# N L 2 2 0 M A N U A L



#### **NEWRON SYSTEM**

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#### p:2 NL220 Manual

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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 <u>www.newron-system.com</u>.

# **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.**.

4	NL2	NL220 LonWorks(c) Manager - Limited Version																											
P	roject	Edit	Selectio	n Clip	oboard	Tree	Tree g	<u>d</u> isplay	Views	T <u>o</u> ols	PlugIn	s Lang	Help	)															
2	<b>i</b> 🖆	¥   📫	î 🐹   🖁	3 🗄	1			-	51		100	1 🖻	P,	₽	E I	" 盳	睛	+	?	<b>a</b> 4	?	2	4						
	A.				~	- 14	福福	1 1000 101	000	88 B	d Kg	4ª 16	御 {	<b>m</b>			<u>aaa</u>			ΈĒ	I Te	E:		ų,	道 2	1   I	i (°	C.	

Picture 1 NL220 Demonstration of General Menu

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

¢	NL220 LonWorks(c) Manager																											
Br	oject	Edit	Selectio	n Clip	board	Tree	Tree	<u>d</u> isplay	Views	Tools	PlugIn	s <u>L</u> ang	Help															
4	i 🖬	) 🖬	) 🗶   B	5 🗄	1			- P?	5		1	1 📼	<b>P</b>	R   🖪	• F.	lii l	ð		? 1	I 💫	?	2	۹					
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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

Log in NL220			
User <u>n</u> ame <u>U</u> ser initials	Antoine Hervois A.H.		Log in <u>H</u> elp
General parame	ters		
<u>R</u> emote	TCP/IP mode	About Remote IP M	lode

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.

Log in NL220									
User <u>n</u> ame	Antoine Hervois	Log in							
<u>U</u> ser initials	A.H.	<u>H</u> elp							
General paramet	ers								
<u>■ Remote TCP/IP mode</u> <u>▲bout Remote IP Mode</u>									

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".

Existing projects list	
Projects Last opened  Project  MyProject  MyProject  DEMO	Select <u>N</u> ew Cancel <u>H</u> elp
Description	

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.

		X
<u>N</u> ame Aut <u>h</u> or <u>U</u> ser initials <u>D</u> escription	MyProject Antoine Hervois A.H.	OK Cancel Help
<u>M</u> ode	<ul> <li>Administration</li> <li>Maintenance</li> </ul>	
Project's p <u>a</u> t	h C:\NLPrj\MyProject\	
Network jnte	arface <default></default>	

Picture 6 Interface selection

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

New project	
<u>N</u> ame Aut <u>h</u> or <u>U</u> ser initials <u>D</u> escription	I OK Antoine Hervois Cancel A.H. <u>H</u> elp
<u>M</u> ode	Administration     Maintenance
⊙ <u>C</u> reate a	new database 🔿 Open an existing database 💦 Restore a <u>b</u> ackup
Project's p <u>a</u> t	h
Network inte	afface IP_LON
Server fo	r remote stations
Reco <u>v</u> er	y database from network V Small network (up to 64 devices)

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.

Project settings	
😭 <u>G</u> eneral 进 <u>N</u> etv	vork 📴 Customize 📲 Trees 🎦 Irees display 💶
Project name	MyProject
Aut <u>h</u> or	Antoine Hervois
<u>U</u> ser initials	A.H.
Project description	
Network interface	NIC_USB_1_000
<u>M</u> ode	Administration     O     Maintenance
Server for remote	stations
Always use S <u>m</u> art	Channel for network topology
	OK Annuler Appliquer

Picture 8 Project settings windows

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

	If <b><none></none></b> 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			
	Maintenance: Only maintenance functions.			
	You cannot add/remove node/connection			
Server for remote	Indicates if remote stations may work on the same			
stations	project. In this case your computer will act as a			
	server for the remote stations.			
Always use	If checked, going to the "Router" tab, or trying to			
SmartChannel for	install a router from the subsystem tree will			
network topology	automatically launch SmartChannel			

Table 2	General	project	settings	folder	items
	Ochiciai	project	Journage	loidei	noms

