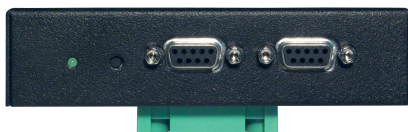


CUSTO LAN RS



User Manual

THANK YOU & CONGRATULATIONS!

Thank you for purchasing the CUSTO LAN RS controller of VITY Media Bus Control® automation system. CUSTO LAN RL is a small controller that enables to drive 2 rs-232 by Vimaty touch panels or by TCP/IP. This manual is made to assist you to install the CUSTO LAN RS

The information in this manual is copyright protected. No part of this manual may be copied or reproduced in any form without prior written consent of VITY Technology Headquarters – France. VITY Technology is not responsible for operational, technical or editorial errors/omissions made in this manual. All the information in this manual may be subject to change without prior notice. CUSTO LAN RS and Media Bus Control® are register trademarks of VITY Technology. All other brand or product names are trademarks of their respective companies or organizations.



180 rue Pierre Landais, 56850 Caudan, France

WWW.VITY.COM



REVISION NUMBER OF THIS MANUAL: CUSTOLANRS_UM_220807_EN_0003

INDEX

1-Presentation	3
2-Installation	3
2.1- External power supply	3
2.2- PoE Power supply	4
2.3- RS485 Connection	4
2.4- Ethernet network connection	6
2.5- Serial Ports	7
2.5.1- Female subD9 connector	7
2.5.2- Communication parameters	7
2.6- RS485-Ethernet connection	8
2.7- Assembly on DIN rail	10
3-Operation	10
4-Protocol	11
4.1- RS485 protocol	11
4.1.1- Communication parameters	11
4.1.2- Commands format	11
4.2- Ethernet protocol	14
4.2.1- Commands RS format	14
4.2.2- Identification command	15
4.2.3- Name request	16
4.2.4- Version request	17
5-Network parameters configuration	18
6-OS update	20
7-Technical Specifications	22

Read carefully this manual before installing the Custo LAN RS.
The manufacturer won't be responsible for any damages or incidents even caused by a correct use of his products.
The data and the characteristics of the product can be modified without any previous report.

1-PRESENTATION

The Custo LAN RS enable to manage 2 serial ports by RS 485 or by Ethernet network. Each port can be configured in RS232, in RS422 or in RS485. It can also be used as a Mediabus/Ethernet gateway. The device can be supplied either by an external power supply or directly by the Ethernet network if it corresponds to the 802.3af standard.

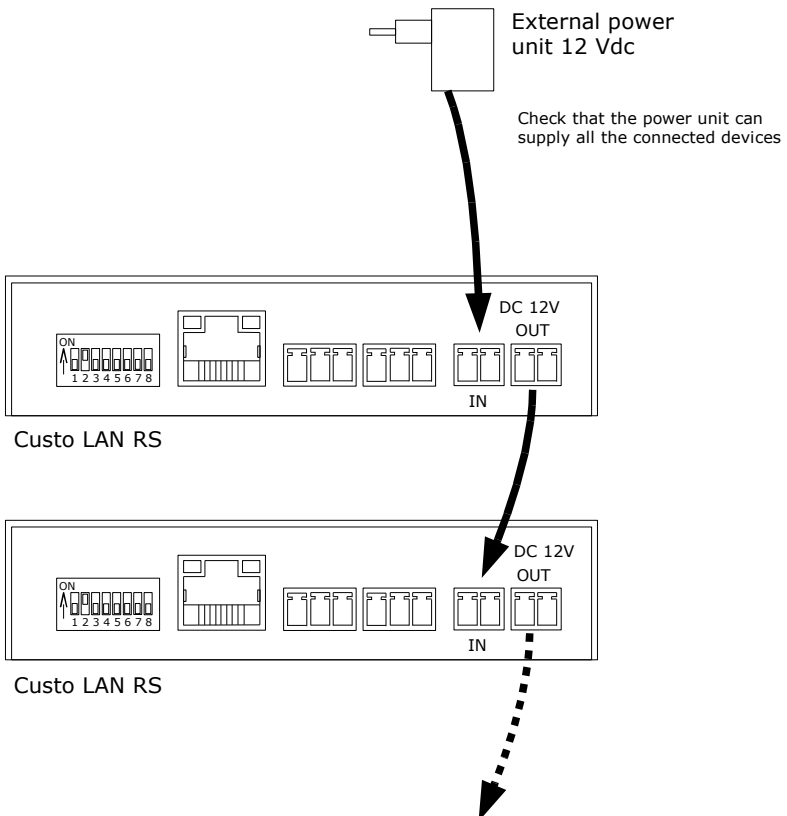
2-INSTALLATION

2.1-External power supply

The external power unit must supply 150 mA under 12Vdc. You can connect the power supply either on the IN connector or on DC12V OUT. It is possible to supply a second device via the second connector. Check that the power supply is able to provide enough power for both devices. The connector used for the external power supply is a Phoenix Contact connector reference : MC1,5/2-ST-3,81.

