N L 2 2 0
M A N U A L

NEWRON SYSTEM
25-27 Boulevard Victor HUGO
31770 COLOMIERS (France)
T: +33 (0)5 61 15 18 45
F: +33 (0)5 61 15 16 44

S U M M A R Y

T A B L E

P I C T U R E S

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.

INSTALLATION OF PROGRAM

This section explains how to install the NL220 program

Configuration requirements

The table below shows the minimum configuration and the recommended configuration for the installation and correct functioning of the program.

Equipment	Minimum	Recommended
Operating system	Windows 98, NT, 2000	Windows NT, 2000
Computer	Pentium 200 Mhz, 800 x 600 screen	Pentium II 350 Mhz, 1024 x 768 screen
Memory	32 M octets	64 M octets
Hard disk	100 Mo - 50 Mo program - 0,5 to 8 Mo per project	200 M octets
CD ROM	Required for installation	Required for installation
Printer	A default printer must be set	A default printer must be set
Interface network	Type NSI or VNI card	Type NSI or VNI card

Table 1   The equipment

Installation

A setup program will guide you through the installation procedure and will ask you for any information necessary.

Installation of program

1. Insert the CDROM in the CD reader

2. If no window appears on the screen open: D:\index.htm

3. Picture 1 will appear on the screen.

4. Select **Software** on main Menu

5. Picture 2 will appear on the screen.

6. Select **NL220** on center of screen.

7. Picture 3 will appear on the screen.

8. Select **Click to install NL220 on your PC**, Picture 4 will appear on the screen.

9. Select **run this program fro its current location** and click on **OK** button.

Picture 1 Install Step 1

Picture 2 Install Step 2

Picture 3 Install Step 3
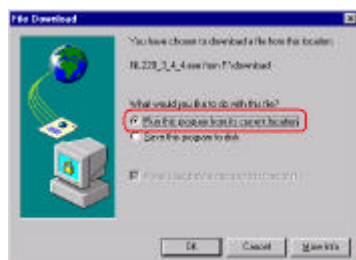
Picture 4 Install Step 4

The installation program will now be readied and Picture 5 will appear on the screen. Follow the instructions until you arrive at type of installation choice on Picture 6.

Picture 6 Install Step 6
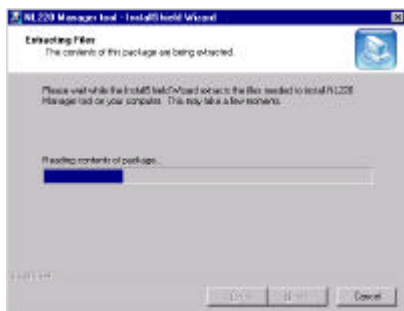
Picture 5 Install Step 5

Picture 7 Install Step 7   Picture 8 Install Step 8
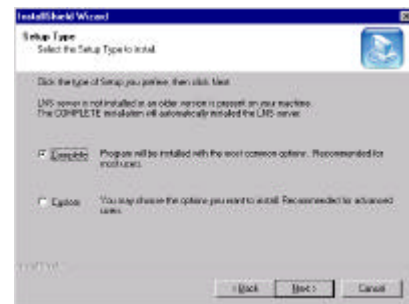
You have the choice between the following installations:

Installation	Details
Complete	Complete installation of NL220 and LNS
Custom	You can choose package to install NL220 and LNS

Table 2   Type of installation

You should restart your PC at the end of the installation, according to the instructions

NETWORK INTERFACE

The network interface allows a physical link to be created between the PC and LonWorks network.

Valid interfaces

Type of interface	Maker	Connection	NSI	VNI
PCC10	Echelon	Slot PCMCIA	X	X
PCLTA10	Echelon	Slot ISA	X	X
PCLTA20	Echelon	Slot PCI	X	X
SLTA10	Echelon	Port RS232	X	
LonDongle	D&H gmbh	Parallel port	X	
LPP	Gesytec	Slot ISA	X	
LPC	Gesytec	Slot PCI	X	

Table 3   Type of PC interface

To work, NL220 needs a Firmware NSI or VNI interface

Driver for interface

Some drivers are available on CD on **Driver** main menu see: Picture 9.

Choose you network interface in the selection grid. Click on the appropriate interface in the vertical left menu. In Picture 10 we have selected PCLTA20. Choose the good operating system and follow instruction for setup.

