



**CUBRO**  
NETWORK VISIBILITY

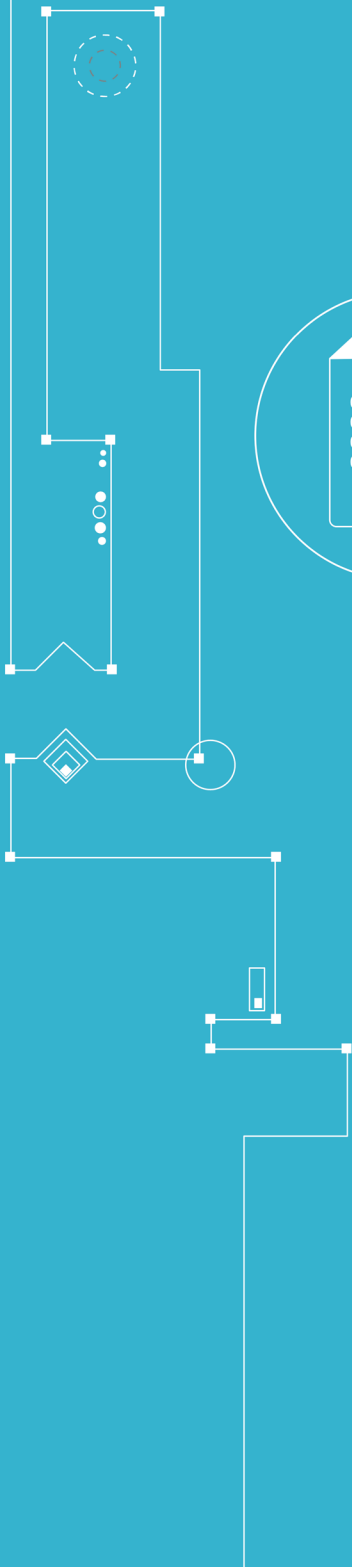
# MEDIA CONVERTER



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**DATA SHEET**



## Network TAP

### At a glance

#### Definition

A media converter is simply two MAUs (media attachment units, also known as transceivers) that can pass data to/from each other.

#### Advantages of Media Converter

- Supports a wide variety of protocols, data rates and media types to create a more reliable and cost-effective network
- Reduces network operating costs by helping to troubleshoot
- Saves time and money when there is not a network administrator at the distant location.

## Product Overview



Cubro Media Converter provides seamless integration of copper and fibre, and different fibre types in Enterprise LAN networks. It supports a wide variety of protocols, data rates and media types to create a more reliable and cost-effective network. SFP - SFP Media converter combines data rate and provides independent connectivity with support for SFP and SFP+ transceivers.

The Cubro Media Converter defines a new level of deployment flexibility and inventory management. This sophisticated media converter enables the implementation of an extremely wide range of optical infrastructure solutions from media conversion and signal boosting to lambda conversion, Wavelength Division Multiplexing (WDM) and Optical Add/Drop Multiplexing (OADM).

### Sync-E and IEEE1588 ready

The Cubro Media Converter is also usable in Sync-E networks if no copper SFPs are used. If the network is carrying IEEE 1588 Sync traffic, a standard media converter with switches inside could cause a delay depending on the traffic load which deteriorates the quality of the sync signal. The Cubro Media Converter has a very small delay of 500 ps and it is not dependent on the traffic load.

## Functions / Benefits:

- Converts one media type into another media type, the most common use is optical to electrical. The media converter enables fibre to the desktop.
- Provides fibre-to-fibre conversion from multi-mode fibre to single mode fibre
- Enables amplification of poor signals to work over longer distances, this is a useful option especially in multimode fibre networks
- Converts dual fibre to a BIDI system with only one fibre to double the bandwidth of the installation.
- Converts from one CWDM wavelength to another wavelength.

