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Using L IPs with NLSuite tools

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	Création	Validation	Approbation



SUMMARY

PAGE

1. QUICK CONFIGURATION	5
1.1 STARTING HYPOTHESIS.....	5
1.2 ADDING AN IP NETWORK INTERFACE TO YOUR PC.....	5
1.3 LAUNCHING NL220 ON THE IP INTERFACE.....	7
1.4 ACCESSING L-IP WEB SERVER	8
1.5 SETTING IP CHANNEL ON THE L-IP	9
1.6 RECEIVING SERVICE PIN.....	14
2. FOLLOWING OPÉRATIONS	15
2.1 INSTALLING L-IP ROUTER WITH NL220	15
2.2 ADDING A SECOND L-IP ON IP CHANNEL.....	17
3. COMPLEMENTARY INFORMATION.....	20
3.1 ETHERNET PLUGING	20
3.2 RS232 PLUGGING WITH L-IP	20
3.2.1 <i>L-IP Hyperterminal Configuration</i>	21
3.3 L-IP IP ADRESS CHANGE	23
3.4 IP ADRESS TESTING.....	24



Pictures

Figure 1 Launching LonWorks I	5
Figure 2 Adding a LonWorks IP interface	6
Figure 3 Setting the IP address on LonWorks interface	6
Figure 4 « MyPC » interface is created on the pc.	7
Figure 5 Creating NL220 project with the IP interface	7
Figure 6 Home page of the L-IP Web server	8
Figure 7 Configuration login	9
Figure 8 Configuration sub menu	10
Figure 9 Setting the L-IP as administrator of the IP channel	11
Figure 10 IP Channel members list	12
Figure 11 Adding a member in IP channel	12
Figure 12 IP channel members' status	13
Figure 13 IP Channel IP set and ready to work	13
Figure 14 Activating service pin receiving traces	14
Figure 15 Service pin received	14
Figure 16 Creating a FTT10 channel	15
Figure 17 Routers tree	15
Figure 18 Defining a router window	16
Figure 19 Router installation	16
Figure 20 Retrieving Service Pin	16
Figure 21 Router is set and installed	17
Figure 22 IP channel administration deactivated	17
Figure 23 Check and set Channel IP administrator adress	18
Figure 24 Adding a second L-IP on IP channel administrator	18
Figure 25 IP channel with three set members	19
Figure 26 Plugging Ethernet products	20
Figure 27 RS232 L-IP plugging	21
Figure 28 Connection name	21



<i>Figure 29 Choix du port de communication</i>	22
<i>Figure 30 L-IP port configuration</i>	22
<i>Figure 31 Console main screen</i>	23
<i>Figure 32 Command window tool</i>	24
<i>Figure 33 Launching an application</i>	24
<i>Figure 34 Launching the command window</i>	24
<i>Figure 35 Command window</i>	25
<i>Figure 36 Successful Ping</i>	25
<i>Figure 37 Ping error</i>	26



1. QUICK CONFIGURATION

1.1 STARTING HYPOTHESIS

- You have plugged and set all your equipments on the Ethernet. (see § 3.1)
- You know IP addresses of both the PC and the L-IP (see § **Erreur ! Source du renvoi introuvable.**).
- You can « ping » your L-IP from your PC (see 3.4).

PC has adress 121.145.5.106

L-IP has adress 121.145.5.80

1.2 ADDING AN IP NETWORK INTERFACE TO YOUR PC

In the configuration panel launch « **LonWorks Interfaces** »



Paramètres de connectivité
Configure and test L...

Figure 1
Launching LonWorks I

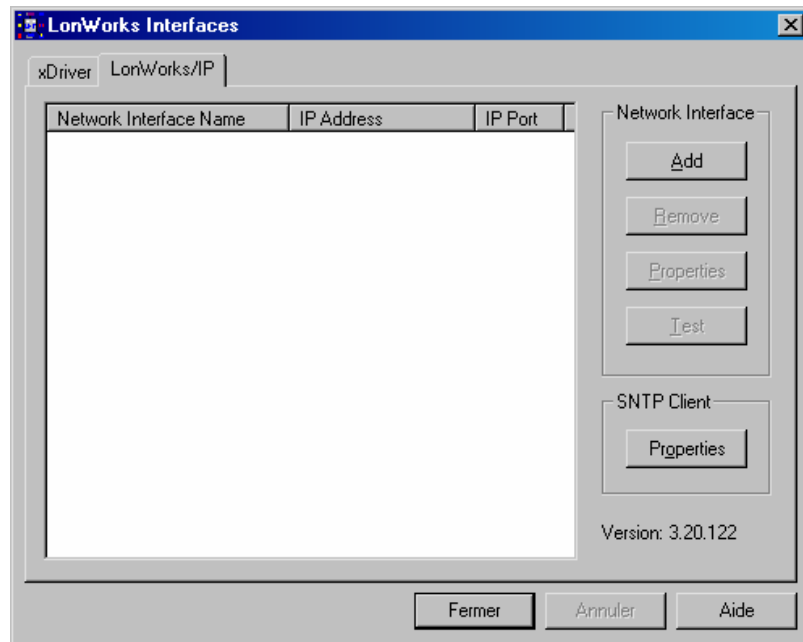


Figure 2
Adding a LonWorks IP interface

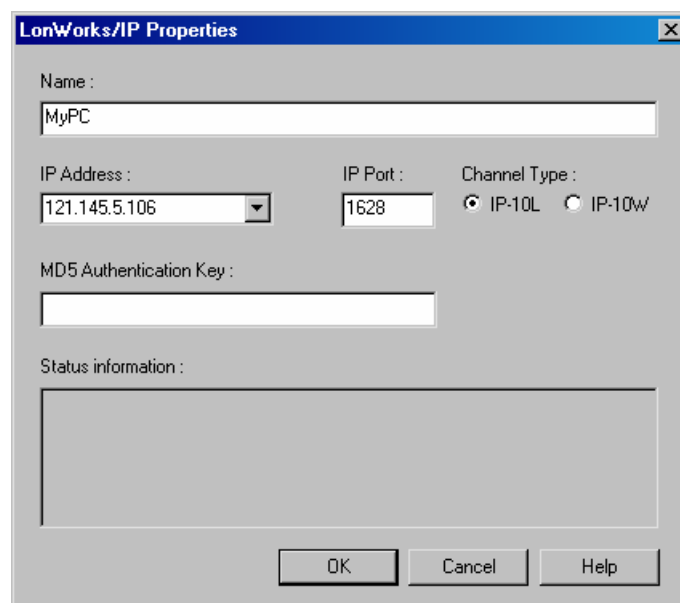


Figure 3
Setting the IP address on LonWorks interface

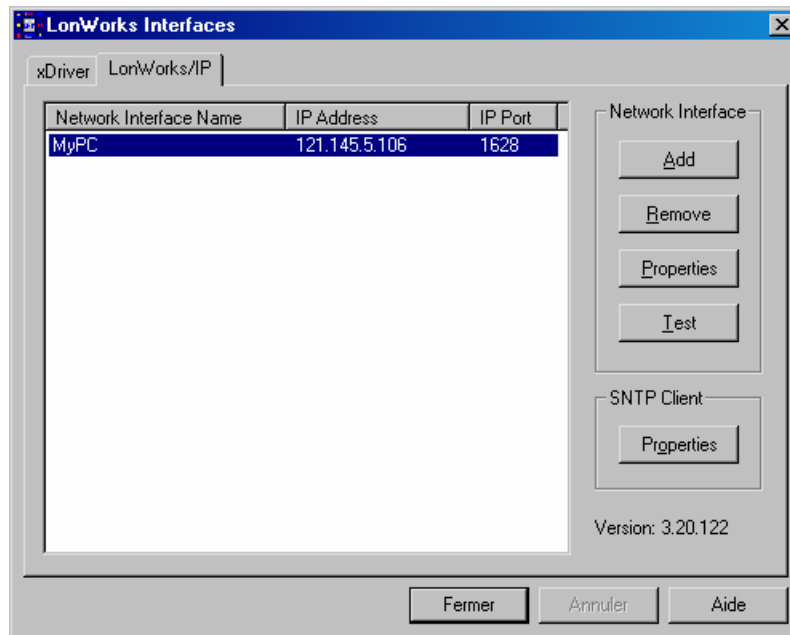


Figure 4
« MyPC » interface is created on the pc.