#### Network

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

roject settings							
🖀 General 🚽	Network	Customi	ze   215	Tr <u>e</u> es	»[5	<u>T</u> rees display	< >
Domain id length Domain id	⊙]_O3 _00	06					
Authentication enab	oled 📃						
System authen key	tication FF	FE	FF FF	FF	FF	]	
<u>U</u> pdate interval	120	secon	ls (0 non	e)			
Media type	Private r	nedia	🔿 Share	d media	ŝ		
Discovery interval	0	secon	ls (0 non	e)			
<u>R</u> epeat timer	3 - 0.048 s		~				
Retry count	3						
Trans <u>m</u> it timer	5 - 0.096 s		*				
Check interval for m	tabile <u>d</u> evices		60	(0	disable	ed)	
Check interval for temporary devices 120 (0 disabled)							
Check interval for stationary devices 900 (0 disabled)							
Check interval for <u>p</u>	ermanent devi	ces	0	(0	disable	ed)	
			ОК		nnuler	Appl	quer

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	If Authentication enabled is checked, the		
Кеу	authentication key for your system (hexa format).		
Update interval	The rate, in seconds: background process will		
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 hodes		
	troo		
Popost timor	Time between two repetition of an		
Repeat line	unacknowledged / repeat message (see		
	Echelon documentations about I onTalk		
	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)		
Chack interval for	Intervals in second to check state of mobile		
mobile devices	devices : if value is 0 devices are not		
mobile devices	checked		
Check interval for	Intervals in second to check state of		
temporary devices	temporary devices : if value is 0, devices are		
	not checked		
Check interval for	Intervals in second to check state of		
stationary devices	stationary devices ; if value is 0, devices are		
-	not checked		
Check interval for	Intervals in second to check state of		
permanent devices	permanent devices ; if value is 0, devices are		
	not checked		

Table 3 P	roject 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

Short text on test resultsIf checked the texts when testing a device areareshort.If unchecked the texts are longer but more explicit.Refresh connections when deleting nodesIf checked connections will be dynamically refreshed in the tree when removing node.All details always visible when replacing a nodeIf checked the replace node window will display all advanced options.By default download a node before installing/replacing it when creating a nodeIf checked the download option will be by default check in the installation/replace windowSet all configurations to manufacturer'sSet the configurations to manufacturers default 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 nodeIf checked, NL220 will not change the template of a node when installing or replacing itAsk a confirmation if the template of a node must be changedIf checked, NL220 will automatically ask for a confirmation if the template must be changed when installing / replacing a nodeEdit an item when you double click it in the treeIf checked, LNS transaction will be used. This can greatly improve the database's performancesVerify property type, index and mode when pasting valuesIf checked, NL220 will verify index, type and mode of the configuration property's value before pasting it		the node is always present on network).
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All details always visible when replacing a nodeIf checked the replace node window will display all advanced options.By default download a node before installing/replacing itIf checked the download option will be by default check in the installation/replace windowSet all configurations to manufacturer's default when creating a nodeSet 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 nodeIf checked, NL220 will not change the template of a node when installing or replacing itAsk a confirmation if the changedIf checked, NL220 will automatically ask for a confirmation if the template must be changed when installing / replacing a nodeEdit an item when you double click it in the treeIf checked, double clicking an item in a tree will automatically launch its edition windowUse LNS transaction to accelerate database accessIf checked, NL220 will verify index, type and mode of the configuration property's yalue before pasting it	deleting nodes	dynamically refreshed in the tree when
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Contract and item when you in 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 of the configuration property's value before pasting it	Edit on item when you	1000 If shacked double eligiting on item in a
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 of the configuration property's value before pasting it	double click it in the tree	If checked, double clicking an item in a
Use LNS transaction to accelerate database access Verify configuration If checked, LNS transaction will be used. This can greatly improve the database's performances Verify configuration If checked, NL220 will verify index, type and mode of the configuration property's walue before pasting it		
accelerate database access       This can greatly improve the database's performances         Verify       configuration         property       type, index and mode of the configuration property's value before pasting it	Liso INS transaction to	If checked INS transaction will be used
Verify       configuration       If checked, NL220 will verify index, type         property       type, index and       and mode of the configuration property's         wale       before pasting it	accelerate database access	This can greatly improve the database's
Verify configuration If checked, NL220 will verify index, type property type, index and and mode of the configuration property's mode when pasting values value before pasting it		nerformances
property type, index and mode when pasting values value before pasting it	Verify configuration	If checked NI 220 will verify index type
mode when pasting values value before pasting it	property type, index and	and mode of the configuration property's
	mode when pasting values	value before pasting it
Use fast memory   Checking this item will increase memory	Use fast memory	Checking this item will increase memory
usage, but also improve database		usage, but also improve database
performances		performances

Table 4 Project settings / Customize folders items

#### Trees

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

Project settings
Project settings
OK Annuler Appliquer

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
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#### **Trees display**

This tab describes the configuration of the trees.

