, it is not recommended for the reasons discussed above.

On the Moxa NPort adapter, set the switches to SW1=off, SW2=on, SW3=on, to select RS-485 mode with automatic direction control.

To make a cable to connect the adapter to a BvNet device, it is suggested that you cut one of the RJ45 connectors off a standard Ethernet patch lead (PC to hub cable), and attach a female D9 to the cut end.

The pin wiring for the Moxa NPort device (do NOT use a Null Modem converter) is as follows:

RJ45	Colour	D9F
1	White/orange	3
2	Orange	4
5	White/blue	5

Note that there can sometimes be issues with firewall programs. If it is impractical to shut the firewall down, then it is often possible to specify the IP address of the adapter as a 'trusted site' in the firewall program.

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