1.3 LAUNCHING NL220 ON THE IP INTERFACE

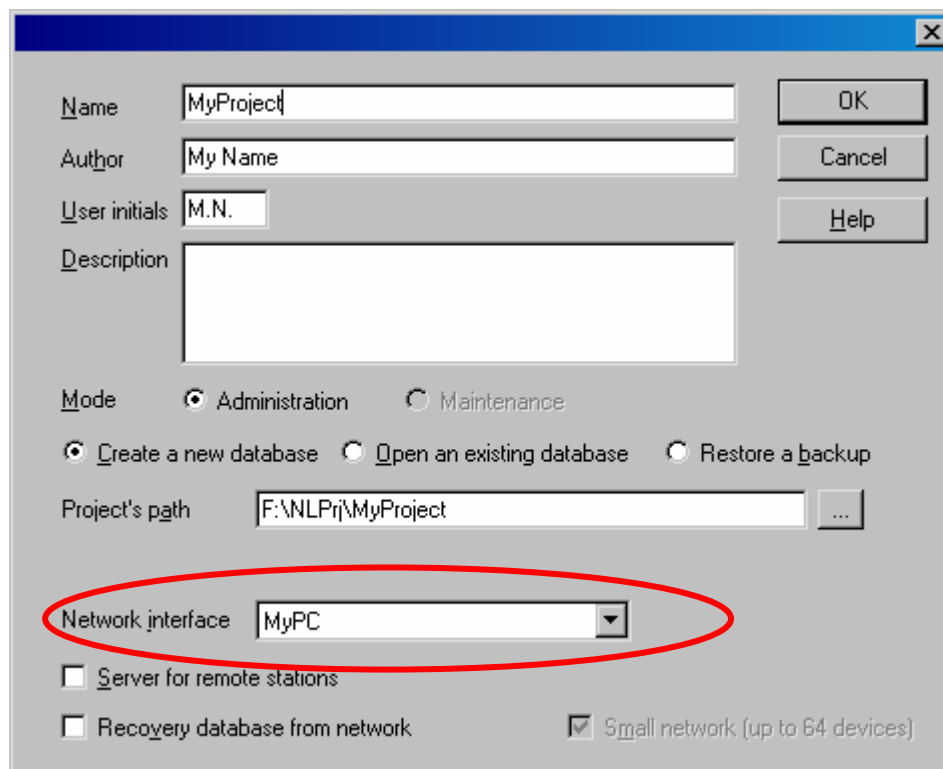


Figure 5
Creating NL220 project with the IP interface

When the project is opened, LonWorks IP PC card must work.

1.4 ACCESSING L-IP WEB SERVER

Add the PC card as a member of of the IP Channel with L-IP's web server.

Only a **L-IP** can be **administrator** of IP Channel.

With your internet browser, you can access the home page by entering the IP adress of the L-IP. (see Figure 6)

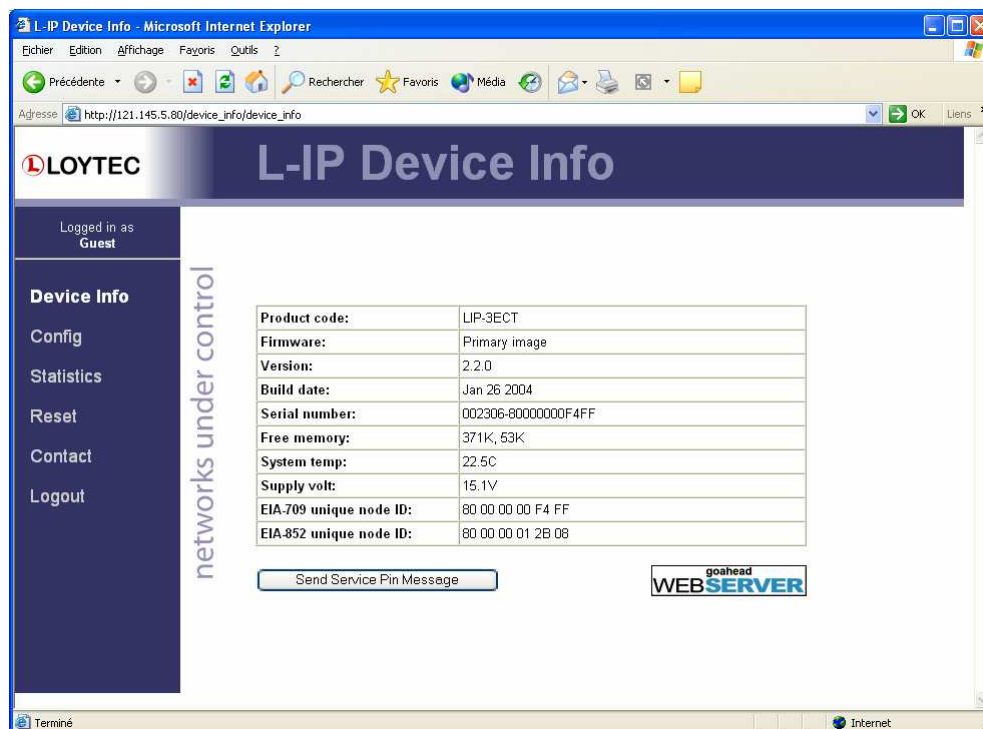


Figure 6
Home page of the L-IP Web server

1.5 SETTING IP CHANNEL ON THE L-IP

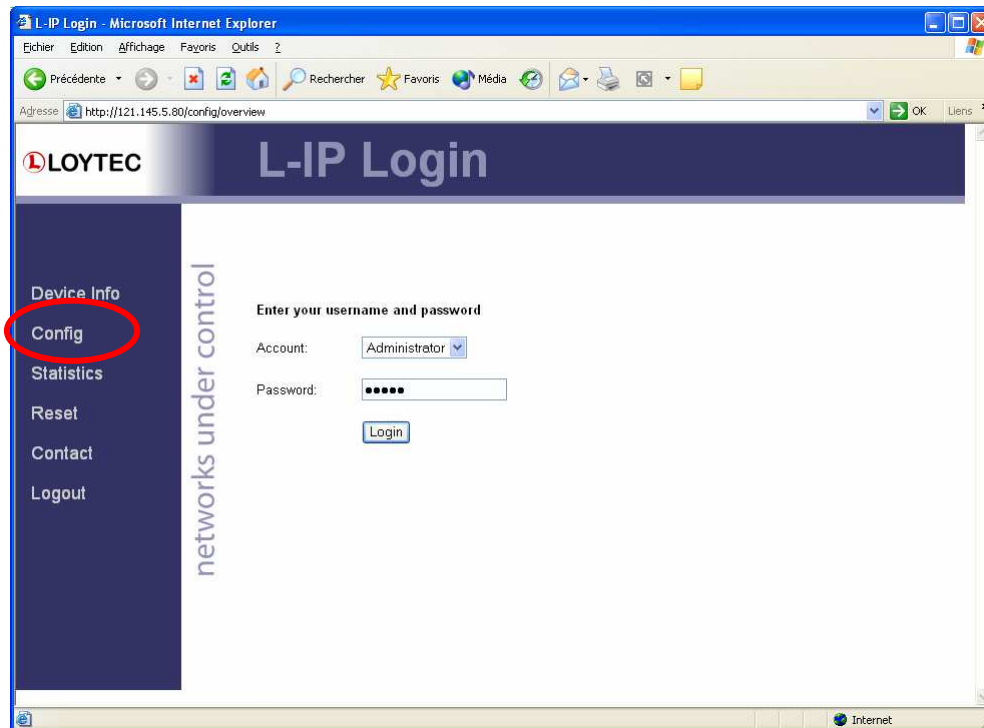


Figure 7
Configuration login

Selecting the Config button will display a connection page. Default password is “admin ». A sub menu is displayed. (see Figure 8)