Picture 9 Driver installation Step 1
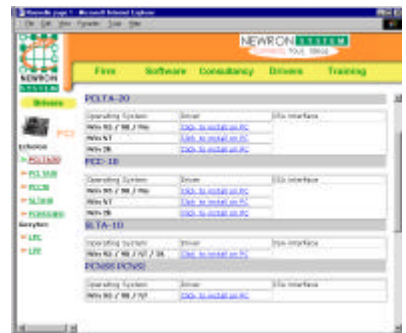
Picture 10 Driver installation Step 2

Verifying interface function

To function correctly, NL220 must have a type NSI or VNI interface as shown in Table 3.

Verifying PCC10, PCLTA10, PCLTA20

1. Open the configuration panel and launch the icon
🚂 LonWorks® Plug 'n Play
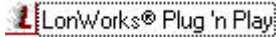
Verifying SLTA10

2. Activate: *Start/Programs/LonWorks SLTA10/SLTALink Manager*

3. The SLTA Link Manager menu bar must be as in Picture 11 with a green warning light, if it is red, or if the menu bar is like Picture 12, the interface is not working. Repeat the configuration steps, following the instructions carefully

Picture 11 SLTA10 connected   Picture 12 SLTA10 unconnected

Verifying LonDongle

4. Plug the NL220 Dongle in first, the LondonGle in second position.

5. Open the configuration panel and launch the icon «LondonGle

Configuration Utility»

6. Launch Diagnostics.. option.

Verifying LPP

7. Open the configuration panel and launch the icon
🔌 Easylon PCI Interface

8. If a check box is valid, the interface is show by the system like in Picture 13

Picture 13 Valid LPP windows

STARTING NL220

To use the NL220 in 'complete' mode, the protection dongle must be installed on the printer port before launching the program

NL220 starts by activating :
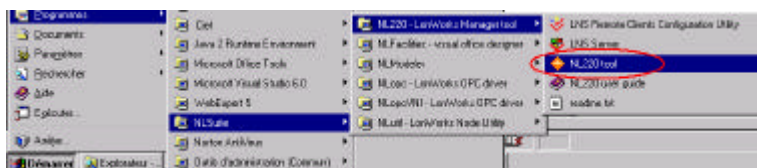
If the protection key is not installed on the PC, the band will show that the NL220 is in « Limited Version » mode as shown in Picture 1.

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	Obtain help for Client/Server IP mode

Mode

Work in single mode	Check, if NL220 is to work on LNS.
Remote TCP/IP mode	Searches for servers on the IP network.

Table 4   Explanation of loggin window

ⓘ In single user mode, the LNS Plug'in cannot be used.

ⓘ 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.

Work in single user mode

If checked, NL220 will work in single user mode.
In this mode, another LCA(tm) based application may not work simultaneously on the same network than NL220.

BEWARE: A plug ins is another LCA based application! In this mode You cannot launch Plug Ins

Creating or opening 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 5   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 abandonned.

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 6   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
Level	Current level for using the project : allows different levels of operation. Choose the level you wish
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.

Table 5   General project settings folder items

Network

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

Picture 7 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.
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)

Table 6   Project settings / network folder's items

Customize

These options allow to customize NL220 editor.

Picture 8   Project settings / Customize folders windows
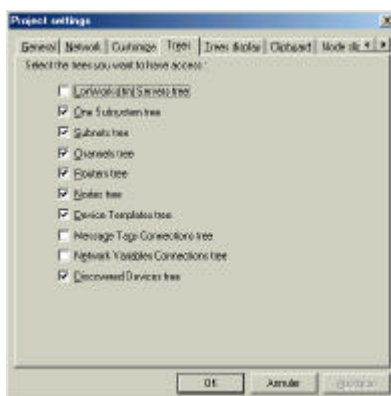
Items	Detail
Confirm when deleting object	A confirmation will appear every time you ask for deleting an object in the project's database.
Delete childs when deleting subsystem	If checked empty childs subsystems are removed when deleting a subsystem
Ignore subsystem with devices when deleting a subsystem	Only available if previous option is checked. If checked then non empty child subsystems are ignored. If unchecked then if at least one child subsystem is not empty then the subsystem's removing is cancelled.
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.
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.

