NL220
MANUAL

NEWRON SYSTEM
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SUMMARY

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INTRODUCTION

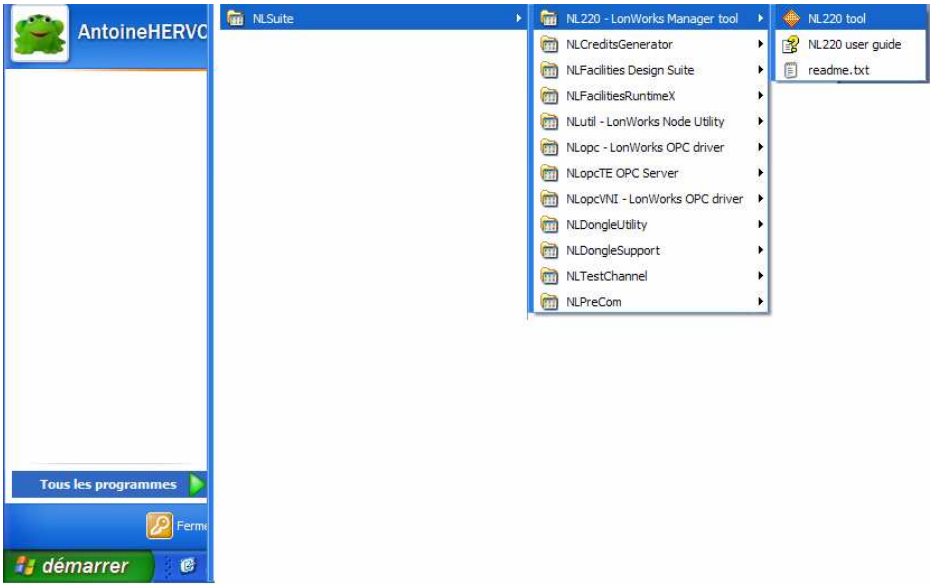
Thank you for choosing NL220 software member of NLSuite.

We are happy to help you in your LonWorks integration job. All softwares of NLSuite are often updated for correcting bugs and improve performances. We propose to you to check version on Web site www.newron-system.com.

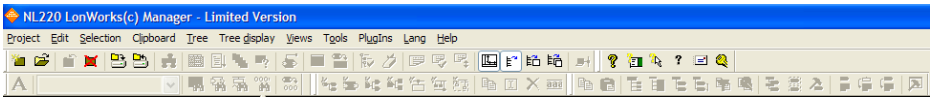
STARTING NL220

To use the NL220 in 'complete' mode, the protection dongle must be plugged on the pc before launching the program.

NL220 starts by activating :

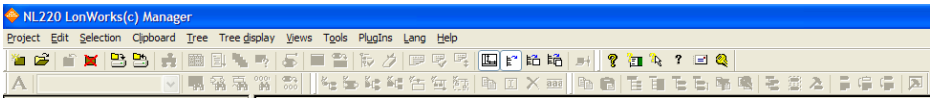


If the protection key is not installed on the PC, the band will show that the NL220 is in « Limited Version » mode as shown in **Erreur ! Source du renvoi introuvable.**.



Picture 1 NL220 Demonstration of General Menu

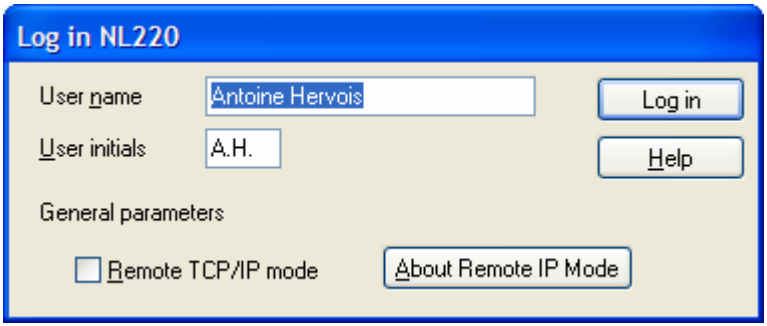
This mode allows all the program functions to be discovered for a database limited to 4 nodes.



Picture 2 NL220 General menu in nominal mode

Connection

The first window to appear concerns connection. The user is invited to register his first name and surname. The initials will appear automatically



Picture 3 NL220 logging on

Object	Details
Log in	Button allowing connection to program according to options in window
Help	Obtain help with connection
About Remote IP Mode	Obtain help for Client/Server IP mode
Remote TCP/IP mode	Searches for servers on the IP network.

Table 1 Explanation of login window

ⓘ In Remote TCP/IP, the PC must be connected to a local network and a PC must be designated LNS server.

Remote TCP/IP

NL220 can access a project using TCP/IP network.
For that you must have a TCP server and a TCP client.

The TCP server

The server is the machine on which the project is present and that posseses a LonWorks interface.
The server can be NL220 or any other LNS based application.

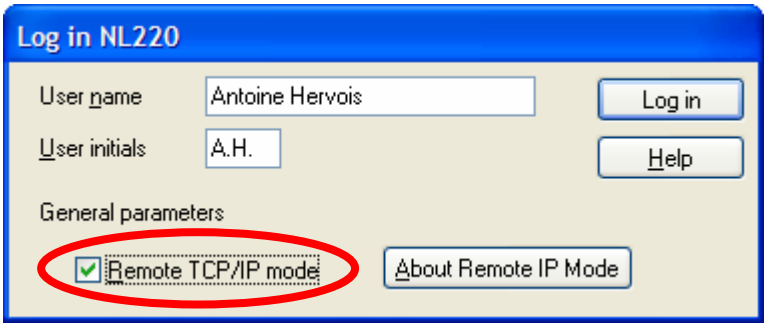
Echelon LNS Server

Echelon LNS Server is the standard TCP/IP server from **Echelon**.
To launch the Echelon LNS Server :
In **NL220** folder launch the program **LNS Server**.

Select the project you want to distribute on TCP network and click on OK.

The TCP client

1. Declaring the remote project on client machine
You must first declare the project on your remote PC. This must be done only ONE time by project on a client machine.
Launch the program LNS Remote Client Configuration Utility in NL220 folder.
2. Opening a remote project on client machine
Launch NL220. On loggin window check the option **Remote TCP/IP Mode**.

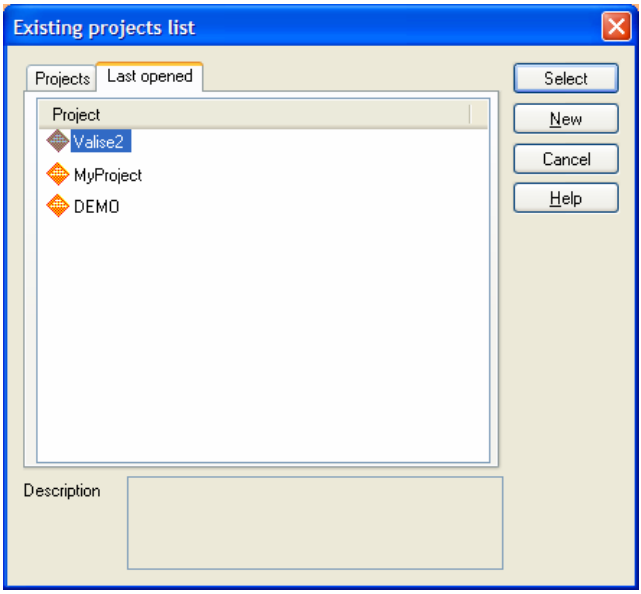


Picture 4 Remote mode Windows

When opening a project only declared remote projects will be available. You cannot create, delete, backup or restore a project in remote mode.

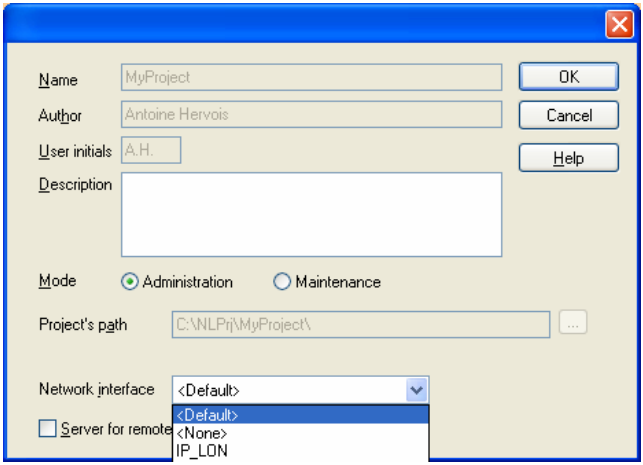
Opening a project

You can choose a project in the windows in two different tabs. The ten previous used project in tab “Last opened”, the complete list of LNS projects in tab “Projects”.



Picture 5 Project opening windows

When your project is selected, click on Select for opening it. In the next windows, you choose the correct interface. If your PC have no interface available, you can work on the database without interface. Choose <None> in the interface list.

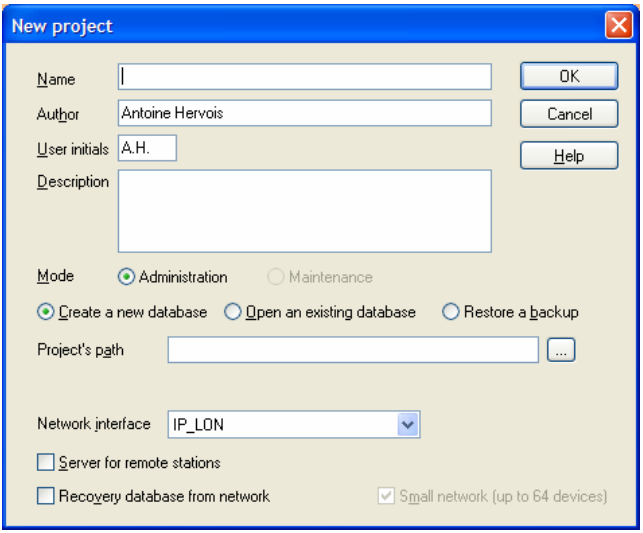


Picture 6 Interface selection

Creating a project

A project can be created using the PROJECT/NEW menu …, or else opened from an existing base using PROJECT/OPEN.

Both these options lead to the following 'settings' window :



Picture 7 Project creation window

All that you need to do is fill in: *Name,* to create a project in a new database. The project file save pathway is automatically informed under *Project's path*, but can of course be modified

Creation of a project from an existing database

A new project can also be created using an existing database by checking; *Open an existing database,* indicating the access path. N.B.: the database is not recopied and will therefore be erased if the new project is abandoned.

Creation of a project from a backup

A new project can also be created using a backupfile of a NL220 project ; *Restore a backup,* indicating the backup access path.

Creation of a project using: scan

Checking: *Recovery database from network* is a third way of creating a project by running an automatic exploration of the network.

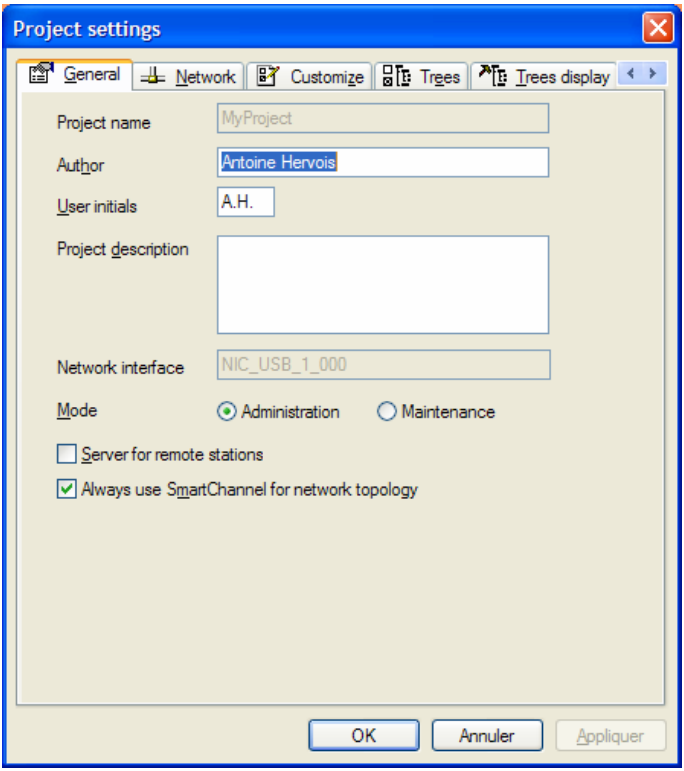
Server mode for remote station

Checking: *Server for remote stations* indicates that the database will be a server for various applications. This means that you will allow an external TCP/IP client to connect onto the database, which you are creating.