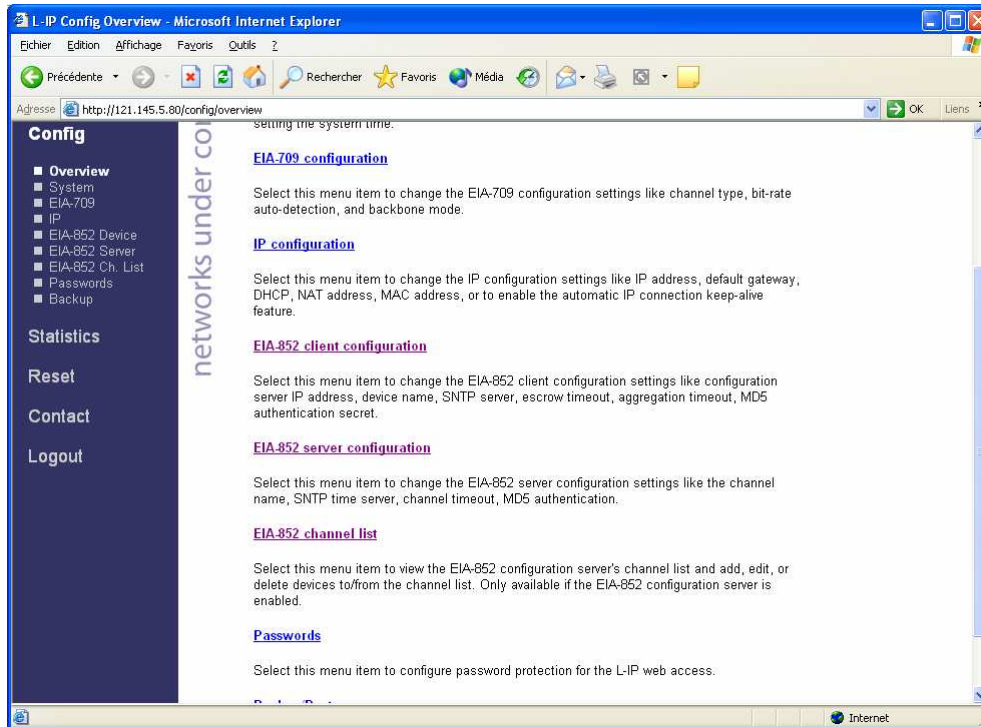


Figure 8
Configuration sub menu

Check that the L-IP is enabled as an administrator of the IP channel.

Choose the « EIA-852 server configuration » option. A new view is displayed as shown in Figure 9

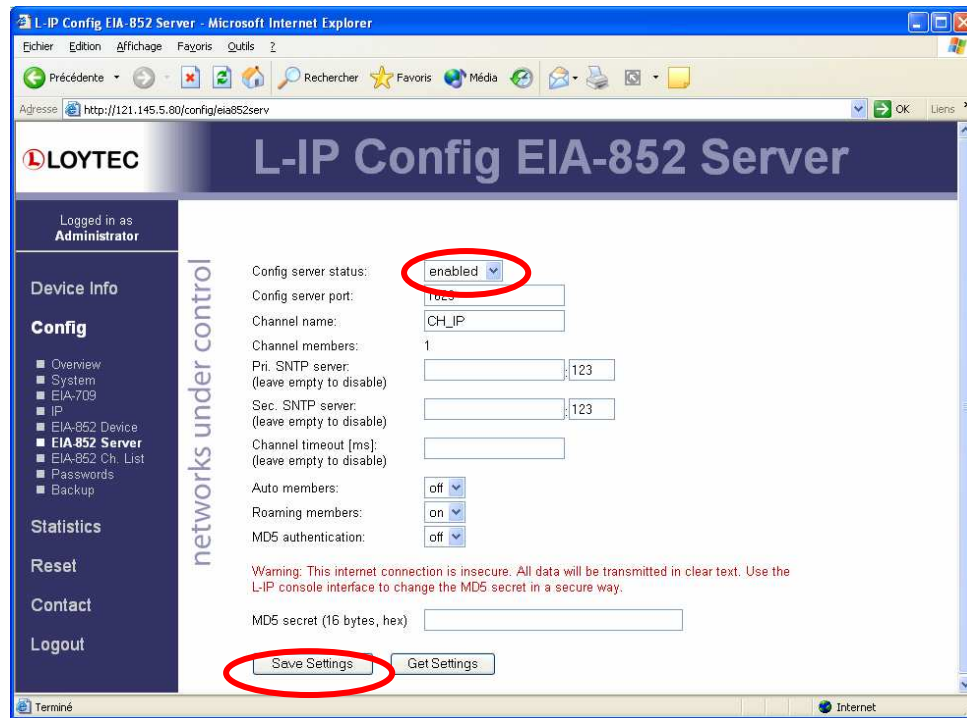


Figure 9
Setting the L-IP as administrator of the IP channel

If the Config server status field is set to « disabled », change the value and validate choice by hitting the “Save settings” button as shown on Figure 9.

To visualize and set members of the IP channel, select the « EIA-852 channel List » option. A new page shall display as seen on Figure 10.

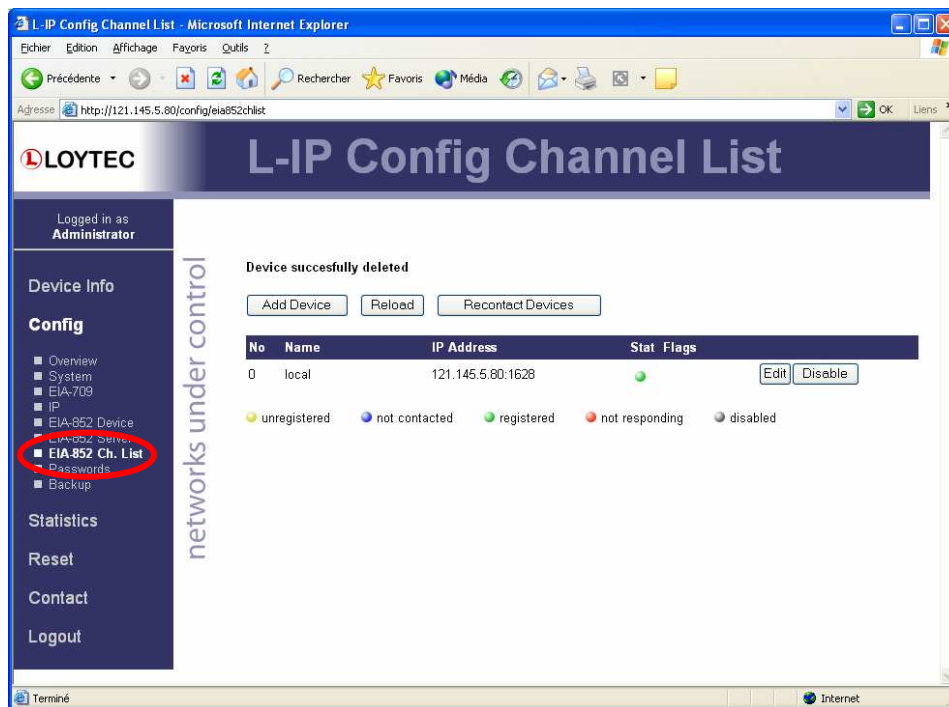


Figure 10
IP Channel members list

Add the PC IP address as a member of the IP channel.

