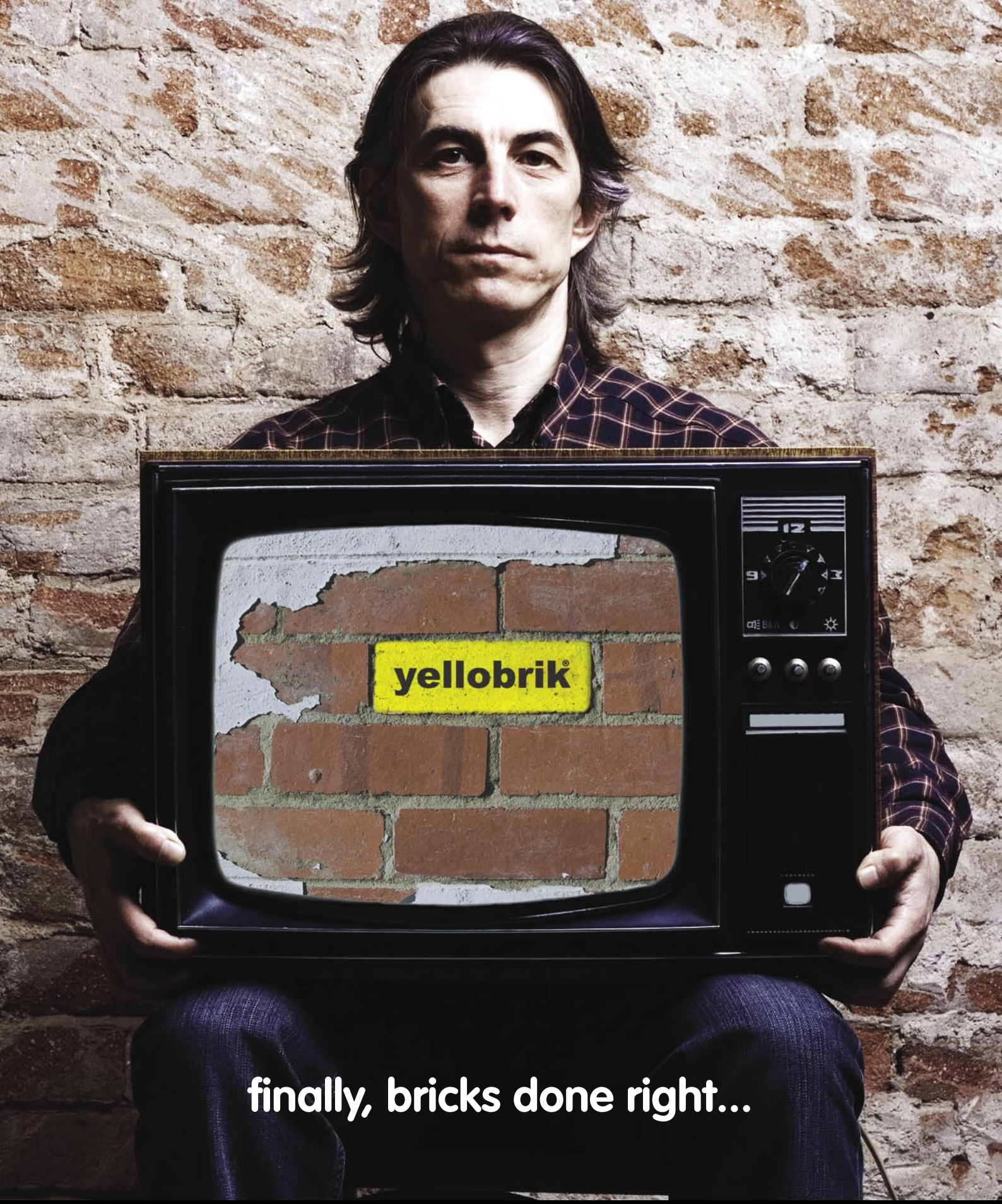

finally, bricks done right...

LYNXTechnik AG® | Broadcast Television Equipment

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yellobrik® | finally, bricks done right...

There are lots of small interface "brick" style products available, and we looked at them all. After carefully studying the pro's and con's, we started the development of a complete new family of bricks, different and more feature rich than the rest -- **yellobrik's.**

We all know how annoying and frustrating it can be when trying to change a connection or setting when there is no manual immediately available, so we adopted a new basic mantra for the development of each new yellobrik device -- **"No manual needed"**

We clearly identify all connections and signal flow, and everything you need to know is printed right on the module. All controls are easily accessible and clearly labelled, with no need to remove covers, move links or figure out complex dip switch settings.

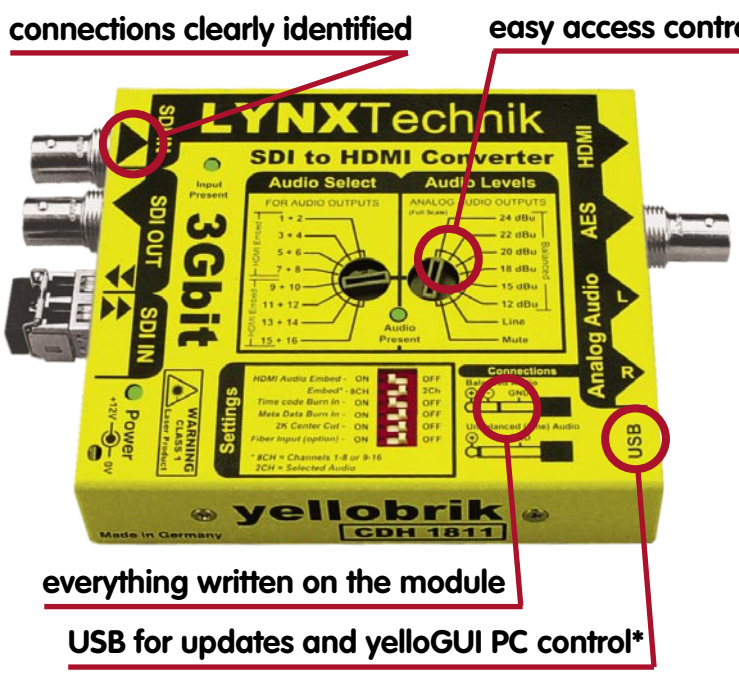
Even though yellobrik's are low cost utility products, reliability and technical performance are key to the functionality of these modules. Yellobrik's are the most stable and technically proficient bricks available and are backed up with excellent after sales service and support.

We include all the accessories needed: The module, power supply, AC plug adapters (plus adapters and HDMI cables if required). This is all supplied in a custom plastic transport case -- all included in the price.

Some yellobrik's are field upgradable. If we release a new firmware revision then the update is always free to download and install. Simply download to your PC, plug in a USB cable and click.. **nothing could be easier.**

Our innovative 1RU rack mounting chassis lets you move from simple throw down use into a tidy, organized system installed in a 19" rack frame. Central power and redundant power protection adds to system flexibility.

This catalog is a living document showing only the "first of many" yellobrik's we have planned. We are adding new modules constantly. Please check our website **www.lynx-technik.com** for the latest information.



All yellobrik's are supplied in a custom plastic transport case with power supply and other included accessories

*on select modules

yellobrik®

CDH 1813

yelloGUI compatible

SDI to HDMI® Converter

- Supports SDI video inputs up to 3Gbit/s (1080P)
- Supports single link 3D formats
- Automatic input standard and format detection
- Fiber input and output options
- HDMI video output with embedded audio
- Analog and AES audio outputs
- Selectable Timecode burn in window
- Selectable Metadata indication
- 16 channel on screen audio meters
- H/V delay to show blanking interval
- Selectable safe area markers
- yelloGUI compatible: Gain access to additional features

The CDH 1813 is a versatile, compact SDI to HDMI converter designed to combat a host of monitoring and display applications in Broadcast, Post Production and Pro A/V markets.

Convert any SDI video signal, including 3D into an HDMI signal for monitoring and display. Flexible fiber connectivity options add SDI fiber transmission or SDI fiber reception (or both) using the integrated fiber SFP socket.

Two channels of audio can be de-embedded from the incoming video signal providing a digital AES output and analog audio output signals. Balanced audio outputs have selectable full scale range presets. The two selected audio channels can also be embedded into the HDMI output. In addition, 8 channels selected from the input signal (channels 1-8 or 9-16) can be embedded into the HDMI output.

Various burn in features make the CDH 1813 a true monitoring tool. Timecode burn in, 16 channel audio metering, safe area markers and AFD code display are just a few of the on-screen monitoring features.

yelloGUI provides support for a host of additional settings and features which are accessed using a PC and the USB port on the module.

Fiber I/O Options

Inserts into the Fiber SFP cage on the side of the module. Please select option from below:

SDI Transceiver (Receive and Transmit)

Wavelength	TX Power	RX Sensitivity	Max Distance	Option #
1310nm	-5dBm	-19dBm	10km (6.2miles)	**OH-TR-1**
1550nm	-1dBm	-19dBm	40km (24.8miles)	**OH-TR-3-1550**

SDI Transmitter only

Wavelength	TX Power	Max Distance	Option #
1310nm	-5dBm	10km (6.2miles)	**OH-TX-1**

SDI Receiver only

Wavelength	RX Sensitivity	Option #
1270-1630nm	-19dBm	**OH-RX-1**

NOTE. CWDM fiber options also available. Select from 18 wavelengths per ITU-T G.694.2. Please contact LYNX Technik for more details

Technical Specifications

SDI Input	1 x SDI video on 75 Ohm BNC connector
	Multi-standard operation from 270Mbit to 3Gbit (auto-detect)
	Support for 'single link' 3D modes: "side by side" , "top-bottom" and "dual stream (3G level B)" (depends on input SDI format)
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical Input	1 x fiber optic SDI input. LC fiber connection (Optional- see fiber options table) SMPTE 297M - 2006
SDI Output	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s
Optical Output	1 x fiber optic SDI output. LC fiber connection (Optional- see fiber options table) SMPTE 297M - 2006
HDMI Output	10 bit HDMI 1.4a support including 3D, deep color and embedded audio Type A connector. 3D modes supported: "side by side" "top and bottom" "frame packing"
	24 bit (3 X 8bit) and 30bit (3 x 10bit) deep color (R,G,B / Y,Cr,Cb / X,Y,Z)
	2 or 8 channel audio embedding (selectable)
AES Output	AES3id on 75 Ohm BNC, 2 channels (selectable)
Audio Output	Left and right analog audio using 1/4 inch jack sockets (phono sockets)
	Balanced mode with 24,22,20,18,15,12 dBu full scale (selectable)
	Unbalanced mode with (line level) at -10 dBv
	1/4 inch Jack plug (phono) to RCA connection adapters supplied
USB	Standard USB port for yelloGUI interface and firmware updates (Mini Type "B" plug)
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	CDH 1813
Includes	Module, power supply, RCA adapters, HDMI cable, USB cable, transport case

Specifications subject to change

yellobrik®

CDH 1813

yelloGUI compatible

Monitoring Features

The CHD 1813 i
a numb
individually or as combined monitoring modes.

Clean Feed

- Direct conversion of input SDI Stream
- The CHD 1813 does not scale the image, therefore the HDMI output format is the same as the native SDI input resolution and frame rate.

Burn in Windows

- Display up to three timecode values (if present) (VITC , LTC, DVITC)
- SDI input format, bit depth and color scheme
- AFD present and format code
- 16 audio level meters
- Closed Caption, WSS and VI metadata presence

Safe Area Markers

- SMPTE Safe Action (default)
  (default can be changed using yelloGUI)
- Center cross marker
- Fully programmable with yelloGUI

H / V Delay

- View horizontal and vertical blanking

Specifications subject to change

yellobrik®

CDH 1813

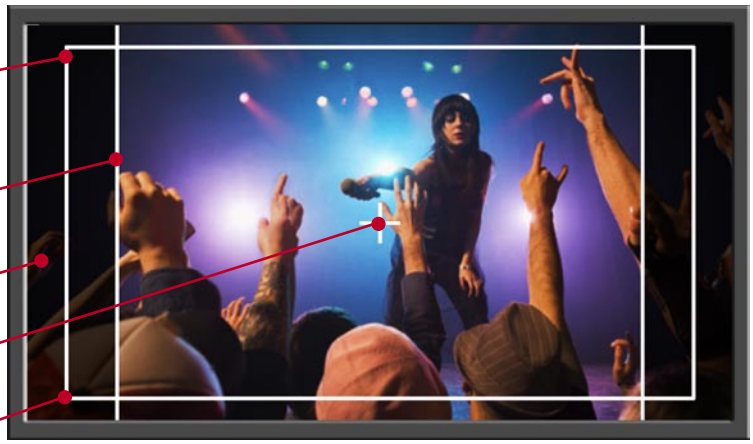
yelloGUI compatible

yelloGUI™

The CHD 1813 features full yelloGUI support that provides access to additional features and settings not possible from the module's local controls. Additional features are accessed using our free **yelloGUI** application. Additional settings include:

Parameter	Settings
Safe Area Markers	OFF
	SMPTE Safe Action (90/90)
	SMPTE Safe Title (80/80)
	EBU Action (3.5/3.5)
	EBU Graphics (5/10)
Aspect Ratio Markers	OFF
	4:3
	16:9
Curtain Transparency	100%
	Adjustable 30%-90%
Center Cross	ON
	OFF
Marker Color	White
	Red, Green, Blue, Yellow, Cyan, Magenta, Black
Safe Area from Aspect	ON
	OFF

= Default Settings



The on screen markers can be custom configured to suit any application. This includes various "standard" safe area markers, aspect ratio markers with adjustable curtain transparency. The color of the markers may also be changed.

Parameter	Settings
SDI input RGB Range	SMPTE Limited
	Full Range
HDMI Input Bit Depth	AUTO
	8 bit
	10 bit
	12 bit

Parameter	Settings
HDMI Color Range	SMPTE Limited
	Full Range
HDMI Color Space	AUTO
	RGB
	Y,Cr,Cb 4:2:2
	Y,Cr,Cb 4:4:4

Parameter	Settings	
Audio Channels	1:1	
	Convert*	
		*DEFAULT: Audio channels 1 through 8 are mapped 1:1 from SDI to HDMI. When set to "Convert" channels 3 and 4 are swapped resulting in channel allocations per SMPTE 320M (3=center /4=LFE) and CEA-861 (3=LFE / 4=FrontCenter)

Parameter	Settings
3D HDMI Output Format	AUTO
	Frame Packing (FP)
	Side by Side (SS)
	Top and Bottom (TB)
3D Flip Left Eye	NO FLIP
	Horizontal
	Vertical
	Both

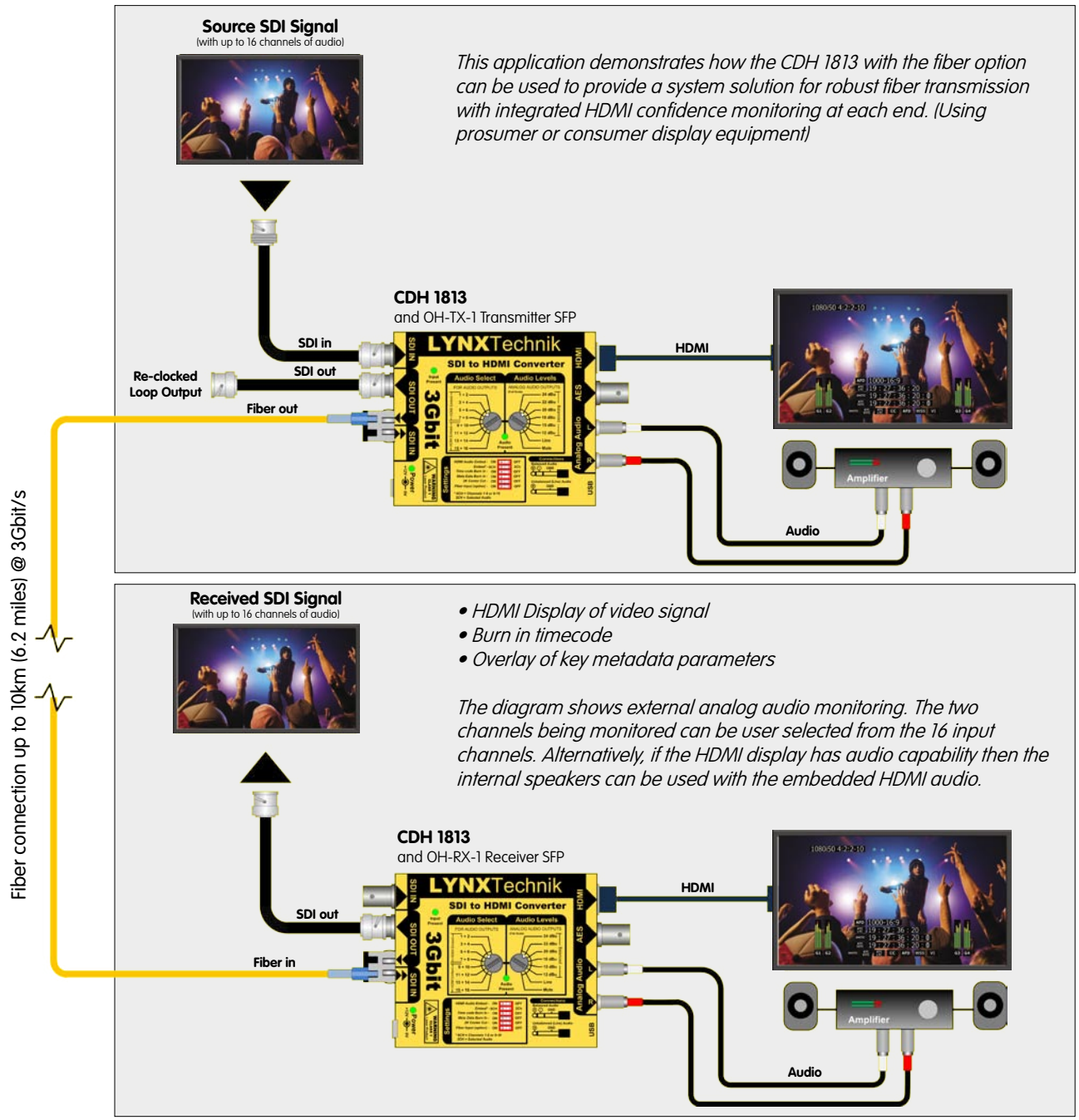
Parameter	Settings
3D SDI Input Format	AUTO
	Side by Side (SS)
	Top and Bottom (TB)
	Dual Stream (3G/LevelB)
	2D (no 3D)
3D Flip Right Eye	NO FLIP
	Horizontal
	Vertical
	Both

Parameter	Settings	
Swap SDI Streams	Regular	
	Inverted	
		When a 3G LevelB input signal is processed as 3D content then the default setting is: Left Eye from Stream A, and Right Eye from Stream B. This can be inverted with this switch. For 2D content, default is stream A, and stream B is selected with this switch.
Horizontal Flip	NO FLIP	
	FLIP	
		This mode flips the input siganal horizontally to show a mirror image on the HDMI output. Useful for Virtual Set (Green Screen) on set monitoring.

HDMI configuration settings are set automatically by the internal EDID communication between the two connected devices. These settings can be changed manually for specific applications.

Fiber Application Using CDH 1813 SDI to HDMI Converter

Sample application using two CDH 1813 modules for SDI fiber optic transmission up to 10km (6.2 miles) @3Gbit/s with integrated HDMI signal confidence monitoring at each end.



Specifications subject to change

yellobrik®

CHD 1812

yelloGUI compatible

3Gbit HDMI® to SDI Converter + Frame Synchronizer

- Supports SD/HD/3G -SDI formats
- 3D support
- Integrated Frame Synchronizer
- Multi-format sync reference input - cross lock compatible
- 2 x SDI outputs with optional SDI fiber output
- HDMI embedded audio passed transparently
- 2 x external analog audio inputs
- Professional balanced analog audio inputs or unbalanced line level audio inputs
- Selectable AES channel for embedding external audio
- HDMI, reference and audio present LED indication

The CHD 1812 is a versatile and compact HDMI to SDI converter with integrated frame synchronizer. It is an ideal solution for any application which requires a fully synchronized SDI input from an external asynchronous HDMI source.

The flexible reference sync input will accept any analog video sync format including SD bi-level sync, black burst, colorbars and tri-level HD sync. The sync input is auto detecting and fully cross lock compatible. For example: An SD black burst reference can be used to frequency lock an HD HDMI input. If no reference is present, the converter performs a standard asynchronous HDMI to SDI conversion.

A stereo pair of analog inputs can be embedded into any AES channel. Inputs can be either professional balanced audio with selectable full scale level, or unbalanced consumer line level audio.

Any audio present in the HDMI stream will be embedded into the SDI outputs, or can be replaced with the external audio input.

An optional SDI fiber output is also provided (Single Mode Fiber)

Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Fiber Output Options

Fiber SFP Transmitter Stick (LC)

Inserts into the Fiber SFP cage on the side of the module. Can be added at any time. Please select from below:

Wavelength	TX Power	Max Distance	Option #
1310nm	-5dBm	10km (6.2 miles)	**OH-TX-1**
1550nm	-1dBm	40km (24.8 miles)	**OH-TX-3-1550**

NOTE: 18 x CWDM wavelength versions are also available. Please contact LYNX for details.