Configuration of project

General

This tab describes the general settings of the project.



Picture 8 Project settings windows

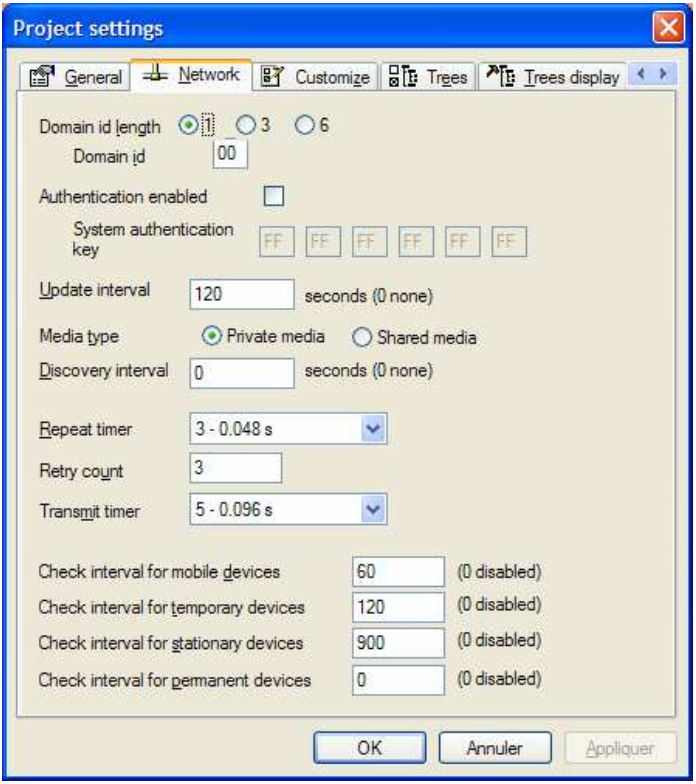
Items	Detail
Project name	Parameters from the open/create panel.
Author	
User initials	
Project description	
Network interface	Indicates the network interface used to connect your PC to the network.

	If **<None>** then no interface card is used. In this case, you will not be able to attach your PC to the network and you work OFFNET.
Mode	Current mode of the project. **Administration**: Entire functions available M**aintenance:** Only maintenance functions. You cannot add/remove node/connection
Server for remote stations	Indicates if remote stations may work on the same project. In this case your computer will act as a server for the remote stations.
Always use SmartChannel for network topology	If checked, going to the “Router” tab, or trying to install a router from the subsystem tree will automatically launch SmartChannel

Table 2 General project settings folder items

Network

This tab describes the network's settings for the project.



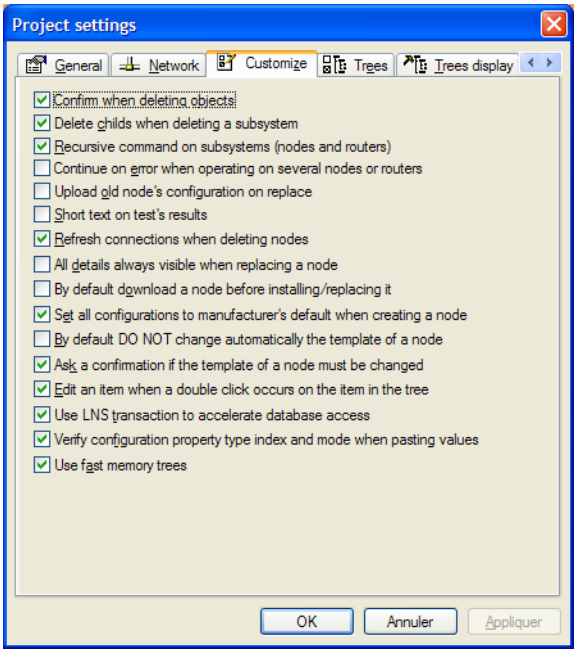
Picture 9 Project settings / network folder’s windows

Items	Detail
Domain Id Length	The length of the domain ID of your network : 1, 3 or 6 bytes.
Domain ID	The value of your domain ID (in hexa format).
Authentication enabled	Check this option if authentication will be in use on your network.
System Authentication Key	If Authentication enabled is checked, the authentication key for your system (hexa format).
Update interval	The rate, in seconds: background process will try to update nodes or routers on network.
Media type	**Private** stands for unshared network (like FTT10), **Shared** stands for networks shared with other media (PL20 for instance).
Discovery interval	The rate, in seconds, at which the background process will try to discover nodes and routers on network. All discovered nodes and routers will be added in the discovered tree.
Repeat timer	Time between two repetition of an unacknowledged / repeat message (see Echelon documentations about LonTalk timers)
Retry count	Retries count for network communications (consult documentations for LonWorks timings).
Transmit timer	Time between two acknowledged or request/response messages (see Echelon documentations about LonTalk(c) timers)
Check interval for mobile devices	Intervals in second to check state of mobile devices ; if value is 0, devices are not checked
Check interval for temporary devices	Intervals in second to check state of temporary devices ; if value is 0, devices are not checked
Check interval for stationary devices	Intervals in second to check state of stationary devices ; if value is 0, devices are not checked
Check interval for permanent devices	Intervals in second to check state of permanent devices ; if value is 0, devices are not checked

Table 3 Project settings / network folder's items

Customize

These options allow customizing NL220 editor.



Picture 10 Project settings / Customize folders windows

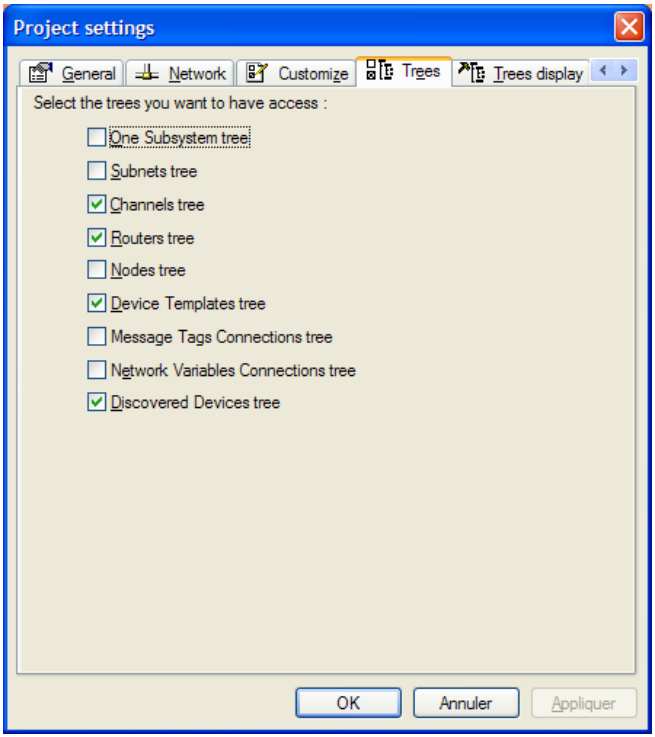
Items	Detail
Confirm when deleting object	A confirmation will appear every time you ask for deleting an object in the project's database.
Delete childs when deleting subsystem	If checked empty childs subsystems are removed when deleting a subsystem
Recursive command on subsystem	If checked then the commands in the Nodes or Routers menu will work on the nodes or routers of the subsystem and the nodes or routers of the child subsystems. If unchecked these commands will only work on the subsystem's devices.
Continue on error when operating on several nodes or routers	If checked a command on several nodes or several routers will continue on error. If unchecked an error will stop the command.
Upload old node configuration on replace	If checked the NL220 will try to upload configuration of a node to be replaced (if

	the node is always present on network).
Short text on test results	If checked the texts when testing a device are short. If unchecked the texts are longer but more explicit.
Refresh connections when deleting nodes	If checked connections will be dynamically refreshed in the tree when removing node.
All details always visible when replacing a node	If checked the replace node window will display all advanced options.
By default download a node before installing/replacing it	If checked the download option will be by default check in the installation/replace window
Set all configurations to manufacturer's default when creating a node	Set the configurations to manufacturers default any time a node is created. You can change this option in the node's creation window.
By default do not change automatically template of a node	If checked, NL220 will not change the template of a node when installing or replacing it
Ask a confirmation if the template of a node must be changed	If checked, NL220 will automatically ask for a confirmation if the template must be changed when installing / replacing a node
Edit an item when you double click it in the tree	If checked, double clicking an item in a tree will automatically launch its edition window
Use LNS transaction to accelerate database access	If checked, LNS transaction will be used. This can greatly improve the database's performances
Verify configuration property type, index and mode when pasting values	If checked, NL220 will verify index, type and mode of the configuration property's value before pasting it
Use fast memory	Checking this item will increase memory usage, but also improve database performances

Table 4 Project settings / Customize folders items

Trees

This tab allows the user to define the trees available in the interface



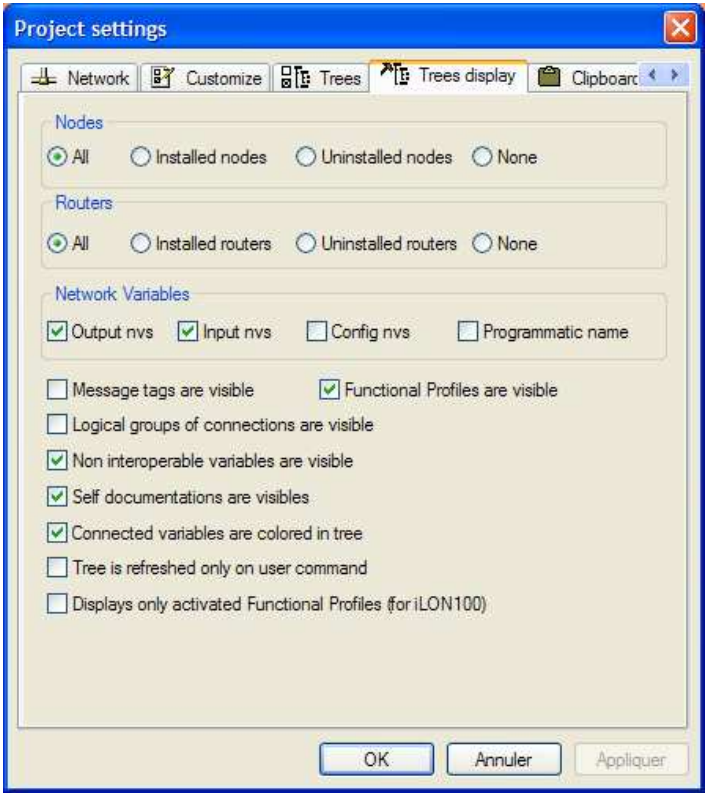
Picture 11 Project settings / Trees folders windows

Items	Detail
One subsystem tree	Tree that displays a single root subsystem
Subnets tree	Tree that displays devices sorted by subnets
Channels tree	Tree that displays devices sorted by channels
Routers tree	Tree that displays the entire routers
Nodes tree	Tree that displays the entire nodes
Device templates tree	Tree that displays the entire device template
Message tag connections	Tree that displays all message tag connection
Network variable connections	Tree that displays the entire bindings
Discovered devices tree	Tree that displays the entire devices that are present on the network but not declared in LNS database.

Table 5 Project settings / Trees folder items

Trees display

This tab describes the configuration of the trees.



