

Operating Instructions

MEW01361

Revision 3

TLON Manager V2.0.x

Author: Jan Pettersson	Date of issue: 2010-12-23	Date of rev: 2013-02-08
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1 Introduction

TLON Manager is an installation and maintenance tool for the TLON Network used for fire alarm systems EBL512 and EBL512 G3.

TLON Manager 2.0 will replace TLON Manager 1.X.x since that program needs a PCMCIA card as a network interface. New Laptop PCs normally don't have any PCMCIA card slot. Both programs can be used with both EBL systems and projects created in TLON Manager 1.X.x can be opened in TLON Manager 2.0, which uses a USB network interface and has been updated to be more user friendly.

This Operating Instruction describes how to install the PC program **TLON Manager V2.0.x**. (At the *Date of issue* or the *Date of rev. x = 0.*) It also describes how to create a new TLON project, how to install it and the maintenance of a TLON network. It is not a complete description of the TLON Manager. Basic knowledge of windows and windows applications are required as well as knowledge of the fire alarm system respectively.

1.1 Definitions

USB network interface type 75010:

An Echelon network interface to be plugged in a laptop PC's USB port, for connection to the TLON Network.

Unit:

A physical device connected to the network, e.g. an EBL512 or an EBL512 G3 unit – containing a TLON connection board 1590 / 5090.

Node:

A logical part of the network. (E.g. a unit, see above.)

Channel:

A physical part of the network, i.e. the wires to which the units (nodes) are connected. (Compare with a COM loop and the connected loop units.) In system **EBL512** up to six units (nodes) can be used per Channel. Each "side" of a Router is a Channel. Two or more Routers are connected via a Backbone net (one Channel without other units). In system **EBL512 G3** with redundant network (two parallel networks) are Routers normally not required but can be used when a longer network cable is required – longer than the max. length for one Channel or for extra security reasons.

Router / Repeater:

Normally a repeater will forward all valid data and a router will forward all valid data based on its destination address. It is normally the same unit, configured as a repeater or as a router. In a TLON Network it doesn't matter because all valid data will be forwarded.

2 TLON Manager kit 5095

The **TLON Manager kit 5095** contains the following:

- ⊇ U10 USB Network interface type 75010R
- ⌘ Network connection cable.
- ⊐ USB Memory stick, containing Echelon LNS Server, the PC program TLON Manager V2.0.x, documentation, etc.
Also a USB extension cable is supplied.¹
- ⊆ License (for 64 credits per PC)².



The USB network interface ⊇ is via the Network connection cable ⌘ connected to the modular RJ-45 connector in EBL512 / EBL512 G3.

¹ The USB extension cable is normally used with the USB Network interface but can of course be used for the USB memory stick if required.

² Credit = LNS Device credit. One credit is consumed for each Neuron ID (number) in the network, e.g. each TLON connection board 1590 (p.c.b. no. 9302-xx) but not for the succeeding TLON connection board 5090 (p.c.b. no. ≥ 9310-xx). (Routers will not consume any LNS Device credits.)

How to check the LNS Device credits ("Licensed credits") status and how to order new credits, see page 36.

3 Echelon LNS Server

3.1 Installation of the Echelon LNS Server

NOTE! It is highly recommended to uninstall any old TLON Manager version and also the drivers (Echelon OpenLDV x.xx) before the installation of this Echelon LNS Server and TLON Manager 2.0.

It is also important that this Echelon LNS Server is installed before the installation of TLON Manager 2.0.x

Before installation, be sure that no other application is running on your PC.

The USB Memory stick contains the Echelon LNS Server 3.27, the TLON Manager V2.0.x software, the OpenLDV driver and documents³.

Put the USB Memory stick in one of your PC's free USB ports.

<USB-drive>
├── LNS Server 3.27
├── OpenLDV x.xx
├── Operating instructions
└── TLON Manager 2.0.x

Select the **LNS Server 3.27** folder.

Double click the **Setup.exe** file name and follow the installation instructions.

³ Operating Instructions TLON Manager V2.0.x, MEW01361 (i.e. this document) in PDF format.

4 Installation of TLON Manager

It is important that before the installation of TLON Manager 2.0, the Echelon LNS Server is installed, see chapter "Echelon LNS Server", page 5.

Before installation, be sure that no other application is running on your PC.

Before installation of this version – V2.0.x⁴, uninstall any other version of TLON-Manager V2.X.x.

The USB Memory stick contains the Echelon LNS Server 3.27, the TLON Manager V2.0.x software and documents⁵.

Put the USB Memory stick in one of your PC's free USB ports.

<USB-drive>
├── LNS Server 3.27
├── OpenLDV x.xx
├── Operating instructions
└── TLON Manager 2.0.x

Select the **TLON Manager 2.0.x** folder.

Double click the **Setup.exe** file name and follow the installation instructions.

Click "Finish" to finish the TLON Manager installation.

The program will normally be installed in the following folder:

C:\Program Files\Panasonic Electric Works Nordic AB\TLON Manager 2.0.x

It is recommended to send a "Shortcut" to the desktop.

NOTE!

After a program installation it is always recommended to restart the PC.

It is also recommended to check that the path is correct. Do as follows (could vary depending on the type of Windows that is used):

In Windows Explorer, use the right mouse button and click "(My) Computer", in the menu select (System) Properties. In "System Properties" open the "Advanced" (System Settings) tab and click "Environment Variables". Check in "User variables" that the **Path** is: **C:\LonWorks\bin**

(If not, add it.)

⁴ At the *Date of issue* or the *Date of rev.* **x = 0**.

⁵ Operating Instructions TLON Manager V2.0.x, MEW01361 (i.e. this document) in PDF format.

5 Echelon OpenLDV driver

NOTE! This installation of the driver (OpenLDV ≥ 4.00) is necessary to support 64-bit Windows versions. If a 32-bit Windows version is used, this installation is optional.

NOTE! To support 64-bit Windows versions TLON Manager V2.0.1 or later is necessary.

5.1 Installation of the Echelon OpenLDV driver

An older version of the driver (OpenLDV 3.4) was automatically installed during the installation of Echelon LNS Server 3.27. Before installation of the new driver (OpenLDV ≥ 4.00), uninstall the old driver (OpenLDV 3.4)

The USB Memory stick contains the Echelon LNS Server 3.27, the TLON Manager V2.0.x software, the OpenLDV driver and documents⁶.

Put the USB Memory stick in one of your PC's free USB ports.

<USB-drive>

- └─ LNS Server 3.27
- └─ OpenLDV x.xx
- └─ Operating instructions
- └─ TLON Manager 2.0.x

Select the **OpenLDV x.xx** folder.

Double click the **....._OpenLDVXxx.exe** file name and follow the installation instructions.

NOTE! It is highly recommended to have the computer connected to the internet during the installation of the driver (OpenLDV ≥ 4.00).

Connect the USB Network interface U10 to an available USB port. The installation of the USB driver should start automatically. If a Windows Update dialog box tells you to install the driver, choose any of the three Windows Update options at your preference. Click Next to continue.

Select "Install the software automatically (Recommended)." Click Next to continue.

A dialog box appears. Click Finish.

⁶ Operating Instructions TLON Manager V2.0.x, MEW01361 (i.e. this document) in PDF format.

6 Project

Normally (often), the network planning is carried out "in your office". Afterwards, during the commissioning "on site", the TLON network installation can be performed. As an alternative the planning and the "installation" can be carried out at the same time ("on site").
TLON network "installation" = download of the project / network data to the network units (EBL512, EBL512 G3 and Routers).

6.1 Planning a Project

A TLON Network can consist of two or up to thirty EBL512 / EBL512 G3 units.

In an EBL512 TLON Network are normally, for safety reasons, Routers used, see below.

In an EBL512 G3 TLON Network can one TLON Network – with or without Routers – be used or two parallel TLON Networks, i.e. a redundant network, see below.

It is possible to have one TLON Network with a mix of EBL512 and EBL512 G3 units, i.e. a **mixed system**. In such a case the EBL512 units have to have the **software version 2.7.x** and the EBL512 G3 units have to have the **software United version 2.7.x**.

6.1.1 EBL512 network

For safety reasons, it is recommended not to have more than six nodes on one Channel. To get one more Channel a Router has to be added, i.e. one Router per six EBL units. A Router can also be added in order to obtain a total cable length that is two times the normal cable length for one Channel.

In rough outline, there are three types of networks:

- a) Up to six EBL512 units (nodes) on one Channel, i.e. no Router.
- b) Up to twelve EBL512 units (nodes) and one Router, i.e. one Router and two Channels. One Router can also be used in order to obtain a total cable length that is two times the normal cable length for one Channel.
- c) Up to thirty EBL512 units (nodes) and a number of Routers, connected to each other via a Backbone net.

Make a schematic drawing of the network, i.e. a drawing showing all the EBL512 units (nodes), cables, Channels and required Routers. (The fire alarm system's installation drawings can be useful as well as the planning made with Win512, e.g. system name, control unit numbers, cables, etc.)

For safety reasons, it is recommended to place all the Routers and the backbone net together in a locked cabinet / room.

See also chapter "Examples", page 35.

6.1.2 EBL512 G3 network

Redundant network

For safety reasons the EBL512 G3 units have the possibility to use two TLON connection boards (type 1590 / 5090) in order to get **two** parallel TLON Networks (Network no. 0 and 1), i.e. a redundant network.⁷

Normally, TLON Network no. 0 is used for communication and TLON Network no. 1 is in a supervised quiescent state. TLON Network no. 1 will be used for communication only in case of a fault condition (cut-off or short circuit) on TLON Network no. 0.