Connector pinout MC1,5/2-G-3,81

Pin	Signal	
1	GND	
2	+12Vdc	

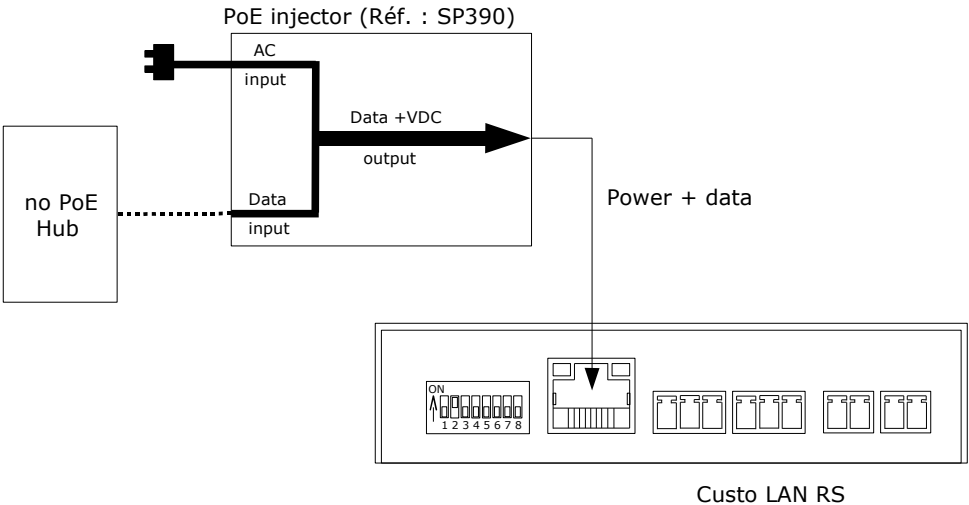


Be careful : do not connect 2 external power supplies to the IN and OUT DC12V connectors at the same time.

2.2-PoE Power supply

It is possible to supply directly the Custo LAN RS by the RJ45 connector if the network meets the requirements of the 802.3af standard. Thus a 12Vdc tension is available on the IN and OUT DC12V connectors. As a results it is possible to supply a second device by these connectors. But the power used by this device cannot be above 500 mA.

If the network do not meet the 802.3af standard requirements, It is possible to use a PoE injector(reference : SP390) to supply the card via the RJ45 connector.



2.3- RS485 Connection

MC1,5/3-G-3,81connector pinout

Pin	Signal	
1	Tx/Rx +	
2	Tx/Rx -	
3	GND	

You can connect the RS485 bus either on the RS485 IN or on the RS485 OUT. The second connector is only used to make the cards chaining easier.

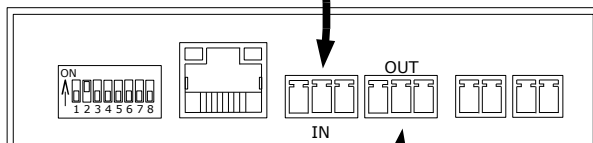
The 35B, 35S, 35-EIB, 70S, 70-EIB VIMATY screens, the 20S and 20-EIB PADMATY keyboard must be connected to the Custo LAN RS by this bus.

The mediabus, the XMONOPRO, the MULTICUSTOM and the MINIMONO can be connected to this bus.

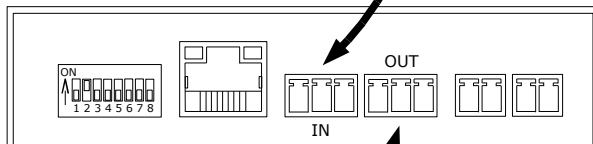
VITY touch screen and keyboard



RS485 BUS

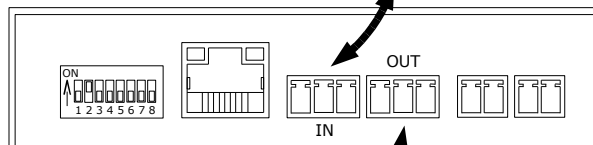


Custo LAN RS



Custo LAN RS

...



Custo LAN RL

VITY automation systems

XMONOPRO



MULTI CUSTOM

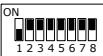


MINIMONO

CUST LAN RS

To communicate on the RS485 bus, each Custo LAN RS must have an address. This address is defined by the 1 to 8 dipswitchs located near the RJ45 connector and nominated « ADDRESS » by the screen printing . This address enables to identify the different Custo LAN card that are present on the RS485 bus.

Address configuration:

Address	1 to 8 Dipswitch	
1	Dipswitch 1 OFF – All the others ON	
2	Dipswitch 2 OFF – All the others ON	
3	Dipswitch 1 and 2 OFF – All the others ON	
253	Dipswitch 2 ON – All the others OFF	
254	Dipswitch 1 ON – All the others OFF	
255	All the dipswitchs OFF	

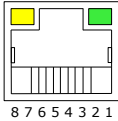
2.4-Ethernet network connection

Straight wiring between Custo LAN and HUB	
Side A	Side B
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Cross wiring between Custo LAN and PC	
Side A	Side B
1	3
2	6
3	1
4	4
5	5
6	2
7	7
8	8

Note: Wires 1 and 2 = 1 twisted pair
Wires 3 and 6 = 1 twisted pair
Wires 4 and 5 = 1 twisted pair
Wires 7 et 8 = 1 twisted pair

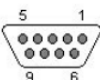
female RJ45 pinout

Pin	Signal	
1	Tx+	
2	Tx-	
3	Rx+	
4	In +48V (PoE)	
5	In +48V (PoE)	
6	Rx-	
7	In -48V (PoE)	
8	In -48V (PoE)	

The wire used must be a CAT5 4 twisted pair wire. To connect a Custo LAN RS to a Hub, It is necessary to use a straight wire. To connect a Custo LAN RS directly to a PC, a cross wire is needed(see the previous graphs).