Picture 12 Project settings / Tree display folders windows

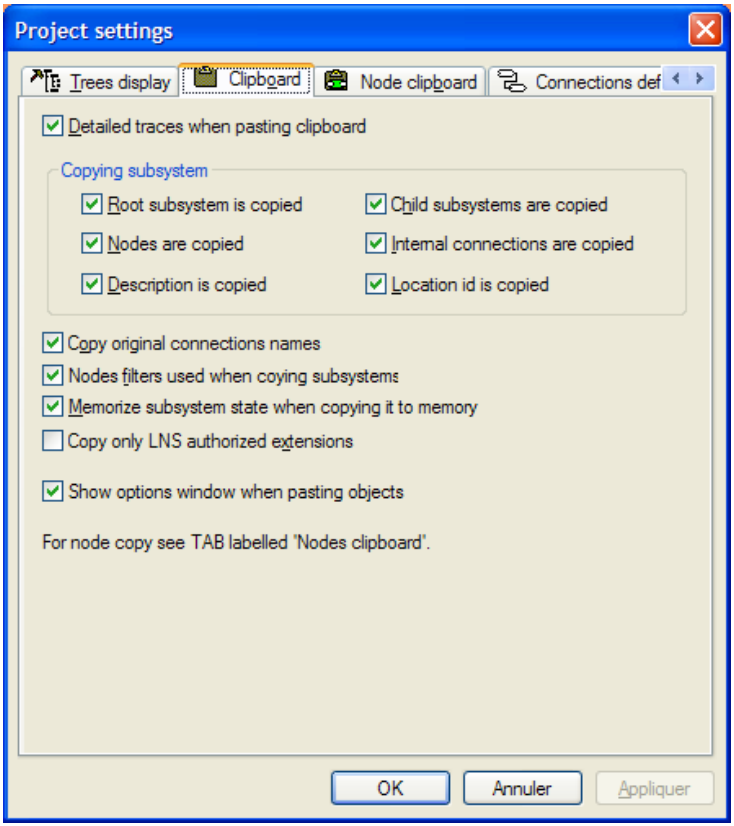
Items	Detail
Nodes	Determines which nodes will be displayed in the trees: **All** All nodes are displayed **Installed nodes** Only installed nodes are displayed **Uninstalled nodes** Only uninstalled nodes are displayed **None** No nodes are displayed
Routers	Determines which router will be displayed in the trees: **All** All routers are displayed **Installed routers** Only installed routers are displayed

	Uninstalled routers Only uninstalled routers are displayed **None** No routers are displayed
Network variables	Determines which network variable will be displayed in the trees: **Output Nvs** If checked, output network variables are displayed **Input NVs** If checked, input network variables are displayed **Config NVs** If checked, config network variables are displayed
Message tags are visible	If checked, message tags are displayed Checking this option could slow down the tree display.
Logical group of connections are visible	If checked, logical groups of connections are displayed. Checking this option could slow down the tree display.
Functional profiles are visible	If checked Functional profiles are displayed. Checking this option could slow down the tree display.
Non interoperable variables in LonMark(tm) nodes are visible	If checked non interoperable network variables are visible in nodes supporting LonMark Checking this option could slow down the tree display.
Self documentations are visible	If checked self documentations of nodes and network variables are visible. Checking this option could slow down the tree display.
Connected variables are colored in tree	If checked the connected network variables will be in blue color in the trees. Checking this option could slow down the tree display.
Tree is refreshed only on user command	If not checked NL220 will automatically refresh the tree when necessary. If checked the user must press F5 or click on the Tree ToolBar in order to refresh the tree. In this case when the tree must be refreshed, the button in the Tree ToolBar will flash.
Display only actived Functional profiles (for iLon 100)	If checked, only actived Functional profiles of the iLon 100 nodes will be displayed in the trees

Table 6 Project settings / Tree display folder items

Clipboard

This tab defines options to customize copy / paste operations.



Picture 13 Project settings / Browser default folders windows

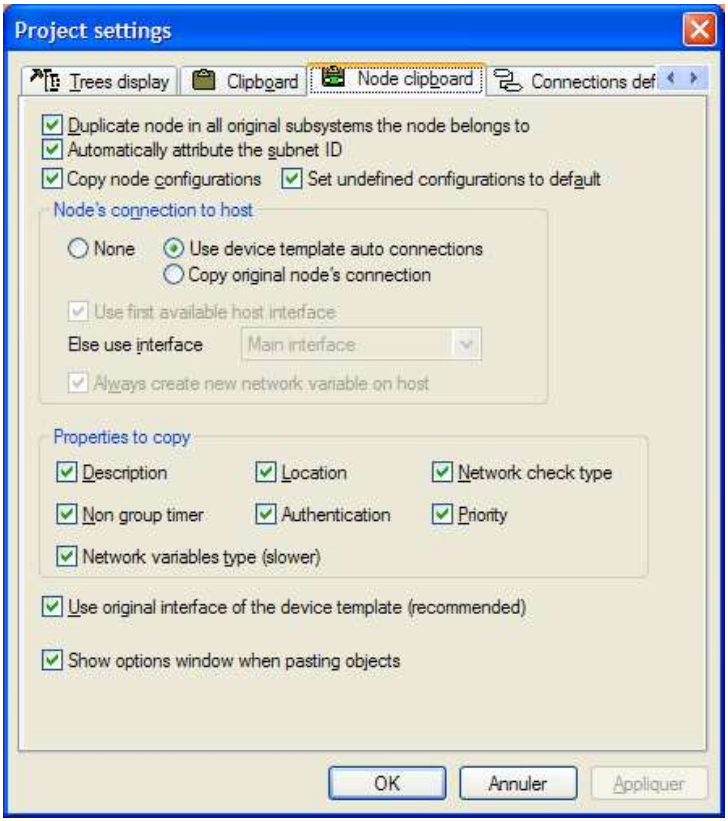
Items	Detail
Detailed traces when pasting clipboard	If checked, detailed traces will appear when pasting an object
Root subsystem is copied	If checked, the root subsystem of your copy will also be pasted
Children subsystems are copied	If checked, all children subsystems of the root subsystem you copy will be pasted
Nodes are copied	If checked, all nodes from copied subsystem will be copied
Internal connections are copied	If checked, all connections between nodes of the copied subsystem will be copied
Description is copied	If checked, description of subsystem will be

	copied
Location ID is copied	If checked, location ID of subsystem will be copied
Copy original connection names	If checked, connection copied will keep the same name than the original ones
Node filters used when copying subsystems	If checked, only nodes displayed in the tree (if filters are active) will be copied
Memorize subsystem's state when copying it in memory	If checked, contents of the subsystem will be copied in memory
Copy only LNS authorized extensions	If checked, only LNS extensions with flag CopyWithParent will be copied
Show options window when pasting objects	If checked, a simplified option window will be displayed when pasting a subsystem

Table 7 Project settings / Browser default folders items

Node clipboard

This tab defines options to customize copy / paste operations on application devices.



Picture 14 Project settings / Browser default folders windows

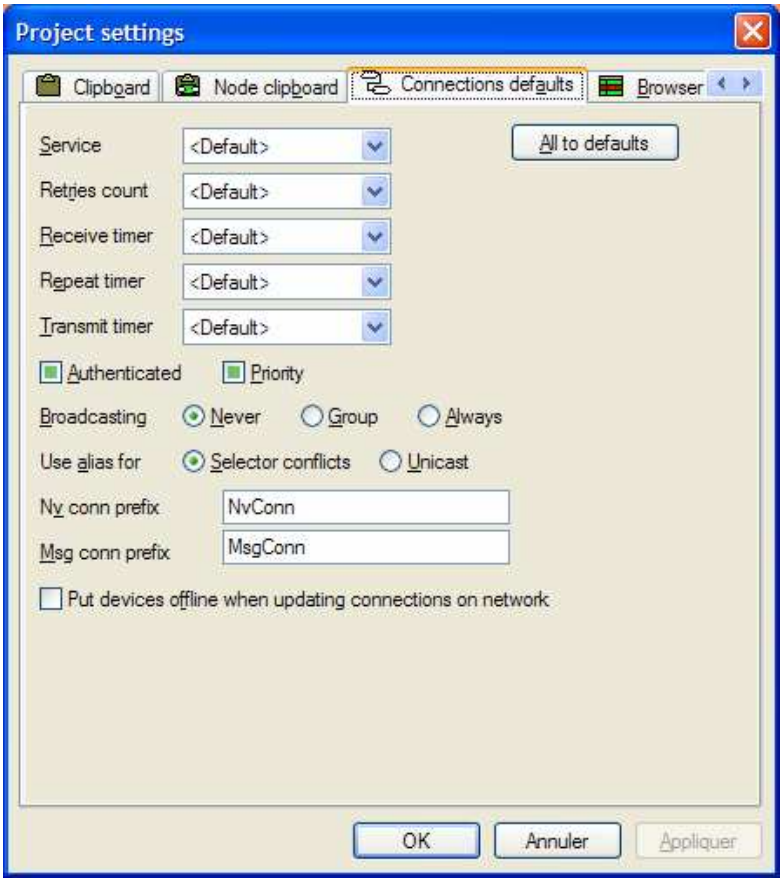
Items	Detail
Duplicate node in all original subsystems it belongs to	When pasting an application device then the new application device will be copied in all subsystems the original application device belongs to
Automatically attribute Subnet ID	If checked then the subnet ID used by a new copied application device will be automatically defined by NL220 depending on the channel of the application device
Copy node configurations	If checked then when you copy an application device, **NL220** will copy its configuration properties too
Set undefined configurations to default	If checked then any configuration property with no value in the original application device will be set with the default value in the new copied application device
Node's connection to host	Defines how host connection of the original node will be copied

Properties to copy	Defines which properties you want to copy from the original node
Use original interface of the device template	If checked then the new application device will use the interface definition of the device template
Show options window when pasting objects	If check a simplify options window will be displayed each time a node is pasted

Table 8 Project settings / Browser default folders items

Connection defaults

This tab defines default settings of newly created connections.



Picture 15 Project settings / Browser default folders windows

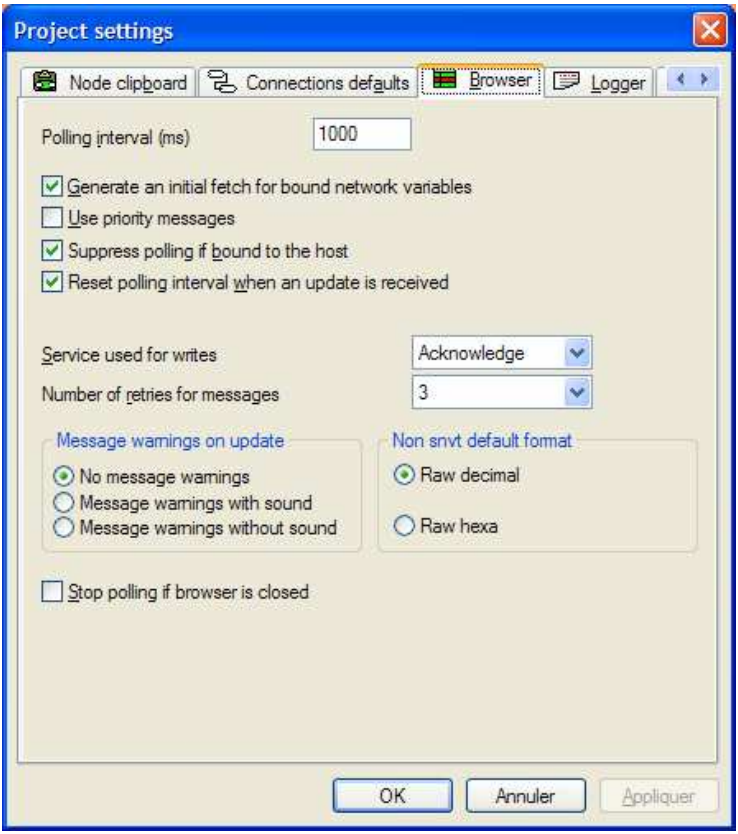
Items	Detail
Service	Defines default service to use (Acknowledge, …)

Retries count	Defines default number of retries
Receive timer	Defines default receive timer value
Repeat timer	Defines default repeat timer value
Transmit timer	Defines default transmit timer value
Authenticated	Use authentication or not
Priority	Use priority or not
Broadcast	Default setting for broadcast message
Use alias for	Default setting for alias usage
New connection prefix	Prefix used to name new connections
Msg connection prefix	Prefix used to name new message tag connections
Put devices offline when updating connections on the network	If checked, devices will be put offline before updating connections on the network

Table 9 Project settings / Browser default folders items

Browser Defaults

This tab describes the defaults taken when adding a network variable to the network variable browser.