Project settings
🖶 Network 📴 Customize 📲 Trees 🎢 Trees display 🕋 Clipboard
Nodes  All O Installed nodes O Uninstalled nodes O None
Routers       Installed routers       Installed routers
Network Variables
Message tags are visible Functional Profiles are visible Logical groups of connections are visible Non interoperable variables are visible
<ul> <li>Self documentations are visibles</li> <li>Connected variables are colored in tree</li> </ul>
Tree is refreshed only on user command
Displays only activated Functional Profiles (for iLON100)
OK Annuler Appliquer

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
	<b>Installed nodes</b> 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
Network variables	Note no foulers are displayed
Network variables	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	If checked, logical groups of connections
connections are visible	are displayed.
	Checking this option could slow down the
Functional profiles are	If checked Eunctional profiles are
visible	displayed
	Checking this option could slow down the
	tree display.
Non interoperable variables	If checked non interoperable network
in LonMark(tm) nodes are	variables are visible in nodes supporting
visible	LonMark
	Checking this option could slow down the
	tree display.
Self documentations are	If checked self documentations of nodes
VISIDIE	and network variables are visible.
	tree display.
Connected variables are	If checked the connected network
colored in tree	variables will be in blue color in the trees.
	Checking this option could slow down the
	tree display.
Tree is refreshed only on	If not checked NL220 will automatically
user command	refresh the tree when necessary.
	Il checked the user must press F5 of click
	the tree in this case when the tree must
	be refreshed the button in the Tree
	ToolBar will flash.
Display only actived	If checked, only actived Functional
Functional profiles (for iLon	profiles of the iLon 100 nodes will be
100)	displayed in the trees

#### Clipboard

This tab defines options to customize copy / paste operations.

P	roject settings	×
ſ	🎦 Trees display 🛗 Clipboard 🗟 Node clipboard 🗟 Connections def <	>
	✓ Detailed traces when pasting clipboard	
	Copying subsystem	
	✓ Root subsystem is copied ✓ Child subsystems are copied	
	✓ Nodes are copied ✓ Internal connections are copied	
	Description is copied     Iocation id is copied	
	Copy original connections names	
	✓ Nodes filters used when coying subsystems	
	Memorize subsystem state when copying it to memory	
	Copy only LNS authorized extensions	
	Show options window when pasting objects	
	For node copy see TAB labelled 'Nodes clipboard'.	
L		
	OK Annuler Appliquer	

Picture 13 Project settings / Browser default folders windows

Items	Detail
Detailed traces when	If checked, detailed traces will appear when
pasting clipboard	pasting an object
Root subsystem is	If checked, the root subsystem of your copy
copied	will also be pasted
Children subsystems	If checked, all children subsystems of the root
are copied	subsystem you copy will be pasted
Nodes are copied	If checked, all nodes from copied subsystem
	will be copied
Internal connections are	If checked, all connections between nodes of
copied	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	If checked, connection copied will keep the
connection names	same name than the original ones
Node filters used when	If checked, only nodes displayed in the tree (if
copying subsystems	filters are active) will be copied
Memorize subsystem's	If checked, contents of the subsystem will be
state when copying it in	copied in memory
memory	
Copy only LNS	If checked, only LNS extensions with flag
authorized extensions	CopyWithParent will be copied
Show options window	If checked, a simplified option window will be
when pasting objects	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.

Project settings		
Image: Trees display         Image: Trees display           ✓ Duplicate node in all         ✓           ✓ Automatically attribute         ✓           ✓ Copy node configurat         Node's connection to h           ○ None         ④	Clipboard Node of original subsystems the r the subnet ID ions S Set undefined ost levice template auto co	Hipboard 2 Connections def
Use first available Else use interface	original node's connect host interface Main interface v network variable on h	lon Dist
Properties to copy		Network check type
<ul> <li>✓ Non group timer</li> <li>✓ Network variables to</li> </ul>	Authentication	☑ Priority
✓ Use original interface ✓ Show options window	of the device template	(recommended)
	ОК	Annuler Appliquer

Picture 14 Project settings / Browser default folders windows

Items	Detail
Duplicate node in all	When pasting an application device then the
original subsystems it	new application device will be copied in all
belongs to	subsystems the original application device
	belongs to
Automatically attribute	If checked then the subnet ID used by a new
Subnet ID	copied application device will be automatically
	defined by NL220 depending on the channel
	of the application device
Copy node	If checked then when you copy an application
configurations	device, <b>NL220</b> will copy its configuration
	properties too
Set undefined	If checked then any configuration property
configurations to default	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	Defines how host connection of the original
host	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.