If a redundant network is used there is no need for Routers if not a cable length longer than the normal cable length for one Channel, is required (see **b**) above).

6.1.3 Channels

Two or more EBL512 / EBL512 G3 units (nodes) are physically connected to each other via a network cable.⁸ In the LonWorks vocabulary this is called a **Channel**. (Compare with a COM loop and connected loop units.)

In a network type **a**) there is only one Channel, i.e. Channel_1.
No Channel has to be added. (Channel_1 is default.)

In a network type **b**) there is one Channel on each side of the Router, i.e. Channel_1 and Channel_2. Channel_2 has to be added.

In a network type **c**) there is one Channel for each Router and one Channel for the **Backbone net** between the Routers, i.e. Channel_1, Channel_2, Channel_3 and so on. Required numbers of Channels have to be added.

How to add Channels to the Project, see chapter "Add a Channel", page 18.

6.1.4 Routers

After the Channels have been added, the Routers have to be added to the Project if it is a type **b**) or **c**) network. See chapter "Add a Router", page 19. Use **Channel_2 for the Backbone net**.

6.1.5 EBL512 / EBL512 G3 units (nodes)

After the Channels and the Routers have been added, the EBL512 / EBL512 G3 units (nodes) have to be added to the Project, see chapter "Add a Unit", page 23.

⁷ In a redundant network two Projects have to be created and installed. The Projects have to be identical but with different Project names. One has to be installed for Network no. 0 and one installed for Network no. 1.

⁸ One TLON connection board 1590 / 5090 is required in each EBL512 unit. In EBL512 G3 one 1590 / 5090 board per TLON Network.

6.2 Planning / Creating a project

Here follows a rough **overview**:

Create a New Project. (File | New) ⁷

Add required Channel(s). (Network | Channel...)

Add required Router(s). (Network | Router...)

Add the nodes. (Network | Unit...) or (Click "Add") Normally **EBL512 / EBL512 G3 units** (or TLONDDE Server or Securimaster 1.43 connection).

Installation. ⁷ All the network data will be downloaded to the units (EBL512 / EBL512 G3, etc.). Installation order:

1. Routers. (Router | Install)
2. Nodes. (Node | Install)


Update all. (Click "Update all") All network data will be updated and saved in all the units, i.e. all the units will get information about all other units.

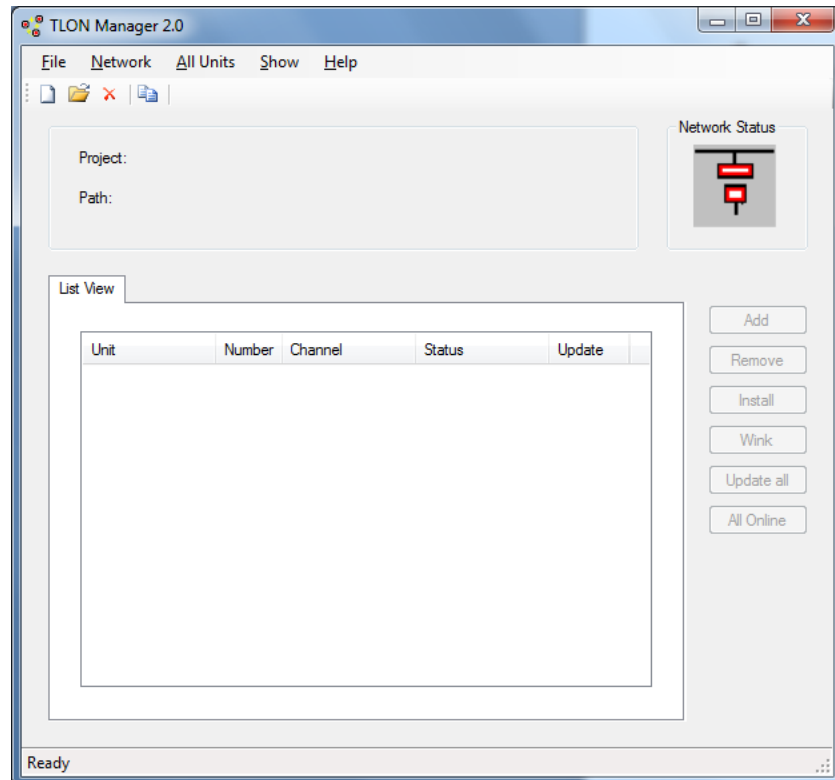
NOTE! In EBL512 / EBL512 G3 some data will be saved in the TLON connection board 1590 / 5090 and some data in the Main board 1556 / 4556.

Wink. (Click "Wink") This is a way to check if a unit is correctly connected and installed in the network. The buzzer will sound for a second in the unit respectively.

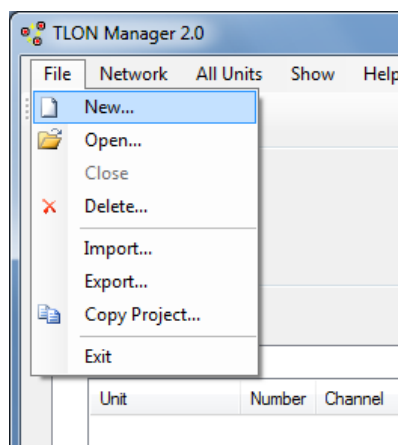
7 Create a New Project

This example will show how to connect two EBL512 / EBL512 G3 units (CU00 and CU01) in a TLON network.⁷

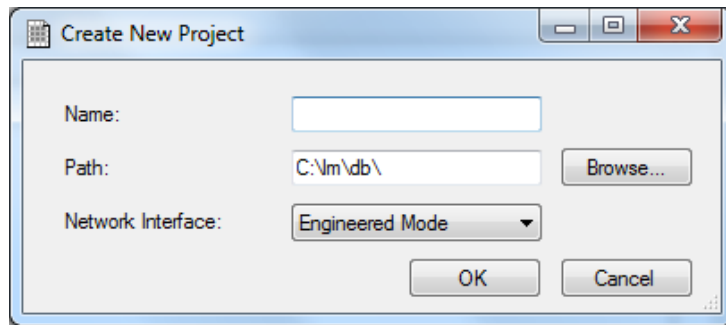
Start TLON Manager, i.e. double click the  icon on your PC's desktop.



1. Select "New" in the File menu.



A dialog box displays:



Name

Type a name for the project. Normally, use the same name as the "System Name" in Win512 / WinG3, e.g. System_xyz. Max. 23 characters.

Path

The path will be automatically created when you type the name, i.e. C:\lm\db\

NOTE! Do not change this data base path!

Network interface

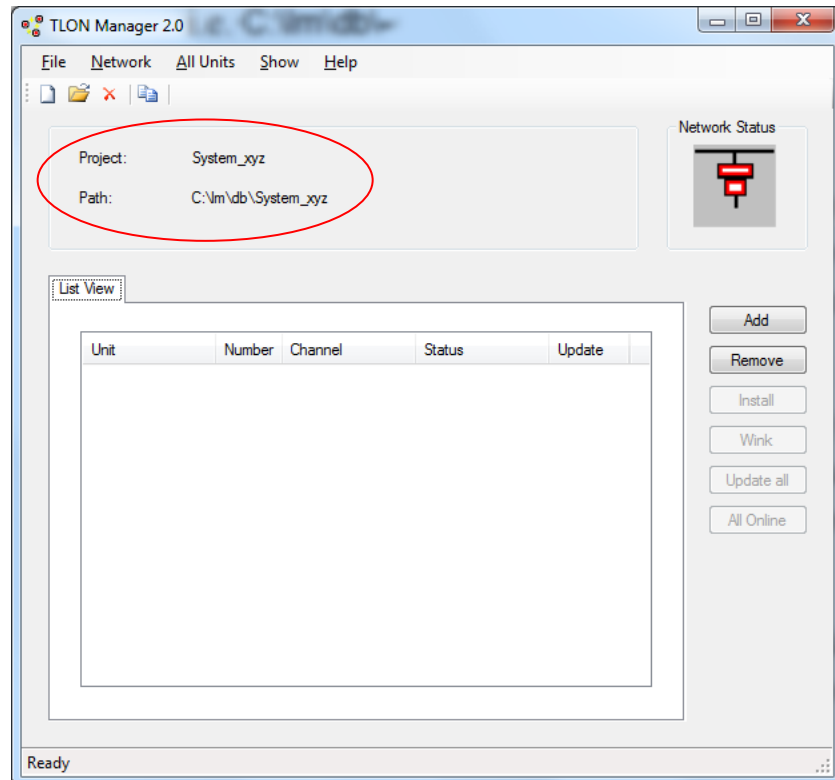
Engineered Mode This mode shall be selected when TLON Manager (i.e. your PC) is not connected to any TLON Network, e.g. when creating a new Project in your office.

LON1 This is the TLON USB Network interface for TLON Manager 2.0 installed on your PC.⁹ Select this interface (LON1) when you shall connect TLON Manager (i.e. your PC) to a TLON Network.

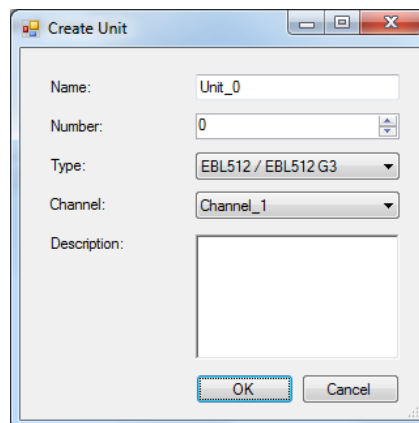
PCCLON1 This is the TLON Network interface (PCMCIA card) for TLON Manager 1.x (shown only if installed on your PC). Must not be used for TLON Manager 2.0.