Table 7   Project settings / Customize folders items

Trees

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

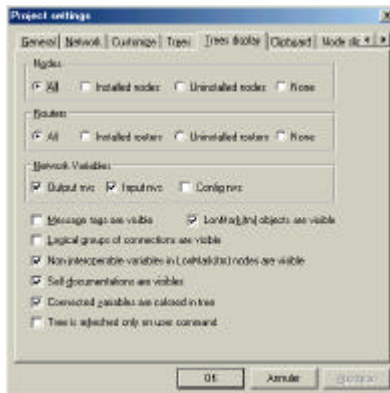
Picture 9   Project settings / Trees folders windows

Items	Detail
LonWorks server tree	Tree where the entire LNS based applications are displayed.
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 8   Project settings / Trees folder items

Trees display

This tab describes the configuration of the trees.

Picture 10   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.
LonMark(c) Objects are visible	If checked LonMark Objects 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.
Colored variables are colored in tree	If checked the connected network variables will be blue colored 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.

Table 9   Project settings / Tree display folder items

Browser Defaults

This tab describes the defaults taken when adding a network variable to the network variable browser.
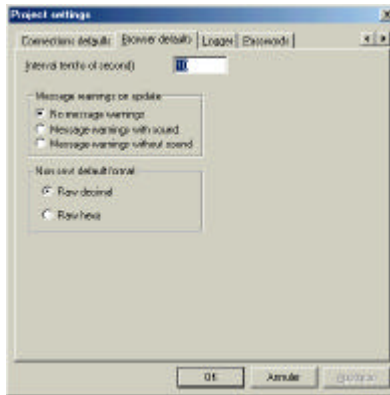
Picture 11   Project settings / Browser default folders windows

Items	Detail
Interval	Interval of network variables polling.
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.

Table 10 Project settings / Browser default folders items

Logger

This tab describes the logger's settings.
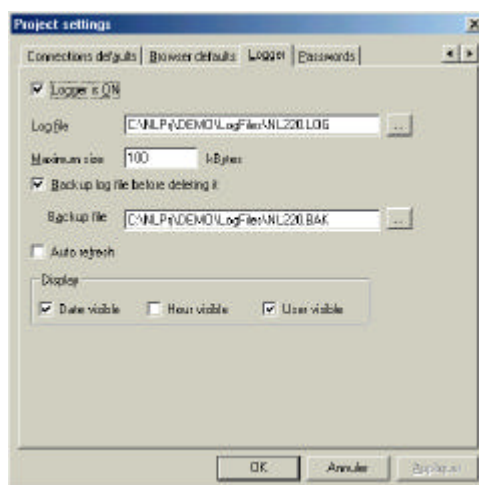
Picture 12   Project settings / logger default folders windows

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.
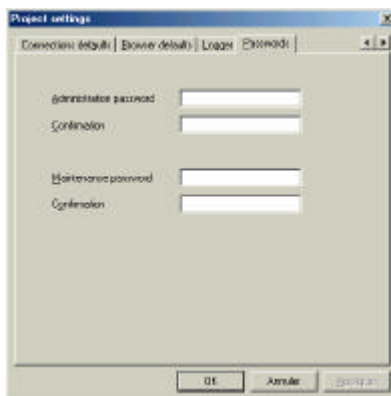
Picture 13   Project settings / password default folders windows

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.
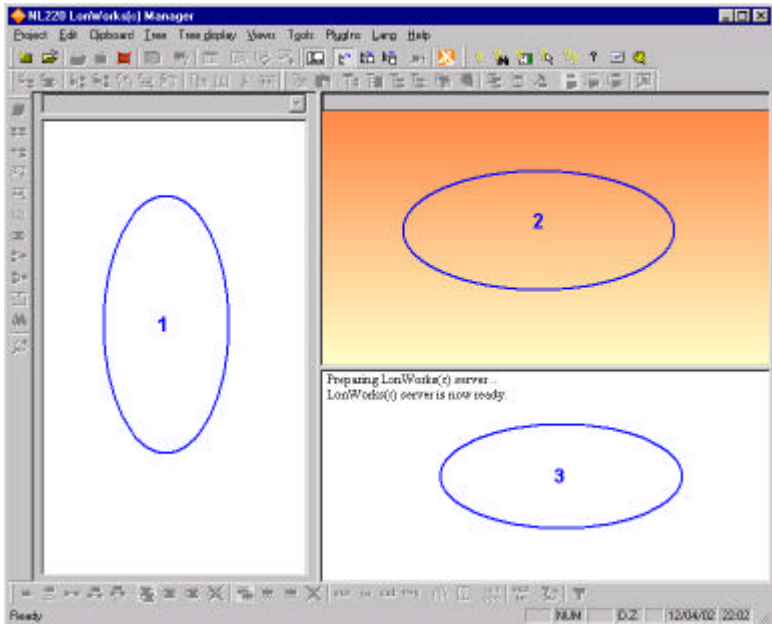
Picture 14   NL220 general Human interface

