iLux | Broadcast

Advanced NexGen Encoding Platform

Complete ATSC 3.0 Solution

Living Technology

The iLux Broadcast ATSC 3.0 NexGen Studio Platform integrates an encoder, signaling and delivery services and a broadcast gateway in a very flexible system architecture to serve different operational requirements of broadcasters. The platform supports up to 8 HD video and audio streams to be compressed, packaged, integrated with other signaling and metadata information and encapsulated into the STLTP protocol for delivery to one or more transmitters.

The system is also capable of delivering a DASH packaged ATSC 3.0 compliant audio and video streams created at a studio to be pushed to a remote transmitter location housing the signaling and delivery services and broadcast gateway to feed an ATSC 3.0 exciter at the transmitter location.

Other services such as Electronic Service Guide, emergency announcements etc. can be integrated with the iLux Broadcast platform. With a unified user interface to set up and monitor the performance of the system, the iLux Broadcast ATSC 3.0 truly simplifies the deployment of ATSC 3.0 services.

The iLux platform is a complete system offering exceptional video processing and advanced software algorithms for the highest quality and fastest throughput. iLux is simple to set up, monitor, and use, and offers a variety of hardware and software configurations appropriate for any broadcast application.
Our products are designed, manufactured, tested, and distributed in the United States and our support is USA-based.

Our value proposition is simple: the highest quality, most flexible products at the best price point.
Our products are designed, manufactured, and tested in the United States and distributed world-wide.

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Fastest Throughput. Highest Video Quality. Most Flexible.

Integrated and compact
Integrated and compact. Includes encoder, signaling server and broadcast gateway for ATSC 3.0

Highly efficient
Support for up to two 4K, 8 HD or 25 SD channels

Advanced technology
GPU/CPU based platform running sophisticated algorithms developed specifically for ATSC 3.0 encoding, transport, signaling and operations

Easy integration
Flexible interface for any studio/ transmitter combination

Ease of operation
Simple set up with intuitive web interface

Operational flexibility
Easy integration of additional services

Key Features

- Up to two 4K, 8 HD or 25 SD channels of encoding
- Flexible input options - IP, ASI or SD/HD-SDI/3G-SDI
- Flexible output options – IP Unicast/multicast or encoder DASH output
- Integrated or split architecture – encoder+signaling server+broadcast gateway or encoder with DASH output, signaling server and broadcast gateway in remote location
- A.324 compliant output to feed single or SFN transmitters
- Aggregate up to 20 live and NRT streams for ATSC 3.0 delivery
- ESG metadata processing - integration with variety of guide providers (Optional)
- NRT and interactive applications delivery
- ROUTE to deliver MPEG DASH Segments
- SLT and SLS signaling tables generation and transmission
- MMTP support to deliver media processing units
- Encapsulated ROUTE and MMTP streams in to STLTP broadcast gateway
- Automatic configuration of ATSC 3.0 exciters and individual addressing
- Multiple subframes and multiple physical layer pipes (PLP) management
- 4 PLP support, 8 PLP optional
- PTP/NTP source synchronization
- Optional SRT support to feed transmitter over IP