2. Click "OK" to save the settings and close the dialog box. In the "TLON Manager 2.0" window is now displayed the **Project** (System_xyz) and the **Path** (C:\lm\db\System_xyz):

⁹ Normally only one interface is installed but if also TLON Manager 1.x is installed, LON1 might be used for that interface.



3. In this example, no Channels have to be added. Now the EBL512 / EBL512 G3 units have to be added. In the "Network" menu select "Unit..." or click "Add".
4. The following dialog box displays:



Name

Use the default name or type a name. Max. 14 characters.

Number

The number can be 00-29, i.e. CU00-CU29. Normally use the same number as in the name.

Type

EBL512 / EBL512 G3 Select this alternative for an EBL512 / EBL512 G3 unit.

TLONDDE Server Select this alternative for a TLONDDE Server (for a security management system). **NOTE!** Only valid for "Unit_29" (Number 29).

Securimaster 1.43 connection Select this alternative only for Securimaster 1.43. **NOTE!** Only valid for "Unit_29" (Number 29).

Channel

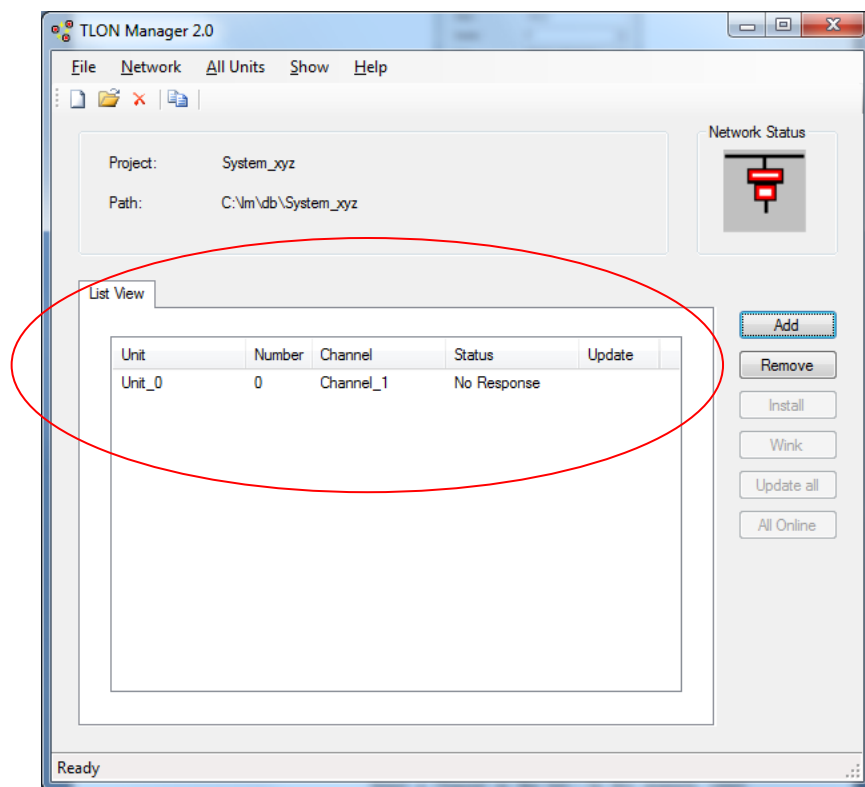
See chapter 6.1 Planning a Project.

Select a Channel in the list. In this example, select "Channel_1" (default).

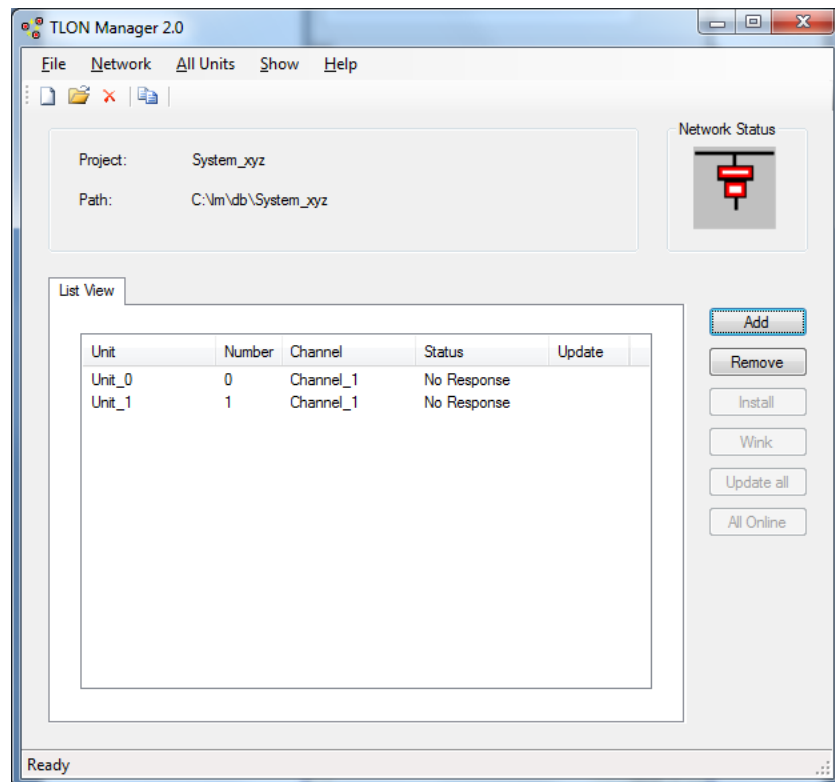
Description

A description of the node may be written here. Max. 64 characters divided on three rows.

- Click "OK" to save the settings and close the dialog box.
The following will be shown in the List View:



- Unit_0 is now added on Channel_1. Status "No Response" shows that this unit is not installed / is not responding.
- Add the wanted number of EBL512 / EBL512 G3 units (nodes) the same way. In this example, add one more unit (Node_1).



The window shows the Project "System_xyz" with two units (Unit_0 and Unit_1) on Channel_1.

8. This "project" is now created and can be closed (in menu "File" select "Close") and later installed (see "Installation of a Project" below).

7.1 Installation of a Project

The TLON Network cable installations have to be finished and the EBL512 / EBL512 G3 units connected to the TLON Network.¹⁰

NOTE! In a Project with Routers, they have to be installed before the EBL512 / EBL512 G3 units, see chapter "Installation of Routers", page 21.

Plug the TLON USB network interface cable into any of the EBL512 / EBL512 G3 units on Channel_1.¹¹ The modular connector (RJ-45) "J2" in EBL512¹² / "J10" – Network no. 0 and "J11" – Network no. 1 in EBL512 G3¹³ are to be used.

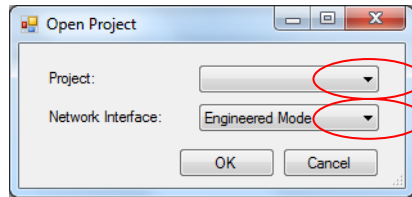
9. Start TLON Manager. In the "File" menu select "Open".

¹⁰ One TLON connection board 1590 / 5090 is required in each EBL512 unit. In EBL512 G3 one 1590 / 5090 board per TLON Network.

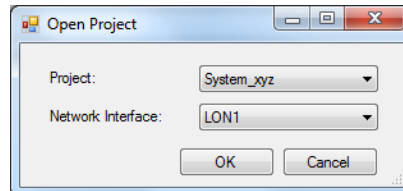
¹¹ From now on, it is recommended to use the same Channel at all times.

¹² It is situated close to the connector "J1" (for PC / Win512 connection), i.e. below and to the right of the keypad on the EBL512 front.

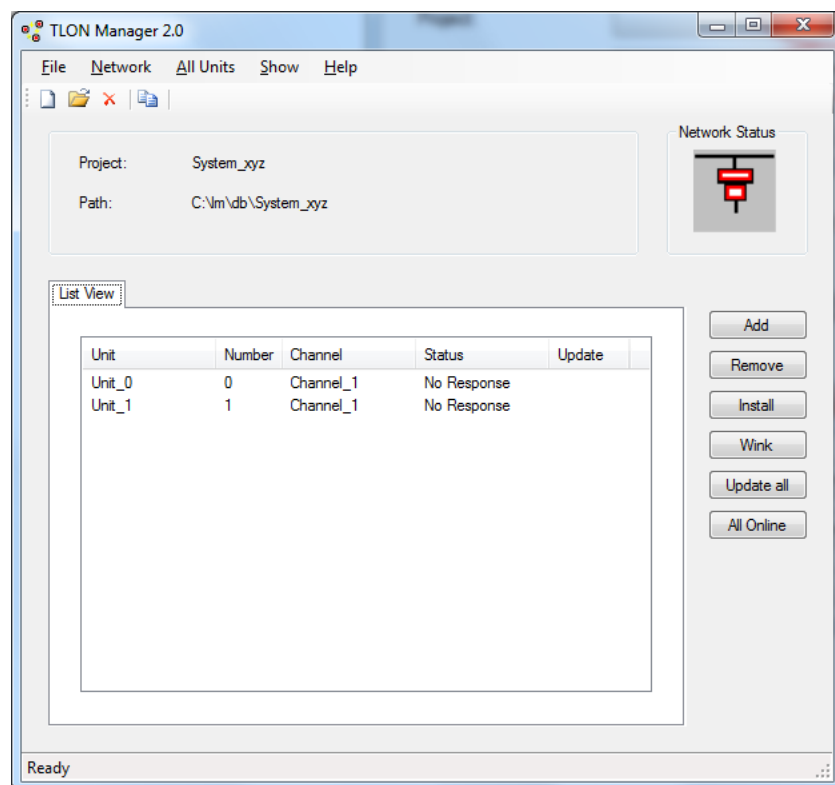
¹³ Situated down to the right on the main board 5010.