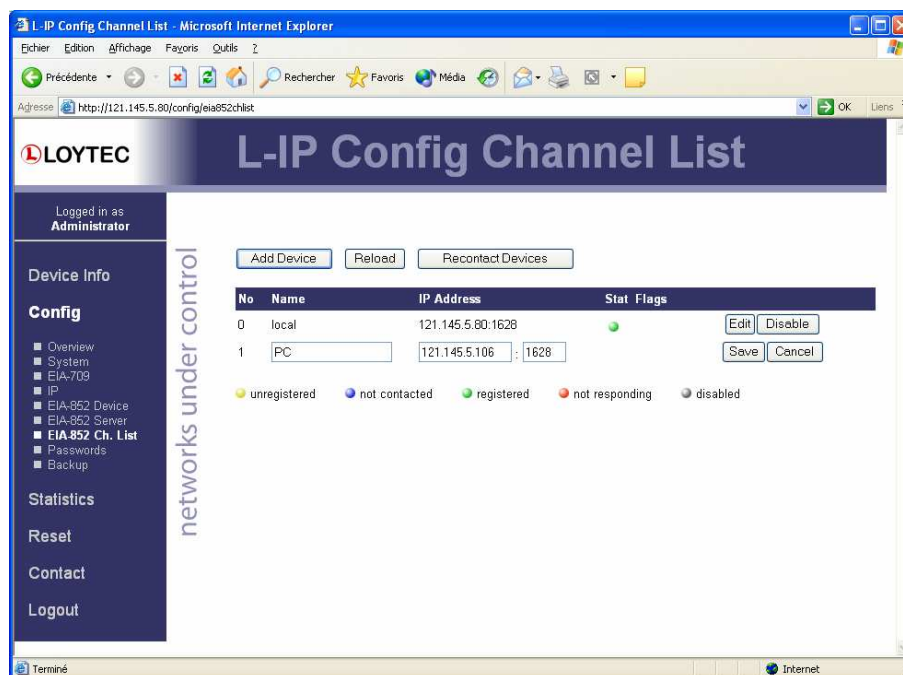




Figure 11
Adding a member in IP channel

Validate by clicking « Save » button on the member declaration line.

No	Name	IP Address	Stat	Flags
0	local	121.145.5.80:1628		<input type="button" value="Edit"/> <input type="button" value="Disable"/>
1	PC	121.145.5.106:1628		<input type="button" value="Edit"/> <input type="button" value="Delete"/> <input type="button" value="Disable"/> <input type="button" value="Stats"/>






 unregistered
  not contacted
  registered
  not responding
  disabled

Figure 12
IP channel members' status

After declaring the flag is set to « unregistered ».

If NL220 is launched with a project opened using the IP interface as shown on Figure 5, the status turns to « registered ».

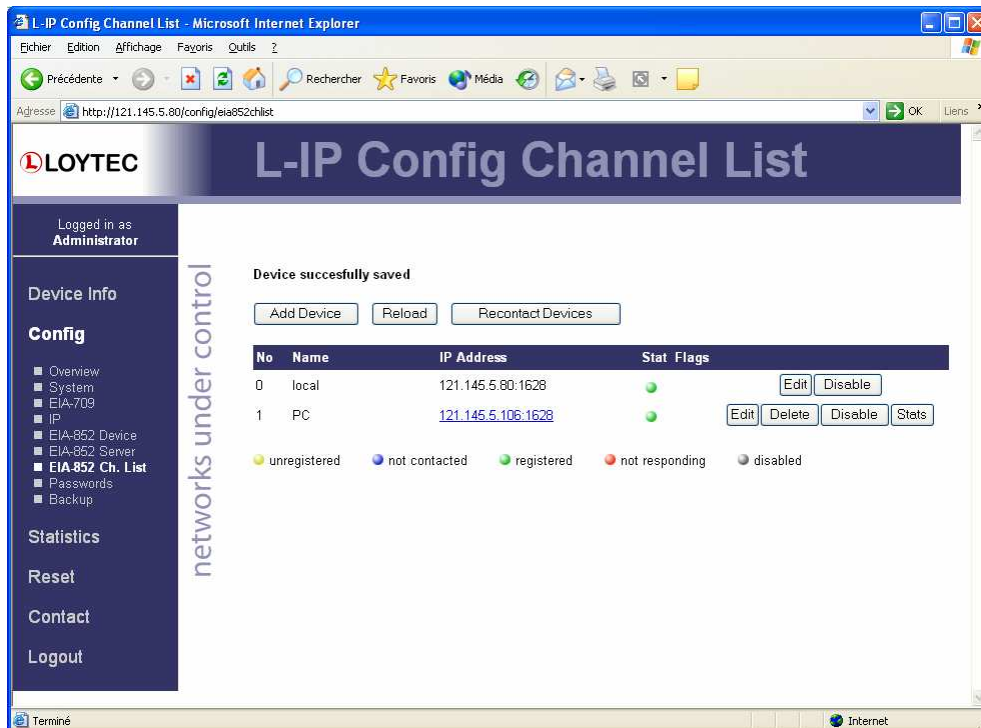


Figure 13
IP Channel IP set and ready to work



1.6 RECEIVING SERVICE PIN

Activate service pin visualization in the traces view of NL220 as shown on Figure 14.

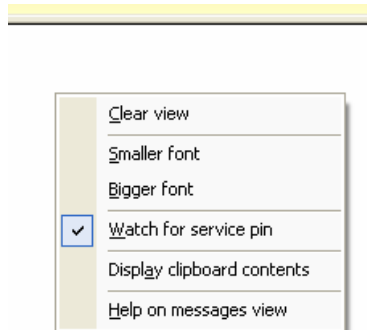


Figure 14
Activating service pin receiving traces

L-IP's service pin are displayed in the traces view.

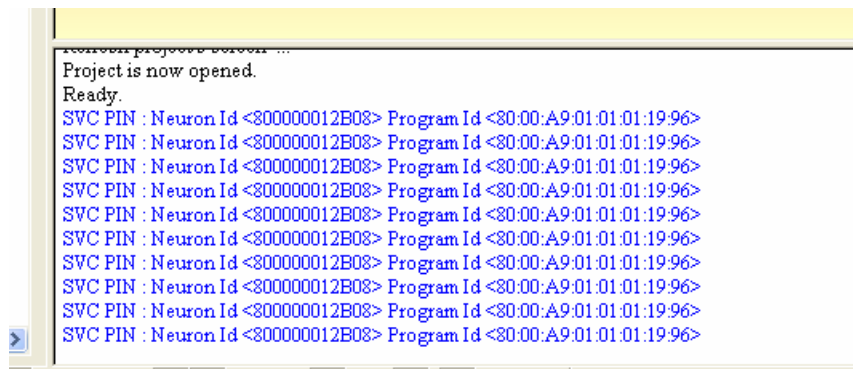


Figure 15
Service pin received

IP channel is set !



2. FOLLOWING OPÉRATIONS

2.1 INSTALLING L-IP ROUTER WITH NL220

You can now create a FTT10 or TPXF1250 channel and a router to be able to create and use LonWorks products behind the L-IP router.

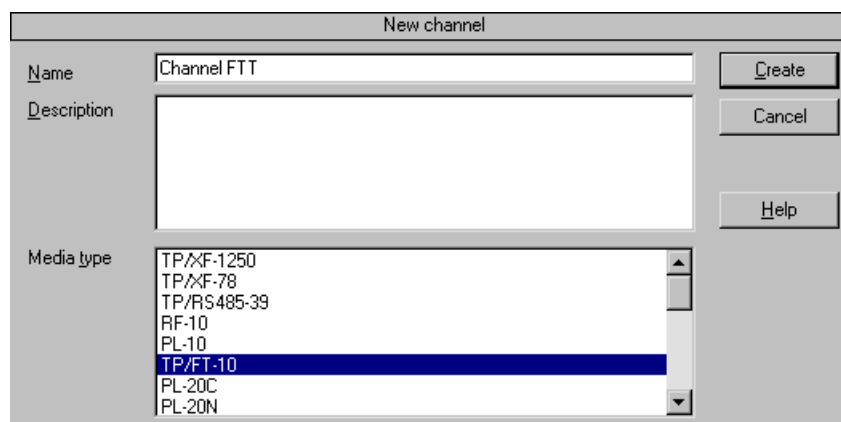


Figure 16
Creating a FTT10 channel

In the routers tree, a grid is displayed with grey and white boxes. Double click on the white box as shown on Figure 17.

