Ochno Power Conference 4

Datasheet

The three products for Ochno Room Kit:

Ochno Power Conference 4

4 x USB–C Switcher

Ochno Power Conference 4 Node

Wall-side receiver

O-EC-10/20

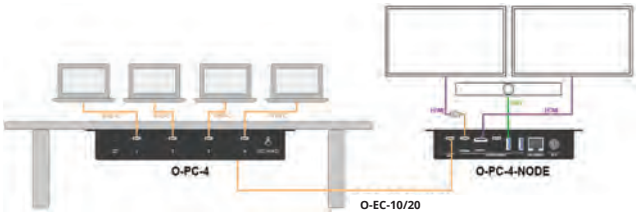
10 / 20m extension cable

One solution for all rooms

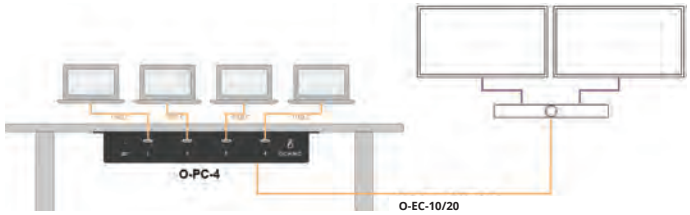
With the Ochno Power Conference 4 System, it is easy to design and install USB-C laptop connectivity in rooms of any size and with any video conferencing system.

Below are some examples of topologies that can be deployed. For more examples, visit www.ochno.com

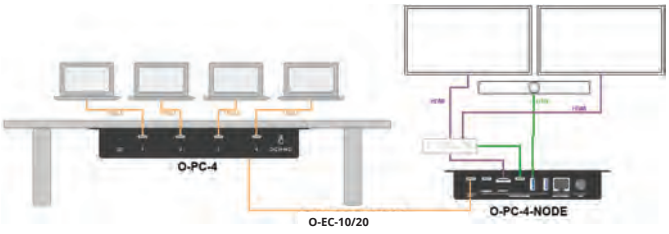
BYOD room. Less than 5m cable distance.
One or two displays.



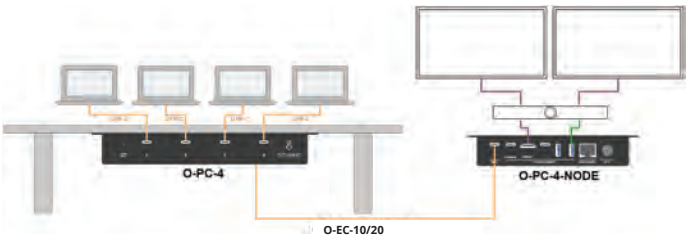
BYOD room. Longer than 5m cable distance.
One or two displays.



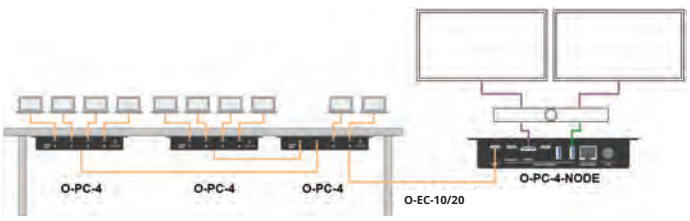
BYOD or UC-room with support for
USB-C downstream connection.



UC-room with BYOD support on
Windows-based UC-systems.

