

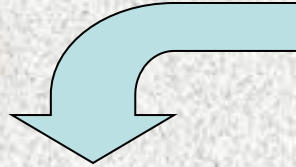
# Huawei

## OPTIX RTN 600

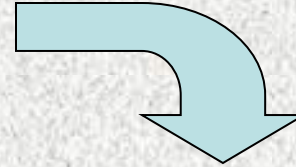
# TRAINING

# OPTIX RTN 600

*(Radio Transmitting Receiving Network)*



**OPTIX RTN 610**  
**(1 Unit Space)**



**OPTIX RTN 620**  
**(2 Unit Space)**



4 slots Availability  
(Only Single IF Card)

Supports: 1+0

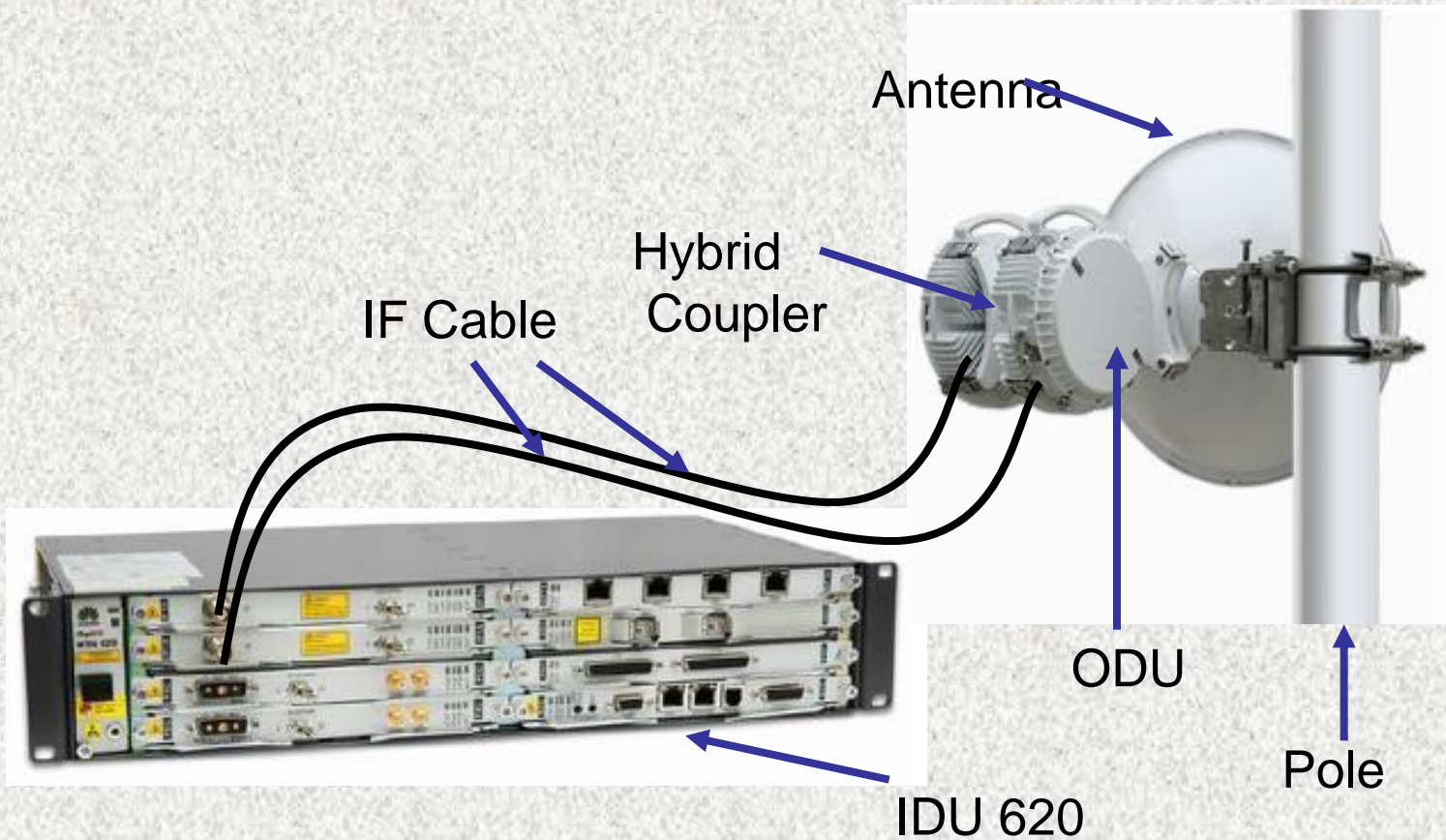


8 slots Availability

(4 IF cards)

Supports: 2 Direction(1+1) or 4 Direction  
(1+0)

# Equipment Components



# IDU 605

IDU 605 is 1U high , supports one microwave direction., have there types:

IDU 605 1A:  
maximum capacity  $5 \times E1$ ,  
Support 1+0 configure



IDU 605 1A

IDU 605 1B:  
maximum capacity  $16 \times E1$ ,  
Support 1+0 configure



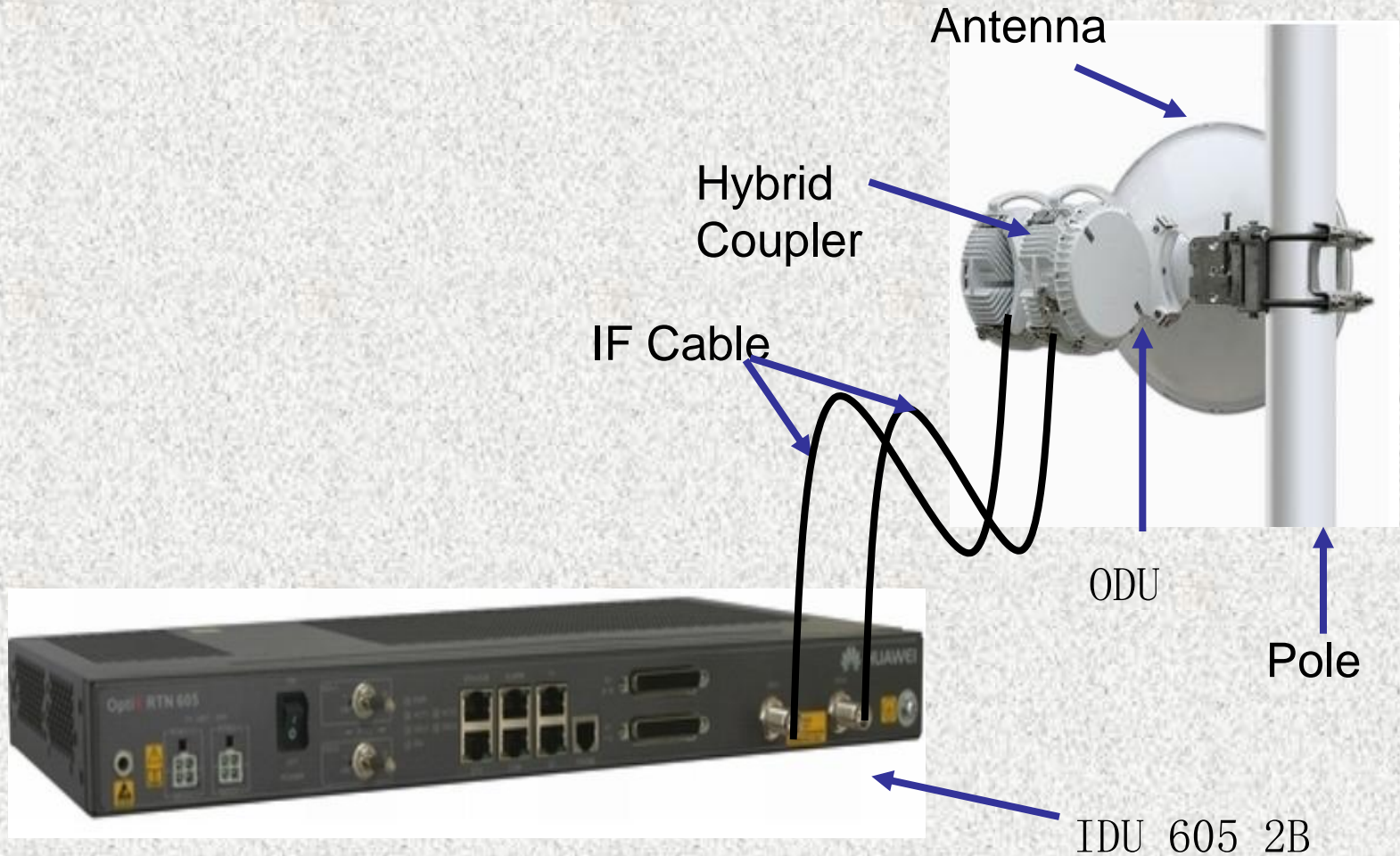
IDU 605 1B

IDU 605 2B:  
maximum capacity  $16 \times E1$ ,  
Support 1+1configure



IDU 605 2B

# Equipment Components



# OPTIX RTN 610



# OPITX RTN 620



Chassis of RTN 620

Fan Board

SCC

EFT4

PH1

SD1

IF card (p)

IF card (w)

PXC (p)

PXC (w)



# Equipment Features

Item	IDU 610	IDU 620
Chassis height	1U	2U
Pluggable board	Supported	
Microwave type	SDH/PDH	
Microwave modulation scheme	QPSK/16QAM/32QAM/64QAM/128QAM	
Number of microwave directions	1	1 to 4
RF configuration mode	1+0 non-protection configuration	1+0 non-protection configuration, 1+1 protection configuration, N+1 protection configuration, and XPIC configuration
Service type	SDH, PDH, and Ethernet services	



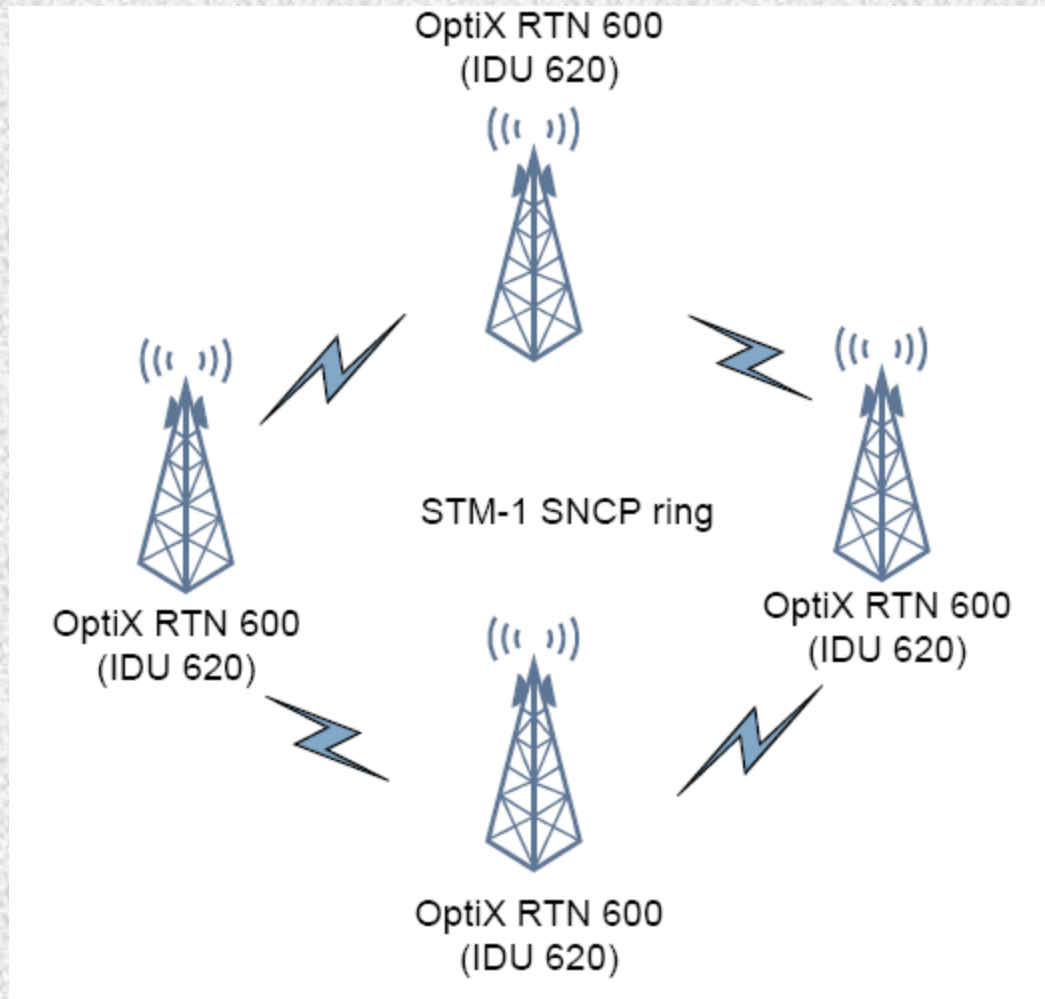
## **Protection Processing**

- Supports the monitoring and reporting of the status of the working and protection channels in an SNCP group
- Supports the monitoring and reporting of the working and protection channel in a linear MSP group
- Supports the setting of the linear MSP switching conditions