Technical Specifications

HDMI Input	3D compatible input using type A connector
	Up to 8 channels embedded audio in HDMI is passed transparently or replaced with external analog audio input
Reference Input	SDTV: Analog 525 or 625 bi-level sync, black burst or colorbars HDTV: All tri-level sync standards (exceptions 1080p 50/59.94/60Hz) Cross lock compatible
	75 Ohm BNC connector
	SMPTE 274M, SMPTE 296M
Frame Synchronizer	Functional if valid reference is detected, otherwise operates in free run (asynchronous) mode. External audio and HDMI input are frequency locked to external reference, fully cross lock compatible across standards
SDI Outputs	2 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard output from 270Mbit/s to 3Gbit/s (follows HDMI input) SDTV (525/625) 720p and 1080p (23.98/24/25/29.97/30/50/59.94/60 Hz) 1080i (50/59.94/60 Hz)
Audio Inputs	Left and right analog audio using 1/4 inch jack plugs
	10k Ohm differential balanced input mode with 24,22,20,18,15,12 dBu full scale (selectable)
	Unbalanced mode with (line level) at -10 dBV (1/4 inch Jack Plug to RCA connection adapters supplied)
	Selectable AES channel for audio embedding (1 through 8) (Overwrites any HDMI embedded audio present in selected channel)
	Frequency response: <+/- 0.2dB 20Hz to 20KHz
	48KHz A/D sample rate (free run or frequency locked to ref input)
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	CHD 1812
Includes	Module, AC power supply, RCA adapters, HDMI cable, USB cable, transport case

Note: *For legal reasons, HDMI capture devices from LYNX Technik AG are designed not to capture, convert or transmit video or audio from HDCP copy-protected sources (e.g. Satellite receivers, Cable receivers, BD players etc.)*

Specifications subject to change

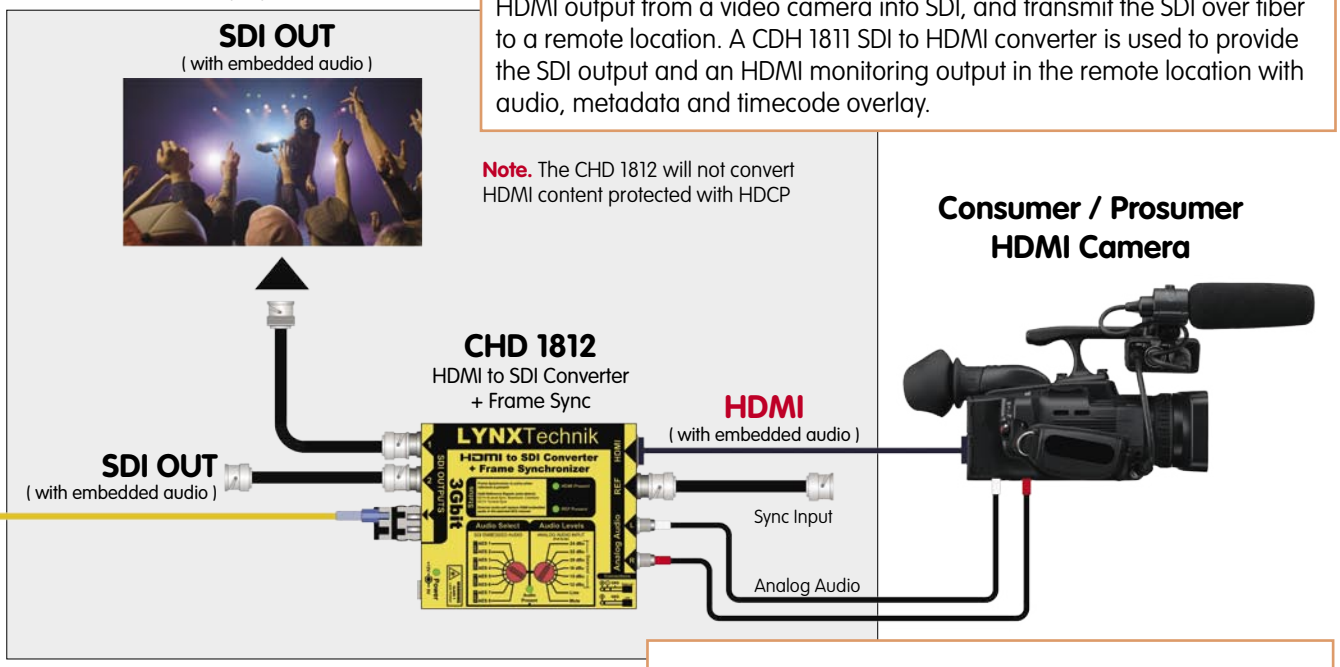
yellobrik®

CHD 1812

yelloGUI compatible

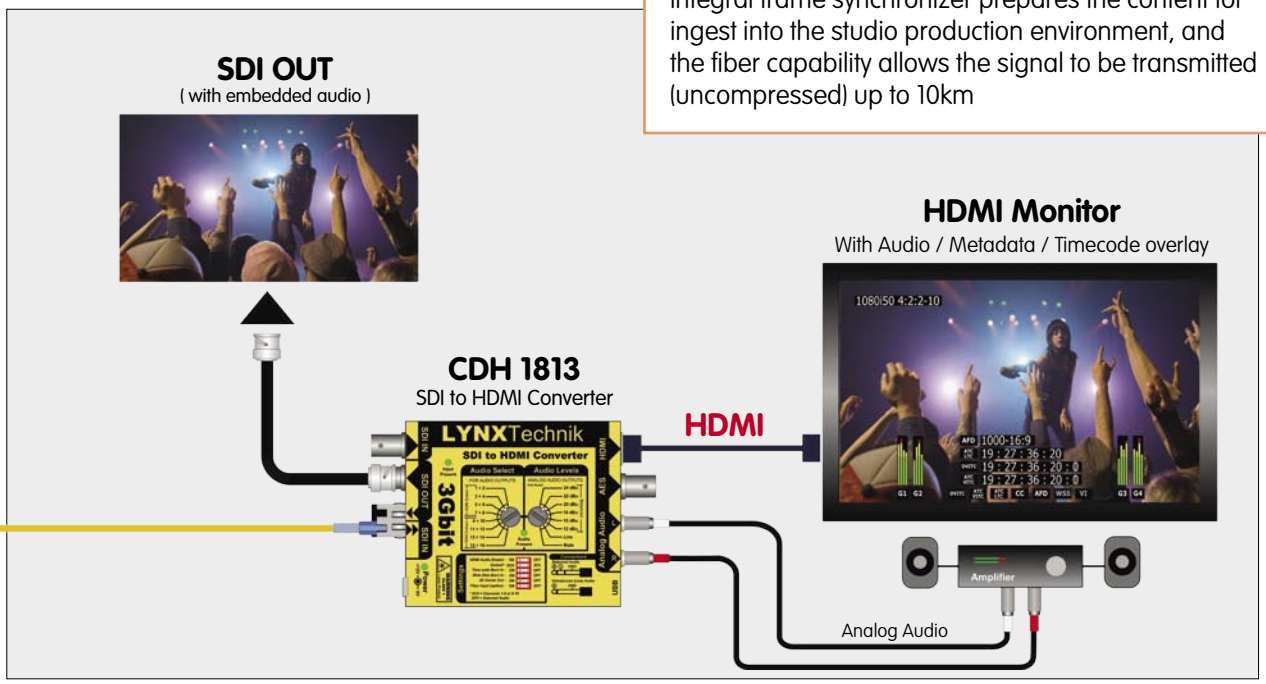
CHD 1812 Application

An example application is shown below, using the CHD 1812 to convert the HDMI output from a video camera into SDI, and transmit the SDI over fiber to a remote location. A CDH 1811 SDI to HDMI converter is used to provide the SDI output and an HDMI monitoring output in the remote location with audio, metadata and timecode overlay.



This application shows how a inexpensive camera with HDMI capability can be used in a high quality professional digital environment using no image compression. The integral frame synchronizer prepares the content for ingest into the studio production environment, and the fiber capability allows the signal to be transmitted (uncompressed) up to 10km

Fiber Connection up to 10km (6.2 miles) @ 3Gbit/s



Note. Overlay mode can be switched on or off. Overlay is monitoring only, does not generate timecode or metadata

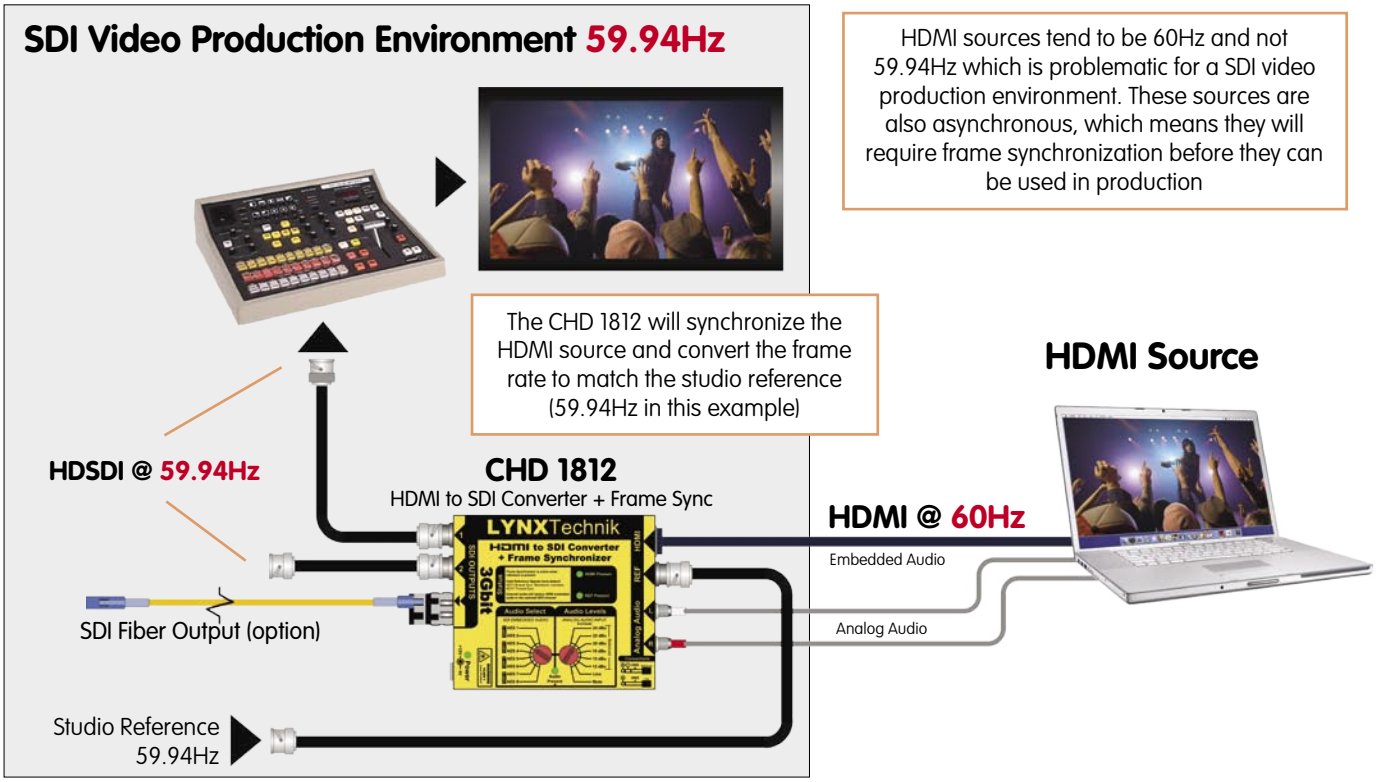
Specifications subject to change

yellobrik®

CHD 1812
yelloGUI compatible

CHD 1812 Application - 60Hz to 59.94Hz Conversion

In North American (or legacy NTSC) markets HDMI outputs tend to be 60Hz and not 59.94Hz which is the required frame rate for production. The CHD 1812 can be used to solve this problem and convert a 60Hz HDMI signal to a 59.94Hz SDI signal. This is accomplished using the integrated frame synchronizer (which will drop frames to achieve the desired frame rate)



The frame synchronizer is fully cross lock compatible, meaning it can cross lock between different standards. With a given reference signal connected the synchronizer will drop or add frames to achieve a correctly synchronised (frame rate converted) SDI output.

Note. This conversio
sophisticated standards converter. Please refer to the tables below for the conversion possibilities. Red = Drop Frame, Yellow = Adding Frames

HDMI inputs with @ 23.98/29.97/59.94Hz Frame Rates

Reference Signal	23.98Hz		24Hz
	29.97Hz	30Hz	25Hz
	59.94Hz	60Hz	50Hz
HDMI Input	**SDI Output Formats**		
525 / 59.94Hz	525 / 59.94Hz	525 / 60Hz	625 / 50Hz
720p / 59.94Hz	720p / 59.94Hz	720p / 60Hz	720p / 50Hz
720P / 29.97Hz	720p / 29.97Hz	720p / 30Hz	720p / 25Hz
720p / 23.98Hz	720p / 23.98Hz	720p / 30Hz	720p / 24Hz
1080i / 59.94Hz	1080i / 59.94Hz	1080i / 60Hz	1080i / 50Hz
1080p / 59.94Hz	1080p / 59.94Hz	1080p / 60Hz	1080p / 50Hz
1080p / 29.97Hz	1080p / 29.97Hz	1080p / 30Hz	1080p / 25Hz
1080p / 23.98Hz	1080p / 23.98Hz	1080p / 30Hz	1080p / 24Hz

HDMI inputs with @ 24/30/60Hz Frame Rates

Reference Signal	23.98Hz		24Hz
	29.97Hz	30Hz	25Hz
	59.94Hz	60Hz	50Hz
HDMI Input	**SDI Output Formats**		
525 / 60Hz	525 / 59.94Hz	525 / 60Hz	625 / 50Hz
720p / 60Hz	720p / 59.94Hz	720p / 60Hz	720p / 50Hz
720P / 30Hz	720p / 29.97Hz	720p / 30Hz	720p / 25Hz
720p / 24Hz	720p / 23.98Hz	720p / 30Hz	720p / 24Hz
1080i / 60Hz	1080i / 59.94Hz	1080i / 60Hz	1080i / 50Hz
1080p / 60Hz	1080p / 59.94Hz	1080p / 60Hz	1080p / 50Hz
1080p / 30Hz	1080p / 29.97Hz	1080p / 30Hz	1080p / 25Hz
1080p / 30Hz	1080p / 23.98Hz	1080p / 30Hz	1080p / 24Hz

HDMI inputs with @ 24/25/50Hz Frame Rates

Reference Signal	23.98Hz		24Hz
	29.97Hz	30Hz	25Hz
	59.94Hz	60Hz	50Hz
HDMI Input	**SDI Output Formats**		
625 / 50Hz	525 / 59.94Hz	525 / 60Hz	625 / 50Hz
720p / 50Hz	720p / 59.94Hz	720p / 60Hz	720p / 50Hz
720P / 25Hz	720p / 29.97Hz	720p / 30Hz	720p / 25Hz
720p / 24Hz	720p / 23.98Hz	720p / 30Hz	720p / 24Hz
1080i / 50Hz	1080i / 59.94Hz	1080i / 60Hz	1080i / 50Hz
1080p / 50Hz	1080p / 59.94Hz	1080p / 60Hz	1080p / 50Hz
1080p / 25Hz	1080p / 29.97Hz	1080p / 30Hz	1080p / 25Hz
1080p / 24Hz	1080p / 23.98Hz	1080p / 30Hz	1080p / 24Hz

Specifications subject to change

yellobrik®

CHD 1802

yelloGUI compatible

3Gbit HDMI® to SDI Converter

- Supports SD/HD/3G -SDI formats
- 3D support
- 2 x SDI outputs
- Optional SDI fiber output
- HDMI embedded audio passed transparently
- HDMI present LED indication

The CHD 1802 is a compact HDMI to SDI converter It is an ideal solution for any application which requires a broadcast quality SDI signal derived from an external HDMI source.

Any audio present in the HDMI stream will be embedded into the corresponding channels on the SDI output.

An optional SDI fiber output is also provided (Single Mode Fiber)

Technical Specifications

HDMI Input	3D compatible input using type A connector
	Up to 8 channels embedded audio in HDMI is passed transparently
SDI Outputs	2 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard output from 270Mbit/s to 3Gbit/s (follows HDMI input) SDTV (525/625) 720p and 1080p (23.98/24/25/29.97/30/50/59.94/60 Hz) 1080i (50/59.94/60 Hz)
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	CHD 1802
Includes	Module, AC power supply, RCA adapters, HDMI cable, USB cable, transport case

Note: *For legal reasons, HDMI capture devices from LYNX Technik AG are designed not to capture, convert or transmit video or audio from HDCP copy-protected sources (e.g. Satellite receivers, Cable receivers, BD players etc.)*

Fiber Output Options

Fiber SFP Transmitter Stick (LC)

Inserts into the Fiber SFP cage on the side of the module. Can be added at any time. Please select from below:

Wavelength	TX Power	Max Distance	Option #
1310nm	-5dBm	10km (6.2 miles)	**OH-TX-1**
1550nm	-1dBm	40km (24.8 miles)	**OH-TX-3-1550**

NOTE: 18 x CWDM wavelength versions are also available. Please contact LYNX for details.

Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Specifications subject to change

yellobrik®

PDM 1284 B

AES Audio Embedder / De-embedder (unbalanced AES)

- Multi-function:
  - 4 x AES embedder **or** de-embedder
  - 2 x AES embedder **and** de-embedder
- SDI video formats up to 3Gbit (1080p60)
- 4 x AES inputs or outputs
- Selectable audio groups
- Optional Fiber I/O
- Integrated 1 kHz test tone generator
- Automatic PCM / encoded audio detection
- Auto black if no video present
- Selectable SDTV 24 bit mode
- Video present and audio status LEDs

The PDM 1284 B is a versatile AES audio embedder / de-embedder designed for a wide range of SDI video formats up to 3Gbit. It supports unbalanced AES3id audio I/O using BNC connectors.

Select audio groups using the rotary switches and embed or de-embed additional audio groups by cascading two modules together.

AES 1+2 and AES 3+4 are independent channels, which means that in addition to being used as a 4 x AES embedder / de-embedder, the PDM 1284 B can also function as a 2 x AES embedder / de-embedder. Each channel is configured using the dip switches and rotary switches.

An optional fiber I/O adds fiber transceiver functionality for embedding and de-embedding directly from the fiber I/O. When the fiber input is used both fiber and electrical SDI outputs are provided.

The PDM 1284 B automatically detects the audio format and de-selects the sample rate converters to preserve encoded bit streams such as DolbyE. (Sample rate converters can be permanently switched off using the dip switch).

The selectable "auto black" mode uses a black video frame if no SDI input is present, which allows the module to embed audio even when no video source is available. This mode is useful if the application is only transporting multi-channel audio between locations either electrically or over fiber.

The selectable 1 kHz test tone generator is integrated for audio testing purposes. The module includes an LED for video present indication as well as two multi-color audio status LEDs.

Technical Specifications

SDI Input	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s SDTV (525/625) 720p and 1080p (23.98/24/25/29.97/30/50/59.94/60 Hz) 1080psf (23.98/24/25/29.97/30 Hz) 1080i (50/59.94/60 Hz)
	Return Loss: > 15dB to 1.5Gbit/s and > 10dB up to 3Gbit/s
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical I/O (Option)	1 x fiber optic input and output LC/PC singlemode fiber connection (see table)
	SMPTE 297M - 2006
SDI Output	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s
AES I/O (switchable)	4 x AES3id unbalanced inputs or outputs on 75 Ohm BNC connectors AES group selection provided via rotary switch
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	PDM 1284 B
Includes	Module, power supply, SubD screw terminal adapter PCB, transport case

Fiber I/O Options

Fiber SFP Transceiver Stick (LC)

Inserts into the Fiber SFP cage on the side of the module. Can be added at any time. Please select from below:

Wavelength	TX Power	RX Sensitivity	Max Distance	Option #
1310nm	-5dBm	-19dBm	10km (6.2miles)	**OH-TR-1**
1550nm	-1dBm	-19dBm	40km (24.8miles)	**OH-TR-3-1550**

Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.

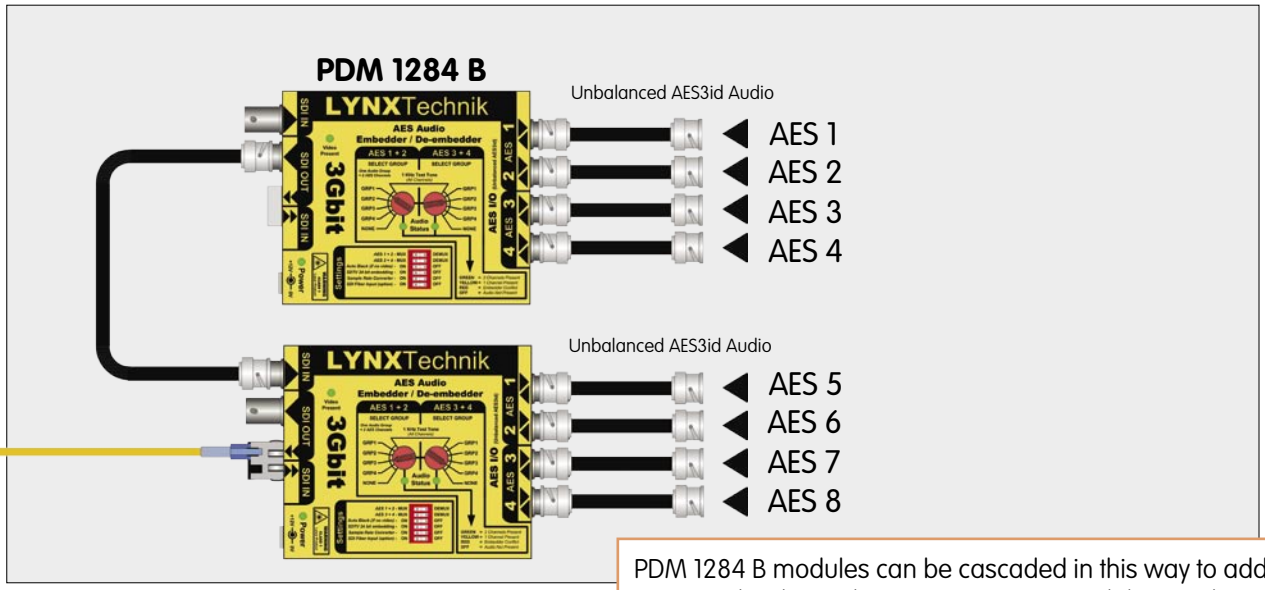
P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Specifications subject to change

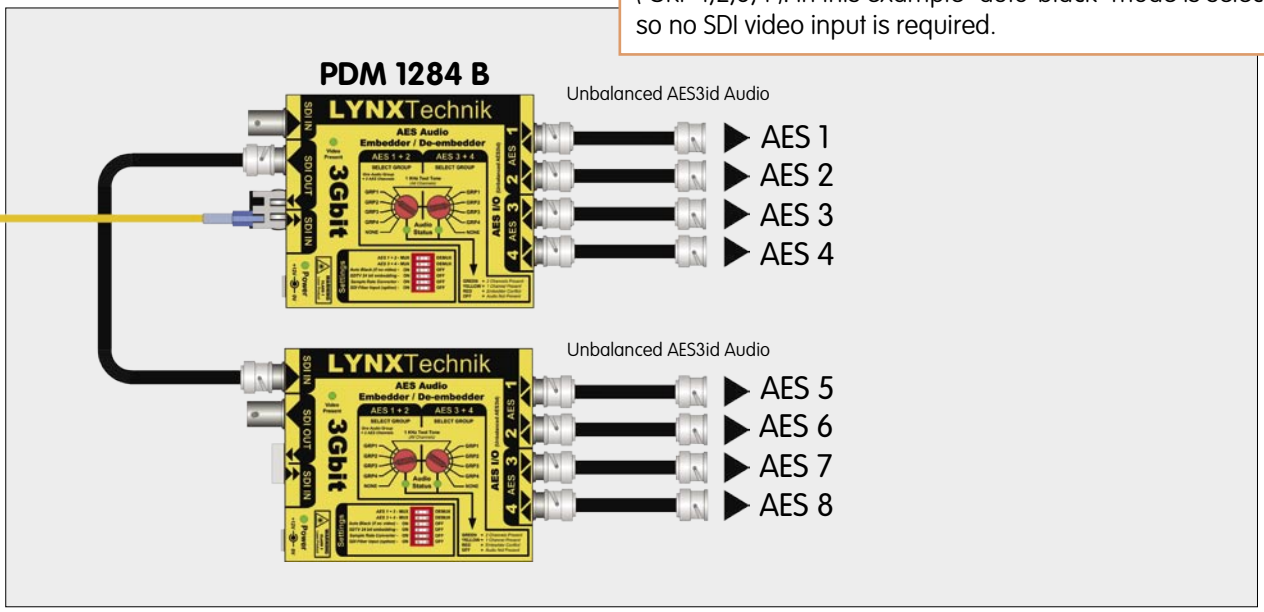
PDM 1284 B Application

The basic SDI embedding and de-embedding applications for the PDM 1284 B are somewhat obvious, but with the "auto-black" mode the modules can be used to transport audio signals only. This provides a very cost effective way to transport multichannel audio over fiber without the need for external optical multiplexing, The example below shows how two modules in each location can be used to transport 16 x digital audio signals between two locations over fiber.



