

**NEWRON
SYSTEM**

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Using L IPs with NLSuite tools

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1. QUICK CONFIGURATION

1.1 STARTING HYPOTHÈSIS

- You have plugged and set all your equipments on the Ethernet. (see § 3.1)
- You know IP adresses 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** »



Figure 1
Launching LonWorks I

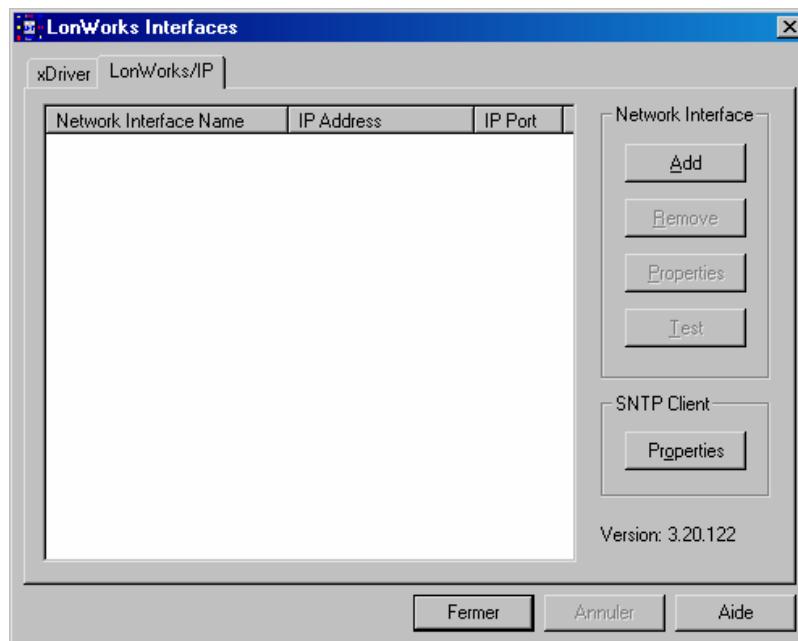


Figure 2
Adding a LonWorks IP interface

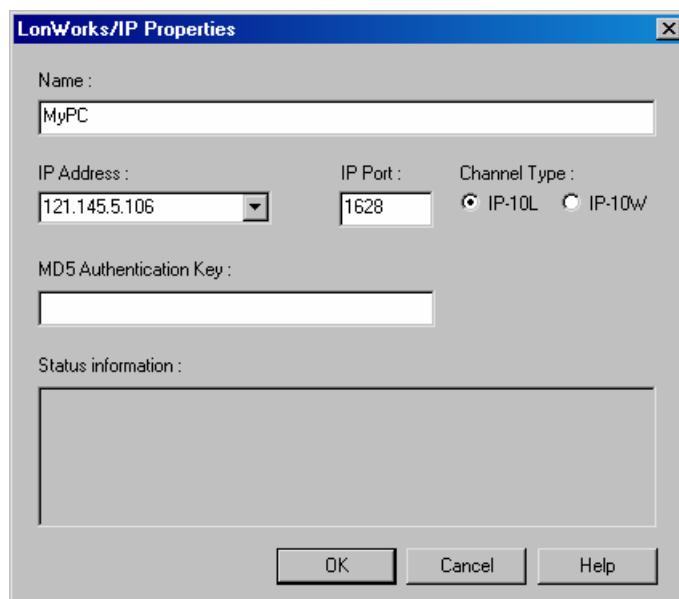


Figure 3
Setting the IP address on LonWorks interface

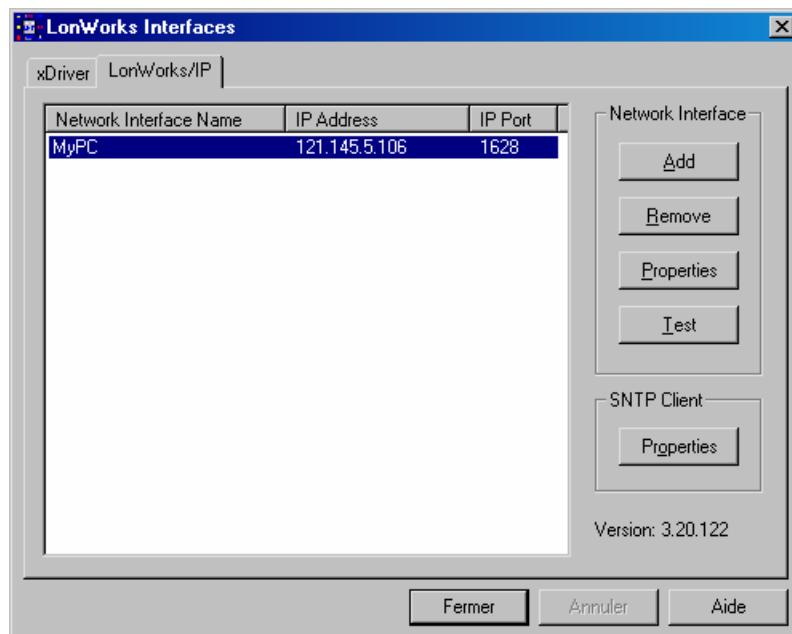


Figure 4
« MyPC » interface is created on the pc.

