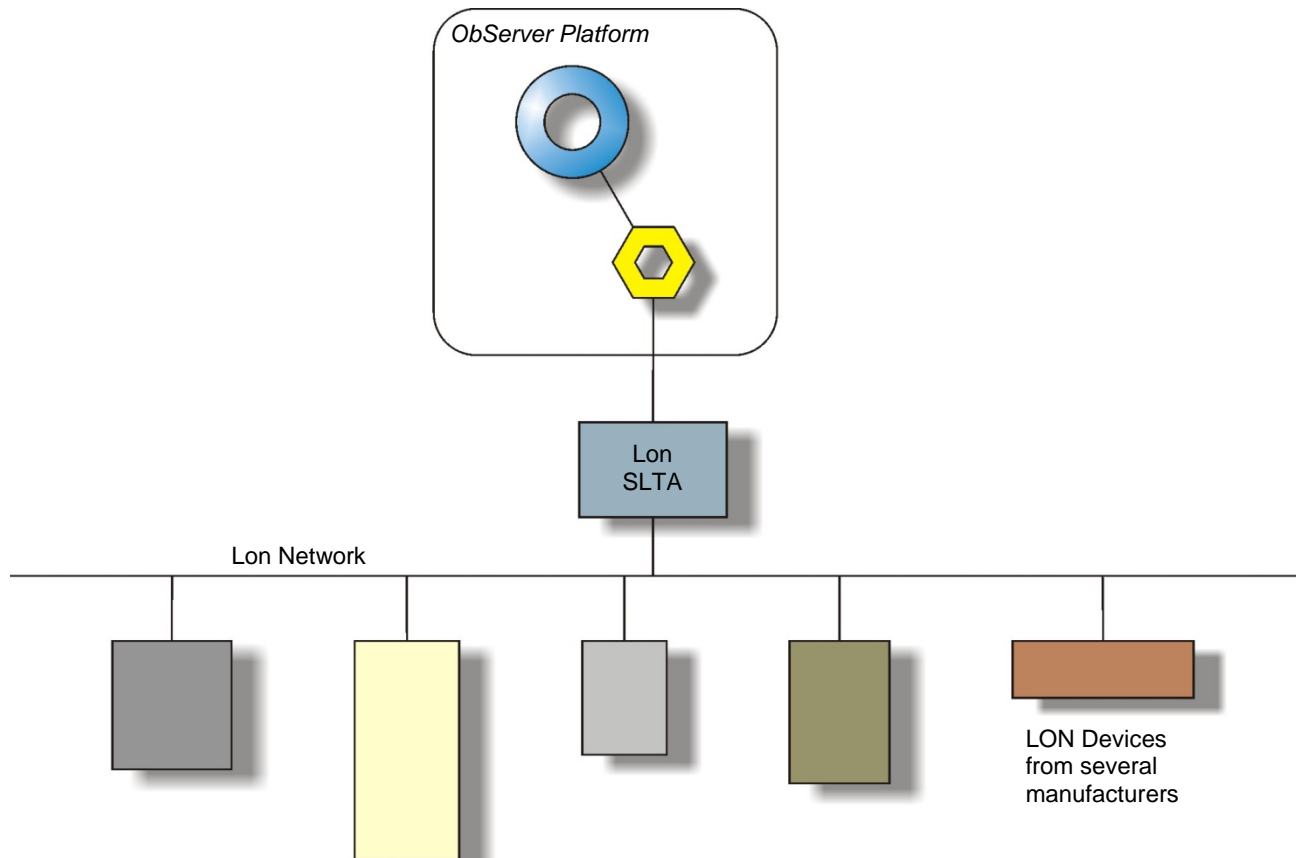


Product Engineering Guide

OSM v20 LonSLTA v12

Introduction

The OSM v20 LonSLTA v12 module, called LonSLTA within this document, links a Lon network, via an Echelon Serial LonTalk Adapter (SLTA), to ObServer. Network variables within each of the Lon devices on the network can be accessed, along with network variable configuration and domain tables.



LON Addressing

Each device on the Lon network, including the SLTA, must be assigned a domain number. Only devices residing on the same domain may communicate with each other. One aspect of engineering is to determine which domain the SLTA will reside.

Within a domain, each device has a unique subnet/node number. Subnet numbers are in the range 1...255, and node numbers are in the range 1...127. Before requesting values from a device, the subnet and node number must be determined. The SLTA, being a device on the Lon network, must also have a subnet/node number assigned.

There are two ways of assigning a domain, subnet and node number to the SLTA. The first is to use Lon engineering software and assign the numbers from the Lon network. The second is to have the driver assign them from the RS232 link.

Neuron ID Addressing

It is possible to access a Lon device using its Neuron ID rather than the domain, subnet, and node. Although this is not recommended for normal operation, it is useful when engineering. See the [Using Default ID Mode](#) section below.

Lon External Interface File

A Lon external interface file (xif) is available for each Lon device. This file describes the network variables available and can be used to generate a North ObSys contents file. We have already generated contents files for many LonMark-Certified products, however if you have a new device then e-mail the xif file to support and we will return the contents file.

Engineering

Step 1 – Install OSM

The LONSLTA OSM is installed automatically with all ObSys editions. Refer to the 'ObSys CD sleeve' for details on how to install ObSys.

Step 2 – Configure LONSLTA

The SLTA has a set of switches that define the protocol settings for the RS232 port. Refer to the section [SLTA Switches](#) below for more information.

If necessary, use your Lon engineering software to assign a domain, subnet, and node number to the SLTA.

