



TECHNICAL USER MANUAL



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Before proceeding to install VITYLAN, please read this manual carefully.

Vity Technologies will not be responsible damage and accidents due to installation.

Product specifications may change without preliminary notification. E & O.E

1. Specification

1.1 Function

- VITYLAN is a MediaBus/Ethernet gateway which communicates via UDP protocol. This gateway permits transfer and recovery of MediaBus messages over Ethernet (from the Vity RS485 bus).

1.2 Description

The gateway is composed of following modules :

- RS485 Interface to communicate with Vity products.
- RJ45 interface for communication between RS485 and RJ45 VITYLAN.
- "Power Over Ethernet" module for power by Ethernet.

1.3 Technical data

1.3.1 Power

- Power requirements: 12V regulated, 4A supply (via separate PSU).
- Power over Ethernet: 48V (norm 802.3af).
- Power consumption - VityLAN: 50mA.
- Power consumption max: 600mA.

1.3.2 Features

- VITYLAN can be powered in 2 ways:
 - With a mains power adapter: 12V DC regulated @ 4A.
 - By power over LAN : 48V conforming to norm 802.3af.
 - and...from other Vity products over VITYLAN.
- Software updates over LAN now possible.
- Easy configuration of Ethernet TCP/IP characteristics.
- Size: 88mm x 74mm x 32mm.
- Easy DIN rail or flat surface fixing.

2. Functionality

2.1 Apply power to unit

When VITYLAN is first powered up, initialization is about 30 seconds. Unit is operational 30 seconds from power up.

2.2 Power Over Ethernet

VITYLAN can be powered over the LAN using standard POE wiring. The 48V power supply must conform to norm 802.3af and must only access the free pairs of the RJ45 cable.

2.3 Mediabus / Ethernet Gateway

The Mediabus Gateway transfers messages from the Vity MediaBus to Ethernet using UDP protocol. It also receives messages from MediaBus circulating on Ethernet to be directed towards the RS485 bus. This gateway also checks the validity of transferred messages.

2.4 Equipment Detection

- Detects equipment connected to the RS485 bus on VITYLAN initialization.
- Detects additional equipment connected whilst operating.

Note: To correctly detect equipment, you must first connect the RS485 bus to the equipment and then power it up.

2.5 RS485 Interface

VITYLAN sends and receives data using the VITY RS485 bus.

- Speed: 115200 baud.
- Length: 8 bits.
- Parity: None.
- Stop bits: 1.

2.6 RJ45 Interface

VITYLAN sends and receives data using the Ethernet network interface.

- Speed: 10 / 100 baseT.
- Utilises UDP protocol (port 12000).

3. Wiring and installation

Several connectors are available on the VITYLAN unit:

- Two RS485 connectors
 - Connector: 3-way removable terminal blocks (0.14mm² to 0.5mm²). (Gauge 28-20)
 - MediaBus communication bus which serves to interconnect all equipment in the Vity range.
 - Bus polarity must be respected.
 - The terminal marked '0' is not essential for proper functioning of the bus. However, in some situations to avoid interference, it can be useful to connect the shield of the cable to this terminal. Note that this must only be done at ONE end of the cable.
- The connector "Network – RJ45"
 - Connector : RJ45 8way.
 - Used to connect the VITYLAN to the Ethernet network.
 - Permits VITYLAN's to communicate between them.
- 2 connectors "Supply 12V"
 - Connector: 2-way removable terminal blocks.
 - Used to power the VITYLAN via a 12V supply.
 - Can also be used to provide power supply to other equipment.

4. Procedure

4.1 Installation Procedure

4.1.1 Powering using 12V power input:

- 1) - Connect the RS485 connectors as required.
- 2) - Connect the "Network RJ45" connector to the Ethernet network.
- 3) - Connect the VITYLAN power supply.

4.1.2 Powering using network (Power over Ethernet – 802.3af)

- 1) - Connect the RS485 connectors as required.
- 2) - Connect the "Network RJ45" connector to the Ethernet network.