The zones

On Picture 14 the circled zones are three spaces where the elements of a LonWorks network are shown.

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

The 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 database
Edit	ALT-E	Manipulation of a basic device
Clipboard	ALT-L	Copy and paste options
Tree	ALT-T	Selection of a tree to be visualised in zone 1
Tree display	ALT-D	Level of detail option for visualisation 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	Selection of 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
Print		Print all subsystems
Close		Close project
Remove		Erase project
Backup Project		Save project
Restore Project		Restore a project
Project setting		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 Connection		Create a new connection between 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
LonWorks server tree		Display all LNS engine
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	msg	If clicked Messages tags are displayed
LonMark Objects are displayed		If clicked LonMark Objects 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	out in	If clicked connected variables are displayed in blue
Refresh the tree on command		If clicked the tree is only refreshed on command
Filters		Filters

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	out	If checked, output variables are displayed
Input variables are displayed	in	If checked, input variables are displayed
Config variables are dispalyed	cnf	If checked, config variables 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
Trees toolbar		If clicked Trees toolbar is displayed
Tree's setting toolbar		If clicked Tree's setting 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
Large button		If clicked large buttons are displayed

Table 24 Views menu description

TOOLS menu

Item	Icons	Explanation
Network variable browser		Launch NV browser
Refresh types catalog		Refresh types catalog
Windows autodimension		Windows dimension
Auto display		Sub menu of display
Logger		Sub menu of logger
Attached to network		If clicked this attaches the 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

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

Table 29 Lang menu description

Menu HELP

Item	Iconss	Explanation
Contents		Contents of the help file
Search		Search for a topic in the entire help file
Help on editor		Helpfile on editor
Drag and drop operation		Helpfile on drag&drop
Help on help		Helpfile that explains the use of the general helpfile
Tip of the day		Tip of the day
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.

Tree's settings

This tool bar provides you with all the tree settings functions. Click on the parameters you want to update.

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
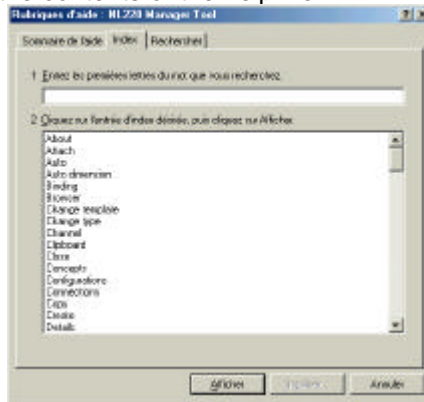
Picture 15   Help / Contents windows description

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, ….
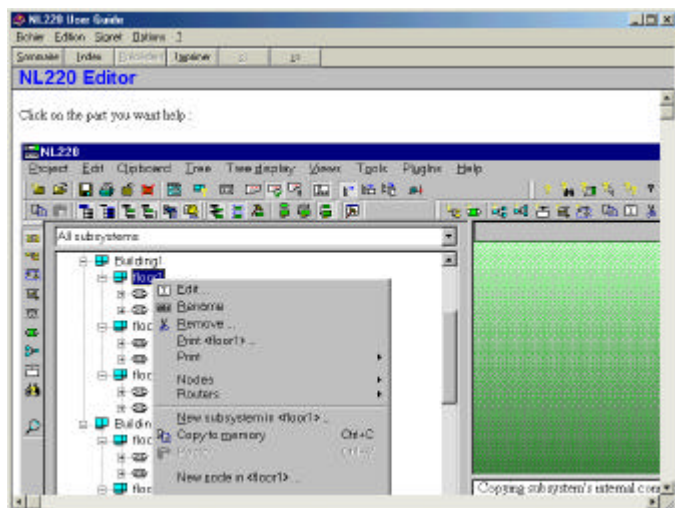
Picture 16 Help / Help on Editor windows description

