Module LEDs

The module has several LEDs included to indicate status. Function is described below:

HDMI and REF Present LEDs

🟢 = Valid signal connected / converted

⚪ = (out) Signal not valid or missing (or if HDMI has HDCP protection)

Audio Present LED

🟢 = Both of the audio channels are present

🟡 = Only one of the audio channels is present

⚪ = (out) no audio present

Power / Status LED

🟢 = Power OK and no internal programmed settings are present

🟡 = Power OK and some programmed settings are active*

🔴 = One or more of module switch settings have been overwritten with the yelloGUI application. (Operation of any local switch will change LED status back to Yellow or Green. *Note: The module can be factory reset to "Green" using a paperclip in the reset hole.*

⚪ = (out) Power not present

* Some additional internal settings have been made using the yelloGUI and the LED indicates this by turning yellow. The module can be reset to factory default using the yelloGUI application, or by using the internal reset switch on the side of the module, which can be accessed though a hole with a paperclip (or similar)

USB Port / Firmware Updates / yelloGUI

The USB interface on the module is used for firmware updates and for control of the module using the yelloGUI software application. To download the yelloGUI application please goto:

www.lynx-technik.com>Support>Download area>yelloGUI Software.

Firmware updates can also be downloaded from our website **Support>Download area>yellobrik Firmware**. A PC and a standard USB cable is required for firmware updates and for the use of the yelloGUI application.

Power Lead Strain Relief

The module has a small hole in the case located above the power connection. To prevent the power lead being accidentally pulled out, use the supplied tie-wrap and secure the lead as shown opposite.
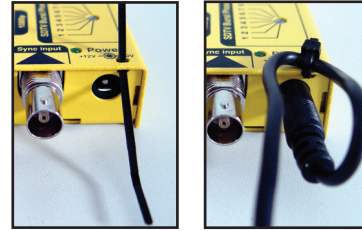
HDMI is connected but no SDI output ? - Common Causes

When two HDMI devices are connected together the EDID communication protocol automatically determines the highest resolution both devices support and configures the HDMI link to that resolution. As the CHD 1812 supports video formats up to 1080P/60Hz then the SDI output will typically default to 1080P/60 (3Gbit/s SDI) which if used in a standard 1.5GHz or 270Mbit SDI environment will not display an image. If 1.5Gbit or 270Mbit SDI output is needed, then the HDMI source device should be manually set to output the desired video resolution. Alternatively, it is possible to use the yelloGUI application to force the CHD 1812 into the desired video format. *(As we do not have an internal scaler, this is done by limiting the formats reported over EDID so the sending device changes its HDMI resolution)*

The HDMI content may have HDCP copy protection, in which case the HDMI present LED will be OUT and the module will block the conversion and provide a black SDI output.

Note: *A lot of playback consumer devices impose hardware HDCP copy protection even if the source media is not copy protected. Please verify the operation of the yellobrik module on a HDMI source which is known not to have HDCP copy protection (e.g. most HDMI cameras) before contacting technical support.*

Still Having Problems?

Please visit the support center on our website and browse or search the knowledge base, or open a support ticket with your specific questions
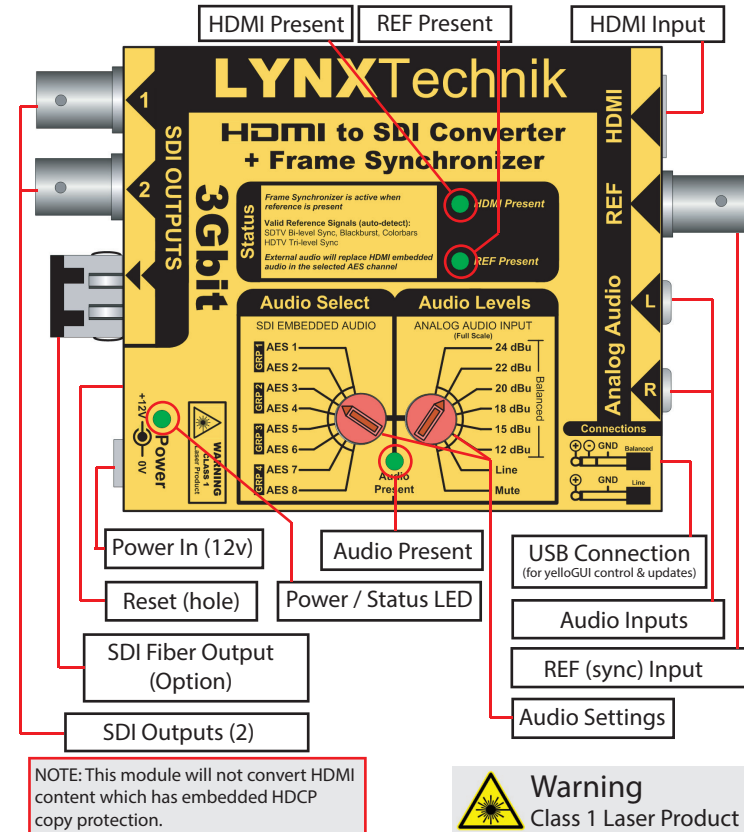
www.lynx-technik.com > Support > Tech.Support

yellobrik® | Quick Reference

CHD 1812
HDMI to SDI Converter + Frame Sync.

