Optics Command Reference

This chapter describes the commands to configure the Optics controller.

controller optics

To configure optics controller use the **controller optics** command in the config mode.

controller optics *R/S/I/P*

Syntax Description

controller optics	Name of the controller
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 5.2.4	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
otn	write

Example

The following example shows how to configure an optics controller.

```
RP/0/RP0:hostname (config)# controller optics 0/0/0/0
```

automatic-in-service controller

To configure AINS use the **automatic-in-service controller** command in the EXEC mode.

automatic-in-service controller *controller-name R/S/I/P* **hours** *x* **minutes** *y*

Syntax Description

controller-name	Name of the controller.
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
x	Number of hours
y	Number of minutes

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 6.5.25	This command was introduced.

Usage Guidelines

None

Example

The following example shows how to configure AINS for 15 minutes on an ODU2 controller.

```
RP/0/RP0:hostname # automatic-in-service controller odu2 0/6/0/2 hours 0 minutes 15
```

dwdm-carrier

To configure the wavelength, use the **dwdm-carrier** command in optics controller configuration mode.

dwdm-carrier 100MHz-grid frequency *frequency*

Syntax Description

dwdm-carrier 100MHz-grid frequency	Configures the wavelength in 100MHz (0.1GHz) grid spacing in accordance with ITU definition.
frequency	Specifies the frequency for the optics controller. In 100MHz grid spacing, enter the 7-digit frequency value in the range of 1911500–1961000. For example, enter 1913501 to specify 191.3501 THz.

Command Default

No wavelength is configured.

Command Modes

Optics controller

Command History

Release	Modification
6.5.33	This command was introduced.

Usage Guidelines

You must shut down the controller before you configure the controller or restore a saved configuration.

Task ID

Task ID	Operation
otn	write

Example

The following example shows how to configure the wavelength in 100MHz (0.1GHz) grid spacing in accordance with ITU definition.

```
RP/0/RP0:ios(config-Optics)#dwdm-carrier 100MHz-grid frequency 1960810
```

port-mode

To create a controller use the **port-mode** command in the config mode. To delete the port-mode, use the **no** form of this command.

port-mode {**sonet** | **sdh** | **ethernet** | **otn**} [**framing** *type* **mapping** *type*]

no port-mode {**sonet** | **sdh** | **ethernet** | **otn**} [**framing** *type* **mapping** *type*]

Syntax Description

port-mode sonet framing	Possible framing and mapping types: { opu1 mapping bmp | opu2 mapping [amp | bmp] }
port-mode sdh framing	Possible framing and mapping types: { opu1 mapping bmp | opu2 mapping [amp | bmp] }
port-mode otn framing	Possible framing and mapping types: { opu1 | opu1e | opu1f | opu2 | opu2e | opu2f | opu3 | opu3e1 | opu3e2 | opu4 | opuflex }
port-mode ethernet framing	Possible framing and mapping types: { opu0 mapping gmp | opu1e mapping bmp | opu2 mapping { GfpF | wis rate [OC192 | STM64] | GfpF-Ext } opu2e mapping bmp | opu3 mapping | opu3e1 mapping | opu3e2 mapping | opu4 mapping [gmp | GfpF] | opuflex mapping GfpF }

Command Default

None

Command Modes

Config mode

Command History

Release	Modification
Release 5.2.4	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
otn	write

Example

The following example shows how to create ethernet.

```
RP/0/RP0:hostname (config)# controller optics 0/0/0/0
RP/0/RP0:hostname (config-optics)# port-mode ethernet framing opu0 mapping gmp
```

show controller optics

To display status and configuration information about the interfaces configured as optics controller on a specific node, use the **show controllers optics** command in XR EXEC mode.

show controller optics

show controller optics *R/S/I/P* [**dwdm-carrier-map flexi-grid**]

Syntax Description

R/S/I/P	Rack/Slot/Instance/Port of the controller.
dwdm-carrier-map	(only for trunk optics controllers) Displays the wavelength and channel mapping.
flexi-grid	(only for trunk optics controllers) Enables GMPLS UNI flexible grid channel spacing.

Command Modes

Exec mode

Command History

Release	Modification
6.5.33	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command contact your AAA administrator for assistance.

Task ID

Task ID	Operation
otn	read

Example

The following example displays the wavelength and channel mapping with flexible grid channel spacing enabled.

```
RP/0/RP0:ios#show controller Optics0/0/0/11 dwdm-carrier-map flexi-grid
Mon Mar 20 07:12:36.764 UTC
DWDM Carrier Band:: OPTICS_C_BAND
Frequency range supported: 196.10000 THz ~ 191.30630 THz
DWDM Carrier Map table
-----------------------------------------------------
Channel G.694.1 Frequency Wavelength
index Ch Num (THz) (nm)
-----------------------------------------------------
1 480 196.10000 1528.773
-----------------------------------------------------
2 479 196.09380 1528.822
-----------------------------------------------------
3 478 196.08750 1528.871
-----------------------------------------------------
4 477 196.08130 1528.919
-----------------------------------------------------
```

```
5 476 196.07500 1528.968
--------------------------------------------------
6 475 196.06880 1529.017
--------------------------------------------------
7 474 196.06250 1529.066
--------------------------------------------------
8 473 196.05630 1529.114
--------------------------------------------------
9 472 196.05000 1529.163
--------------------------------------------------
10 471 196.04380 1529.212
--------------------------------------------------
11 470 196.03750 1529.261
--------------------------------------------------
12 469 196.03130 1529.309
--------------------------------------------------
13 468 196.02500 1529.358
--------------------------------------------------
14 467 196.01880 1529.407
--------------------------------------------------
15 466 196.01250 1529.456
--------------------------------------------------
16 465 196.00630 1529.504
--More--
```

show portmode

To display details of portmode, use the **show portmode** command in the exec mode.

show controllers optics *R/S/I/P* **portmode capability**

Syntax Description

optics	Name of the port.
R/S/I/P	Displays the Rack/Slot/Instance/Port of the controller.
portmode	Port mode

Command Modes

Exec mode

Command History

Release	Modification
Release 5.2.4	This command was introduced.

Usage Guidelines

To use this command, you must be in a user group associated with a task group that includes appropriate task IDs. If the user group assignment is preventing you from using a command, contact your AAA administrator for assistance.

Task ID

Task ID	Operation
otn	read

Example

The following example shows how to display port-mode capability .

```
RP/0/RP0:hostname # show controller optics 0/0/0/1 portmode capabilities
```

```
Portmode Information
-------------------------------------------------------------
Port_no          Portmode Type   Framing                 Mapping
PT type
1                Ethernet        OPU0 framing type       GMP mapping type
07 (PCS codeword transparent Ethernet mapping)
1                Sonet           OPU1 framing type       BMP mapping type
03 (Bit synchronous CBR mapping)
1                SDH             OPU1 framing type       BMP mapping type
03 (Bit synchronous CBR mapping)
1                OTN             OPU1 framing type       None mapping type
Traffic Dependent
```

```
RP/0/RP0:hostname # show controller optics 0/0/0/1 portmode configured
```

```
Portmode Information
```

```
------------------------------------------------------------
Portmode type   Framing Mapping          PT type
OTN             OPU1 framing type       None mapping type       Traffic Dependent
```

Note Run *do show portmode* when command is executed in config mode.