2.5-Serial Ports

2.5.1-Female subD9 connector

Base	Signal	
1	Tx-	
2	RX (RS232)	
3	TX (RS232)	
4	Tx+	
5	GND	
6	Rx-	
7	RTS (RS232)	
8	CTS (RS232)	
9	Rx+	

2.5.2-Communication parameters

Communication speed :

Baudrate	300	600	1200	2400	4800	9600	19200	38400	57600	115200
Port 1	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Port 2	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Parity : none, even, odd.

Number of bits per character : 5, 6, 7, 8.

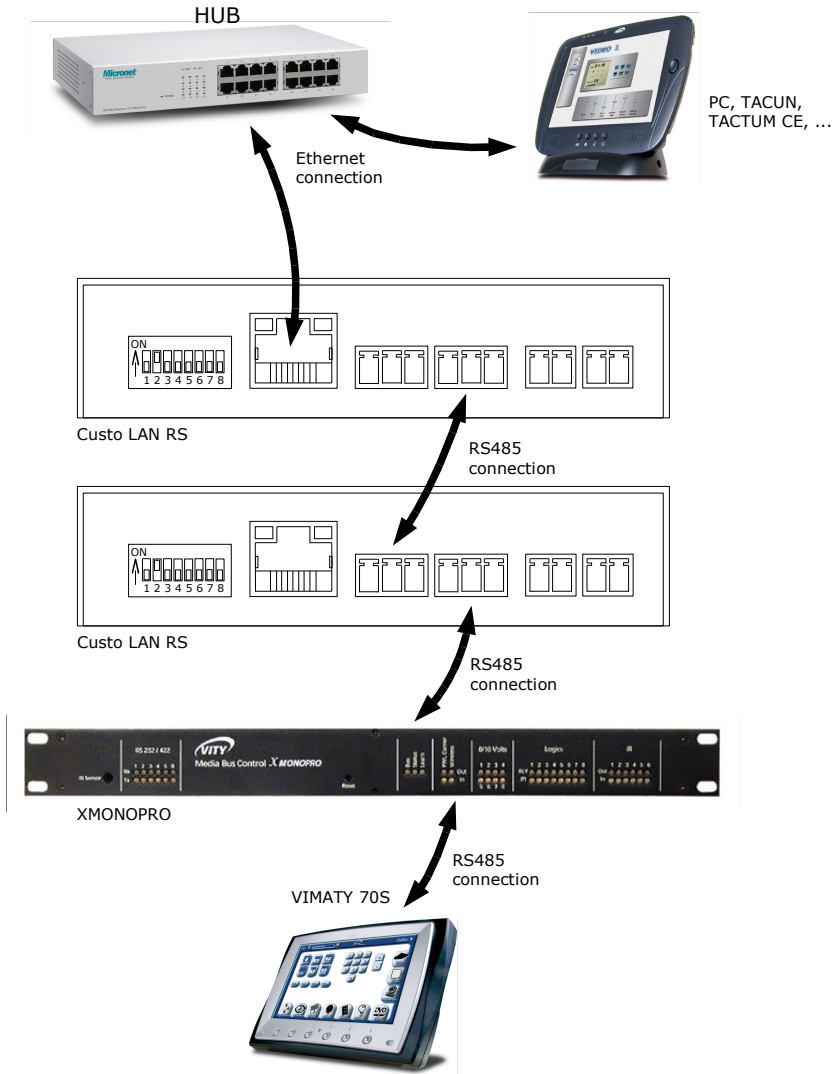
Number of stop bit : 1,1.5,2.

Possible configuration : RS232, RS422, RS485.

- Hardware handshake in RS232 mode by RTS and CTS
- In the RS485 mode, It is necessary to connect the pin 1 to the pin 6 and the 4 to the 9.

2.6-RS485-Ethernet connection.

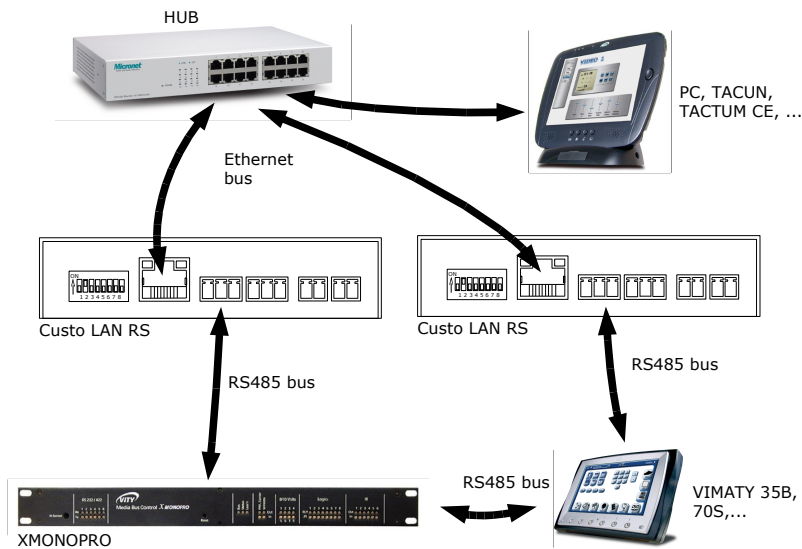
Le Custo LAN RS can be used as a Ethernet-Mediabus gateway. It transfers the messages that are no directed to itself to the RS485 bus or to Ethernet.