HDMI Present — REF Present — HDMI Input — Power In (12v) — Reset (hole) — SDI Fiber Output (Option) — SDI Outputs (2) — Audio Present — Power / Status LED — USB Connection (for yelloGUI control & updates) — Audio Inputs — REF (sync) Input — Audio Settings

NOTE: This module will not convert HDMI content which has embedded HDCP copy protection.

⚠️ **Warning**
Class 1 Laser Product

Connections and Adjustments

All connections and adjustments are clearly indicated on the module and self explanatory. Settings can be changed with the module powered on or off. The fiber SDI output is optional and can be added at any time if needed using the socket provided (plug in SFP module)

Basic Operation

The CHD 1812 will auto-detect the connected HDMI input and the HDMI Present LED will illuminate when a valid signal is detected. The HDMI is converted to an SDI signal in its native resolution and frame rate (no scaling). Two electrical SDI output are provided as well as an optional fiber SDI output. Any audio present on the HDMI signal will be automatically embedded into the SDI outputs.

Frame Synchronizer

The CHD 1812 includes a internal frame synchronizer which can be used to frequency lock a converted HDMI signal to studio reference. (With no reference connected the converter is still fully functional but the internal synchronizer is not active). When a valid reference signal is detected the REF Present LED will illuminate and the synchronizer is active. Both the video and audio signals are synchronized to the connected reference signal. The reference input is fully cross lock compatible and any of the following analog sync signals can be used as a reference: SDTV Bi-level Sync, Blackburst, Colorbars or HDTV Tri-level Sync. Frame Sync timing is adjustable using the **yelloGUI** software application. (Reference must be connected for timing adjustments)

Audio

The CHD 1812 has two external analog audio inputs (stereo) which can be embedded into a selected AES channel on the SDI outputs. When audio is present the Audio Present LED is illuminated. The analog inputs can be balanced (professional) or unbalanced (line, or consumer). For balanced audio inputs the full scale level is selectable using the Audio Levels rotary switch. For unbalanced (or consumer) inputs then "line" is selected using the rotary switch. 1/4 inch jack plug to RCA plug adapters are provided for line level consumer audio inputs.

Audio Embedding

Up to 8 channels of audio present on the HDMI input is automatically embedded into the SDI outputs (AES channels 1, 2, 3, 4). If an external audio input is connected then the audio can be inserted into any of the 8 available AES channels. The channel is selected using the Audio Select rotary switch. Note: One AES channel = two channels of audio (left and right)

The HDMI audio is not modified or decoded. If encoded audio is present such as Dolby Digital, AC3, etc then this encoded stream will be embedded (transparently) into the SDI output. The module automatically disables the sample rate converters if encoded audio is detected. However, If the Frame Synchronizer is active (Reference connected) then encoded audio streams may be repeatably disturbed or corrupted. (Note: PCM audio content will always be free from disturbances).

NOTE: External audio will overwrite any audio present on the HDMI input if AES channel 1, 2, 3, 4 is selected.

Fiber Output (Optional)

A SDI fiber output is provided via a removable SFP fiber stick. This can be a standard SDI Transmitter (1310nm) or if needed CWDM versions are also available (18 wavelength choices). Please contact LYNX Technik for more details on the fiber options compatible with this module.

HDCP Copy Protection

The CHD 1812 **WILL NOT** convert any HDCP encrypted content. If a HDMI source is connected and the "HDMI present" is **OUT** then the HDMI content is most likely protected with HDCP.

yelloGUI Software Tool

The CHD 1812 is fully compatible with the yelloGUI software application. This provides access to a variety of additional internal settings and features. (Including setting 3D conversion mode, setting frame sync delay and audio configuration)

CHD1812R3

yellobrik®

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. SMPTE 274M, SMPTE 296M
	75 Ohm BNC connector
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. One frame of user delay set in pixel / line increments (or millseconds)
SDI Outputs	2 x SDI video on 75 Ohm BNC. 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)

We are constantly adding additional yellobrik modules.
Please visit our website for the latest product updates.

www.lynx-technik.com