Clipboard	😫 Node clip <u>b</u> oa	rd 🔁 Conr	nections def <u>a</u> u	ilts 📕 <u>B</u> rowser	٠
<u>S</u> ervice	<default></default>	~	A	I to defaults	
Retries count	<default></default>	~			
Receive timer	<default></default>	~			
R <u>e</u> peat timer	<default></default>	~			
Transmit timer	<default></default>	~			
Authenticate	d 🔳 Priority				
<u>B</u> roadcasting Use <u>a</u> lias for N <u>v</u> conn prefix	<u>N</u> ever <u>Selector conflictor</u> <u>NvConn</u>	<u>G</u> roup () icts () <u>U</u> nic	Always cast		
Msg conn prefix	MsgConn				
Put devices o	ıffline when updati	ng connectior	is on network		

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.

olecraectuga	
Node clip <u>b</u> oard 2 Connections de	efaults 📕 Browser 🖾 Logger
Polling interval (ms) 1000	
Generate an initial fetch for bound netw     Use priority messages     Suppress polling if bound to the host     Reset polling interval when an update	vork variables is received
Service used for writes	Acknowledge
Number of retries for messages	3
Message warnings on update	Non snvt default format
No message warnings     Message warnings with sound     Message warnings without sound	<ul> <li>Raw decimal</li> <li>Raw hexa</li> </ul>
Stop polling if browser is closed	
	OK Annuler Appliquer

Picture 16 Project settings / Browser default folders windows

Items	Detail
Polling interval	Interval of network variables polling.
Generate an initial fetch	If checked then NL220 will generate a fetch to
for bound to host	have a start value for the bound to host
network variables	network variables
Use priority messages	If checked the priority messages are used
	when WRITING network variables
Suppress polling if	If checked the bound to host network
bound to the host	variables will not be polled (except for the
	initial fetch)
Reset polling interval	If checked and if polling is not suppressed for
when an update is	bound to host network variables then the
received	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	Method to follow when the network variable
update	value changes.
No message warnings	User will not be warned if the network variable
	value changes.
Message warnings with	When the network variable value changes, a
sound	message will appear in the messages view
	with a beep.
Message warnings with	When the network variable value changes, a
sound	message will appear in the messages view.
Non SNVT default	Value format for non SNVT network variables.
format	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	If checked then if you close the browser the
is closed	polling is automatically stopped

Table 10 Project settings / Browser default folders items

### Logger

This tab describes the logger's settings.

Project settings		
Connections	def <u>a</u> ults 📕 Browser 🔛 Logger 🕵 Passw	ords 🔹
✓ Logger is ON		
Log <u>f</u> ile	C:\NLPrj\MyProject\LogFiles\NL220.LOG	
<u>M</u> aximum size	100 kBytes	
✓ <u>B</u> ackup log file	before deleting it	
B <u>a</u> ckup file	C:\NLPrj\MyProject\LogFiles\NL220.BAK	)
Auto refresh		_
Display		
✓ Date visible	Hour visible Viser visible	
L		
	OK Annuler	Appliquer

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.

Project settings	
🔁 Connections defaults 🔳 Browser 🖾 Logger 🗖 Passwords	< >
Administration password Confirmation Maintenance password Confirmation	
OK Annuler App	liquer

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

Project Edit	Selection Clip	board <u>T</u> ree Tree <u>d</u> isplay <u>V</u> iews T <u>o</u> ols Pl <u>u</u> gIns <u>L</u> ang <u>H</u> el		
Menu	Shortcut	Explanation		
Project	ALT-P	Operations on a LNS database		
<u>E</u> dit	ALT-E	Manipulation of a basic device		
Selection	ection 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 <u>d</u> isplay	e display ALT-D Level of detail option for visualization in zone 1			
<u>V</u> iews	ALT-V	Selection of visible toolbars		
T <u>o</u> ols	ALT-O	Some special tasks		
Pl <u>u</u> gIns	ALT-U	Specific PlugIns LNS tasks		
<u>L</u> ang	ALT-L	Select a language		
<u>H</u> elp	ALT-H	Access to help and LNS royalties		

Table 13 General menu description

#### **PROJECT** menu

Item	Icons	Explanation
New	1	New project
Open	ų,	Open existing project
Close	J.	Close project
Remove	M	Erase project
Prepare project for iLon	HOO	Wizard to enable using iLon 100 in
100 support		your project
Network resources	Ē↓	Statistics on the network database
Attached documents	СС <mark>ь</mark>	List of documents attached to the project
Backup Project	t i	Save project
Restore Project	Ð	Restore a project
Project settings		Settings for a current project
Save project setting as		Save the project settings as default settings
Fxit	ALT-	Exit program
	X	

