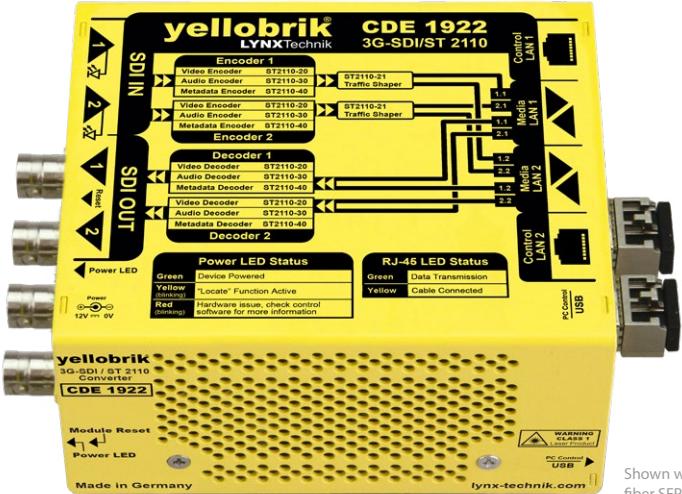
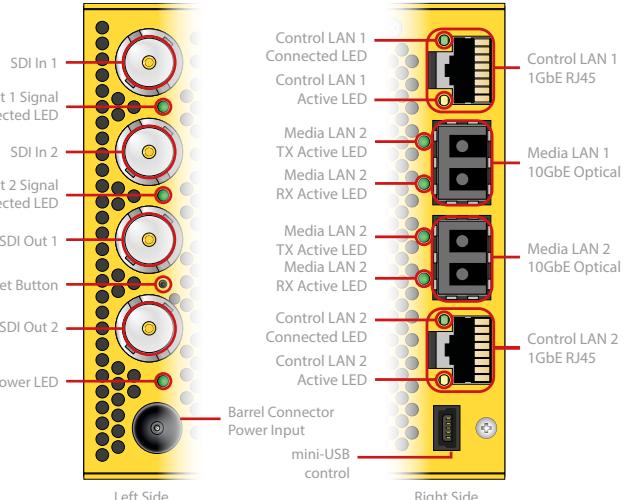


### 3G-SDI / ST 2110 Bi-Directional Converter



Shown with optional fiber SFP installed



### Features

- Full 3G-SDI/1.5G-SDI Support
- Frame synchronizer to align SDI outputs to ST 2059
- Full redundancy for IP links
- NMOS Capability for
  - IS-04 Discovery and Registration Specification
  - IS-05 NMOS Device Connection Management Specification
  - IS-08 Audio Channel Mapping
- Uncompressed Active Video (ST 2110-20)
- SMPTE ST 291-1 Ancillary Data Support
- Seamless Protection Switching ST 2022-7
- 2x 10GbE Media LAN Fiber In-/Output
- 2x 1GbE RJ45 Management LAN
- 3G-SDI Level A and Level B support
- LynxCentraal & yelloGUI compatible

### Description

The CDE 1922 is a high performance 3G-SDI to/from IP ST 2110 bridge capable of handling up to four HD video streams simultaneously: 2x 3G-SDI to IP and 2x IP to 3G-SDI.

The converter has 2x ST2110-30 audio encoders and 2x ST2110-30 audio decoders working simultaneously. Each encoder/decoder has a maximum of 8 audio channel (L24, 48kHz, 4 groups). The CDE 1922 can be equipped with a pair of 10GbE Multi-mode, Single-mode or RJ45 SFPs.

The module is suitable for all SMPTE standard signals from 1.5G-SDI to 3G-SDI (SMPTE 292M, 424M) and 10GbE SMPTE 2110.



**CAUTION:** This is a high-power module. Please ensure adequate airflow is provided when mounting the module in the RFR 1200 rack frame. If necessary, leave empty slots on either side of the module or consider adding an RFF 1200 cooling fan tray to maintain the module within its recommended temperature range.

