

Bidirectional 2SI Quad Link to Single Link Converter

- Supports Quad 2SI ► 12G SDI / 12G SDI ► Quad 2SI conversion
- 4K UHD 12G SDI Fiber and BNC Input (Fiber SFP optional)
- 4K UHD 12G SDI Fiber and BNC Output (Fiber SFP optional)
- 4K UHD 12G SDI BNC Loop Output
- 4x 3G SDI BNC Input
- 4x 3G SDI BNC Output
- Control / configure via LYNX Technik yelloGUI an LynxCentraal
- Fully compatible with RFR 1000-1 yellobrik rack frame

The CQS 1441 is a compact solution to bridge between 4K UHD quad link 2SI devices and single link 12G SDI devices. The module can be configured to convert to or from Quad link 2SI. Note. This module does not support SQD (Square Division)

CQS 1441 can also be used for distributing 3G/HD signal on Input 1 (BNC/SFP) to four 3G/HD signals (BNC) as well as on the Loop out. Video format 720p is not supported in Auto distribution mode.

The module is suitable for all SMPTE standard signals from 1.5Gbit/s to 12Gbit/s (SMPTE 292M, 424M, 2081 and 2082)

Conversion modes:

- 12G SDI single link to 4 x 3G Quad link (2SI)
- 4 x 3G Quad link (2SI) to 12G SDI single link
- 6G SDI single link to 4 x 1.5G SDI
- 4 x 1.5G SDI to 6G SDI single link

With the distance limitations of 12G SDI electrical connections, the CQS 1441 is equipped with an integrated SFP fiber port which can accept a number of 12G fiber options depending on the specific application.

Fiber I/O Options:

There are 12G SDI fiber Transmitters, Receivers, Transceivers and also a selection of CWDM Transmitters available depending on the application.

SFP Options: Standard and CWDM (ITU-T G.694.2)

Standard Fiber Options

Option #	Description
OH-TX-12G-LC	12G SDI Fiber Transmitter (1310nm)
OH-RX-12G-LC	12G SDI Fiber Receiver (1260-1620nm)
OH-TR-12G-LC	12G SDI Fiber Transceiver (1310nm)

CWDM Fiber Options

Option #	Description
OH-TX-12G-XXXX-LC	12Gbit SDI Optical Transmitter - CWDM (XXXX=Wavelength 1270nm to 1610nm)



Shown with optional SFP installed

Technical Specifications

Inputs

4x multi-rate SDI inputs (75 Ohm BNC connector) (2SI only, no support for SQD or "Square Division")

SMPTE 424M, SMPTE 292M, SMPTE 2081, SMPTE 2082

Multi-standard operation from 1.5Gbit/s to 12Gbit/s; reclocking

Electrical Return Loss:	to 3GHz >10dB	to 6GHz >7dB	to 12GHz >4dB
Automatic cable EQ	3Gbit/s 140m Belden 1694A	6Gbit/s 80m Belden 4794R	12Gbit/s 80m

Outputs

5x multi-rate SDI outputs (75 Ohm BNC connector)
1x 12Gbit/s SDI output (75 Ohm BNC connector)
1x 12Gbit/s SDI loop output (75 Ohm BNC connector) (2SI only, no support for SQD or "Square Division")

SMPTE 424M, SMPTE 292M, SMPTE 2081, SMPTE 2082

Electrical Return Loss:	to 3GHz >10dB	to 6GHz >7dB	to 12GHz >4dB
Alignment Jitter	1.5Gbit/s <0.2 UI	3Gbit/s <0.3 UI	6Gbit/s <0.3 UI
Timing Jitter	12Gbit/s <0.3 UI	12Gbit/s <0.3 UI	12Gbit/s <0.3 UI

Fiber Input

1x fiber optic input option for 12G SDI (see option tables)
SMPTE 297M - 2006
1260 - 1620nm

Fiber Output

1x fiber optic output option for 12G SDI (see option tables)
Non CWDM and CWDM options available

USB

Mini "Type B" connection to monitor via yelloGUI and update firmware

Power

+12V DC @ 2.7W nominal - (supports 7 - 16V input range)

Physical

Size: 138mm x 90mm x 50mm (5.43" x 3.54" x 1.96") including connectors
Weight: 250g (8.9 Oz)

Ambient

5 - 40°C (41 - 104°F) 90% Humidity (non condensing)

Model

CQS 1441 (EAN# 4250479325678)

Includes

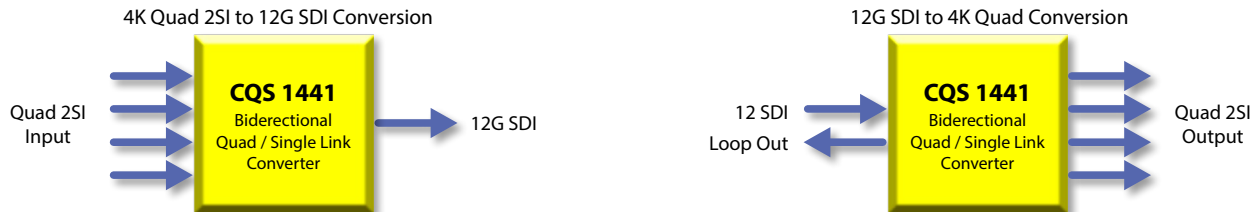
Module, AC power supply, Quick Reference