1.3 LAUNCHING NL220 ON THE IP INTERFACE

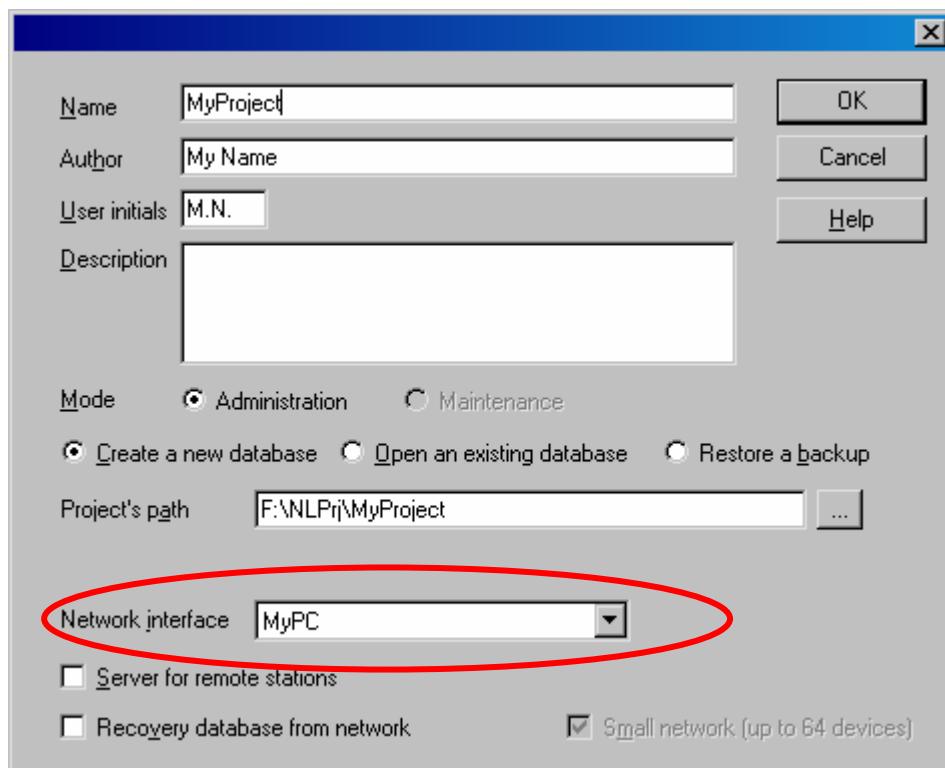


Figure 5
Creating NL220 project with the IP interface



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)

The screenshot shows a Microsoft Internet Explorer window displaying the 'L-IP Device Info' page. The title bar reads 'L-IP Device Info - Microsoft Internet Explorer'. The address bar shows 'http://121.145.5.80/device_info/device_info'. The page itself has a dark blue header with the 'LOYTEC' logo and the title 'L-IP Device Info'. On the left, there is a sidebar with a dark blue background containing the text 'Logged in as Guest' and a navigation menu with links: 'Device Info', 'Config', 'Statistics', 'Reset', 'Contact', and 'Logout'. The main content area is titled 'networks under control' and contains a table of device information. The table has two columns:

Product code:	LIP-3ECT
Firmware:	Primary image
Version:	2.2.0
Build date:	Jan 26 2004
Serial number:	002306-80000000F4FF
Free memory:	371K, 53K
System temp:	22.6C
Supply volt:	15.1V
EIA-709 unique node ID:	80 00 00 00 F4 FF
EIA-852 unique node ID:	80 00 00 01 2B 08

At the bottom of the page, there are two buttons: 'Send Service Pin Message' and 'WEB SERVER' which includes the 'goahead' logo. The status bar at the bottom of the browser window shows 'Terminé' and 'Internet'.

