iLux | Broadcast

Advanced ATSC 1.0 Encoding Platform

Powerful Broadcast Encoders

Living Technology

igolgi's iLux | Broadcast is a versatile, compact, high quality and reliable ATSC 1.0 encoding platform.

iLux includes the highest level of MPEG2 Encoding performance for superb video quality along with the industry's most flexible interface support. The iLux platform scales to any number of channels needed including mixes of HD and SD and can support compressed or uncompressed source inputs.

iLux is a feature rich platform that provides a complete ATSC 1.0 Broadcast Station Solution for Encoding, Program Guide, Emergency Alert Integration (EAS), CALM Audio loudness control, Hourly Station Callout, and many more.

iLux flexibly supports any combination of using SD/HD-SDI input, composite baseband, ASI, or IP. Included with the basic package is integrated Statistical Multiplexing which optimizes video quality across all the channels being encoded. In addition, the iLux platform supports Dynamic CALM audio loudness control and offers EAS integration through an analog or IP input interface.

Static or Dynamic PSIP is supported. For Dynamic PSIP iLux can integrate with third party PSIP generators, or can create the dynamic PSIP information directly.

Simultaneous outputs over ASI and IP are available and enhance the operational value of the iLux. iLux also supports 1+1 redundancy if a hot spare is required at your station with instant failover switching.

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 value proposition is simple: the highest quality, most flexible product at the best price point.

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iLux Broadcast

Fastest Throughput. Highest Video Quality. Most Flexible.

Flexible inputs
iLux encoders offer up to 16 SD/HD-SDI, ASI, IP or analog inputs. New format? Just swap out a card. iLux is ready for today...and tomorrow.

Flexible outputs
Dual redundant ASI and IP outputs. You won't lose valuable content with iLux.

High quality STATMUX
True multi-pass with no compromise in quality.

Encoding
iLux offers numerous types of selectable video encoding combinations and bit rates. Configurations are user definable and simple to change.

PSIP
iLux has built in static PSIP and seamlessly integrated dynamic PSIP with no external server required.

Upgrade to ATSC 3.0
Always an upgrade path, update software and hardware (if required) and you have ATSC 3.0. iLux protects your investment!

Key Features

- **Flexible multi-channel encoder to fit any station requirement**
- **Statistical multiplexing with 3 pass MPEG for superior video quality**
- **Dynamic CALM Act loudness control**
- **EAS support through analog or IP interface**
- **Logo insertion**
- **Text scrolling feature with full week schedule**
- **Hourly station callout**
- **Static or dynamic PSIP modes**
- **Video scaling and frame rate conversion**
- **Multiple audio programs per channel**
- **Full closed captioning compliance**
- **Fully configurable and flexible web-based management and control**
- **Customizable software platform ensures easy integration of many optional functions**
- **SDI, ASI, analog, and IP inputs in any combination**
- **Simultaneous and redundant IP or ASI outputs**
- **1 + 1 redundancy available with instant failover switch**
- **SNMP for monitoring**