Picture 16 Project settings / Browser default folders windows

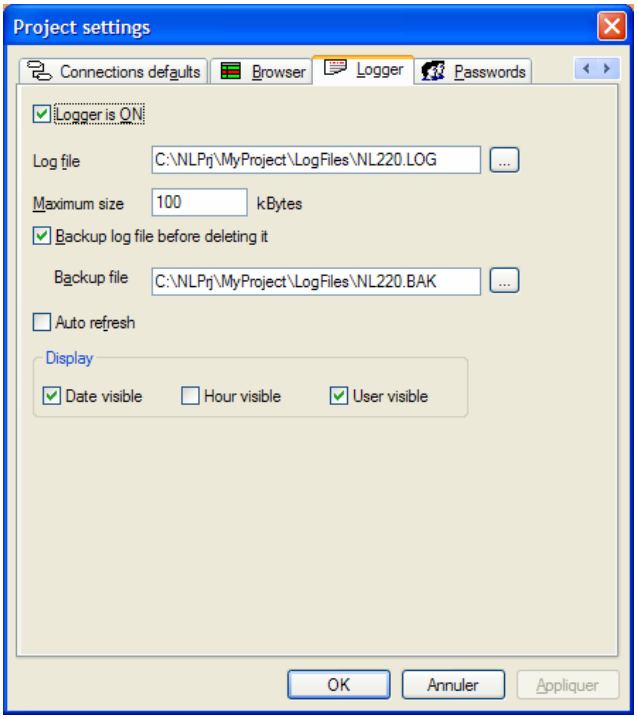
Items	**Detail**
Polling interval	Interval of network variables polling.
Generate an initial fetch for bound to host network variables	If checked then **NL220** will generate a fetch to have a start value for the bound to host network variables
Use priority messages	If checked the priority messages are used when WRITING network variables
Suppress polling if bound to the host	If checked the bound to host network variables will not be polled (except for the initial fetch)
Reset polling interval when an update is received	If checked and if polling is not suppressed for bound to host network variables then the polling interval is reset each time an update is received for the network variable
Service used for writes	Service used when sending writes on the network
Number of retries for	Number of retries used by the browser

messages	
Messages warning on update	Method to follow when the network variable value changes.
No message warnings	User will not be warned if the network variable value changes.
Message warnings with sound	When the network variable value changes, a message will appear in the messages view with a beep.
Message warnings with sound	When the network variable value changes, a message will appear in the messages view.
Non SNVT default format	Value format for non SNVT network variables. See Network Variables types and format.
Raw decimal	Value will appear in raw format with decimal values.
Raw hexa	Value will appear in raw format with hexadecimal values.
Stop polling if browser is closed	If checked then if you close the browser the polling is automatically stopped

Table 10 Project settings / Browser default folders items

Logger

This tab describes the logger's settings.



Picture 17 Project settings / logger default folders windows

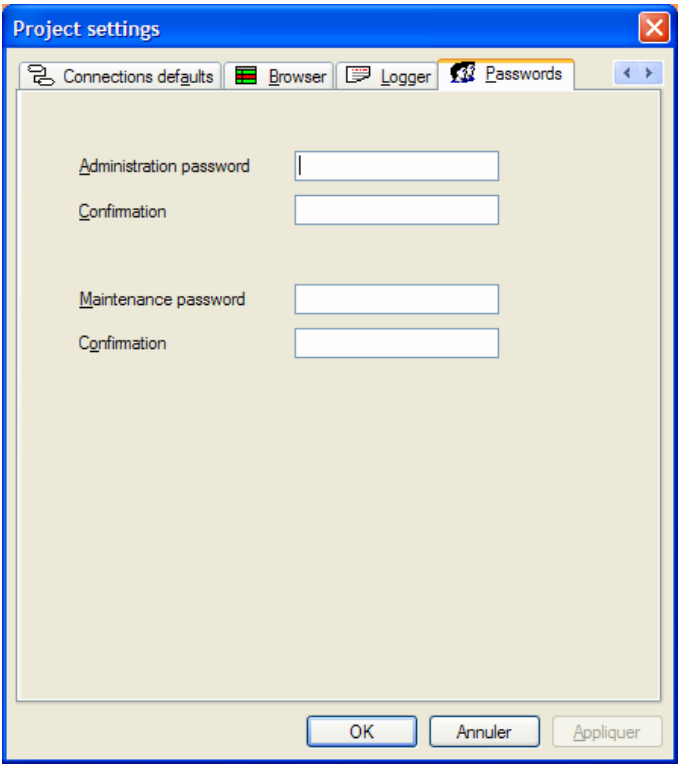
Items	Detail
Logger is ON	Check this option to enable the logger.
Log File	Logger file's full pathname. Click on to open the files browser.
Maximum size	Maximum size in kBytes of the logger file.When the size is reached, the logger file is backup and then removed.
Backup log file before deleting it	Check this option if you want the logger file to be backup before deleted.
Backup file	Backup file's full pathname. Click on to open the files browser.
Auto refresh	If checked, the logger will be automatically refreshed if displayed on screen.
Date visible	If checked the date of each entry will be displayed.
Hour visible	If checked the hour of each entry will be displayed.

User visible	If checked the user's initials of each entry will be displayed.

Table 11 Project settings / logger default folders items

Passwords

This tab describes the project's passwords.



Picture 18 Project settings / password default folders windows

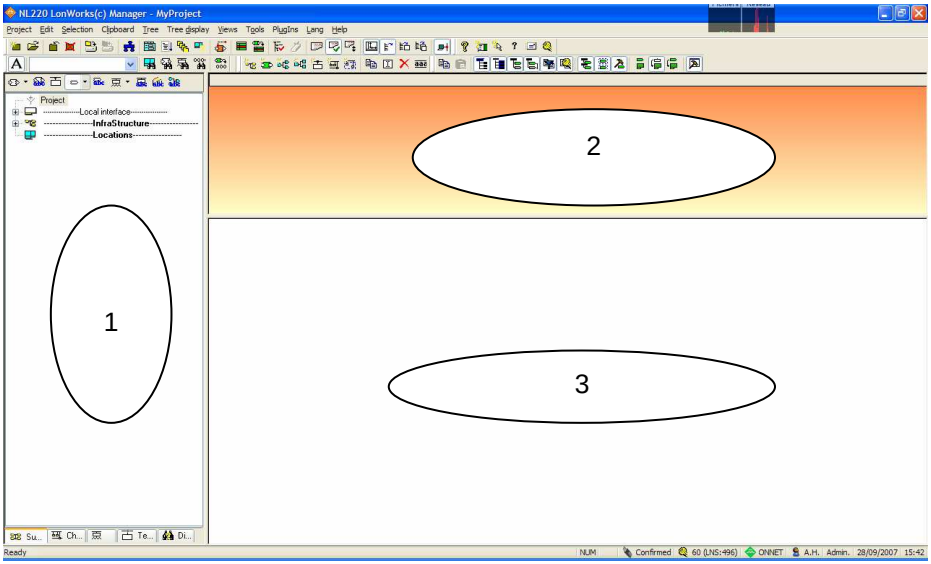
Items	Detail
Administration password	Password needed to open the project in administration mode.
Maintenance password	Password needed to open the project in maintenance mode.

Table 12 Project settings / password default folders items

ERGONOMICS

The human interface

The human interface is the screen zone taken up by the NL220 window. It consists of several zones and toolbars.



Picture 19 NL220 general Human interface

The zones

The Picture 19 shows you three zones where LonWorks network elements are managed.

1 Contains the different trees of the database.

2 Contains a view of a device being edited.

3 is the traces window and its contents are updated dynamically according to orders issued by the user

The menu bar

The menu bar allows access to all the creation and manipulation tools of the database using the mouse or the keyboard.

The toolbars

The toolbars give instant access

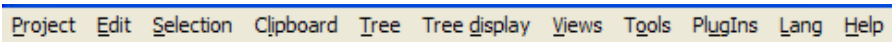
The context menus

A specific contextual menu appears when you right click on element. It's contain depend on element selected.

Menus

The menu bar, allows access to all the creation and manipulation tools of the database using the mouse or the keyboard.

General menu



Menu	Shortcut	Explanation
Project	ALT-P	Operations on a LNS database
Edit	ALT-E	Manipulation of a basic device
Selection	ALT-S	Activate multiple object selection
Clipboard	ALT-L	Copy and paste options
Tree	ALT-T	Selection of a tree to be visualized in zone 1
Tree display	ALT-D	Level of detail option for visualization in zone 1
Views	ALT-V	Selection of visible toolbars
Tools	ALT-O	Some special tasks
PlugIns	ALT-U	Specific PlugIns LNS tasks
Lang	ALT-L	Select a language
Help	ALT-H	Access to help and LNS royalties

Table 13 General menu description

PROJECT menu

Item	Icons	Explanation
New		New project
Open		Open existing project
Close		Close project
Remove		Erase project
Prepare project for iLon 100 support		Wizard to enable using iLon 100 in your project
Network resources		Statistics on the network database
Attached documents		List of documents attached to the project
Backup Project		Save project
Restore Project		Restore a project
Project settings		Settings for a current project
Save project setting as default		Save the project settings as default settings
Exit	ALT-X	Exit program

Table 14 Project menu description

EDIT menu

Item	Icons	Explanation
New		New devices in the project
Copy		Copy a device onto clipboard
Edit		Edit a device
Remove		Erase a device
Rename		Rename a device
Define the location subsystem		Define the location of the subsystem

Table 15 Edit menu description

EDIT- NEW menu

Item	Icons	Explanation
New root subsystem		Create a new subsystem on the root
New node		Create a new node
New Variables		Create a new connection between

Connection		variables
New Messages Connection		Create a new messages connection
New Device Template		Create a new type of node
New Channel		Create a new channel
New Subnet		Create a new subnet

Table 16 Edit / New menu description

CLIPBOARD menu

Item	Icons	Explanation
Copy object		Copy the object in the clipboard
Paste object		Paste the object from the clipboard
Copy original root subsystem		Paste option Copy original root subsystem
Copy child subsystem		Paste option Copy child subsystem
Copy subsystem's nodes		Paste option Copy subsystem's node
Copy subsystem's internal connections		Paste option Copy internal connections
Use node filters		Paste option Use node filter
Memorize subsystem state		Paste option Memorize subsystem
Duplicated node in all subsystems		Paste option Duplicate node
Automatically generate subnet Id		Paste option Generate subnet Id
Copy Node's configuration		Paste option Copy configuration Nv or SCPT
Detailled traces		Paste option Trace operations

Table 17 Clipboard menu description

Clipboard menu – Nodes connection to host

Item	Icons	Explanation
None		Paste option Do not handle host connections
Use device auto connection		Paste option Use connection defined in the template
Use original nodes connection		Paste option Use connection defined in subsystem

Table 18 Clipboard / Nodes connection to host menu description

TREE menu

Item	Icons	Explanation
All subsystems tree		Display all subsystems
One subsystem tree		Display device per subsystem
Subnet tree		Display device per subnet
Channel tree		Display device per channel
Routers tree		Display only routers
Node tree		Display only nodes
Device template tree		Display device template
Message tag connection		Display message tag connections
Network variable connection		Display network variable connections
Discovered device tree		Display nodes on the network but absent from LNS database

Table 19 Tree menu description

Menu TREE DISPLAY

Item	Icons	Explanation
Node display		Sub menu on nodes display
Router display		Sub menu on router display
Network variables display		Sub menu on NV display
Messages tags are displayed		If clicked Messages tags are displayed
Functional profiles are displayed		If clicked Functional profiles are displayed
Non interoperable NV are displayed		If clicked non interoperable NV are displayed
Show self documentation		If clicked NL220 will show self documentation
Connected variables are displayed in blue		If clicked connected variables are displayed in blue
Refresh the tree on command		If clicked the tree is only refreshed on command
Only activated functional profiles are displayed (iLon100)		If clicked only activated functional profiles of the iLon100 nodes are visible