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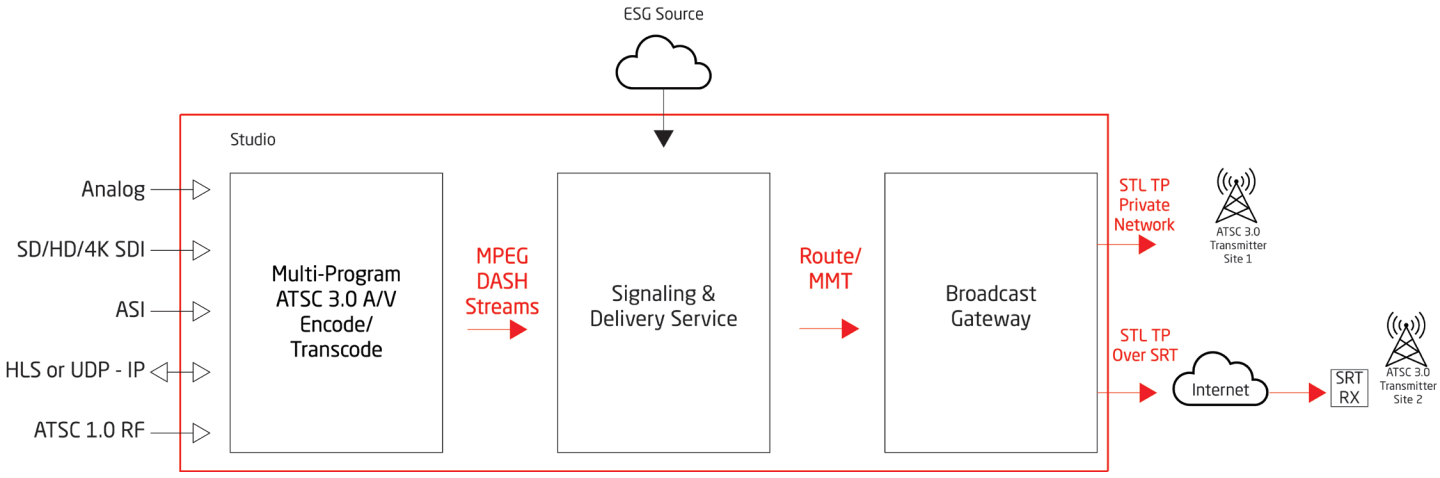
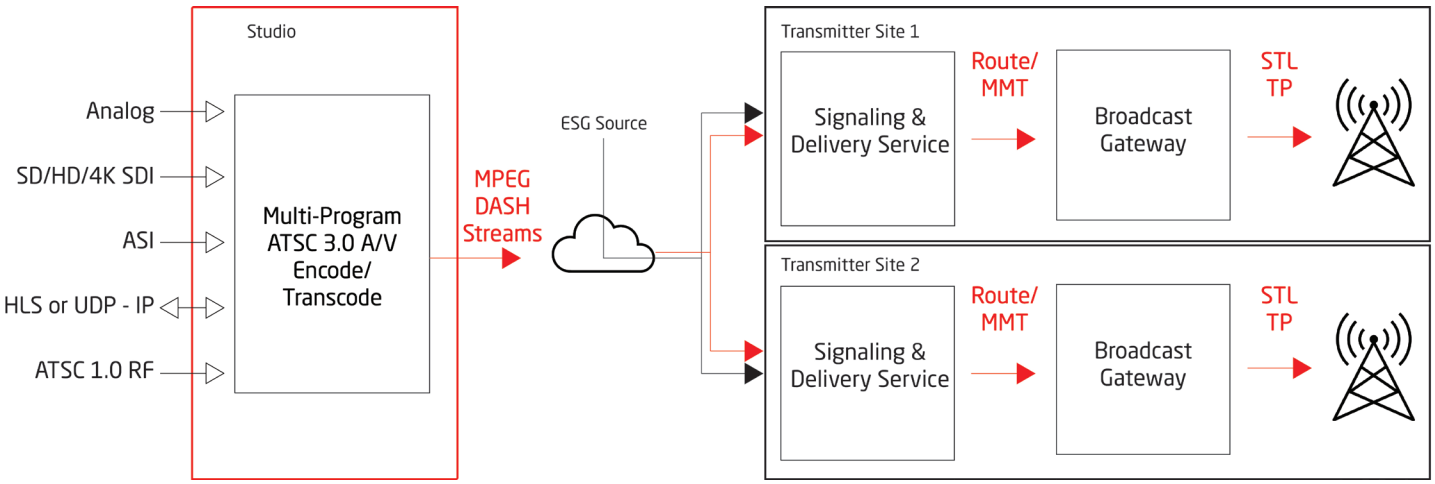
Workflows