CQS 1441 Applications

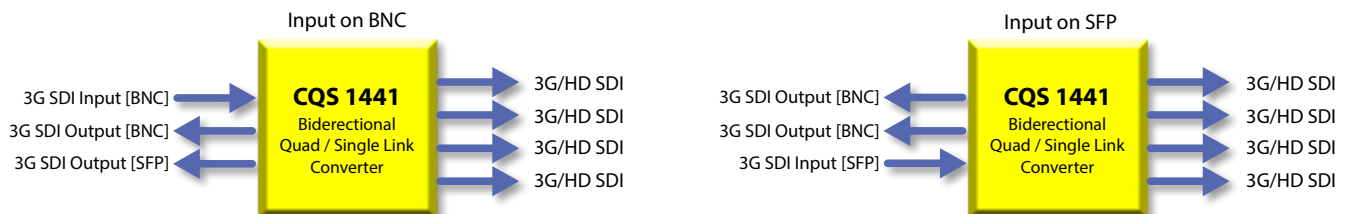
There are multiple applications for the CQS 1441, aside from the basic conversions to and from Quad link to Single link, the optional fiber port opens up a host of additional possibilities.

Basic Applications

You may have a 4K camera (or another source device) which has a quad 2SI 4K UHD output which you would like to convert to a standard single link 12G SDI signal. Likewise, you may have a disk recorder or other device which requires a quad 2SI input, and you only have a 12G source. These basic "bridge" modes are the most simple and most common applications of the module.



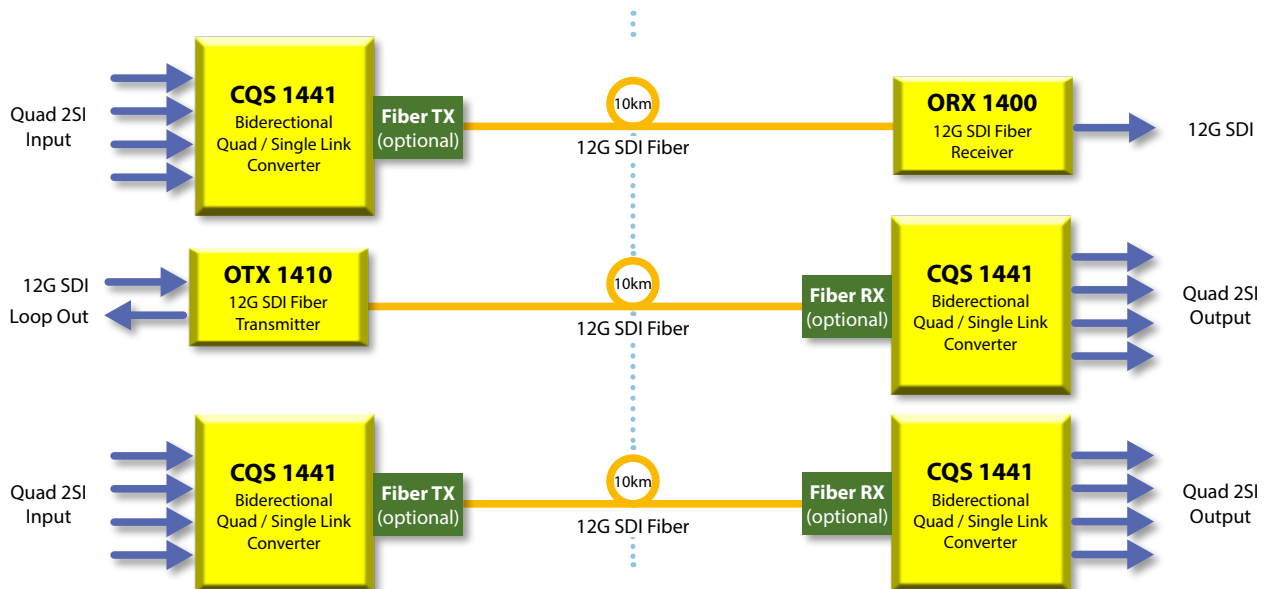
You can also use CQS 1441 for distributing one 3G/HD signal from Input 1 [BNC/SFP] and distribute it to output 1-4 as well as loop out.