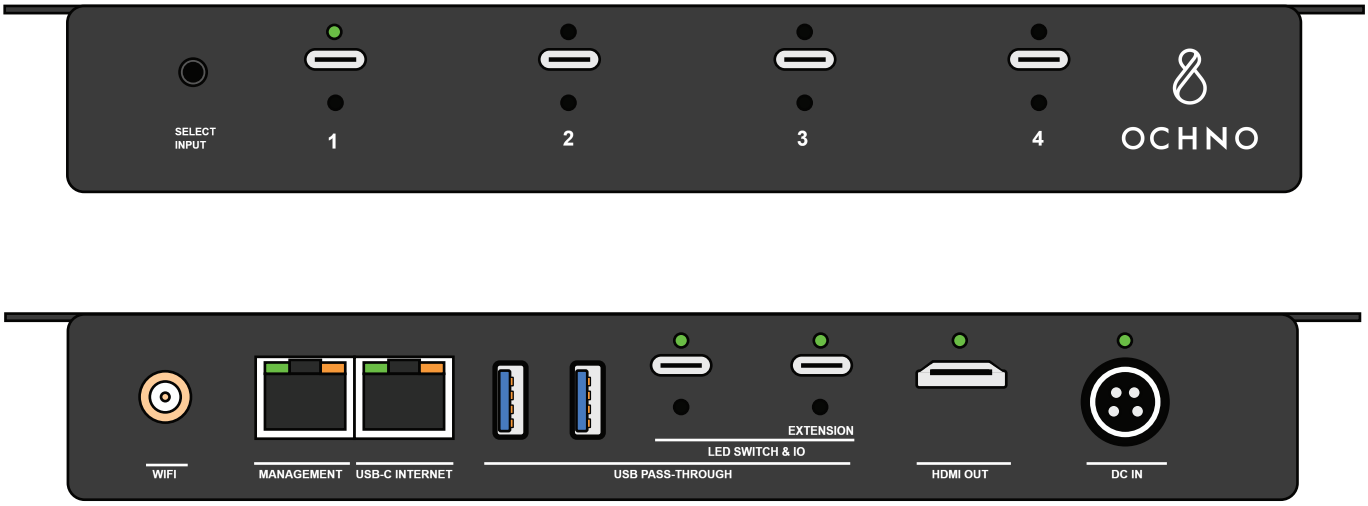


UC-room with BYOD support on
Android-based UC-systems.



UC-room or BYOD rooms with up to
16 USB-C connections.

Specifications



General

Product name: Ochno Power Conference 4

Model: O-PC-4

Box contents: Main unit. power adapter, mounting brackets, manual.

Warranty: 3 years

Dimensions: 215 x 130 x 33 mm,

Weight: 680g

Regulatory approvals: CE, ETL, FCC, RoHS, REACH

Safety class: IP20, 5%-80% RH operation. 5%-95% under transport.

Ambient temperature: 5° – 40°C.

Protection: Over-current, over-voltage, over-temperature

Port Specification

WIFI Antenna: 2.4 GHz WIFI connectivity to Ochno Operated management portal.

RJ45 1: 10/100 Mbit/s Ethernet connectivity to Ochno Operated management portal.

RJ45 2: 10/100/1000 Mbit/s Ethernet connectivity to Ethernet-sharing via active USB-C port.

USB-A Downstream Ports: 2 x USB 3.2 Gen 2 Ports. Speed up to 10 Gbps. 5V / 0.9A power supply.

USB-C Downstream Ports: 2 x USB 3.2 Gen 2 Ports. Speed up to 10 Gbps. 5V / 3A power supply. Power Delivery 3.0.

USB-C Extension Port: In addition to above: DP alt-mode 1.4 video output, HBR3, 2 or 4 DP lanes. Up to 4 x 8.1 Gbps video output.

HDMI Out: HDMI 2.1 video output. Max resolution 8k 60Hz. HDCP v2.3. FRL mode in 3 or 4 lanes,12 Gbps / lane.

DC IN: 20V / 10A power supply input.

USB-C Input ports: 4 x USB Type-C USB 3.2 Gen 2 Ports. Speed up to 10 Gbps. Up to 20V / 5A / 100W power supply. DP alt-mode 1.2 (HBR2)-1.4 (HBR3) video input.

Port Functions

Management: The Ochno Management Console allows for local management via a Windows/Mac app. Remote management is facilitated through Ochno Operated, while LAN management can be accessed via a local IP interface.

USB-C Internet: The network connected to the USB-C Internet port is shared via USB to the actively selected USB-C port, providing network access without the need for Wi-Fi.

USB Pass-through: The two USB-A ports and two USB-C ports typically connect USB devices. These devices become accessible to the computer connected to the currently selected USB-C input port.

