

## DCP-2 & DCP1610

### Quick Start Configuration Guide



DCP-2 + DCP-1610

R12.1.1 A

The specifications and information within this manual are subject to change without further notice. All statements, information and recommendations are believed to be accurate but are presented without warranty of any kind. Users must take full responsibility for their application of any products.

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# 1 Introduction

## 1.1 General

This guide covers the general Turn-up steps for the DCP-2 & DCP-1610 products.

## 1.2 In commercial confidence

The document is provided in commercial confidence and shall be treated as such.

## 1.3 Document Revision History

| Revision | Date       | Description of changes   |
|----------|------------|--|
| Initial  | 2023-05-16 | Initial release  |
| Rev1     | 2024-12-20 | Added hostname, & network management, inventory command examples.<br>Minor text corrections<br>Updated Document Reference to Services Portal |
| Rev 2    | 2025-02-17 | Added note to check traffic unit SW<br>Corrected the show interface command  |
|          |            |  |

## 1.4 Document Reference

Reference the following documents for the installation procedures, operation specifics, and CLI command references. All documents are available from the Smartoptics Services Portal <https://services.smartoptics.com/>

### 1.4.1 DCP User Manual

### 1.4.2 DCP-1610 User Manual

### 1.4.3 DCP CLI User Manual

## 2 DCP-2 Initial Configuration

### 2.1 Install Chassis and Connect Power

2.1.1 Install chassis and connect power per directions in the associated user manual.

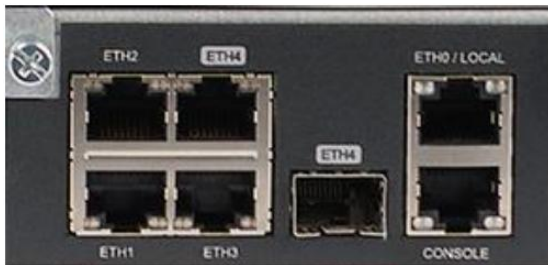
### 2.2 Configuration via Local Console (Eth or Serial)

#### 2.2.1 Connect via Ethernet Local Console (Alternative 1)

2.2.1.1 Configure PC with a static IP address of 192.168.0.10, 255.255.255.0

2.2.1.2 Connect ethernet cable between the PC network port and the Eth0 console port on the rear of the chassis.

2.2.1.3 Start SSH client (putty or similar) and connect to 192.168.0.1, Port 22



#### 2.2.2 Connect via Serial Local Console (Alternative 2)

2.2.2.1 Connect PC serial port to the local Console port on the rear of the chassis.

2.2.2.2 Start and configure the terminal client (putty or similar) with the following serial parameters:

| Protocol     | Serial     |
|--------------|------------|
| Baud Rate    | 115200     |
| Data Bits    | 8          |
| Parity       | None       |
| Stop bits    | 1          |
| Flow Control | None       |
| COM Port     | PC Defined |

### 2.3 Login to the DCP-2 Chassis

Default user/password = admin/admin

### 2.4 Set the Basic configuration.

#### 2.4.1 Configure Hostname

```
admin@smartoptics-dcp> config hostname <tab>
<hostname> - Hostname string. Max length 63 characters.
Valid characters are 0-9, a-z, A-Z, - and .
As long as - and . not as start/end character and digit not as start character.
Note that this is the same as the SNMP sysname.

admin@smartoptics-dcp> config hostname smartoptics-dcp
```

## 2.4.2 Configure Network Interface for Mgmt

```
admin@smartoptics-dcp> config network mgmt ipv4address <tab>
<IPv4 address>          - IPv4 address in dotted decimal format.
<netmask>               - IPv4 netmask in dotted decimal format.
[gateway IPv4 address] - IPv4 gateway address in dotted decimal format.

admin@smartoptics-dcp> config network mgmt ipv4address 10.10.10.2 255.255.255.0 10.10.10.1
```