## **Maintenance Features**

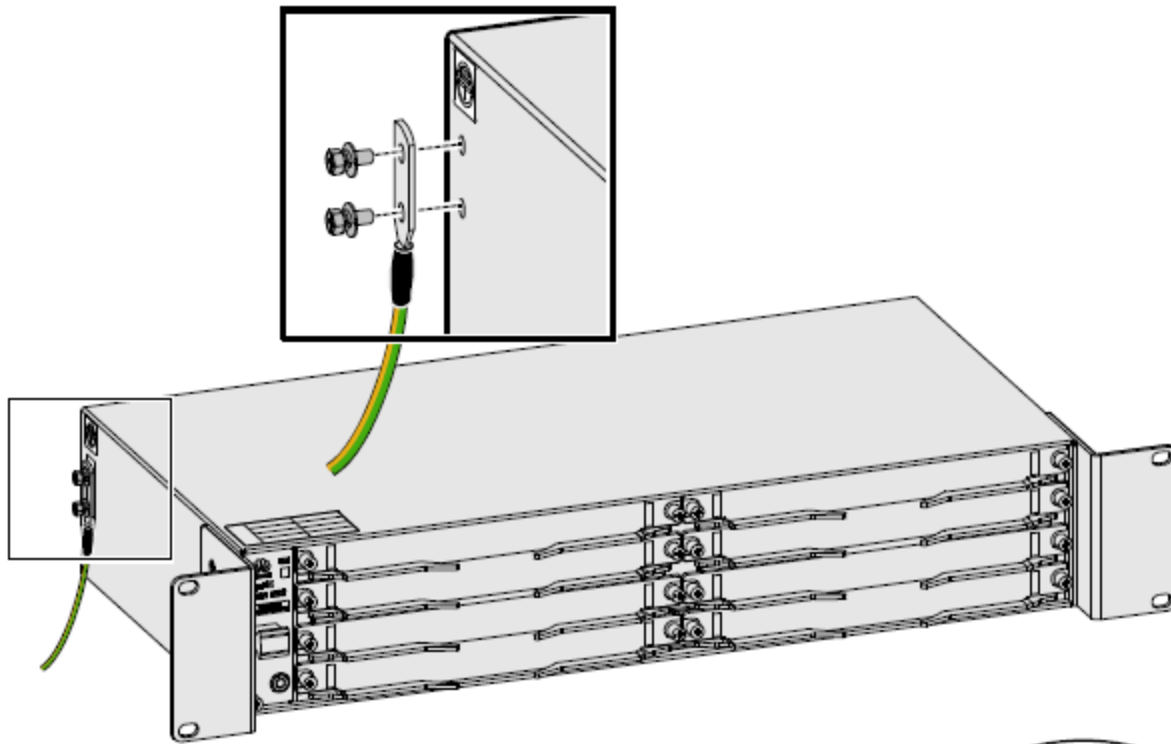
- Supports in loop and out loop at the optical interface
- Supports out loop on the VC-4 Path
- Supports the warm reset and cold reset of the board
- Supports the querying of the manufacturing information of the board
- Supports the in-service upgrade of the FPGA

# SNCP (Ring) Protection

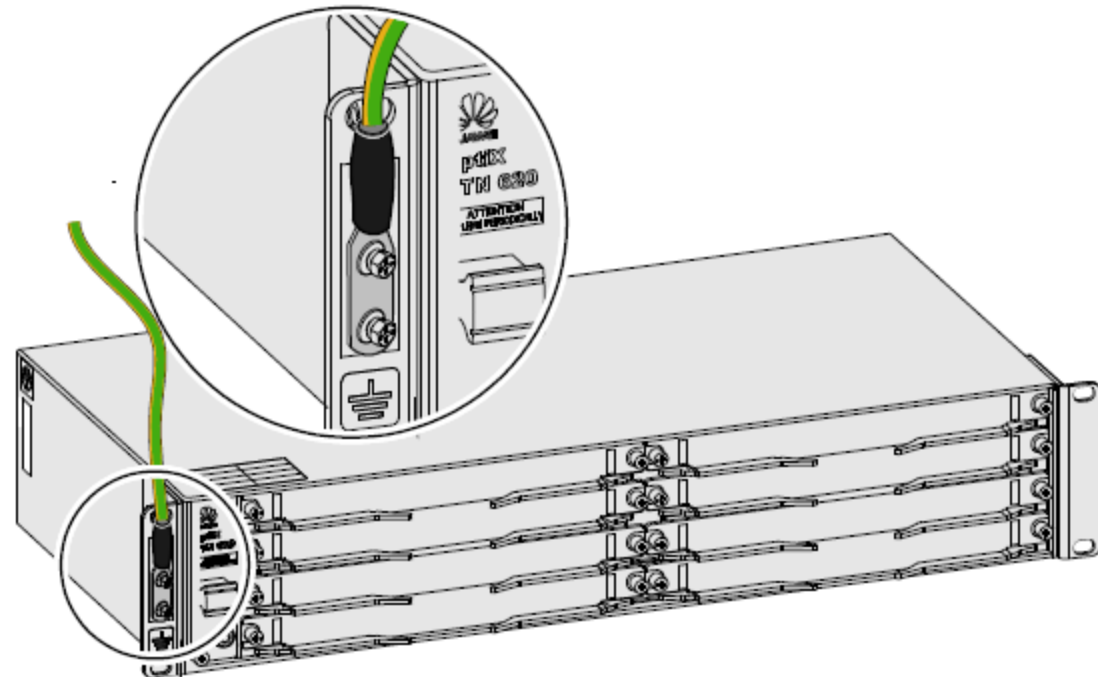


RTN 620 also supports PDH configuration, so SNCP could be applied also for PDH and SDH Configuration

# IDU Grounding for OPTIX RTN 610/620



- Two Options for Grounding of IDU
  - a) Top: Using the grounding point on the left of the chassis
  - b) Bottom: Left rack mounting ear of the chassis



# OPTIX RTN 610



- 442 mm x 44 mm x 215 mm (width x height x depth) *two-layer structure*

	EXT	Slot3	EXT/IF	Slot4
	PXC	Slot1	SCC	Slot2

# OPTIX RTN 620

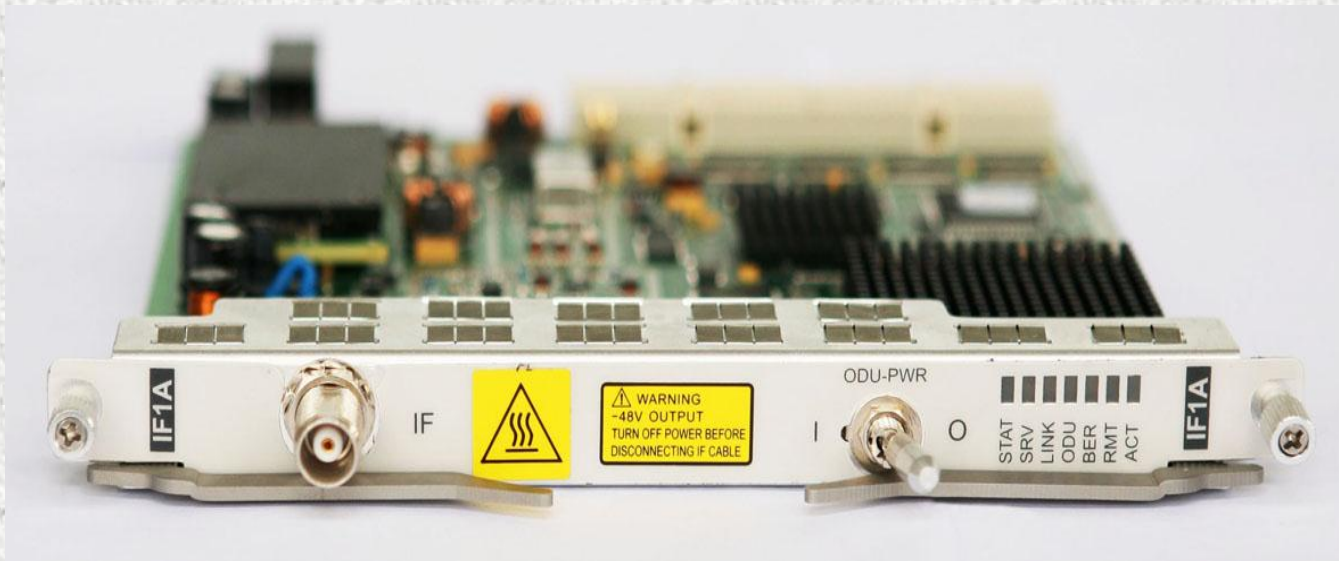
Location of Cards in Slots



**442 mm x 87 mm x 215 mm (width x height x depth) *four-layer structure***

FAN Slot 20	EXT//IF	Slot7	EXT//IF	Slot8
	EXT//IF	Slot5	EXT//IF	Slot6
	PXC	Slot3	EXT	Slot4
	PXC	Slot1	SCC	Slot2