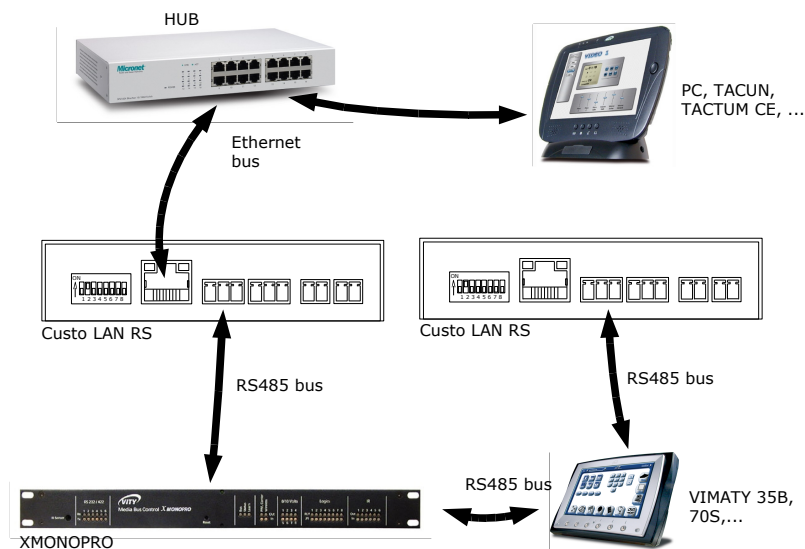
CUST LAN RS

Due to the way that the custo LAN RS functions connecting 2 Custo LAN RS card at the same time to the same Ethernet network and to the same RS485 bus is to be avoided.

Wrong installation:



The following installation is to be preferred:



2.7-Assembly on DIN rail

It is possible to install the Custo LAN RS on a DIN rail with the optional CUSTO/DIN. You only have to clamp this rail DIN kit under the box with two M3 x 6mm screws.



3-OPERATION

When powered up the Custo LAN RS sends a reset message on the RS485 bus and the identification UDP broadcast on the Ethernet. The « ON » led turns on showing the right use of the card. If the Custo LAN RS is connected to the Ethernet network, the green led of the RJ45 connector turns on. The yellow led of the RJ45 connector turns on when an Ethernet frame is transmitted or received.

Before being able to send commands on the 2 serial ports, it is necessary to initialize them. You have to define the operating mode (RS232, RS422, RS485), the communication speed, the parity, the number of data bits per character, the number of stop bit and the material control of the stream for the RS232 mode. These parameters depend on the devices connected to the serial ports. By default, the 2 serial ports are initialized in the RS232 mode, at 9600 baud, no parity, 8 data bits per character, 1 stop bit. The initialization parameters are not stored. After each reset, you have to reinitialize the serial ports.

The number of characters emitted is limited to 32 bytes by message. In reception, if the message contains more than 32 bytes, it is segmented. 100 ms later, if no new characters have been received the data already received are sent on the RS485 bus and Ethernet.

The Custo LAN RS can either receive orders from the RS485 Bus and from the Ethernet network. The characters received on the serial ports are also sent on the RS485 bus and the Ethernet network.

A button closed to the relay connectors enables to reset the device.

All the RS485 valid commands (correct checksum), circulating on the bus are sent on the Ethernet network in broadcast. The RS485 commands are encapsulated in an UDP frame recipient port of 12000 and a header message composed of the following 4 ASCII character « VITY ».

All the received UDP commands whose format corresponds to the defined protocol (see the Ethernet protocol) are sent on the RS485 bus. It concerns both the commands that are not directed to the Custo LAN RS but directed to the cards and the devices connected on the RS485. It also concerns the commands that send a message to the serial ports of the Custo LAN RS. This transfer is done to inform the different devices connected on the RS485 Bus.

4-PROTOCOL

4.1-RS485 protocol

4.1.1-Communication parameters

Communication speed : 115200 baud.
 Number of bits per character : 8.
 Parity : none.
 Number of stop bit: 1.

Pinouts : It is indicated on the cover of the box by the screen printing and in the paragraph « RS485 Connection ».

Connectors that are to be used :
manufacturer : Phoenix Contact reference : MC1,5/3-ST-3,81

NB : We can either use the « IN » or « OUT » connector to control the Custo LAN RS card.

4.1.2-Commands format

The commands respect the format defined by the Xmonopro with a 0x14 ENQ.

Message pattern:

header + message type + Number of data + Data + Checksum

header : 4 character

- 1st character: target address
- 2nd character: ENQ
- 3rd character: transmitter address
- 4th character : ENQ

With ENQ = 0x14 (hexadecimal), target address between 1 and 255 and transmitter address 1 and 255.

message type : 2 characters

1st character : 2 possibilities.

- ASCII 'S' character that is 0x53 (hexadecimal) to define a Custo LAN RS card.
- ASCII 'T' character that is 0x54 (hexadecimal) in case of reset or identification.

