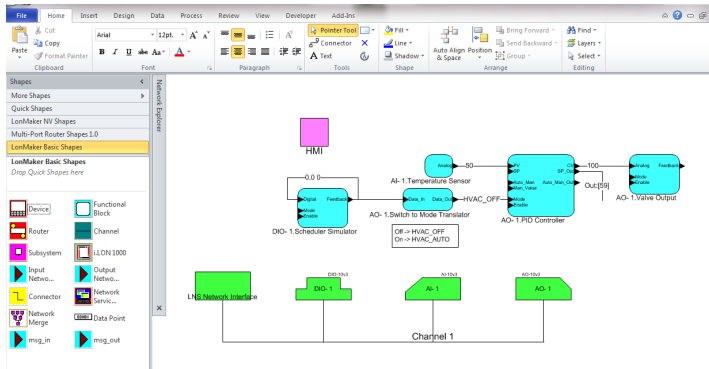


**LonMaker®  
Integration Tool  
Turbo Edition  
SR4**

Design, Install, and  
Maintain LONWORKS®  
Networks with Ease

Sophisticated yet easy to use, the LonMaker Integration Tool makes managing LONWORKS control networks faster and easier.

Based on Echelon's LNS network operating system, this network management tool combines a powerful client-server architecture and a user-friendly Microsoft Visio interface. The result is a software package that's robust enough to design and commission a control network, yet economical enough to leave behind as an operations and maintenance tool.



**FEATURES**

- Provides graphical design, commissioning, operation, and maintenance for LONWORKS networks.
- Includes the LNS® Network Operating System Turbo Edition and Microsoft Visio® 2010.
- Supports multiple users modifying devices in the network at the same time.
- Provides automatic connection-type selection to reduce common errors when specifying connections.
- Includes a streamlined interface to reduce engineering time.
- Includes Visio SmartShape® operator interface components.
- Integrates easily with third-party tools and applications with an XML import/export capability.
- Supports remote access via LONWORKS or IP networks.
- Includes i.LON® support for easy integration with the Internet and other IP networks.
- Recovers a design from existing networks.
- Merges independent networks into a single network.
- Simplifies installation with integrated support for LNS plug-ins and LONMARK® devices.

**DESCRIPTION**

The LonMaker Integration Tool, Turbo Editions SR4, is a software package for designing, installing, operating, and maintaining multi-vendor, open, interoperable LONWORKS networks. Based on Echelon's LNS network operating system, the LonMaker tool combines a powerful client-server architecture and a user-friendly Microsoft Visio interface. The result is a tool that is sophisticated enough to design and commission a control network, yet economical enough to be left behind as an operations and maintenance tool.

The LonMaker tool provides comprehensive support for LONMARK devices, SmartServer Energy Managers, and other LONWORKS devices. The tool takes full advantage of LONMARK features such as standard functional profiles, configuration properties, resource files, network variable aliases, dynamic network variables, dynamic functional blocks, and changeable types. LONMARK functional profiles are exposed as graphical functional blocks within a LonMaker drawing, making it easy to visualize and document the logic of a control system. LNS plug-ins are supported for easy installation.

Users are provided with a familiar, CAD-like environment for designing a control system. Visio's smart shape drawing feature provides an intuitive, simple means for creating devices. The LonMaker tool

includes a number of smart shapes for LONWORKS networks, and users can create new custom shapes. Custom shapes may be as simple as a single device, functional block, or connection, or as complex as a complete subsystem with nested subsystems and predefined devices, functional blocks, and connections between them. Using custom subsystem shapes, additional subsystems can be created by simply dragging a custom subsystem shape from a stencil to the drawing, a timesaving feature when designing complex systems.

Network installation time is minimized by the ability of the installer to commission multiple devices at the same time. Devices can be identified by service pin, bar code scanning, winking, manual entry, or automatic recovery. Network installation time is further reduced with a new automatic connection type selection feature. When an integrator creates or modifies a connection, the LonMaker tool provides a smart default for the connection type based on the type of connection created. This new feature reduces common errors when specifying connections. Creating and managing connections is further simplified with a new drag-and-drop connector tool and a new capability to hide connections in a LonMaker drawing.

The LonMaker Turbo Editions reduce network design time. Installation wizards

reduce the steps required to add new devices or functional blocks. Accelerators automatically associate a new functional block with a nearby device, or a new device with a nearby channel — again reducing the number of steps required to add devices and functional blocks. New simplified support for adding dynamic network variables reduces the number of steps required to create dynamic network variables for devices with dynamic interfaces such as Echelon SmartServers.

Network recovery allows easy migration of networks that were installed with other tools, or networks for which the database is no longer available. Network merge allows large systems to be initially installed as multiple independent systems, and then later merged into a single, integrated system.