USB Pass-through on USB-C Upstream Ports: In addition to the four downstream ports, the four USB-C upstream ports can also function as downstream ports, allowing for a total of seven downstream ports.

LED Switch & IO: All USB-C ports can connect to special Ochno devices, such as LED button switches and RS232 adapters. The USB-A ports are statically re-configured for this purpose, while the USB-C ports are dynamically re-configured.

Extension: The extension port can transmit both video and USB communication to a downstream USB-C device, such as another O-PC-4, an O-PC-4-NODE, a device supporting USB-C upstream, or a standard USB-C to HDMI adapter.

Video Out: The O-PC-4 features an internal DP MST hub, enabling dual video output. A Windows laptop can use the "Extend Desktop" option to display different content on each screen. For setups with two HDMI displays, a USB-C to HDMI adapter can be connected to the Extension port for a second HDMI output. Apple MacBooks will mirror the same image on both displays.

Designed in Sweden. Made in UK

Unique Functions

Microsoft Teams and Zoom UC Integration

The O-PC-4 can integrate with Microsoft Teams or Zoom UC cloud APIs. This integration enables the hardware deployed in the room to be aware of the state of the Microsoft Teams Room or Zoom Room application running there. This capability allows for functionalities such as:

- Dynamically switch USB-C connection between BYOD-mode and UC content-ingest mode.
- Automatically create a room reservation in the calender when connecting the laptop.

The integration is configured through the Ochno Operated account and the company's account of Microsoft 365 or Zoom.

Room Discovery and Alarm

The O-PC-4 system automatically detects all connected devices in the room and provides this information through Ochno Operated. This capability enables several functionalities, including:

- Viewing the brand and model of connected Ochno devices, USB devices, and screens.
- Generating alarms when external USB devices or screens are disconnected.
- Generating alarms when the system behaves unexpectedly, such as detecting faulty cables.
- Collecting statistics and analyzing room usage.

USB-C Charging

The O-PC-4 offers a total charging capacity of 180W across the front-side USB-C ports, with each port capable of providing up to 100W of charging.

Through Ochno Operated, additional features are available:

- Monitor the current charging status, historical usage, and power consumption.
- Remotely enable or disable charging on selected ports.
- Monitor the usage of attached wireless Qi or MagSafe chargers.

The system maintains a power-sharing logic to prevent overloading when multiple laptops are connected simultaneously.

EDID Management

O-PC-4 and O-PC-4-NODE supports EDID Management on each HDMI OUT port. The feature allows the O-PC-4 to provide the available resolution information to the laptop instead of the screen doing that. This provides the following benefits in a video-conference room:

- Reduce time to show laptop video on display
- Force laptops to a specific, usually lower resolution
- Manage HDMI negotiation issues which can happen between specific display models and certain laptop models.

All EDID management functionality can be remotly configured and enabled via Ochno Operated, allowing for simple change-managmenet of large installations.

Multiple Video Displays

The O-PC-4 has dual video outputs: HDMI OUT and the USB-C Extension port. The underlying technology, known as DP MST HUB, enables Windows and Linux laptops to extend their desktops across multiple displays. Examples of usage include:

- Using USB-C-to-HDMI or USB-C-to-DisplayPort adapters to support standard displays or monitors.
- Using a USB-C to multiple video output adapter to support even more displays.
- Dual video outputs are also available through the O-PC-4-NODE extension.

For MacBook, iPad/iPhone, and Android phone users, the video is duplicated across multiple displays, as these operating systems do not support DP MST.

Switching Control

The O-PC-4 offers a range of options for configuring switching behavior, with some settings being statically configured and others dynamically based on external factors, such as the status of Microsoft Teams Room. Key features include:

- Independent switching of video and USB.
- USB device switching, such as dual-camera switching.
- The ability to switch video output ports on or off.
- Context-aware auto-switching based on UC status or active cameras.
- The capability to switch USB-C upstream ports to function as downstream USB ports.

For more detailed information, please visit www.ochno.com.