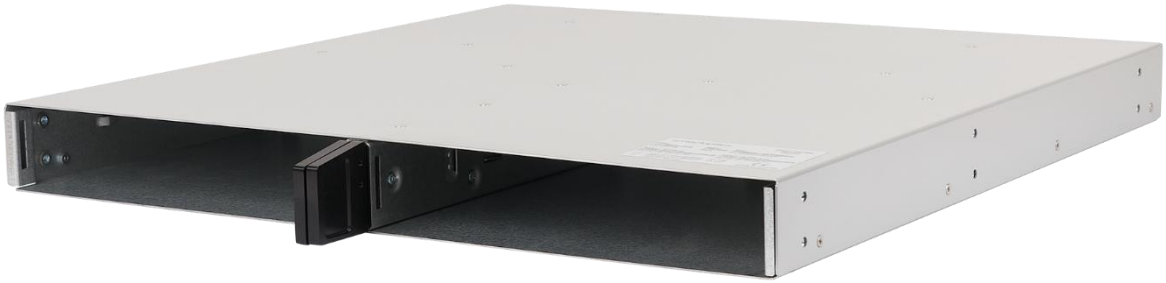
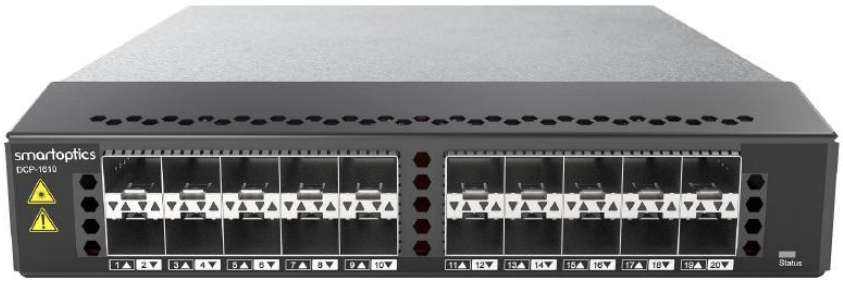
DCP-2 & DCP1610

Quick Start Configuration Guide





DCP-2 + DCP-1610

R12.0.1 A

Contents

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. Minor text corrections Updated Document Reference to Services Portal
Rev 2	2025-02-17	Added note to check traffic unit SW 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.

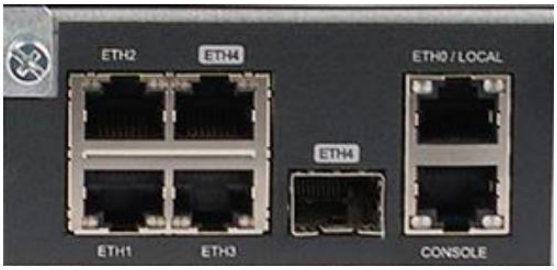
2.2 Configuration via Local Console (Eth or Serial)

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  2018-0-19 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.

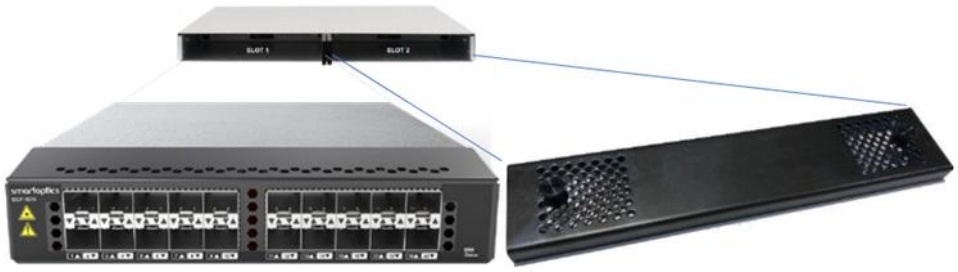
```
admin@smartoptics-dcp> show version

  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

              Port      Status              Rx power  Tx power                    Channel  Admin
  Interface   Type      [Rx/Tx]    Alarm    [dBm]     [dBm]     Format   FEC     Id       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
```