2nd character: 3 possibilities.

- ASCII 'C' character that is 0x43 (hexadecimal) to configure the serial ports.
- ASCII 'E' character that is 0x45 (hexadécimal) en case of reset or in character reception on the serial ports.
- ASCII 'D' character that is 0x44 (hexadécimal) in case of identification request in character emission towards the serial ports.
-

Number of data : 1 character equal the number of data present in the segment.
 « Datas » +1.

Data : It exists 5 possible messages for a Custo LAN RS card. 2 don't have any data, one message has 4 data and the segment « données » of the other 2 depends on the length of the message received or sent on the serial port.

- 1) Reset Message: message type= « TE », number of data = 1, no data.
- 2) identification request: message type= « TD », number of data= 1, no data.
- 3) Configuration of the serial port : message type= « SC », number of data = 5, 4 bytes of data= [Data 1] [Data 2] [Data 3] [Data 4]
 - Data 1 : N° of the concerned port (1 or 2)
 - Data 2 :

Data2	1	2	3	4	5	6	7	8	9	10 *
Baudrate	300	600	1200	2400	4800	9600	19200	38400	57600	115200

*only available on port 2.

- Data 3 :

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
RX control RTS OE	RS422 Mode②		Parity		parity Type	Number of character per bits	
0 = no 1 = yes	0 = no 1 = yes	0	0 = yes 1 = no	0	0 = pair 1 = odd	00 = 5 bits 01 = 6 bits 10 = 7 bits 11 = 8 bits	

- Data 4 :

Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
RS422 or RS485 ?②		TX control RTS	CTS valid TX OE	Number of stop bits			
0 = RS422 1 = RS485	0	0 = no 1 = yes	0 = no 1 = yes	0111 = 1 1000 = 1.5 1111 = 2			

① : To activate the material control of the stream (RTS-CTS) in the RS232 mode, the bit must be at 1.

② : To be in the RS422 mode, the bit 6 of data 3 must be at 1 and the bit 7 of data 4 must be at 0. To be in the RS485 mode , the bit 6 of data 3 and the bit 7 of data 4 must at 1.

- 4) Sending a command to a serial port : message Type = « SD », number of data = number of useful data + 2, data= Data 1, Data 2, ..., Data n
 Data 1 : N° of the serial port concerned (de 1 à 2)
 Data 2 : 1st character to emit on the serial port.

Data n : last character to emit on the serial port.

- 5) Character reception by a serial port : message type= « SE », number of data = number of useful data + 2, data = Data 1, Data 2, ..., Data m
 Data 1 : N° of the serial port concerned (de 1 à 2)
 Data 2 : 1st character received by the serial port.

Data m : Last character received by the serial port.

CUST LAN RS

Checksum : 2 characters

1^{er} character : 0x04 (hexadecimal)

2nd character : sum of the characters from the first message type character to the first checksum character (0x04) included.

The reply of a CustoLAN card depends on the validity of the checksum of the received command. This reply is composed of a header of 4 characters similar to the header previously defined and 2 extra characters.

If both the command and the checksum are valid, the following frame is returned :

header+ 0x06 (hexadecimal) + 0x15 (hexadecimal)

If not the frame is:

header + 0x15 (hexadecimal) + 0x15 (hexadecimal)

Examples :

- sending of a characters chain « test » to the port 1 of the Custo LAN RS card
address 5, transmitter address 0xF2:
command sent :

Target	ENQ	Sender	ENQ	'S'	'D'	Nb	Port	't'	'e'	's'	't'	0x04	Checksum
0x05	0x14	0xF2	0x14	0x53	0x44	0x06	0x01	0x74	0x65	0x73	0x74	0x04	0x62

Valid acknowledgement of the card:

Target	ENQ	Sender	ENQ	ACK	NACK
0xF2	0x14	0x05	0x14	0x06	0x15

- Configuration of the port 2 of the Custo LAN RS card address8, transmitter address 0xF1, baudrate = 19200, pair parity, 8 data bit per character, 1 stop bit, RS232 mode:
command sent :

Target	ENQ	Sender	ENQ	'S'	'C'	Nb	Data1	Data2	Data3	Data4	0x04	Checksum
0x08	0x14	0xF1	0x14	0x53	0x43	0x05	0x02	0x07	0x03	0x07	0x04	0xB2

Valid acknowledgement of the card:

Target	ENQ	Sender	ENQ	ACK	NACK
0xF1	0x14	0x08	0x14	0x06	0x15

- Reset of a Custo LAN RS card address 1 :
 - 0xF0,0x14,0x01,0x14,0x54,0x45,0x01,0x04,0x9E0xF0 is the target by default always used for reset.
- Identification request of the Custo LAN RS card address 7 pby a 0xF1transmitter:
command sent :
 - 0x07,0x14,0xF1,0x14,0x54,0x44,0x01,0x04,0x9DValid acknowledgement of the card:
 - 0xF1,0x14,0x07,0x14,0x06,0x15

4.2-Ethernet protocol

Speed: 10BaseT

UDP Protocol :

- uses the 12000 port in broadcast receiving.
- uses the 12000 port in broadcast diffusion.
- Uses a customizable port for commands' receiving.

4.2.1-Commands RS format.