Fiber Connection up to 10km (6.2 miles) @ 3Gbit/s

PDM 1284 B modules can be cascaded in this way to add more audio channels. 2 x PDM 1284 B modules can be cascaded to transport 16 audio channels over a single fiber link. Each module would have different AES groups selected (GRP 1,2,3,4). In this example "auto-black" mode is selected, so no SDI video input is required.



Specifications subject to change

yellobrik®

PDM 1284 D

AES Audio Embedder / De-embedder (balanced AES)

- Simultaneous embedding and de-embedding
- SDI video formats up to 3Gbit (1080p60)
- 4 x AES inputs / outputs
- Selectable audio groups
- Optional Fiber I/O
- Integrated 1 kHz test tone generator
- Automatic PCM / encoded audio detection
- Auto black if no video present
- Selectable SDTV 24 bit mode
- Video present and audio status LEDs

The PDM 1284 D is a versatile AES audio embedder and de-embedder designed for a wide range of SDI video formats up to 3Gbit. It supports balanced AES3 audio I/O using a 25 pin SubD connector.

Select audio groups usng the rotary switches and embed and de-embed additional audio groups by cascading two modules together. Simultaneous embedding and de-embedding means the module will de-embed and output the audio from the selected audio group before overwriting.

An optional fiber I/O adds fiber transceiver functionality for embedding and de-embedding directly from the fiber I/O. When the fiber input is used both fiber and electrical SDI outputs are provided.

The PDM 1284 D automatically detects the audio format and deactivates the sample rate converters to preserve encoded bit streams such as DolbyE. (Sample rate converters can be permanently switched off using the dip switch).

The selectable "auto black" mode uses a black video frame (in the last detected video standard) if no SDI input is present. This allows the module to embed audio even when no video source is available. This mode is useful if the application is only transporting multi-channel audio between locations either electrically or over fiber.

The selectable 1 kHz test tone generator is integrated for audio testing purposes. The module includes an LED for video present indication as well as two multi-color audio status LEDs.

Technical Specifications

SDI Input	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s SDTV (525/625) 720p and 1080p (23.98/24/25/29.97/30/50/59.94/60 Hz) 1080psf (23.98/24/25/29.97/30 Hz) 1080i (50/59.94/60 Hz)
	Return Loss: > 15dB to 1.5Gbit/s and > 10dB up to 3Gbit/s
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical I/O (Option)	1 x fiber optic input and output LC/PC singlemode fiber connection (see table)
	SMPTE 297M - 2006
SDI Output	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s
AES Inputs	4 x AES3 balanced inputs on 25 pin SubD Connector (110 Ohm)
	AES group selection provided via rotary switch
AES Outputs	4 x AES3 balanced outputs on 25 pin SubD Connector (110 Ohm)
	AES group selection provided via rotary switch
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	PDM 1284 D
Includes	Module, power supply, SubD screw terminal adapter PCB, transport case

Fiber I/O Options

Fiber SFP Transceiver Stick (LC)

Inserts into the Fiber SFP cage on the side of the module.
Can be added at any time. Please select from below:

Wavelength	TX Power	RX Sensitivity	Max Distance	Option #
1310nm	-5dBm	-19dBm	10km (6.2miles)	**OH-TR-1**
1550nm	-1dBm	-19dBm	40km (24.8miles)	**OH-TR-3-1550**

Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.

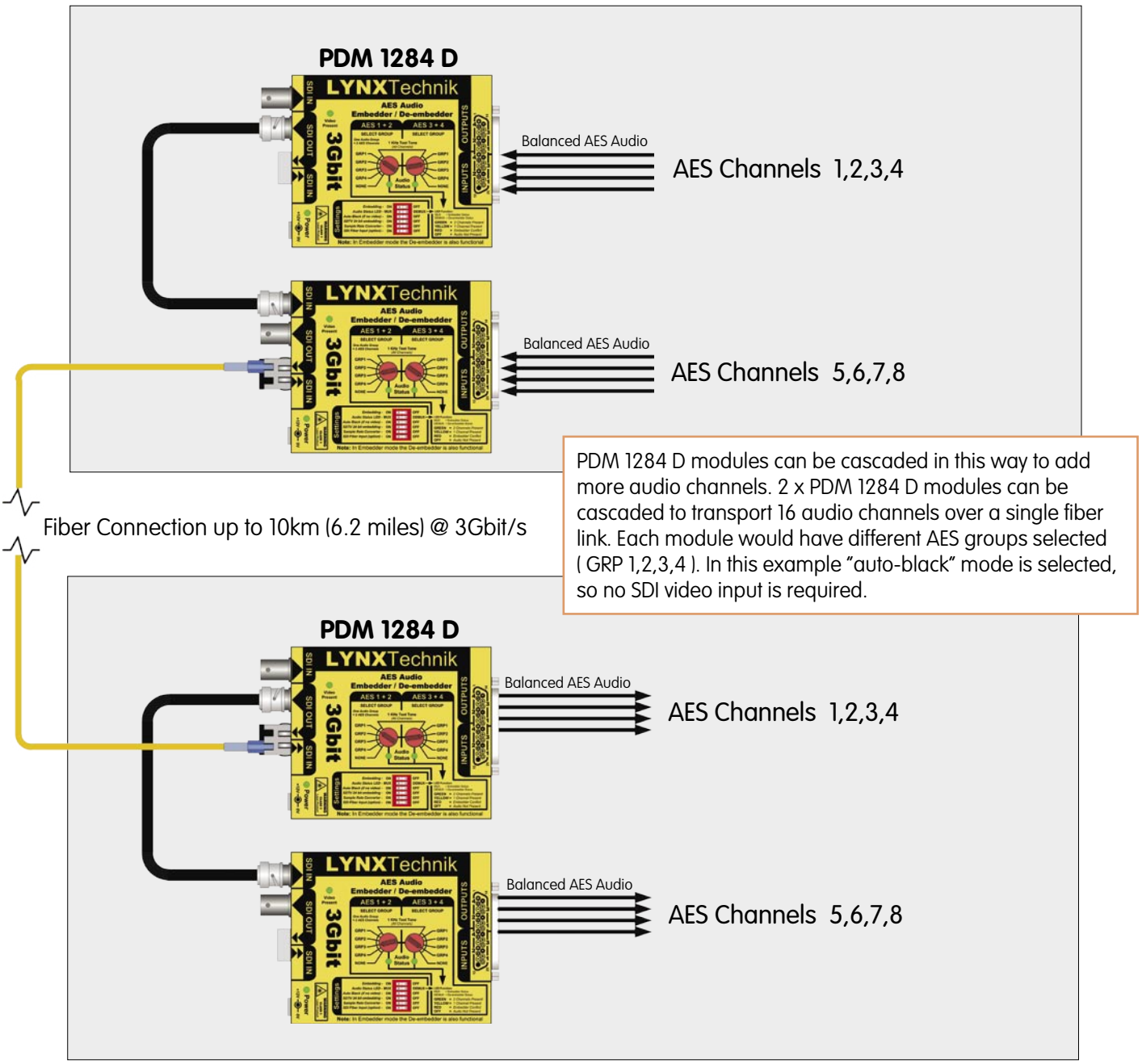
P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Specifications subject to change

PDM 1284 D Application

The basic SDI embedding and de-embedding applications for the PDM 1284 D are somewhat obvious, but with the "auto-black" mode the modules can be used to transport audio signals only. This provides a very cost effective way to transport multichannel audio over fiber without the need for external optical multiplexing, The example below shows how two modules in each location can be used to transport 16 x digital audio signals between two locations over fiber.



PDM 1284 D modules can be cascaded in this way to add more audio channels. 2 x PDM 1284 D modules can be cascaded to transport 16 audio channels over a single fiber link. Each module would have different AES groups selected (GRP 1,2,3,4). In this example "auto-black" mode is selected, so no SDI video input is required.

Specifications subject to change

yellobrik®

PDM 1383

Analog Audio Embedder / De-embedder

- Simultaneous embedding and de-embedding
- SDI video formats up to 3Gbit (1080p60)
- 4 x Analog audio inputs and outputs
- Selectable full scale audio level or line level I/O
- Selectable audio groups
- Optional Fiber I/O
- Bidirectional audio transport over fiber
- Integrated test tone generator
- Auto black if no video present
- Selectable SDTV 24 bit mode
- Video present and audio status LEDs

The PDM 1383 is a versatile analog audio embedder and de-embedder designed for a wide range of SDI video formats up to 3Gbit. Analog audio I/O is available on a 25 pin SubD connector.

Select the audio group and analog full scale level (or line level) using the rotary switches. Additional channels of audio can be embedded and de-embedded by cascading modules together. Simultaneous embedding and de-embedding means the module can de-embed and output the audio from the selected audio group before overwriting with the new audio input.

Optional fiber I/O SFP modules adds fiber connectivity for embedding and de-embedding directly from the fiber I/O.

The selectable "auto black" mode uses a black video frame (in the last detected video standard) if no SDI input is present. This allows the module to embed audio even when no video source is available. This mode is useful if the application is only transporting audio between locations either electrically or over fiber. The module also includes a special mode of operation which allows the bidirectional transport of audio (only) using two modules.

The selectable 1 kHz test tone generator is integrated for audio testing purposes. The module includes an LED for video present indication as well as two multi color audio status LEDs.

Fiber I/O Options

Inserts into the Fiber SFP cage on the side of the module. Please select option from below:

Tranceiver (Receive and Transmit)

Wavelength	TX Power	RX Sensitivity	Max Distance	Option #
1310nm	-5dBm	-19dBm	10km (6.2miles)	**OH-TR-1**
1550nm	-1dBm	-19dBm	40km (24.8miles)	**OH-TR-3-1550**

Transmitter only

Wavelength	TX Power	Max Distance	Option #
1310nm	-5dBm	10km (6.2miles)	**OH-TX-1**

Receiver only

Wavelength	RX Sensitivity	Option #
1270-1630nm	-19dBm	**OH-RX-1**

Technical Specifications

SDI Input	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s SDTV (525/625) 720p and 1080p (23.98/24/25/29.97/30/50/59.94/60 Hz) 1080psf (23.98/24/25/29.97/30 Hz) 1080i (50/59.94/60 Hz)
	Return Loss: > 15dB to 1.5Gbit/s and > 10dB up to 3Gbit/s
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical I/O (Option)	1 x fiber optic input and/or output LC singlemode fiber connection (see table)
	SMPTE 297M - 2006
SDI Output	1 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M
	Multi-standard operation from 270Mbit/s to 3Gbit/s
Audio Inputs	4 x analog audio inputs on 25 pin SubD Connector (10K Ohm) Full scale analog audio level (or line level) selectable via rotary switch
	AES group selection provided via rotary switch
Audio Outputs	4 x analog audio outputs on 25 pin SubD Connector (150 Ohm) Full scale analog audio level (or line level) selectable via rotary switch
	AES group selection provided via rotary switch
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	PDM 1383
Includes	Module, power supply, SubD screw terminal adapter PCB, transport case

Power Adapter Options

The module **INCLUDES** an AC power supply. the power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

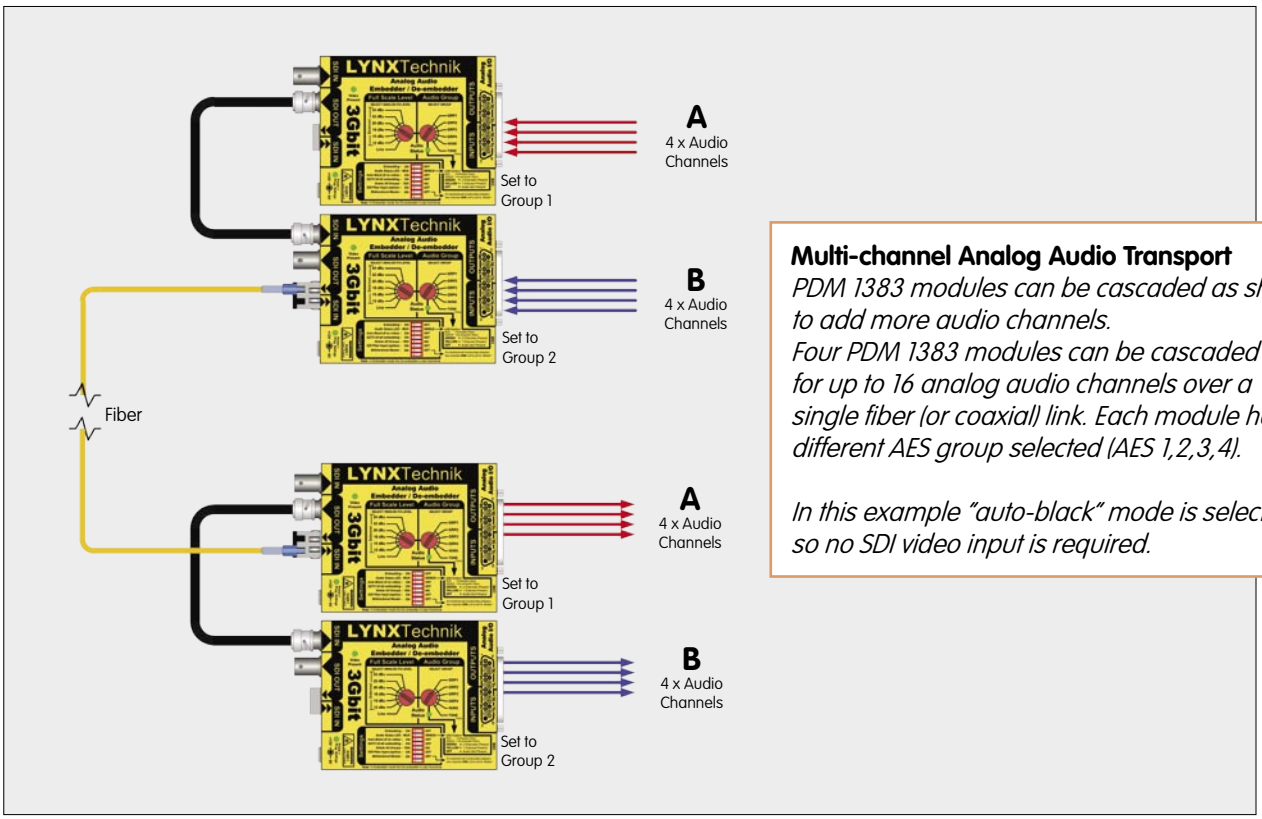
Specifications subject to change

Specifications subject to change

PDM 1383 Applications

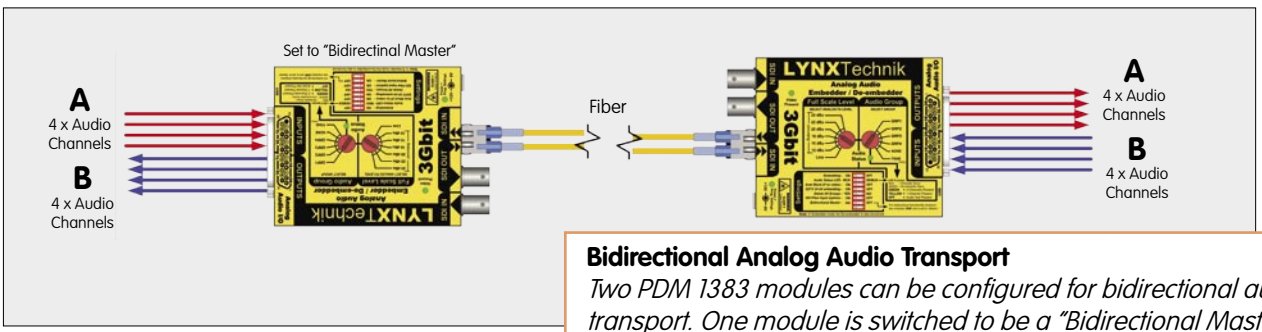
The basic SDI embedding and de-embedding applications for the PDM 1383 are somewhat obvious, but with the "auto-black" mode the modules can be used to transport audio signals only. This provides a very cost effective way to transport multi-channel audio over fiber (or coax) without the need for dedicated audio A/D converters and external optical multiplexing. This when combined with the new "Bidirectional Master" functionality really expands the flexibility of the modules into dedicated audio applications.

Below are two examples of how the modules can be untilised for "audio only" transport over fiber.



Multi-channel Analog Audio Transport
PDM 1383 modules can be cascaded as shown to add more audio channels.
Four PDM 1383 modules can be cascaded for up to 16 analog audio channels over a single fiber (or coaxial) link. Each module has a different AES group selected (AES 1,2,3,4).

In this example "auto-black" mode is selected, so no SDI video input is required.



Bidirectional Analog Audio Transport
Two PDM 1383 modules can be configured for bidirectional audio transport. One module is switched to be a "Bidirectional Master" This works for audio signals only, and "auto-black" mode is used.
(Note: Cascading modules is not possible in bidirectional mode)

Specifications subject to change

yellobrik® DVA 1704

Wide Band 1>4 Analog Video / Sync Distribution Amplifier

- 1 input and 4 outputs
- Wide band - 30MHz
- Adjustable gain and EQ
- Input present LED indication
- Suitable for analog SDTV/HDTV video or Sync signals

The DVA 1704 is a compact general purpose analog video / sync distribution amplifier suitable for any analog SDTV or HDTV video signal or SDTV Bi-level sync pulses, black reference, or HDTV Tri-level sync pulses.

User adjustable gain and cable equalization is provided, and signal presence is detected and indicated with a LED.

Technical Specifications

Input	1 x 75 Ohm BNC connector
	Compatible Input Sources SDTV Composite video (NTSC/PAL) SDTV Component Analog Video HDTV Component Analog Video SDTV Bi-level sync (or black burst) HDTV Tri-Level Sync
	Return loss > 31dB to 30MHz
	Input Gain adjustment range +/- 2.5dB
	Input Cable Equalization Adjustment 0 - 8dB
	Input presence detection (LED)
Outputs	4 x Analog Video / Sync Outputs
	75 Ohm BNC connectors
	Return loss >22dB to 30MHz
Performance	Frequency Response: -3dB @ 30MHz (EQ min) -3dB @ 37MHz (EQ max) +/- 0.1dB to 10MHz
	Signal to noise >60dB (RMS)
Power	+12VDC (Power Supply Included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	DVA 1704
Includes	Module, power supply, transport case

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Specifications subject to change

yellobrik® DVD 1817

3Gbit 1 > 7 SDI Reclocking Distribution Amplifier

- 1 input and 7 outputs
- Reclocking
- Auto-detect input format
- Input present LED indication
- Suitable for SDI video up to 3Gbit/s (1080p60)
- Supports DVB-ASI

The DVD 1817 is a compact general purpose reclocking SDI distribution amplifier suitable for any SDI / HD-SDI video signal up to 3Gbit (1080p60) including DVB-ASI signals.

SMPTE 424M (3Gbit/s), SMPTE 292M (1.5Gbit/s) and SMPTE 259M (270Mbit/s) standards are supported.

Technical Specifications

Input	1 x SDI 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 2.97Gbit/s
	Multi-rate reclocking
	Input present LED indication
	Return Loss: > 15dB to 1.5Gbit/s and > 10dB up to 3Gbit/s
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Outputs	7 x multi-rate reclocked SDI outputs
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	75 Ohm BNC connectors
	Return Loss: > 15dB to 1.5GHz > 10dB to 3GHz
	Alignment Jitter < 0.2 UI @ 270Mbit/s, < 0.2 UI @ 1.5Gbit/s, < 0.3 UI @ 2.97Gbit/s
	Timing Jitter < 0.2 UI @ 270Mbit/s, < 1.0 UI @ 1.5Gbit/s, < 2.0 UI @ 2.97Gbit/s
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	DVD 1817
Includes	Module, power supply, transport case

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Specifications subject to change

yellobrik® DVD 1823

Dual 3Gbit SDI Reclocking Distribution Amplifier

- Dual channel
- 1 input and 3 outputs per channel
- Reclocking
- Auto-detect input format
- Input present LED indication for each channel
- Suitable for SDI video up to 3Gbit/s (1080p60)
- Supports DVB-ASI

The DVD 1823 is a compact general purpose, dual channel reclocking SDI distribution amplifier suitable for any SDI / HD-SDI video signal up to 3Gbit (1080p60) including DVB-ASI signals.

SMPTE 424M (3Gbit/s), SMPTE 292M (1.5Gbit/s) and SMPTE 259M (270Mbit/s) standards are supported.