# IFIA Card



**STAT:** *Status of the Board*

**SRV:** *Services Alarm*

**LINK:** *Modulation Status*

**ODU:** *IF Card to ODU Alarm or Far end is turned off*

**RMT:** *Remote site Alarm*

**ACT:** *Acting Board*

# Valid Slots for IFIA Board

## OPTIX RTN 610

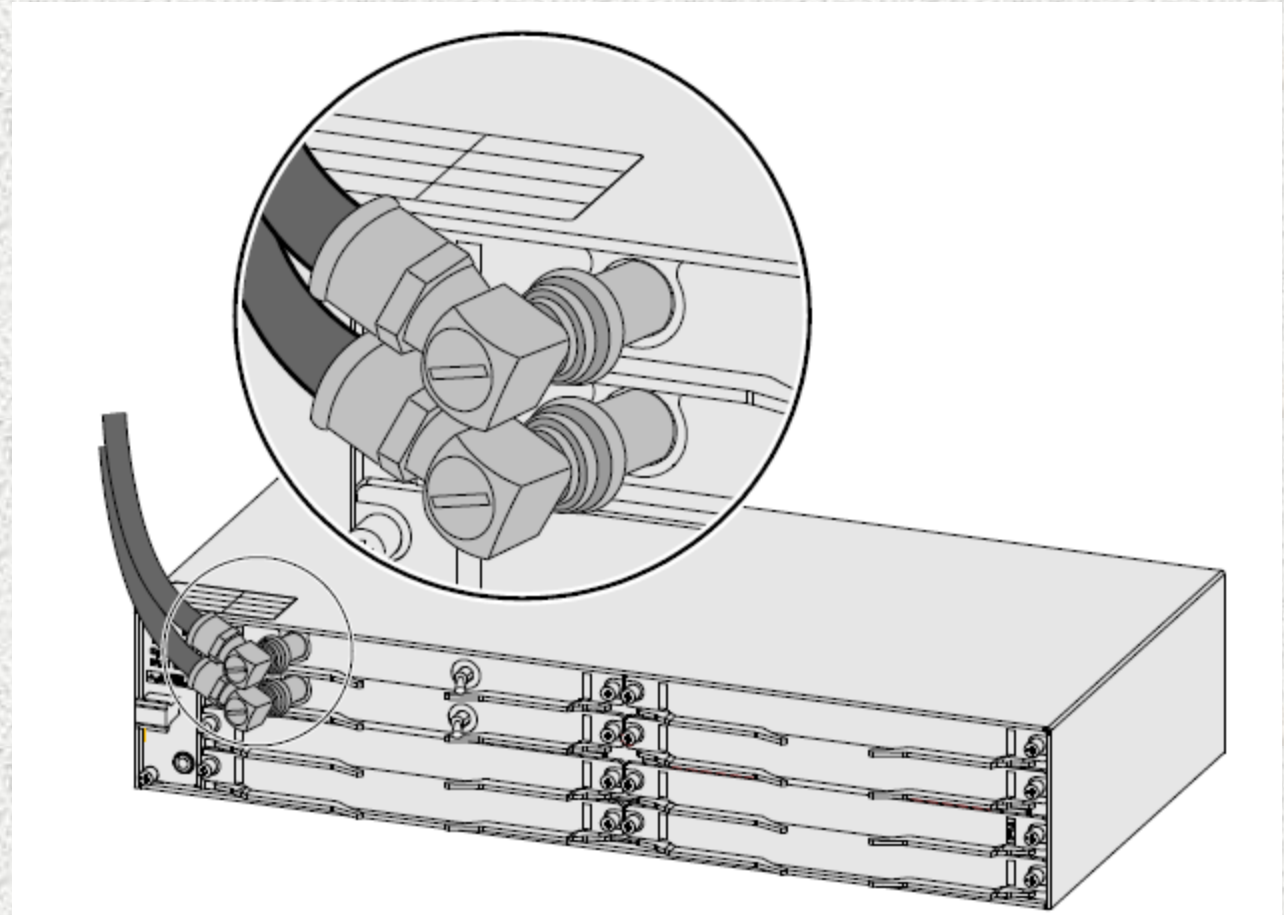
	Slot3	IF1A	Slot4
	Slot1		Slot2

## OPTIX RTN 620

Slot 20	IF1A	Slot7	IF1A	Slot8
	IF1A	Slot5	IF1A	Slot6
		Slot3		Slot4
		Slot1		Slot2

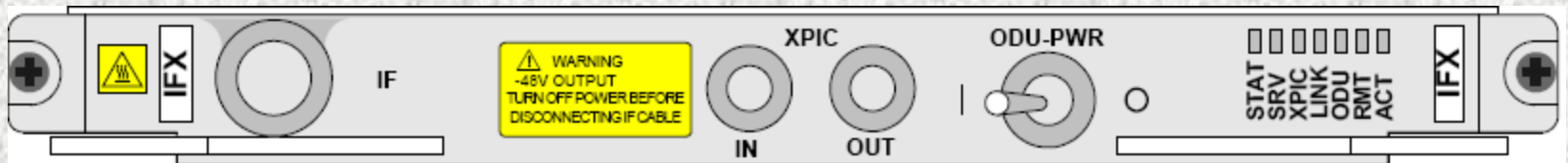
# IF Jumper

- Length 2m
- Each IF jumper with each IF card
- Allows easy routing near IDU

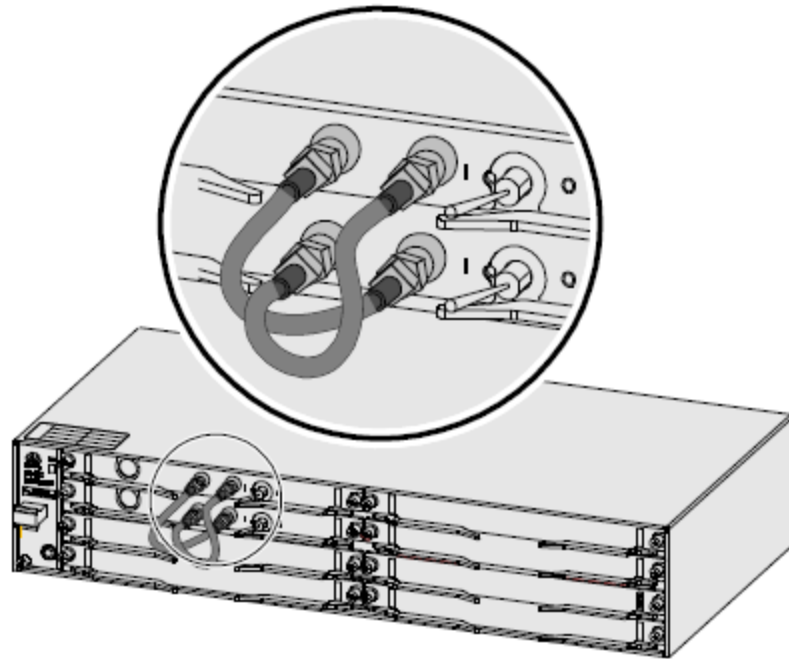




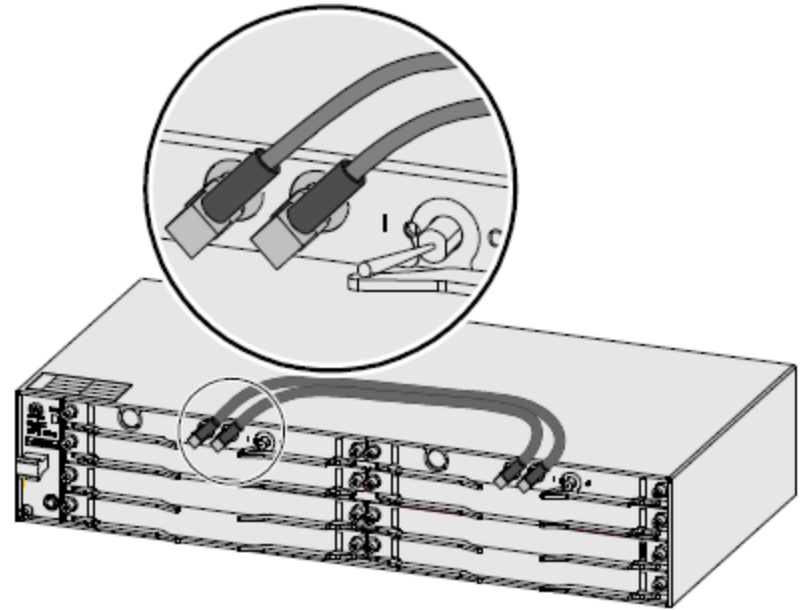
# IFX Card



# XPIC Cable



Using the shorter pair of XPIC cables



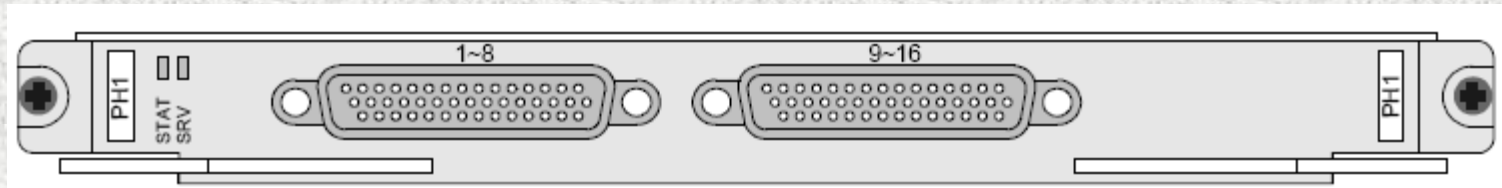
Using the longer pair of XPIC cables

- Connect the XPIC cables to the IN/OUT ports of the pair of IFX Boards
- The IN port of the one IFX board must be connected to the OUT port of the other IFX board.
- If the IFX board XPIC is disabled then connect the XPIC cable b/w IN/OUT of the same IFX board