Figure 6
Home page of the L-IP Web server

1.5 SETTING IP CHANNEL ON THE L-IP

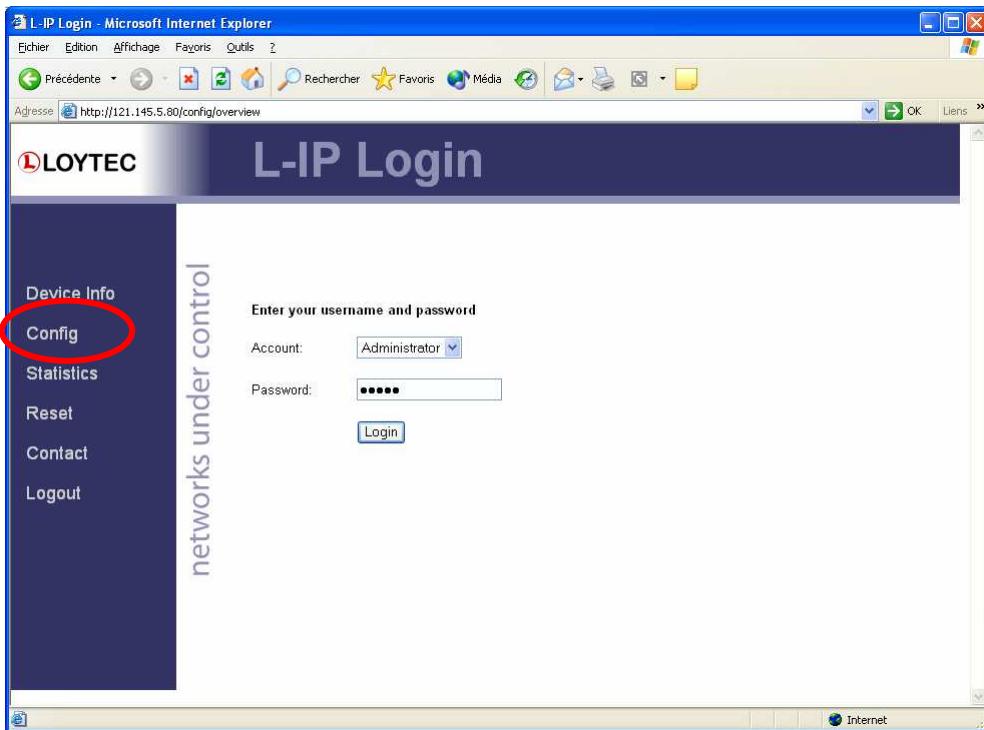


Figure 7
Configuration login

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

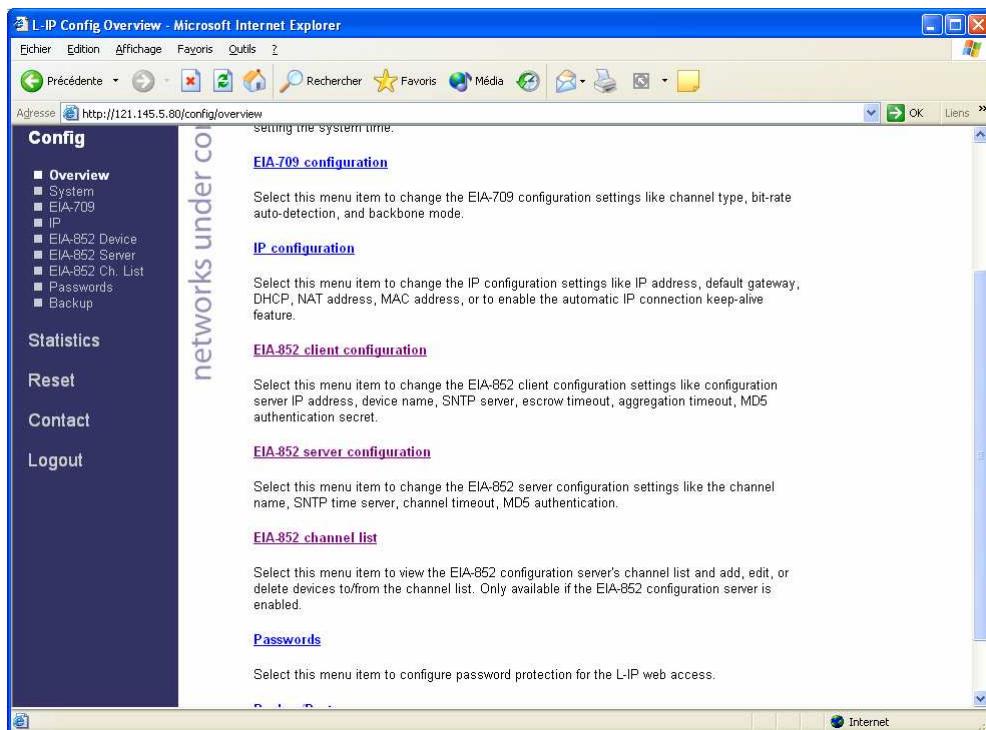


Figure 8
Configuration sub menu

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

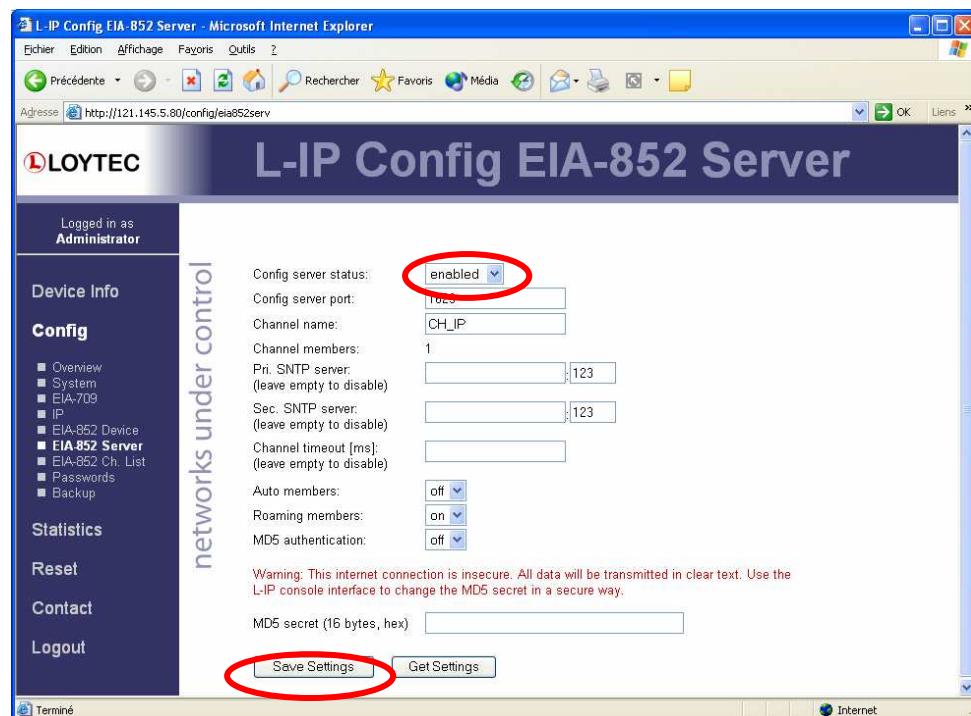


Figure 9
Setting the L-IP as administrator of the IP channel

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.

