XENTAURIX® Media & Broadcast Logger Professional

The XENTAURIX Media & Broadcast Logger (XBL) is a professional broadcast recording and verification system for digital recording and playback of a wide variety of Broadcast and Web TV & Radio signals as well as Social Media streams, IP-Video and other sources, including their meta data. Originally designed as a pure digital long term video recorder, the Media & Broadcast Logger has meanwhile grown far beyond this field of application. It is used as a multi-channel multi-signal video encoder, transcoder, recorder, streaming and web server for the production of video clips, snapshots as well as for signal- and multiscreen monitoring, as a search engine and to be used for content analysis. The Logger systems are characterized by groundbreaking user-friendliness, high flexibility and multi-functionality and have been in use since 2000.

Areas of Application

- TV, Radio, Video & Web streaming monitoring and compliance logging
- Competition monitoring
- Media supervision monitoring
- TV-Spot monitoring
- TV audience analytics
- AI based content analysis
- Catch-Up TV
- Activity and debriefing recording in Command Centers, Situation Rooms, Training Facilities
- Social Media Livestream monitoring and recording
- IPTV OTT

Scalable, multifunctional System

The Professional Media & Broadcast Logger System consists of an XBL-Masterunit and several XBL-Subunits. The XBL-Masterunit manages and controls the entire system with all connected XBL-Subunits and includes the user and content management, database, streaming and web server. Depending on the expansion stage, the system can record an unlimited number of signals from TV, radio, video and webcast live streams simultaneously in different qualities and over periods of weeks, months and even years (loop recording).

Record Web-TV streams and Websites

The Media & Broadcast Logger records live video streams from web TV as well as from social media channels (Facebook, YouTube, Twitch, Instagram etc.) automatically, manually or time-controlled and can be analyzed. The system also offers the possibility to record and archive complete websites including all sub-pages or specific websites.

High Density

The XBL-Subunits are encoder, transcoder, recorder and storage system in one unit. Depending on the input format, a Subunit can encode up to 40 channels and record the content on the internal 32TB RAID5 hard disk array or external storage servers. Depending on the housing variant, the internal hard disk capacity per XBL-Subunit can be up to 128 TB. Recording quality and bandwidth are adjustable for each channel, from SD up to UHD. The high number of channels in the smallest design saves space for electronics installation and energy costs.

Recording and Metadata search

EPG, subtitles, as-run logs, teletext or transcripts from the speech recognition module can be recorded synchronously with the content. Bookmarks can be added during or after recording. By combining the recording with metadata, content can be quickly found via the integrated full-text search engine and retrieved on a per-customer basis. The Professional System thus provides an exceptional TV/radio/video/media search engine for all professional applications.

The Media & Broadcast Logger records direct IP streams in M/SPTS or RTP/RTSP format. When recording transport streams, a combination with a proxy is possible. Thus, recordings with excellent video and audio quality can be realized with low storage capacity. In combination with the integrated streaming and web server, the Logger system offers MPEG-Dash streaming for live operation with constant replay function over the entire recording time, VoD and playout.

Integrated Receiver

For DVB and FM/AM/DAB applications, the XBL-Subunit has integrated receivers. A DVB-S receiver can contain up to 8 internal tuners. In AM/FM/DAB operation, one receiv-

er card can process up to 32 radio stations simultaneously.

TS Native & Proxy Recording
The optional X-TS module enables recording of DVB and IP signal sources in the Native MPEG-TS format.
A combination with the H.264/265 proxy enables frame-accurate editing, cutting and uploading of TS Native videos through the Low Resolution Proxy.

Dash Streaming
The Logger, in combination with the integrated streaming and web server, offers MPEG-Dash streaming for live and instant replay function, VoD and Play-Out.

Multisource operation
In the basic configuration, the XBL-Subunits have M/SPTS IP inputs. Optional signal inputs for Analog, DVB-S/C/T + ATSC/ATSC3.0, SDI up to UHD, ASI, QAM, RGB/ DVI/ HDMI, TS-IP, RTMP, RTSP, MPEG Dash, SMOOTH and Radio FM/ AM/ DAB (via antenna) are available.

