



Configuring Laser Link[®] Devices in TNCS Application Note

Overview

Purpose

The purpose of this document is to provide instructions for configuring Laser Link[®] devices in Transmission Network Control System (TNCS). This document is a supplement to the *TNCS Administrator Software User Guide*, part number 4013494.

Who Should Use This Document

This document is intended for authorized personnel who have experience working with similar equipment. The personnel should have appropriate background and knowledge to complete the procedures described in this document. Cisco service engineers who help system operators manage their systems will also find the contents of this document useful.

Qualified Personnel

Only appropriately qualified and skilled personnel should attempt to install, operate, maintain, and service this product.



WARNING:

Allow only qualified and skilled personnel to install, operate, maintain, and service this product. Otherwise, personal injury or equipment damage may occur.

Related Publication

You may find the following publications useful as you implement the procedures in this document.

- *TNCS Administrator Software User Guide*, part number 4013494
- *TNCS Cabling Guide*, part number 736790

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Laser Link Product Line

Laser Link Modules Supported by TNCS

The following modules are supported in TNCS.

Description	Module Width	Model	Devtype
Laser Link Transmitter	Single	LLT III-x	lltx.txt
Laser Link Transmitter	Double	LLNT	lltx2.txt
Laser Link Transmitter - Reverse 5-200 MHz	Double	LLNTR	llrtx.txt
Laser Link Transmitter - Externally Modulated	Double	LEMT-S-x	llemt.txt
Laser Link Receiver	Single	LLDR	llrx.txt
Laser Link Receiver	Single	ELLRR-S	llrx.txt
Laser Link Receiver	Double	LLFR	llfr.txt
Laser Link Dual Receiver	Single	ELLRR-D	lldualrx.txt
Laser Link Optical Amplifier	Double	LLOA-C-14BM	lledfa.txt
Laser Link RF Switch	Single	LLRS	llrfsw.txt
Laser Link RF Amplifier 50-870 MHz	Double	LLAMP	llamp.txt
Laser Link Down Converter	Single	LLDC-xx	lldc.txt
Laser Link II Element Management Interface Card (EMIC)	Single	EMIC LL-II	llemic2.txt
Laser Link III Element Management Interface Card (EMIC)	Single	EMIC LL-III	llemic3.txt
Stand Alone Products			
Arris Optical Switch	Rack Mount	LLOS-RM	llmos.txt
Arris Standalone Optical Amplifier	Rack Mount	LLOA-xx	llmoa.txt

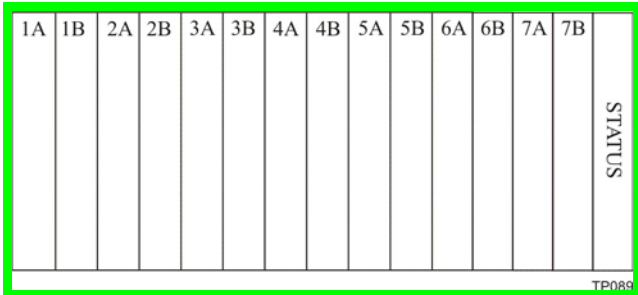
Typical Laser Link Chassis

TNCS communicates with the Laser Link chassis and all of the modules within the chassis through the Element Management Interface Card (EMIC). The address of the EMIC is the sixteen digit serial number. A label that is usually found on the side of the EMIC lists the serial number.

Laser Link Product Line

Physical Connector: RJ45

EMIC Address: 16 character serial number



Follow these rules when configuring Laser Link in TNCS.

Slots

The slots in the Laser Link chassis are identified with a Numeric Alpha scheme starting at left most slot (when viewing the chassis from the front). See the illustration above.

TNCS does not recognize the A or B side of a slot so each slot is numbered sequentially starting at the left most slot.

Use this chart to correlate the labeled slot with the TNCS slot.

Chassis Labeled Slot	TNCS Slot
1A	1
1B	2
2A	3
2B	4
3A	5
3B	6
4A	7
4B	8
5A	9
5B	10
6A	11
6B	12
7A	13
7B	14
STATUS	0

EMIC

- The STATUS slot which is the last slot on the right side of the chassis (when viewing the chassis from the front) is reserved for the EMIC.
- The EMIC address is its serial number that can be found on a label attached to the side of the module.
- The EMIC can be removed without affecting service.

General

- Single width modules can be inserted into any slot except the STATUS slot
- Dual width cards must be positioned such that the left side of the card is inserted into an "A" slot (odd numbered TNCS slot)

Sample Devlist

Sample Devlist for Laser Link II and III

```
group rack1 graphic="rack 40" port=none address=1001
group ll2 graphic="chassis Laser Link" desc="laser link II" port=none address=1002 racverpos=10
llemic2 test1x port=com4 address=0017sc0000000040
lldc dwnvtr port=com4 address=0017sc0000000040 slonum=1
lledfa amp1 port=com4 address=0017sc0000000040 slonum=3
lltx tx13 port=com4 address=0017sc0000000040 slonum=7
llrfsw sw1 port=com4 address=0017sc0000000040 slonum=9
group ll3x graphic="chassis Laser Link" desc="laser link III" port=none address=1003 racverpos=20
llemic3 test1 port=com4 address=0126SD0000001917
llamp amp port=com4 address=0126SD0000001917 slonum=1
lltx tx13 port=com4 address=0126SD0000001917 slonum=3
llrfsw sw1 port=com4 address=0126SD0000001917 slonum=4
lledfa amp1 port=com4 address=0126SD0000001917 slonum=5
lltx2 tx2a port=com4 address=0126SD0000001917 slonum=7
lltx2 tx3a port=com4 address=0126SD0000001917 slonum=9
llrx rx port=com4 address=0126SD0000001917 slonum=11
llfrx rx2 port=com4 address=0126SD0000001917 slonum=13
```

Stand Alone Laser Link Product Lines

Stand alone Laser Link products: These chassis' are 1 rack units high and communicate directly with TNCS over a RS-485 bus.

Physical Connector: RJ45

Device Address: 16 character serial number

Stand Alone Products	Module Width	Model	Devtype
Arris Optical Switch	Rack Mount	LL0S-RM	llrmos.txt
Arris Standalone Optical Amplifier	Rack Mount	LLOA-xx	llrmoa.txt

Sample Devlist for Stand Alone Laser Link Products

The following shows a sample devlist for the stand-alone Laser Link products.

```
group rack1 graphic="rack 40" Port=None Address=1001
llemos switch1 desc="Optical Switch" port=com4 address=0017sc0000000040 racverpos=10
llrmoa opamp1 desc="Optical Amplifier" port=com4 address=0017sc0000000042 racverpos=15
```

For Information

If You Have Questions

If you have technical questions, call Cisco Services for assistance. Follow the menu options to speak with a service engineer.



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