Integrated Architecture



Split Architecture



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Specifications

Video

Video Compression Input	MPEG-2 simple, main, and main profile @ high level H.264 Baseline, Main, High , High 10 , High 422 HEVC/H.265 Main, Main 10 , Main 422 10
Video Compression Output	ATSC 3.0 Video A-341 compliant SD : Up to 720x480 HEVC Main 10 profile at Level 3.1 Main Tier HD: Up to 1920x1080 HEVC Main 10 profile at Level 4.1 Main Tier 4K/UHD : Up to 3840×2160 HEVC Main 10 profile at Level 5.2 Main Tier
Video Processing	Progressive, Interlace GOP Structure I only, IPPP, IBBP Fixed or Adaptive GOP with scene change detection Lanczos Cropping/Scaling MCTF Noise Filtering with strength options Brightness, Hue, Saturation, Contrast adjustable per channel

Resolutions and Frame rates

IP Input Formats Flexible - QCIF to 4Kp60 Common Resolutions:	240p, 288p,480p,576p @ 10,12.5,15,20,23.97 6,29.97,30,50 and 59.94 and 60 Hz 576i and 480i x 720, 544 and 352 pixels @ 23.976, 24, 25, 29.97 and 30 Hz 1080i x 1920, 1440, 1280 and 960 pixels @ 23.976, 24, 25, 29.97 and 30 Hz 720p x 1280, 960 and 640 pixels @ 23.976, 24,29.97,30, 50, 59.94, and 60 Hz 1080p x 1920,1440,1280, and 960 pixels @ 23.976, 24,29.97,30, 50, 59.94, 60 Hz
SDI Input Formats	SD : 625i50 (PAL), 525i59.94 (NTSC) HD 1280x720 : 720p60, 720p59.94, 720p50, 720p30, 720p29.97, 720p25, 720p24 ,720p23.98 HD 1920x1080 : 1080i60, 1080i59.94, 1080i50, 1080p30, 1080p29.97, 1080p25, 1080p24, 1080p23.98, 1080psf30, 1080psf29.97, 1080psf25, 1080psf24, 1080psf23.98, 1080p60 A/B, 1080p59.94 A/B, 1080p50 A/B, 1080p60, 1080p59.94, 1080p50. 2K 2048x1080 : 1080p30, 1080p29.97, 1080p25, 1080p24, 1080p23.98, 1080psf30, 1080psf29.97, 1080psf25, 1080psf24, 1080psf23.98, 1080p60, 1080p59.94, 1080p50, 1080p48, 1080p47.952 Quad Link 3G-SDI for 4K inputs

Audio

Audio Inputs	**IP Input Formats** MPEG-1 layer 2 MPEG-2 layer 3 (mp3) AAC-LC, AAC-HEv1, AAC-HEv2 Stereo and 5.1 **Analog** Stereo (dual RCA) **SDI** Multiple programs per channel, configurable SDI audio slots PCM Embedded audio
Audio Outputs	5.1 or Stereo Calm Processing and Loudness Control 5.1 Downmix control Bitrate setting per audio program Manual dialnorm setting adjustable Static volume control adjustable

Transport Processing Inputs

MPEG2-TS over UDP	Unicast or multicast, SPTS or MPTS IP or ASI input, VSB, satellite, or QAM Redundant IP input
HLS	Single Profile HLS input
Transport Protocal	RTP/RTSP
SDI/ CVBS	CVBS with Stereo Audio Input 3G-SDI for SD or HD
Scrambling	BISS 0/1/E decryption per PID, BISS -CA
FEC	SRT input decode CoPv3 FEC ZIXI

Transport Processing Outputs

MPEG2-TS over UDP	Unicast or multicast, SPTS or MPTS IP and simultaneous ASI output Redundant IP output
MPEG DASH	DASH Packaged Output
STLTP- ATSC 3.0 Broadcast Gateway	A.324 Compliant Output to Feed Single or SFN Transmitters