The screenshot shows a Microsoft Internet Explorer window titled "L-IP Config Channel List". The URL in the address bar is "http://121.145.5.80/config/eia852chlist". The page header includes the LOYTEC logo and the title "L-IP Config Channel List". On the left, a sidebar menu under "Config" has "EIA-852 Ch. List" selected and highlighted with a red oval. The main content area displays a table with one row, showing a successfully deleted device. The table columns are "No", "Name", "IP Address", "Stat", and "Flags". The device listed is "local" with IP "121.145.5.80:1628" and a green status indicator. Below the table are buttons for "Add Device", "Reload", and "Recontact Devices". A message box at the top right says "Device successfully deleted". A legend at the bottom defines the status colors: yellow for unregistered, blue for not contacted, green for registered, red for not responding, and grey for disabled.

Figure 10
IP Channel members list

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

The screenshot shows the same L-IP Config Channel List interface as Figure 10. The "EIA-852 Ch. List" option is still selected in the sidebar. The main content area now shows a table with two rows, indicating a new member has been added. The table columns are "No", "Name", "IP Address", "Stat", and "Flags". The first row is for the local device, and the second row is for a new entry named "PC" with IP "121.145.5.106 : 1628". The "Save" and "Cancel" buttons are visible at the bottom of the table row. The status indicators show the PC as "unregistered" (yellow). A legend at the bottom defines the status colors: yellow for unregistered, blue for not contacted, green for registered, red for not responding, and grey for disabled.

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 ».

L-IP Config Channel List - Microsoft Internet Explorer

Logged in as Administrator

Device Info

Config

- Overview
- System
- EIA-709
- IP
- EIA-852 Device
- EIA-852 Server
- EIA-852 Ch. List
- Passwords
- Backup

Statistics

Reset

Contact

Logout

Terminé

Device successfully saved

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 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.

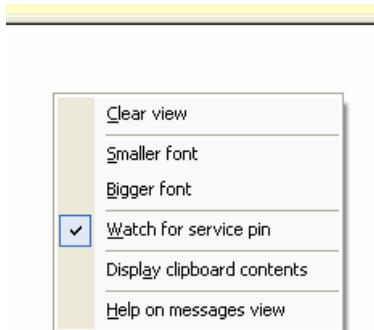


Figure 14
Activating service pin receiving traces

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

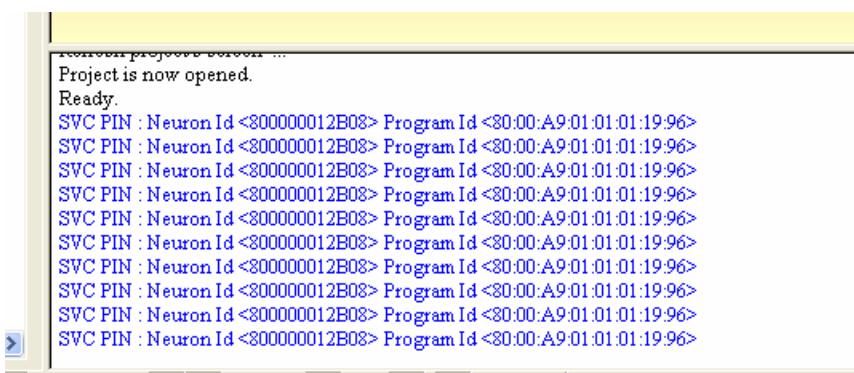


Figure 15
Service pin received

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.

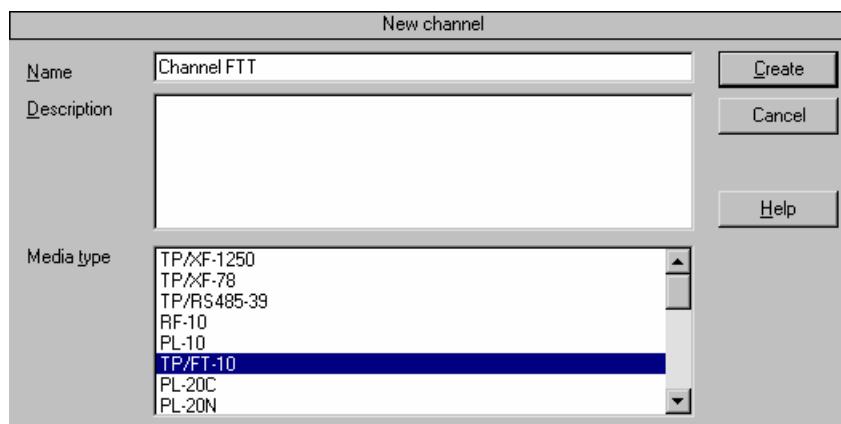


Figure 16
Creating a FTT10 channel

In the routers tree, a grid is displayed with grey and white boxes.