These messages have the same format as the RS485 messages to which a header composed of a chain of 4 characters: « VITY » is added. As the RS 485 commands, these UDP messages enable to configure the the serial ports, to send and to receive RS messages. These commands use the parametrizable UDP port and can be sent to the Custo LAN RS card in broadcast or thanks to its IP address.

If the RS 485 address or the ENQ character of the message do not correspond to those of the Custo LAN RS, the message is directed to another device present on the RS 485 Bus. The message is then sent to this bus.

Message structure

Header « VITY » + RS485 message (RS485 header + message type+ nb data + data + checksum)

It exists 3 main commands: Configuration of the serial port, sending of a command on a serial port and reception of a message on a serial port.

Configuration of the serial port:

'V'	'I'	'T'	'Y'	target	ENQ	Sender	ENQ	'S'	'C'	Nb	Data1*	Data2*	Data3*	Data4*
0x56	0x49	0x54	0x59		0x14		0x14	0x53	0x43	0x05				

0x04	Checksum
0x04	

Sending a command on a serial port:

'V'	'I'	'T'	'Y'	target	ENQ	Sender	ENQ	'S'	'D'	Nb	Data 1*	Data 2*	...	Data n*
0x56	0x49	0x54	0x59		0x14		0x14	0x53	0x44				...	

0x04	Checksum
0x04	

Reception of a message on a serial port :

'V'	'I'	'T'	'Y'	target	ENQ	Sender	ENQ	'S'	'E'	Nb	Data 1*	Data 2*	...	Data m*
0x56	0x49	0x54	0x59		0x14		0x14	0x53	0x45		0x43		...	

0x04	Checksum
0x04	

* see the RS485 protocol.

The acknowledgment of these messages, sent in broadcast, depends of the validity of the checksum.

If the checksum is correct, the frame contains the acknowledgement + the message sent :

'V'	'I'	'T'	'Y'	ENQ	ACK	ENQ	EOT	target	ENQ	Sender	...
0x56	0x49	0x54	0x59	0x14	0x06	0x14	0x04		0x14		...

If not the frame is :

'V'	'I'	'T'	'Y'	ENQ	NACK	ENQ	EOT
0x56	0x49	0x54	0x59	0x14	0x15	0x14	0x04

Another reply can be returned if the Custo LAN RS is already processing a RS485 or UDP message. The received message won't be processed. In that case the reply is:

'V'	'I'	'T'	'Y'	'B'	'U'	'S'	'Y'
0x56	0x49	0x54	0x59	0x42	0x55	0x53	0x59

4.2.2-Identification command

This command enables to identify the Custo LAN cards present on the local network. This UDP command uses the target port 12000. It is sent in Broadcast diffusion in order to be able to be free of local network parameters.

Format of this command :

'V'	'I'	'T'	'Y'	'S'	'c'	'a'	'n'	' '	'C'	'u'	's'	't'	'o'
0x56	0x49	0x54	0x59	0x53	0x63	0x61	0x6E	0x20	0x43	0x75	0x73	0x74	0x6F

'L'	'A'	'N'	'?'
0x4C	0x41	0x4E	0x3F

When receiving this broadcast request, all the cards present on the local network return the following message:

'V'	'I'	'T'	'Y'	'S'	'c'	'a'	'n'	' '	'C'	'u'	's'	't'	'o'
0x56	0x49	0x54	0x59	0x53	0x63	0x61	0x6E	0x20	0x43	0x75	0x73	0x74	0x6F

'L'	'A'	'N'	':'	'C'	'U'	'S'	'T'	'O'	'L'	'A'	'N'	'R'	'S'
0x4C	0x41	0x4E	0x3A	0x43	0x55	0x53	0x54	0x4F	0x4C	0x41	0x4E	0x52	0x53

Name of the card : in this example, CUSTOLANRS – depends of the card

'/'	'1'	'.'	'0'	'.'	'0'	'/'	1	2	3	4	5	6	'/'
0x2C	0x41	0x4E	0x3F	0x53	0x63	0x2C	0x01	0x02	0x03	0x04	0x05	0x06	0x2C

version number : depends of the software installed in the microcontroller

MAC address : different for each card

192	168	0	33	' '	37	39	' '	4	' '	192	168	0	1
0xC0	0xA8	0x00	0x21	0x2C	0x25	0x27	0x2C	0x04	0x2C	0xC0	0xA8	0x00	0x01

IP address: different
for each card

UDP local
port

RS485
address

Gateway : different
for each LAN

' '	255	255	255	0
0x2C	0xFF	0xFF	0xFF	0x00

Sub network mask : different
for each LAN

This message is sent back to the IP address of the sender of the identification command with as UDP target port, the source port of the sender.

The message is also sent to the Ethernet network in broadcast with as target port 12000, after a Custo LAN RS reset.

4.2.3-Name request

This command enables to obtain the name of a Custo LAN card. The PC sends the following UDP command to the IP address of the target with as recipient port the local port of the targeted card:

'V'	'I'	'T'	'Y'	'n'	'o'	'm'	'_'	'c'	'a'	'r'	't'	'e'	'?'
0x56	0x49	0x54	0x59	0x6E	0x6F	0x6D	0x5F	0x63	0x61	0x72	0x74	0x65	0x3F

The card acknowledges with the following frame:

'V'	'I'	'T'	'Y'	ENQ	ACK	ENQ	EOT
0x56	0x49	0x54	0x59	0x14	0x06	0x14	0x04

Then the card sends the message that involves its name.