Step 3 – Connect COM Port to LONSLTA

Using cable, connect the LONSLTA to a COM port of the PC. Refer to the section 'Cable' below for details of the cable.

Step 4 – Plug in LONSLTA OSM to ObServer

Use object engineering software to locate the ObServer Setup object. Assign the LONSLTA OSM to an available channel. Refer to '[ObServer v20 Application Engineering Guide](#)'.

Note: After inserting the OSM, your engineering software may need to re-scan the ObServer object in order to view the OSM.

Step 5 – Configure LONSLTA OSM

The COM port, device label, and SLTA address are configured using objects. Use object engineering software to view and modify the module objects within the OSM.

Step 6 – Access Objects within the LON Network

Values from the Lon System are made available as objects from ObServer. Any object software that is connected to the ObServer can access these objects.

Engineering Reference

Cable Specification

The cable between COM port and the LonSLTA is as follows:

COM Port 25-female D-type	LonSLTA end 9-male D-type
2	3
3	2
7	5
20	4

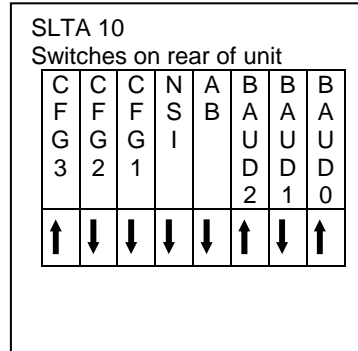
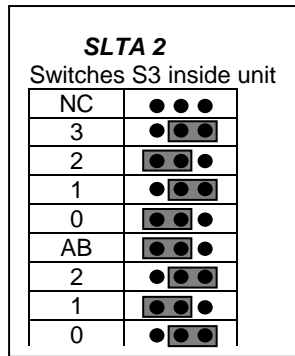
Maximum Cable Lengths = 15m

COM Port 9-female D-type	LonSLTA end 9-male D-type
2	2
3	3
4	4
5	5

Maximum Cable Lengths = 15m

SLTA Switches

The SLTA has switches that select how the SLTA communicates on its RS232 port. Below are tables showing the switch setting to use on different SLTA devices.



NOTE: These diagrams both show the settings for 38400 baud.

Objects

When the OSM is loaded the following objects are created within ObServer, use object software to access these objects.

Object ^[1]	Label	R/W	Type
Sc	Lon System connected to channel c	-	[Lon\Network] ^[2]
Mc	LonSLTA Module connected to channel c	-	[OSM v20\LonSLTA v12]

Notes

- [1] The ObServer channel number, c, is a number in the range 1...40.
- [2] This object has a variable content and as such requires scanning.

Using Default ID Mode

Each device on the Lon network, including the SLTA, must be assigned a domain number. Generally, only devices residing on the same domain can communicate with each other.

If you do not know the domain ID of a group of Lon devices, then the Default ID mode may be used to find this information.

Step 1 – Connect system

Follow the [Engineering](#) section above, up to step 5, to connect the SLTA and configure the driver.

Step 2 – Configure SLTA Address

Using ObView, set the SLTA to a unique address by configuring the following objects within the LonSLTA driver setup: Domain ID (S.I), Subnet (S.S), Node (S.N) and Authentication Key (S.A).

Try using the following values, for example:

SLTA's Domain ID:	00	
SLTA's Subnet:		127
SLTA's Node:		127
SLTA's Authentication key:	FFFFFFFFFFFF	

Step 3 – Configure SLTA Mode

Next set the following objects within the LonSLTA driver setup:

Initialise SLTA (I):	Yes
Default ID Mode (DM):	Yes

When the SLTA has been configured, the SLTA Successfully Configured object (DS) value should change to yes.

Step 4 – Find Device

We can now start to find the domain ID of a LonMark device. If you have a network of devices, then chose one at a time.

Whilst the ObView page for the LonSLTA driver setup is shown, **press the service pin** on the Lon device. A value should now appear in the Default ID object (DID). If the ID does not appear press the service pin again. If this does still not work, then enter the 12-digit Neuron ID of the device.

Step 5 – View Device

From ObView, navigate to the Lon Network object. Next, click the scan button and once scanning has completed click refresh. You should now see one object for the Neuron device (D). Navigate to this object.

A Lon device can reside in two domains, indicated by objects Domain 0 (D0) and Domain 1 (D1). Navigate to object Domain 0. The ObView page shows the Lon device's address settings.

If the Subnet and Node objects both have the value 0, then this is a sign that the Lon device has not yet been configured. Ask the installer of the Lon devices to address them using LonMaker, and make a note of their address parameters.

Note the address parameters of the device and continue to the next stage.



Step 6 – Reconfigure SLTA

Now the address fields are known, the SLTA can be reconfigured with the correct domain ID. Navigate to LonSLTA driver setup object, enter the Domain ID and Authentication Key that you noted previously.

Next, set the object Default ID Mode to no, and object Initialise SLTA to yes again.

Step 7 – Scan Lon Network

Navigate to the Lon Network object. Click the scan button again, and once scanning has finished click refresh. All the LonMark devices within the domain should now appear.

Finally, open the Lon device you wish to view. If a blank page is displayed then you require a new contents file for the device; e-mail the XIF file for this device to support@northbt.com.



Notes

Revision History

Version	Build Date	Details
1.1	04/09/2004	Network variable numbers greater than 255 now supported.
1.1	03/03/2005	Documentation change to correct subnet and node number range
1.1	06/04/2006	Fixed problem when writing to object Vx.ly
1.2	21/10/2009	Added new offset object Px (this replaces Ox offset object). Added new decode types (objects L, D, Z, H, TT, etc). New XIF Converter.