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Specifications Continued

Delivery and Signaling Server

- ATSC A-331 Compliant
- Aggregate up to 20 live and NRT streams for ATSC 3.0 delivery
- ESG Metadata Processing - integration with variety of Guide providers (Optional)
- NRT and Interactive Applications Delivery
- ROUTE to deliver MPEG DASH Segments
- SLT and SLS Signaling Tables generation and transmission
- MMTP Support to deliver Media Processing Units

Broadcast Gateway

- ATSC A-324 Compliant
- Encapsulate ROUTE and MMTP streams in to STLTP
- ATSC 3.0 Modulator Synchronization for SFN Broadcast
- Automatic configuration of ATSC 3.0 Modulators and individual addressing
- Multiple Subframes and Multiple Physical Layer Pipes (PLP) management
- 4 PLP Support by Default (8 PLP option available)
- PTP/NTP Source Synchronization

Configuration and Management

- Web Based User Interface
- IPMI hardware management
- SNMP Mibs, downloadable from GUI
- Channel configuration backup and restore
- User Interface Login Lockable
- Downloadable Logs
- Video Thumbnail and Parameter Status
- Software Updates

Physical

Dimensions	1U standard chassis : 1.7 x 17.2 x 28.5 28 pounds 2U Dense IO Chassis : 3.4 x 17.2 x 26 30 pounds
Power	400 to 700 Watt power supply depending on chassis
Environmental Spec.	Operating Temperature: 10°C ~ 35°C (50°F ~ 95°F) Non-operating Temperature: -40°C to 60°C (-40°F to 140°F) Operating Relative Humidity: 8% to 90% (non-condensing) Non-operating Relative Humidity: 5% to 95% (non-condensing) Cooling front to back
Redundancy	1+1, N+1 redundancy capable IP watchdog based redundancy ASI passthrough redundancy option

BackPanel Connectors

Standard Configuration	2x Gigabit Ethernet (configurable for input, output and system management) 1x 100 bT ethernet (IPMI chassis hardware management) VGA/USB for KVM Dual Redundant hot-swap AC Power Supply
Hardware Options	1,2,4,8, 12 or 16 3G-SDI (SMPTE-424M) (up to 16 SD, HD or 4 4Kp60) 1,4,8,12, or 16 CVBS inputs (with stereo audio connectors) 1,2, or 4 ASI input 1,2, or 4 ASI output 4x 1 Gig Ethernet (copper or SFP+) 2 or 4x 10 Gig Ethernet (copper or SFP+) 1 to 4 SMA (F) 50 ohm ATSC VSB Demodulator Input (4,8,12 or 16 tuners) 1 to 4 SMA (F) 50 ohm Satellite Demodulator Input (1 to 4 tuners) 1 to 4 SMA (F) 50 ohm QAM Demodulator Input (4,8,12 or 16 tuners)

Our Mission

First and foremost, igolgi is an engineering and development company. Our engineering staff has years of experience in every type of compression and encoding technology, and we are experts in software control and interface. Our principal engineers hold over 200 patents in compression related projects. For over a decade we have provided innovative, flexible, and high-quality solutions for the broadcast, cable, LPTV and government markets.

igolgi is an American company - all development, engineering, production, and support is based in the USA.

As ATSC 3.0, IP, and compression technologies evolve, igolgi is a partner you can count on to ensure every aspect of your design and implementation meets today's needs and is ready for future growth and expansion.

This is our "sweet spot". Let us help you.

Call or email us for a no-obligation discussion of your current and future needs.

Our Promise

Highest Quality.
Our advanced Codecs and optimized software algorithms assure the best quality in any resolution.

Simplest to Use.
Our enhanced user interface makes set up, monitoring, and changes fast and simple.

Most Configurable.
SD. HD-SDI, ASI, IP are all configurable for maximum flexibility.

Easiest Upgrade.
Update the software and change out hardware (if required) to keep you future proofed.

Superior Support.
Our support is USA-based, and our PremierPlus ® gives you 24x7x365 expanded support and service.

Best Value.
igolgi has it all: technology, flexibility, expandability, and support... at a price that will surprise and please you.

Stay Connected

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