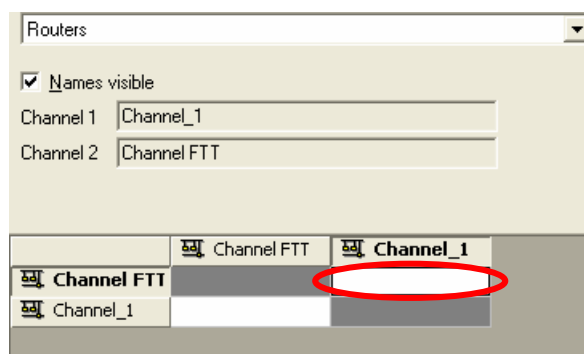


Figure 17
Routers tree

Channel_1 will be the nearest from the PC and Channel FTT, behind the router, the farthest from the PC.

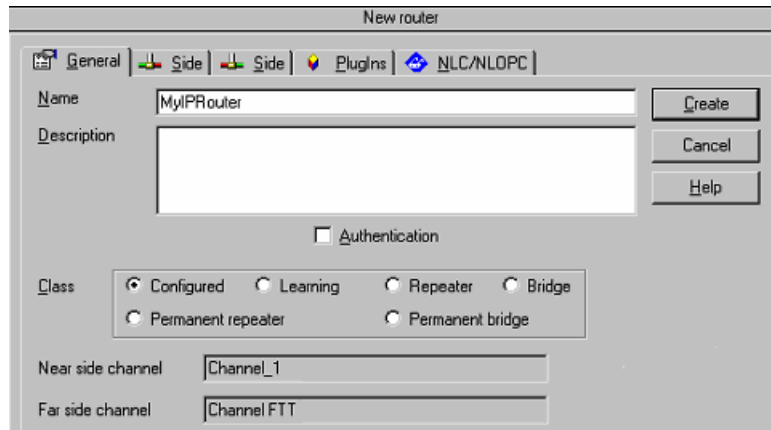


Figure 18
Defining a router window

By going back into the subsystem tree, « MyIPRouter » router is visible. Right click and choose « install ... »

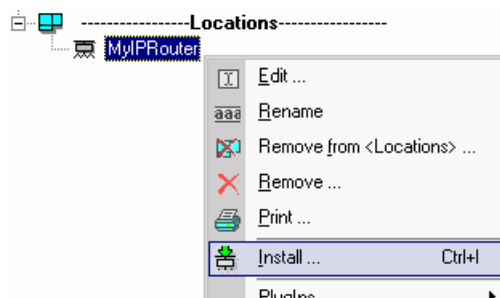


Figure 19
Router installation

After Figure 20 window is shown, just press L-IP's service pin to install it.

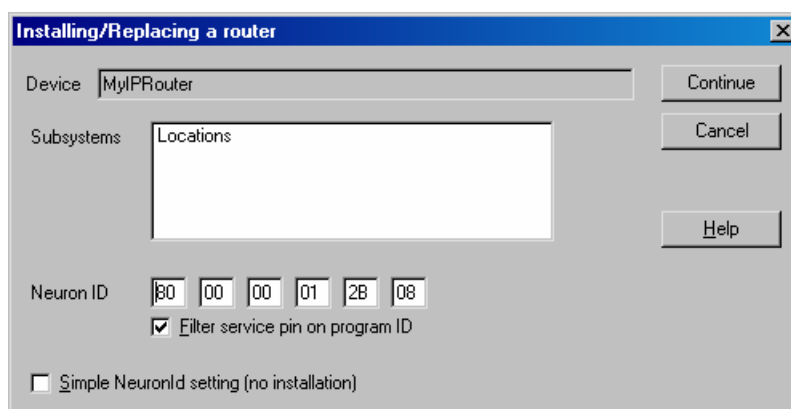


Figure 20
Retrieving Service Pin

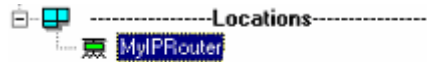


Figure 21
Router is set and installed

2.2 ADDING A SECOND L-IP ON IP CHANNEL

This second L-IP must be a member of the IP channel and its administrative functionalities not in local but on the Configuration Server L-IP.

With the web browser, at the second L-IP address, check or deactivate administrative functionality of the IP channel. (voir Figure 22)

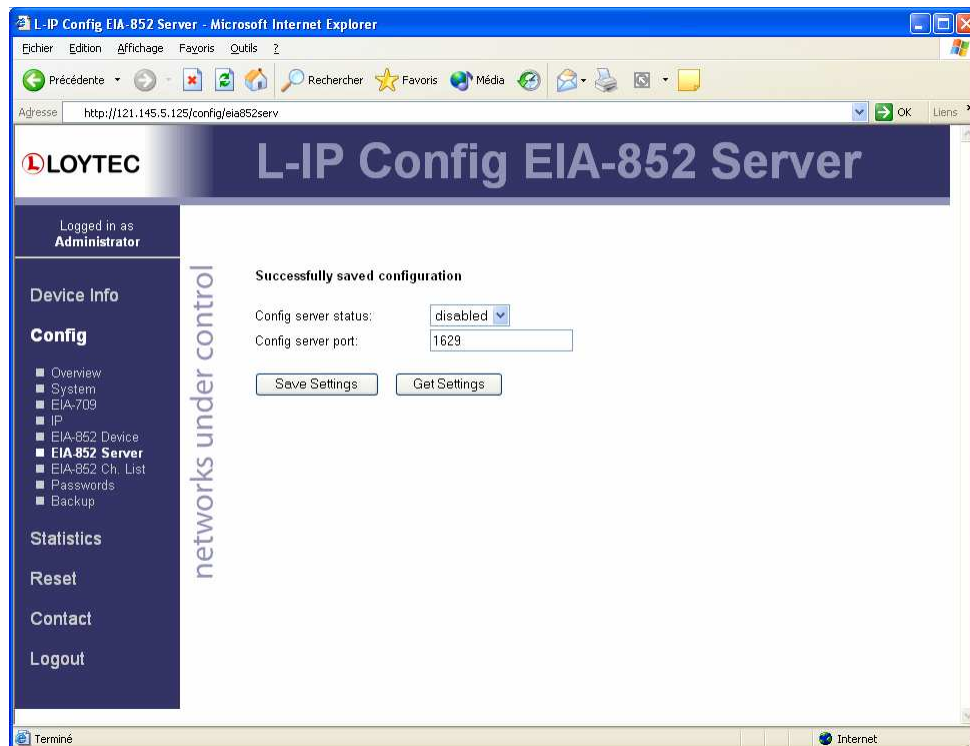


Figure 22
IP channel administration deactivated

Set or check IP channel administrator address as shown on Figure 23.