Table 20 Tree display menu description

Tree display - Node Display menu

Item	Icons	Explanation
Devices only		If checked, only devices are displayed
Devices with interface		If checked, devices with interface are displayed
Connections only		If checked, connections only are displayed
Device with connections		If checked, device with connections are displayed
Devices with interface and connection		If checked, devices with interface and connection are displayed
All nodes are displayed		If checked, all nodes are displayed will be displayed
Only installed nodes are displayed		If checked, only installed nodes are displayed
Only uninstalled nodes are displayed		If checked, only uninstalled nodes are displayed

No nodes are displayed		If checked, no nodes are displayed

Table 21 Tree display / Node display menu description

Tree display – Router Display menu

Item	Icons	Explanation
All routers are displayed		If checked, all routers are displayed
Only installed routers are displayed		If checked, only installed routers are displayed
Only uninstalled routers are displayed		If checked, only uninstalled routers are displayed
No routers are displayed		If checked, no routers are displayed

Table 22 Tree display / Router display menu description

Tree display – Network variables Display menu

Item	Icons	Explanation
Output variables are dispalyed		If checked, output variables are displayed
Input variables are displayed		If checked, input variables are displayed
Config variables are dispalyed		If checked, config variables are displayed
Programmatic names are displayed		If checked, programmatic names are displayed

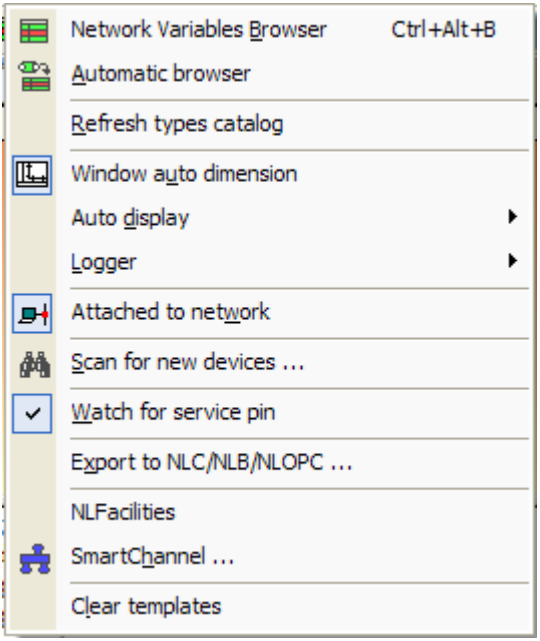
Table 23 Tree display / Network variable display menu description

VIEWS menu

Item	Icons	Explanation
Close work view		Close work view is displayed
Clear message view		Clear message view is displayed
General toolbar		If clicked General toolbar is displayed
Search toolbar		If clicked Search toolbar is displayed
Edit toolbar		If clicked Edit toolbar is displayed
Clipboard toolbar		If clicked clipboard toolbar is displayed
Help toolbar		If clicked Help toolbar is displayed
XP menu		If clicked, the contextual menu are XP like.

Table 24 Views menu description

TOOLS menu



Item	Icons	Explanation
Network variable browser		Launch NV browser
Automatic browser		Activate automatic browser
Refresh types catalog		Reload SNVT master list and UNVT catalog
Windows autodimension		Resize windows automatically
Auto display		Sub menu of display
Logger		Sub menu of logger
Attached to network		If clicked, modifications on database are send immediately on network
Scan for new devices		Launches a scan in the domain
Watch for service PIN		Watches for a service PIN event
Export to NLC/NLOPC		Exports LNS database for OPC server or NL210 API
NLFacilities		Switch to NLFacilities tool for managing living spaces.
SmartChannel		Launch SmartChannel tool for router topology

Clear templates		Delete unused device templates

Table 25 Tools menu description

TOOLS - AUTODISPLAY menu

Item	Icons	Explanation
None		No autodisplay
Normal		Normal autodisplay
Advanced		Advanced autodisplay

Table 26 Tools / Autodisplay menu description

TOOLS - LOGGER menu

Item	Icons	Explanation
Displayed		Logger is displayed
Logger is ON		Logger is ON / OFF
Auto Refresh		Automatic refresh of the logger

Table 27 Tools / Logger menu description

PLUGINS menu

Item	Icons	Explanation
General plug ins		Provide with the list of general plug ins
Project plug ins		Provide with the list of project plug ins
Simple command string		Force the use of simple command for Plug Ins
Trace plug ins command		Trace all the commands to the LNS database
Register Plug Ins		Provides you with the list of available plug ins to register
Help on plug ins		Launch the help file

Table 28 Plug ins menu description

Menu LANG

Item	Icons	Explanation
English		NL220 in English
French		NL220 in French
German		NL220 in German
Italian		NL220 in Italian
Spanish		NL220 in Spanish
Polish		NL220 in Polish

Table 29 Lang menu description

Menu HELP

Item	Icons	Explanation
Contents		Contents of the help file
Help on editor		Helpfile on editor
Drag and drop operation		Helpfile on drag&drop
Copy / paste operation		Helpfile that explains copy / paste

		operations
Email NL220 hotline		Send an email to NL220 hotline
About NL220		About NL220 Windows

Table 30 Help menu description

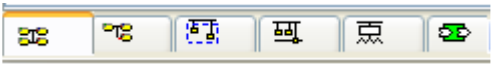
The toolbars

The toolbars give immediate access to functions. There are 7 toolbars :

General

This tool bar provide with all the general functions. Click on the function you want to launch

Trees



This tool bar provides you with all the functions associated with trees: click on the tree you want to display.

Search

This tool bar provides you search through the database functionalities.

Tree's display

This tool bar provides you with all the filters associated with trees. All joker * are fully supported

Edit

This tool bar provides you with all the functions for edition.

Clipboard

This tool bar provides you with all the paste parameters. Click on the different options you want to be applied in the paste process.

Help

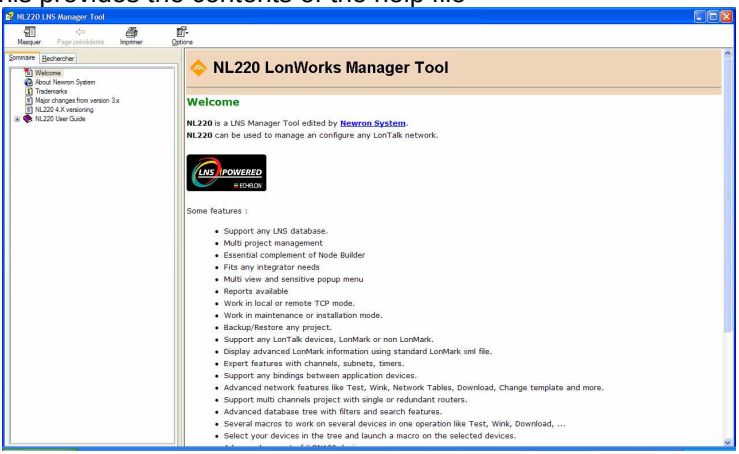
This tool bar provides you with help file access.

HELP Files

Several help files are available in this product:

Menu Contents

This provides the contents of the help file



Picture 20 Help / Contents windows description

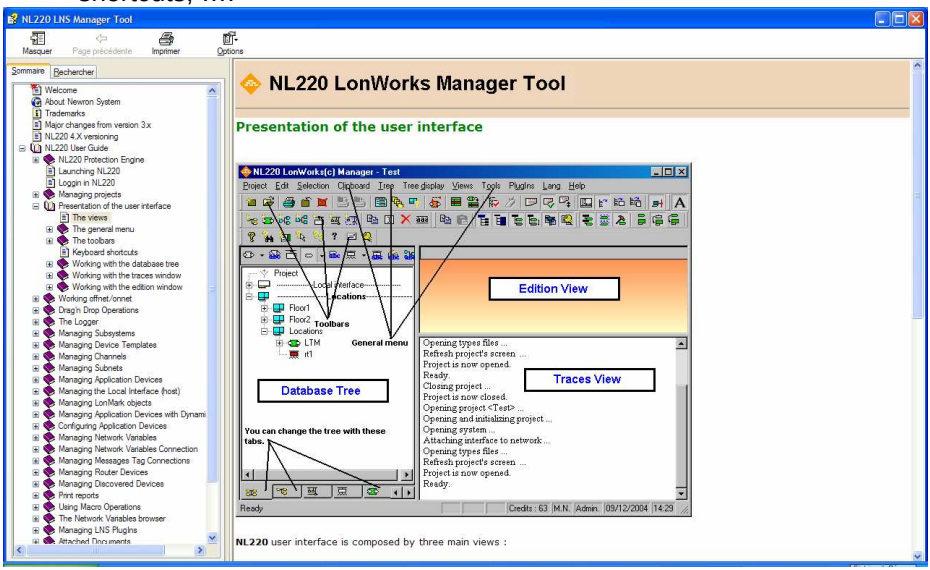
You type the key word and all the folders including this word will appear

Menu Search

Search for a topic in the entire help file. You get the same windows as the previous option.

Menu Help on editor

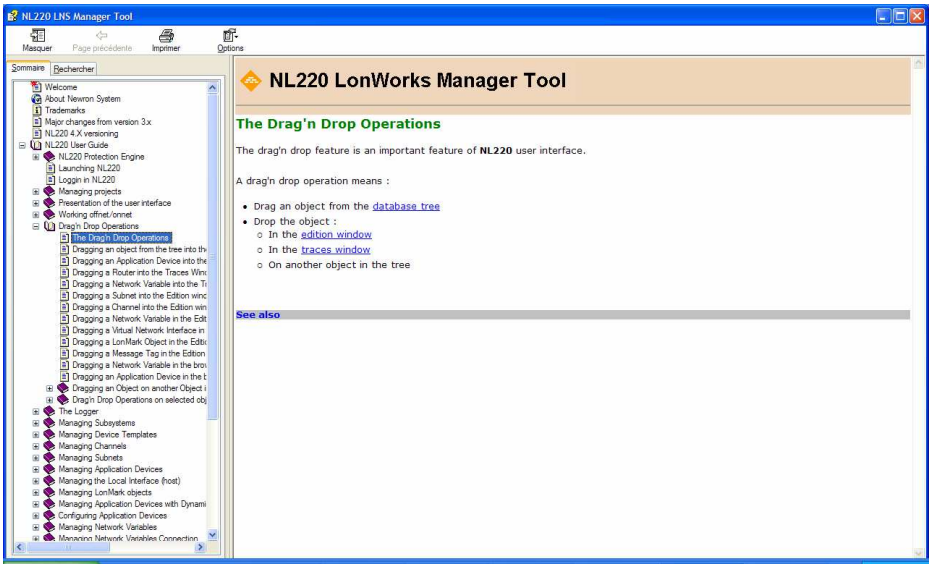
This is the specific helpfile on the editor This help file is a normal help file with index and research feature.
You will find enclosed all the information on multi view, icons, menu, shortcuts, ….



