



airscreenTM live

Advanced IP Transcoder

Multiscreen real-time transcoder with WebRTC support
IDLA-ASCO01-TRNSO-OPP
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Designed to address the increasing demand for video delivery to internet and mobile devices, Inverto's **airscreenTM Live** is a real-time video processing and transcoding system with enhanced MPEG-4 AVC/H.264 and HEVC/H.265 video codec implementations for supplying high quality video streams over the internet or local networks. The system can transcode MPEG-2, MPEG-4 AVC (H.264) or HEVC (H.265) content into multiple streams optimized for adaptive bit rate delivery including HLS, MPEG-DASH and WebRTC. **airscreenTM Live** can interface analog or digital baseband video sources through video capturing cards connected over its USB3.0 interfaces, enriching the number of applications it can support. **airscreenTM Live** embeds an intuitive management tool which enables users to monitor and manage multiscreen video and audio services seamlessly. **airscreenTM Live** is a cost effective video processing and streaming solution for multiscreen applications, including real-time transcoding, packaging and encoding. Inverto's **airscreenTM Live** is a powerful streaming platform offering a high degree of customization and scalability with a comprehensive API for management purposes.

Key benefits:

- World's most economic license free video transcoding solution
- Secure, low latency streaming with WebRTC support
- Professional video quality – high quality video at multiple output rates and formats
- Reduce bit rates for IPTV streaming and accommodate streaming to mobile devices
- Operator programmable, powerful and scalable platform
- Reduced deployment footprint

Main features

- Real time AVC/H.264, HEVC/H.265 transcoding at premium video quality
- Adaptive bit rate streaming over Apple HLS and MPEG DASH
- Multiple protocols for video and audio supported - RTSP, RTP, RTMP, HTTP(S), WebRTC
- Very low latency
- Secured streaming with SSL certificate management
- Media library system to create, manage and distribute on-demand content
- Unicast and Multicast addressing
- Operator grade web based HTTP(S) management system
- High video and audio processing capabilities
- Multiple interface options for input and output – Ethernet/USB/built-in wifi hotspot
- Backup system for quick system recovery

Applications

- IPTV services
- OTT services
- Video service monitoring
- Surveillance video systems
- Digital signage
- Smart cities video services
- Multicast wifi hotspot
- Medical video streaming
- Video conferencing
- youTube Live, Facebook Live

Technical specifications

Inputs

Interfaces: Ethernet IP, USB-3 Capture card

Video: MPEG-2, MPEG-4 AVC/H.264, HEVC/H.265 progressive/interlace scan, up to 4K

Audio: AAC, MP3, OPUS, AC3

Container: MPEGTS, MP4, RAW RTP H.264/AAC/OPUS, FLV

Supported Protocols: RTSP, RTP, RTMP, HTTP(S), WebRTC

Output Support

Interface: Ethernet IP, WIFI hotspot

Video: MPEG-4 AVC/H.264, HEVC/H.265, progressive scan, up to 4K

Audio: AAC, MP3, OPUS

Subtitle: DVB-subtitle and Teletext pass through

Container: MPEGTS, MP4, RAW RTP H.264/AAC/OPUS, FLV

Supported Protocols: RTSP(S) unicast/multicast, RTMP, HTTP(S), HLS, MPEG-DASH, (S)RTP, WebRTC

Recording

File system: EXT3, EXT4, XFS

Recorder: MP4, MPEGTS, MPEG-DASH, HLS

Content Protection

AES scrambling unicast or multicast

DTLS-SRTP

Apple HLS A-128 encryption

HTTPS with client certificate authentication

Control

- Management and control via web application and REST API
- CPU/GPU/Memory/Network usage monitoring
- System watchdog - automatic restart after failure
- Transcoding clustering
- Multi-Ethernet interface and VLAN configurable interface
- SSL certificate management
- Web based live video switcher application
- Management API with included documentation

Video Processing

- De-Interlace
- Video Resize
- Frame rate adaptation
- Real-time video mixer
- Picture-in-Picture
- Mosaic
- Ultra-low latency mode
- Logo insertion

Audio Processing

- Sample rate adaptation
- Dynamic Audio Normalizer



System processing capabilities

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Video Transcoding (single stream)		Number of real-time (30fps) streams	Number of Real-time (60fps) streams
1080p to 1080p	AVC to AVC	14	8
	AVC to HEVC	12	6
	HEVC to HEVC	7	4
4K to 4K	AVC to HEVC	4	2
	HEVC to HEVC	2	1

Video Transcoding (multi stream)		Number of programs (30fps)	Number of programs (60fps)
1080i/p to:	AVC to AVC	6	3
High (HD720p)	AVC to HEVC	6	3
Med (SD320p)			
Low (SD240p)			

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Video Transcoding (single stream)		Number of real-time (30fps) streams	Number of Real-time (60fps) streams
1080p to 1080p	AVC to AVC	8	6
	AVC to HEVC	7	4
	HEVC to HEVC	5	3
4K to 4K	AVC to HEVC	3	1
	HEVC to HEVC	1	1

Video Transcoding (multi stream)		Number of programs (30fps)	Number of programs (60fps)
1080i/p to:	AVC to AVC	4	2
High (HD720p)	AVC to HEVC	4	2
Med (SD320p)			
Low (SD240p)			

Figures are based on system performance tests and applied estimations. For the multi-stream encoding scenario, we consider streaming in HLS at three different video qualities – 720p HD, Medium and Low with three bit rates e.g. 1.5-2Mbps, 800-1200Kbps and 400Kbps respectively. Final performance figures can deviate depending on the configuration.