Double click on the white box as shown on Figure 17.

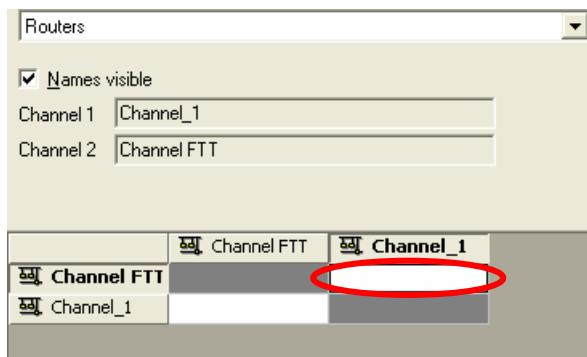


Figure 17
Routers tree

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

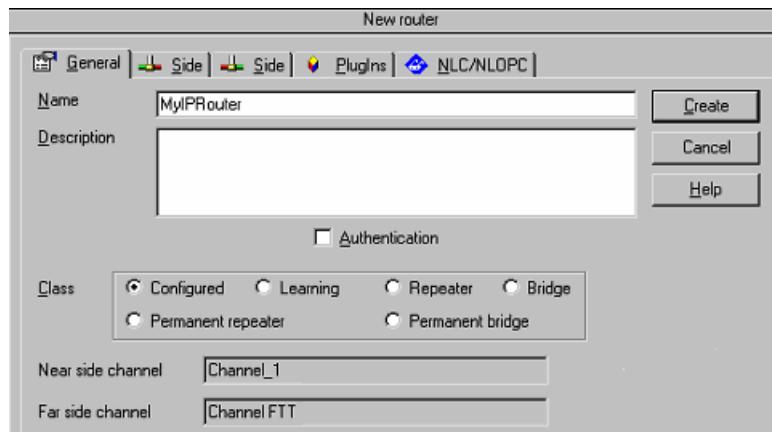


Figure 18
Defining a router window

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

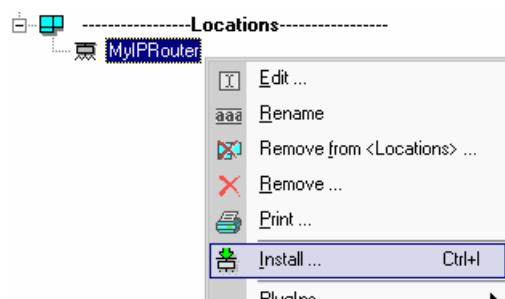


Figure 19
Router installation

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

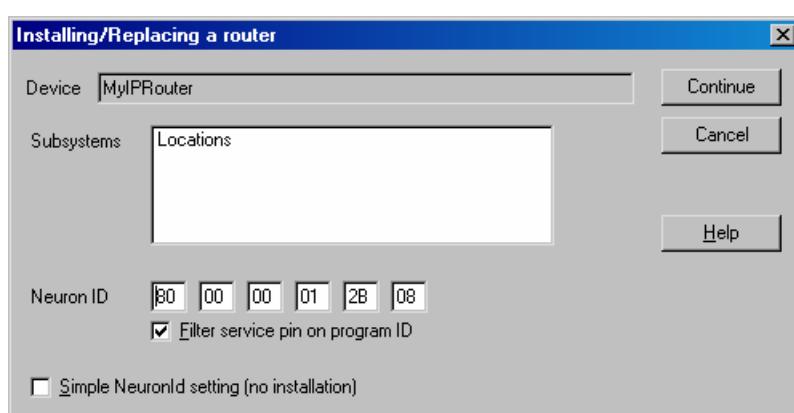


Figure 20
Retrieving Service Pin



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)