Easy handling, user-friendly
The modern HTML5-based dashboard with the various templates offers a combination of multiscreen live and playback, metadata, clip creation, search functions, storyboard and analysis tool displays on one interface. Layouts can be customized and stored locally or centrally for specific users. Video clips can be edited quickly and easily via drag & drop, cut with frame accuracy and uploaded with a

single mouse click. Framestore-based recording technology allows clients to switch directly from live viewing to instant replay and create video clips in this mode as well. With add-on modules, a variety of complementary applications are possible, such as audience rating analysis, TV spot monitoring, S2T, AI-based content analysis, multiscreen monitoring, etc. The HTML5-based dashboard supports all common browsers such as Edge, Safari, Firefox, Chrome as well as all stationary and mobile devices with different operating systems such as iOS, Android or Windows.

Media & Broadcast Logger Type Professional
The combination of XBL-Masterunit and a large number of XBL-Subunits with a wide variety of signal inputs enables customer-specific systems that can be expanded and modernized at any time and thus offer investment security. By cascading XBL-Subunits, a virtually unlimited number of channels is available. An XBL-Subunit can be equipped internally with a storage capacity of up to 128TB as a RAID array. The XBL-Subunits can also record to external NAS. For high availability requirements, the Professional system is available in cluster fail-back design.
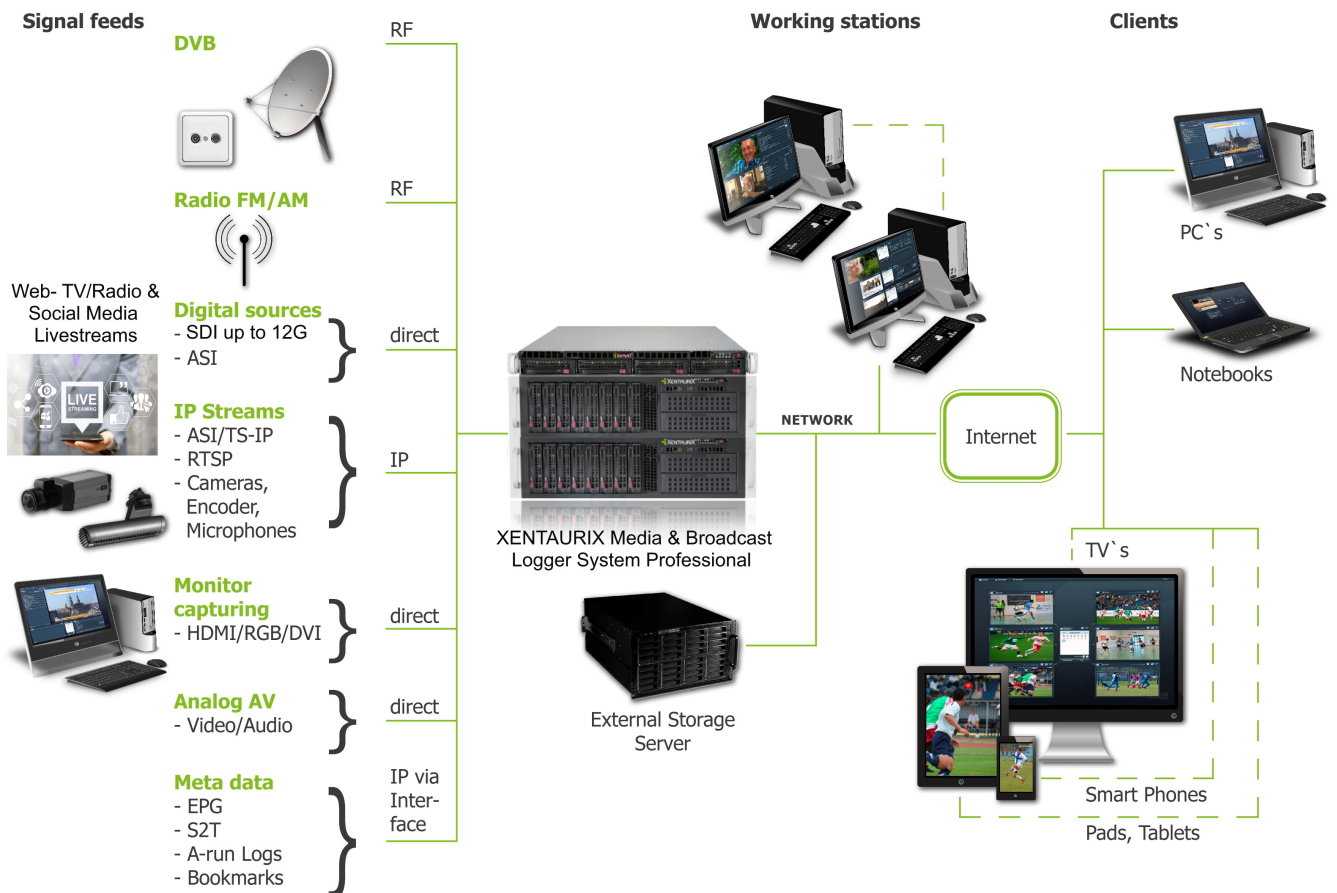
No client license fees
With the Professional System there are no client license fees. As many users as the system load and network capacity allow can work on the system.