## 2.4.3 Configure inactivity timeout (optional)

```
admin@smartoptics-dcp> config inactivitytimeout <time in minutes>

<inactivitytimeout> - Time in minutes until automatic logout occurs if there is no activity in CLI
<Time 0-300>.
```

## 2.4.4 Configure NTP (recommend either setting NTP or manual date/time)

Disable NTP when using manual date/time

```
admin@smartoptics-dcp> config ntp <tab>
adminStatus      - Configure NTP adminStatus : up / down
primaryServer    - Configure NTP primary server <primary NTP server IPv4 address>
secondaryServer  - Configure NTP secondary server <secondary NTP server IPv4 address>
```

## 2.4.5 Configure Date (recommend either setting NTP or manual date/time)

```
admin@smartoptics-dcp> config date <tab>
<date> - Date, in format YYYY-MM-DD
<time> - Time, in format HH:MM:SS
```

## 2.5 General Use Status Commands

### 2.5.1 show network interfaces

```
admin@smartoptics-dcp> show network interfaces

Mgmt:          if-1/eth1, if-1/eth2, if-1/eth3, if-1/eth4
IP Address:    10.10.72.97
Netmask:       255.255.255.0
Default gateway: 10.10.72.1
MAC address:   94:DE:0E:02:02:17

eth0 / local:
IP Address:    192.168.0.1
Netmask:       255.255.255.0
MAC address:   94:DE:0E:02:02:16

DNS primary:   10.10.72.99
DNS secondary: 10.10.72.101
```

### 2.5.2 show alarm active

Displays all currently active alarms

```
admin@smartoptics-dcp> show alarm active
Location Alarm name          Severity Start time
-----
psu-1/1  Power supply missing      critical 2018-05-30 07:05:16
if-1/2/2 Loss of optical input power critical 2018-05-19 04:59:52
```

### 2.5.3 show alarm log

Displays the log of alarms.

```
admin@smartoptics-dcp> show alarm log
```

| Location | Alarm name                  | Severity | Start time          | End time            |
|----------|-----------------------------|----------|---------------------|---------------------|
| psu-1/1  | Power supply missing        | critical | 2018-05-30 07:05:16 | -                   |
| if-1/2/3 | Loss of optical input power | critical | 2018-06-06 08:24:50 | 2018-06-06 09:28:55 |
| if-1/2/1 | Loss of optical input power | critical | 2018-06-06 08:24:52 | 2018-06-06 09:28:55 |

### 2.5.4 show inventory

Displays the inventory details of the system.

```
admin@smartoptics-dcp> show inventory
```

| Location | Part number     | Description  | HW rev | FW rev | Serial number |
|----------|-----------------|--|--------|--------|---------------|
| Chassis  | DCP-M40-C-ZR+   | Coherent 40 channel DWDM Open Line System (0-130 km) | R1A    | n/a    | S1234DCPM1234 |
| psu-1/1  | DCP-2-PSU-AC-FB | AC power supply, front-to-back airflow               | CP     | n/a    | L123B12345CPZ |
| psu-1/2  | DCP-2-PSU-AC-FB | AC power supply, front-to-back airflow               | CP     | n/a    | L456B78910CPZ |
| fan-1/1  | DCP-2-FAN-FB    | Fan, front-to-back airflow                           | R1B    | n/a    | n/a           |

### 2.5.5 show version

Displays the SW release running on the system.

```
admin@smartoptics-dcp> show version
```

| Location | SW version         | Bootloader version  | FW version | API version |
|----------|--------------------|---------------------|------------|-------------|
| chassis  | dcp-release-10.0.2 | 2016.09.01-DCP-R2.1 | n/a        | n/a         |
| slot 1   | dcp-release-10.0.2 | 2019.07-DCP-R7.0    | n/a        | n/a         |
| slot 2   | dcp-release-10.0.2 | 2016.09.01-DCP-R2.1 | 0x8a000111 | n/a         |

### 3 DCP-1610 Initial Configuration

#### 3.1 Install DCP-1610 in DCP-2 Chassis

DCP-1610 can be installed in slot 1 or slot 2 in a DCP-2 chassis. It is recommended to have another card or a blind plate in the other slot of the DCP-2. This is to ensure correct air flow for cooling.