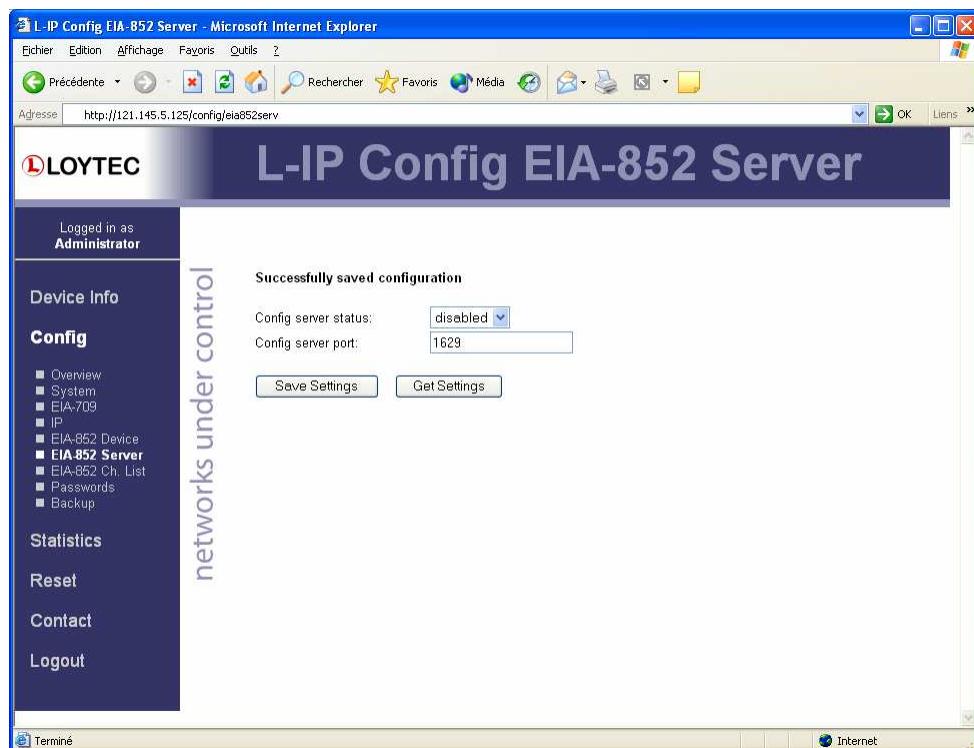


Figure 22
IP channel administration deactivated

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

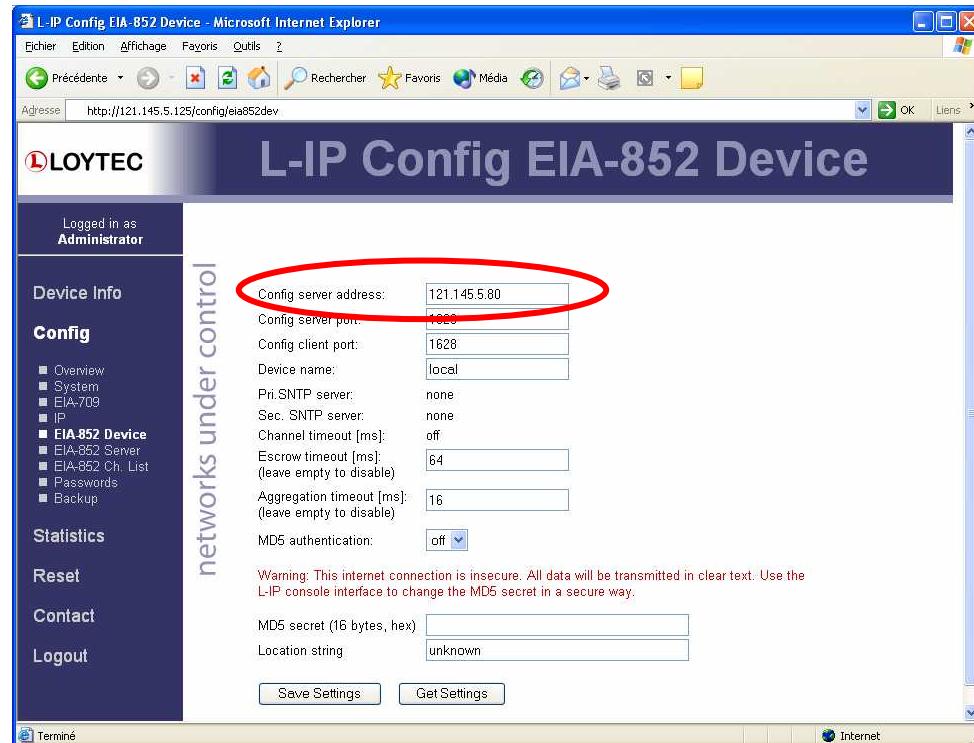


Figure 23
Check and set Channel IP administrator adress

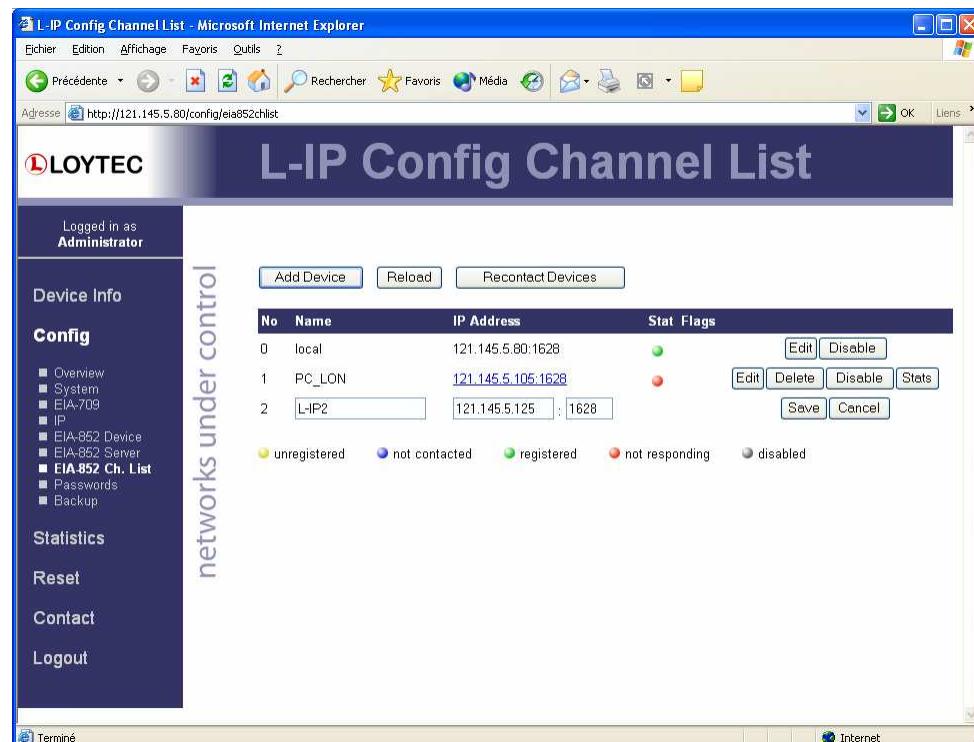


Figure 24
Adding a second L-IP on IP channel administrator

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

The screenshot shows a Microsoft Internet Explorer window titled "L-IP Config Channel List - Microsoft Internet Explorer". The address bar shows "http://121.145.5.80/config/eia852chlist". The main content area is titled "L-IP Config Channel List" and displays a table of devices under control. The table has columns for No, Name, IP Address, and Stat Flags. The table shows the following data:

No	Name	IP Address	Stat Flags
0	local	121.145.5.80:1628	● Edit Disable