Technical Specifications

Inputs	2 x SDI - 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 2.97Gbit/s
	Multi-rate reclocking
	Input present LED indication for each channel
	Return Loss: > 15dB to 1.5Gbit/s and > 10dB up to 3Gbit/s
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Outputs	3 x multi-rate reclocked SDI outputs per channel
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	75 Ohm BNC connectors
	Return Loss: > 15dB to 1.5GHz > 10dB to 3GHz
	Alignment Jitter < 0.2 UI @ 270Mbit/s, < 0.2 UI @ 1.5Gbit/s, < 0.3 UI @ 2.97Gbit/s
	Timing Jitter < 0.2 UI @ 270Mbit/s, < 1.0 UI @ 1.5Gbit/s, < 2.0 UI @ 2.97Gbit/s
Power	+12VDC power supply (included)
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	DVD 1823
Includes	Module, power supply, transport case

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

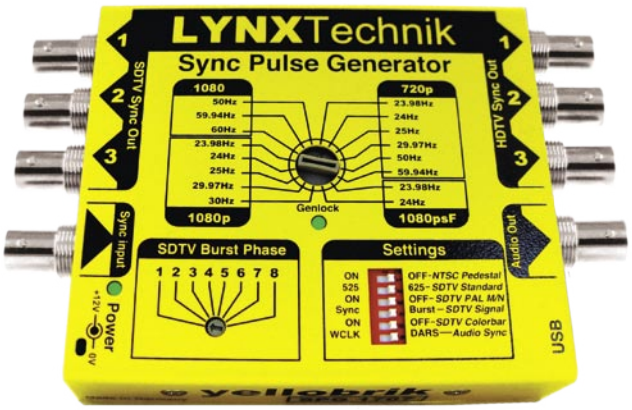
Specifications subject to change

yellobrik®

SPG 1707

HD / SD Sync Pulse Generator with Genlock

- Wide variety of HDTV Sync standards
- Simultaneous HD and SD analog sync outputs
- 3 x HD sync outputs and 3 x SD sync outputs
- Genlock with cross lock to any sync standard
- Sync only, Color bars or Black Burst for SD sync
- NTSC, PAL or PAL M/N sync outputs
- Burst phase adjustment for NTSC and PAL sync
- 48KHz Word Clock or DARS audio reference output
- Simple to use, all controls easily accessible.



The SPG 1707 is a compact, versatile analog sync pulse generator with genlock providing HD / SD video sync and audio reference signals. The module provides three SD sync outputs and three HD sync outputs and a separate audio sync output that can be switched between 48 KHz World Clock or Digital Audio Reference (DARS).

Flexible genlock capability allows the module to genlock to any SD or HD reference input, with full cross lock capability, even across unmatched standards.

The HD tri-level sync outputs can be set to any of the available HD standards, and the bi-level SD outputs set for NTSC, PAL or PAL M/N. The SD and HD sync outputs and audio sync signals are all frequency locked to the reference regardless of the selected sync standard for the outputs.

The SD sync outputs can be Color bars, Black Burst or Sync only with selectable 7.5 IRE pedestal for NTSC standards with adjustable burst phase in 8 increments.

The sync generator is robust and temperature stabilized, suitable as a reference source with 2ppm accuracy.

All user controls are located on the top of the module clearly labelled and easily accessible. This facilitates simple changes to module function and configuration without referring to a manual.

The compact portable design makes it suitable for a wide range of applications in broadcast and mobile production environments.

Note: 1080p 50Hz / 60Hz and 59.94Hz sync standards not supported

Technical Specifications

HDTV Sync	3 x Tri-level HD Analog Sync outputs
	Standards: **1080i** /50Hz / 59.94Hz / 60Hz. **1080p** / 23.98Hz / 24Hz / 25Hz / 29.97Hz / 30Hz. **720p** / 23.98Hz / 24Hz / 25Hz / 29.97Hz / 50Hz / 59.94Hz. **1080psf** / 23.98Hz/24Hz **Note:** 1080p 50Hz/60Hz is not supported and 720p 30Hz/60Hz is not supported, but the .001 derivatives are supported
	SMPTE 274M, SMPTE 296M
	Selectable via integrated 16 position rotary switch
	Return Loss > 40dB up to 5MHz
	SNR > 75dB
SDTV Sync	3 x Bi-level SD sync outputs
	Standards: NTSC, PAL, PAL M/N
	SMPTE 170M, ITU-R BT 470.6
	Selectable: 75% color bars / black burst / sync only
	NTSC 7.5 IRE pedestal ON/OFF
	Adjustable burst phase in 8 increments
	Return Loss > 40dB up to 5MHz
	SNR > 75dB
Ref Sync Input	Bi-level or tri-level analog sync
	Cross lock compatible to 525 and 625 SD sync and all HD sync standards (excluding 1080p 50/60/59.94Hz)
	SMPTE 274M, SMPTE 296M
Audio Ref.	Selectable 48KHz Word Clock or DARS
	DARS: SMPTE 276M unbalanced AES (24-bits) - Grade 2
	48KHz Word Clock: 0 - 5.0V
Accuracy	2 ppm
Power	+12VDC power supply (included)
USB	USB port for firmware upgrades
Size	105mm x 95mm x 22mm (4.13" x 3.74" x 0.86")
Model #	SPG 1707
Includes	Module, 12V DC power supply, transport case

Specifications subject to change

yellobrik® OTX 1812

3Gbit SDI to Fiber Optic Transmitter

- Supports SDI video inputs up to 3Gbit/s (1080p60)
- Auto reclocking 270Mbit / 1.5Gbit / 2.97Gbit
- Error free optical transmission
- Reclocked SDI loop out connection
- Versions for LC, ST or SC fiber connections
- Multimode version available
- Up to 10km (6.2 miles) @ 3Gbit/s (singlemode)
- Up to 300m (984 feet) @ 3Gbit/s (multimode)
- Supports hot swapping and hot plugging

LC singlemode | **ST** singlemode | **SC** singlemode | **LC** multimode

Using the same basic module we provide four versions suitable for LC, ST or SC singlemode fiber connections, as well as a version for multimode fiber. Each version has a different SFP installed.

The OTX 1812 is a compact SDI to fiber optic transmitter designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

When paired with the fiber optic to SDI receiver (e.g. yellobrik ORX 1802) you have a very cost effective optical transmission / receiver system for signals up to 1080p60 (3Gbit/s), while preserving full uncompressed quality.

The OTX 1812 provides a looping SDI input and support for LC, ST or SC singlemode fiber connections as well as an LC version suitable for multimode fiber.

The OTX 1812 will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

OTX 1812 LC Version Shown

Technical Specifications

SDI Input	1 x SDI video input 1 x SDI reclocked loop output 75 Ohm BNC connectors
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multirate reclocking 270Mbit/s - 1.48Gbit/s - 2.97Gbit/s
	Return Loss: > 15dB to 1.5Gbit and > 10dB up to 3Gbit
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Fiber out Singlemode	1 x fiber optic singlemode output LC, ST or SC connection
	SMPTE 297M - 2006
	Wavelength 1310nm, Optical power -5dBm
	TX active LED on side of module
	Max. distance 10km (6.2 miles) @ 3Gbit/s (Singlemode)
Fiber out Multimode	1 x fiber optic multimode output LC connection
	SMPTE 297M - 2006
	Wavelength 850nm, Optical power -5dBm
	TX active LED on side of module
	Max. distance 300m (984feet) @ 3Gbit/s (Singlemode)
Power	+12VDC power supply (included) Supports external power input from 9 - 14 VDC Power LED on side of module Power Consumption 1.6W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTX 1812 LC, OTX 1812 ST, OTX 1812 SC (singlemode) OTX 1812 MM (multimode)
Includes	Module, power supply, transport case

Specifications subject to change

yellobrik® OTT 1812

Dual Channel 3Gbit SDI to Fiber Transmitter

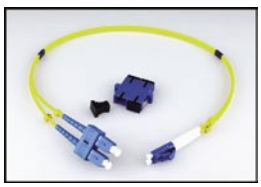
- Supports SDI video inputs up to 3Gbit/s (1080p60)
- Dual Channel
- Error free optical transmission
- Up to 10km (6.2 miles) @ 3Gbit/s
- Duplex LC/PC single mode optical connection
- Supports hot swapping and hot plugging

The OTT 1812 is a compact dual channel SDI to fiber optic transmitter designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

When paired with the dual channel fiber optic to SDI receiver (e.g. yellobrik ORR 1802) you have a very cost effective dual channel optical transmission / receiver system for signals up to 1080p60 (3Gbit/s), while preserving full uncompressed quality.

Each channel is fully independent and will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Options



Model# **LC/SC DUP**
LC/PC to SC/PC Adapter

Model# **LC/ST DUP**
LC/PC to ST/SC Adapter

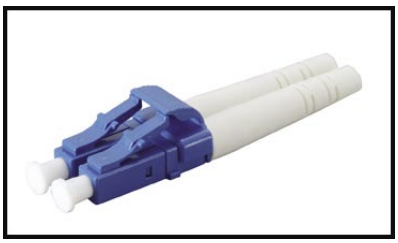
These adapters allows the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Technical Specifications

Input	2 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multirate reclocking 270Mbit/s - 1.48Gbit/s - 2.97Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical Outputs	2 x fiber optic outputs Duplex (single mode) using LC/PC Connections
	SMPTE 297M - 2006
	Wavelength 1310nm (each channel)
	Optical power -5dBm (each channel)
	TX active LEDs on side of module
	Max. distance 10km (6.2 miles) @ 3Gbit/s (Single mode)
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTT 1812
Includes	Module, power supply, transport case

Fiber Optic Connection

LC Duplex (Singlemode) up to 10km (6.2 miles)
(not included)



Specifications subject to change

yellobrik® ORX 1802

3Gbit Fiber Optic to SDI Receiver

- Supports SDI video up to 3Gbit/s (1080p60)
- 2 x SDI outputs
- Error free optical reception
- Versions for LC, ST or SC fiber connections
- Multimode version available
- Input range 1260nm - 1620nm (singlemode)
- Input range 780nm - 880nm (multimode)
- Supports hot swapping and hot plugging

LC singlemode | **ST** singlemode | **SC** singlemode | **LC** multimode

Using the same basic module we provide four versions suitable for LC, ST or SC singlemode fiber connections, as well as a version for multimode fiber. Each version has a different SFP installed.

The ORX 1802 is a compact fiber optic receiver designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

When paired with the fiber optic transmitters (e.g. yellobrik OTX 1812 or OTX 1842) this module provides a very cost effective optical transmission / receiver system for signals up to 1080p60 (3Gbit/s), while preserving full uncompressed quality.

The ORX 1802 provides two SDI outputs and support for LC, ST or SC singlemode fiber connections as well as an LC version suitable for multimode fiber.

The ORX 1802 is compatible with any video signal according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

ORX 1802 LC Version Shown

Technical Specifications

Fiber Input singlemode	1 x fiber optic Input LC, ST or SC connection
	SMPTE 297M - 2006
	Input range (wavelength) 1260nm to 1620nm
	RX sensitivity -3dBm to -19dBm
	RX active LED on side of module
Fiber Input multimode	1 x Fiber Optic Input LC Connection
	SMPTE 297M - 2006
	Input range (wavelength) 780nm to 880nm
	RX sensitivity 0dBm to -15dBm
	RX active LED on side of module
SDI Output	2 x SDI video on 75 Ohm BNC connectors
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
Power	+12VDC power supply (included) Supports external power input from 9 - 14 VDC Power LED on side of module Power Consumption 1.4W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ORX 1802 LC, ORX 1802 ST, ORX 1802 SC (singlemode) ORX 1802 MM (multimode)
Includes	Module, power supply, transport case

Specifications subject to change

yellobrik® ORR 1802

Dual Channel 3Gbit Fiber to SDI Receiver

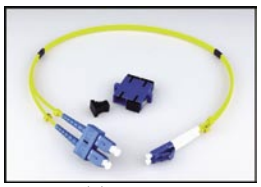
- Supports SDI video up to 3Gbit/s (1080p60)
- Dual Channel
- Error free optical reception
- 1260nm-1620nm input range
- Duplex LC/PC single mode input connection
- Supports hot swapping and hot plugging

The ORR 1802 is a compact dual channel fiber optic receiver designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

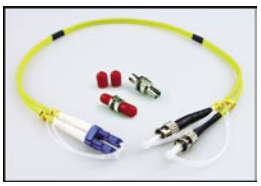
When paired with the fiber optic transmitters (e.g. yellobrik OTT 1812, OTT 1842) this module provides a very cost effective dual channel optical transmission / receiver system for signals up to 1080p60 (3Gbit/s), while preserving full uncompressed quality.

The ORR 1802 is compatiable with any video signal according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Options



Model# **LC/SC DUP**
LC/PC to SC/PC Adapter



Model# **LC/ST DUP**
LC/PC to ST/SC Adapter

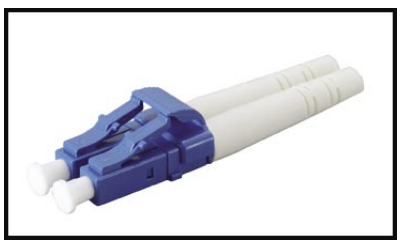
These adapters allows the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Technical Specifications

Optical Input	2 x fiber optic Inputs Duplex (single mode) using LC/PC Connections
	SMPTE 297M - 2006
	Hot pluggable
	Input range (wavelength) 1260nm to 1620nm
	RX sensitivity -3dBm to -16dBm
	RX active LED on side of module
	(SMF) Single mode fiber
SDI Output	2 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ORR 1802
Includes	Module, power supply, transport case

Fiber Optic Connection

LC Duplex (single mode)
(not included)



Specifications subject to change

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OTR 1810
OTR 1810 MM

3Gbit Fiber Optic / SDI Transceiver

- Supports SDI video up to 3Gbit/s (1080p60)
- Optical receiver and transmitter in single package
- Error free optical connections
- Singlemode and Multimode versions
- Up to 10km (6.2 miles) @ 3Gbit/s (singlemode)
- Up to 300m (984 feet) @ 3Gbit/s (multimode)
- Duplex LC optical connection

Singlemode SFP Multimode SFP

Using the same basic module we provide two versions suitable for singlemode or multimode fiber. Each version has a different SFP installed.

The OTR 1810 is a Fiber Optic to SDI transmitter and receiver combined in a compact self contained package. It is a convenient and cost effective solution to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

Each OTR 1810 transceiver has an independent transmitter and receiver channel, which provides an effective solution for any SDI signal up to 1080p60 (3Gbit/s) while preserving full uncompressed quality.

The OTR 1810 will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Technical Specifications

SDI Video	1 x SDI video input 1 x SDI Video output 75 Ohm BNC connectors
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multi-rate reclocking 270Mbit/s - 1.48Gbit/s - 3Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Fiber Optic	1 x fiber optic input 1 x fiber optic output Duplex using LC Connections
	SMPTE 297M - 2006
	Singlemode Version: OTR 1810 Transmitter: 1310nm (-5dBm) Receiver: 1260nm to 1620nm (-3dBm to -19dBm) Max. distance 10km (6.2 miles) @ 3Gbit/s
	Multimode Version: OTR 1810 MM Transmitter: 850nm (-5dBm) Receiver: 750nm to 880nm (0dBm to -15dBm) Max. distance 300m (984 feet) @ 3Gbit/s
	TX active LED, and RX active on side of module
Power	+12VDC power supply (included) Supports external power input from 9 - 14 VDC Power LED on side of module Power Consumption 1.6W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTR 1810 (Singlemode) OTR 1810 MM (Multimode)
Includes	Module, power supply, transport case

Specifications subject to change

yellobrik® OBD 1810

3Gbit Bidirectional SDI/Fiber Transceiver

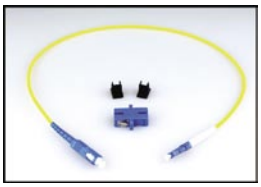
- Supports SDI video up to 3Gbit/s (1080p60)
- Bidirectional send and receive on single fiber
- Error free optical connections
- Up to 10Km (6.2 miles) @ 3Gbit/s
- Simplex LC/PC single mode optical connection
- Supports hot swapping and hot plugging

The OBD 1810 is a bidirectional Fiber Optic to SDI transmitter and receiver which uses a single fiber link supplied in a compact self contained package. It is a convenient and cost effective solution to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

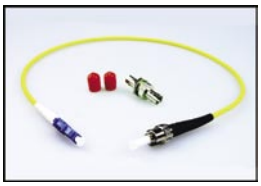
The OBD 1810 modules are sold in pairs, one Type A and one Type B which work together. Each module has an SDI in and SDI out connection and uses a single fiber link between the two.

The OBD 1810 will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Options



Model# **LC/SC SIM**
LC/PC to SC/PC Adapter



Model# **LC/ST SIM**
LC/PC to ST/PC Adapter

These adapters allows the use of ST or SC fiber connections to the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

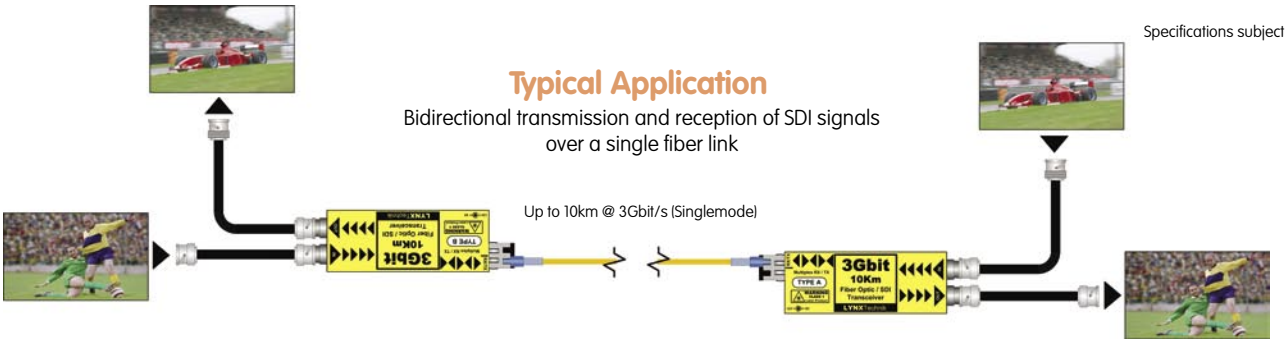
Technical Specifications

SDI Video	1 x SDI video input 1 x SDI Video output 75 Ohm BNC connectors
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multi-rate reclocking 270Mbit/s - 1.48Gbit/s - 3Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Fiber Optic	1 x Bidirectional fiber connection (LC/PC Connection)
	SMPTE 297M - 2006
	1310nm and 1550nm (WDM)
	14dB Optical Budget
	TX and RX active LEDs on side of module
	Max. distance 10km (6.2 miles) @ 3Gbit/s (single mode)
Power	+12VDC power supply (included) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86") Each
Model #	OBD 1810
Includes	2 x OBD 1810 modules (Type A and Type B), 2 x 12V DC power supplies, transport case.

Specifications subject to change

Typical Application

Bidirectional transmission and reception of SDI signals over a single fiber link



Specifications subject to change

yellobrik®

ODT 1510

Serial and GPI Fiber Transceiver

- Extend serial and GPI connections up to 10km
- Supports serial RS232 or RS422 or RS485
- 2 x GPI connections
- Singlemode fiber 1310nm up to 10km (6.2 miles)
- LC/PC duplex fiber connections
- Switchable RX/TX crossover
- Automatic or manual data direction
- Switchable end of line termination
- 'Plug and Play' - No PC software drivers needed
- Supports all serial protocols (standard or proprietary)
- 300 - 460K Baud (auto sensing and auto adjusting)

The ODT 1510 is a multi-function module which (when used with another ODT 1510 in the remote location) will extend the reach of serial RS232, RS422 or RS485 as well as two GPI (general purpose I/O) up to 10km (6.2 miles) over fiber.

A single RJ45 electrical serial connection can be configured for RS232, RS422 or RS485 serial standards. A separate RJ45 connector is provided for two electrical GPI inputs and outputs. Serial communications and GPI are transmitted and extended over the same fiber link.

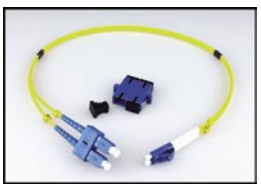
The ODT 1510 is completely agnostic to the serial protocol used, and supports all standard protocols and proprietary protocols at data rates from 300 to 460K Baud *(auto sensing and auto adjusting)*.

The integrated dip switch provides precise control over the serial mode of operation with selections for the *serial standard, serial termination, RX/TX crossover and RS422/485 data direction (automatic or manual)*. Data activity LEDs are provided for the serial port and the GPI port under the respective RJ45 connectors.

The ODT 1510 also supports mixing and matching of serial standards. For example: the transmitting module can have a RS232 input, and the receiving module can be set for RS422 output.

The ODT 1510 is 100% plug and play, hot pluggable and no special software drivers are required.