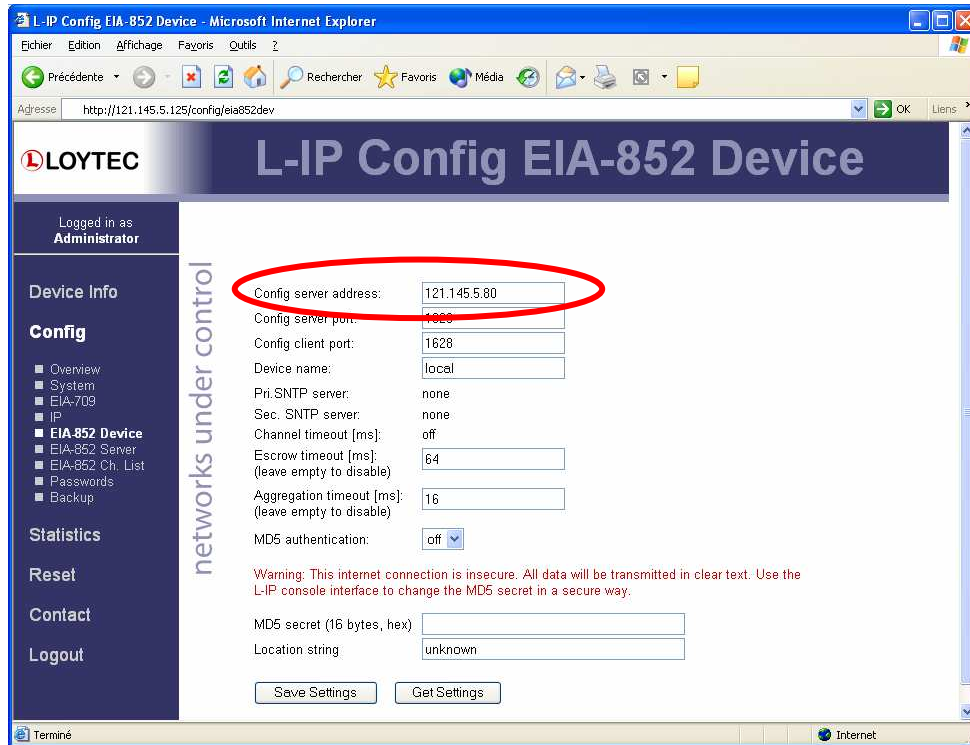


Figure 23
Check and set Channel IP administrator address

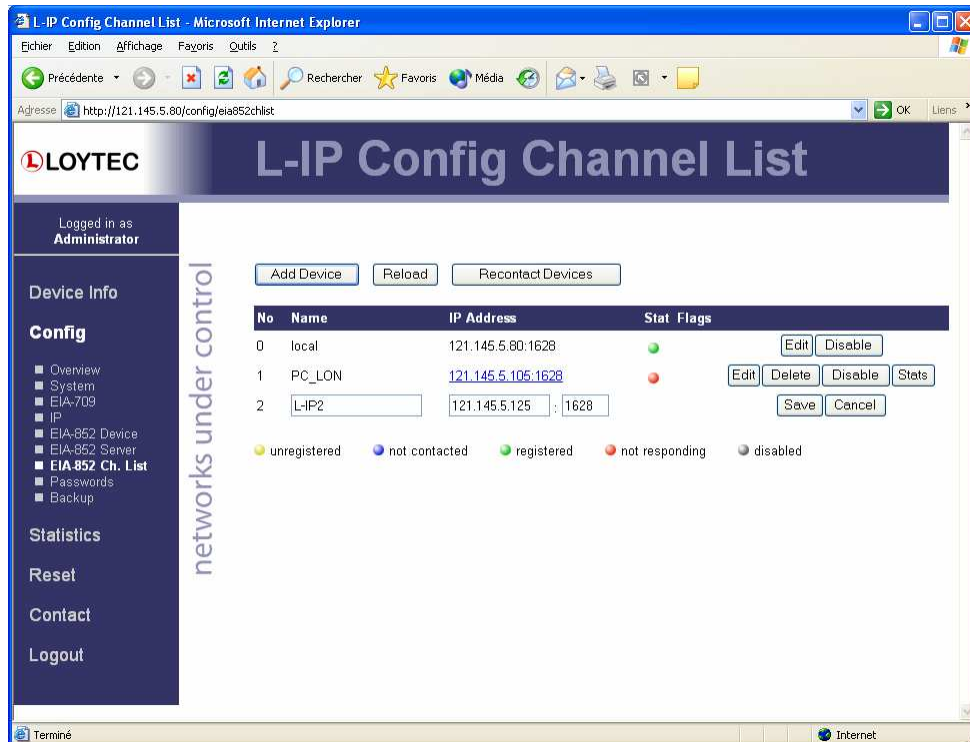


Figure 24
Adding a second L-IP on IP channel administrator

Rk : PC status is red when it has already communicated with the administrator at that NL220 is not active anymore.

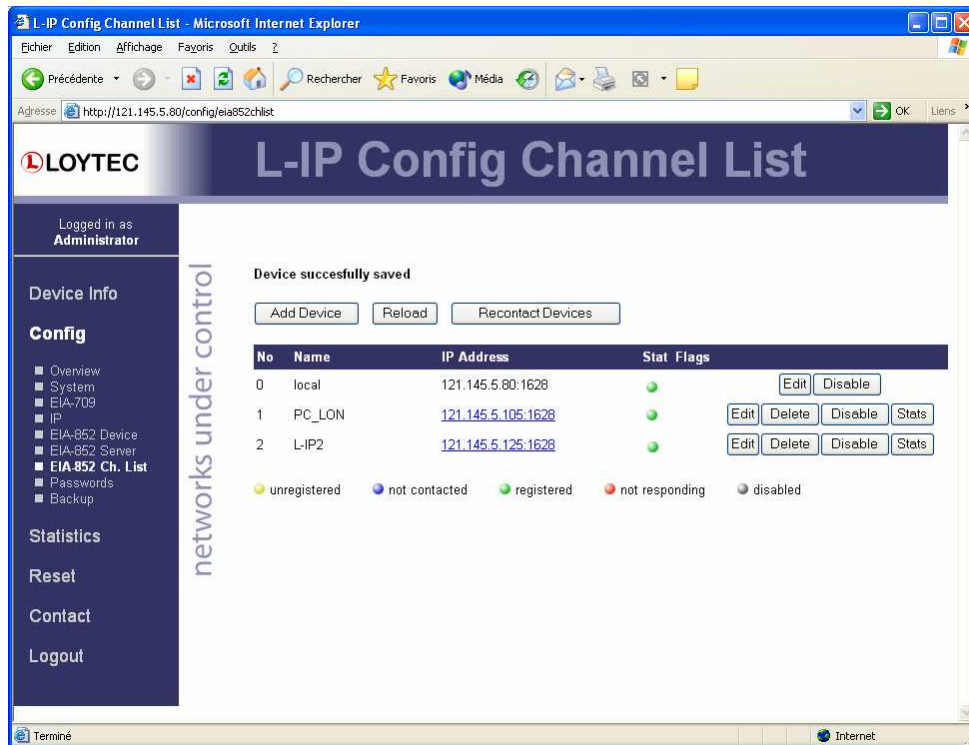


Figure 25
IP channel with three set members



3. COMPLEMENTARY INFORMATION

3.1 ETHERNET PLUGING

All equipments must be plugged on the same Ethernet network through a hub or a switch.

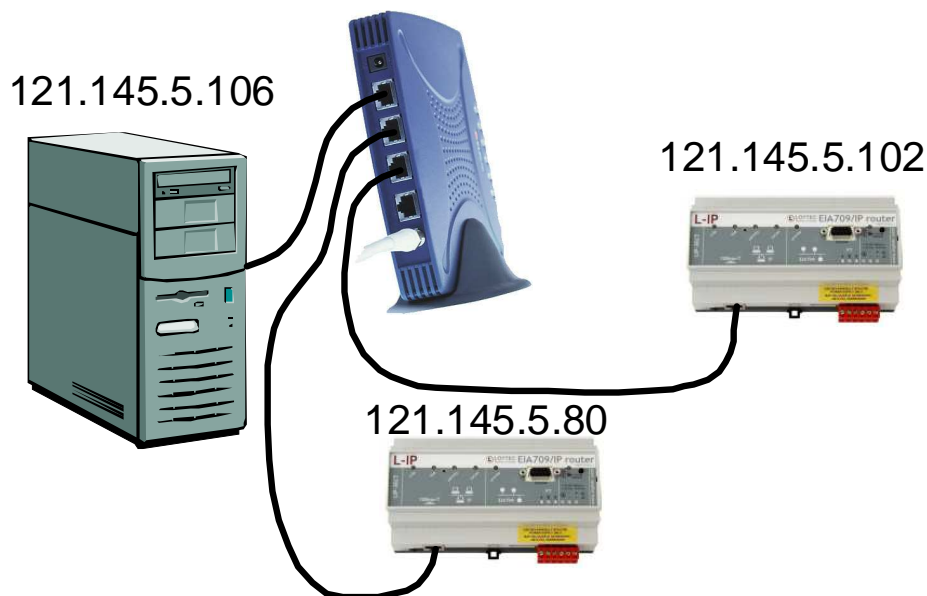


Figure 26
Plugging Ethernet products

Each product must have a unique address on the Ethernet network. Equipments must have compatible addresses :

121.145.5.106, 121.145.5.102, 121.145.5.80 or,
192.168.1.254, 192.168.1.252, 192.168.1.250 etc.