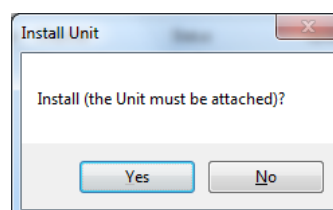
10. Click to see the list of Projects and select one, e.g. "System_xyz".
Click to see the list of Network Interfaces and select one, normally LON1.



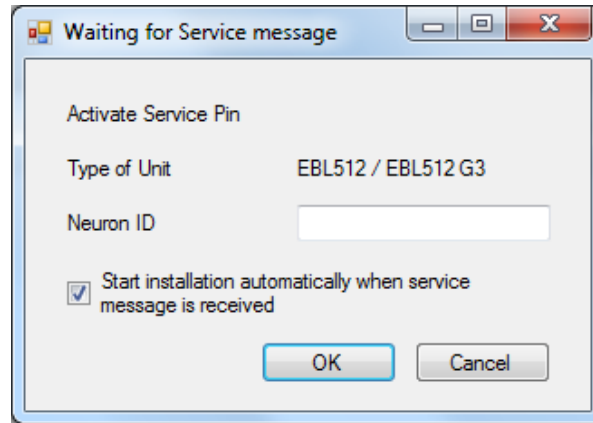
11. Click "OK".



12. In this example we have no Routers and only one Channel, i.e. Channel_1. (Routers have to be installed before EBL512 / EBL512 G3 units.)
13. Select a unit, click "Install" and the following window will be displayed:



Click "Yes" and the following dialog box displays:



("Activate service pin" is blinking.)

14. In the EBL512 / EBL512 G3 unit that is intended to be number zero (CU00), shunt momentarily the "Service" pins, in EBL512 "JP 3" on the main board 1556 / in EBL512 G3 "JP 1" (for Network no. 0) or "JP 2" (for Network no. 1) on the main board 5010. A "Neuron ID" (number) will be transmitted and for a second shown in the "Neuron ID" field.
Since the check box "Start installation automatically when service message is received" is marked, TLON Manager will automatically start binding the node in the database.¹⁴
The EBL512 / EBL512 G3 "Unit_0" is now created and installed in the network.¹⁵ When the binding process is completed, the "Status" will be "CnfgBypass" until all units are "Online" (see below).
Do the same for the EBL512 / EBL512 G3 "Unit_1".
15. In this example are now all units installed. Click "Update all". TLON Manager will now re-connect and update all the units installed in the network. The Network information will now also be saved in each EBL512 / EBL512 G3 unit, one by one. (Some information will be saved in the "TLON connection board" 1590 / 5090 memory and some in the "Main board" 1556 / 5010 memory.)
16. When **all** nodes are updated, click "All Online".
17. It is highly recommended to restart each EBL512 / EBL512 G3 unit e.g. in menu "All Units" select "Restart".

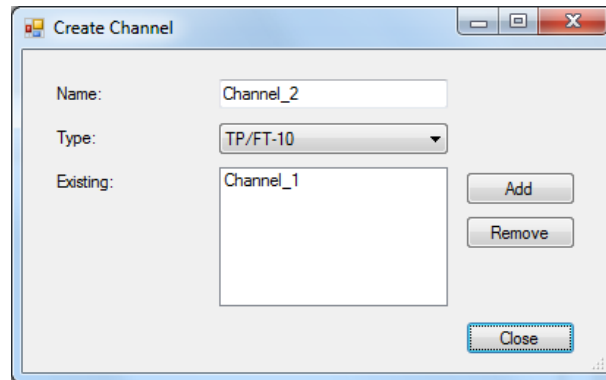
¹⁴ If the check box is un-marked you will have to click "OK" to continue. The time is depending on the number of nodes.

¹⁵ To check this you can select the EBL512 / EBL512 G3 unit and click "Wink". The buzzer in the EBL512 / EBL512 G3 unit respectively shall sound for approx. one second.

8 Add a Channel

Regarding Channels in a TLON Network, see chapter "6.1 Planning a Project", page 8.

In the "Network" menu select "Channel..." and the following dialog box displays.



Name

Next Channel in order to be added. Normally the default name is used but can be changed.¹⁶

Type

The type used with EBL512 / EBL512 G3 units is TP/FT-10 (default). If a fibre optic network is to be used (via Fibre Optic/Twisted Pair LonWorks Routers), the type is FO-10. Other units may use other types of communication.

Existing

A list of the existing Channels in the Project.

Add

Click "Add" to add the Channel shown in the "Name" field (e.g. Channel_2).

Remove

Removes (deletes) a selected Channel in the list.

Close

Saves the data and closes the dialog box when the required number of channels is added.

¹⁶ E.g. Channel_2_Backbone.

9 Add a Router

Regarding Routers in a TLON Network, see chapter "6.1 Planning a Project", page 8.

Two or more Routers have to be connected via a "Backbone net".

Use Channel_2 for the Backbone net.

In the "Network" menu select "Router..." and the following dialog box displays.

Name	Type	Near	Far	Status
------	------	------	-----	--------

Name

Default is "Router_1". Write another name or add some information for the router (e.g. Router_1. Building A, Level 1).

Type

Repeater This type should normally be selected. (No learning function. All messages except faulty messages will go through.)

Learning Router This type could be selected. It learns – after some time – the messages that shall go through to the other channel. (Only the required messages and no faulty messages will go through. Learns if a new unit is added to the channel.)

Configured Router This type could be selected. It has no learning function. (The programming is followed to 100% and no faulty messages will go through.)

Bridge Not used in a TLON Network.

Permanent Repeater Not used in a TLON Network.

Permanent Bridge Not used in a TLON Network.

Near, Far

A router must be installed between two Channels. If there is only one Channel in the list (see above), required new channels must be added before a router can be added, see chapter "8 Add a Channel", page 18.

Name	Type	Near	Far	Status
------	------	------	-----	--------

A router has connections for one **Near** channel (e.g. Lon A) and one **Far** channel (e.g. Lon B).

Select a channel in the drop-down list respectively.

Near: On Router_1, the channel where the TLON Manager PC is to be connected (often Unit_0 on Channel_1). On any other router, the channel nearest Router_1.

Far: On Router_1, the Backbone net channel (Channel_2). On any other router, the channel on the other side of the router respectively.

Click "Add" to have the router shown in the list.

"List field"

A list of the existing Routers in the Project.

Name The name of the router.

Type Type of router.

Near Near Channel.

Far Far Channel.

Status No response / CnfgBypass / Online / Offline

Add

Adds the Router, Type and Channels to the list ("List field").

Remove

Removes (deletes) the selected router (in the "Name" column).

Install

Installs the selected Router (in the "Name" column). A dialog box "Install" displays. See chapter "Installation of Routers" below.

Reset

Sends a reset message that will clear some statistics and configuration data.

Update

Updates the selected router. See "Update" below.

Replace

When an existing Router has to be replaced, you do not have to remove (delete) the existing Router and then add a new Router. Replace will start the same procedure as for "Install". See chapter "Installation of Routers" below.

Status

The status for the selected Router (in the "Name" column) will be shown in the "Status" column.

Close

Will save and close the dialog box.

9.1

Installation of Routers

The TLON Network cable installations have to be finished and the Routers have to be power supplied and connected to the network.

NOTE! The Routers have to be installed before the EBL512 / EBL512 G3 units can be installed otherwise there will be no communication with the units connected on the Channels "on the other side" of the Router(s).

Plug the TLON USB network interface cable into any of the EBL512 / EBL512 G3 units on Channel_1.¹⁷ The modular connector (RJ-45) "J2" in EBL512¹⁸ / "J10" – Network no. 0 and "J11" – Network no. 1 in EBL512 G3¹⁹ are to be used.

1. Start TLON Manager. In the "File" menu select "Open".
2. Select Project and Network Interface (normally LON1) and click "OK".
3. In menu "Network" select "Router...".

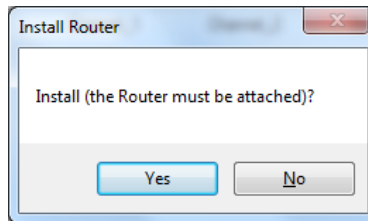
¹⁷ From now on, it is recommended to use the same Channel at all times.

¹⁸ It is situated close to the connector "J1" (for PC / Win512 connection), i.e. below and to the right of the keypad on the EBL512 front.

¹⁹ Situated down to the right on the main board 5010.

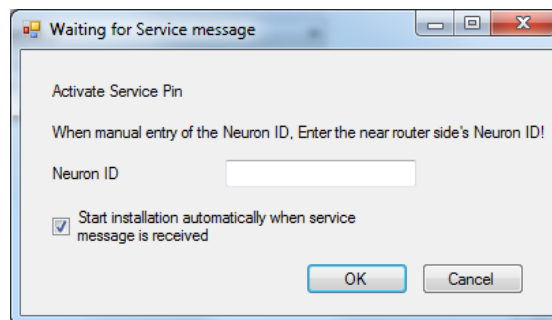
4. In the dialog box select a Router (in the "Name" column) and click "Install".