Fiber Adapter Options



Model # **LC/SC DUP**
LC/PC to SC/PC Adapter

Model # **LC/ST DUP**
LC/PC to ST/PC Adapter

These adapters enable the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Technical Specifications

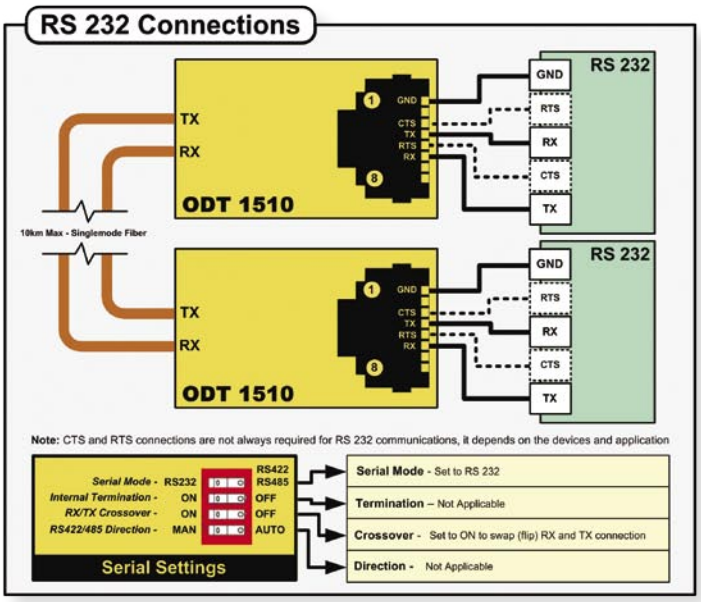
Serial I/O	EIA/ETA RS232C / RS422 / RS485 (selectable)
	Connector - RJ45
	Baud rate - Auto sense and auto adjust from 300 to 460K
	Serial setting dip switch provides settings for: • Select RS232 / RS422/485 modes • Select serial termination (for end of line) • RX/TX crossover to flip the RX and TX if needed • Set RS422/485 data direction to automatic or manual if needed
	LED status indicators (under RJ 45 connector) Serial TX activity Serial RX activity
	RS422/485 Max number of electical nodes = 25
	ESD protection for up to 26kV
GPI I/O	2 x general purpose inputs + 2 x general purpose outputs
	Connector - RJ45
	GPI Inputs: • External passive closure between pins (short) to trigger • Max input switching frequency 25Hz (50 operations / second) • Input insulation 3.75kV
	GPI outputs: • Internal contact closure (relay) • Max switching frequency 25Hz (50 operations / second) • Max switching power 220VDC / 0.25A or 250VAC / 0.25A • Output insulation 3.75kV
	LED status indicators (under RJ45 connector) GPI Input 1 activity GPI Input 2 activity GPI Output 1 activity GPI Output 2 activity
Fiber I/O	1 x Fiber output (TX) and 1 x Fiber input (RX) Singlemode fiber (SMF) LC/PC connections
	TX wavelength 1310nm, power -3dBm RX input range 1260nm to 1620nm, sensitivity -3dBm to -21dBm
	Max distance 10km (6.2miles)
	RX and TX activity LEDs on side of module next to fiber I/O
Power	+12VDC @ 0.25A power supply (included) Supports external power from 9 to 14VDC Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ODT 1510
Includes	Module, power supply, transport case

Specifications subject to change

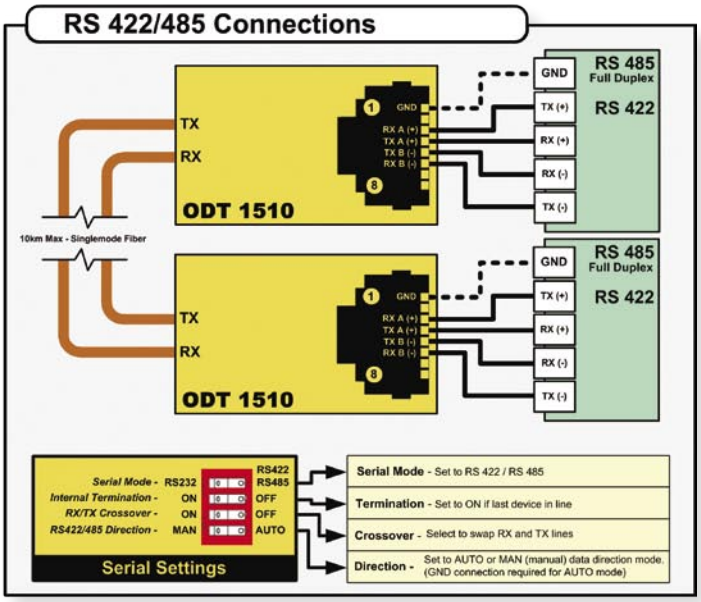
yellobrik® ODT 1510

Connection Diagrams

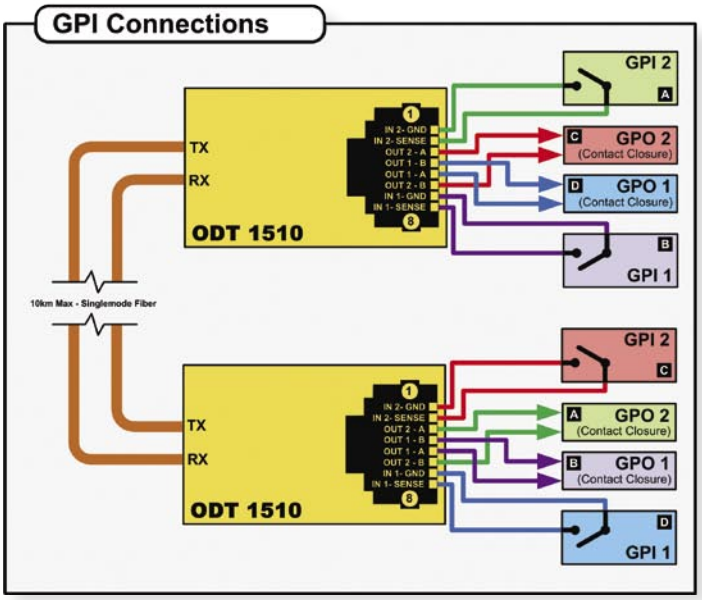
RS 232 Connections



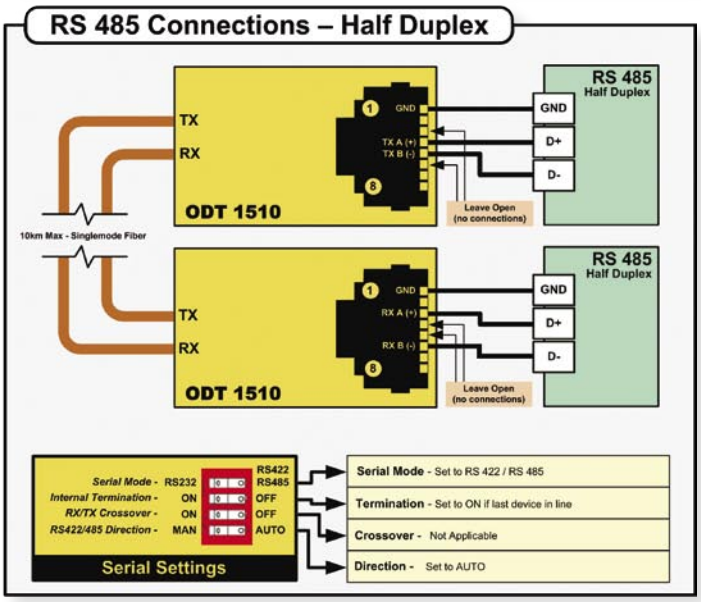
RS 422/485 Connections



GPI Connections



RS 485 Connections – Half Duplex



Power Adapter Options

The module **INCLUDES** an AC power supply. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source

Specifications subject to change

yellobrik®

OBD 1510 D

Serial and GPI Bidirectional Fiber Transceiver

- Bidirectional send and receive over single fiber link
- Extend serial and GPI connections up to 10km
- Supports serial RS232 or RS422 or RS485
- 2 x GPI connections
- Singlemode fiber up to 10km (6.2 miles)
- LC/PC duplex fiber connections
- Switchable RX/TX crossover
- Automatic or manual data direction
- Switchable end of line termination
- 'Plug and Play' - No PC software drivers needed
- Supports all serial protocols (standard or proprietary)
- 300 - 460K Baud (auto sensing and auto adjusting)

The OBD 1510 D is a pair of multi-function modules which will extend the reach of serial RS232, RS422 or RS485 as well as two GPI (general purpose interface) up to 10km (6.2 miles) over a single bidirectional fiber link (WDM)

A single RJ45 electrical serial connection can be configured for RS232, RS422 or RS485 serial standards. A separate RJ45 connector is provided for two electrical GPI inputs and outputs. Serial communications and GPI are transmitted and extended over the same fiber link.

The OBD 1510 D is completely agnostic to the serial protocol used, and supports all standard protocols and proprietary protocols at data rates from 300 to 460K Baud *(auto sensing and auto adjusting).*

The integrated dip switch provides precise control over the serial mode of operation with selections for the *serial standard, serial termination, RX/TX crossover and RS422/485 data direction (automatic or manual).* Data activity LEDs are provided for the serial port and the GPI port under the respective RJ45 connectors.

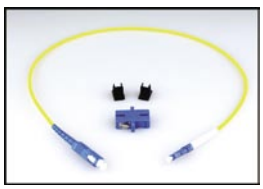
The OBD 1510 D also supports mixing and matching of serial standards. For example: the transmitting module can have a RS232 input, and the receiving module can be set for RS422 output.

The OBD 1510 D is 100% plug and play, hot pluggable and no special software drivers are required.

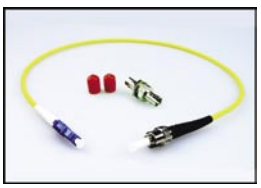
Technical Specifications

Serial I/O	EIA/ETA RS232C / RS422 / RS485 (selectable)
	Connector - RJ45
	Baud rate - Auto sense and auto adjust from 300 to 460K
	Serial setting dip switch provides settings for: • Select RS232 / RS422/485 modes • Select serial termination (for end of line) • RX/TX crossover to flip the RX and TX if needed • Set RS422/485 data direction to automatic or manual if needed
	LED status indicators (under RJ45 connector). Serial RX and TX activity
	RS422/485 Maximum number of electical nodes = 25
	ESD protection for up to 26kV
GPI	2 x general purpose inputs + 2 x general purpose outputs
	Connector - RJ45
	GPI Inputs: • External passive closure between pins (short) to trigger • Max input switching frequency 25Hz (50 operations / second) • Input insulation 3.75kV
	GPI outputs: • Internal contact closure (relay) • Max switching frequency 25Hz (50 operations / second) • Max switching power 220VDC / 0.25A or 250VAC / 0.25A • Output insulation 3.75kV
	LED status indicators (under RJ45 connector) GPI Input 1 activity GPI Input 2 activity GPI Output 1 activity GPI Output 2 activity
Fiber I/O	1 x fiber optic I/O port (bidirectional) Simplex (single mode) using LC/PC Connection
	WDM using 1310nm and 1550nm wavelengths Optical budget = 18dB
	Max distance 10km (6.2miles)
	RX and TX activity LEDs on side of module next to fiber I/O
Power	+12VDC @ 0.25A power supplies (included) Supports external power from 9 to 14VDC Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OBD 1510 D
Includes	2 x OBD 1510 D modules (Type A and Type B), 2 x 12V DC power supplies, transport case

Fiber Adapter Options



Model # **LC/SC SIM**
LC/PC to SC/PC Adapter



Model # **LC/ST SIM**
LC/PC to ST/PC Adapter

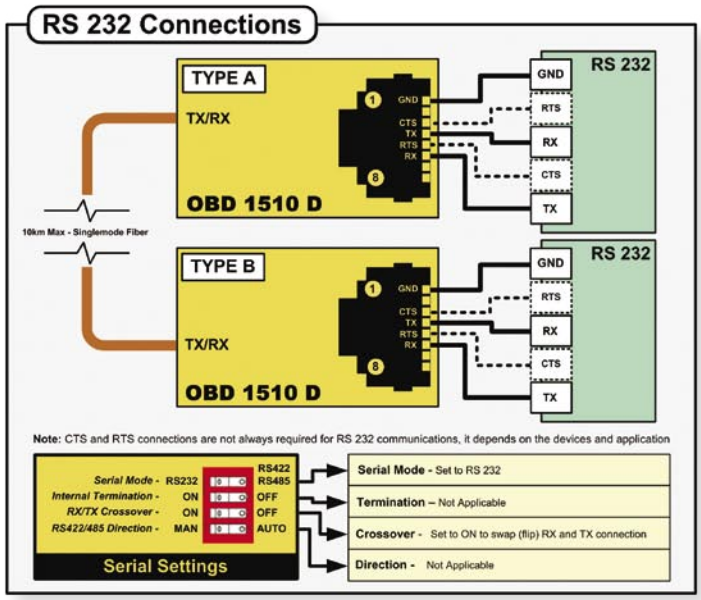
These adapters allows the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

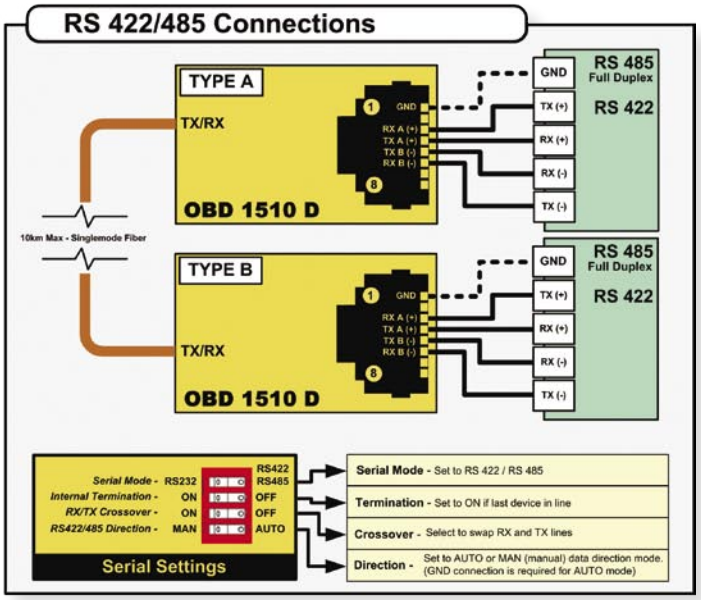
Specifications subject to change

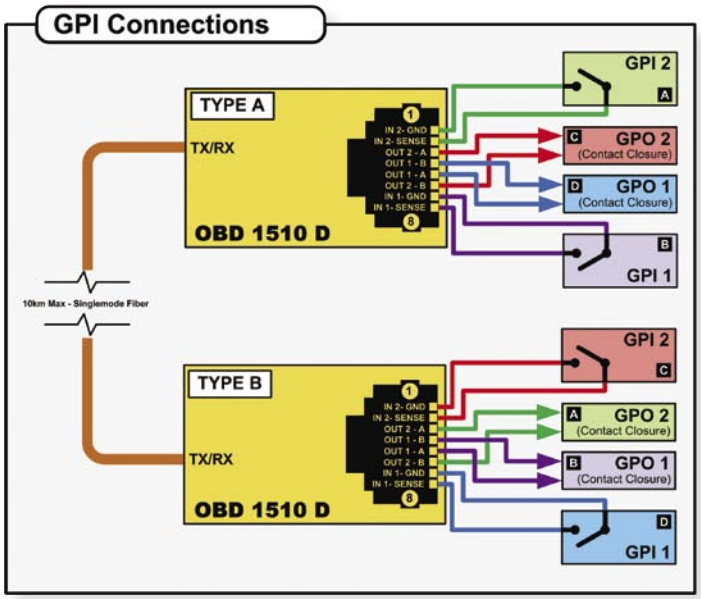
yellobrik®

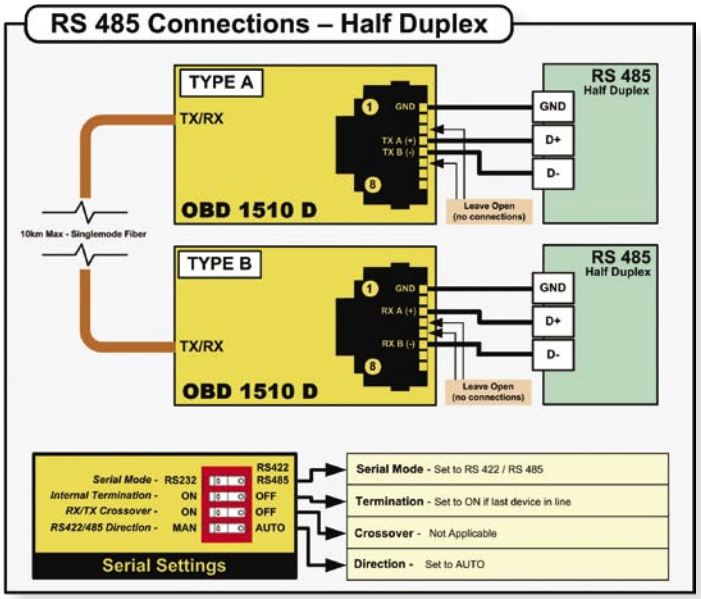
OBD 1510 D

Connection Diagrams









Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source

Specifications subject to change

yellobrik® OET 1510

Ethernet to Fiber Transceiver (switch)

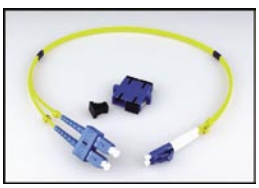
- Supports standard Ethernet inputs up to 1 Gbit
- 3 port Ethernet switch (1 fiber, 2 electrical)
- Auto (10/100/1000) electrical port speed detection
- Manually force 10Mbit electrical speed (if needed)
- Fiber transceiver speed always 1 Gbit
- Auto or manual electrical crossover selection
- Distances up to 10km (6.2 miles) over SMF fiber

The OET 1510 is a compact 3 port Ethernet switch, designed to extend the reach of electrical Ethernet signals over long distances using a constant (fixed) high speed 1 Gbit optical transceiver speed.

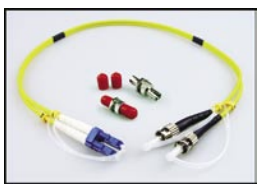
When paired with another OET 1510 at the receiving end (using two fiber links) you have a cost effective Ethernet extender system for distances up to 10km providing a stable, high speed 1Gbit error free optical connection between locations.

The OET 1510 has two standard RJ45 electrical Ethernet ports plus fiber I/O and functions as a 3 port Ethernet switch. For legacy system use; each electrical Ethernet port can be set for automatic speed detection (10/100/1000) or forced to 10Mbit, and each port can use auto crossover detection or be forced manually if needed. These functions are available using the dip switch.

Options



Model# **LC/SC DUP**
LC/PC to SC/PC Adapter



Model# **LC/ST DUP**
LC/PC to ST/SC Adapter

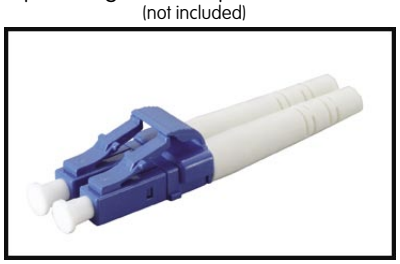
These adapters allows the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Technical Specifications

Ethernet	2 x Ethernet ports, RJ 45 Connectors. 10 BaseTUTP category 3,4 or 5 cable up to 328ft/100m (2 pairs) 100 BaseTXUTP category 5 cable up to 328ft/100m (2 pairs) 1000 BaseTXUTP category 5 cable up to 328ft/100m (4 pairs)
	Auto detect bit rate (10/100/1000), or force to 10Mbit for each port (selectable)
	Automatic crossover detection or force manually for each port (selectable)
	Port speed / activity LED indication (next to Ethernet port)
Fiber Optic	1 x fiber optic input (TX) 1 x fiber optic output (RX) Duplex (single mode) using LC/PC Connections
	IEEE 802.3z (1000BASE-X Gbit/s Ethernet over Fiber at 1 Gbit/s (125 MB/s)
	Transmitter: 1310nm (-3dBm) Receiver: 1260nm to 1620nm (-3dBm to -21dBm)
	Fiber TX active and RX active LEDs on side of module
	Max. distance 10km (6.2 miles - Singlemode)
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OET 1510
Includes	Module, power supply, transport case

Fiber Optic Connection

LC Duplex (Singlemode) up to 10Km (6.2 miles)
(not included)



Specifications subject to change

yellobrik®

OBD 1510 E

Ethernet to Fiber Bidirectional Transceivers (switch)

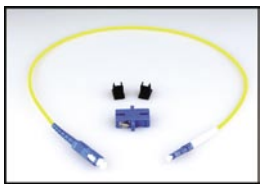
- Bidirectional send and receive over single fiber link
- Supports standard Ethernet inputs up to 1Gbit
- Closed loop WDM fiber system
- Auto (10/100/1000) electrical port speed detection
- Manually force 10Mbit electrical speed
- Fiber connection speed always 1Gbit
- Auto or manual electrical crossover selection
- Distances up to 10km (6.2 miles) over SMF fiber
- Supplied as matched pair (A and B version)

The OBD 1510 E is a matched pair of compact Ethernet switches designed to extend the reach of electrical Ethernet signals over long distances. The two switches are linked via single bidirectional fiber link which operates at a constant 1Ggit speed.

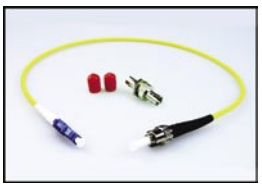
This pair of modules uses WDM fiber technology in a closed loop arrangement and essentially functions as an Ethernet extender solution. The fiber link supports distances up to 10Km and provides a single, high speed 1Gbit error-free optical connection between the two locations.

Each OBD 1510 E module has two standard RJ45 electrical Ethernet ports and the complete system functions as a 4 port Ethernet switch, providing two standard RJ45 Ethernet ports at each location bridged with fiber. For legacy systems, each electrical Ethernet port can be set for automatic speed detection (10/100/1000) or forced to 10Mbit. Each port uses auto crossover detection or can be forced manually if needed. These functions are available using the dip switch.

Fiber Adapter Options



Model # **LC/SC SIM**
LC/PC to SC/PC Adapter



Model # **LC/ST SIM**
LC/PC to ST/PC Adapter

These adapters allows the use of ST or SC fiber connections on the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

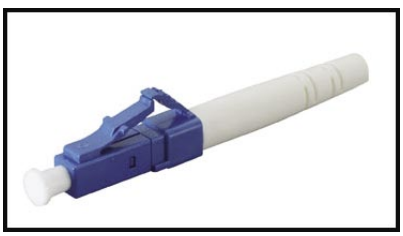
XLR 1000
Use with a standard 4 pin XLR camera battery power source

Technical Specifications

Ethernet	2 x Ethernet ports, RJ45 Connectors. 10 BaseT UTP category 3,4 or 5 cable up to 328ft/100m (2 pairs) 100 BaseT XUTP category 5 cable up to 328ft/100m (2 pairs) 1000 BaseT XUTP category 5 cable up to 328ft/100m (4 pairs)
	Auto detect bit rate (10/100/1000), or force to 10Mbit for each port (selectable)
	Automatic crossover detection or force manually for each port (selectable)
	Port speed / activity LED indication (next to Ethernet port)
Fiber Optic	1 x fiber optic I/O port (bidirectional) Simplex (single mode) using LC/PC connection
	WDM using 1310nm and 1550nm wavelengths Optical budget = 18dB
	Fiber TX active and RX active LEDs on side of module
	Max. distance 10km (6.2 miles - Singlemode)
Power	+12VDC power supply (included) Supports external power input from 9 - 14 VDC Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OBD 1510 E
Includes	2 x OBD 1510 E modules (Type A and Type B), 2 x 12V DC power supplies, transport case

Fiber Optic Connection

LC/PC Simplex (single mode) (not included)



Specifications subject to change

yellobrik® OTX 1712

Analog Sync / Video Fiber Optic Transmitter

- Supports analog black burst, bi-level, tri-level sync signals and NTSC and PAL composite video
- Passive loop output
- Broadcast quality performance
- Error free optical transmission
- Versions for LC, ST or SC fiber connections
- Multimode version available
- Up to 10km (6.2 miles) singlemode
- Up to 300m (984 feet) multimode
- Supports hot swapping and hot plugging

LC singlemode | **ST** singlemode | **SC** singlemode | **LC** multimode

Using the same basic module we provide four versions suitable for LC, ST or SC singlemode fiber connections, as well as a version for multimode fiber. Each version has a different SFP installed.