# PO1 CARD (8 E1 Interface Card)



# PH1 CARD (16 E1 Interface Card)



# PH1 Card

## (16 E1, Interface Card)



**P:** *PDH*

**H:** *Hexadecimal (16)*

**STAT:** *Status of the Board*

**SRV:** *Status of Services which have been created in Cross Connection Configuration*

# Valid Slots for PO1/PH1 Boards

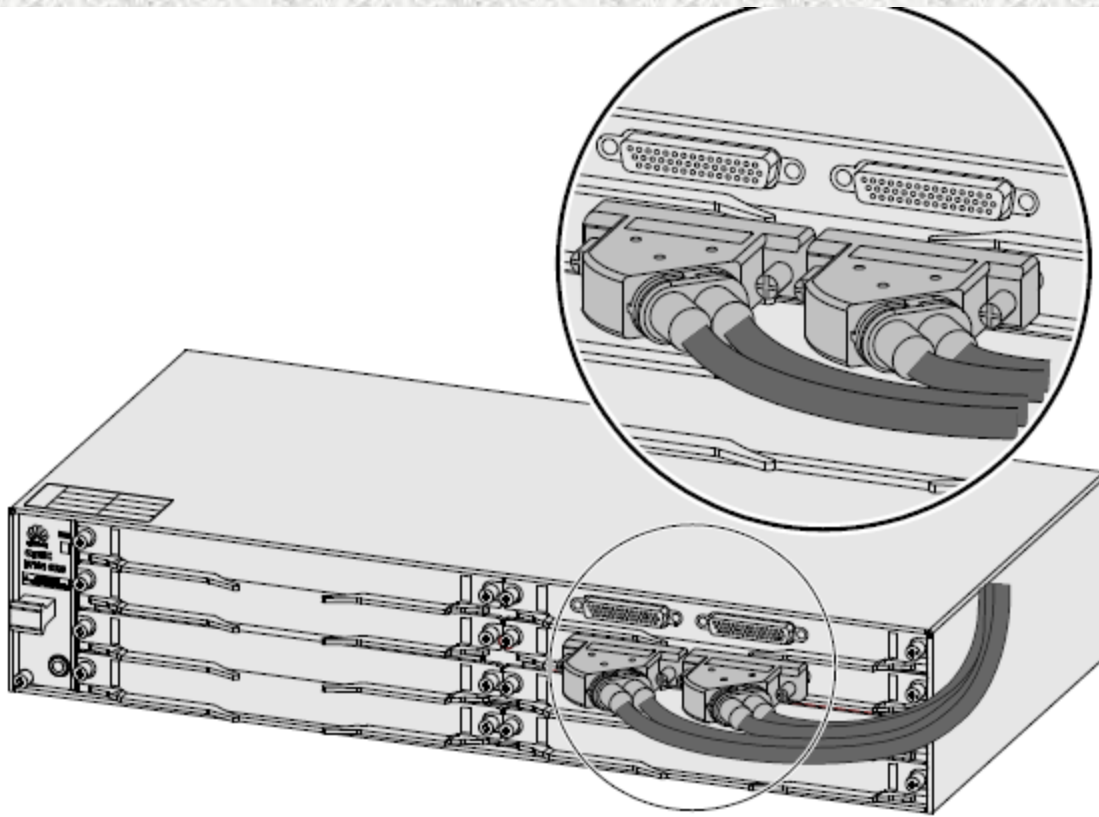
## OPTIX RTN 610

	PO1/PH1	Slot3	PO1/PH1	Slot4
		Slot1		Slot2

## OPTIX RTN 620

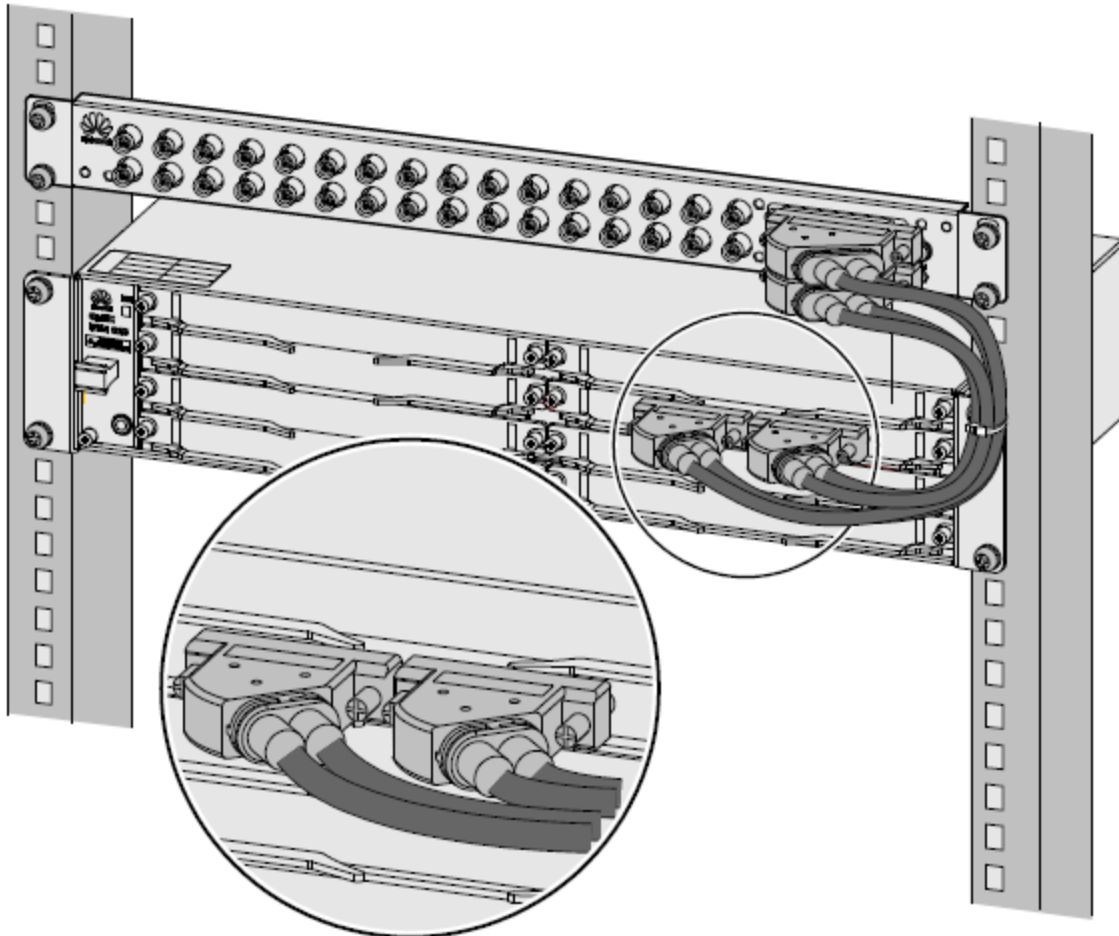
Slot 20	PO1/PH1	Slot7	PO1/PH1	Slot8
	PO1/PH1	Slot5	PO1/PH1	Slot6
		Slot3	PO1/PH1	Slot4
		Slot1		Slot2

# Tributary Cable



- DB44  
Connectors  
connected with  
PO1/PH1 card

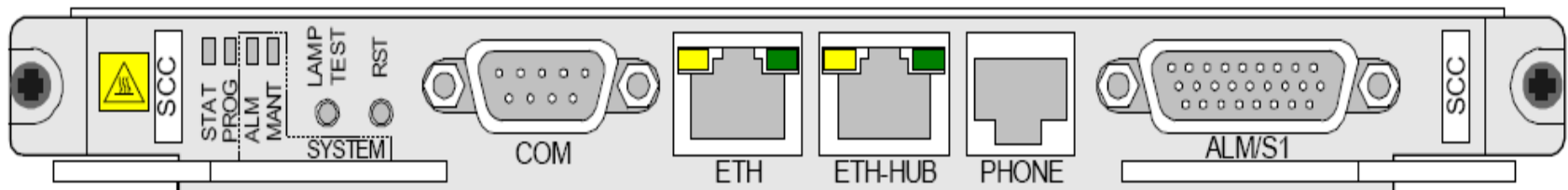
- 75 OHM DDF



- DB44 connector could be connected to 75 OHM DDF (installed in MW Rack) though DB37 connector

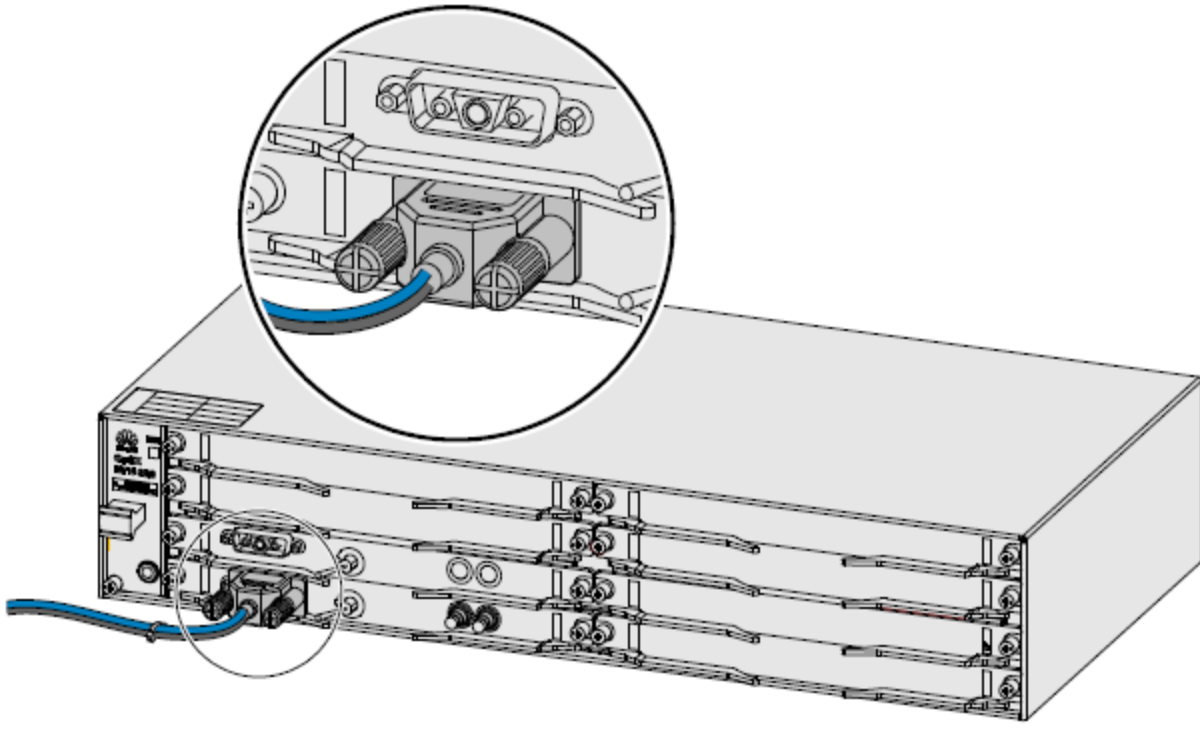
# SCC Board (Processor)

- **STAT:** *Status of Board*
- **PROG:** *Light indicates Processor is being programmed*
- **ALM:** *Indicates the Alarm on the Board*
- **LAMP TEST:** *To test all the indicators on the IDU*
- **RST:** *To Rest the LAN Connectivity with your LAPTOP*
- **COM:** *To Connect with IDU using COM Port*
- **ETH:** *Used to Connect with IDU using RJ-45 Connector*
- **ETH-HUB:** *To connect two IDU with each other*
- **PHONE:** *For Connectivity of Order Wire*
- **ALM/S1:** *For Connectivity of Alarms*





# PXC Cable (Power Connector)



- The IDU must be correctly installed
- IDU grounding
- Switch (breaker) of IDU power must be turned off
- PXC board must be turned off
- IFIA must be turned off

- Ground the BLACK CABLE and connect the BLUE CABLE to -48V power
- Connect the type-D connectors of the cables to the sockets on the PXC board and fasten them

# Valid Slots for SCC Board

## OPTIX RTN 610

	Slot3	Slot4
	Slot1	SCC Slot2

## OPTIX RTN 620

Slot 20	Slot7	Slot8
	Slot5	Slot6
	Slot3	Slot4
	Slot1	SCC Slot2

# PXC Board

## (Power & Cross Connect Board)

- **Port:** *Power Supply*
- **SYS-PWR:** *Turn on IDU*
- **CLK0:** *External Clock output*
- **CLK1:** *External Clock input*
- **STAT:** *Status of Board*
- **PWR:** *Power of Board*
- **SYNC:** *Synchronization Alarm (Clock)*
- **ACT:** *Acting Board Status*



# Valid Slots for PXC Board

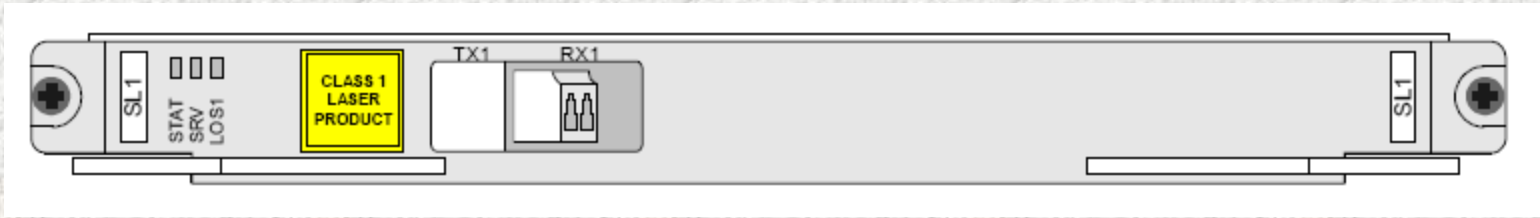
## OPTIX RTN 610

	Slot3	Slot4
PXC	Slot1	Slot2

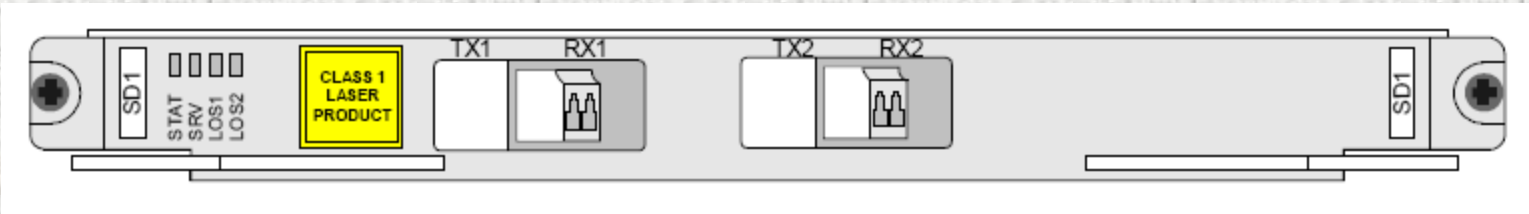
## OPTIX RTN 620

Slot 20	Slot7	Slot8
	Slot5	Slot6
	PXC (protection) Slot3	Slot4
	PXC (working) Slot1	Slot2