The following dialog box will be displayed:



Click "Yes".

5. A dialog box displays:



("Activate service pin" is blinking.)

On the specified Router, push the "Service" button. A Neuron ID (number) will be transmitted and (for a second) shown in the "Neuron ID" field.

Since the check box "Start installation automatically when service message is received" is marked, TLON Manager will automatically start binding the router in the database.²⁰

The Router_1 is now created and installed in the network. When the binding process is completed, the "Status" will be "CnfgOnline".

6. When all Routers are installed, click "Update all". TLON Manager will now re-connect and update all the routers installed in the network.
7. When **all** the Routers are installed, the EBL512 / EBL512 G3 units can be installed, see chapter "Installation of a Project", page 15.

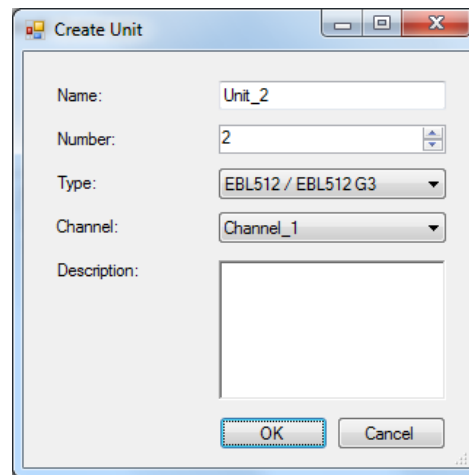
²⁰ If the check box is un-marked you will have to click "OK" to continue.

10 Add a Unit

Regarding EBL512 / EBL512 G3 units (nodes) in a TLON Network, see chapter "Planning a Project", "EBL512 / EBL512 G3 units (nodes)", page 8.

In the "Network" menu select "Unit..." or click "Add".

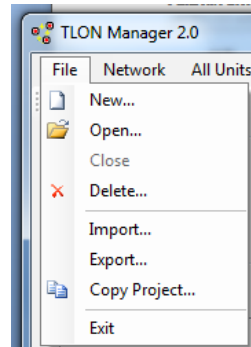
The following dialog box displays:



The dialog box and the following actions are described in the example in chapter "Create a New Project", page 13 and continues in chapter "Installation of a Project", page 15.

NOTE! When all the EBL512 / EBL512 G3 units (nodes) have been installed, it is very important that you click "Update all" and "All Online" as described in the example. After that it is recommended to restart each EBL512 / EBL512 G3 unit.

11 File menu



11.1 New

Creates a new Project. See chapter "Create a New Project", page 11.

11.2 Open

Opens an existing Project in TLON Manager's common data base. Select a project in the list, select a Network Interface and click "OK".

11.3 Close

Closes the project that is open.

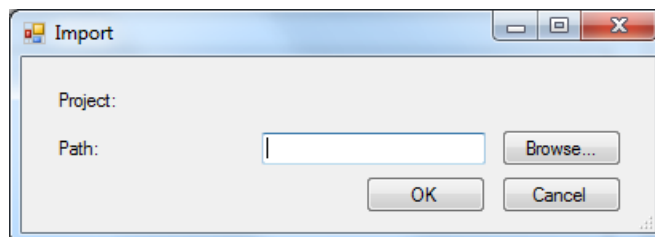
11.4 Delete

Deletes an existing Project in TLON Manager's common data base. In the list select the project to be deleted and click "OK".

11.5 Import

To be able to open a Project that for example has been copied from another PC or to be able to open an "old Project" when a new version of TLON Manager has been installed, the Project has to be imported to TLON Manager's common database.

Select "Import..." and the following dialog box displays:



Find and select the folder (Project) to be imported. As default, TLON Manager **2.0** saves all projects in: **C:\lm\db**.

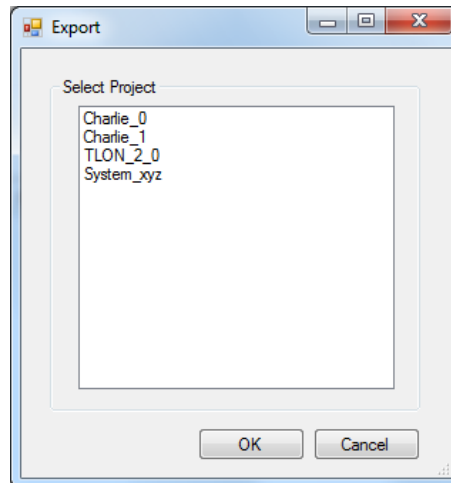
As default, TLON Manager **1.x** saves all projects in: **C:\lms**.

The Project name will be the same as the folder name. You may use this name or change it.

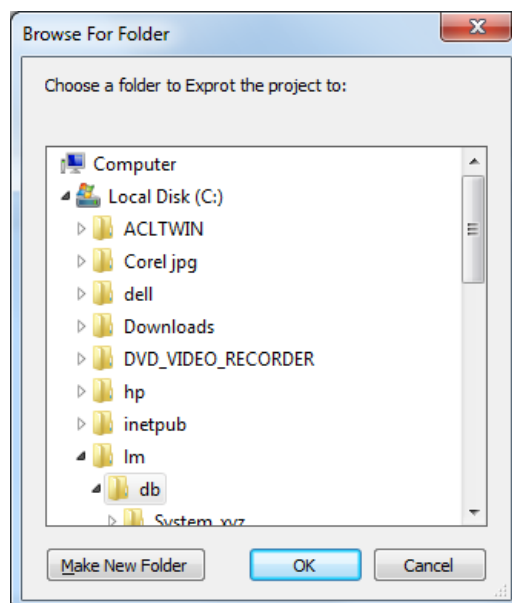
11.6 Export

Used when you want to export a Project. You will get a copy of the Project in another folder. From this folder it is possible to copy the project. Export can also be used if you want a backup of the project²¹ or want to use the Project in another PC.

Select "Export..." and the following dialog box displays:



Select the Project to export. Click "OK".



Find and select the folder to which the Project is to be exported. (As default, TLON Manager suggests: **C:\lm\db**)

The "File name" (Project name) will be the same as the folder name. You may use the current name or change it.

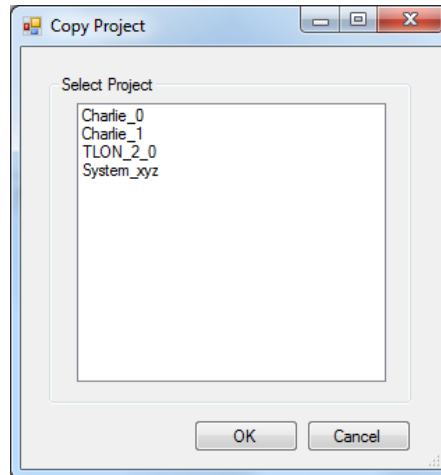
Click "OK". The project will now be copied to the selected folder.

²¹ **NOTE!** It is not possible to "upload" data from the TLON Network to TLON Manager.

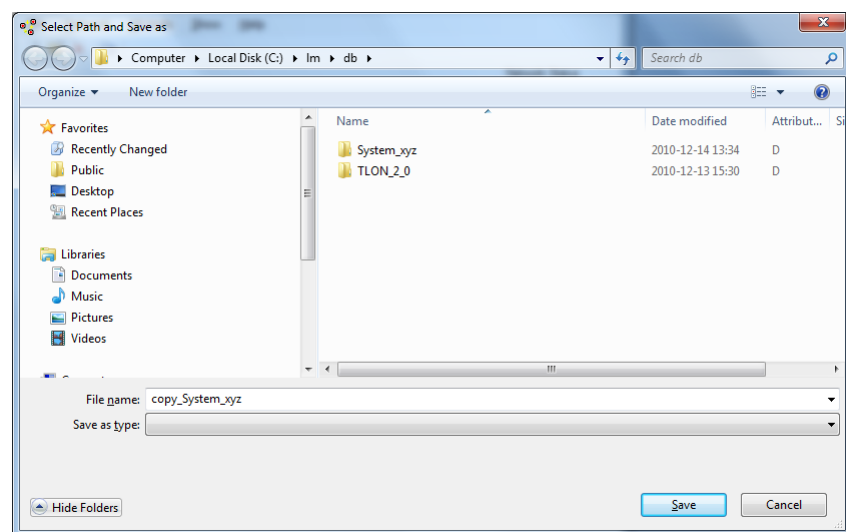
11.7 Copy project

Used when you want a copy of an existing Project, but with a new name. This is useful when a new similar Project is to be created.

Select "Copy project..." and the following dialog box displays:



Select the Project to copy. Click "OK". The following dialog box displays:



Select a folder, accept the "file name" or write another. Click "Save" and the project will be copied.

11.8 Exit

Select "Exit" to close TLON Manager 2.0.

NOTE! First close the project.