Note: 720p video format not supported

Basic Fiber Applications

Because of the distance limitations using coaxial cable for 12G SDI, using fiber makes a lot of sense. The CQS 1441 is quipped with an integrated SFP port which can accept several fiber options which expands the distance of the 12G SDI signal. Likewise, you can also extend the distance of a native Quad 2SI signal using fiber if needed. (Note: additional LYNX Technik Fiber conversion modules are shown in some applications)



A fiber Transceiver option is also available. This includes both a Transmitter and Receiver in a single SFP package. The receive and transmit functions cannot be used simultaneously, but this option is useful if the CQS 1441 configuration is frequently changed where fiber transmission is sometimes needed and on other occasions fiber reception.

* Note: Max distances quoted are only approximations based on nominal fiber links. Actual distances achieved can be shorter or longer than that stated. Many things can impact distance such as splices, connections, patches, splitters and the quality of the fiber. For longer distances you should always calculate the total fiber losses in the fiber link and ensure adequate optical budget.

CQS1441-rev11 Specifications subject to change

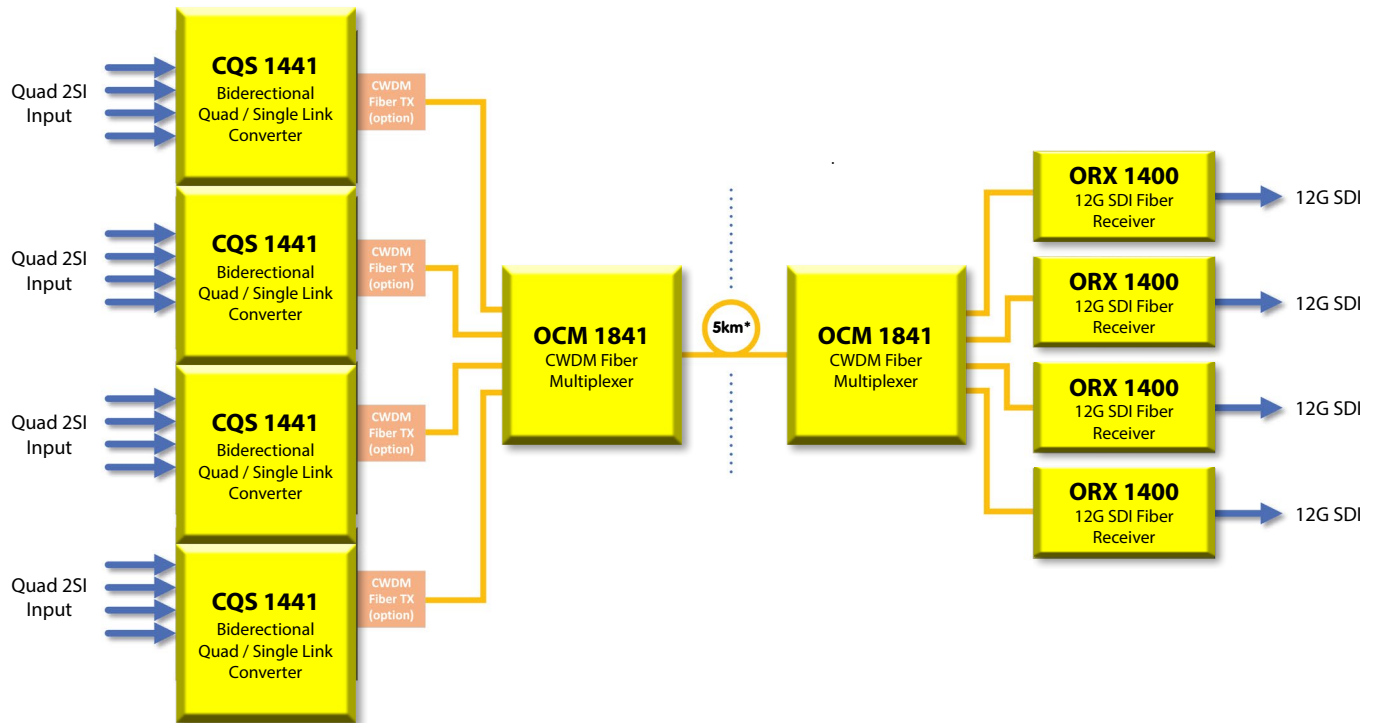


CWDM Fiber Application

Using the available 12G SDI CWDM fiber transmitter Options with the CQS 1441 opens up a whole host of additional possibilities for more complex system designs combining multiple signals into a single fiber link, unidirectional and even bi-directional over a single link. Quad link 2SI and 12G can be combined with ethernet, serial data, and even additional SDI signals if needed.

More options are possible with the help of CWDM multiplexing. if you have any questions contact our sales partners or us directly for more information to find a solution for you.

This configuration shows how to convert and send 4x Quad 2SI signals over a single fiber link 5km max. The ORX 1400 modules are used to convert the 12G fiber to electrical but these could just as easily be more CQS 1441 providing Quad 2SI out.



This application shows 2x CQS 1441 being used bidirectionally over a single fiber link as well as combining ethernet or serial RS232/422 into the same link.