The OTX 1712 is a compact analog sync or NTSC/PAL composite video to fiber optic transmitter. This device is specifically designed to combat the restrictions involved with the distribution of broadcast quality analog reference and composite video signals over long distances.

When paired with the fiber optic receiver ORX 1702 you have a very cost effective optical transmission system for analog sync reference signals or NTSC/PAL composite video. This device is particularly useful for reference sync distribution between remote installations to maintain correct synchronization.

Unlike other very basic analog to fiber conversion solutions, the OTX 1812 incorporates technology to maintain a very high degree of sync and burst phase stability during the conversion and fiber transmission.

The module converts the NTSC/PAL video signal to an SDI signal (including reference and other relevant information) before it is converted to fiber. Therefore when the OTX 1712 is used for NTSC or PAL video sources it is possible to convert the fiber signal directly to SDI if required using an SDI receiver (e.g. ORX 1802).

The OTX 1872 provides a passive loop output and support for LC, ST or SC singlemode fiber connections. An LC version suitable for multimode fiber is also available.

OTX 1712 LC Version Shown

Technical Specifications

Analog Input	Sync = analog black burst / SDTV bi-level / HDTV tri-level Video = NTSC / PAL composite video 1 x passive loop output (terminate if not used) 75 Ohm BNC connectors
	NTSC SMPTE 170M, PAL CCIR624 Analog tri-level sync SMPTE ST 274, ST 276
	Multi-standard operation, auto-detect
	Return loss: 31dB to 10MHz
Fiber Out Singlemode	1 x fiber optic singlemode output LC, ST or SC connection
	SMPTE 297M - 2006
	Wavelength: 1310nm, Optical power -5dBm
	TX active LED on side of module
	Max. distance: 10km (6.2 miles - approx)
Fiber Out Multimode	1 x fiber optic multimode output LC connection
	SMPTE 297M - 2006
	Wavelength: 850nm, Optical power -5dBm
	TX active LED on side of module
	Max. distance: 300m (984feet - approx)
Power	+12VDC power supply (included) Power LED on side of module Power consumption: 5W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTX 1712 LC, OTX 1712 ST, OTX 1712 SC (singlemode) OTX 1712 MM (multimode)
Includes	Module, power supply, transport casee

Specifications subject to change

yellobrik® ORX 1702

Analog Sync / Video Fiber Optic Receiver

- Supports analog black burst, bi-level, tri-level sync signals and NTSC and PAL composite video
- Two outputs
- Broadcast quality performance
- Versions for LC, ST or SC fiber connections
- Multimode version available
- Supports hot swapping and hot plugging

LC singlemode | **ST** singlemode | **SC** singlemode | **LC** multimode

Using the same basic module we provide four versions suitable for LC, ST or SC singlemode fiber connections, as well as a version for multimode fiber. Each version has a different SFP installed.

The ORX 1702 is a compact analog sync or NTSC/PAL composite video to fiber optic receiver. This device is specifically designed to combat the restrictions involved with the distribution of broadcast quality analog reference and composite video signals over long distances.

When paired with the fiber optic transmitter OTX 1712 you have a very cost-effective optical transmission system for analog sync reference signals or NTSC/PAL composite video. This device is particularly useful for reference sync distribution between remote installations to maintain correct synchronization.

Unlike other very basic analog to fiber conversion solutions, the ORX 1702 incorporates technology to maintain a very high degree of sync and burst phase stability during the fiber reception and analog conversion.

The module receives an SDI signal (including reference and other relevant information) before it is converted to an analog signal. Therefore when the ORX 1702 is used for 525 or 625 SDI video sources it is possible to convert the signal to an analog NTSC or PAL composite output directly. For example: if the 525 or 625 signal is received from an SDI video transmitter OTX 1812.

The ORX 1702 provides two analog outputs and support for LC, ST or SC singlemode fiber connections. An LC version suitable for multimode fiber is also available.

ORX 1702 LC Version Shown

Technical Specifications

Fiber Input Singlemode	1 x fiber optic Input LC, ST or SC connection
	SMPTE 297M - 2006
	Input range (wavelength): 1260nm to 1620nm
	RX sensitivity: -3dBm to -19dBm
	RX active LED on side of module
Fiber Input Multimode	1 x fiber optic input LC connection
	SMPTE 297M - 2006
	Input range (wavelength) 780nm to 880nm
	RX sensitivity: 0dBm to -15dBm
	RX active LED on side of module
Analog Output	Sync = analog black burst / SDTV bi-level / HDTV tri-level Video = NTSC / PAL composite video 2 identical outputs provided 75 Ohm BNC connectors
	NTSC SMPTE 170M, PAL CCIR624 Analog tri-level sync SMPTE ST 274, ST 276
	Return loss: 46.5dB to 10MHz
Power	+12VDC power supply (included) Power LED on side of module Power consumption: 5W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ORX 1702 LC, ORX 1702 ST, ORX 1702 SC (singlemode) ORX 1702 MM (multimode)
Includes	Module, power supply, transport case

Specifications subject to change

yellobrik® OTX 1910

L-Band to Fiber Transmitter

- Input frequency 700MHz - 2300MHz
- L-Band output
- LNB power selectable 13V/18V
- 22kHz on/off for LNB local oscillator control
- Simplex LC/PC singlemode optical connection
- Up to 10km (6.2 miles)

The OTX 1910 is an effective solution for transporting analog RF L-Band signals over long distances. The module supports RF signals within the extended L-Band range of 700MHz to 2300MHz.

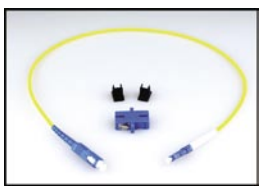
The module is configured using the integrated dip switch. This allows the LNB power to be activated and switched to 13V or 18V to select horizontal or vertical polarization. Additionally, the internal 22kHz tone generator can be turned on and off to select the high or low frequency range.

When paired with the fiber optic receiver for RF signals (yellobrik ORX 1900) you have a very cost effective optical RF transmitter/receiver system for distances up to 10km.

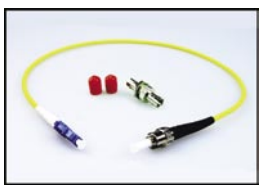
Technical Specifications

RF Input	Connector: 1 x 75 Ohm F-Type
	Frequency Range L-Band: 950MHz - 2150MHz Frequency Range Ext. L-Band: 700MHz - 2300MHz
	Return Loss: >14dB
	Input Power Range: -10dBm to -65dBm
LNB Power	Voltage: (13V/18V) DC, On/Off
	Current max.: 450mA
	Protection: Short Circuit
	LO Control: 22kHz / 0kHz
RF Output	Connector: 1x 75 Ohm F-Type
	Frequency Range: 700MHz - 2300MHz
	Return Loss: >14dB
	Flatness L-Band: +/- 1.5dB Flatness Ext. L-Band: +/- 2.0dB
	Output Level: Within +/- 2.0dB of input signal
Fiber output	Connector: 1 x LC/PC singlemode
	Wavelength: 1310nm
	Optical Power: 1dBm (+/- 1dBm)
Power	+12VDC power supply (included)
	Power Consumption max. 5 Watts including LNB power
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTX 1910
Includes	Module, power supply, transport case

Adapter Cable Options



Model# **LC/SC SIM**
LC/PC to SC/PC Adapter



Model# **LC/ST SIM**
LC/PC to ST/PC Adapter

These adapters allows the use of ST or SC fiber connections to the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Fiber Optic Connection

LC Simplex (Singlemode) up to 10km (6.2 miles)
(not included).

Specifications subject to change

yellobrik® ORX 1900

Fiber to L-Band Receiver

- Support L-Band frequencies 700MHz - 2300MHz
- Dual L-Band RF outputs
- Fiber input range 1270nm - 1610nm
- Simplex LC/PC singlemode optical connection

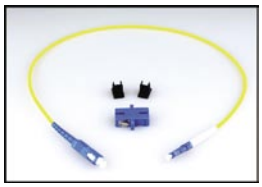
The ORX 1900 is a compact fiber optic receiver for RF signals within the extended L-Band range of 700MHz to 2300MHz.

When paired with the fiber optic transmitter for RF signals (yellobrik OTX 1910) you have a very cost effective optical transmitter/receiver system for long haul distances.

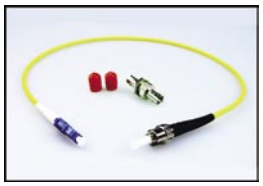
Technical Specifications

Fiber Input	Connector: 1 x LC/PC singlemode
	Frequency Range: 1270nm to 1610nm
	Input Range: +4 dBm to -6dBm
RF Output	Connector: 2 x 75 Ohm F-Type
	Frequency Range: 700MHz - 2300MHz
	Return Loss: >14dB
Power	+12VDC power supply (included)
	Power Consumption max. 3 Watts
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ORX 1900
Includes	Module, power supply, transport case

Adapter Cable Options



Model# **LC/SC SIM**
LC/PC to SC/PC Adapter



Model# **LC/ST SIM**
LC/PC to ST/PC Adapter

These adapters allows the use of ST or SC fiber connections to the module. SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.

Power Adapter Options

The kit **INCLUDES** AC power supplies. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source.

Fiber Optic Connection

LC Simplex (Singlemode) up to 10km (6.2 miles)
(not included).

Specifications subject to change

yellobrik® OTX 1842

3Gbit SDI to Fiber Optic Transmitter (CWDM)

- Supports SDI video inputs up to 3Gbit/s (1080p60)
- Reclocked SDI loop output
- 18 wavelength selections (ITU-T G.694.2)
- Error free optical transmission
- Up to 40km (24.85 miles) @ 3Gbit
- Simplex LC singlemode optical connection
- Supports hot swapping and hot plugging

The OTX 1842 is a compact CWDM SDI to fiber optic transmitter designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

When paired with the fiber optic to SDI receiver (e.g. yellobrik ORX 1802) you have a very cost effective optical transmission / receiver system for signals up to 1080p60 (3Gbit/s), while preserving full uncompressed quality. Select from 18 wavelengths for full CWDM compatibility.

The OTX 1842 will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

The module does not include a Fiber SFP sub module, an option MUST be selected from the table below.

Ordering Info:
Note. The **OTX 1842** price **DOES NOT INCLUDE** the fiber transmitter SFP sub module. Please specify the required wavelength from the option list below when ordering.

Non CWDM Version

Wavelength	Power	Option #
1550nm	-1dBm	**OH-TX-3-1550**

CWDM Wavelength Options. ITU-T G.694.2 (select one)

Wavelength	Power	Option #
1270nm	-1dBm	**OH-TX-4-1270**
1290nm	-1dBm	**OH-TX-4-1290**
1310nm	-1dBm	**OH-TX-4-1310**
1330nm	-1dBm	**OH-TX-4-1330**
1350nm	-1dBm	**OH-TX-4-1350**
1370nm	-1dBm	**OH-TX-4-1370**
1390nm	-1dBm	**OH-TX-4-1390**
1410nm	-1dBm	**OH-TX-4-1410**
1430nm	-1dBm	**OH-TX-4-1430**

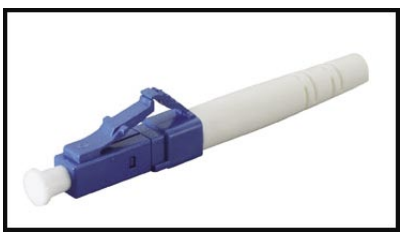
Wavelength	Power	Option #
1450nm	-1dBm	**OH-TX-4-1450**
1470nm	-1dBm	**OH-TX-4-1470**
1490nm	-1dBm	**OH-TX-4-1490**
1510nm	-1dBm	**OH-TX-4-1510**
1530nm	-1dBm	**OH-TX-4-1530**
1550nm	-1dBm	**OH-TX-4-1550**
1570nm	-1dBm	**OH-TX-4-1570**
1590nm	-1dBm	**OH-TX-4-1590**
1610nm	-1dBm	**OH-TX-4-1610**

Technical Specifications

Input	1 x SDI video on 75 Ohm BNC connector with reclocked loop output
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multirate reclocking 270Mbit/s - 1.48Gbit/s - 2.97Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical Output	1 x fiber optic output Simplex (singlemode) using LC Connection
	SMPTE 297M - 2006
	Hot pluggable
	18 Wavelength selections per ITU-T G.694.2 (see table)
	TX active LED on side of module
	Singlemode fiber
	Max. distance 40km (24.8 miles) @ 3Gbit/s (single mode)
Power	+12VDC power supply (included) Supports external power input from 9 - 14 VDC Power LED on side of module Power Consumption 1.6W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTX 1842
Includes	Module, power supply, transport case

Fiber Optic Connection

LC Simplex (Singlemode) up to 40km (24.8 miles)
(not included)



Specifications subject to change

yellobrik® OTT 1842

Dual Channel 3Gbit SDI to Fiber Transmitter (CWDM)

- Supports SDI video inputs up to 3Gbit/s (1080p60)
- Dual Channel
- Error free optical transmission
- 18 Wavelength selections (ITU-T G.694.2)
- Up to 40km (24.8 miles) @ 3Gbit/s
- Duplex LC/PC single mode optical connections
- Supports hot swapping and hot plugging

The OTT 1842 is a compact CWDM dual channel SDI to fiber optic transmitter designed to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances. 18 wavelength choices are provided.

When combined with the dual channel fiber optic to SDI receiver module ORR 1802,and the OCM 1891/1892 CWDM multiplexers you have a very cost effective CWDM fiber system for up to 18 signals in a single fiber link.

Each channel is fully independent and will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Technical Specifications

Input	2 x SDI video on 75 Ohm BNC connector
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multirate reclocking 270Mbit/s - 1.48Gbit/s - 2.97Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Optical Outputs	2 x fiber optic outputs Simplex (single mode) using LC/PC Connections
	SMPTE 297M - 2006
	18 Wavelength selections, in pairs - per ITU-T G.694.2 (see table)
	TX active LEDs on side of module
	Max. distance 40km (24.8 miles) @ 3Gbit/s (Singlemode)
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTT 1842
Includes	Module, power supply, transport case

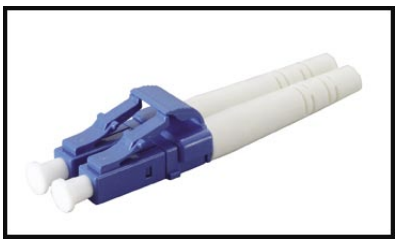
Ordering Info:
Note. The **OTT 1842** price **DOES NOT INCLUDE** the dual fiber transmitter SFP sub module. Please specify the required wavelengths from the option list below when ordering. One **MUST** be specified. For example the order needs to separately specify the module **OTT 1842** and an optional dual fiber transmitter SFP e.g. **OH-TT-4-1550-1570** (for 1550nm and 1570nm)

CWDM Wavelength Options. ITU-T G.694.2 (select one)

Wavelengths	Power	Option #
1270nm, 1290nm	-1dBm	**OH-TT-4-1270-1290**
1310nm, 1330nm	-1dBm	**OH-TT-4-1310-1330**
1350nm, 1370nm	-1dBm	**OH-TT-4-1350-1370**
1390nm, 1410nm	-1dBm	**OH-TT-4-1390-1410**
1430nm, 1450nm	-1dBm	**OH-TT-4-1430-1450**
1470nm, 1490nm	-1dBm	**OH-TT-4-1470-1490**
1510nm, 1530nm	-1dBm	**OH-TT-4-1510-1530**
1550nm, 1570nm	-1dBm	**OH-TT-4-1550-1570**
1590nm, 1610nm	-1dBm	**OH-TT-4-1590-1610**

Fiber Optic Connection

LC Duplex (Singlemode) up to 40km (24.8 miles)
(not included)



Specifications subject to change

yellobrik® OTR 1840

3Gbit Fiber Optic / SDI Transceiver (CWDM)

- Supports SDI video up to 3Gbit/s (1080p60)
- Optical receiver and transmitter in single package
- CWDM with 18 wavelength selections
- Error free optical connections
- Up to 40km (24.8 miles) @ 3Gbit/s
- Duplex LC/PC single mode optical connections
- Supports hot swapping and hot plugging

The OTR 1840 is a CWDM Fiber Optic to SDI transmitter and receiver combined in a compact self contained package. It is a convenient and cost effective solution to combat the restrictions involved with the distribution of uncompressed broadcast quality video signals over long distances.

Each OTR 1840 CWDM tranceiver has an independant transmitter and receiver channel, which provides an effective solution for any SDI signal up to 1080p60 (3Gbit/s) while preserving full uncompressed quality. Select from 18 transmitter wavelengths for full CWDM compatibility (ITU-T G.694.2)

The OTR 1840 will auto-detect any connected video signal from 270Mbit/s to 3Gbit/s according to SMPTE 424M, SMPTE 292M and SMPTE 259M standards, as well as DVB-ASI.

Ordering Info:
Note. The **OTR 1840** price **DOES NOT INCLUDE** the fiber transmitter SFP sub module. Please specify the required wavelength from the option list below when ordering. One **MUST** be specified. For example the order needs to separately specify the module **OTR 1840** and an optional fiber transmitter SFP e.g. **OH-TR-4-1550** (for 1550nm)

Non CWDM Option

Wavelength	Power	Option #
1550nm	-1dBm	**OH-TR-3-1550**

CWDM Wavelength Options. ITU-T G.694.2 (select one)

Wavelength	Power	Option #
1270nm	-1dBm	**OH-TR-4-1270**
1290nm	-1dBm	**OH-TR-4-1290**
1310nm	-1dBm	**OH-TR-4-1310**
1330nm	-1dBm	**OH-TR-4-1330**
1350nm	-1dBm	**OH-TR-4-1350**
1370nm	-1dBm	**OH-TR-4-1370**
1390nm	-1dBm	**OH-TR-4-1390**
1410nm	-1dBm	**OH-TR-4-1410**
1430nm	-1dBm	**OH-TR-4-1430**

Wavelength	Power	Option #
1450nm	-1dBm	**OH-TR-4-1450**
1470nm	-1dBm	**OH-TR-4-1470**
1490nm	-1dBm	**OH-TR-4-1490**
1510nm	-1dBm	**OH-TR-4-1510**
1530nm	-1dBm	**OH-TR-4-1530**
1550nm	-1dBm	**OH-TR-4-1550**
1570nm	-1dBm	**OH-TR-4-1570**
1590nm	-1dBm	**OH-TR-4-1590**
1610nm	-1dBm	**OH-TR-4-1610**

Technical Specifications

SDI Video	1 x SDI video input 1 x SDI Video output 75 Ohm BNC connectors
	SMPTE 424M, SMPTE 292M, SMPTE 259M, DVB-ASI
	Multi-standard operation from 270Mbit/s to 3Gbit/s
	Multi-rate reclocking 270Mbit/s - 1.48Gbit/s - 3Gbit/s
	Return Loss: > 15dB to 1.5GHz and > 10dB up to 3GHz
	Automatic cable EQ (Belden 1694A cable) 250m @ 270Mbit/s, 140m @ 1.5Gbit/s, 80m @ 3Gbit/s
Fiber Optic	**1 x fiber optic input** (Range 1270-1610nm, Sensitivity -3dBm to -19dBm) **1 x fiber optic output** (CWDM - 18 selectable wavelengths - ITU-T G.694.2) Duplex (Singlemode) using LC/PC Connections
	SMPTE 297M - 2006
	Hot pluggable
	TX active LED, and RX active on side of module
	Single mode transmit / receive (duplex connector)
	Max. distance 40km (24.8 miles) @ 3Gbit/s (Singlemode)
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTR 1840
Includes	Module, power supply, transport case

Fiber Optic Connection

LC Duplex (dual Singlemode) up to 40km (24.8 miles)
(not included)

Specifications subject to change

yellobrik® OET 1540

Ethernet to Fiber Transceiver (switch) - CWDM

- Supports standard Ethernet inputs up to 1 Gbit
- 3 port Ethernet switch (1 fiber, 2 electrical)
- Auto (10/100/1000) port speed detection
- Manually force 10Mbit electrical speed (if needed)
- Fiber transceiver speed always 1 Gbit
- Auto or manual electrical crossover selection
- Distances up to 40km (24.8 miles) over fiber
- 18 CWDM wavelength selections (ITU-T G.694.2)

The OET 1540 is a compact CWDM compatible Ethernet 3 port switch, designed to extend the reach of electrical Ethernet signals over long distances using a constant (fixed) high speed 1 Gbit optical transceiver speed.

18 selectable CWDM wavelengths are provided to enable the module to be used in a multiplexed CWDM environment. When paired with another OET 1540 at the receiving end (using two fiber links) you have a cost effective Ethernet extender system for distances up to 40km - providing a stable, high speed 1Gbit error free optical connection between locations.

The OET 1540 has two standard RJ45 electrical Ethernet ports plus fiber I/O and functions as a 3 port Ethernet switch. For legacy system use; each electrical Ethernet port can be set for automatic speed detection (10/100/1000) or forced to 10Mbit, and each port can use auto crossover detection or be forced manually if needed. These functions are available using the dip switch.