\*Distance is an approximation. Actual distances achieved can be longer or shorter depending on the type of cable. Determine link losses and perform optical budget calculations to ensure correct operation.

### Technical Specifications

|                                   |  |  |
|-----------------------------------|--|--|
| <b>Video Formats</b>              | 2K 2048x1080p  | 23.98, 24, 25, 29.97, 30, 47.95, 48, 50, 59.94, 60                             |
| HD 1920x1080p                     | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60                              |  |
| HD 1920x1080pF                    | 23.98, 24, 25, 29.97, 30   |  |
| HD 1920x1080i                     | 50, 59.94, 60  |  |
| HD 1280x720p                      | 23.98, 24, 25, 29.97, 30, 50, 59.94, 60                              |  |
| <b>Color Precision</b>            | YCbCr 4:2:2 10-bit   |  |
| <b>SDI I/O</b>                    | 2x 3G-SDI inputs on BNC connector                                    |  |
|                                   | 2x 3G-SDI outputs on BNC connector                                   |  |
| <b>Electrical Return Loss</b>     | to 1.5GHz >15dB  | to 3GHz >10dB  |
| <b>IP I/O</b>                     | 1.5GbE   | 3GbE   |
|                                   | Automatic cable EQ   | 200m*<br>150m*<br>Belden 1694A   |
|                                   | 2x 10GbE Media LAN SFP cages (also usable for in-band control)       |  |
|                                   | 2x 1GbE RJ45 Control LAN ports                                       |  |
| <b>Compatible Media LAN SFPs:</b> |  |  |
| OH-TR-10G-LC-MM                   | 10GbE Duplex Fiber Transceiver SFP Multi-mode 550m* LC               |  |
| OH-TR-10G-LC                      | 10GbE Duplex Fiber Transceiver SFP 20km* LC                          |  |
| OH-TR-10G-RJ45                    | 10GbE Ethernet Transceiver SFP 30m* RJ45                             |  |
| OH-TR-10G-XXXX-LC                 | CWDM 1270-1610nm Duplex 10GbE 40km* Transceiver LC                   |  |
| <b>SMPTE ST 2110-20:</b>          | Uncompressed Active Video  |  |
| <b>SMPTE ST 2022-7:</b>           | Seamless Protection Switching  |  |
| <b>SMPTE ST2110-30:</b>           | 1-8 Channel PCM Digital Audio  |  |
| <b>SMPTE ST2110-31:</b>           | Raw AES Audio  |  |
| <b>SMPTE ST 2110-40:</b>          | Ancillary Data acc. SMPTE ST 29-1                                    |  |
| <b>SMPTE ST 2110-10:</b>          | RTP System Timing  |  |
| <b>SMPTE ST 2059:</b>             | Precision Timing   |  |
| <b>Power</b>                      | +12V DC @ 16W nominal (incl. 2x SFP) - ( 7-24V DC input range )      |  |
| <b>Physical</b>                   | Size (incl. connectors): 140mm x 90mm x 22mm (4.96" x 3.54" x 0.86") |  |
| <b>Ambient</b>                    | Weight (excl. SFP): 200g (7.05oz)                                    |  |
| <b>Model #</b>                    | 5 - 40°C (41 - 104°F) 90% Humidity (non condensing)                  |  |
| CDE 1922                          | EAN# 4250479329348   | 3G-SDI to ST 2110 Bi-Directional Converter (Module only)                       |
| CDE 1922 MM                       | EAN# 4250480129821   | 3G-SDI to ST 2110 Bi-Directional Converter (Includes 2x 10GbE Multi-mode SFPs) |
| CDE 1922 SM                       | EAN# 4250480229835   | 3G-SDI to ST 2110 Bi-Directional Converter (Includes 2x 10GbE Singlemode SFPs) |
| CDE 1922 RJ45                     | EAN# 4250480329849   | 3G-SDI to ST 2110 Bi-Directional Converter (Includes 2x 10GbE RJ45 SFPs)       |
| <b>Includes</b>                   | Module, AC power supply  |  |

### Optional Accessories

#### Rack Frames

This yellobrik can be placed in a rack frame along others to build increasingly complex systems, all monitored and controlled with a rack controller (RCT 1012) and server module (SRV 1000) via a PC or MAC using LynxCentraal.

