

CASE STUDY

“Under Construction” Demo Party

In late December, a group of computer artists and enthusiasts got together to plan, host, and attend “Under Construction,” a Demo Party in Gernsheim, Germany.

What is a Demo Party you may ask? A Demo Party is an event that gathers demosceners and other computer enthusiasts to partake in competitions of demos (short audio-visual presentations of computer art). A typical Demo Party is a non-stop event spanning a weekend, providing the visitors a lot of time to socialize. The competing works are shown to large crowds and in the case of “Under Construction,” streamed live via the Internet. The demo scene is an international computer art subculture that specializes in producing demos: small, self-contained computer programs that produce audio-visual presentations. The main goal of a demo is to show off programming, artistic, and musical skills. The global demo scene draws many high-profile developers.

The technical team leading the “Under Construction” demo party came to LYNX Technik for their AV infrastructure and signal processing needs.

In addition to planning the technology requirements for the on-site event, the team led by Stefan Seitz, an AV Professional that has been part of the demo scene for a number of years, broadcast the ongoing Demo Party activities and content to Twitch. Twitch is the world’s leading video platform and community for gamers.



Equipment List

greenMachine	HARDWARE: callisto
	APPS: dual UPXD configuration
	SOFTWARE: greenGUI
yellobrik	PDM 1383 Analog Audio Embedder / De-embedders
	SPG 1707 HD / SD Sync Pulse Generator with Genlock
	CHD 1802 HDMI to SDI Converter
	CDH 1813 3Gbit SDI to HDMI Converter + 3D Support
	PMV 1841 3Gbit SDI to HDMI Quad Split + 4K Monitoring

“Under Construction” Demo Party was broadcast live via Twitch to provide live streaming coverage of the event to those not able to travel to Germany to participate.

**More info about the Under
Construction Demo Party at...**

<http://under-construction.tum-party.net/start>

The Challenge

The technical team needed to ingest and accept many different video signals (SDI, HDMI and even analog video) to a common standard and format in order to switch and route all signals to their respective destinations in a flexible and dynamic manner.

LYNX Technik provided the team with a full SDI broadcast package that was affordable and one that would accommodate:

- 3D graphics and multiple video sources
- support a variety of video formats and standards
- provide signal monitoring, signal conversion, audio embedding / de-embedding
- video synchronization tools to match the timing of an incoming video source to the timing of the video systems being used



The Solution

As participants worked on their competition entries and contributions, the technical team captured the party activities on various cameras set up around the event site. The camera footage was fed into a Tricaster live production system to provide mixing between the camera signals. The video signals with embedded audio were also fed into a LYNX Technik greenMachine callisto with an APP configuration for dual-channel up/down/cross conversion.

This configuration included the greenMachine Scaler APP for a broad range of conversion and scaling possibilities. The video sources were different video standards, which required conversion into a common standard – in this case 1080P @60 full HD video.



A number of yellobrik modules were also utilized for a full SDI set-up.

SDI to HDMI Converters with 3D support were used to send the video HDMI signals to live production system for online streaming, as well as to the large projector & display, for the big-screen presentation of competition submissions.

Yellobrik HDMI to SDI converters were used to convert from HDMI devices to high definition SDI.

In addition, yellobrik modules were used extensively for interfacing between the video and audio setup.

LYNX Technik yellobrik analog audio embedders / de-embedders were used to pass input audio or embed input audio from the sources. They provided the team with a means to separate or split the audio from the HDMI or SDI signal and send the audio to an audio system or amplifier. The events audio setup was 5.1 surround sound.

A 3Gbit SDI to HDMI Quad Split + 4K Monitoring yellobrik provided multi-image display before signals were sent to the projector for presentation on the big-screen.

Both the SDI to HDMI yellobrik converter and the PMV1841 Quad Split made it possible to use standard computer displays for video monitoring rather than expensive SDI capable monitors.



The whole SDI broadcast setup was synchronized to the master clock generated by the yellobrik HD / SD Sync Pulse Generators with Genlock.



The yellobricks are designed to be used anywhere and everywhere; whether in mobile trucks, newsrooms, outdoors for live sports, or in equipment racks. They are even small enough to fit behind monitors or computers on a desk. They were built to be rugged, extremely high quality, and to run straight out of the box.

The extensive range of LYNX Technik solutions integrated with a number of other pieces of AV equipment and operated flawlessly during the three-day Demo Party.

No matter how signals flow for these types of events, there is always the need for signal processing requirements, such as changing and covering multiple video formats, sources and platforms as well as other signal manipulations.

More information on the LYNX Technik signal processing solutions can be found at:

www.lynx-technik.com
www.yellobrik.com
www.green-machine.com