1	PC_LON	121.145.5.105:1628	● Edit Delete Disable Stats
2	L-IP2	121.145.5.125:1628	● Edit Delete Disable Stats

Below the table, there are status indicators: unregistered (yellow), not contacted (blue), registered (green), not responding (red), and disabled (grey). The left sidebar shows a navigation menu with "Device Info", "Config" (selected), "Statistics", "Reset", "Contact", and "Logout". A vertical bar on the left says "networks under control". The status bar at the bottom shows "Terminé" and "Internet".

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.

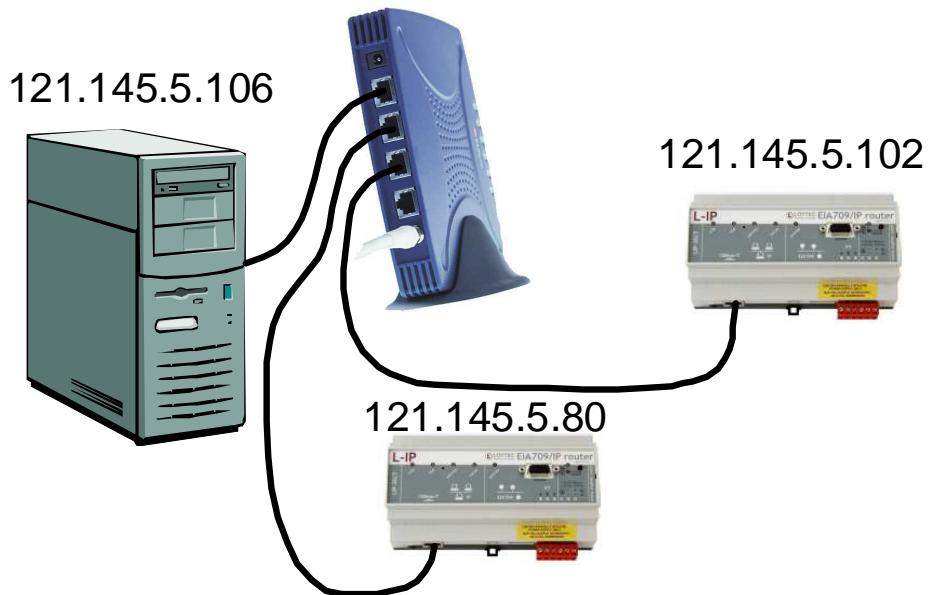


Figure 26
Plugging Ethernet products

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.

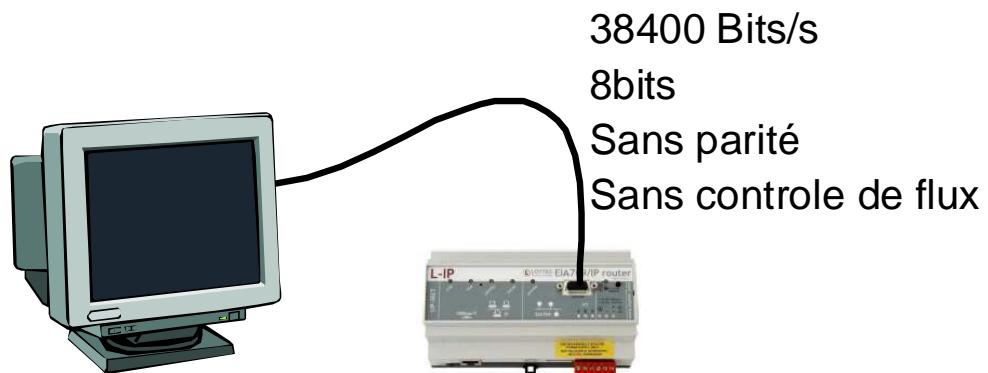


Figure 27
RS232 L-IP plugging

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.