# SL1



# SD1



## Optical Interface Boards

**SL1:** *Single Optical Interface Board*

**SD1:** *Dual Optical Interface Board*

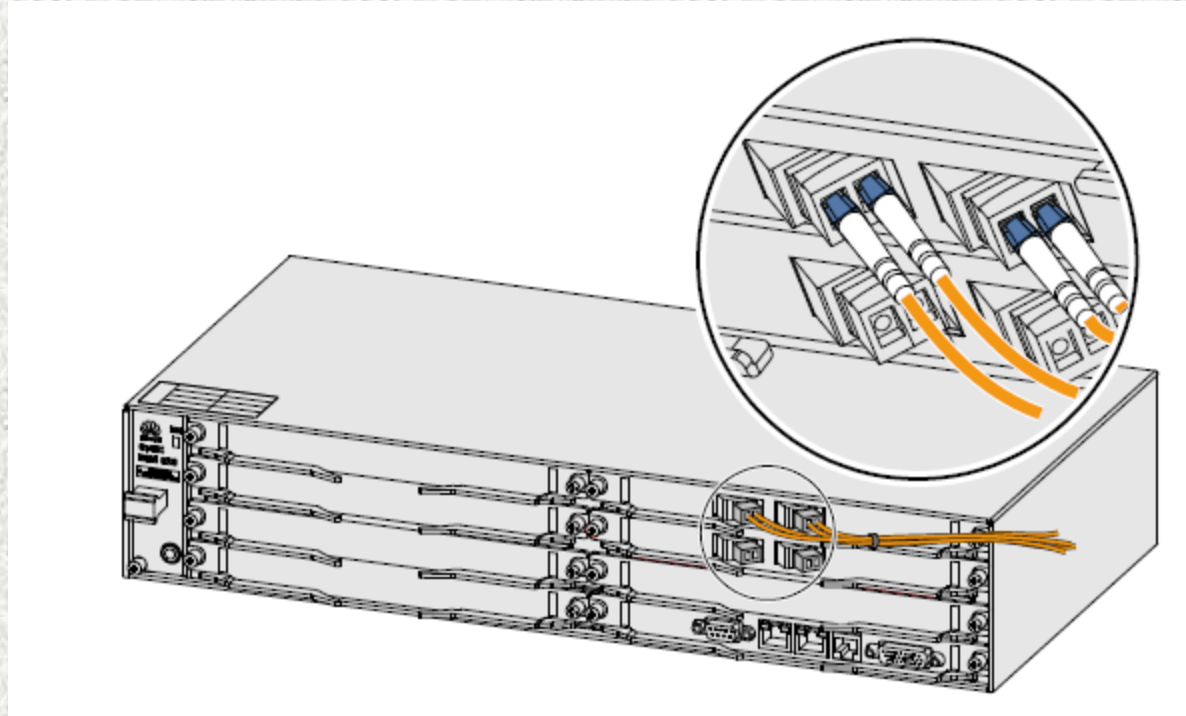
**STAT:** *Status of Board*

**SRV:** *Services of Board*

**LOS1:** *Loss of Signal*

**LOS2:** *Loss of Signal 2*

# Optical Cable Connectors (LC/PC)



SL1/SD1 provide 1e-1, S-1.1, L-1.1 or L-1.2  
Optical Interface

# Valid Slots for SLE/SDE Boards

## OPTIX RTN 610

	SLE/SDE	Slot3	SLE/SDE	Slot4
		Slot1		Slot2

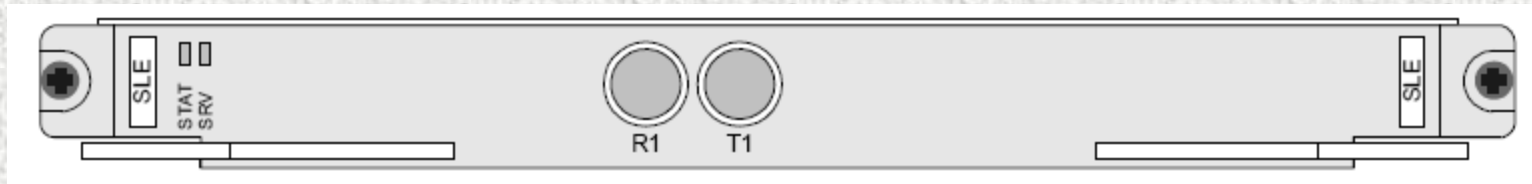
## OPTIX RTN 620

Slot 20	SLE/SDE	Slot7	SLE/SDE	Slot8
	SLE/SDE	Slot5	SLE/SDE	Slot6
		Slot3	SLE/SDE	Slot4
		Slot1		Slot2

# ELECTRICAL INTERFACE CARD

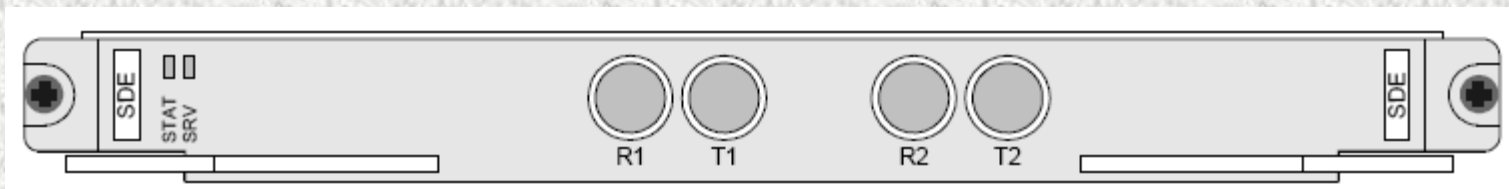
## SLE Card

- **S:** *SDH*
- **L:** *Lonely (Single)*
- **E:** *Electrical Interface*



## SDE Card

- **Dual Electrical Interface**





# Valid Slots For SLE/SDE

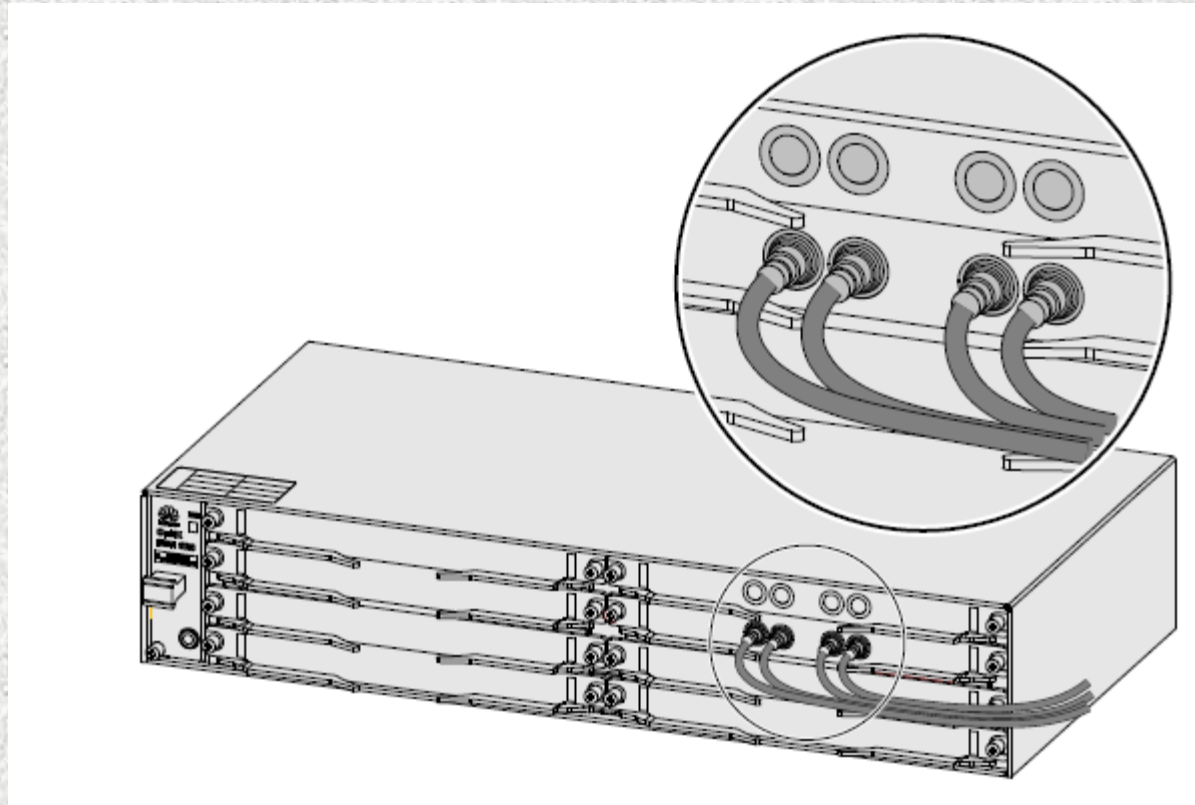
## OPTIX RTN 610

	SLE/SDE	Slot3	SLE/SDE	Slot4
		Slot1		Slot2

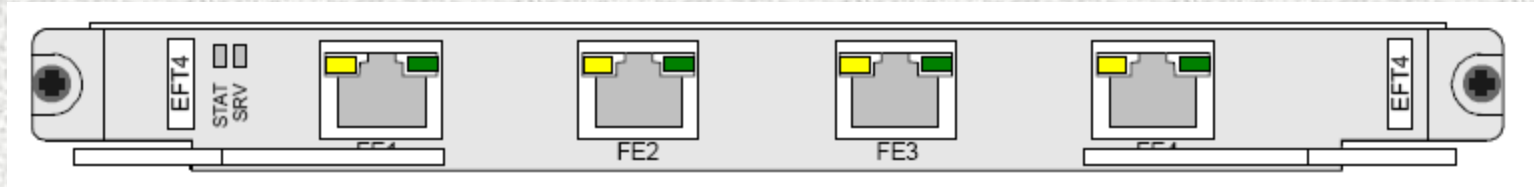
## OPTIX RTN 620

Slot 20	SLE/SDE	Slot7	SLE/SDE	Slot8
	SLE/SDE	Slot5	SLE/SDE	Slot6
		Slot3	SLE/SDE	Slot4
		Slot1		Slot2

# SLE Connector



# EFT 4 Fast Ethernet Service



- **EFT 4 Board Transmits 4 Fast Ethernet Services**
- It can transmit VC4-1 (process overhead pointers in VC-3) and VC4-2 (process over head in VC12 and VC-3)
- **STAT:** *Shows the Status of the Board*
- **SRV:** *Displays the Service Alarms*

# VALID SLOTS FOR EFT 4 BOARD

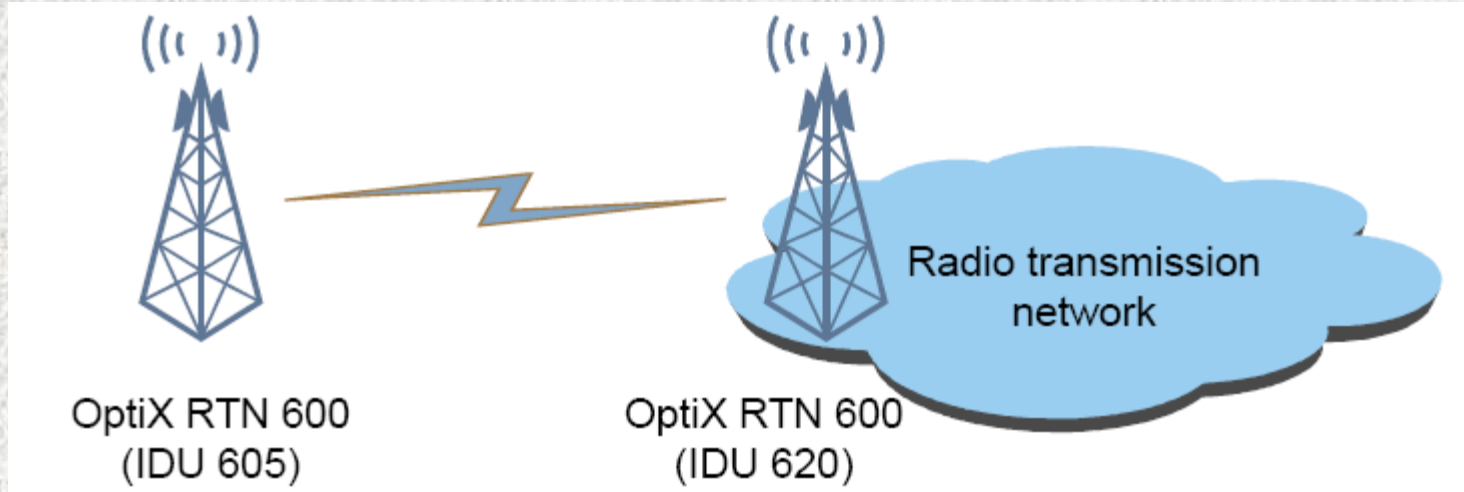
## OPTIX RTN 610

	EFT4	Slot3	EFT4	Slot4
		Slot1		Slot2

## OPTIX RTN 620

Slot 20	EFT4	Slot7	EFT4	Slot8
	EFT4	Slot5	EFT4	Slot6
		Slot3	EFT4	Slot4
		Slot1		Slot2

# RTN 605



- Depending upon the Requirements RTN 610 can be replaced by RTN 605 at the Terminating sites

**Software configuration using T2000 WebCT**

- Double click on the WEBLCT icon
- Dos Windows will appear
- Next the window will appear as of below
- Enter password T2000

## iManager T2000 Web LCT

### USER LOGIN

User Name:


Password:

Login

Reset



- Next NE Search window will appear
- If any NE searched before on NE search window delete the NE or else you will not be able to search them
- Click on NE search Button, then Search and you will see NE searched as of below.
- Select the NE which you Desire or all of them, Click Add NE

Domain  ...  

