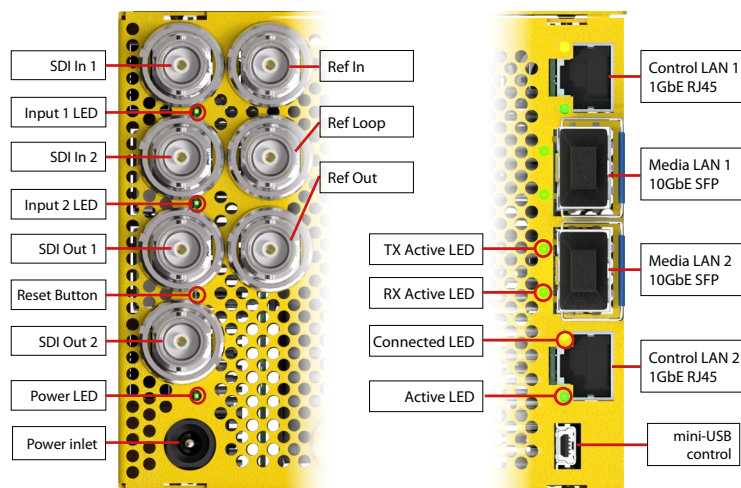


3G-SDI / ST 2110 Bi-Directional Converter with Reference I/O

LYNX | Centraal™

yelloGUI



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
- 2x 10GbE Media LAN Fiber In-/Output
- 2x 1GbE RJ45 Management LAN
- Bi/Tri-level Reference Input, PTP to Tri-Level Reference Output
- LyncCentraal & yelloGUI compatible

Description

The CDE 1923 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 channels (L24, 48kHz, 4 groups). The CDE 1923 can be equipped with a pair of 10GbE Multi-mode, Single-mode or RJ45 SFPs. The 3G-SDI video outputs can be synced to a local reference or PTP. A PTP to Tri-level reference output provides nearby equipments with the ST 2110 sync.

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

Technical Specifications

Video Formats	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	1920x1080pfs	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

Color Precision YCbCr 4:2:2 10-bit

SDI I/O 2x 3G-SDI inputs on BNC connector

2x 3G-SDI outputs on BNC connector

Return Loss	to 1.5GHz >15dB	to 3GHz >10dB
	1.5GbE	3GbE

Automatic cable EQ	200m*	150m*
	Belden 1694A	

Reference I/O 1x Bi/Tri-level Reference input with 1x loop output on BNC

1x Tri-Level Reference output (PTP to Tri-Level) on BNC connector

IP I/O

2x 10GbE Media LAN SFP cages (also usable for in-band control)

2x 1GbE RJ45 Control LAN ports

SMPTE ST 2110-20:	Uncompressed Active Video
SMPTE ST 2022-7:	Seamless Protection Switching
SMPTE ST 2110-30:	1-8 Channel PCM Digital Audio
SMPTE ST 2110-31:	Raw AES Audio
SMPTE ST 2110-40:	Ancillary Data acc. SMPTE ST 29-1
SMPTE ST 2110-10:	RTP System Timing
SMPTE ST 2059:	Precision Timing

Power +12V DC @ 16W nominal (incl. 2x SFP) - (7-24V DC input range)

Physical Size (incl. connectors): 140mm x 90mm x 50mm (4.96" x 3.54" x 1.97")
Weight (excl. SFP): 200g (7.05oz)

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



CAUTION: This is a high-power module. Ensure adequate airflow when mounting it in the RFR 1200 rack frame. If needed, leave empty slots beside the module or add an RFF 1200 cooling fan tray to keep it within its recommended temperature range.

Ordering Information

Model	Mode	Type	Tx Wavelength	Tx Power	Rx Input Range	Rx Sensitivity	Distance (up to)	SFPs Included
CDE 1923	Single-mode	CWDM	1270 - 1610nm	-1dBm	1260 - 1620nm	-20dBm	40/80 km, 25/50 mi	No
CDE 1923 MM	Multi-mode	SR	850nm	-4dBm	840 - 860nm	-15dBm	550m / 1800 ft	Yes
CDE 1923 SM	Single-mode	Standard	1310nm	-5dBm	1260 - 1620nm	-16dBm	10 km, 6.2 mi	Yes
CDE 1923 RJ45	Ethernet	RJ45	N/A	N/A	N/A	N/A	30m	Yes

Control Parameters

Parameter	Settings
Video Payload Type	8-bit value as defined by the RTP protocol
Packet Rate Shaping (PRS)	Linear Gapped
Video Standard Detection	Auto Manual
DCI Formats	ON OFF
Level A/B	Level A Level B
Colorimetry	BT.601 BT.709 BT.2020
Transfer Characteristic	SDR HLG PQ

Parameter	Settings
Delay Modes	Milliseconds Frames/Lines/Pixles
Audio Payload Type	8-bit value as defined by the RTP protocol
Audio Packet Time	1ms 125µs
Audio Mode	L16 L20 L24 AES/AM
ANC Payload Type	8-bit value as defined by the RTP protocol
NMOS	Enabled Disabled
NMOS Primary Control Interface	Disabled Control LAN 1 Control LAN 2 Media LAN 1 Media LAN 2

Parameter	Settings
NMOS Secondary Control Interface	Disabled Control LAN 1 Control LAN 2 Media LAN 1 Media LAN 2
Registration and Discovery Server (RDS)	Enabled Disabled
RDS Version, IP and Port configuration	
PTP Domain	
PTP Rate Preselection	
PTP Announce Interval	1 to 8 msg/sec
PTP Announce Timeout	
PTP Sync Interval	2 to 128 msg/sec
PTP Delay Request Interval	2 to 128 msg/sec
SDI Outputs Sync	Ref Input PTP
When syncing SDI outputs to PTP a Tri-Level sync signal aligned with the PTP clock is provided on the Ref Output. The Ref Output is OFF when syncing to the Ref Input.	

Firmware Update & Control Software

To update a yellobrik, connect it to the latest version of Lynx Centraal or YelloGUI. The application will check for firmware updates. In Lynx Centraal, navigate to the "Update" tab then select the devices to update and click on "Start Update".



Firmware updates are always free of charge.

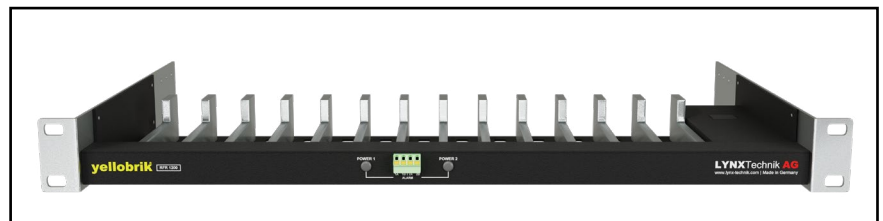
www.lynx-technik.com/software-applications/

Optional Accessories

The CDE 1923 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.

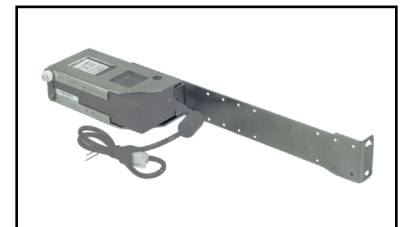
The RPS A100 is a 100W power supply, which can be mounted at the rear end of the RFR 1200 with an RXT 1001 power supply holder for rack frames.



RFR 1200: yellobrik Rack Frame



RPS A100: 100W Power supply



RXT A100: Power Supply Holder