Table 14 Project menu description

#### **EDIT** menu

Item	Icons	Explanation
New		New devices in the project
Сору		Copy a device onto clipboard
Edit	I	Edit a device
Remove	×	Erase a device
Rename	<u>aaa</u>	Rename a device
Define the location	<b>-</b>	Define the location of the subsystem
subsystem		

Table 15 Edit menu description

#### EDIT- NEW menu

Item	lcons	Explanation
New root subsystem	ol <sup>or</sup>	Create a new subsystem on the root
New node	ų,	Create a new node
New Variables	₽¢ ₽¢	Create a new connection between

Connection		variables
New Messages	60	Create a new messages connection
Connection		
New Device Template	Ц <sup>1</sup>	Create a new type of node
New Channel	च	Create a new channel
New Subnet	(T)	Create a new subnet

Table 16 Edit / New menu description

### **CLIPBOARD** menu

Item	Icons	Explanation
Copy object	ĒÐ	Copy the object in the clipboard
Paste object		Paste the object from the clipboard
Copy original root		Paste option
subsystem		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		Paste option
internal connections		Copy internal connections
Use node filters		Paste option
		Use node filter
Memorize subsystem	<b>1</b>	Paste option
state		Memorize subsystem
Duplicated node in all		Paste option
subsystems	Б	Duplicate node
Automatically generate		Paste option
subnet Id		Generate subnet Id
Copy Node's	3.	Paste option
configuration		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	٥Ū	Paste option
connection		Use connection defined in the
		template
Use original nodes	ĵ	Paste option
connection		Use connection defined in
		subsystem

Table 18 Clipboard / Nodes connection to host menu description

#### TREE menu

Item	lcons	Explanation
All subsystems tree	般	Display all subsystems
One subsystem tree	90	Display device per subsystem
Subnet tree		Display device per subnet
Channel tree	폐	Display device per channel
Routers tree	展	Display only routers
Node tree	ß	Display only nodes
Device template tree		Display device template
Message tag connection	B	Display message tag connections
Network variable connection	<u>م</u>	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	lcons	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	Φ	If clicked Messages tags are displayed
Functional profiles are displayed	<b>N</b> E	If clicked Functional profiles are displayed
Non interoperable NV are displayed	?	If clicked non interoperable NV are displayed
Show self documentation	self doc	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	Q	If clicked the tree is only refreshed on command
Only activated functional profiles are displayed (iLon100)	ŵ	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	2.53	If checked, only devices are displayed
Devices with interface	<b>n</b>	If checked, devices with interface are displayed
Connections only	-	If checked, connections only are displayed
Device with connections	<u> </u>	If checked, device with connections are displayed
Devices with interface and connection	<b>M</b>	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	222	If checked, only installed nodes are displayed
Only uninstalled nodes are displayed	22	If checked, only uninstalled nodes are displayed



Table 21 Tree display / Node display menu description

### Tree display – Router Display menu

Item	Icons	Explanation
All routers are displayed	ŝ	If checked, all routers are displayed
Only installed routers are displayed	ì	If checked, only installed routers are displayed
Only uninstalled routers are displayed	原	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	lcons	Explanation
Output variables are dispalyed	ŵ	If checked, output variables are displayed
Input variables are displayed	Ŷ	If checked, input variables are displayed
Config variables are dispalyed	÷	If checked, config variables are displayed
Programmatic names are displayed	Ŕ	If checked, programmatic names are displayed

Table 23 Tree display / Network variable display menu description

#### **VIEWS** menu

Item	lcons	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.

## **TOOLS** menu

	Network Variables Browser Ctrl+Alt+B
<b>a</b>	<u>A</u> utomatic browser
	<u>R</u> efresh types catalog
I.	Window a <u>u</u> to dimension
	Auto <u>d</u> isplay
	Logger •
₽	Attached to net <u>w</u> ork
<b>#</b> \$	Scan for new devices
~	Watch for service pin
	Export to NLC/NLB/NLOPC
	NLFacilities
-	SmartC <u>h</u> annel
	Clear templates

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	<b>84</b>	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	5	Launch SmartChannel tool for router topology

Table 25 Tools menu description

### TOOLS - AUTODISPLAY menu

Item	Icons	Explanation
None	E <sup>™</sup>	No autodisplay
Normal	ŧõ	Normal autodisplay
Advanced	ŧ <b>ē</b>	Advanced autodisplay

Table 26 Tools / Autodisplay menu description

## **TOOLS - LOGGER menu**

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

Table 27 Tools / Logger menu description

### PLUGINS menu

Item	lcons	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	lcons	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 潘 🗳 🖹 🗮 🗒 🚆 🐂 🗣 🍯 🛢 🏗 🌶 🛡 🖓 隼 🛍 副 🏘 🗩

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.