Picture 21 Help / Help on Editor windows description

Drag and drop operation

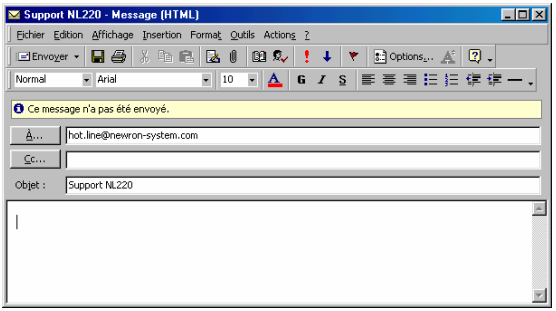
This is specific help file on drag&drop operations. Many features can be handled by Drag&Drop operation such as edition, test, binding, …



Picture 22 Help / Drag & drop operation windows description

Email NL220 hotline

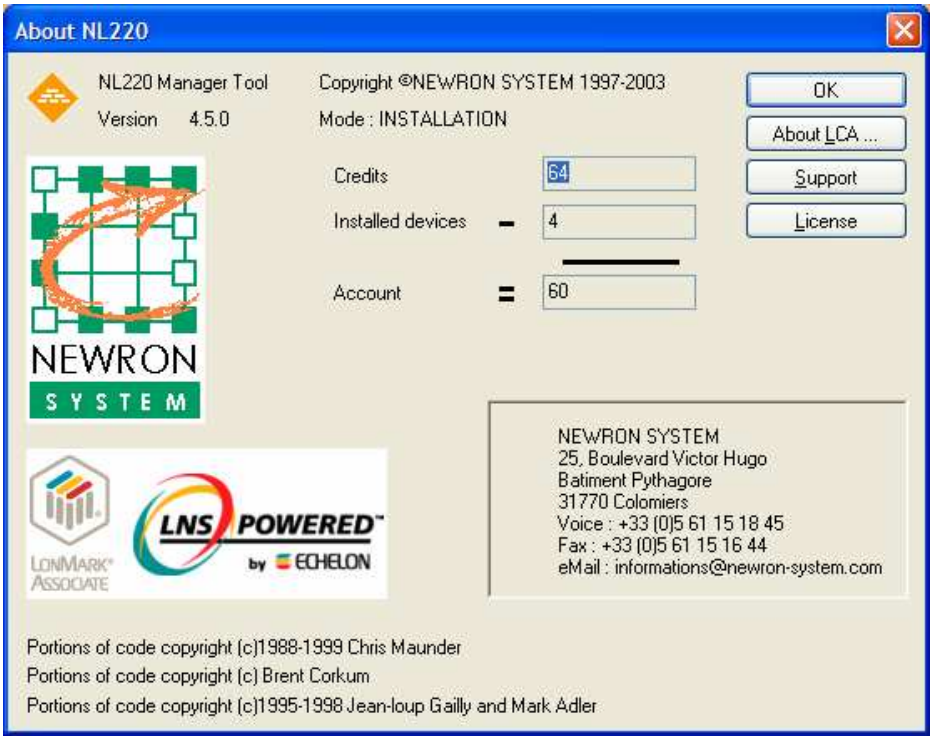
This automatically executes your default mail program to send an email to NL220 hotline. It fills in the destination email address.



Picture 23 Email NL220 hotline Windows description

About NL220

The About NL220 windows on Picture 24 show you the current usage of royalties. The requested credits are for 1000 nodes, you have yet installed 135 nodes.

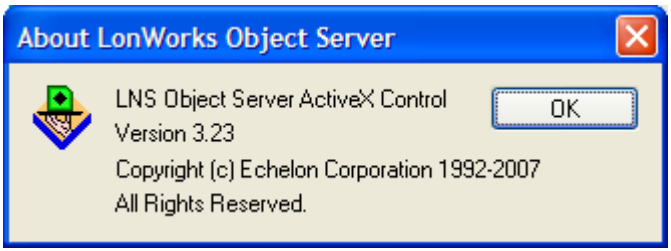


Picture 24 About NL220 Windows

For each node commissioned the credits is decrease by one. This is the Echelon Royalties.

The royalties are not decrease when you commission a router.

If you click on ”About LCA”, the next window is showed.



Picture 25 About LCA windows

If you click on “Support”, you will send a mail to hot.line@newron-system.com.

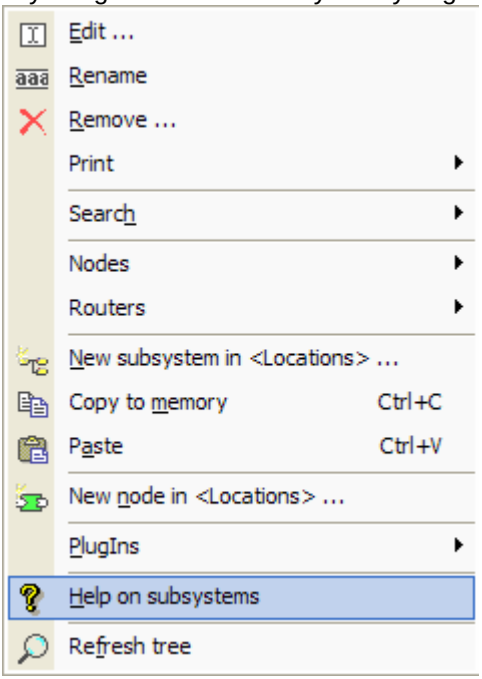
Right Click

NL220 provides online help: you can access directly to a specific help topic depending on where you are in the editor by right clicking

If you right click on	You have the option
Nodes	Help on nodes
Subsystems	Help on Subsystems
Template	Help on Template
LonMark Objects	Help on LonMark Objects
Connections	Help on Connections
…..	……

Table 31 On Line help file description

For example if you right click on a subsystem you get:



Picture 26 Example of on line help

Drag And Drop operations

The drag and drop operation consists of left clicking on an object in the tree, moving the mouse without letting up mouse's button and then dropping the object by releasing the mouse's button.

The cursor of the mouse changes depending on the actions available.

The cursor frames depending on drag and drop operations are :

No action

Cursor 

Edit an object

Cursor 

Drag the object in the Work View.

The object will be edited only if the Work View is empty or contains an edit window of the same type.

For example, if you drag a node in the Work View, the node will be edit only if the Work View is empty or already contains an edit window of another node.

Move an object

Cursor 

You may:

Move a node or router from a subsystem to another in the All Subsystems Tree or in the Single Subsystem Tree

Move a subsystem to another subsystem in the All Subsystems Tree or in the Single Subsystem Tree

Move a node from a channel to another in the Channels Tree

Move a node from a subnet to another in the Subnets Tree

Duplicate a node or a router

Cursor 

A node or router could belong to several subsystems.

To duplicate a node in another subsystem, press the simultaneously the keys CTRL and SHIFT and drag the device in the new subsystem in the tree.

Test a node or a router

Cursor 

Drag the node or router in the Messages View.

The device will be tested and the results will be displayed in the messages view.

Poll a network variable

Cursor 

Drag the network variable in the Messages View.

The network variable will be polled and the results will be displayed in the messages view.

Add a network variable to the browser

Cursor 

Dragging a network variable to the Work View when the view is empty or contains the browser, will add the network variable to the browser.

Connecting network variables

Cursor 

You may:

Quickly connect two variables by dragging the first onto the second in the tree.

Quickly connect a variable to a LonWorks(tm) server by dragging the variable onto the interface of the LonWorks(c) server

Edit or create the connection of a network variable when pressing the CTRL key and dragging the network variable in the Work View (ONLY IF THE WORK VIEW IS EMPTY)

Connecting message tags

Cursor 

You may :
Quickly connect two message tags by dragging the first on the second in the tree.

Edit or create the connection of a message tag when pressing the CTRL key and dragging the network variable in the Work View (ONLY IF THE WORK VIEW IS EMPTY)

Adding an element to a connection

Cursor 

If the Work View contains a network variable connection (when creating a new one or editing an existing one), dragging a network variable to the connection edit window will add the variable to the connection.

If the Work View contains a message tags connection (when creating a new one or editing an existing one), dragging a message tag to the connection edit window will add the tag to the connection.

LNS LICENSE

Introduction

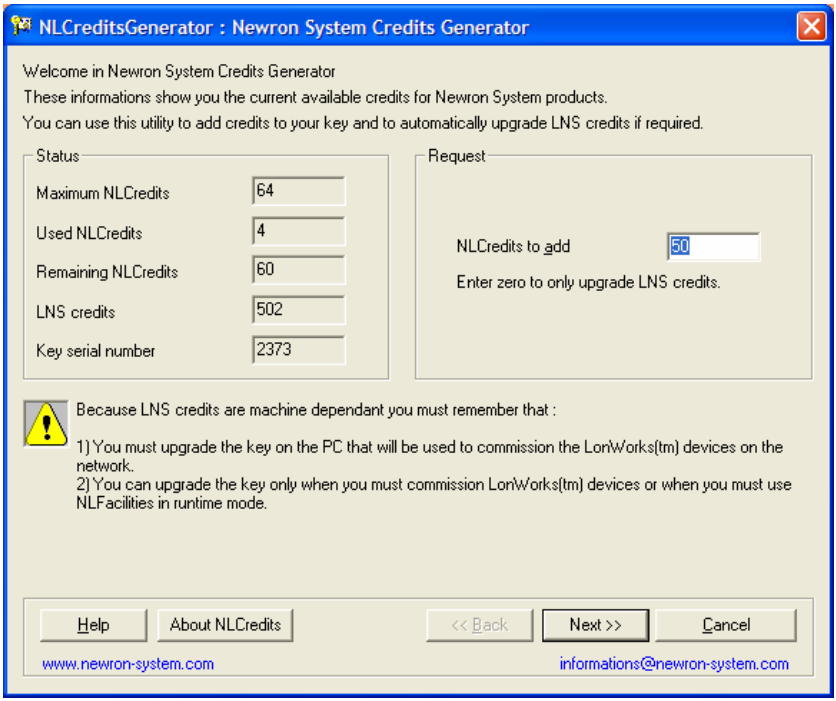
This chapter describe the new methodology of LNS Royalties.

You access on next windows by About NL220 on help menu (see chapter About NL220 page 45). You can update the PC and the Dongle by a process describe below.

Credit NL220 dongle

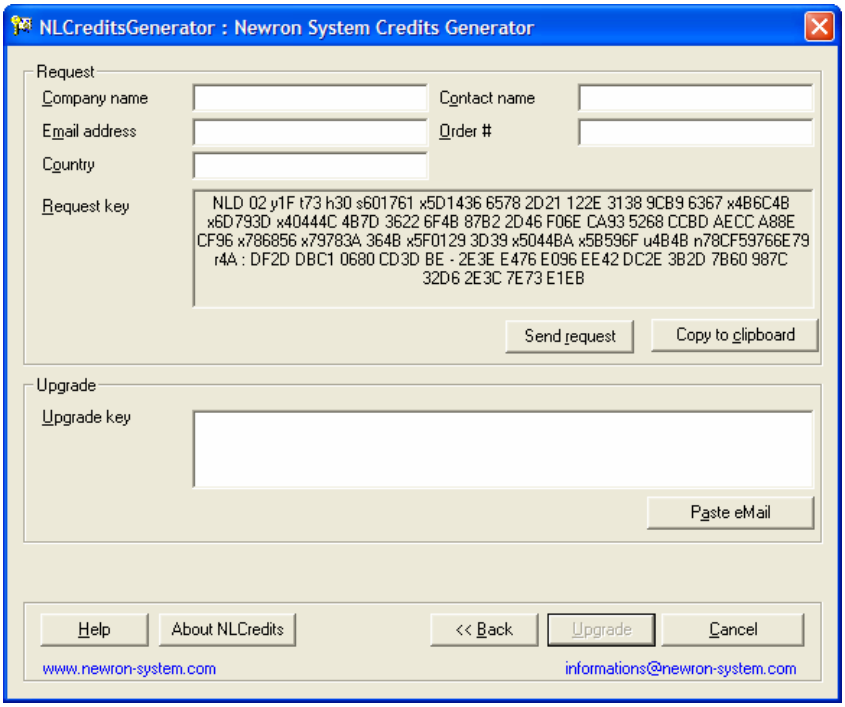
With this option  , you can upgrade the credit defined in your dongle.

If you need 50 nodes credit, you must set the number of credits like in Picture 27 and send a key: “ASKFORCREDIT key”.



Picture 27 Order dongle license key

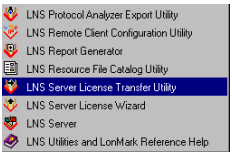
When you receive the license key, you will upgrade the dongle in the following window by fill the field “LICENSE key” and click on “Set License”.



Picture 28 : Upgrade credits

Beware with LNS Credit

ⓘ The credits are only defined for this PC. You must use this PC for commissioning nodes on network. The backup of your PC and restore it with every tool can damage the credit license. If you want to transfer credits on another PC, you must use “LNS Server License Transfer Utility” in “Echelon LNS Utility” folder.