NE Name	NE ID	Gateway IP Address/Serial Port No.	Port No./Baud Rate	Gateway Type
NE923	9-923	129.9.3.155	1400	IP Gateway
NE791	9-791	129.9.3.23	1400	IP Gateway
NE3938	9-3938	129.9.15.98	1400	IP Gateway
NE798	9-798	129.9.3.30	1400	IP Gateway
NE792	9-792	129.9.3.24	1400	IP Gateway
NE831	9-831	129.9.3.63	1400	IP Gateway
NE6100	9-6100	129.9.23.212	1400	IP Gateway
NE841	9-841	129.9.3.73	1400	IP Gateway
NE922	9-922	129.9.3.154	1400	IP Gateway
NE811	9-811	129.9.3.43	1400	IP Gateway
NE842	9-842	129.9.3.74	1400	IP Gateway




- After you have selected the NE to be added
- The bottom window will appear as below, as User Name: root and enter the Password: password
- Then the login Status will be LOGGED IN
- Then you can access the NE

Use same user name and password to login  
 Use the user name and password that was used last time


NE ID	NE Name	User Name	Password	Login Status
9-49136	NE49136	root		Not Logged In

OK Cancel Apply

- After the NE has been added you will see the bottom window with the Alarm Status as Critical since you have not configured the IDU and the LINK
- The communication status should be Normal and if it is ABNORMAL then you can't log in to that NE
- You can also change the NE ID and the NE NAME in NE ATTRIBUTES after accessing
- In order to ENTER the IDU you can double click on the NE or can click on the NE EXPLORER button



**iManager T2000 Web LCT**



<u>NE ID</u>	<u>NE Name</u>	<u>Equipment Type</u>	<u>Alarm Status</u>	<u>Gateway Type</u>	<u>Gateway IP Address</u>	<u>Communication Status</u>	<u>Login Sta</u>
9-65	NE65	RTN620	Critical	IP Gateway	10.71.66.82	Normal	Logged In

- After entering the IDU (Slot Layout) the color of the boards should be Running Uninstalled Navy Blue color, you can see from the LEGEND
- In order to add the boards you should RIGHT CLICK and add the board which you desire according to the hardware installation (note: must add 1<sup>st</sup> SCC and PXC) the add the rest of the boards
- The color will become as of the boards below

The screenshot displays the iManager T2000 Web LCT interface. At the top, the Huawei logo and the text "iManager T2000 Web LCT" are visible. Below this, the system status is shown: "NE NAME:NE49136 || NE VERSION:5.54.02.10 || CURRENT USER:root || NE STATE:RUNNING".

The main area is divided into three windows:

- Top left window:** A tree view showing the network element structure for NE49136, including slots 1-PXC, 2-SCC, 3-PXC, 4-PH1, 5-IF1A, 6-SL1, 7-IF1A, 8-SL1, 15-ODU, 17-ODU, and 21-EOW.
- Center window:** A "Slot Layout" window showing a grid of boards. The boards are color-coded: green for "Running Installed" (e.g., ODU, IF1A, SL1, PXC, PH1, SCC, EOW) and grey for "Not Installed" (e.g., slots 18, 16, 8, 6, 4, 2, 21).
- Bottom left window:** A "Function Tree" window with categories: Configuration, Alarm, Performance, Communication, Security, and Report.
- Legend:** A table on the right side of the interface that maps colors to board statuses and alarm types.

Annotations with dashed boxes and arrows point to the "Top left window", "Bottom left window", and "Center window".

Legend	Description
Grey	Not Installed
Navy Blue	Running Uninstalled
Green	Running Installed
Light Green	Physical Board
Red	Critical Alarm
Yellow	Major Alarm
Orange	Minor Alarm
Purple	Warning Alarm
Blue	Abnormal Event
Red icon	Tributary/Line Loopback
Grey icon	Protection Board Status



# iManager T2000 Web LCT



NE Name

NE NAME:NE49136 || NE VERSION:5.54.02.10 || CURRENT USER:root || NE STATE:RUNNING

● 0 ● 0 ● 0 ● 0 ● 0

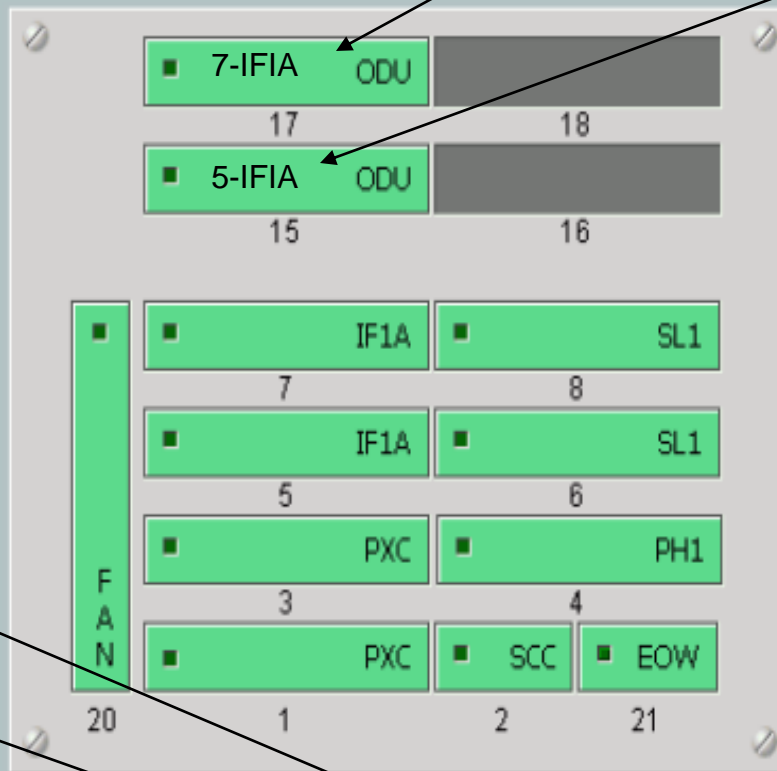
- NE49136
  - 1-PXC
  - 2-SCC
  - 3-PXC
  - 4-PH1
  - 5-IF1A
  - 6-SL1
  - 7-IF1A
  - 8-SL1
  - 15-ODU
  - 17-ODU
  - 21-EOW

Enable 24 hr monitor

- Function Tree
  - Configuration
  - Alarm
  - Performance
  - Communication
  - Security
  - Report

Check alarm status

Slot Layout



Usually standby

Usually working

Legend

Legend	Description
	Not Installed
	Running Uninstalled
	Running Installed
	Physical Board
	Critical Alarm
	Major Alarm
	Minor Alarm
	Warning Alarm
	Abnormal Event
	Tributary/Line Loopback
	Protection Board Status

Change NE id, NE name

ECC management to AUTO; for interconnecting 2 IDU through LAN

- In order to change the ID and Name then enter NE Attributes (after changing the ID the LAN of laptop and IDU will disconnect and connect then login to IDU again from the start)
- Click Modify NE ID to change the ID (never change New Extended ID)

The screenshot shows a network configuration interface. On the left, there is a 'Function Tree' with 'Configuration' expanded to 'NE Attribute'. The main area displays the 'NE Attribute' configuration for 'NE62' in a table format:

Attribute	Value
Type	OptiX RTN 620
ID	62
Extended ID	9
Name	NE62
Remarks	
Subrack Type	Type2
Gateway Type	IP GateWay
Affiliated Gateway IP Address	10.71.66.82
Affiliated Gateway Port	1400

At the bottom right, there are buttons for 'Query', 'Apply', and 'Modify NE ID'. A dialog box is open, titled 'New ID: 65' and 'New Extended ID: 9'. The 'New Extended ID' field is highlighted with a dashed box and an arrow pointing to it with the text 'Don't change this extended id'. Below the dialog box are 'OK' and 'Cancel' buttons.

# Main NE Configuration/Details

2 different folders

The screenshot shows the configuration interface for NE62. On the left is a 'Function Tree' with 'Configuration' expanded to show 'NE Attribute' selected. The main area has two tabs: 'Slot Layout' and 'NE Attribute'. The 'NE Attribute' tab is active, displaying a table of attributes and their values. Below the table are buttons for 'Refresh', 'Query', 'Apply', and 'Modify NE ID'. A yellow highlight is present on the top right of the interface.

Attribute	Value
Type	OptiX RTN 620
ID	62
Extended ID	9
Name	NE62
Remarks	
Subrack Type	Type2
Gateway Type	IP GateWay
Affiliated Gateway IP Address	10.71.66.82
Affiliated Gateway Port	1400

Refresh → Query Apply Modify NE ID

Always press Query

Not used usually since it doesn't support max capacity, but we use this option for **Deleting all the boards in slot layout**

To have 5 IFIA as working and 7 IFIA as protection

For configuration of E1 services

Synchronization of time with laptop or NMS (since original time not correct so time of alarms can't be determined)

For PXC board working/protection, usually we select 1-PXC as working and 3-PXC as protection

# IF Board Configuration

NE62

- 1-PXC
- 2-SCC
- 3-PXC
- 5-SDE
- 6-IF1A
- 8-IF1A
- 16-ODU
- 18-ODU
- 21-EOW

Function Tree

- Configuration
  - Digital Interface
  - IF Interface
  - Overhead Management
    - Regenerator Section
    - VC4 Path Overhead
- Alarm
- Performance

Slot Layout Intermediate Frequency Interface

By Board/Port(Path)
  By Function

port

IF Attributes ATPC Attributes

Port	Radio Work Mode	Radio Link ID	Received Radio Link ID	IF Port Loopback	wayside Enable Status	wayside Input Board
NE62-6-IF1A-1(SDH-1)	7,STM-1,28MHz,128QAM	1	7241	Non-Loopback	Disabled	0

Can be changed and received and sent link ID should be same around -70 RSL

IF board inloop enable then received link id should be same as sent to confirm the IF is ok

Select the required modulation as in link budget (**PDH:** QPSK and **SDH:** QAM)

- Modulation should be same on both ends
- If LINK ALARM appear after -70 RSL then modulation is not the same

Query Apply

# ODU Configuration

4 5 0 2 6

NE109

- 1-PXC
- 2-SCC
- 3-PXC
- 4-PO1
- 6-IF1A
- 8-IF1A
- 16-ODU
- 18-ODU
- 21-EOW

Function Tree

- Configuration
  - ODU Interface
- Alarm
- Performance

Slot Layout | ODU Interface | TX freq/range, spacing/ range

By Board/Port (Path)  By Function

Board

Radio Frequency Attributes | Power Attributes | Equipment Information | Advanced Attributes

Board	Transmit Frequency(kHz)	T/R Spacing(kHz)	Actual Transmit Frequency(kHz)	Actual Receive Frequency(kHz)	Actual T/R Spacing(kHz)	The range of the frequency point(k
NE109-16-ODU	0	0	7420000	7259000	161000	[7380000,744000]

Input TX Frequency check if the TX freq in range

Input TX freq or it can be left ZERO since it will auto detected from ODU

Query App



- NE109
  - 1-PXC
  - 2-SCC
  - 3-PXC
  - 4-PO1
  - 6-IF1A
  - 8-IF1A
  - 16-ODU
  - 18-ODU
  - 21-EOW

- Function Tree
  - Configuration
    - ODU Interface
  - Alarm
  - Performance

Slot Layout | ODU Interface |

By Board/Port (Path)

By Function

Range of ODU power

Board

Radio Frequency Attributes | Power Attributes | Equipment Information | Advanced Attributes

Board	Transmit Power(dBm)	Actual Transmit Power (dBm)	Actual Receive Power(dBm)	Actual range of Power (dBm)
NE109-16-ODU	-10	-55	-90	[-6,27]

Input TX power and also check with range of TX power

RSL (received signal level)

TX power and actual TX power should be same.