12 Remove

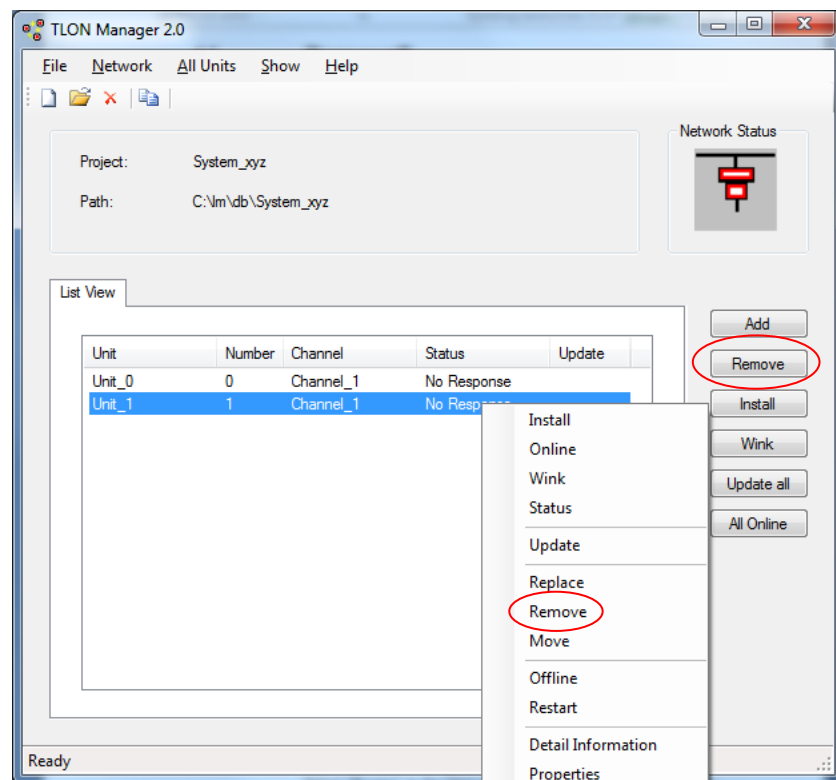
Everything added to the network, i.e. EBL512 / EBL512 G3 units, Channels, Routers, etc. may also be removed (deleted).

NOTE!! After removing something you have to "Update all".

12.1 Remove EBL512 / EBL512 G3 units (nodes)

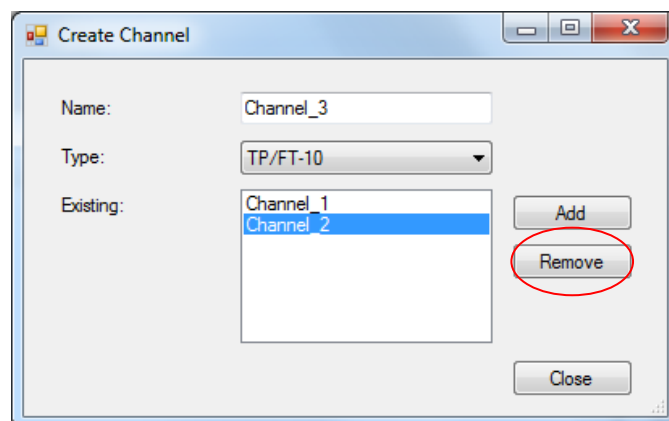
There are two ways to remove a node:

- a) Select the unit to be removed and click the right mouse button to get a pop-up menu. Select "Remove".
- b) Select the unit and click "Remove".



12.2 Remove Channels

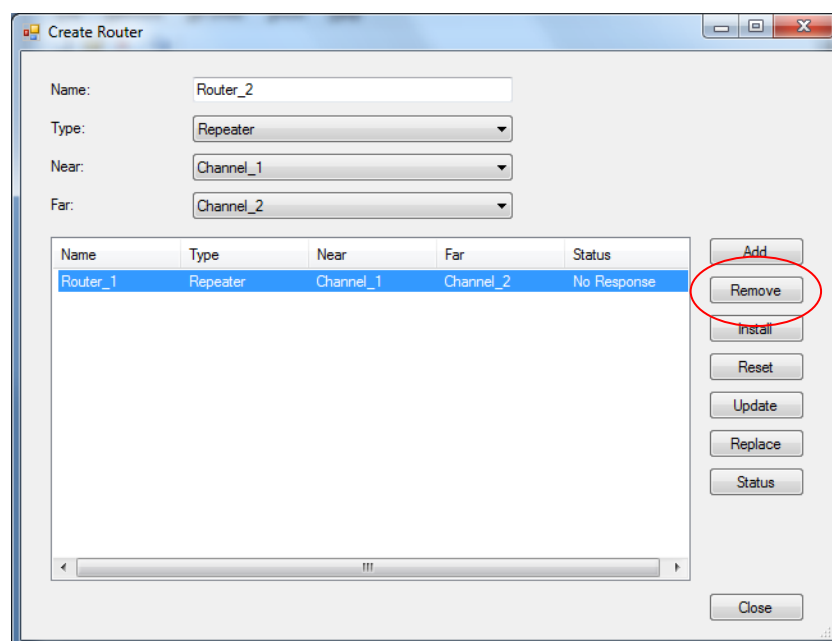
In the "Network" menu select "Channel...". The following dialog box displays:



Select the Channel to remove and click "Remove".

12.3 Remove Routers

In the "Network" menu select "Router...". The following dialog box displays:



Select the router to remove and click "Remove".

13 Maintenance and troubleshooting

Some TLON information is saved in the TLON connection board (1590 / 5090) memory and some in the EBL512 / EBL512 G3 Main board (1556 / 5010) memory.

- If only the Main board (1556 / 5010) is replaced: Do **Update** for the unit. (Select the unit, right click and select "Update" in the pop-up menu.)

- If the TLON connection board (1590 / 5090) is replaced: Do **Replace** and **Update** for the unit.

There are a number of functions that are useful for network maintenance and troubleshooting. The most common are described below.

13.1 Install

The unit will be installed in the network, see chapter "Installation of a Project", page 15 and chapter "Installation of Routers", page 21.

13.2 Online

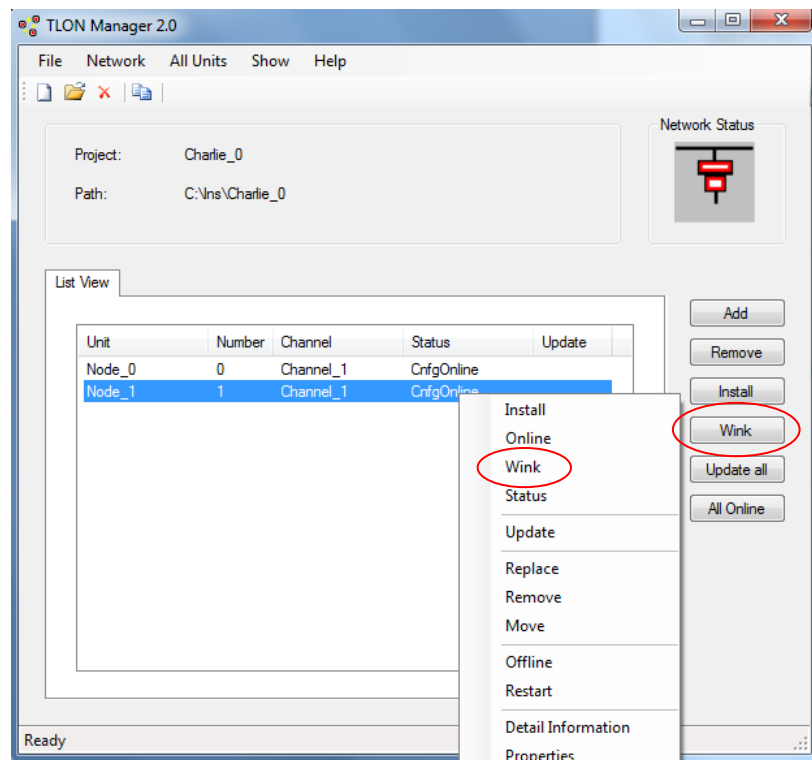
The selected unit can be set Online if the status is CnfgBypass (Offline).

13.3 Wink

With "Wink" you can check that the EBL512 / EBL512 **G3** unit corresponds to the selected unit in TLON Manager 2.0. A not connected node, not installed, etc. cannot receive a wink message.

There are two ways to send a wink message:

- a) Select the unit and click the right mouse button to get a pop-up menu. Select "Wink".
- b) Select the unit and click "Wink".



EBL512

In the selected EBL512 unit (node) the wink message turns on the buzzer and all the front LEDs for approx. 1 sec.

EBL512 G3, Network no. 0

In the selected EBL512 G3 unit (node) the wink message turns on the buzzer and the front LED "Test mode" for approx. 0.4 sec.

EBL512 G3, Network no. 1

In the selected EBL512 G3 unit (node) the wink message turns on the buzzer.) and the front LED "Test mode" for approx. 2 sec.

13.4 Status

The status for the selected unit will be updated, i.e. no change no change of the status.

13.5 Update

Normally you update a unit (i.e. the network configuration data is downloaded to the physical unit) after it has been installed, see chapter "Installation of a Project", page 15. Update can also be used when you suspect that the configuration data in a unit is incorrect.

When a TLON connection board 1590 / 5090 is replaced and/or the Main board 1556 / 5010 is replaced in an EBL512 / EBL512 G3 unit, the unit have to be updated.

Select the unit and click the right mouse button to get a pop-up menu. Select "Update".

After "Update" the information is:

OK(0) = Update OK (0 unsuccessful attempts)

OK(1) = Update OK (after 1 unsuccessful attempt)

OK(2) = Update OK (after 2 unsuccessful attempts)

NG = Update not good

13.5.1 Update all

All the units in the Network can be updated (see above) with only one command. Click "Update all". (See also chapter "Installation of a Project", page 15.)

13.6 Replace

When a TLON connection board 1590 / 5090 is replaced in an EBL512 / EBL512 G3 unit, select the unit and click "Replace". After that you have to "Update", see above.