3.2 RS232 PLUGGING WITH L-IP

You have to plug the L-IP's RS232 with « Hyperterminal » by configuring the serial link to 38400 Bauds, 8 bits, without parity and without flow control.

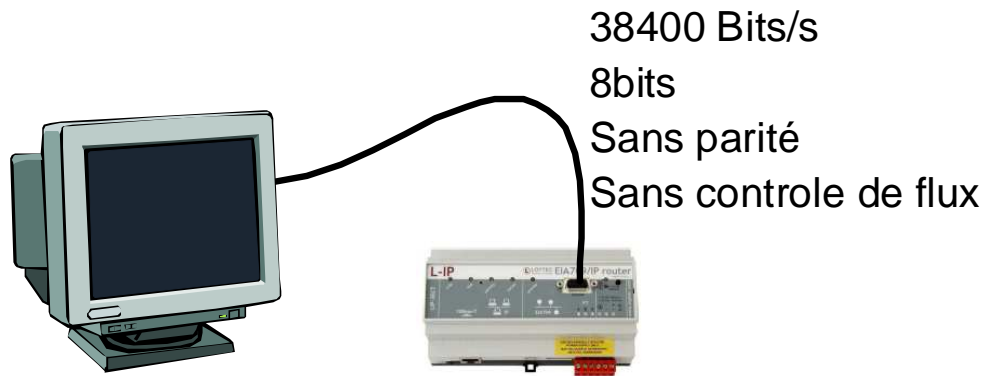


Figure 27
RS232 L-IP plugging

3.2.1 L-IP HYPERTERMINAL CONFIGURATION

Launch hyperterminal and enter a name for the connection.

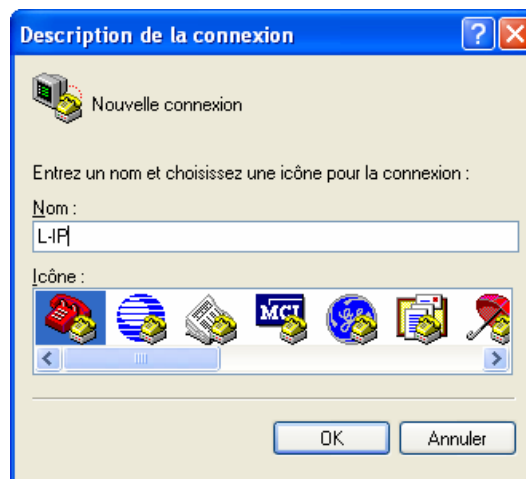


Figure 28
Connection name

Choose serial port on the PC plugged.



Figure 29
Choix du port de communication

Set the link as shown on Figure 30.

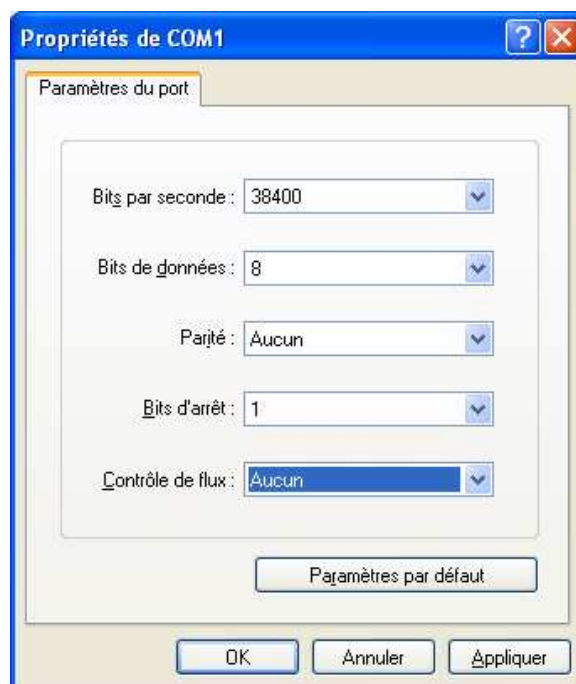


Figure 30
L-IP port configuration



When powering L-IP, a menu is displayed.

```
LOYTEC electronics GmbH
www.loytec.com

L-IP Configuration Menu
=====

[1] Show device information
[2] Serial firmware upgrade
[3] System configuration
[4] EIA-709 configuration
[5] IP configuration
[6] EIA-852 device configuration
[7] EIA-852 server configuration
[8] Reset configuration (factory defaults)
[9] Device statistics
[0] Reset device

Please choose:
```

Figure 31
Console main screen

3.3 L-IP IP ADDRESS CHANGE

To set the IP address, choose option 5 of the main menu.

```
IP Configuration Menu
=====

[1] DHCP/BOOTP      : disabled
[2] IP Address      : 192.168.1.254
[3] IP Netmask      : 255.255.255.0
[4] IP Gateway      : 192.168.1.1
[5] Hostname        : newlip
[6] Domainname      :
[7] DNS Servers     : none
[8] NAT Address     : Auto (no NAT)
[9] MAC Address     : 00 0A B0 01 00 1D (factory default)
[0] Multicast Address : none
[a] Connection Keep Alive : disabled

[q] Quit without saving
[x] Exit and save

Please choose:
```

Default values are indicated by the figure above. To modify IP address, choose option 2 and set the address you want for instance : 121.145.5.80.

Leave by pressing « x ».

Launch option 0 (Reset device) of main menu to activate configuration modifications.



3.4 IP ADRESS TESTING

You can test IP addresses compatibility with « ping » tool.

To launch ping, open a command window as shown on Figure 32.

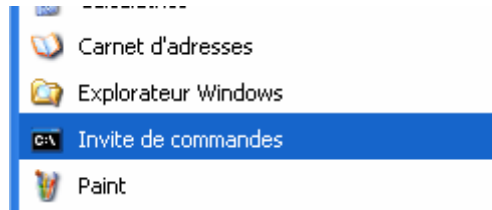


Figure 32
Command window tool

You can also launch it through « Start / Execute... »

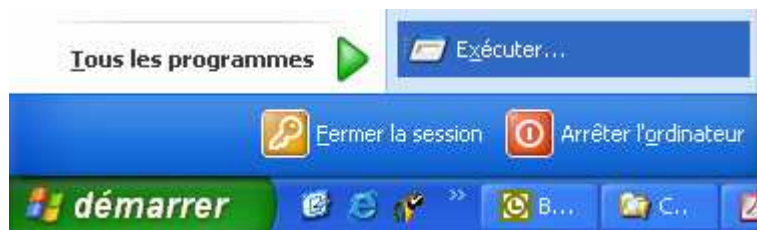


Figure 33
Launching an application

Type « **command.com** » in the dialog box as shown on Figure 34.

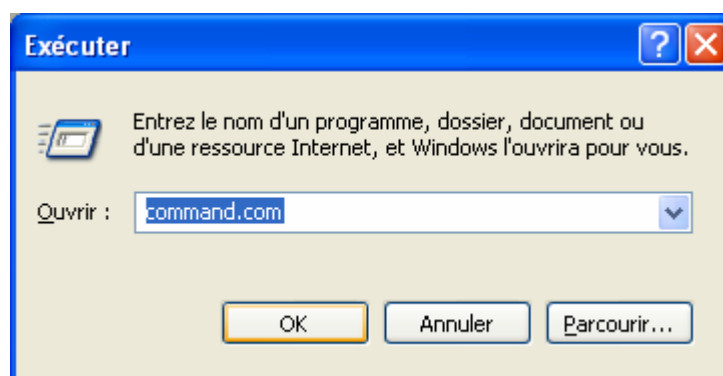


Figure 34
Launching the command window

The command window shall open as shown thereafter.