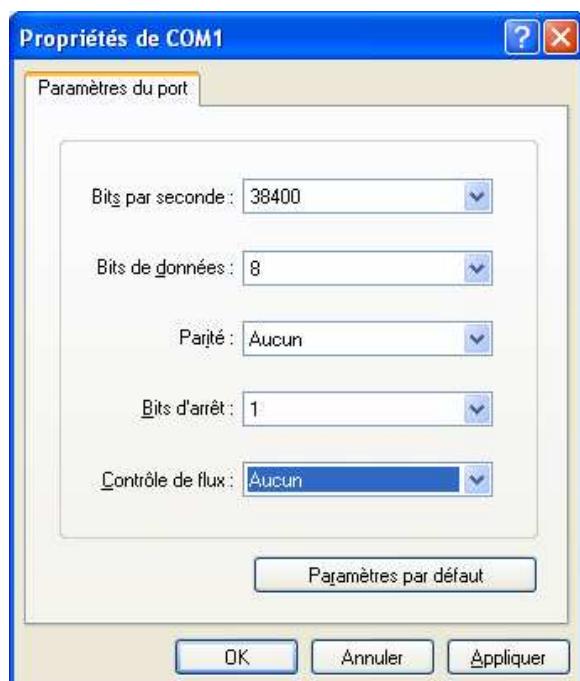


Figure 30
L-IP port configuration



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 ADDRESS TESTING

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

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

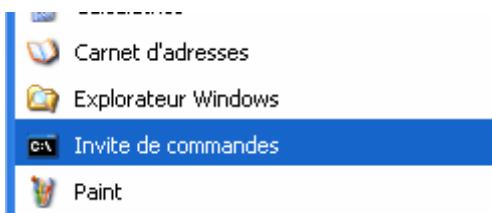


Figure 32
Command window tool

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

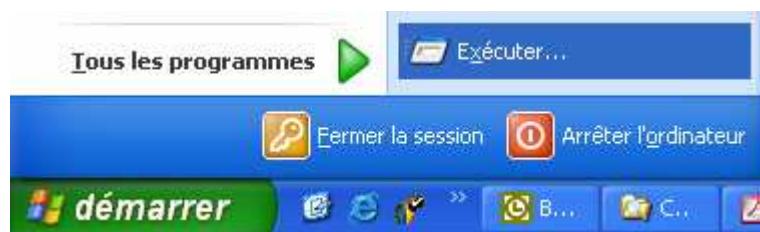


Figure 33
Launching an application

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

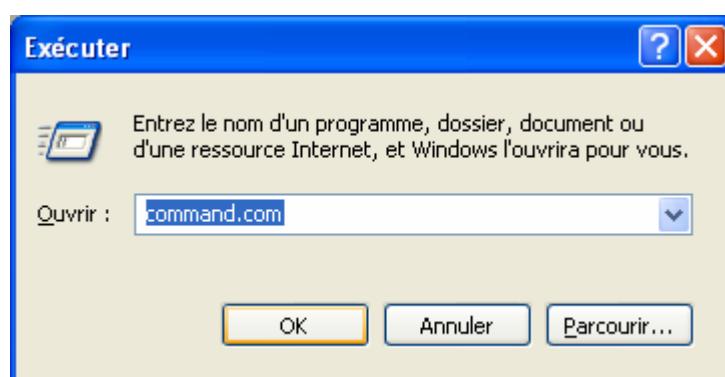


Figure 34
Launching the command window

The command window shall open as shown thereafter.

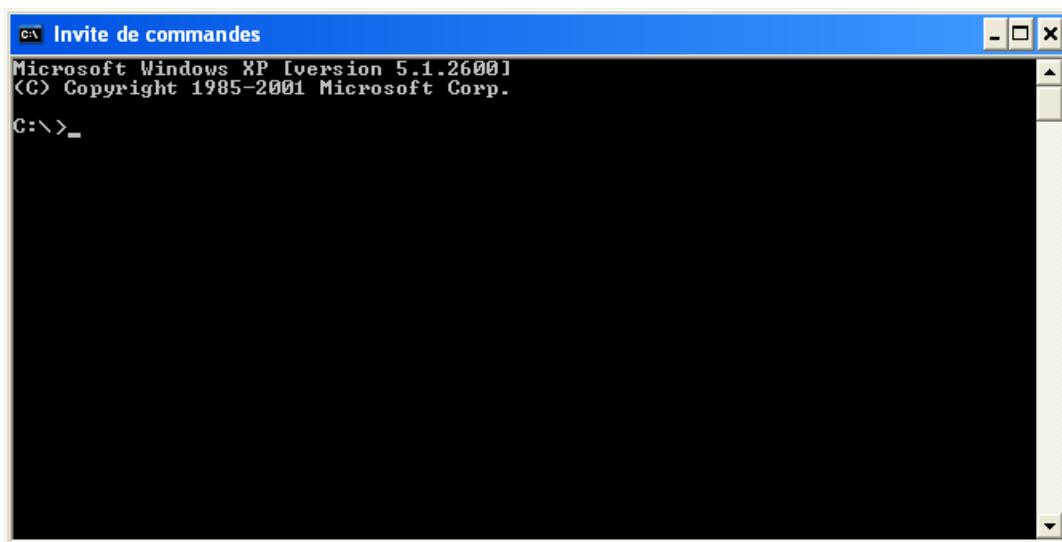


Figure 35
Command window

Type : ping 121.145.5.80 and watch for answers.

```
Invite de commandes
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 = 2ms, 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

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

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:\>
```

Figure 36
Successful Ping



```
C:\ Invité 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
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.
Statistiques Ping pour 121.145.5.80:
    Paquets : envoyés = 4, reçus = 0, perdus = 4 <perte 100%>,
C:\>
```

Figure 37
Ping error