'V'	'I'	'T'	'Y'	'n'	'o'	'm'	'_'	'c'	'a'	'r'	't'	'e'	'.'
0x56	0x49	0x54	0x59	0x6E	0x6F	0x6D	0x5F	0x63	0x61	0x72	0x74	0x65	0x3A

'C'	'U'	'S'	'T'	'O'	'L'	'A'	'N'	'R'	'S'
0x43	0x55	0x53	0x54	0x4F	0x4C	0x41	0x4E	0x52	0x53

4.2.4-Version request

This command enables to obtain the OS operating in the Custo LAN card. Le PC sends the following UDP command to the IP address of the target with as target port the local port of the targeted card.

'V'	'I'	'T'	'Y'	'v'	'e'	'r'	's'	'i'	'o'	'n'	'?'
0x56	0x49	0x54	0x59	0x76	0x65	0x72	0x73	0x69	0x6F	0x6E	0x3F

The card acknowledges with the following frame :

'V'	'I'	'T'	'Y'	ENQ	ACK	ENQ	EOT
0x56	0x49	0x54	0x59	0x14	0x06	0x14	0x04

Then the card sends the message that involves the operating software version :

'V'	'I'	'T'	'Y'	'v'	'e'	'r'	's'	'i'	'o'	'n'	':'	'1'	':'
0x56	0x49	0x54	0x59	0x76	0x65	0x72	0x73	0x69	0x6F	0x6E	0x3A	0x31	0x2E

'0'	':'	'0'
0x30	0x2E	0x30

The number of the version is encoded on 3 ASCII character separated by points.

5-NETWORK PARAMETERS CONFIGURATION

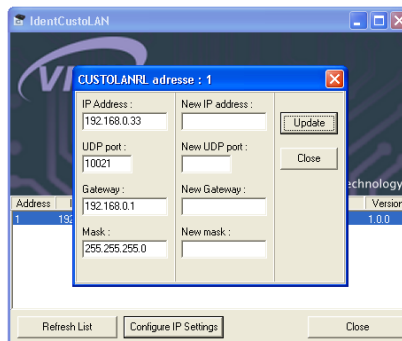
Execute the IdentCusto LAN program.



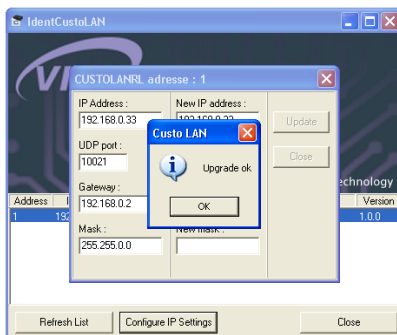
The software scans all the Custo LAN cards present on the local network even if their address do not belong to this network.

Select the Custo LAN of which you want to change the Ethernet parameters. Press on « Configure IP Settings » or double-click on the line that displays the parameters of the Custo LAN.

You can change the IP address, the UDP port, the gateway and the subnet mask. Enter the new Ethernet parameters and validate by pressing on « UPDATE ».

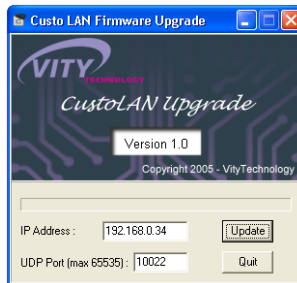


When the update is finished press on « OK » and close the application.

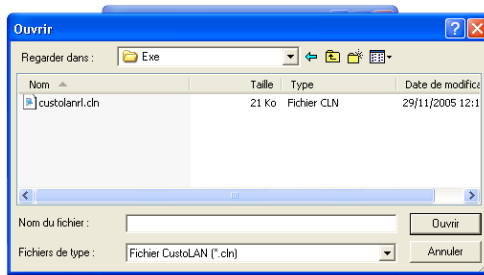


6-OS UPDATE

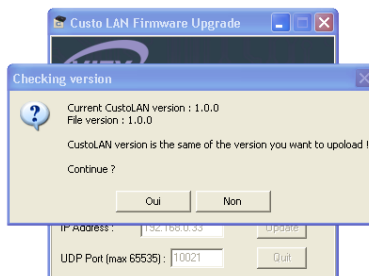
Execute the MajCustoLAN program.



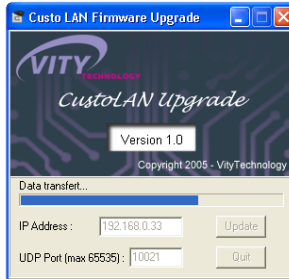
Enter the IP address and the UDP port of the target. Then press on « Update ». Select the update file. The file must have a « .cln » extension.



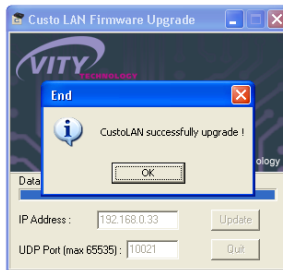
Confirm the update. According to the number of the update version and of the current version present in the Custo LAN RS, the message can be different.



The update starts.



When the update is finished, the following window appears:



Press on « OK » to finish the update.

The Custo LAN RS automatically resets when the data's transfer is finished in order to update its OS.