Before proceeding with the configuration, verify that the newly installed DCP-404 module is running the same software release as the DCP-2 chassis. If there is a SW mismatch, upgrade the new module following the instructions in the Smartoptics Software Upgrade Guide.

#### 3.2 Set the Basic configuration.

##### 3.2.1 config slot < 1/2 > transponder <transponder number> service

```
admin@smartoptics-dcp> config slot 1 transponder 6 service <tab>
```

```
1GbE-1GbE 1GbE-OTU2Enc 8GFC-8GFC 8GFC-OTU2 8GFC-OTU2Enc STM64-STM64 STM64-OTU2 STM64-OTU2Enc 10GbE-10GbE 10GbE-OTU2e 10GbE-OTU2eEnc 16GFC-16GFC 16GFC-OTU2xEnc 40GbE-OTU2e 40GbE-OTU2eEnc 40GbE-40GbE OTU2-OTU2 OTU2-OTU2Enc OTU2e-OTU2e OTU2e-OTU2eEnc 1GbE-OTU2
```

```
admin@smartoptics-dcp> config slot 1 transponder 6 service 10GbE-OTU2e
```

This command can be service interrupting. Are you sure you want to continue? (Yes/NO): yes

| Service                             | Client Protocol | Client Datarate    | Line Protocol | Line Datarate        |
|-------------------------------------|-----------------|--------------------|---------------|----------------------|
| 1GbE-1GbE                           | 1GbE            | 1,25 Gbit/s        | 1GbE          | 1,25 Gbit/s          |
| 1GbE-OTU2                           | 1GbE            | 1,25 Gbit/s        | OTU2          | 10,709225 Gbit/s     |
| 10GbE-10GbE                         | 10GbE           | 10,3125 Gbit/s     | 10GbE         | 10,3125 Gbit/s       |
| 10GbE-OTU2e                         | 10GbE           | 10,3125 Gbit/s     | OTU2e         | 11,095727 Gbit/s     |
| 16GFC-16GFC                         | 16GFC           | 14,025 Gbit/s      | 16GFC         | 14,025 Gbit/s        |
| 40GbE-40GbE                         | 10GbE           | 10,3125 Gbit/s     | 10GbE         | 10,3125 Gbit/s       |
| 8GFC-8GFC                           | 8GFC            | 8,5 Gbit/s         | 8GFC          | 8,5 Gbit/s           |
| 8GFC-OTU2                           | 8GFC            | 8,5 Gbit/s         | OTU2          | 10,709225 Gbit/s     |
| 1GbE-1GbE                           | 1GbE            | 1,25 Gbit/s        | 1GbE          | 1,25 Gbit/s          |
| STM64-STM64                         | STM64           | 9,95328 Gbit/s     | STM64         | 9,95328 Gbit/s       |
| STM64-OTU2                          | STM64           | 9,95328 Gbit/s     | OTU2          | 10,709225 Gbit/s     |
| OTU2e-OTU2e                         | OTU2e           | 11,095727 Gbit/s   | OTU2e         | 11,095727 Gbit/s     |
| OTU2-OTU2                           | OTU2            | 10,709225 Gbit/s   | OTU2          | 10,709225 Gbit/s     |
| 40GbE-OTU2e                         | 10GbE           | 10,3125 Gbit/s     | OTU2e         | 11,095727 Gbit/s     |
| Supported Encryption Client Formats |                 |                    |               |                      |
| 1GbE-OTU2Enc                        | 1GbE            | 1,25 Gbit/s        | OTU2Enc       | 10,709225 Gbit/s     |
| 10GbE-OTU2eEnc                      | 10GbE           | 10,3125 Gbit/s     | OTU2eEnc      | 11,095727 Gbit/s     |
| STM64-OTU2Enc                       | STM64           | 9,95328 Gbit/s     | OTU2Enc       | 10,709225 Gbit/s     |
| 16GFC-OTU2xEnc                      | 16GFC           | 14,025 Gbit/s      | OTU2xEnc      | 14,083928 Gbit/s     |
| 8GFC-OTU2Enc                        | 8GFC            | 8,5 Gbit/s         | OTU2Enc       | 10,709225 Gbit/s     |
| OTU2                                | OTU2            | 10,709225 Gbit/s   | OTU2Enc       | 10,709225 Gbit/s     |
| OTU2e                               | OTU2e           | 11,095727 Gbit/s   | OTU2eEnc      | 11,095727 Gbit/s     |
| 40GbE-OTU2eEnc                      | 40GbE           | 4 x 10,3125 Gbit/s | OTU2eEnc      | 4 x 11,095727 Gbit/s |
| 1GbE-OTU2Enc                        | 1GbE            | 1,250 Gbit/s       | OTU2eEnc      | 11,095727 Gbit/s     |