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, …
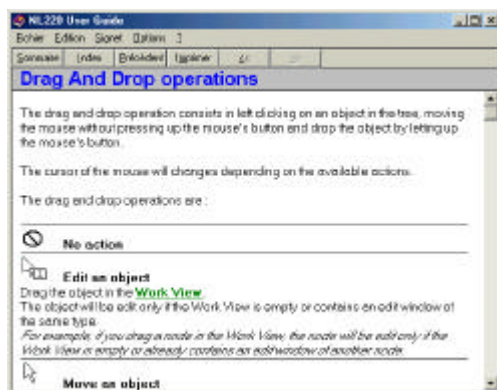
Picture 17 Help / Drag & drop operation windows description

Help on help

Helpfile that explains the use of the general helpfile

Tip of the day

List of tips including shortcuts, ways to process, quick test, …
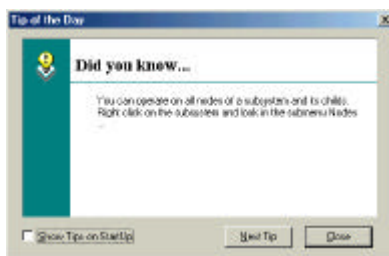
Picture 18   Tip Of the day windows description

Email NL220 hotline

This automatically executes your default mail program to send an email to NL220 hotline. It fills in the destination email adress
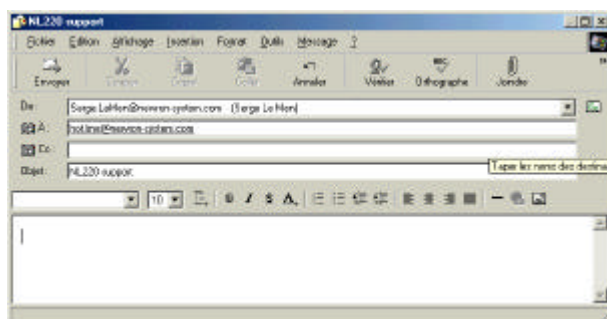
Picture 19   Email NL220 hotline Windows description

About NL220

About NL220 Windows
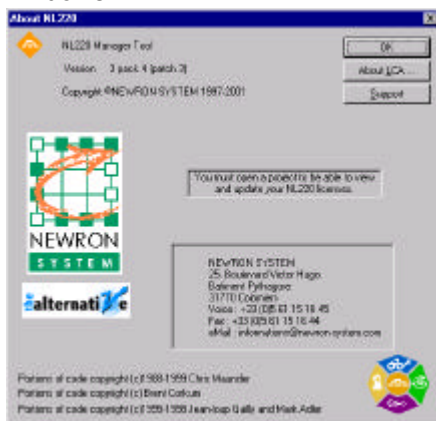
Picture 20   About NL220 Windows

For each node commisioned the credits is decrease by one. It is the Echelon Royalties.

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:
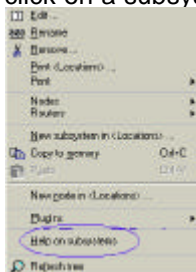
Picture 21   Exemple of on line help

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
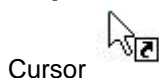
A node or router could belong to several subsystems.

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 nework 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.

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 22   Location Subsystem exemple

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 23   Root subsystem exemple

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   are 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 :

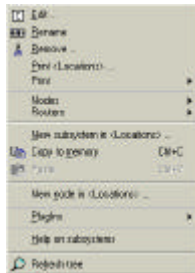|	
	Child Location subsystem
	Child User subsystem
	Node (installed and good state)
	Node (installed and absent or in bad state)
	Uninstalled node
	Node with pending changes
	Router (installed and good state)
	Router (installed and absent or bad state)
	Uninstalled router
	Router with pending changes

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 susbsystems:
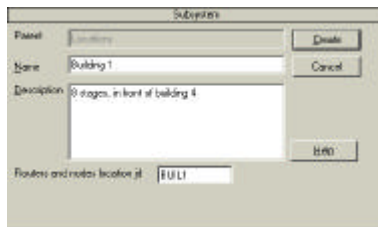
Picture 24   Subsystem Edit Windows

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 exemple to create

Picture 25   Exemple 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