## Product Capabilities / Features

Media Conversion	You can select the media by changing the SFP. The unique design supports also CWDM / DWDM and BIDI SFP.
Supported SFP and SFP+	Gbit optical single mode Gbit optical multimode 10 Gbit optical single mode 10 Gbit optical multimode Gbit electrical STM1 - STM 64 optical OTN (OTU1, OTU2, OTU1e, OTU2e) Fibre Channel STM1/OC3 - STM64/OC192. We support any MSA conform SFP & SFP+
Full Duplex support	The unit supports full duplex in line speed
Zero delay (500 ps = 10 cm cable)	The unit does not add any delay or jitter/wander to the traffic.
Layer 1 to Layer 7 transparent	All packets pass the unit without any change.
Jumbo Frame Support	Supports jumbo Ethernet frames with any size.
Rugged metal housing	The unit is delivered in a rugged sized metal housing. Very slim form factor 100 x 55 x 27 mm.
Power Versions	The Media Converter comes with a 5V DC external power supply or can be supplied with a USB adapter. Power consumption depends on the used SFPs and ranges from 500 mA for Gbit up to 1.5 A for 10 G. USB power can only be used with Gbit SFPs.



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## Technical Data / Specifications

### Operating specifications:

Operating Temperature: 0°C to 40°C  
Storage Temperature: -10°C to 70°C  
Relative Humidity: 10% min, 95% max,  
Non-condensing

### Mechanical specifications:

Dimensions: 27 mm high x 100 mm deep x 55 mm wide

### Electrical specifications:

5V DC external power supply or USB adapter  
Power consumption is SFP dependent  
Typical 500 mA for Gbit up to 1500 mA in 10 Gbit.

### Certifications:

Fully RoHS compliant  
CE compliant

## Applications / Solutions

### Media Conversion

You can select the media by changing the SFP. The unique design supports also CWDM / DWDM and BIDI SFP.

### Media Conversion (USB Power)

With this feature, it is easy to connect a standard laptop to a switch with optical interfaces. Because of the low power consumption, it is possible to power the Cubro Media Converter 10 G from the USB port of the laptop.

### Amplification

You can enlarge the transfer range of your media dramatically without risking errors on your data. The examples below show some common options, but a lot more combinations are possible.

## Amplification for monitoring

It is very common to use optical splitters to monitor the traffic in a network, but a splitter also reduces the optical power on the active link. Especially in multimode networks with higher bandwidths (10 Gbit), this could cause transmission problems. You can overcome this problem by using a Cubro Media Converter 10 G for amplification.

## Wavelength conversion on a DWDM / CWDM System

With the Cubro Media Converter 10 G and a Cubro MUX / DEMUX, you have the possibility to change wavelength in a DWDM / CWDM system. This flexible device is extremely cost-effective. Monitoring Traffic in a DWDM / CWDM System

With the Cubro Media Converter 10 G and a Cubro MUX / DEMUX, you have the possibility to look into a DWDM/ CWDM system and analyze the data.

## Layer 1 loop for testing devices

This is not an everyday application, but it shows the flexibility of the Cubro Media Converter 10 G. If you only have one tester and you had to test on copper Gbit, links you can use the media converter to make a layer 1 loop.

## Asymmetric delay for testing devices

To test applications, it is sometimes useful to simulate asymmetric delay. Asymmetric delay can be done with expensive instruments as well, but if you need just a simple solution, you can use two MeDiCon 10 G and two different fibres in length. In our example, you get an asymmetric delay in the range of 70  $\mu$ sec. Longer fibres produce longer delay.

## Ordering Information

Product Type & Number	Description
CBR.MEDSFP	Mini Media Converter up to 10 Gbit, SFP(+) to SFP(+)
CBR.MEDSFP-KIT	Mini Media Converter up to 10 Gbit, SFP(+) to SFP(+), Set including SFPs (1x GBIT Copper, 1x GBIT SM and 1x GBIT MM)

For more information please check our website [www.cubro.com](http://www.cubro.com).