Images: Examples of custom dashboard layouts

XENTAURIX Media & Broadcast Logger Professional

Signal feeds

DVB — RF

Radio FM/AM — RF

Web- TV/Radio & Social Media Livestreams

Digital sources
- SDI up to 12G
- ASI
— direct

IP Streams
- ASI/TS-IP
- RTSP
- Cameras, Encoder, Microphones
— IP

Monitor capturing
- HDMI/RGB/DVI
— direct

Analog AV
- Video/Audio
— direct

Meta data
- EPG
- S2T
- A-run Logs
- Bookmarks
— IP via Interface

Working stations

NETWORK

XENTAURIX Media & Broadcast Logger System Professional

External Storage Server

Clients

Internet

PC`s

Notebooks

TV`s

Smart Phones
Pads, Tablets

Extensions / Software and Hardware Modules & Tools

Multiple Input Devices
Standard: M/SPTS and RTP/RTSP IP inputs (UDP/TCP/RTP) and optionally: Analog, DVB-S/C/T + ATSC/ATSC3.0, SDI up to UHD, ASI, QAM, RGB/ DVI/HDMI, TS-IP, RTMP, RTSP, MPEG Dash, SMOOTH and Radio FM/AM/ DAB (via antenna)

Logger Hardware
The hardware is designed for very high operational reliability. To ensure maximum fail-safe operation, the following hardware options are available:

➢ **X-Storage**: 32 TB as standard, the capacity can be optionally expanded according to the customer's requirements.
➢ **X-Cluster**: Highest operational reliability due to cluster system

TS & Proxy Monitoring & Recording
➢ **X-TS module:** The module enables recording of DVB and IP signal sources in Native MPEG TS. The combination with a low resolution H.264/265 proxy enables frame accurate editing, cutting and uploading of TS Native videos.

TV Audience Analytics
➢ **X-TV Rating Monitor** Ideal module for the clear presentation and evaluation of TV viewer ratings, viewer groups or viewer migration. This is a very effective way of evaluating and optimizing TV reports or commercials.

Content Recognition

➢ **TV spot monitoring:** For automatic recognition of TV spots
➢ **Music recognition:** TV/radio: Enables automatic recognition of music titles on TV and radio with title, artist, playing time and other data based on a central music database.
➢ **Speech to Text Recognition (S2T):** The X-S2T module enables automatic transcription of speech to text in 24/7 mode, timer mode and by creating video and audio clips. The X-S2T module supports a variety of international languages.
➢ **TV content recognition using AI:** TV and video content is automatically analyzed using artificial intelligence and identified according to pattern features.

Signal Monitoring

➢ The XBL System includes a variety of free monitoring features as standard according to ETSI TR101 290. For DVB, signal strength, signal quality are logged, signal error messages are generated for CC (continuity, counter), PMT (program map table), PES (packet-sized elementary stream) and TEI (transport error indicator) as well as SCTE-35/SCTE-104 flag monitoring.
➢ **X-VALD** (Video/Audio Loss and image freeze) module for detection of video/audio loss and freezing of transmission
➢ **X-Loudness** Module for monitoring and displaying level loudness according to EBU R128/ITU-R BS.1770-1

Subtitles/Cloed Captions

➢ **X-CC/TT** This module extracts subtitles, DVB subtitles and Video/Teletext pages from the TV signal and stores them in the database with the videos. Through text-based search engine, relevant videos can be played back immediately.

Multiaudio

➢ **X-MultiAudio** module for recording, streaming, and playing back another stereo channel in a video stream. Up to 8 stereo channels per stream are possible.