⊠ Support NL220 - Message (HTML)	- 🗆 ×
Eichier Edition Affichage Insertion Format Outils Actions ?	
🖃 Envoyer 👻 🖶 🎒 🐰 🗈 🛍 🛃 🖞 😫 🕵 🖞 😫 🕵 🏌 😫 Options 🔏 😰	-
Normal • Arial • 10 • ▲ 6 / S ■ ■ Ξ Ξ Ξ Ξ Ξ	信 — .
Ce message n'a pas été envoyé.	
A hot.line@newron-system.com	
<u></u>	
Objet : Support NL220	
	ć.
	v

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.

About	LonWorks Object Server	
<b>*</b>	LNS Object Server ActiveX Control Version 3.23 Copyright (c) Echelon Corporation 199 All Rights Reserved.	OK 92-2007

Picture 25 About LCA windows

If you click on "Support", you will send a mail to <u>hot.line@newron-</u> 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:

I	<u>E</u> dit				
<u>aaa</u>	<u>R</u> ename				
$\mathbf{X}$	Remove				
	Print 🕨				
	Search •				
	Nodes •				
	Routers	+			
8 <sub>78</sub>	New subsystem in <locations></locations>	>			
Ð	Copy to <u>m</u> emory	Ctrl+C			
6	P <u>a</u> ste	Ctrl+V			
50	New <u>n</u> ode in <locations></locations>				
	PlugIns	•			
8	Help on subsystems				
$\mathcal{P}$	Refresh tree				

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



#### 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	667
CUISOL	

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	5

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".

🕅 NLCreditsGenerator : Newron System Credits Generator					
Welcome in Newron System Credits Generator         These informations show you the current available credits for Newron System products.         You can use this utility to add credits to your key and to automatically upgrade LNS credits if required.         Status         Maximum NLCredits       64         Used NLCredits       4         Remaining NLCredits       60         LNS credits       502         Key serial number       2373					
Key serial number       2373         Image: Secause LNS credits are machine dependant you must remember that :         1) You must upgrade the key on the PC that will be used to commission the LonWorks(tm) devices on the network.         2) You can upgrade the key only when you must commission LonWorks(tm) devices or when you must use NLFacilities in runtime mode.         Help       About NLCredits       << Back					

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".

🏁 NLCreditsGenerator : Newron System Credits Generator 🛛 🛛 🔀				
NLD 02 y1F t73 h30 \$601761 \$501436 6578 2D21 122E 3138 9CB9 6367 \$486C48 \$60793D \$40444C 487D 3622 6F48 8782 2D46 F06E CA93 5268 CCBD AECC A88E CF96 \$786856 \$79783A 3648 \$5F0129 3D39 \$50448A \$58596F u4848 n78CF59766E79 r4A : DF2D DBC1 0680 CD3D BE - 2E3E E476 E096 EE42 DC2E 382D 7860 987C 32D6 2E3C 7E73 E1E8				
ł				
_				

Picture 28 : Upgrade credits

# **Beware with LNS Credit**

The credits are only defined for this PC. You must use <u>this PC</u> 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 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

<sup>ч 2</sup>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

I Edit aaa <u>R</u>en

The popup menu on a subsystem contains:

I	Edit	l Edit	Edit the subsystem
aaa	<u>R</u> ename	Rename	Rename subsystem
×	Remove		
	Print <locations></locations>	Remove	Remove the subsystem
	Print +	Print	Print subsystem
	Nodes •	Nodos	Macro command on nodes of the
	Routers +	noues	
	New subsystem in <locations></locations>		subsystem
	Lopy to memory Ltt+L Pasta DttLV	Routers	Macro commands on routers of the
	New node in (Locations)		subsystem
	Plugins +	l	Subsystem
	Help on subsystems	New subsy	stem in <>
0	Refresh tree	-	Create a subsystem IN the selected
	-	1	subsystem
			Subsystem
		Copy to me	emory
			Copy the subsystem into memory
		Paste	Paste the clipboard (subsystem or
		1 4010	
			node) into the subsystem
		New node	in <>
			Create a node in the subsystem
		Dlugloc	Subevetom's pluging
		Flugins	
		Help on Su	Ibsystem

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 ...
- 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 Bemove 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:

Subsystem					
Parent	Locations	<u>C</u> reate			
<u>N</u> ame	Building 1	Cancel			
<u>D</u> escription	8 stages, in front of building 4				
		<u>H</u> elp			
Routers and	I nodes location jd BUIL1				

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. Each subsystem can be considered as directory.