Picture 29 LNS Server License Transfer Utility

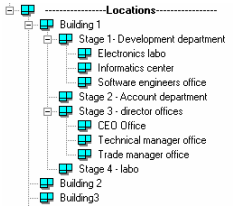
SUBSYSTEMS

Introduction

The NL220 representation is like Windows explorer. Everything is oriented around subsystems and devices.

These subsystems can be understood as directory and nodes as files. There is always a default subsystem called ***"Locations"***. This subsystem must be linked to the geography of the site.

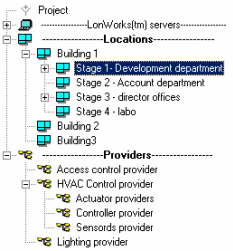
You can add/remove child subsystems to create the site topology.



Picture 30 Location Subsystem example

You will be able to insert nodes / routers in every subsystem

You can also create root subsystems that are at the same level as the 2 default root subsystems: ***LonWorks server*** and ***Location***



Picture 31 Root subsystem example

These subsystems are used for a different display of the site. Display by location is the default but you can add display by provider, by manufacturer, by product range, ….

Root Subsystems

Root is the top-level subsystems.

To create a new root subsystem, you may:

In the All Subsystems Tree, right click on the Project object and select the option New root subsystem ... in the popup menu.

Select the option New root subsystem... in the General Menu.

Editing or removing a root subsystem is like editing or removing all others subsystems.

Subsystems in tree

Subsystems objects may be found in:

The All Subsystems Tree
The Subsystem Tree

The icons of a subsystem may be:

 Location subsystem

 User subsystem

Subsystem Objects

A subsystem object could contain in the trees:

Child Location subsystem

 Child User subsystem

 Node (installed and good state)

 Node (installed and absent or in bad state)

 Uninstalled node

 Node with pending changes

 Router (installed and good state)

 Router (installed and absent or bad state)

 Uninstalled router

 Router with pending changes

 Node with dynamic NV (installed and good state)

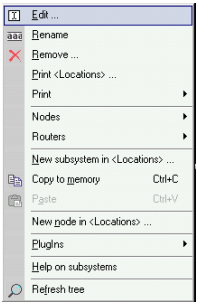
 Node with dynamic NV (installed and absent or in bad state)

 Node with dynamic NV with pending changes

Uninstalled node with dynamic NV

Subsystems popup menu

The popup menu on a subsystem contains:



Edit	Edit the subsystem
Rename	Rename subsystem
Remove	Remove the subsystem
Print	Print subsystem
Nodes	Macro command on nodes of the subsystem
Routers	Macro commands on routers of the subsystem
New subsystem in <...>	Create a subsystem IN the selected subsystem
Copy to memory	Copy the subsystem into memory
Paste	Paste the clipboard (subsystem or node) into the subsystem
New node in <...>	Create a node in the subsystem
PlugIns	Subsystem's plugins
Help on Subsystem	Access to specific helpfile
Refresh *Tree*	Manual command to refresh the tree

Drag and drop a subsystem

Dragging a subsystem into the Work View will edit it (only if the Work View is empty or if it already contains a Subsystem edit window).

Dragging a subsystem to another subsystem will move the first one into the second.

Subsystem Management

Creating a new subsystem

To create a new root subsystem, see Root Subsystems help.

To create a new subsystem :

Right click on the parent subsystem and open the popup menu of the subsystem in which you want to create the new one.

Choose the option New Subsystem ...

Editing a subsystem

To edit a susbsystem, you can :

1. Select the subsystem in the tree and press Ctrl+Ret.
2. Right click on the parent subsystem that opens the popup menu of the subsystem object and select the option Edit ...
3. Drag & drop the subsystem object in the Work View (only if the View is empty or if it already contains a subsystem edit window).

See the Subsystem Edit Window to get information about editing the subsystem.

Removing a subsystem

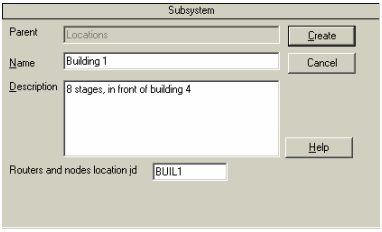
Only subsystems that contain no nodes, no routers and no child subsystems may be removed.

To remove a subsystem, you may :

1. Open the popup menu of the subsystem to remove and select the option Remove ...
2. Edit the subsystem. Click on Remove in the edit window
3. Select the subsystem in the tree and press Ctrl+Del

Subsystem Edit Windows

When you drag&drop the subsystem in the Edit Windows or when you press Ctrl+Enter on a subsystem or when you right click and choose the option Edit you launch the popup windows on subsystems:



Picture 32 : Subsystem edit windows

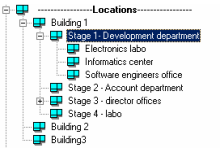
Parent : return the parent subsystem
Name : you type the name of the subsystem
Description: free definable text area for the user
Routers and nodes location ID: Location ID that will be downloaded in any node or router belonging to this subsystem.

Subsystem hierarchy

Each subsystem can be considered as directory.

You can create a hierarchy for the entire subsystems.

For example to create



Picture 33 : Example of hierarchical subsystem creation

You need to:

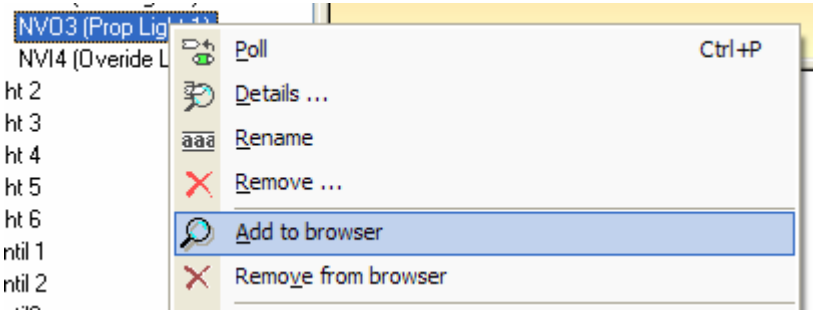
Right click on ***location*** and choose “new subsystem in <Locations>”
Type ***Building1*** and press return (default for Create Button)
An empty edit windows appears for a new subsystem at the same level
Type ***Building2*** and press return
Type ***Building3*** and press return
Right click on Building1 and choose “new subsystem in <Locations>”
Type ***Stage1 – development department*** and press return
Type ***Stage2 – Account department*** and press return
Type ***Stage3 – director office*** and press return
Type ***Stage4 – Labo*** and press return
Right click on Stage1 – development department and choose “new subsystem in <Locations>”
Type ***Electronics labo*** and press return
Type ***Informatics center*** and press return
Type ***Software engineers office*** and press return

VARIABLES BROWSER

Browse a variable

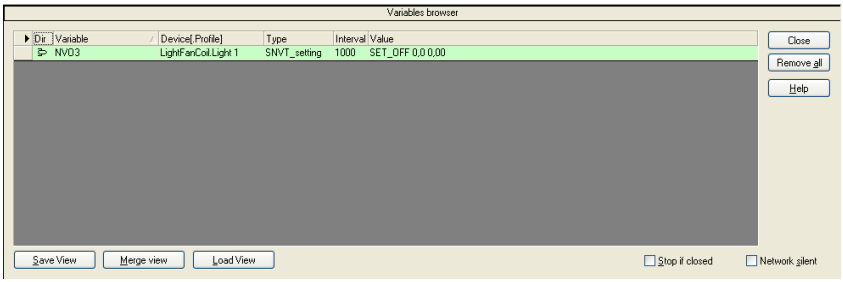
You can browse a variable from a node in order to read or write a value on the network. In order to browse a variable, a valid network interface must be set at opening of your project.
To add a variable in the browser, expand a node in the tree until you can see the network variables ; here you can :

- Drag and drop the variable to the Edition view
- Right click on the variable, and click on “Add to browser”



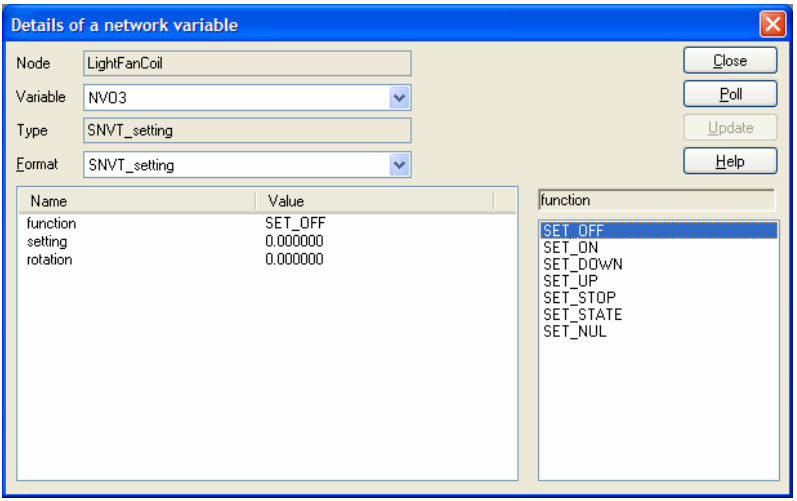
Picture 34 : Add a variable to the browser

As a result, the browser window will appear, with the variable(s) browsed inside.



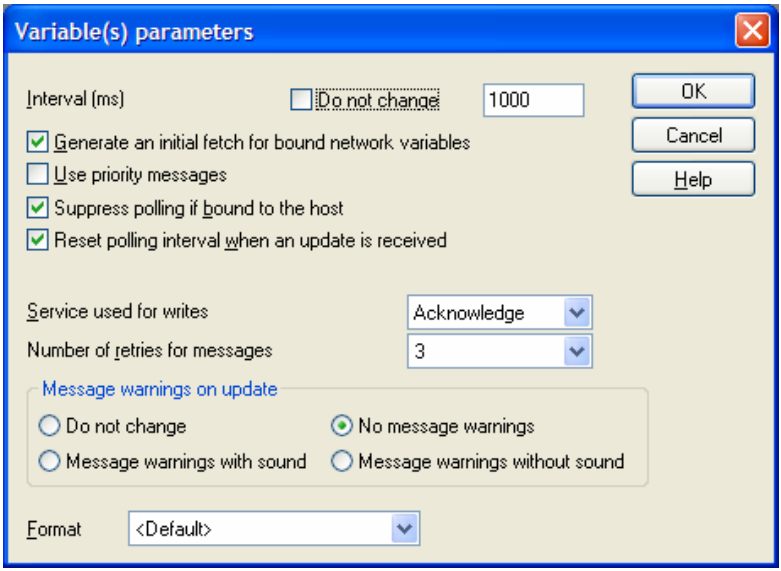
Picture 35 : Variable browser

If you right click on a variable in the browser, you can access to the variable’s details and configuration.



Picture 36 : Variable's details

In the details, you can change the variable's format, and poll or update the value (depending if the variable is an input or an output).

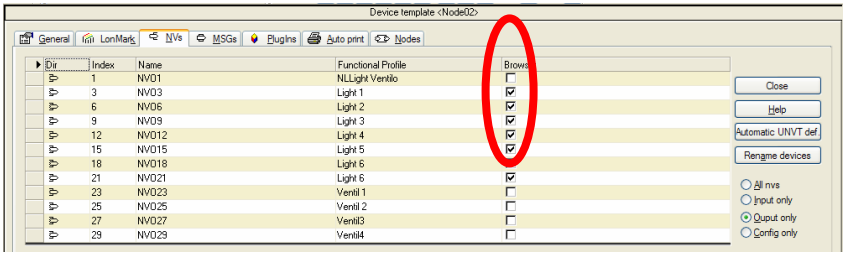


Picture 37 : Variable's configuration

In the variable's configuration, you can set polling and writing parameters for the variable.

Automatic browser

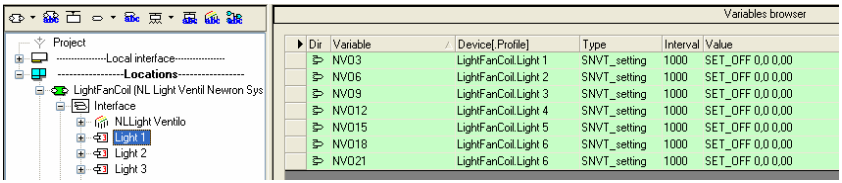
You can also set an automatic set of variables to be browsed for a device template.