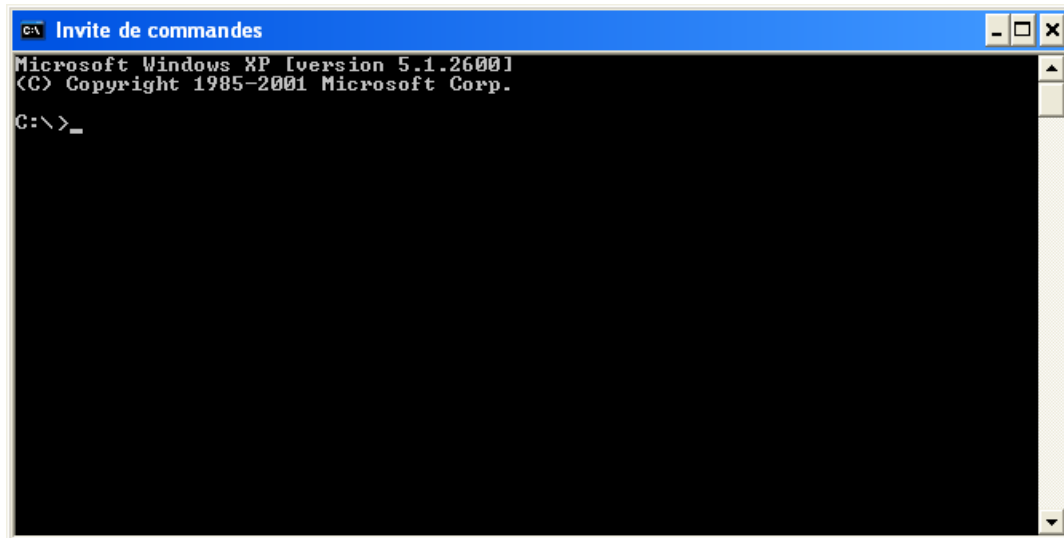


Figure 35
Command window

Type : ping 121.145.5.80 and watch for answers.

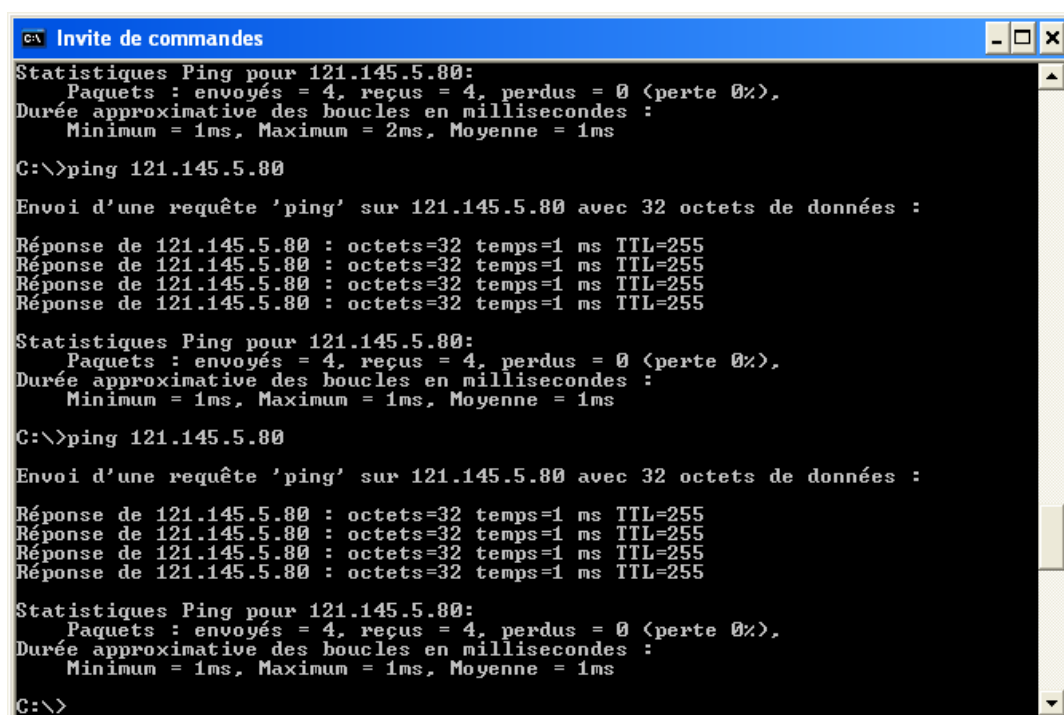
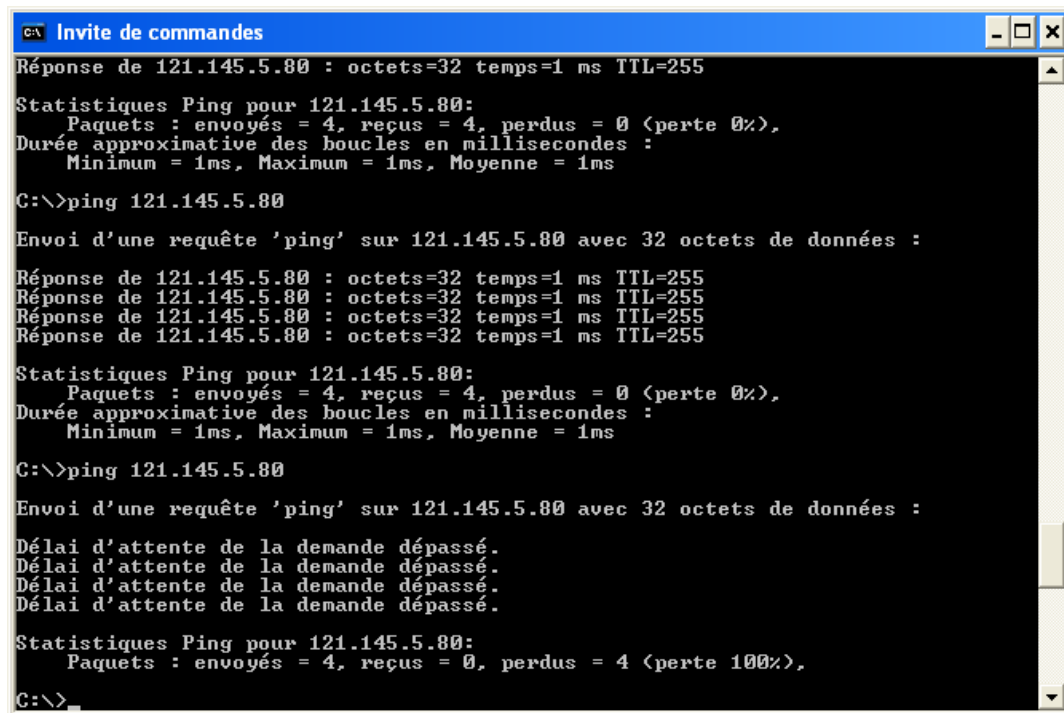


Figure 36
Successful Ping



```
C:\ Invite de commandes
Réponse de 121.145.5.80 : octets=32 temps=1 ms TTL=255
Statistiques Ping pour 121.145.5.80:
  Paquets : envoyés = 4, reçus = 4, perdus = 0 (perte 0%),
  Durée approximative des boucles en millisecondes :
    Minimum = 1ms, Maximum = 1ms, Moyenne = 1ms
C:\>ping 121.145.5.80
Envoi d'une requête 'ping' sur 121.145.5.80 avec 32 octets de données :
Réponse de 121.145.5.80 : octets=32 temps=1 ms TTL=255
Réponse de 121.145.5.80 : octets=32 temps=1 ms TTL=255
Réponse de 121.145.5.80 : octets=32 temps=1 ms TTL=255
Réponse de 121.145.5.80 : octets=32 temps=1 ms TTL=255
Statistiques Ping pour 121.145.5.80:
  Paquets : envoyés = 4, reçus = 4, perdus = 0 (perte 0%),
  Durée approximative des boucles en millisecondes :
    Minimum = 1ms, Maximum = 1ms, Moyenne = 1ms
C:\>ping 121.145.5.80
Envoi d'une requête 'ping' sur 121.145.5.80 avec 32 octets de données :
Délai d'attente de la demande dépassé.
Délai d'attente de la demande dépassé.
Délai d'attente de la demande dépassé.
Délai d'attente de la demande dépassé.
Statistiques Ping pour 121.145.5.80:
  Paquets : envoyés = 4, reçus = 0, perdus = 4 (perte 100%),
C:\>
```

Figure 37
Ping error