You can create a hierarchy for the entire subsystems.

For example to create





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.

			Variables browser		
Dir Variable	△ Device[.Profile]	Туре	Interval Value		Close
NV03	LightFanCoil.Light 1	SNVT_setting	1000 SET_OFF 0,0 0,00		
					Remove <u>al</u>
					Halp
					Tob
		_			-
Save View	derge view Load View			Stop if closed	Network silent

Picture 35 : Variable browser

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

Details o	f a network variable				
Node	LightFanCoil		]		<u>C</u> lose
Variable	NV03	~			Poll
Туре	SNVT_setting		]		<u>U</u> pdate
<u>F</u> ormat	SNVT_setting	~	]		<u>H</u> elp
Name		Value		function	
function setting rotation		SET_OFF 0.000000 0.000000		SET_OR SET_ON SET_DOWN SET_UP SET_STOP SET_STATE SET_NUL	



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).

Variable(s) parameters	
Interval (ms) Do not Generate an initial fetch for bound netwo Use priority messages Suppress polling if bound to the host Reset polling interval when an update is	change 1000 OK rk variables Cancel Help
<u>S</u> ervice used for writes Number of retries for messages	Acknowledge
Message warnings on update O Do not change O Message warnings with sound O M	o message warnings essage warnings without sound
Eormat <default></default>	~

Picture 37 : Variable's configuration

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

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

				Device template <nodel< th=""><th>02&gt;</th><th></th></nodel<>	02>	
đ	<u>G</u> eneral	(前) LonMar	<u>k</u> € <u>N</u> Vs	🗢 MSGs 🕴 Elugins 🖨 Auto print 🖘 Nodes	$\mathbf{\Lambda}$	
	▶ Dir	Index	Name	Functional Profile	Brows	
	Ъ	1	NV01	NLLight Ventilo		
	Þ	3	NV03	Light 1		Llose
	Þ	6	NV06	Light 2		Help
	Þ	9	NV09	Light 3		
	þ	12	NV012	Light 4		Automatic UNVT def.
	Þ	15	NV015	Light 5		Repare devices
	Þ	18	NV018	Light 6		Rengine devices
	þ	21	NV021	Light 6	9	0.41 mm
	þ	23	NV023	Ventil 1		Aurivs
	Þ	25	NV025	Ventil 2		O input only
	Þ	27	NV027	Ventil3		<ul> <li><u>O</u>uput only</li> </ul>
	Ð	29	NV029	Ventil4		Config only

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.

②・録 古 ○・象 京・夏 🕼 🗽		Vari					
- 🕆 Project		Dir	Variable /	Device[.Profile]	Туре	Interval	Value
😟 🖵Local interface		Þ	NV03	LightFanCoil.Light 1	SNVT_setting	1000	SET_OFF 0,0 0,00
😑 💶Locations		ф	NV06	LightFanCoil.Light 2	SNVT_setting	1000	SET_OFF 0,0 0,00
😑 🦔 LightFanCoil (NL Light Ventil Newron Sys		ф	NV09	LightFanCoil.Light 3	SNVT_setting	1000	SET_OFF 0,0 0,00
		ф	NV012	LightFanCoil.Light 4	SNVT_setting	1000	SET_OFF 0,0 0,00
Im NLLight Ventilo		Þ	NV015	LightFanCoil.Light 5	SNVT_setting	1000	SET_OFF 0,0 0,00
		₽	NV018	LightFanCoil.Light 6	SNVT_setting	1000	SET_OFF 0,0 0,00
⊞		ф	NV021	LightFanCoil.Light 6	SNVT_setting	1000	SET_OFF 0,0 0,00
표 연제 Light 3							_

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.