Picture 38 : Device template automatic browser settings

Once you have checked the variables to be added, you can activate the automatic browser by clicking this icon  .

Then when you go in the subsystems tree, if you click on a node with automatic browser defined, the browser shall appear in the edition view with all variables defined in the device template.



Picture 39 : Automatic browser

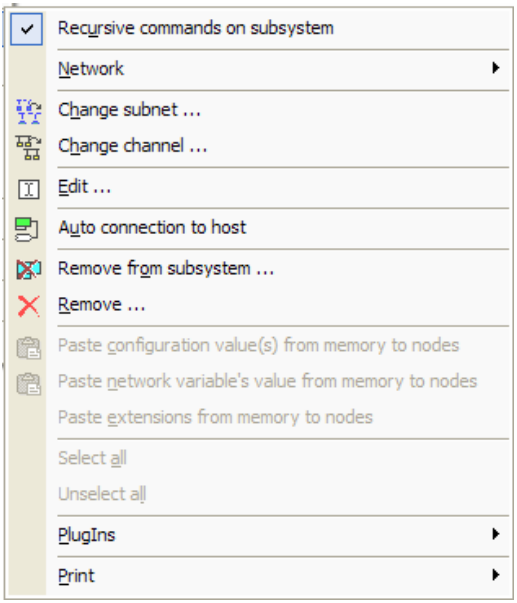
RECURSIVE COMMANDS

Set recursive commands active

In order to set recursive commands active, right click on a subsystem, go to the “Nodes” menu, and click on “Recursive commands on subsystem” to activate it.

Picture 40 : Recursive commands activated

Commands available

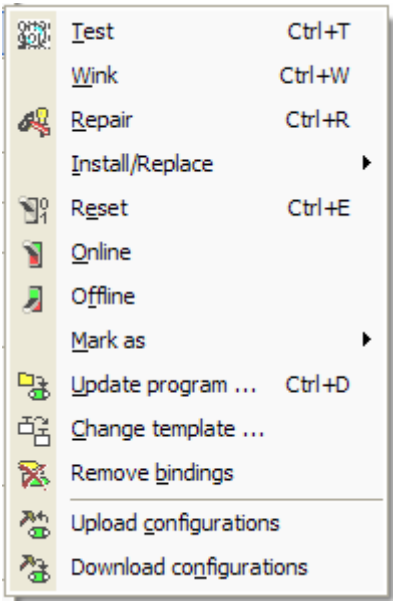


Picture 41 : Nodes menu

When you go on the “Nodes” menu, you get the functionalities listed on the previous picture.

You can :

- Change the subnet or the channel of all nodes of the subsystem
- Apply auto-connection to the host rules
- Paste configurations properties values on all corresponding nodes of the subsystem
- Acces to “Network” functionalities, as in the following picture



Picture 42 : Network menu

FILTERS

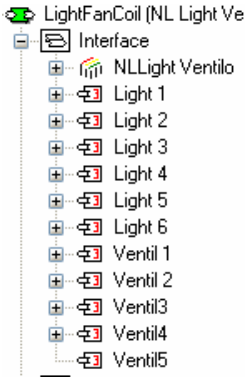
It is possible to define filters on the tree, in order to diplay only selected items.

Different types of filters

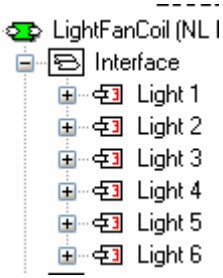
Picture 43 : Filters menu

Here are the different filters you can set :

- Nodes filter : display nodes, functional blocks, variables, connections, …
- Nodes name filter : sets a filter on nodes' name (works with jokers "*" and separators ";")
- Device template filter : display only nodes of the selected device templates
- Variables filter : display nvis, nvos, configurations
- Variables name filter : sets a filter on variables' name (works with jokers "*" and separators ";")
- Router filter : displays installed, uninstalled, … routers
- Routers name filter : sets a filter on router's name (works with jokers "*" and separators ";")
- Functional block name filter : sets a filter on functional blocks' name (works with jokers "*" and separators ";")
- Connection name filter : sets a filter on connection's name (works with jokers "*" and separators ";")



Picture 44 : No filter set

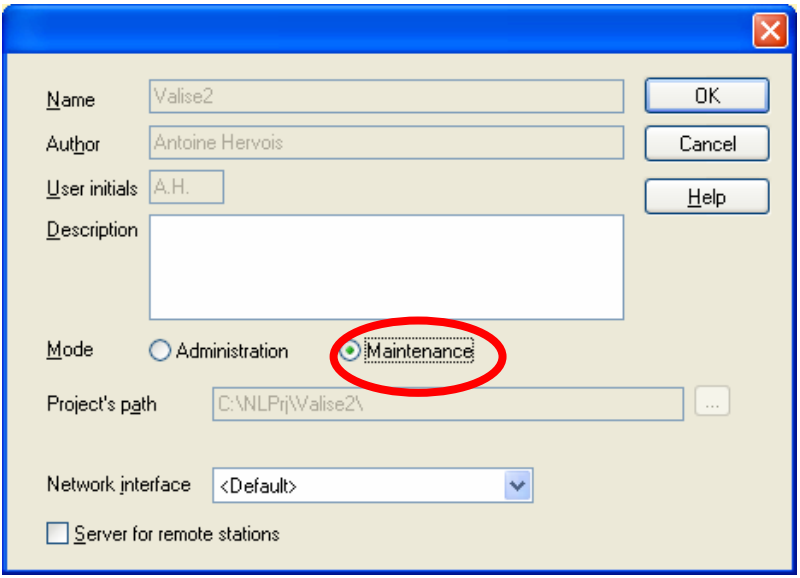


Picture 45 : "Light*" filter set

MAINTENANCE

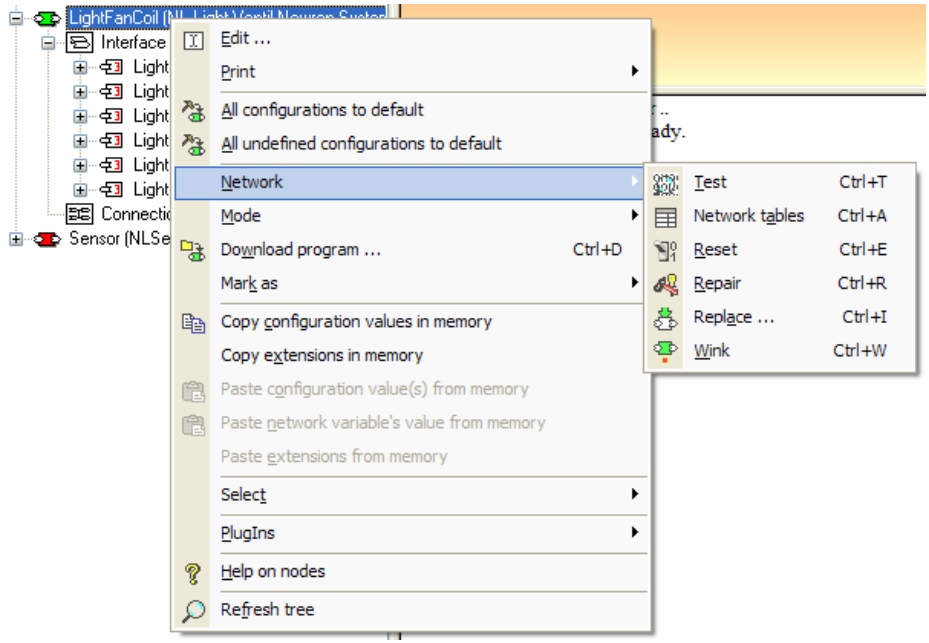
Maintenance functionalities available in NL220

Maintenance mode restricts the available functionalities of NL220. You can choose to open a project in maintenance mode, or automatically open in Maintenance depending on what your license allows you.



Picture 46 : Open a project in maintenance mode

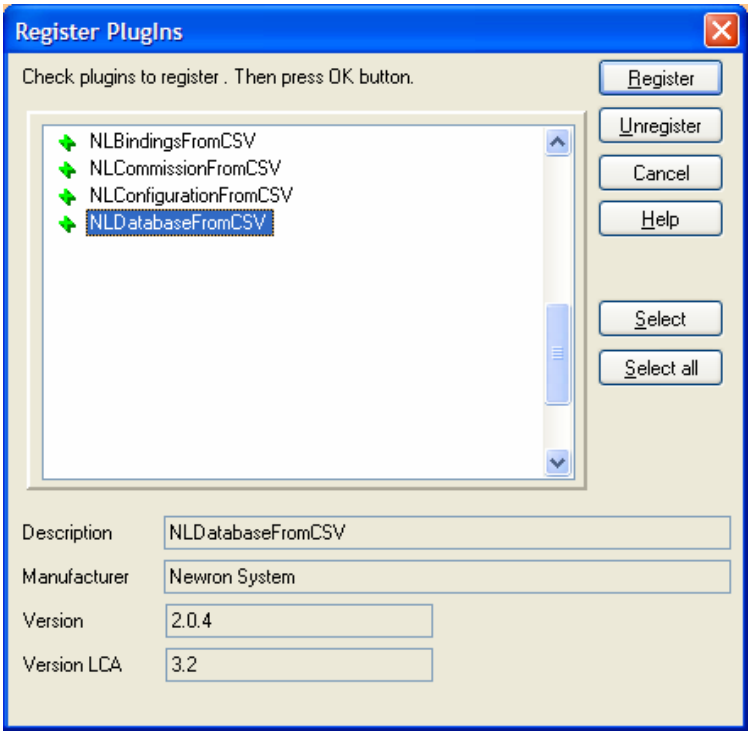
In maintenance mode, you cannot create or delete an item of the database. The only functions allowed are the ones listed in the following picture.



Picture 47 : Maintenance mode functionalities

PROFESSIONAL VERSION

NL220 licensing mode includes a professional version. With this version, you can use Newron System's set of CSV plugins.

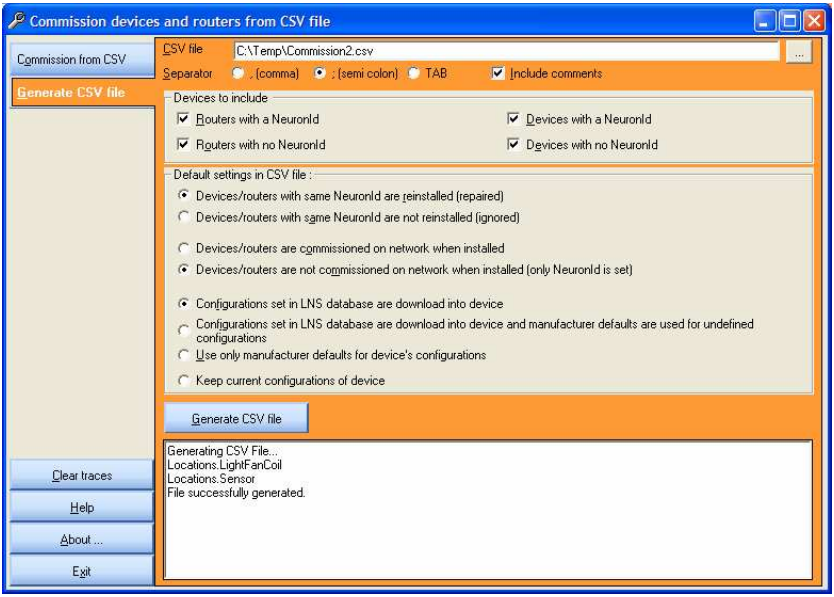


Picture 48 : Newron System CSV plugins

We provide four plugins :

- NLDatabaseFromCSV : import and export nodes from a csv file
- NLConfigurationsFromCSV : import and export configuration properties values from a csv file
- NLBindingsFromCSV : import and export connections from a csv file
- NLCommissionFromCSV : import and export NeuronIDs from a csv file

These plugins will help you decrease database creation time.



Picture 49 : NLCommissionFromCSV plugin

CONCLUSION

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