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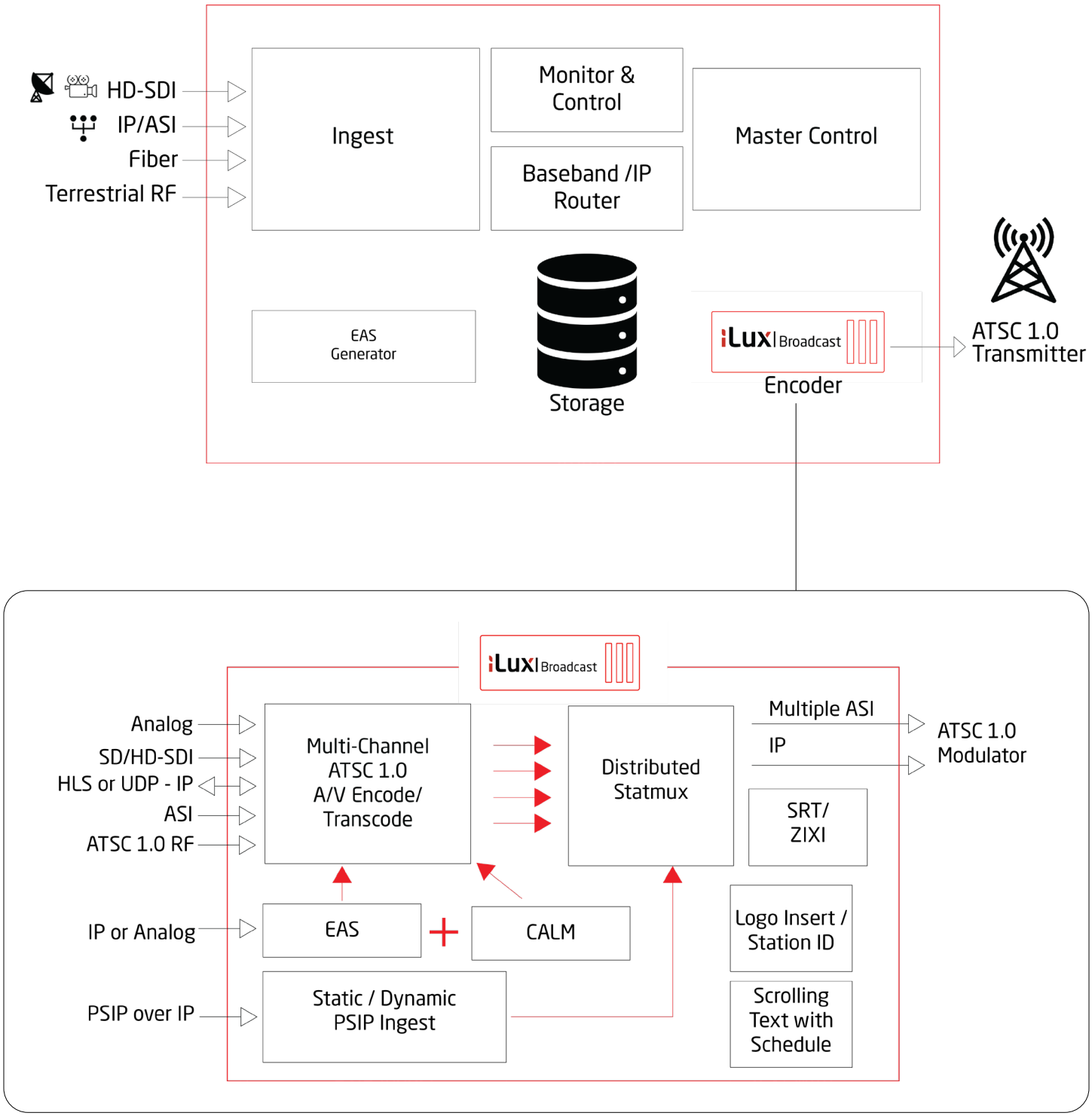
iLux Broadcast

Workflow



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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	MPEG-2 simple, main, and main profile @ high level (HD only)
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	240p, 288p,480p,576p @ 10,12.5,15,20,23.976,29.97,30,50 and 59.94 and 60 Hz 576i and 480i x 720, 544 and 352 pixels
Flexible - QCIF to 4Kp60	@ 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
Common Resolutions:	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

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 Audio (dual RCA) **SDI** Multiple programs per channel, configurable SDI audio slots PCM embedded
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
	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
FEC	SRT input decode ZIXI

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Specifications Continued

Statistical Multiplex

Minimum, Average, and Maximum bitrate configurable per Channel
Mix channels from any clock domain (genlocks unsynchronized inputs)

Overlay Graphics and Text Generator

Station Call Sign Overlay with Scheduling (e.g. once per hour)
Logo Insertion
Scrolling Text Insertion with Scheduling ability

Ancillary data

EIA608 & EIA708 closed captioning
embedded on SDI

Program Guide Insertion (PSIP)

Static PSIP Generation

Dynamic PSIP Generation Options	1- Native support (requires PCMP format from guide data service such as Titan) 2- IP input for third party generators (Triveni, others)

Emergency Alert System Insertion (EAS input)

IP input from Dasdec generator
analog input from Dasdec, Gorman, or Sage generator
Fullscreen or scrolling text modes

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)

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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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