Subsystem	Device	Functional Block	Network Variable	Config Prop	Mon Value
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	0.01020.000
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	0.00005.000
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	0
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	2
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	1
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	3.20000
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	5, 10, 0, 50, FALSE, FALSE
A	AD-1	PID Controller	UCPTFeedback	UCPTFeedback	1
A	AD-1	PID Controller	Auto_Man	UCPTFeedback	100.0
A	AD-1	PID Controller	Auto_Man	UCPTFeedback	100.0
A	AD-1	PID Controller	Auto_Man	UCPTFeedback	TRUE
A	AD-1	PID Controller	Auto_Man	UCPTFeedback	FALSE, FALSE
A	AD-1	PID Controller	Auto_Man_Out	UCPTFeedback	100.0
A	AD-1	PID Controller	Auto_Man_Out	UCPTFeedback	0.0
A	AD-1	PID Controller	CV	UCPTFeedback	100
A	AD-1	PID Controller	CV	UCPTFeedback	50
A	AD-1	PID Controller	CV	UCPTFeedback	100
A	AD-1	PID Controller	CV	UCPTFeedback	0
A	AD-1	PID Controller	CV	UCPTFeedback	0
A	AD-1	PID Controller	Enable	UCPTFeedback	100.0
A	AD-1	PID Controller	Enable	UCPTFeedback	100.0
A	AD-1	PID Controller	Enable	UCPTFeedback	TRUE
A	AD-1	PID Controller	Enable	UCPTFeedback	FALSE
A	AD-1	PID Controller	Man_Value	UCPTFeedback	20
A	AD-1	PID Controller	Man_Value	UCPTFeedback	20
A	AD-1	PID Controller	Man_Value	UCPTFeedback	TRUE
A	AD-1	PID Controller	Man_Value	UCPTFeedback	FALSE, 0
A	AD-1	PID Controller	Mode	UCPTFeedback	HVAC_OFF
A	AD-1	PID Controller	Mode	UCPTFeedback	HVAC_AUTO
A	AD-1	PID Controller	Mode	UCPTFeedback	TRUE
A	AD-1	PID Controller	PV	UCPTFeedback	50
A	AD-1	PID Controller	PV	UCPTFeedback	41.342
A	AD-1	PID Controller	PV	UCPTFeedback	TRUE

Testing and device configuration is simplified by an integrated application for browsing network variables and configuration properties. A management window is provided to test, enable/ disable, or override individual functional blocks within a device — or to test, wink, or set online and offline states for devices.

Using an integrated LonMaker Data Point shape, the LonMaker tool can be used to create simple operator interfaces for LonWORKS networks. The LonMaker Data Point is a Visio SmartShape that can be added to any LonMaker drawing page. The LonMaker Data Point can be linked to any network variable, configuration property, or functional block override in the network, and used to monitor or set the selected point. The Data Point can be linked to other Visio shapes, providing the capability to create graphical operator interfaces within a LonMaker drawing. By using the LonMaker Data

Point, the LonMaker tool can be used as a single-tool solution for many networks.

For more complex monitoring and control applications, the LonMaker tool is compatible with human-machine interface tools based on the LNS Network Operating System. For example, Echelon's LNS DDE Server can be used as an I/O driver for a variety of third-party operator-interface packages such as Wonderware's InTouch,® Intellution FIX,® USDATA FactoryLink,® and National Instruments' LabView® and BridgeView®. The LonMaker tool can be used to create network variables on the LonMaker computer and then to bind these network variables to a virtually unlimited number of network variables in the network.

The LonMaker Integration Tool is available in two editions — the Professional Edition and the Standard Edition. The LonMaker Professional Edition is the premier integration tool for network integrators and the Standard Edition is an ideal leave-behind maintenance tool. See the LonMaker Version Comparison at [www.echelon.com/lonmaker](http://www.echelon.com/lonmaker) for more information on the differences.

### Tool Integration

The LonMaker tool can be easily integrated with third-party applications using a new XML file import and export capability, in addition to an AutoCAD® file import and export capability. The LonMaker tool can export an XML file that describes the contents of any portion, or all of, a LonMaker network. An external tool or application can modify this file, or create a new XML file that directs the LonMaker tool to modify or create a LonMaker network. By using the XML standard, the LonMaker tool has become an extensible platform that can be easily integrated with other tools. For example, OEMs may create application-specific front-end applications that collect application-specific inputs from a network integrator, translate those inputs to a set of specifications in an XML file, and then request the LonMaker tool to automatically import and process the XML file. The export capability can also be used to create asbuilt reports that provide a comprehensive list of the devices, functional blocks, network variables, configuration properties, and connections in a LonMaker network.