If it is -55 then ODU is mute (for UNMUTE of ODU go to Advance attributes)

Query

App

# EQUIPMENT INFORMATION

:109  
 1-PXC  
 2-SCC  
 3-PXC  
 4-PO1  
 6-IF1A  
 8-IF1A  
 16-ODU  
 18-ODU  
 21-EOW

nction Tree  
 Configuration  
   ...ODU Interface  
 Alarm  
 Performance

Slot Layout | ODU Interface |

By Board/Port (Path)

By Function

Board

Radio Frequency Attributes | Power Attributes | Equipment Information | Advanced Attributes

Board	Frequency (GHz)	Equipment Type	T/R Spacing (kHz)	Intermediate Frequency Bandwidth(MHz)	H/L Station	Transmission Power Type	Produce Time	Produce SN
NE109-16-ODU	7	SDH	161000	28-MAX	H-station	Standard	2006-7	2050-32

Query

Apply

109  
1-PXC  
2-SCC  
3-PXC  
4-PO1  
6-IF1A  
8-IF1A  
16-ODU  
18-ODU  
21-EOW

Configuration Tree  
Configuration  
  ODU Interface  
Alarm  
Performance

Slot Layout | ODU Interface |

By Board/Port (Path)

By Function

Board

Radio Frequency Attributes | Power Attributes | Equipment Information | Advanced Attributes |

Board	RF Loopback	Configure Transmission Status	Actual Transmission Status	Factory Information
NE109-16-ODU	Non-Loopback	mute	mute	-

By default all ODU are MUTE (-55) and unmute then TX power and actual TX power would be same

- If the ODU is in protection even after unmute the TX power would be -55

Query

Apply

# IF 1+1 Protection

NE NAME:NE62 || NE VERSION:5.54.01.10 || CURRENT USER:nglct111 || NE STATE:RUNNING

● 1 ● 3 ● 0 ● 0 ● 1

- NE62
  - 1-PXC
  - 2-SCC
  - 3-PXC
  - 4-PH1
  - 5-SD1
  - 6-IF1A
  - 20-FAN
  - 21-EOW

Slot Layout | IF 1+1 Protection |

Protection Group

Protection Group ID	Working Mode	Revertive Mode	WTR Time(s)	Enable Reverse Switching	Switching Status of Device	Switching Stat Channel
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Function Tree

- Configuration
  - NE Attribute
  - Quick Configuration
  - IF 1+1 Protection
  - Board 1+1 Protection
  - Cross-Connection Config
  - SNCP Service Control
  - NE Time Synchronization
  - Orderwire
  - Automatic Disabling of N
- Clock
- Alarm
- Performance
- Communication
- Security
- Report

Slot Mapping Relation

Unit	Slot Mapping Relation	Working Status of Device	Signal Status of Channel
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Query **New** Delete Apply

## IF board Selection

Usually select the lower order for working (5-IFIA and 6-IFIA) and higher for protection (7-IFIA and 8-IFIA)

- Also select pairs 5-IFIA and 7-IFIA or 6-IFIA and 8-IFIA

Attribute	Value
Protection Group ID	1
Working Mode	HSB
Revertive Mode	Revertive
WTR Time (s)	600
Enable Reverse Switching	Enable
Working Board	6-IF1A-1
Protection Board	8-IF1A-1

Hot stand by,  
Space diversity,  
Frequency Diversity  
or XPIC

Desired  
working IF  
board 6-IFIA  
then 16 ODU

Desired  
working IF  
board 8-IFIA  
then 18 ODU

# Cross Connection Configuration (services)

NE62

- 1-PXC
- 2-SCC
- 4-PH1
- 5-SD1
- 6-IF1A
- 8-SDE
- 20-FAN
- 21-EOW

Function Tree

- Configuration
  - NE Attribute
  - Quick Configuration
  - IF 1+1 Protection
  - Board 1+1 Protection
  - Cross-Connection Config
  - SNCP Service Control
  - NE Time Synchronization
  - Orderwire
  - Automatic Disabling of N
- Clock
- Alarm
- Performance
- Communication
- Security
- Report

Slot Layout | Cross-Connection Configuration |

Cross-Connection

Level	Type	Source Slot	Source Timeslot/Path	Sink Slot	Sink Timeslot/Path
VC12	↕↗	4-PH1	1	6-IF1A-1(SDH-1)	1

Auto-Created Cross-Connection

Level	Type	Source Slot	Source Timeslot/Path	Sink Slot	Sink Timeslot/Path
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Query
New

Display
Filter

Create SNCP

Delete

To Normal

Print

To SNCP

Scheme

Level	Type	Source Slot	Source Timeslot/Path
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Attribute	Value
Level	VC3
Direction	Bidirectional
Source	5-SD1
Source Port	1
Source VC4	VC4-1
Source Timeslot Range(e.g.1,3-6)	1
Sink	6-IF1A
Sink Port	1
Sink VC4	VC4-1
Sink Timeslot Range(e.g.1,3-6)	1

OK Cancel Apply

Query

New

Create SNCP

Display

Filter

Delete

Slot Layout | NE Performance Monitor Time |

Enable/Disable Performance Monitoring

NE	15-Minute Performance Monitor	24-Hour Performance Monitor
NE2	From2008-04-09 00:00:08	From2008-04-09 00:00:08

Total: 1 , Selected: 1

15-Minute

Set 15-Minute Monitoring

Enable  Disable

From:

To:

24-Hour

Set 24-Hour Monitoring

Enable  Disable

From:

To:



NE Name	NE ID	Synchronous Mode	Server Enabled	Client Enabled	Synchronous Server	Polling Period (min)	The of S
NE4	9-4	NM	-	-	-	-	-

Synchronization Starting Time

Synchronization Starting Time

Synchronization Period(days)

1

ECC: Ethernet Extended Mode should be set to auto, by default it is Manual (which is recommended if more than 4 IDUs interconnected; 1 server and 4 clients)

### Create SNCP Service

Attribute	Value
Service Type	SNCP
Level	VC12
Revertive Mode	Revertive
Direction	Unidirectional
Hold-off Time(100ms)	0
WTR Time(s)	600

Attribute	Working Service	Protection Service
Source	6-IF1A	5-SD1
Source Port		1
Source VC4		VC4-1
Source Timeslot Range (e.g.1,3-6)	1	1
Sink	4-PH1	
Sink Port		
Sink VC4		
Sink Timeslot Range (e.g.1,3-6)	1	

OK

Cancel

Apply

New

Create SNCP

To Normal

## Steps for Software Configuration

- a) Change the IP address : **129.168.0.20 (20 can be changed 1 to 255)**
- b) Start WebLCT. Enter the Login: admin,password:**T2000**
- c) New Window will open. Then you can click **NE SEARCH**. New Window will open click **Search**. The IDU(NE) will be searched then you can add the NE.
- d) Then Click on the NE which you want to access. Click **NE LOGIN**. and give the password: **password**
- e) Double Click on the NE to Access the NE, then Add all the cards by **RIGHTCLICK** select the **ADD** option, to add all the cards (start with lower order of cards)
- f) After adding all the cards Put the **MODULATION** in the **IF CARD**
- g) Then put the **FREQ, TX PWR** and **UNMUTE** the **ODU**
- h) YOUR configuration is complete.

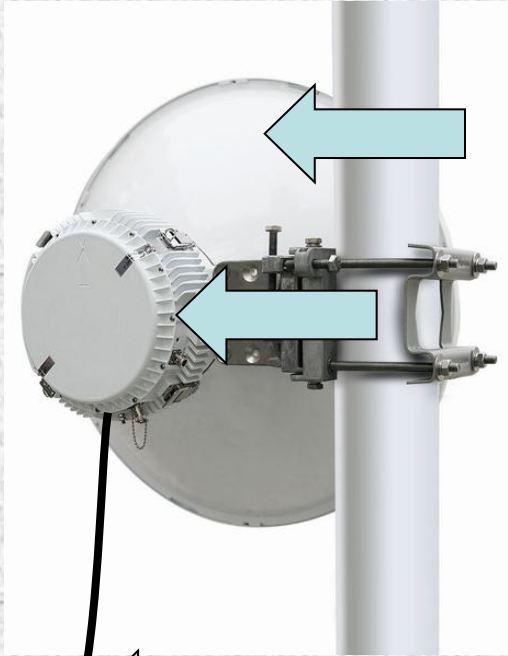
FOR DETAIL AND MORE UNDERSTANDING PLEASE WATCH THE VIDEO VERY CAREFULL, MANY TIMES

# OPTIX RTN 600

- Single RTN 620 can support for more than single direction of Transmission
- Less or almost no patching of E1 required for Repeater sites and Hub Sites the Patching is reduced.
- To reduce the IF cable adjustment near the IDU there is IF Jumper (2meter) which allows the IF Cable to be easily adjusted in the MW Rack.
- For SDH and PDH IDU's are the same, they have the only difference of License.
- Same IDU for PDH of different type modulation
- There is internal Clock in RTN 600 which can support up to more than 4 STM-1 of Traffic
- In RTN 600, has its own internal MUX for which due to that no external MUX is required