#### Supported Formats

### 3.2.2 config slot <1/2> interface <1/20> transceiver frequency <frequency>

This command is used to configure the frequency for ports with tunable transceivers.

Frequency setting is available on tunable coherent DWDM transceivers. Use ? or Tab to get info on available options in CLI.

```
admin@smartoptics-dcp> config slot 2 interface 5 transceiver frequency <tab>
```

|           |           |           |           |           |           |           |           |           |           |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 191.30000 | 191.35000 | 191.40000 | 191.45000 | 191.50000 | 191.55000 | 191.60000 | 191.65000 | 191.70000 | 191.75000 |
| 191.80000 | 191.85000 | 191.90000 | 191.95000 | 192.00000 | 192.05000 | 192.10000 | 192.15000 | 192.20000 | 192.25000 |
| 192.30000 | 192.35000 | 192.40000 | 192.45000 | 192.50000 | 192.55000 | 192.60000 | 192.65000 | 192.70000 | 192.75000 |
| 192.80000 | 192.85000 | 192.90000 | 192.95000 | 193.00000 | 193.05000 | 193.10000 | 193.15000 | 193.20000 | 193.25000 |
| 193.30000 | 193.35000 | 193.40000 | 193.45000 | 193.50000 | 193.55000 | 193.60000 | 193.65000 | 193.70000 | 193.75000 |
| 193.80000 | 193.85000 | 193.90000 | 193.95000 | 194.00000 | 194.05000 | 194.10000 | 194.15000 | 194.20000 | 194.25000 |
| 194.30000 | 194.35000 | 194.40000 | 194.45000 | 194.50000 | 194.55000 | 194.60000 | 194.65000 | 194.70000 | 194.75000 |
| 194.80000 | 194.85000 | 194.90000 | 194.95000 | 195.00000 | 195.05000 | 195.10000 | 195.15000 | 195.20000 | 195.25000 |
| 195.30000 | 195.35000 | 195.40000 | 195.45000 | 195.50000 | 195.55000 | 195.60000 | 195.65000 | 195.70000 | 195.75000 |
| 195.80000 | 195.85000 | 195.90000 | 195.95000 | 196.00000 | 196.05000 | 196.10000 |           |           |           |

```
admin@DCP-2>config slot 2 interface 5 transceiver frequency 192.30000
```

This command can be service interrupting.  
Are you sure you want to continue? (Yes/NO): yes

Frequency set to '192.30000' THz.