### LNS Network Operating System

The LonMaker tool includes an LNS Turbo Edition runtime and LNS Turbo Edition Server. LNS provides a standard platform for supporting interoperable applications on LonWORKS networks. LNS permits multiple applications and users to manage and interact simultaneously with a network. Multiple LonMaker users can access a shared LNS Server via the LonWORKS network, a local area network, or the Internet. With the new multiple-user support in the LonMaker Turbo Editions, multiple users can make changes to the same drawing at the same time and stay synchronized — each user sees the changes made by other users as they make them. All changes by all users are logged in the LNS database so that multiple users stay synchronized even if some of the users are offline when changes are made by other users. This database synchronization feature also helps recover from computer crashes — changes to a drawing that are lost due to a crash are recovered when the LonMaker tool is restarted.

The LonMaker tool conforms to the LNS plug-in standard. This standard allows LonWORKS device manufacturers to provide customized applications for their products. These applications make it easy for system engineers and technicians to define, commission, maintain, and test the associated devices. A listing of LNS plug-ins is available at [www.echelon.com/plugins](http://www.echelon.com/plugins).

For LonMaker 3.1 and earlier users, the LNS Turbo Edition provides a typical 20% performance improvement; improved scalability, reliability, and ease-of-use; hot backup support; scheduled backup support; and enhanced LONMARK support. The LNS Turbo Edition also provides enhanced IP-852 support — with support for up to 256 devices on an IP-852 channel, and support for multiple devices behind firewalls.

### Release 1, 2, 3, and 3.1 Upgrades

Users of Release 1, 2, 3, or 3.1 of the LonMaker Integration Tool can upgrade to a LonMaker Turbo Edition by purchasing the Model 37012-324 or 37032-324 LonMaker Upgrade.

### SPECIFICATIONS

#### PC Requirements

32-bit version of Windows 7, Windows

Server 2008, Windows Server 2003 R2 with MSXML 6.0, Windows Vista with Service Pack (SP) 1, or Windows XP with SP3.

#### **Minimum Hardware**

500 MHz processor, 512 MB RAM, 2 GB available disk space, 1024 MB page file, DVD-ROM drive, 1024 x 768 or higher-resolution display with at least 256 colors, mouse or compatible pointing device, and LNS or IP network interface.

#### **Recommended Configuration**

2 GHz processor, 2 GB RAM, and 2048 MB page file.

#### **Compatible LNS Network Interfaces**

Drivers included for i.LON 10, 100, and 600 IP interfaces, SmartServer Energy Manager, U10 and U20 USB interfaces, PCC-10 PC Card, PCLTA-20 and 21 PCI Cards, and SLTA-10 Serial LonTalk Adapter.

#### **Compatible IP Network Interfaces**

Any PC network interface card or dial-up connection with a network driver compatible with Windows TCP/IP networking; drivers included for an IP-852 interface.

#### **Network Variables**

4,096 maximum per LonWORKS device.

#### **Maximum Limits**

The following maximum limits apply per network defined in the LonMaker tool.

Active LonMaker Tools: 5.

Application Device Types: 32,385.

Channels: 1,000.

Devices: 32,385 (2 addresses required per router and network service device).

Domains: 1 per network.

Routers: 1,000.

#### **PRICING**

Pricing for the LonMaker tool is based on usage. A low initial price provides you with a license to use the LonMaker tool on a single PC to design any number of networks, and also includes a license for Visio 2010 (versions without Visio do not include a Visio 2010 License). When you start commissioning devices, the LonMaker tool requires a pre-paid fee per device called a LonMaker credit. The first 64 LonMaker credits are included for free with the LonMaker Professional Edition; the first five LonMaker credits are included for free with the LonMaker

Standard edition. Additional credits can be purchased by ordering Model 37100 LonMaker Credits.

#### **DOCUMENTATION**

*LonMaker User's Guide Turbo Edition*

078-0333-01

(Available for download from [www.echelon.com/docs](http://www.echelon.com/docs)).

#### **ORDERING INFORMATION**

LonMaker Integration Tool SR4

Professional Turbo Edition

(includes Microsoft Visio 2010

Professional\* and

64 LonMaker Credits)

37000-324

LonMaker Integration Tool SR4

Standard Turbo Edition

(includes Microsoft Visio 2010

Standard and 5 LonMaker Credits)

37020-324

LonMaker Credits

(minimum order: 20 credits)

37100

LonMaker Integration Tool SR4

Professional Turbo Edition Upgrade

37012-324

LonMaker Integration Tool SR4

Standard Turbo Edition Upgrade

37032-324

LonMaker Integration Tool SR4

Professional Turbo Edition

Without Visio (includes 64

LonMaker credits)

37005-324

LonMaker Integration Tool SR4

Professional Turbo Edition Upgrade

Without Visio

37015-324

*\* Includes all the features in Visio 2010 Standard, plus enhanced support for engineering drawings; building, HVAC, space, and floor plans; logical network diagrams; web site mapping and documentation; and other technical drawings.*