**QUESTIONS??**

# ODU and Hybrid Coupler

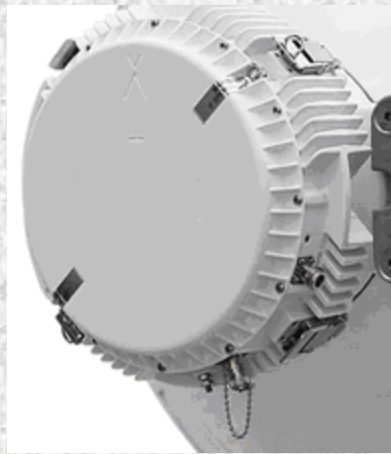


Antenna

ODU

IF cable

# Out Door Unit



Front View

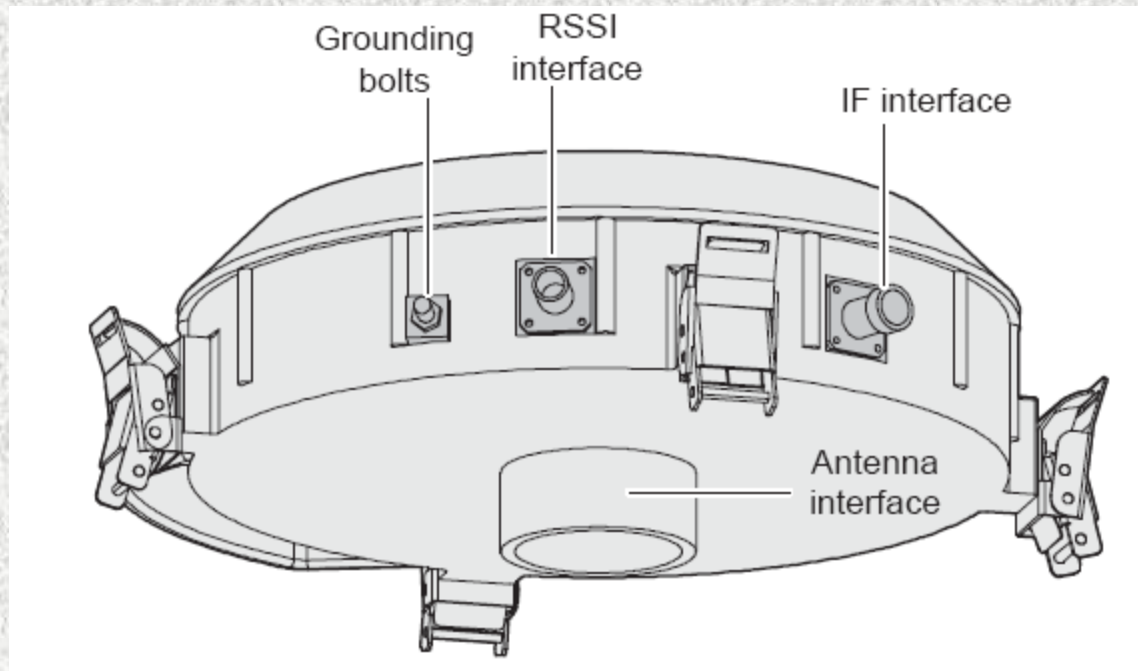


Rear View





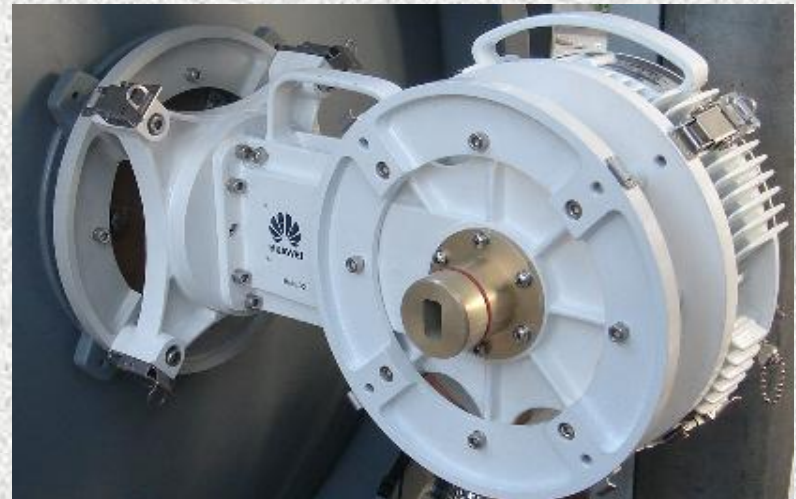
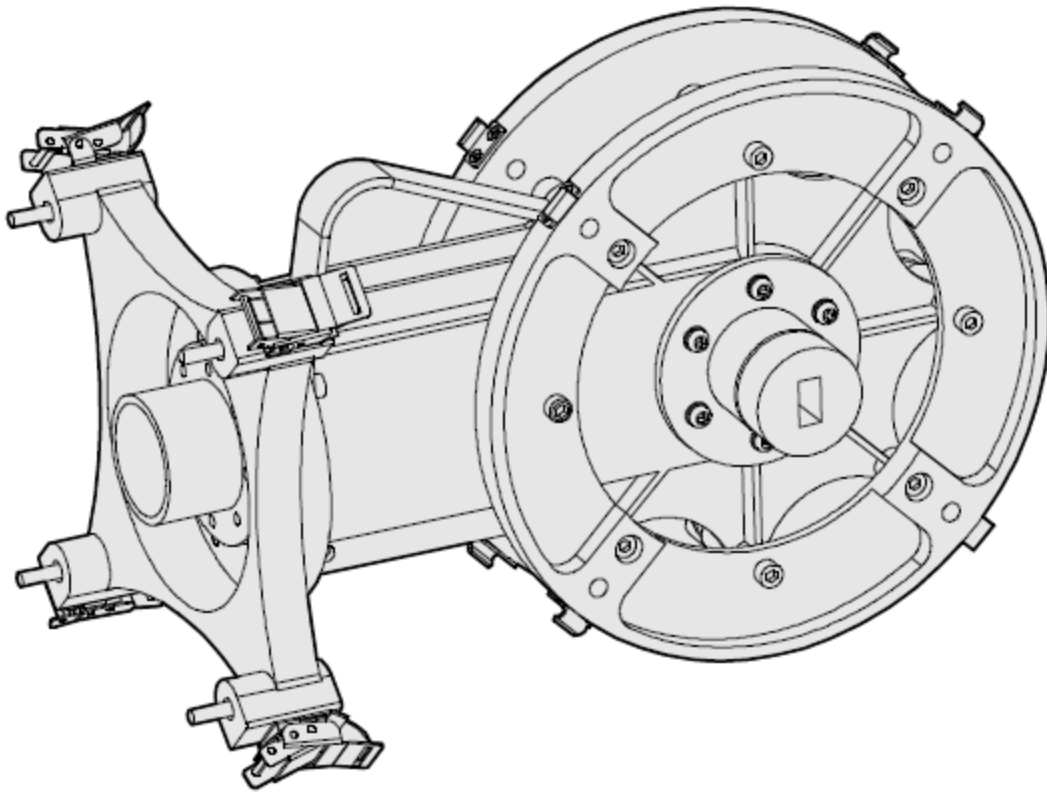
# ODU INTERFACE

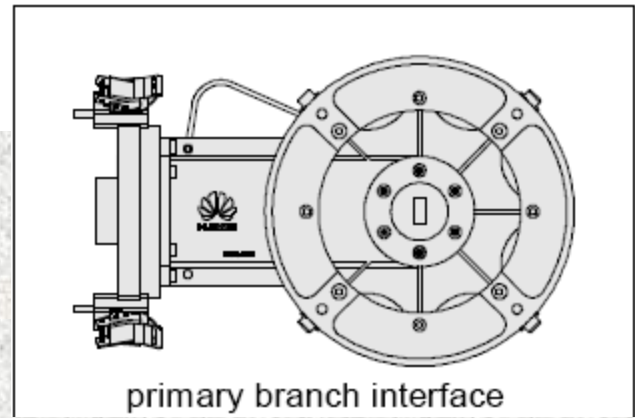
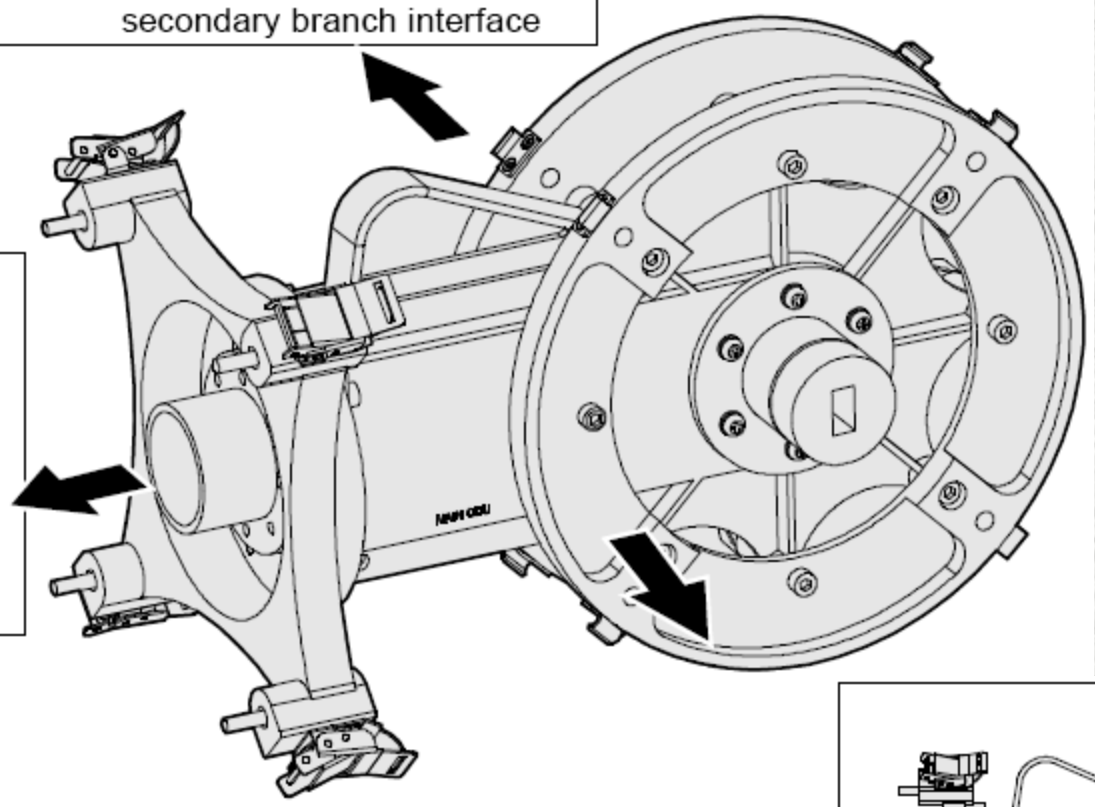
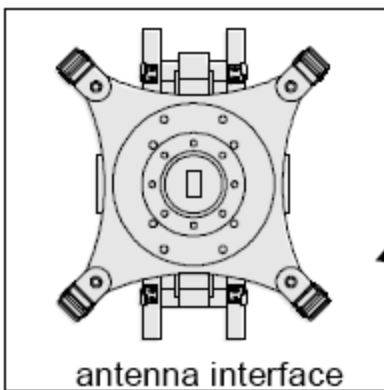
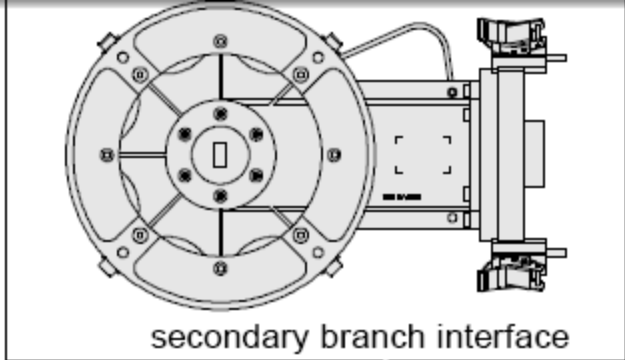


## ODU (outdoor unit)



# Hybrid Coupler





# Hybrid Coupler

# 1+1 Protection

One ODU using one antenna  
Configuration (separate mount)  
AND 1+1 Protection using Hybrid  
Coupler

Separate Mount (1+0)  
Wave Guide



## Appearance of a flexible waveguide



The twisted angle of a flexible waveguide should not be larger than 90 degrees.

# Separate Mount Using Hybrid Coupler (1+1) and Wave Guide

Wave Guides  
being used  
connectivity  
from Dish to  
Hybrid  
Coupler for  
Separate  
Mount





**Dual  
Polarized  
Antenna**



**Software info.**

OPTIX RTN 600, uses Software Know as

**iManager T2000 WEBLCT (Local Craft Terminal)**

**V2R5 (Version 2 and Release 5) Latest**

This Version Supports the Max Capacity for Protection

Software WEBLCT works in HTML (Internet Explorer)

Pre-Requests for this Software are:

- Internet Explorer
- Download the Java 2 Standard Edition Runtime Environment (JRE),  
release version 5.0 or later (that is only if your software is functioning Normally)
- If still doesn't work then install tomcat apache