NB : IF THE CUSTO LAN RS IS CONNECTED TO THE LOCAL NETWORK TO WHICH THE PC OPERATING THE UPDATE BELONGS, IT IS IMPERATIVE THAT THE ETHERNET ADDRESS OF THE CUSTO LAN RS CORRESPONDS TO A VALID ADDRESS OF THIS NETWORK.

7-TECHNICAL SPECIFICATIONS

Ethernet Interface : 10 T Base
 Wire : CAT5
 Protocol : UDP
 Port : 12000 (by default)
 Connector : RJ45

Serial Interface : RS485
 Speed : 115200
 Communication parameters : 8 bits of data per character, 1 stop bit, no parity
 RS485 connector : MC1,5/3-G-3,81 (manufacturer: Phoenix Contact)

Consumption : 50 mA max – 12Vdc
 External power supply connector : MC1,5/2-G-3,81 (manufacturer: Phoenix Contact)
 Protection by polyswitch
 PoE power supply (802.3af standard)

Number of serial ports : 2
 available mode : RS232, RS422, RS485
 speed port 1 : 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600 baud
 speed port 2 : 300, 600, 1200, 2400, 4800, 9600, 19200, 38400, 57600, 115200 baud
 Parity : pair, odd, none
 Number of bit per character: 5, 6, 7, 8
 Number of stop bit : 1, 1.5, 2
 RS232 mode : Material control of data stream by RTS and CTS
 Connector : Female subD9

Dimensions : 126 x 85 x 31 mm
 Weight : 420 g

Options :

- PoE Injector (Reference : SP390)



- PoE Hub (Reference : SP616P)



- DIN Rail kit (Reference : CUSTO/DIN)



8-BRANDS COMPATIBILITY

MEDIA BUS CONTROL automation systems is compatible to drive many brands of the AV manufacturers, lights manufacturers and EIB manufacturers. You will find here a list with main brands, but Media Bus Control can control more systems...

3M, ABB, Adtec, Akg, AllenHeath, Analogway, Ask, Autopatch, Barco, Behringer, Biamp, Canon, Clipsal, CommTec, DIS, Epson, Extron, Faroudja, Fostex, Gyra, Hager, Imerge, Jung, JVC, Kenwood, Knox, Kodak, Kramer, Legrand, Lexicon, Lightec, Lite Touch, Lutron, Meridian, Merten, Mitsubishi, Nec, Niko, Onkyo, Panasonic, Phillips, Pioneer, Pixelmagics, Proxima, RGB Spectrum, Samsung, Sennheiser, Siemens, Sharp, Sony, Tasca, Theben, Vgatec, Vity, Xantech, Yamaha, Zumtobel... and more.

9-WARRANTY

1- VITY Warranty

VITY Technology Headquarters, France and its subsidiaries VITY china, VITY USA, warrant their products any defects in materials and workmanship for a period of 2 years from the date of the invoice. This warranty concerns products manufactured by VITY Technology. A return material authorization (RMA) must be obtained from VITY before products are returned for service. This authorization can be obtained on the website of vity : www.vity.com and have to be returned by fax to VITY - +33 297 89 20 10. In the case of product is distributed by Vity Technology, the applicable warranty is the warranty of the manufacturer and can be less or more than 2 years. This warranty will be specified on the invoice.

Warranty of CUSTO LAN RS: 2 years

2- What This Warranty Does Not Cover

This warranty does not apply to (a) any VITY product that has been modified, altered or repaired by an unauthorized agent or improperly transported, stored, installed, used, or maintained; (b) damage caused by acts of nature, including flood, erosion, or earthquake; (c) damage caused by a sustained low or high voltage situation or by a low or high voltage disturbance, including brownouts, sags, spikes, or power outages; or (d) damage caused by war, vandalism, theft, depletion, or obsolescence.

3- Disclaimer of Other Warranties

The warranties contained in Section 1 are the exclusive warranties given by VITY and supersede any prior, contrary or additional representations, whether oral or written. VITY disclaims and excludes all other warranties – whether express, implied, or statutory.

4- Buyer's Exclusive Remedies for Any Nonconformity

If a VITY product fails to conform to the warranties in Section 1, Buyer must notify VITY within a reasonable time and in no event more than thirty (30) days after the discovery of the nonconformity, and VITY will repair any nonconforming products or components.

5- Application of the warranty

During the period of warranty, VITY Technology will repair the defective units free. The defective products must be sent to your expenses to the VITY Technology's offices (Caudan). The repaired units will be turned over to our expenses with the recipient. Apart from the period of warranty, VITY Technology will repair the defective units in its offices at Caudan, and the cost of repair will be the responsibility of the customer. In the case of the defected product was bought to a Vity subsidiary or a Vity distributor, you have to return it directly to them.

6- Exclusion of Consequential and Incidental Damages.

Vity shall be not liable under any circumstances for consequential or incidental damages including, but not limited to, labour costs or loss of profits arising in connection with the use of or the inability to use Vity products.

7- Transport Damage

VITY will not be responsible for items damaged during shipment to or from VITY. The shipping carrier is responsible for items damaged during shipment.

8- No Modifications

This warranty may not be modified except in writing by an authorized VITY officer.

9- Other Notice

VITY reserves the right to modify or discontinue designs, specifications, warranties, prices, and policies without prior notice.