~	Recursive commands on subsystem
---	---------------------------------

Picture 40 : Recursive commands activated

# **Commands available**

~	Recursive commands on subsystem
	Network
$_{11}^{m}$	C <u>h</u> ange subnet
쨞	C <u>h</u> ange channel
I	<u>E</u> dit
5	Auto connection to host
	Remove from subsystem
$\boldsymbol{\times}$	<u>R</u> emove
e	Paste configuration value(s) from memory to nodes
e	Paste $\underline{n}etwork$ variable's value from memory to nodes
	Paste <u>e</u> xtensions from memory to nodes
	Select <u>a</u> ll
	Unselect all
	PlugIns •
	Print •

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 ";")

😎 LightFanl	Coil (NL Light Ve
🖹 🔁 Inter	face
🖻 - 🏠	NLLight Ventilo
<u>.</u>	Light 1
🕀 - <b> 3</b>	Light 2
🕀 - <b>23</b>	Light 3
🕀 - <b>- <del>-</del> 3</b>	Light 4
<b>⊞</b> … <b>⊂</b> 3	Light 5
<u>∓</u> - <b>=</b> 3	Light 6
🛨 ·· 🔁 '	Ventil 1
<u>∓</u> ~ <b>€</b> 3	Ventil 2
🕀 - <b>43</b>	Ventil3
<u>∓</u> ~ <b>€</b> 3	Ventil4
<b>-=</b> 3	Ventil5





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.

		×
<u>N</u> ame Valis	32	ОК
Aut <u>h</u> or Antoi	ne Hervois	Cancel
User initials A.H.		<u>H</u> elp
<u>D</u> escription		
<u>M</u> ode 🔘 Ac	Iministration	
Project's p <u>a</u> th	C:\NLPrj\Valise2\	
Network interface	<default></default>	
Server for remo	te stations	

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.

E-SS LightFanCoil (N	11 I i	ht Vestil Neuros Custer		_		
E E Interface	I	<u>E</u> dit				
i⊒ - <del>⊂</del> ⊒ Light		Print		۲ I		
⊞…æ3 Light ∋…æ3 Light	23	All configurations to default				
in -⊊i Light	~	All undefined configurations to default		ady		
in tight		Network			<u>T</u> est	Ctrl+T
📰 Connectio		Mode		▶ 🗐	Network t <u>a</u> bles	Ctrl+A
🗄 👁 Sensor (NLSe	-	Do <u>w</u> nload program	Ctrl+D	32	<u>R</u> eset	Ctrl+E
		Mar <u>k</u> as		• 🖧	<u>R</u> epair	Ctrl+R
		Copy <u>c</u> onfiguration values in memory		*	Repl <u>a</u> ce	Ctrl+I
		Copy extensions in memory		😤	<u>W</u> ink	Ctrl+W
	e	Paste configuration value(s) from memory				
	e	Paste <u>n</u> etwork variable's value from memory				
		Paste extensions from memory				
		Selec <u>t</u>		•		
		PlugIns		•		
	?	Help on nodes				
	P	Refresh tree				

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.

Register Plug	Ins		×
Check plugins to	<u>R</u> egister		
🔹 NLBindi	<u>U</u> nregister		
NLComr NLComr	nissionFromCSV		Cancel
<ul> <li>NLData</li> </ul>	baseFromCSV		<u>H</u> elp
			Select
Description	NLDatabaseFromCSV		
Manufacturer			
Version	2.0.4		
Version LCA	3.2		

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.

🔑 Commission device	s and route	ers from CSV file			
Commission from CSV	<u>C</u> SV file	C:\Temp\Commission2.csv			
-	<u>Separator</u>	🔘 , (comma) 🛛 🤨 ; (semi colon)	C TAB	Include comments	
Generate CSV file	- Devices to	include			
	₩ <u>B</u> oute	rs with a NeuronId		Devices with a NeuronId	
	Route	rs with no NeuronId		Devices with no NeuronId	
	- Default sel	ttings in CSV file :			
	Devic	es/routers with same NeuronId are	reinstalled (re	epaired)	
	C Devic	es/routers with s <u>a</u> me NeuronId are	not reinstalle	d (ignored)	
	C Devic	es/routers are commissioned on n	etwork when i	installed	
	O Devic	es/routers are not co <u>m</u> missioned o	n network wł	en installed (only NeuronId is set)	
	<ul> <li>Config</li> </ul>	urations set in LNS database are	download into	device	
	C Config config	jurations set in LNS database are jurations	download into	device and manufacturer defaults are used for undefin	ed
	⊂ <u>U</u> se o	nly manufacturer defaults for devic	e's configurat	ions	
	C Keep	current configurations of device			
	<u>G</u> enera	ate CSV file			
	Lienerating Locations.L	USV File ightFanCoil			
<u>Clear traces</u>	Locations.S	ensor			
Help	I ne success	stully generated.			
About					
E <u>x</u> it					

Picture 49 : NLCommissionFromCSV plugin

# CONCLUSION

This was presentation of NL220, manager tool for EIA 709 networks.



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