TAKE CARE! In order to not damage the product, the 48V power supply provided to VITYLAN MUST be transmitted on free pairs (4,5,7,8) and NOT data pairs (1,2,3,6) as per norm 802.3af.

4.2 OS Updating

- OS Updates are possible over the VityLAN connection.

4.3 Network Parameter Configuration

4.3.2 IP address Configuration

- 1) - Open your web Browser (e.g. Internet Explorer) and enter the VITYLAN address URL shown below (default IP address is "192.168.0.32").
- 2) - Click on the "Network" link.
- 3) - Enter your network parameters (IP Address, Subnet mask, Default gateway).
- 4) - Confirm your parameters by pressing the "Apply" button.
- 5) - Reset the system by selecting the "reboot" link.



Digi Connect ME Configuration and Management

Home

Configuration

Network

- Serial Port
- GPIO
- Alarms
- Security
- System

Management

- Serial Ports
- Connections

Administration

- File Management
- Backup/Restore
- Update Firmware
- Factory Default Settings
- System Information
- Reboot

Logout

Network Configuration

IP Settings

Obtain an IP address automatically using DHCP *

Use the following IP address:

* IP Address: 192.168.0.32

* Subnet Mask: 255.255.255.0

Default Gateway: 192.168.0.1

* Changes to DHCP, IP address and Subnet Mask require a reboot to take effect.

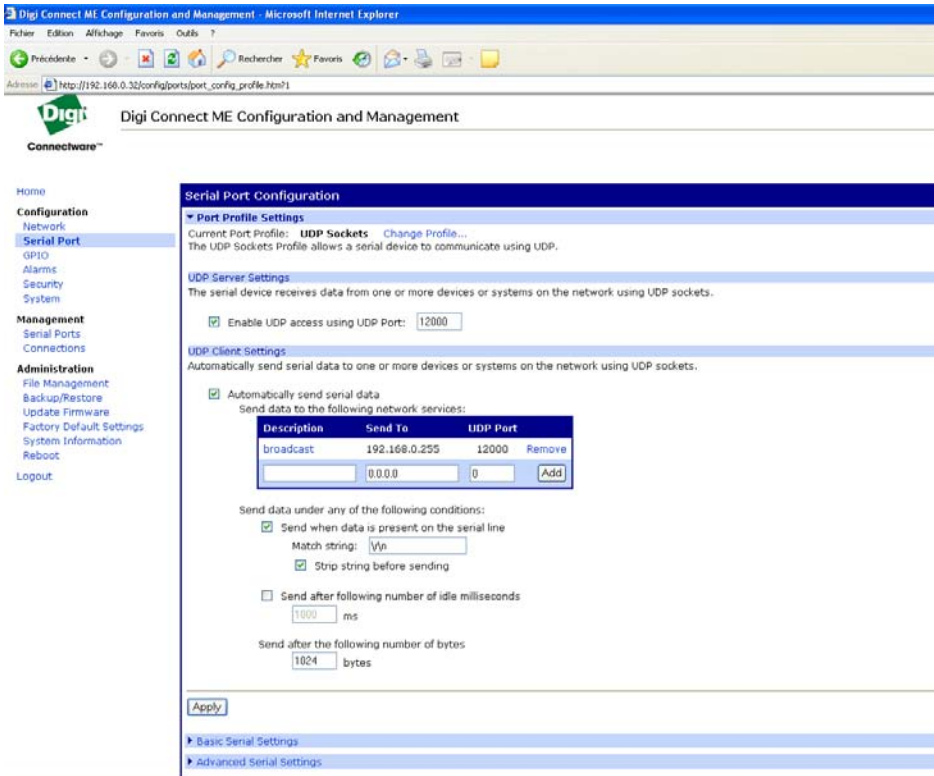
Network Services Settings

Advanced Network Settings

4.3.3 Recipient Address Configuration

- 1) - Open your web Browser (e.g. Internet explorer) and enter the VITYLAN address URL shown below (default IP address is "192.168.0.32").
- 2) - Click on the "Serial port" link.
- 3) - Enter the recipient address into the box "send data to the following network services":
 - In the "Description" box, enter a name describing the type of communication.
 - In the "Send to" box, enter the Broadcast IP address (address depends on your network).
 - In the "UDP Port" box, enter the following value: 12000.
 - Save your data by clicking on the "Add" button.
 - Confirm configuration of parameters by clicking the "Apply" button.