13.7 Remove

The selected unit will be removed (deleted) from the project. See chapter "12 Remove", page 27.

13.8 Move

A node can be moved from one Channel to another. In the dialog box that opens, specify the "New location" (Channel) and click "OK".

NOTE! The Channels have to added before.

13.9 Offline

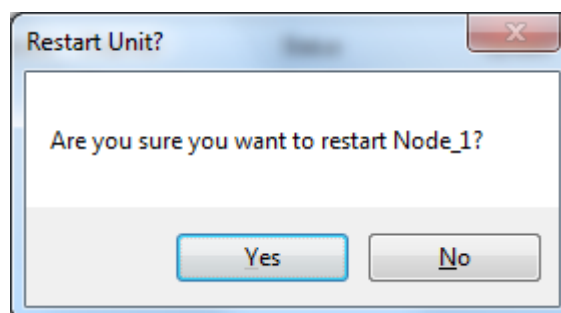
The selected unit can be set Offline (CnfgBypass) if the status is (Online).

13.10 Restart

You can restart a unit in the network with the restart command. In a TLON Network this command works only with EBL512 / EBL512 G3 units.

Select the unit and click the right mouse button to get a pop-up menu. Select "Restart".

The following dialog box displays:

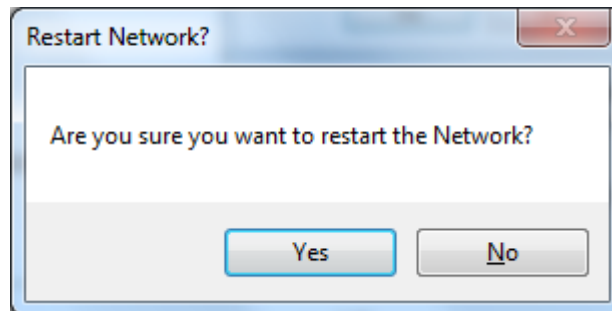


Click "Yes" to restart the unit.

13.10.1 Restart All units

You can restart (see above) all the units in a TLON Network.

In the menu "All units" select "Restart". The following dialog box displays:



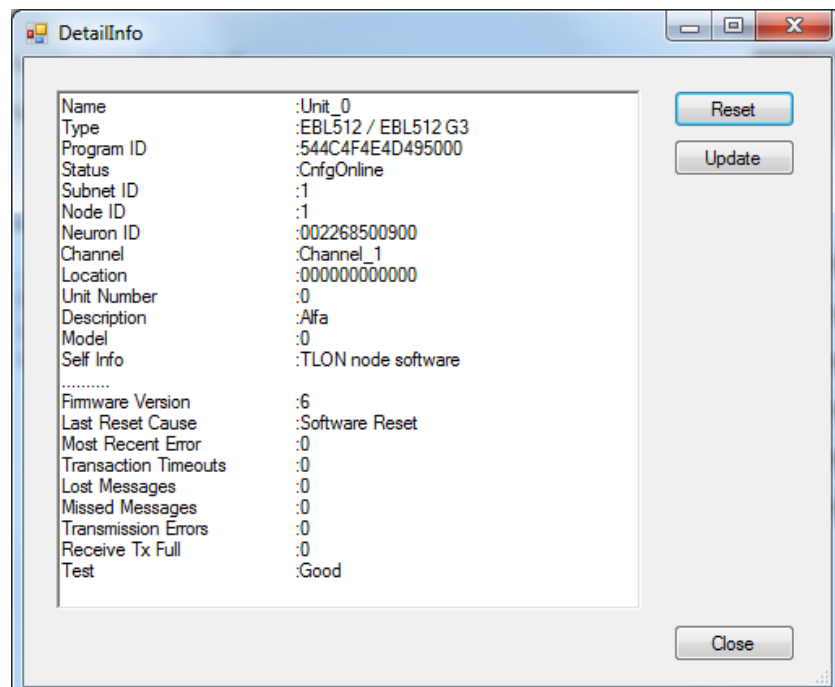
Click "Yes" to restart the unit.

13.11 Detail Information

This command asks a unit in the Network a series of questions, which will be presented in a dialog box.

Select a unit and click the right mouse button to get a pop-up menu. Select "Detail Info".

The following dialog box displays:



The dialog box contains a lot of information and a deeper knowledge of the TLON Network is required to be able to understand some of it. The information of interest for the average user is explained below. (In case of no contact, the information is: "No contact with node".)

Name

The name given to the unit when it was created.

Type

The type given to the unit when it was created (see page 13).
(If an old project is opened in TLON Manager 2.0.x the type shown here might be different than the type given to the unit when it was created.)

Status

Shows the status of the unit. The normal status is "CnfgOnline".

Neuron ID

The TLON connection board 1590 / 5090 Neuron ID number.

Channel

Shows the Channel the unit is installed on, e.g. Channel_1.

Unit Number

The number given to the unit when it was created.

Description

The Description given in the "Create unit" dialog box (if any).

Last reset cause

Shows the reason for latest restart of the unit.

Transaction Timeouts

Shows the number of messages sent but not acknowledged by all other nodes in the network. The number should be 0 after the unit has been installed. The number may increase if new units are installed. Reset the value (and all the others) by clicking "**Reset**".

Transmission Errors

After a reset of values (by clicking "Reset"): Must not increase during a 10-minutes interval.

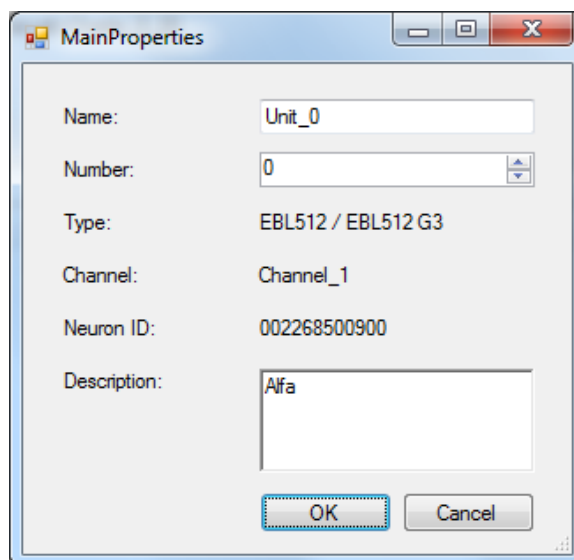
Test

Shall normally be "Good".

13.12

Properties

Select a unit and click the right mouse button to get a pop-up menu. Select "Properties". The following dialog box displays:



For explanation of Name, Number (Unit Number), etc. see the above chapter.

Click "OK" to save and close the dialog box.

14 Examples

Some examples of TLON Networks:

Two networks with eight EBL units.

System EBL512

> 6 units, i.e. one Router
is required.

Channel_1 and Channel_2

512
|
512
|
512
|
512
|
Router_1
|
512
|
512
|
512
|
512

System EBL512 G3

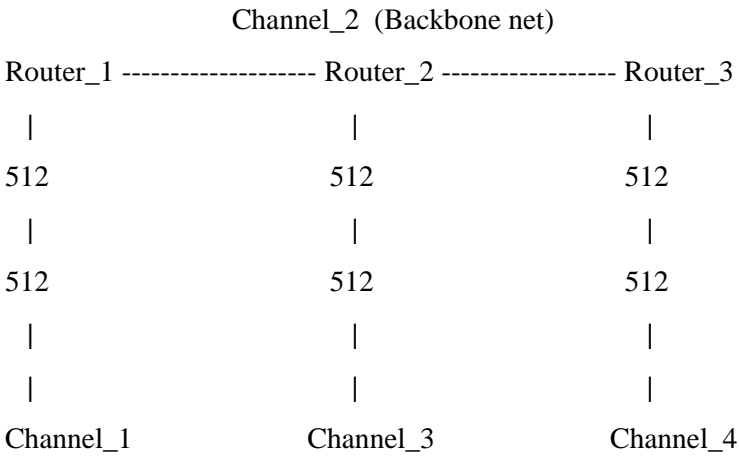
Redundant network
i.e. two networks.

Channel_1

512 G3
| |
512 G3
| |
512 G3
| |
512 G3
| |
512 G3
| |
512 G3
| |
512 G3

Each **Channel** has to start and end with a termination resistor, **105R**,
1%, 1/8W.

An example of an EBL512 network with **three Routers** connected via a Backbone net. **Four Channels** are required.



Each **Channel** has to start and end with a termination resistor, **105R**, 1%, 1/8W.

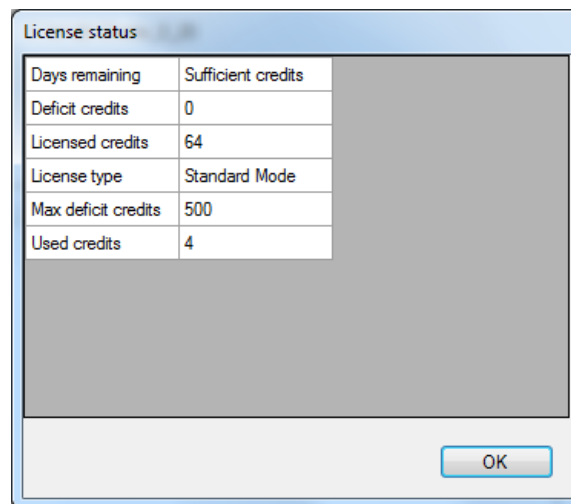
15 LNS Device credits

With every TLON Manager kit 5095 (TLON Manager V2.0) comes a license with 64 LNS Device credits.