Multiviewer

➢ With the X-Multiviewer module, the XBL System can be expanded to an external monitor/video wall display. Live TV, radio and video streams with metadata are displayed on one or more monitors.

Website Recording

➢ Websites can also be monitored, recorded and analysed with the XBL System. The recording takes place at cyclical intervals, depending on the scope of the web pages. Tracking makes it possible to identify changes in the pages; pages deleted by the provider can be called up in the records.

Details about the software and hardware extensions for the Media & Broadcast Loggers as well as support and services can be found under https://www.xentaurix.com/en/products/xentaurix-modules/

Highlights XENTAURIX Media & Broadcast Logger Professional

▪ Scalable, multi-functional multi-channel and multi-signal Media & Broadcast Logger System
▪ State-of-the-art, clear and user-friendly HTML5 dashboard with individual layout creation and local and central storage
▪ Multiscreen display for live and synchronous playback
▪ Modular design, expandable at any time, no channel limitation
▪ Input signals: M/SPTS and RTP/RTSP IP inputs (UDP/TCP/RTP) and optionally: Analog, DVB-S/C/T + ATSC/ATSC3.0, SDI up to UHD, ASI, QAM, RGB/ DVI/HDMI, TS-IP, RTMP, RTSP, MPEG Dash, SMOOTH and Radio FM/AM/ DAB (via antenna)
▪ Very fast insertion and configuration of new signal sources
▪ Multibit Streaming encoding, recording, playback and restreaming
▪ TS recording in MPEG Native format with LR Proxy (optional)
▪ Simultaneous display and playback of selected channels and video clips
▪ Import, display and search of metadata like EPG, as-run logs, subtitles, bookmarks
▪ Support for speech recognition and transcriptions (Professional only)
▪ Playback of recorded data via slider with fast forward and rewind, bookmarks, storyboard, calendar, video clips and via keywords from bookmarks, subtitles, EPG, teletext and AI-based metadata + speech to text recognition (optional)
▪ Instant replay function over the entire recording time
▪ Storyboard function
▪ LDAP support
▪ Transcoder support
▪ Integrated Clip Maker
▪ EPG Importer
▪ Multibit recording, adjustable for each channel
▪ Ring storage adjustable for each channel (in days or by storage capacity)

- Integrated timer for scheduled recordings
- Integrated web and streaming server
- Administration level: configuration, search, filtering, group functionality, signal analysis of live and recorded signals
- Alarm management and mail notification, system status display
- Highest operational security through cluster and failover backup system (optional)
- Multilingual DE, GB, Arabic, Korean, Portuguese additional menu languages on request
- Highly reliable software and hardware
- Made in Germany
- In use worldwide since 2001

Recording time of XBL-Subunit in days with 4x8TB@RAID5 storage capacity

Channels/Bandwidth	1 Mbps	2 Mbps	4 Mbps	8 Mbps	16 Mbps
1	2200	1100	550	225	112
2	1100	550	225	112	56
4	550	225	112	56	28
8	225	112	56	28	24
16	112	56	28	24	12
32	56	28	14	7	3

Delivery Options

Artikel Nr.	Typ
400550	**XBL-Masterunit** 2U-Framework with 6 hot swap bays, equipped with 2x 10TB 24/7 hard disks @ RAID1 level, 32GB RAM, OS Win 2022, 2x SSD240GB @RAID1 for OS, Ethernet 2x 100/1000Mbit/s, 6xUSB 2.0, Housing 19", 3HU rackmount chassis (WxHxD) 430x 132x 660mm, weight: ~28kg, PSU2 redundant: 120-230V AC, 650W
420102	**XBL-Subunit Professional** 3U-Framework with 8 hot swap bays, equipped with 4 x 8TB 24/7 hard disks @ RAID5 level, 32GB RAM, OS Win 11, 2x SSD240GB @RAID1 for OS, Ethernet 2x 100/1000Mbit/s, 6xUSB 2.0, Housing 19", 3HU rackmount chassis (WxHxD) 430x 132x 660mm, weight: ~28kg, PSU2 redundant: 120-230V AC, 650W
400613	**X-REC Capture and recording device** for XBL- Media & Broadcast Logger Standard or Professional Subunits with 1 x M/SPTS-IP input per channel

Additional delivery options on request