N.B.: For proper operation, the VITYLAN must utilise broadcast, so it is very important to enter the broadcast address of your network.

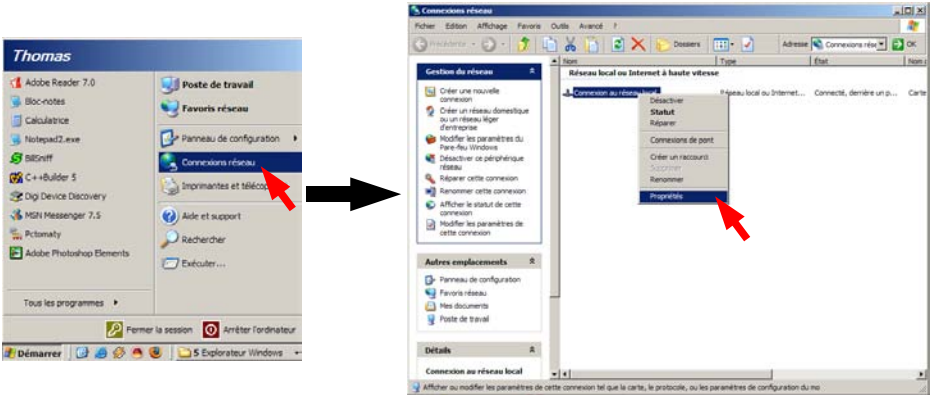


4.4 Opening the Firewall

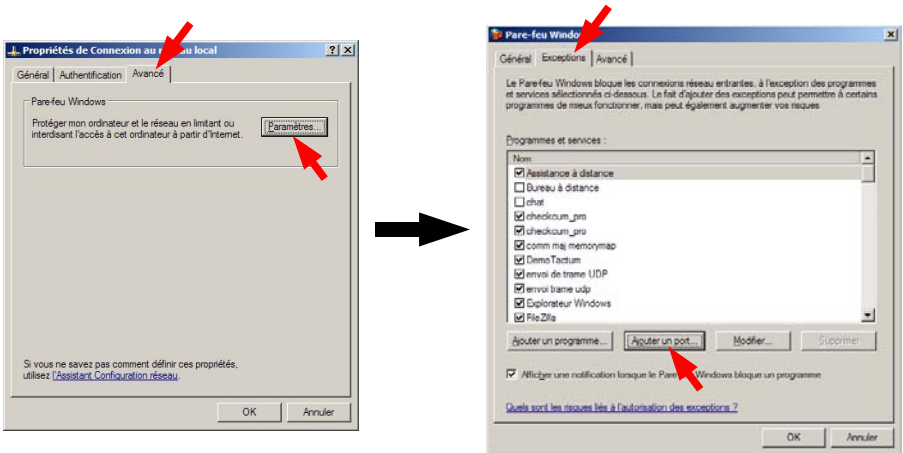
The VITYLAN only functions correctly if UDP port number 12000 is open for transmit and receive in your Internet firewall. Ensure that your PC allows use of this port.

This part describes how to open port 1200 using the Windows XP (SP2) integrated firewall but it is also necessary to open this port if you have other Internet protection software and with routers if you have them on your network.

First, go to network connections. Highlight your LAN connection and select Properties.