Ordering Info:
Note. The **OET 1540** price **DOES NOT INCLUDE** the fiber transceiver SFP sub module. Please specify the required wavelength from the option list below when ordering. One **MUST** be specified. For example the order needs to separately specify the module **OET 1540** and an optional fiber transceiver SFP e.g. **OH-TR-54-1550** (for 1550nm)

Technical Specifications

Ethernet	2 x Ethernet ports, RJ 45 Connectors. 10 BaseTUTP category 3,4 or 5 cable up to 328ft/100m (2 pairs) 100 BaseTXUTP category 5 cable up to 328ft/100m (2 pairs) 1000 BaseTXUTP category 5 cable up to 328ft/100m (4 pairs)
	Auto detect bit rate (10/100/1000), or force to 10Mbit for each port (selectable)
	Automatic crossover detection or force manually for each port (selectable)
	Port speed / activity LED indication (next to Ethernet port)
Fiber Optic	**1 x fiber optic input** (Range 1270-1610nm, Sensitivity -3dBm to -23dBm) **1 x fiber optic output** CWDM (ITU-T G.694.2) 18 selectable wavelengths Duplex (Single mode) using LC/PC Connections
	IEEE 802.3z (1000BASE-X Gbit/s Ethernet over Fiber at 1 Gbit/s (125 MB/s)
	Fiber TX active and RX active LEDs on side of module
	Max. distance 40km (24.8 miles - Singlemode)
Power	+12VDC power supply (included) (supports external power input from 9 - 14 VDC) Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OET 1540
Includes	Module, power supply, transport case

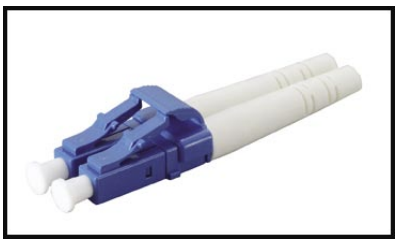
CWDM TX Wavelength Options (select one)

Wavelength	Power	Option #
1270nm	+2dBm	**OH-TR-54-1270**
1290nm	+2dBm	**OH-TR-54-1290**
1310nm	+2dBm	**OH-TR-54-1310**
1330nm	+2dBm	**OH-TR-54-1330**
1350nm	+2dBm	**OH-TR-54-1350**
1370nm	+2dBm	**OH-TR-54-1370**
1390nm	+2dBm	**OH-TR-54-1390**
1410nm	+2dBm	**OH-TR-54-1410**
1430nm	+2dBm	**OH-TR-54-1430**

Wavelength	Power	Option #
1450nm	+2dBm	**OH-TR-54-1450**
1470nm	+2dBm	**OH-TR-54-1470**
1490nm	+2dBm	**OH-TR-54-1490**
1510nm	+2dBm	**OH-TR-54-1510**
1530nm	+2dBm	**OH-TR-54-1530**
1550nm	+2dBm	**OH-TR-54-1550**
1570nm	+2dBm	**OH-TR-54-1570**
1590nm	+2dBm	**OH-TR-54-1590**
1610nm	+2dBm	**OH-TR-54-1610**

Fiber Optic Connection

LC Duplex (Singlemode) up to 40Km (24.8 miles)
(not included)



Specifications subject to change

yellobrik®

ODT 1540

Serial and GPI Fiber Transceiver (CWDM)

- Extend serial and GPI connections up to 40km
- Supports serial RS232 or RS422 or RS485
- 2 x GPI connections
- Select from 18 fiber wavelengths (CWDM)
- LC/PC duplex fiber connections
- Switchable RX/TX crossover
- Automatic or manual data direction
- Switchable end of line termination
- 'Plug and Play' - No PC software drivers needed
- Supports all serial protocols (standard or proprietary)
- 300 - 460K Baud (auto sensing and auto adjusting)

The ODT 1540 is a multi-function CWDM compatible module which (when used with another ODT 1540 in the remote location) will extend the reach of serial RS232, RS422 or RS485 as well as two GPI (general purpose I/O) up to 40km over fiber. 18 wavelength sections are provided for CWDM use.

A single RJ45 electrical serial connection can be configured for RS232, RS422 or RS485 serial standards. A separate RJ45 connector is provided for two electrical GPI inputs and outputs. Serial communications and GPI are transmitted and extended over the same fiber link.

The ODT 1540 is completely agnostic to the serial protocol used, and supports all standard protocols and proprietary protocols at data rates from 300 to 460K Baud *(auto sensing and auto adjusting).*

The integrated dip switch provides precise control over the serial mode of operation with selections for the *serial standard, serial termination, RX/TX crossover and RS422/485 data direction (automatic or manual).* Data activity LEDs are provided for the serial port and the GPI port under the respective RJ45 connectors.

The ODT 1540 also supports mixing and matching of serial standards. For example: the transmitting module can have a RS232 input, and the receiving module can be set for RS422 output.

The ODT 1540 is 100% plug and play, hot pluggable and no special software drivers are required.

CWDM TX Wavelength Selections

Wavelength	Power	Option #	Wavelength	Power	Option #
1270nm	+2dBm	**OH-TR-54-1270**	1450nm	+2dBm	**OH-TR-54-1450**
1290nm	+2dBm	**OH-TR-54-1290**	1470nm	+2dBm	**OH-TR-54-1470**
1310nm	+2dBm	**OH-TR-54-1310**	1490nm	+2dBm	**OH-TR-54-1490**
1330nm	+2dBm	**OH-TR-54-1330**	1510nm	+2dBm	**OH-TR-54-1510**
1350nm	+2dBm	**OH-TR-54-1350**	1530nm	+2dBm	**OH-TR-54-1530**
1370nm	+2dBm	**OH-TR-54-1370**	1550nm	+2dBm	**OH-TR-54-1550**
1390nm	+2dBm	**OH-TR-54-1390**	1570nm	+2dBm	**OH-TR-54-1570**
1410nm	+2dBm	**OH-TR-54-1410**	1590nm	+2dBm	**OH-TR-54-1590**
1430nm	+2dBm	**OH-TR-54-1430**	1610nm	+2dBm	**OH-TR-54-1610**

Technical Specifications

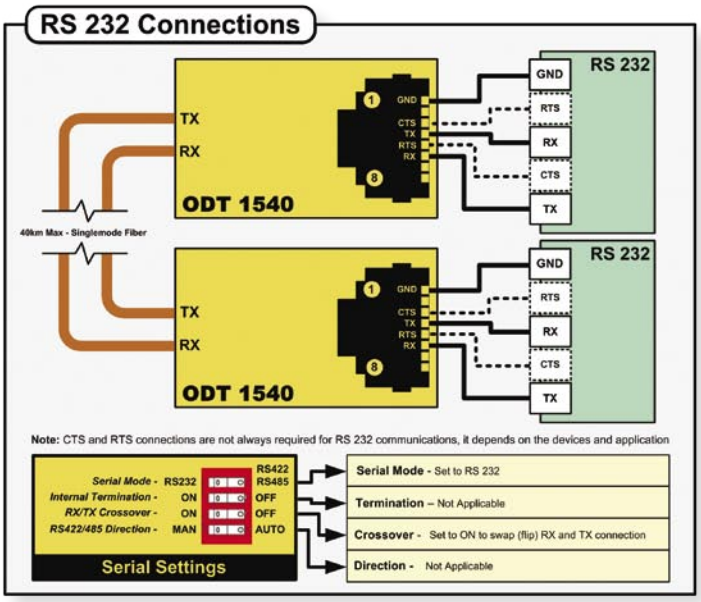
Serial I/O	EIA/ETA RS232C / RS422 / RS485 (selectable)
	Connector - RJ45
	Baud rate - Auto sense and auto adjust from 300 to 460K
	Serial setting dip switch provides settings for: • Select RS232 / RS422/485 modes • Select serial termination (for end of line) • RX/TX crossover to flip the RX and TX if needed • Set RS422/485 data direction to automatic or manual if needed
	LED status indicators (under RJ 45 connector) Serial TX activity Serial RX activity
	RS422/485 Max number of electical nodes = 25
	ESD protection for up to 26kV
GPI I/O	2 x general purpose inputs + 2 x general purpose outputs
	Connector - RJ45
	GPI Inputs: • External passive closure between pins (short) to trigger • Max input switching frequency 25Hz (50 operations / second) • Input insulation 3.75kV
	GPI outputs: • Internal contact closure (relay) • Max switching frequency 25Hz (50 operations / second) • Max switching power 220VDC / 0.25A or 250VAC / 0.25A • Output insulation 3.75kV
	LED status indicators (under RJ45 connector) GPI Input 1 activity GPI Input 2 activity GPI Output 1 activity GPI Output 2 activity
Fiber I/O	**1 x fiber optic input (SMF)** (Range 1270-1610nm, Sensitivity -3dBm to -23dBm) **1 x fiber optic output (SMF)** CWDM (ITU-T G.694.2) 18 selectable wavelengths (see table) Duplex (Single mode) using LC/PC Connections
	Fiber TX active and RX active LEDs on side of module
	Max. distance 40km (24.8 miles - Singlemode)
Power	+12VDC @ 0.25A power supply (included) Supports external power from 9 to 14VDC Power LED on side of module
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	ODT 1540
Includes	Module, 12V power supply, transport case. **NOTE:** No fiber SFP is supplied as standard, select required wavelength from table

Specifications subject to change

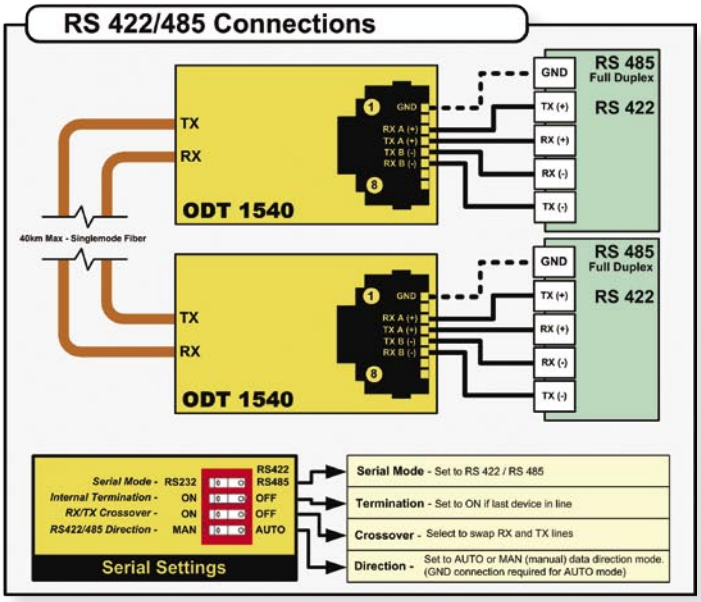
yellobrik® ODT 1540

Connection Diagrams

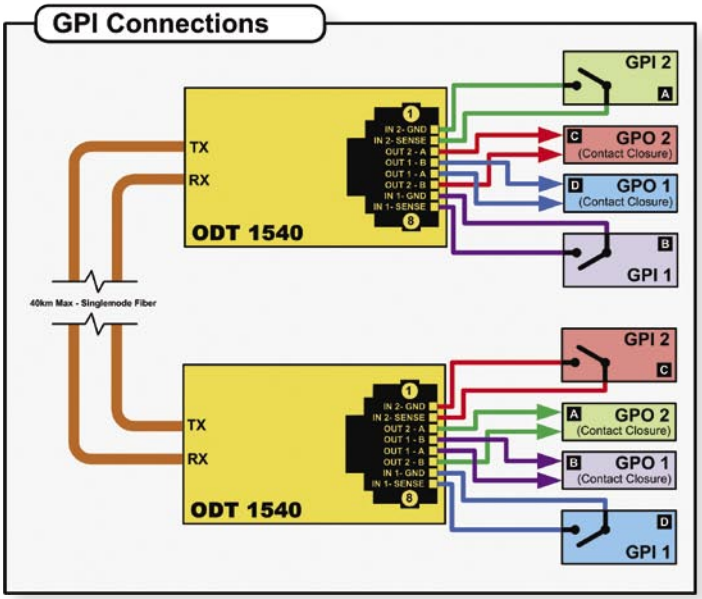
RS 232 Connections



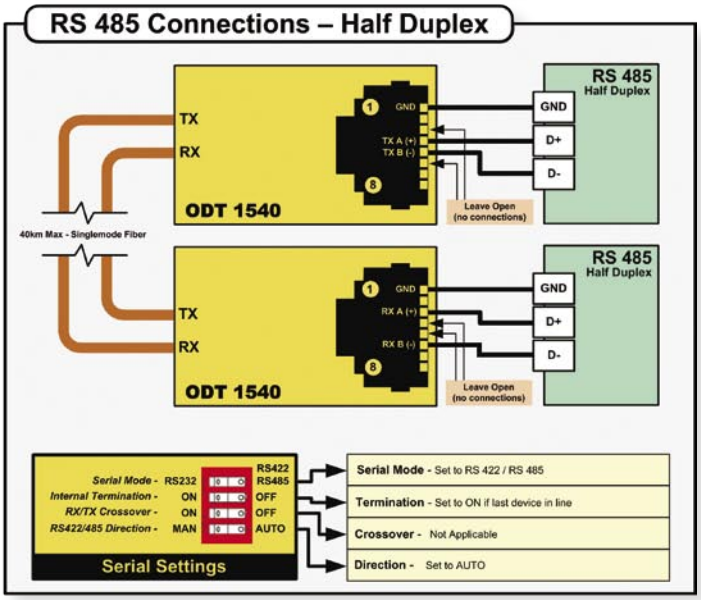
RS 422/485 Connections



GPI Connections



RS 485 Connections – Half Duplex



Power Adapter Options

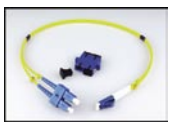
The module **INCLUDES** an AC power supply. The power adapters below are optional.

P-TAP 1000
Use with a standard battery P-TAP power source.

XLR 1000
Use with a standard 4 pin XLR camera battery power source

Fiber Adapter Options

These adapters enable the use of ST or SC fiber connections on the module.
SMF 0.5m (19.6") tail introduces less than 0.25dB attenuation.



LC/SC DUP
LC/PC to SC/PC Adapter

LC/ST DUP
LC/PC to ST/PC Adapter

Specifications subject to change

yellobrik® OTX 1742

Analog Sync / Video Fiber Optic Transmitter (CWDM)

- Supports analog black burst, bi-Level, tri-Level sync signals and NTSC and PAL composite video
- Passive loop output
- Broadcast quality performance
- 18 wavelength selections (ITU-T G.694.2)
- Error free optical transmission
- Up to 40km (24.8 miles) singlemode
- Supports hot swapping and hot plugging

The OTX 1742 is a compact analog sync or NTSC/PAL composite video to fiber optic transmitter (CWDM compatible). This device is specifically designed to combat the restrictions involved with the distribution of broadcast quality analog reference and composite video signals over long distances.

When paired with the fiber optic receiver ORX 1702 you have a cost-effective optical transmission system for analog sync reference signals or NTSC/PAL composite video. This device is particularly useful for reference sync distribution between remote installations to maintain correct synchronization.

Unlike other very basic analog to fiber conversion solutions, the OTX 1842 incorporates technology to maintain a very high degree of sync and burst phase stability during the conversion and fiber transmission.

The module converts the NTSC/PAL video signal to an SDI signal (including reference and other relevant information) before it is converted to fiber. Therefore when the OTX 1742 is used for NTSC or PAL video sources it is possible to convert the fiber signal directly to SDI if required using an SDI receiver (e.g. ORX 1802).

The basic module does not include a Fiber SFP sub module and an option MUST be selected from the tables below:

Technical Specifications

Analog Input	Sync = analog black burst / SDTV bi-level / HDTV tri-level Video = NTSC / PAL Composite video 1 x passive loop output (terminate if not used) 75 Ohm BNC connectors
	NTSC SMPTE 170M, PAL CCIR624 Analog tri-level sync SMPTE ST 274, ST 276
	Multi-standard operation, auto-detect
	Return loss: 31dB to 10MHz
Fiber Out Singlemode	1 x fiber optic singlemode output LC connection
	SMPTE 297M - 2006
	18 Wavelength selections per ITU-T G.694.2 (see table)
	TX active LED on side of module
	Max. distance: 40km (24.8 miles - approx)
Power	+12VDC power supply (included) Power LED on side of module Power consumption: 5W
Size	105mm x 40mm x 22mm (4.13" x 1.57" x 0.86")
Model #	OTX 1742 (module only - select fiber wavelength)
Includes	Module, 12V DC power supply, transport case

CWDM Wavelength Options. ITU-T G.694.2 (select one)

Wavelength	Power	Option #
1270nm	-1dBm	**OH-TX-4-1270**
1290nm	-1dBm	**OH-TX-4-1290**
1310nm	-1dBm	**OH-TX-4-1310**
1330nm	-1dBm	**OH-TX-4-1330**
1350nm	-1dBm	**OH-TX-4-1350**
1370nm	-1dBm	**OH-TX-4-1370**
1390nm	-1dBm	**OH-TX-4-1390**
1410nm	-1dBm	**OH-TX-4-1410**
1430nm	-1dBm	**OH-TX-4-1430**

Wavelength	Power	Option #
1450nm	-1dBm	**OH-TX-4-1450**
1470nm	-1dBm	**OH-TX-4-1470**
1490nm	-1dBm	**OH-TX-4-1490**
1510nm	-1dBm	**OH-TX-4-1510**
1530nm	-1dBm	**OH-TX-4-1530**
1550nm	-1dBm	**OH-TX-4-1550**
1570nm	-1dBm	**OH-TX-4-1570**
1590nm	-1dBm	**OH-TX-4-1590**
1610nm	-1dBm	**OH-TX-4-1610**

Fiber Optic Connection

LC Simplex (singlemode) up to 40km (24.8 miles)
(not included)

Non CWDM Version

Wavelength	Power	Option #
1550nm	-1dBm	**OH-TX-3-1550**

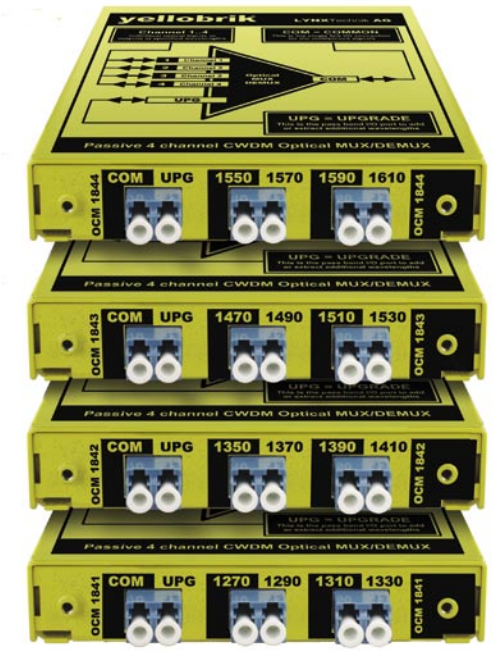
Specifications subject to change

yellobrik®

OCM 1841, OCM 1842
OCM 1843, OCM 1844

4 Channel CWDM Multiplexers / Demultiplexers

- Send / receive up to 4 channels over a single fiber link
- Passive operation (no power required)
- Combine all four modules for up to 16 channels
- LC/PC single mode optical connections
- Optional ½ RU 19" rack frame

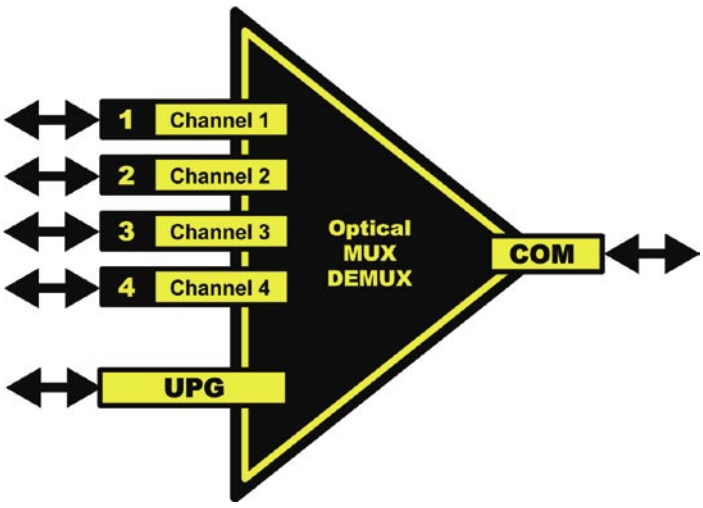


The **OCM 1841, OCM 1842, OCM 1843, OCM 1844** are compact CWDM passive 4 channel optical multiplexers / demultiplexers designed to send and receive up to 4 individual signals over a single fiber link. Each module has an UPG (Upgrade) port to cascade into the other 4 channel modules, expanding the capability of the system to a maximum of 16 channels.

The modules can be used standalone or integrated into the optional RFR 1018 1/2 RU 19" rack frame, which can accommodate all four modules. Ideal for system installations.

Ideally suited for use with the CWDM yellobrik fiber modules (all 16 wavelengths are available).

Model	Channel 1	Channel 2	Channel 3	Channel 4
OCM 1841	1270nm	1290nm	1310nm	1330nm
OCM 1842	1350nm	1370nm	1390nm	1410nm
OCM 1843	1470nm	1490nm	1510nm	1530nm
OCM 1844	1550nm	1570nm	1590nm	1610nm



Technical Specifications

Optical I/O	4 x Fiber Optic I/O channels Center frequencies taken from ITU-T G.694.2 **OCM 1841** = 1270,1290,1310,1330nm **OCM 1842** = 1350,1370,1390,1410nm **OCM 1843** = 1470,1490,1510,1530nm **OCM 1844** = 1550,1570,1590,1610nm
	1 x COM (common) connection = multiplexed I/O
	1 x UPG (Upgrade) I/O connection (pass band connection to other OCM 189x modules)
	LC/PC connectors SMF (single mode)
	Channel Insertion loss: 2.7dB UPG Insertion loss: 2.7dB
	Polarization dependant loss: max 0.2dB
	Return Loss: > 45dB
	Isolation (to adjacent channel): > 30dB
	Directivity > 55dB
	Temp. dependant loss: < 0.005dB/°C
	Temp. dependant change of wavelength: < 0.003nm/°C
	Max. input power: 500mw
	Single or full duplex operation
Power	None required (passive operation)
Size	L: 110mm x W: 100mm x H:19mm (4.33" x 3.93" x 0.75")
Model #	OCM 1841. OCM 1842, OCM 1843, OCM 1844

Specifications subject to change

yellobrik® OCM 1891

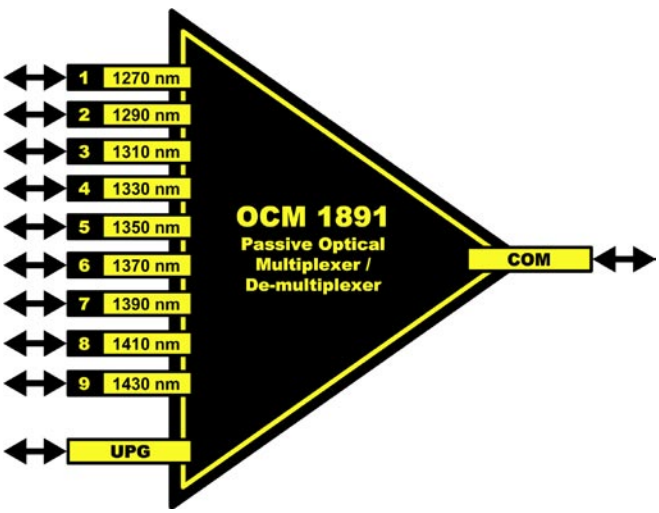
9 Channel CWDM Multiplexer / Demultiplexer [1270nm - 1430nm]

- Send / receive up to 9 channels over a single fiber
- 1270nm to 1430nm (ITU-T G.694.2)
- Passive operation (no power required)
- Combine with OCM 1892 for 18 channels
- LC/PC single mode optical connections
- Optional ½ RU 19" rack frame

The **OCM 1891** is a compact CWDM passive 9 channel optical multiplexer / demultiplexer designed to send or receive up to 9 individual signals over a single fiber link. The module has an UPG (Upgrade) port to connect to the OCM 1892, which expands the capability of the modules to 18 CWDM channels

The modules can be used standalone or integrated into the optional RFR 1018 1/2 RU 19" rack frame, ideal for system installations.