The RFR 1200 offers additional power redundancy with GPI alert. It automatically closes a connection between the A and B terminals on power failure.

The RPS A100 is a 100W power supply, which can be mounted at the rear end of the RFR 1200 with an RXT 1001 power supply holder for rack frames.



**RFR 1200:** yellobrik Rack Frame



**RPS A100:** 100W Power supply



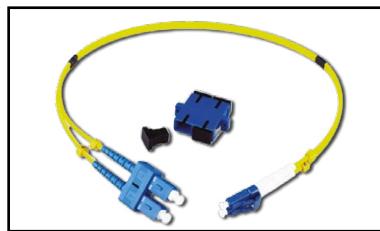
**RXT 1001:** Power Supply Holder

#### Fiber Adapter Cables

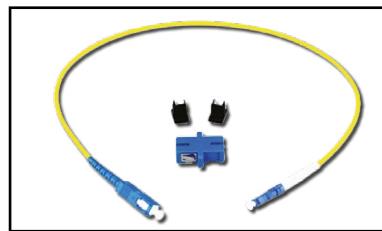
While some of our products offer LC, ST and SC fiber connectors, most SFPs in our product range offer LC fiber connectors.

To still allow the necessary flexibility in a professional setting we offer patch cables to convert LC to ST or SC fiber connections. These patch cables' insertion loss and return loss are manually checked for each individual cable to allow for maximum precision when calculating the optical budget

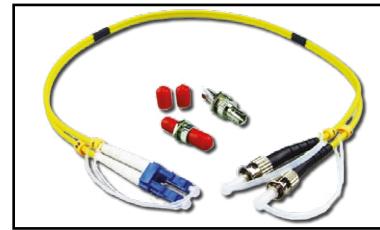
Besides the selection here we offer LC/FC and LC/LC patch cables.



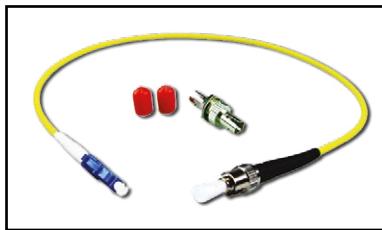
**LC/SC Dup:** LC/SC Duplex adapter cable



**LC/SC Sim:** LC/SC Simplex adapter cable



**LC/ST Dup:** LC/ST Duplex adapter cable



**LC/ST Sim:** LC/ST Simplex adapter cable

#### Fiber I/O Options:

A wide range of SFP modules are available for this yellobrik. The selection listed here shows the most likely SFP modules for most typical setups.

More SFP modules are available. To find the perfect solution for your setup visit [lynx-technik.com](http://lynx-technik.com) for more information or contact us.

| Model  | Description  | Power         | Sense     |
|--|--|---------------|-----------|
| <b>Optical Ethernet Duplex Fiber Transceiver Options</b> |  |               |           |
| OH-TR-10G-LC   | 10 Gigabit Ethernet Duplex Fiber Transceiver - 10km*           | -3 ... 1 dBm  | -14.4 dBm |
| OH-TR-10G-LC-MM  | 10 Gigabit Ethernet Multimode Duplex Fiber Transceiver - 10km* | -6 ... -1 dBm | -11 dBm   |
| OH-TR-10G-XXXX-LC  | 10 Gigabit Ethernet CWDM Duplex Fiber Transceiver              | 0 ... 4 dBm   | -23 dBm   |
| <b>Electrical Ethernet Fiber Transceiver Options</b>     |  |               |           |
| OH-TR-10G-RJ45   | 10 Gigabit Ethernet Transceiver with RJ45 connector            |               |           |

\*Distance is an approximation. Actual distances achieved can be longer or shorter depending on the type of cable. Determine link losses and perform optical budget calculations to ensure correct operation.