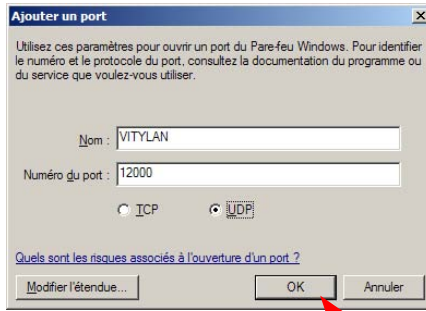
Open the "Advanced" tab and click on "Settings". Then, in the new window, open the "Exceptions" tab and click "Add port".



In the new window, enter the following parameters:

- ➔ Name : VityLAN
- ➔ Port number : 12000
- ➔ Select UDP

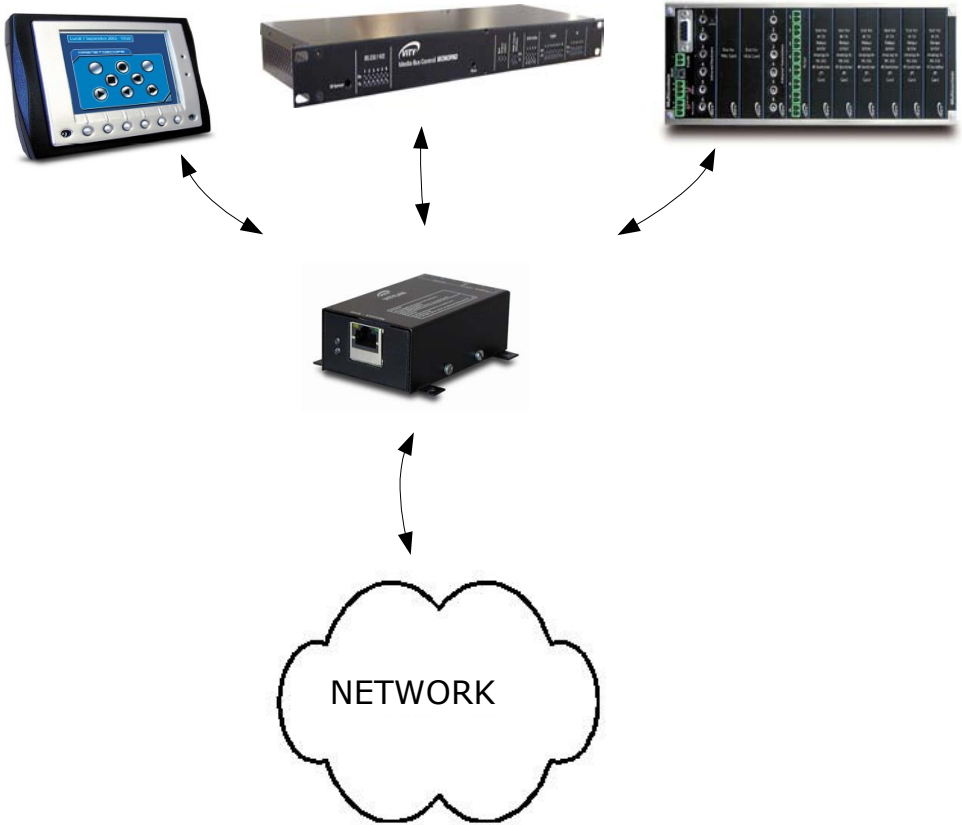
Finally click on OK.



The VITYLAN is now ready for use.

5. Device Application

VITYLAN allows RS485 MediaBus communication over Ethernet. This effectively extends the transmission control capability and allows easy interconnection between networks and the Internet.



NOTES

The product is warrantied for a period of 1 year from the purchase date.

If product failure is found to be due to inappropriate use or due to tampering by a third party, the warranty is to be considered void.

During the period of warranty, VITY Technology will repair faulty units free of charge.

Faulty products must be sent to your charge to VITY Technology offices in Caudan with a letter.

The repaired units will be turned to you in our charge.

Out of the period of warranty, VITY Technology will repair faulty units in its offices in Caudan, and the cost of repairing will be the responsibility of the customer.

If you have any problem during the installation of VITYLAN,

call VITY Technology +33 2 97 89 20 03 or

send an Email to: vity@vity.com