Ideally suited for use with the CWDM yellobrik fiber modules (all 18 wavelengths available).



Technical Specifications

Optical I/O	9 x Fiber Optic I/O channels (1 through 9) Center frequencies taken from ITU-T G.694.2 1270,1290,1310,1330,1350,1370,1390,1410,1430 nm
	1 x COM (common) connection = multiplexed I/O
	1 x UPG (Upgrade) I/O connection (pass band connection to OCM 1892 module)
	LC/PC connectors SMF (single mode)
	Channel Insertion loss: 2.7dB UPG Insertion loss: 2.7dB
	Polarization dependant loss: max 0.2dB
	Return Loss: > 45dB
	Isolation (to adjacent channel): > 30dB
	Directivity > 55dB
	Temp. dependant loss: < 0.005dB/°C
	Temp. dependant change of wavelength: < 0.003nm/°C
	Max. input power: 500mw
	Single or full duplex operation
Power	None required (passive operation)
Size	L: 108mm x W: 198mm x H:19mm (4.25" x 7.79" x 0.75")
Model #	OCM 1891
Includes	Module and plastic transport case

Optional **RFR 1018** ½ RU 19" Rack chassis with 2 x OCM modules

Specifications subject to change

yellobrik® OCM 1892

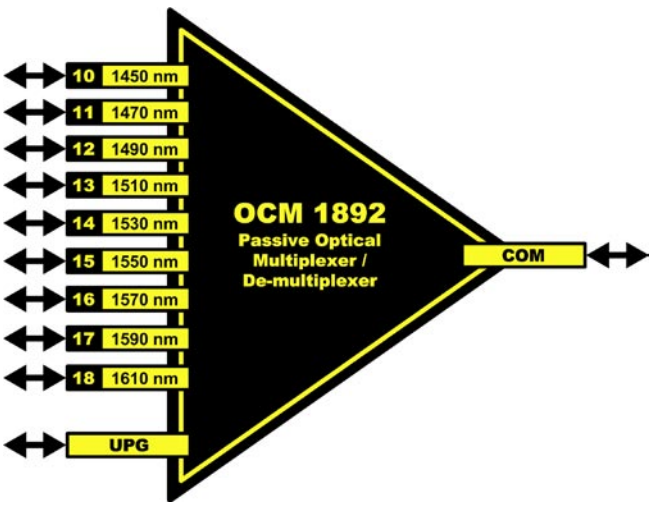
9 Channel CWDM Multiplexer / Demultiplexer [1450nm - 1610nm]

- Send / receive up to 9 channels over a single fiber
- 1450nm to 1610nm (ITU-T G.694.2)
- Passive operation (no power required)
- Combine with OCM 1891 for 18 channels
- LC/PC single mode optical connections
- Optional ½ RU 19" rack frame

The **OCM 1892** is a compact CWDM passive 9 channel optical multiplexer / demultiplexer designed to send or receive up to 9 individual signals over a single fiber link. The module has an UPG (Upgrade) port to connect to the OCM 1891, which expands the capability of the modules to 18 CWDM channels

The modules can be used standalone or integrated into the optional RFR 1018 1/2 RU 19" rack frame, ideal for system installations.

Ideally suited for use with the CWDM yellobrik fiber modules (all 18 wavelengths available).



Technical Specifications

Optical I/O	9 x Fiber Optic I/O channels (10 through 18) Center frequencies taken from ITU-T G.694.2 1450,1470,1490,1510,1530,1550,1570,1590,1610 nm
	1 x COM (common) connection = multiplexed I/O
	1 x UPG (Upgrade) I/O connection (pass band connection to OCM 1892 module)
	LC/PC connectors SMF (single mode)
	Channel Insertion loss: 2.7dB UPG Insertion loss: 2.7dB
	Polarization dependant loss: max 0.2dB
	Return Loss: > 45dB
	Isolation (to adjacent channel): > 30dB
	Directivity > 55dB
	Temp. dependant loss: < 0.005dB/°C
	Temp. dependant change of wavelength: < 0.003nm/°C
	Max. input power: 500mw
	Single or full duplex operation
Power	None required (passive operation)
Size	L: 108mm x W: 198mm x H:19mm (4.25" x 7.79" x 0.75")
Model #	OCM 1892
Includes	Module and plastic transport case

Optional **RFR 1018** ½ RU 19" Rack chassis with 2 x OCM modules

Specifications subject to change

yellobrik®

OSP 1812
OSP 1812 M
OSP 1814

Passive Optical Splitters / Combiners

The **OSP 1812, OSP 1812 M** and **OSP 1814** are compact optical splitters that are used to split or combine a fiber optic signal.

Three versions are available:

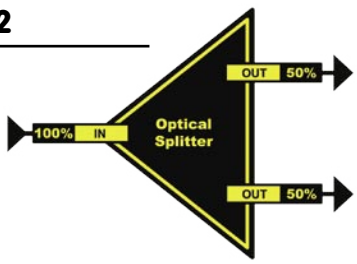
OSP 1812
One input (100%) and two outputs (each 50%)

OSP 1812 M
One input (100%) and two outputs, one at 90% power and a second at 10% power. Typically used as a monitoring output.

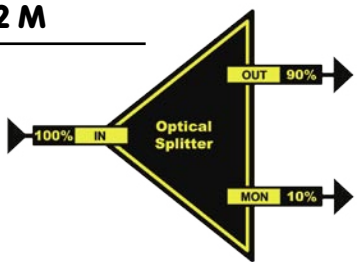
OSP 1814
One input (100%) and four outputs (each 25%)

These yellobriks are passive in operation, which means they require no power. They can be used as standalone modules or mounted into the yellobrik RFR 1018 19" rack frame.

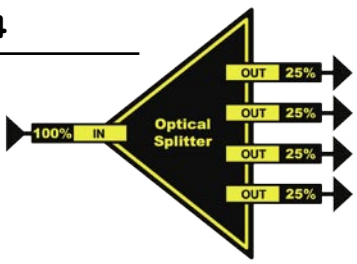
OSP 1812



OSP 1812 M



OSP 1814



Technical Specifications

OSP 1812 Optical I/O	1 x Fiber input 2 x Fiber outputs **Split Ratio: 50% / 50%**
OSP 1812 M Optical I/O	1 x Fiber input 2 x Fiber outputs **Split Ratio: 90% / 10%**
OSP 1814 Optical I/O	1 x Fiber input 4 x Fiber outputs **Split Ratio: 25% / 25% / 25% / 25%**
Optical Connections	LC/PC (singlemode) Operating wavelength 1260nm - 1650nm
Performance	Insertion loss (including connector) OSP 1812 and OSP 1812M = 4.0 dB OSP 1814 = 7.6dB
	Polarization dependant loss: max 0.3dB
	Return loss: > 55dB
	Directivity: > 55dB
	Max input power: 500mW
Power	None required (passive operation)
Size	L: 110mm x W: 100mm x H:19mm (4.33" x 3.93" x 0.75")
Model #	OSP 1812, OSP 1812 M, OSP 1814
Includes	Module and plastic transport case

Specifications subject to change

yellobrik®

RFR 1001

Module Mounting Bracket for Single Yellobrik

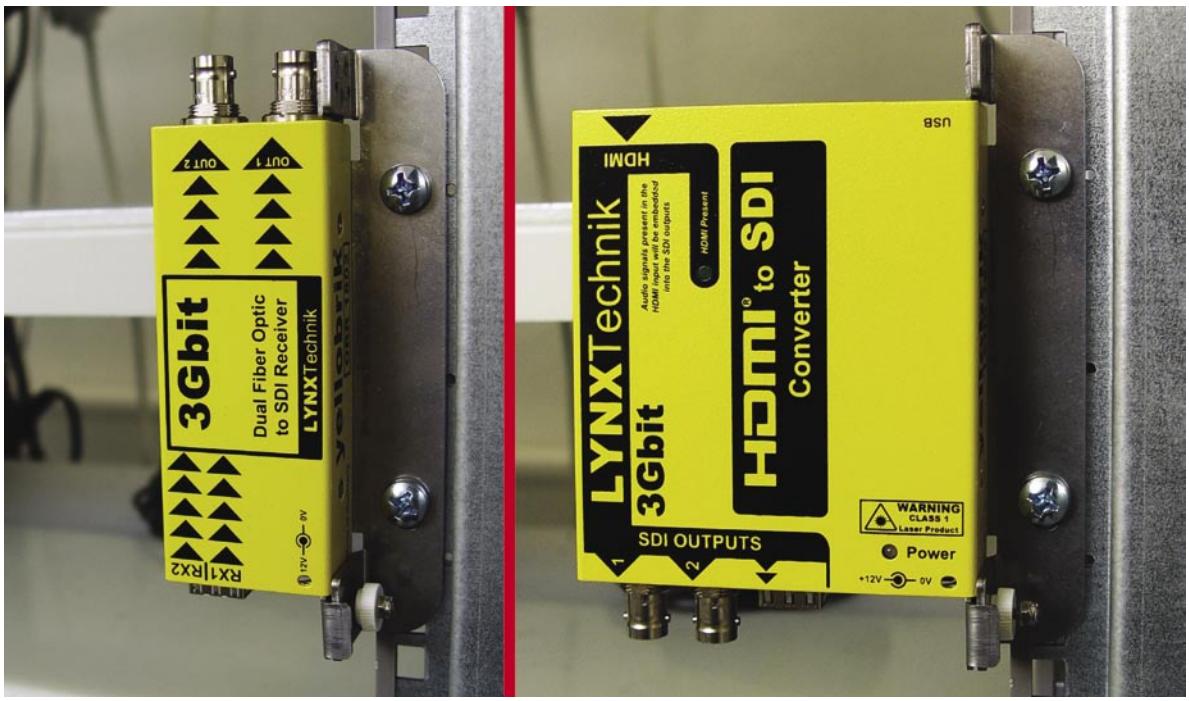
- Robust metal mounting bracket
- Mount on any flat surface
- Ideal for mounting on 19" rack rails
- No tools needed for module installation

The RFR 1001 is a robust metal mounting solution for a single yellobrik. The bracket can accommodate the smaller and larger modules using the mounting slots provided in the yellobrik.

The bracket can be mounted on any flat surface using suitable screws or bolts (not supplied). The mounting holes are on 19" rack rail centers which makes it ideal for mounting yellobriks in the rear of equipment rack frames; keeping them secure and out of the way.

No tools are required for module installation and removal, this is accomplished using a nylon thumbscrew.

Bracket shown mounted on 19" rack rails



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RFR 1000

Yellobrik 19" 1RU Rack Frame

- Compact 1 RU design
- Will accommodate up to 14 yellobriks
- External 12VDC power inputs
- Primary and redundant power options
- Power failure alarm GPO outputs

The RFR 1000 is a compact 1 RU high mounting frame designed for yellobriks. Up to 14 yellobriks can be vertically mounted and are mechanically clamped securely in place. Each slot has its own integrated power connector on a central power bus.

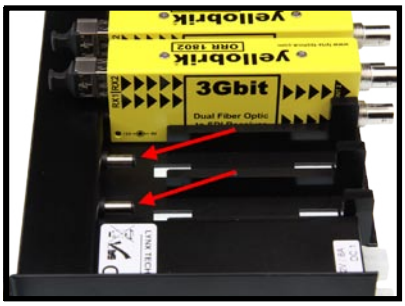
The rack has two external 12VDC inputs for power, one for primary power, the second for redundant backup. An optional external power brick is available which provides enough power for any combination of yellobriks. A second unit can be used for redundant backup.

Primary and redundant power LED's are located in the front panel as well as GPO connections for the power supply failure alarms.

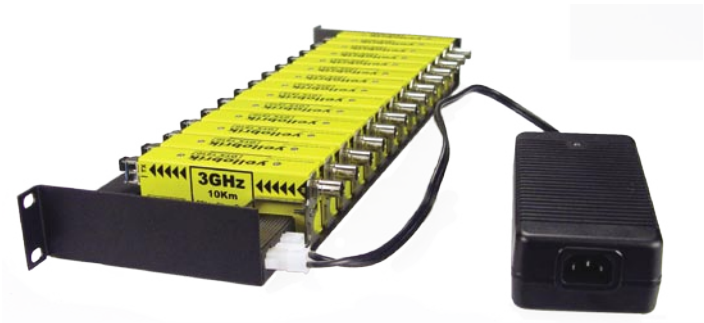
While the frame will accommodate all yellobriks, it is ideally suited for the yellobrik fiber converters, which are typically used in larger numbers. Fiber connections are on the front and the SDI copper connection in the rear. A space is left open on one side to route the fiber loops from front to rear making for a very clean installation. The module fiber RX and TX activity LED's can be seen clearly from the front with the modules installed.

Technical Specifications

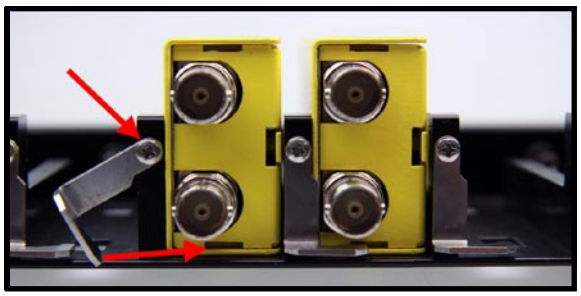
Power Inputs	External +12VDC primary power input External +12VDC redundant power input Connector: Molex Mini Fit Series5557 Power LED's on front of chassis Primary and redundant power failure GPO alarm outputs
Size	19" Rack mount x 1RU high x 145mm deep (5.7")
Weight	1.6 Kg (3.52 Lbs) - with no modules installed
Model #	**RFR 1000**
Options	**RPS 1000** external power supply (12V 8A) (use 2 units for primary and redundant power protection) **Note.** Requires IEC 60320 C13 AC power cord (not supplied)
Includes	Rack Frame assembly (empty)



Power connectors on integrated power bus



Rear of rack frame showing power connectors and one optional external power brick (use second brick for redundant protection)



Modules are clamped securely into position

Specifications subject to change

yellobrik®

RFR 1018

19" Mounting Tray for OCM 1891 and OCM 1892

- Small footprint only 0.5 RU High x 19" Rack mount
- Holds two OCM Optical MUX/DEMUX modules
- Easy module mounting - no tools needed
- Combine with RFR 1000 frame for system use

Specifications

Size	L 400mm (19") x D 135mm (5.3") x H 0.5RU
Material	Aluminum
Weight	0.4kg (0.9Lbs)
Model #	RFR 1018
Includes	Mounting Chassis

The RFR 1018 Mounting Tray is designed to accommodate two OCM 1891 / OCM 1892 optical MUX/DEMUX modules providing a secure mounting platform in any standard 19" rack.

Modules are easily installed from the front and held securely in place a thumbscrew.

When combined with the RFR 1000 Chassis (which can accommodate up to 14 fiber yellobriks) a fully featured 18 channel modular CWDM system can be accommodated in a total of 1.5RU rack space - see below.

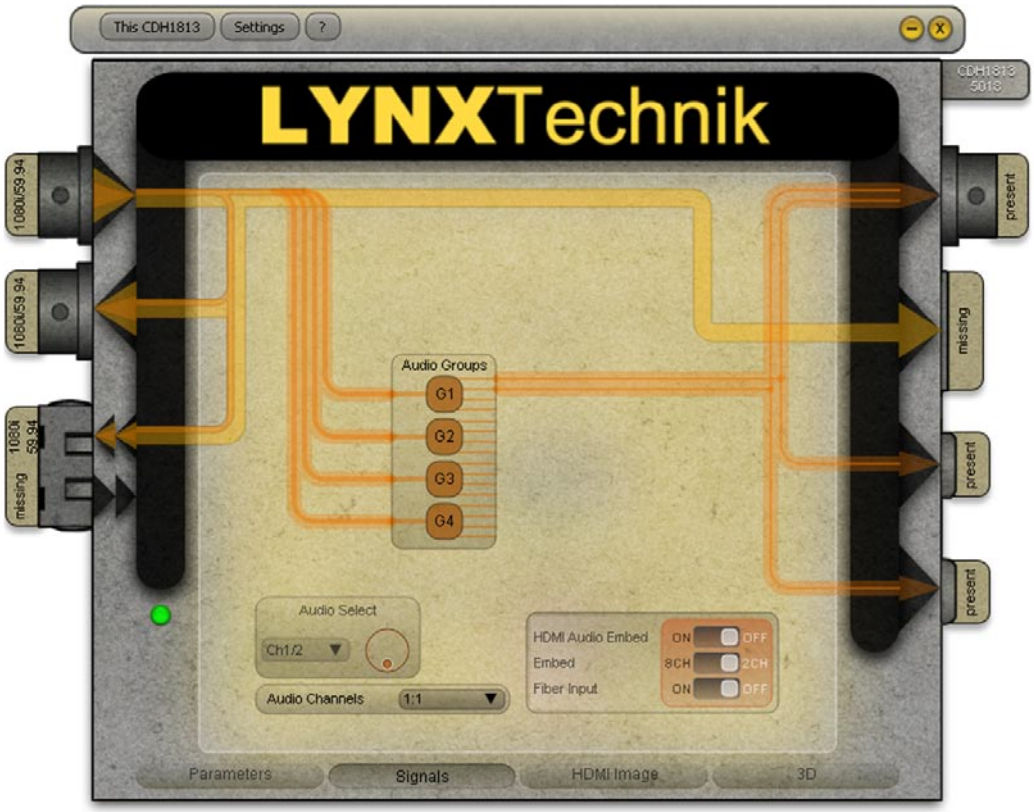
Specifications subject to change

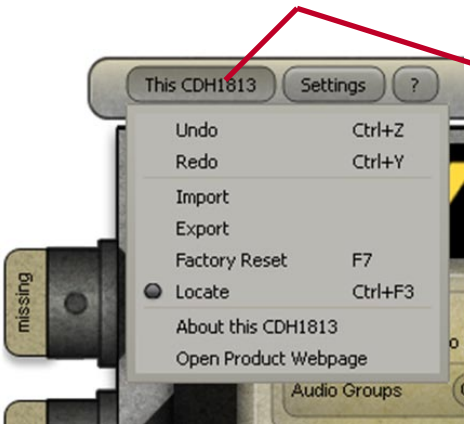
yelloGUI - Overview

ye
yellobrik modules. This is a brief overview of the layout and primary functions of the yelloGUI software application. Each supported module has a GUI designed specifically for its function. For the purpose of this overview we are using the CDH 1813 module.

is displayed. The display is a graphical representation of the module's layout for connections and I/O. The yelloGUI software application is intuitive and easy to use.

The signal flow screen (selected using the button at the bottom of the GUI) offers a useful graphics representation of the video and/or audio signal flow through the module. Relevant controls are also placed in the signal paths so you can see exactly what signal the setting is changing. The signal path only illuminates when signals are present.



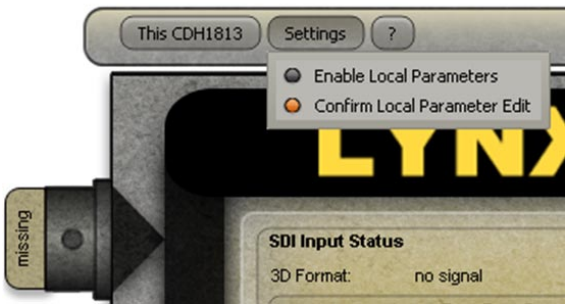


Click on the model number to bring up additional selections.

The additional selections are used to undo or redo settings, import and export stored settings, and perform a factory reset

The "about" option is useful to determine the module's firmware version.

yellobrik® yelloGUI



Some modules will have a "settings" button, which allows the user to override the local switch settings and change them using the GUI controls. The LED on the yellobrik will turn RED indicating that at least one of the local switch settings has been overwritten by the software.

Note. *As soon as any local switch is changed, the settings revertback to the physical switch settings.*

The GUI offers contextual help for many of the module's functions. For enhanced help, click on the "question mark" and select "what's this" a small question mark will now appear on the mouse cursor. Simply click on the parameter you wish to know more about and more details will be provided.

Downloading and use

The yelloGUI application is a free download from the LYNX website **www.lynx-technik.com**

We are gradually adding yelloGUI compatibility to modules which have additional settings and programmable features which are useful to the user. Please check the website for a complete list of currently supported modules

Also if your yellobrik has a USB port, then the firmware is upgradable. We also have all firmware releases available for download from the website.

Stay Informed, register your product

Please register your product on the LYNX Technik website. This activates the warranty coverage and enables access to technical support should you need it. Save all your purchased LYNX Technik products in your online profile. This helps you to keep track of your product and warranty status and also lets us notify you when we have an important firmware update or service bulletin which applies to your products.

Warranty

LYNX Technik AG warrants that the product will be free from defects in materials and workmanship for a period of three (3) years from the date of shipment. If this product proves defective during the warranty period, LYNX Technik AG at its option will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, customer must notify LYNX Technik of the defect before expiration of the warranty period and make suitable arrangements for the performance of service. Customer shall be responsible for packaging and shipping the defective product to the service center designated by LYNX Technik, with shipping charges prepaid. LYNX Technik shall pay for the return of the product to the customer if the shipment is within the country which the LYNX Technik service center is located. Customer shall be responsible for payment of all shipping charges, duties, taxes and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance and care. LYNX Technik shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than LYNX Technik representatives to install, repair or service the product; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non LYNX Technik supplies; or d) to service a product which has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty servicing the product.

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