## 3.3 General Use Status Commands

### 3.3.1 show slot < 1/2 > transponder

This command will show the details about a specific muxponder card.

```
admin@smartoptics-dcp> show slot 1 transponder
```

| Transponder | Service     | Interfaces             | Link status |
|-------------|-------------|------------------------|-------------|
| Slot 1:     | DCP-1610    |                        |             |
| trp-1/1/1   | 1GbE-1GbE   | if-1/1/2 <> if-1/1/1   | down        |
| trp-1/1/2   | 10GbE-10GbE | if-1/1/4 <> if-1/1/3   | down        |
| trp-1/1/3   | 10GbE-10GbE | if-1/1/6 <> if-1/1/5   | down        |
| trp-1/1/4   | 10GbE-10GbE | if-1/1/8 <> if-1/1/7   | down        |
| trp-1/1/5   | 10GbE-10GbE | if-1/1/10 <> if-1/1/9  | down        |
| trp-1/1/6   | 10GbE-10GbE | if-1/1/12 <> if-1/1/11 | down        |
| trp-1/1/7   | 10GbE-10GbE | if-1/1/14 <> if-1/1/13 | down        |
| trp-1/1/8   | 10GbE-10GbE | if-1/1/16 <> if-1/1/15 | down        |
| trp-1/1/9   | 10GbE-10GbE | if-1/1/18 <> if-1/1/17 | down        |
| trp-1/1/10  | 10GbE-10GbE | if-1/1/20 <> if-1/1/19 | up          |



### 3.3.2 show slot <1/2> interface

Displays summary of the DCP-1610 interfaces.

```
admin@smartoptics-dcp> show slot 1 interface
```

| Interface        | Port Type | Status [Rx/Tx] | Alarm    | Rx power [dBm] | Tx power [dBm] | Format | FEC | Channel Id | Admin status | Description |
|------------------|-----------|----------------|----------|----------------|----------------|--------|-----|------------|--------------|-------------|
| Slot 1: DCP-1610 |           |                |          |                |                |        |     |            |              |             |
| if-1/2/1         | line      | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | D9370      | up           |             |
| if-1/2/2         | client    | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | C31        | up           |             |
| if-1/2/3         | line      | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/4         | client    | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | D9370      | up           |             |
| if-1/2/5         | line      | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/6         | client    | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/7         | line      | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | D9210      | up           |             |
| if-1/2/8         | client    | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | C31        | up           |             |
| if-1/2/9         | line      | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/10        | client    | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/11        | line      | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | D9580      | up           |             |
| if-1/2/12        | client    | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | C31        | up           |             |
| if-1/2/13        | line      | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | D9220      | up           |             |
| if-1/2/14        | client    | idle/idle      | ok       | -99.0          | -99.0          | 10GbE  | n/a | C31        | up           |             |
| if-1/2/15        | line      | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/16        | client    | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/17        | line      | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/18        | client    | n/a            | ok       | n/a            | n/a            | 10GbE  | n/a | n/a        | up           |             |
| if-1/2/19        | line      | down/down      | critical | -99.0          | -99.0          | 10GbE  | n/a | C31        | up           |             |
| if-1/2/20        | client    | down/down      | critical | -35.2          | -99.0          | 10GbE  | n/a | D9600      | up           |             |

### 3.3.1 show interface if-1/<slot 1-2>/<interface 1-20>

Displays detailed info about a specific interface.

```
admin@smartoptics-dcp> show interface if-1/1/20

Interface      : if-1/1/20
Transponder    : trp-1/1/10

Status:

Admin status   : up
Oper status    : up
Status [Rx/Tx] : up/up

Fiber intrusion alarm      : disabled
Fiber intrusion alarm threshold : n/a

Temperature                : 39.6 [C]
Temperature high warning threshold : 70.0 [C]
Wavelength                 : 1545.32 [nm]
Channel Id                 : D9400

Optical Rx power : -9.2 [dBm]
Optical Tx power : 0.6 [dBm]
Rx sensitivity    : -27.0 [dBm]

Format      : 10GbE
FEC          : enabled (GFEC)
Loopback     : disabled
Certified    : no

Alarms:

Loss of lock           : ok
Loss of signal         : ok
Transmitter failure    : ok
Fiber intrusion        : n/a
Rx power high          : ok
Transceiver missing    : ok

Transceiver:

Type                : Tunable
Part Number         : TSFP-ZR-DWDM-A
Serial Number       : VQA000000000
FW revision         :
HW revision         : 4.0
Vendor              : SmartOptics
Description          : DWDM Tunable ZR
```