One LNS Device credit is consumed for each Neuron ID (number) in the network, e.g. each TLON connection board 1590 (p.c.b. no. 9302-xx) but not for the succeeding TLON connection board 5090 (p.c.b. no. \geq 9310-xx). (Routers will not consume any LNS Device credits.)

15.1 How many LNS Device credits remains?

Open any project (in menu "File" select "Open"). In menu "Help" select "License status" and the following dialog box opens:



Days remaining: As long as there are LNS Device credits ("Licensed credits") this field will show Sufficient credits. When all the LNS Device credits ("Licensed credits") are consumed and TLON Manager V2.0 has started to use "Deficit credits" this field will show the number of days (0-14) before the license will expire. If the number of days = 0 the LNS Server will cease to operate until new LNS Device credits ("Licensed credits") are added.

Deficit credits: As long as there are LNS Device credits ("Licensed credits") this field will show 0. When all the LNS Device credits ("Licensed credits") are consumed, TLON Manager V2.0 will start to use Deficit credits. This field will then show the number of Deficit credits being used (0-500).

Licensed credits: The number of LNS Device credits added.

Licensed type: Always Standard Mode in TLON Manager 2.0.

Max deficit credits: The number of "Deficit credits" allowed. If this number is exceeded, the LNS Server will cease to operate until sufficient LNS Device credits are added.

Used credits: The number of the LNS Device credits ("Licensed credits") consumed. This number does not include the number of "Deficit credits" currently being used.


15.2 How to order LNS Device credits

Before the license will expire you should purchase additional LNS Device Credits. Panasonic Electric Works Nordic AB's article number for additional LNS Device Credits is 5096.

The article number **5096** corresponds to **50 LNS Device Credits**.

(It is also possible to order LNS Device Credits directly from Echelon.)

In your "Start" menu you will find a program group "Echelon LNS Utilities". Start the program "LNS Server Licence Wizard".



LNS Server License Wizard

Welcome to the LNS Server License Wizard!

The information below shows the current credit usages for the LNS Server License. To purchase additional credits, enter an amount below, then Click Next> to continue.

LNS Server Credit Info

Max Credits	64	Max Deficits	500
Credits Available	64	Deficits Remaining	500
		Days Remaining	Unlimited

Credit Order

Enter number of credits to add:

50

☒ Keep used credits (recommended)

Help < Back Next > Cancel

In the "Credit Order" frame enter the number of LNS Device Credits you want to add / purchase, i.e. normally **50**. Then click "Next >":

LNS Server License Wizard

To complete this order, send an order form by fax or email to the Echelon License Administrator. Generate your order form by clicking the Copy to Clipboard button, then opening your favorite word processor or email program and pasting to the document. Fill the blanks, then print and fax in the form to +1-408-790-3833, or email it to credits@echelon.com.

If you are not ready to enter the Application Key, click the Cancel button and rerun the Wizard when you have it. Once your order is processed, you will receive back an Application Key. Enter the Application Key below and click the Finish> button. If the key is valid, the additional credits encrypted within the key will be added.

Order Information

PC Key: DBCB A65E 06FB C480 50 - 71D7 D287 C5C1 C5FE 8E71 DCA5 82E5
CCD4 DE8E 61DD 9A8C CA8B

Serial Number: (Not Applicable) **Copy to Clipboard**

Application Key:

Help < Back **Finish** Cancel

Click "Copy to Clipboard".

Open your favourite email program (or word processor) and paste the clipboard contents (the Request form) into the email message (or document). Send that **Request form** together with your article number 5096 order to:

Order.pewnf@eu.panasonic.com.

If you order from Echelon directly, fill in the requested information in the **Request form** before you send it to credits@echelon.com

15.3 Application Key

You will receive an "Application Key" via a return email.

Start the "LNS Server Licence Wizard" and proceed to the second dialog box containing the "Copy to Clipboard" button. Copy the "Application Key" from the return email into the "Application Key" field. Click "Finish".

15.4 Request form - example

The Request form shall be send together with the article 5096 order.

NOTE! If you order article number 5096, Panasonic ESN AB will fill in the requested information in the top part of the form. If you order from Echelon directly, fill in the requested information.

Here follows an example of a Request form generated by the "LNS Server Licence Wizard":

YOU MUST FILL IN ALL THE BLANK FIELDS IN THE TOP PART OF THE FOLLOWING FORM, SELECT ONE OF THE BILLING OPTIONS BY FILLING IN A CHECKBOX IN THE BOTTOM PART OF THE FORM, AND FILL IN THE BLANK FIELDS IN THE SELECTED BILLING OPTION. IF YOU ARE ORDERING NO CHARGE CREDITS, YOU MUST FILL IN ONE OF THE CHECKBOXES EXPLAINING THE REASON FOR THE ORDER. A BLANK FIELD IS A FIELD WITH A COLON (":") AT THE END OF THE LINE. IF ANY OF THIS INFORMATION IS MISSING, YOUR ORDER WILL BE DELAYED.

TO: Echelon License Administrator

Email: credits@echelon.com

Fax: +1-408-790-3833

FROM: Name:

Company:

Address1:

Address2:

Country:

Phone:

Fax:

Email:

SUBJECT: Order for LNS(r) Device Credits (LNS Turbo Edition)

**

**

** NOTE: This order form is for ordering LNS Device Credits. **

** LNS Device Credits are software keys that authorize **

** an LNS Server to Commission or Recover additional **
** devices. **
** **
** This form CANNOT be used to order LonMaker Credits. **
** Consult the LonMaker documentation for instructions **
** for ordering LonMaker Credits. **
** **
** Also, this form CANNOT be used to register the LNS **
** Application Developer's Kit product. If you have **
** licensed the LNS Application Developer's Kit **
** product, consult the documentation for instructions **
** on how to register the product. **
** **

Please process the following order:

Number of LNS Device Credits ordered: ADD 50

Number of LNS Device Credits to be delivered (if less than
the quantity ordered):

Product: LNS Device Credits

Model Number: 34400

Price Each:

Total Amount:

Following are the list prices. These prices are subject to
change. Contact your distributor for current and local pricing.
Your distributor may also provide you with an alternate mailing
address for this order.

List price: US\$1.50

Price for authorized free uses: No charge (see agreement below)

The following PC key value is filled in automatically by the LNS

Server License Wizard when you generate an LNS Device Credit order

as described in the product documentation. You should always use the order form generated by the software and send the form by email (or fax if email is not available) to ensure that there are no errors in transcribing the PC key value.

PC Key: DBCB A65E 06FB C480 50 - 71D7 D287 C5C1 C5FE
8E71 DCA5 82E5 CCD4 DE8E 61DD 9A8C CA8B

Select one of the following payment methods and fill in the information for the requested method:

☐ Credit Card (minimum order of 50 credits)

Type of credit card:

☐ American Express

☐ MasterCard

☐ Visa

Name on the credit card:

Credit card number:

Expiration date:

Authorized by:

Billing Address:

Street 1:

Street 2:

City:

Providence/State:

Postal/Zip Code:

Country:

☐ Purchase Order (minimum order of 50 credits)

Purchase Order Number:

Authorized by:

Billing Address:

Street 1:

Street 2:

City:

Providence/State:

Postal/Zip Code:

Country:

- ☐ No charge evaluation, development, test, support, production, training, or replacement credits (check all that apply). By submitting an order for free credits, you agree that you will use these free credits only for the authorized purposes that you have checked below, and you agree that you will provide Echelon with information as reasonably requested by Echelon to verify that the use of these LNS Device Credits is limited to the authorized uses. There is no minimum order size; maximum order size is indicated below.
- ☐ Evaluation use. LNS Device Credits used for evaluation purposes. Limited to 500 free credits per company per year.
- ☐ Internal development and test use. LNS Device Credits used for the development and testing of devices that will solely will be used for development, or that will be shipped in the unconfigured state. Limited to 500 free credits per device type per year.
- ☐ Support use. LNS Device Credits used by a support engineer to provide support to a customer. The customer must have paid for the LNS Device Credits used for the customer's devices. Limited to 500 free credits per support engineer per year.

- [] Production use. LNS Device Credits used for manufacturing test. Devices must be shipped in the unconfigured state. Limited to 1 free credit per manufactured device shipped in the unconfigured state.

- [] Training use. LNS Device Credits used solely for training. Any devices installed during training must not be used in a production or operational system. Limited to 500 free credits per class.

- [] Replacement use. LNS Device Credits used to replace LNS Device Credits that were lost due to a PC hardware or software failure. Limited to the number of credits that were lost as a result of the failure.

Your LNS Device Credits will be sent to you by email or fax as an Application Key (a series of numbers and letters). When you receive the Application Key, run the LNS Server License Wizard again, enter the Application Key on the second page of the wizard and then click Finish.

16 Revision history

When possible, the revised information is written in **red font colour**.

Revision 1

Revised / added info. in the following chapters:

2. TLON Manager kit 5095, footnote 2.

15. LNS Device credits (The whole chapter is revised.)

Revision 2

Company name, etc. revised.

TLON connection board 1590 is revised to 1590 / 5090.

Revised / added info. in the following chapters:

3.1 Info. added.

5 Info. revised.

6.1 Info. added (mixed system)

6.1.2 Info. and footnote added

6.2 Footnote added.

7 Footnote added.

13 Info. deleted.

13.3 Info. added.

Revision 3

New chapter 5 about installation of the driver (OpenLDV \geq 4.00), which is necessary to support 64-bit Windows versions.

This page has deliberately been left blank.

Panasonic ideas for life

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