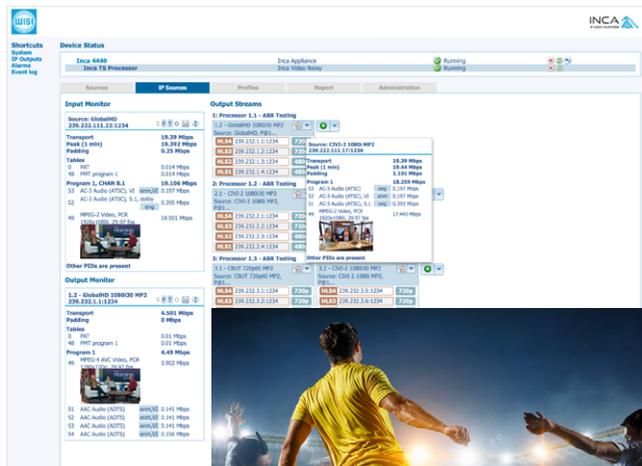




# Inca IP Video Platform Live Linear and ABR Solution

- ✓ Linear transcoding between MPEG-2, MPEG-4 and HEVC
- ✓ Output video as multicast IP, HLS, MPEG-DASH or SRT
- ✓ Modular, flexible chassis with less than 200 W per chassis
- ✓ Automatic service failover, chassis and power redundancy
- ✓ Receive 8VSB, ASI, IP, SRT, MPEG-DASH sources



Increase visibility with VidiOS™ - includes video thumbnails, stream downloads and integrated analytics

Save big on power costs for high-density deployments - less than 200 W per chassis

Profit from using a modular platform - upgrade functionality at any time



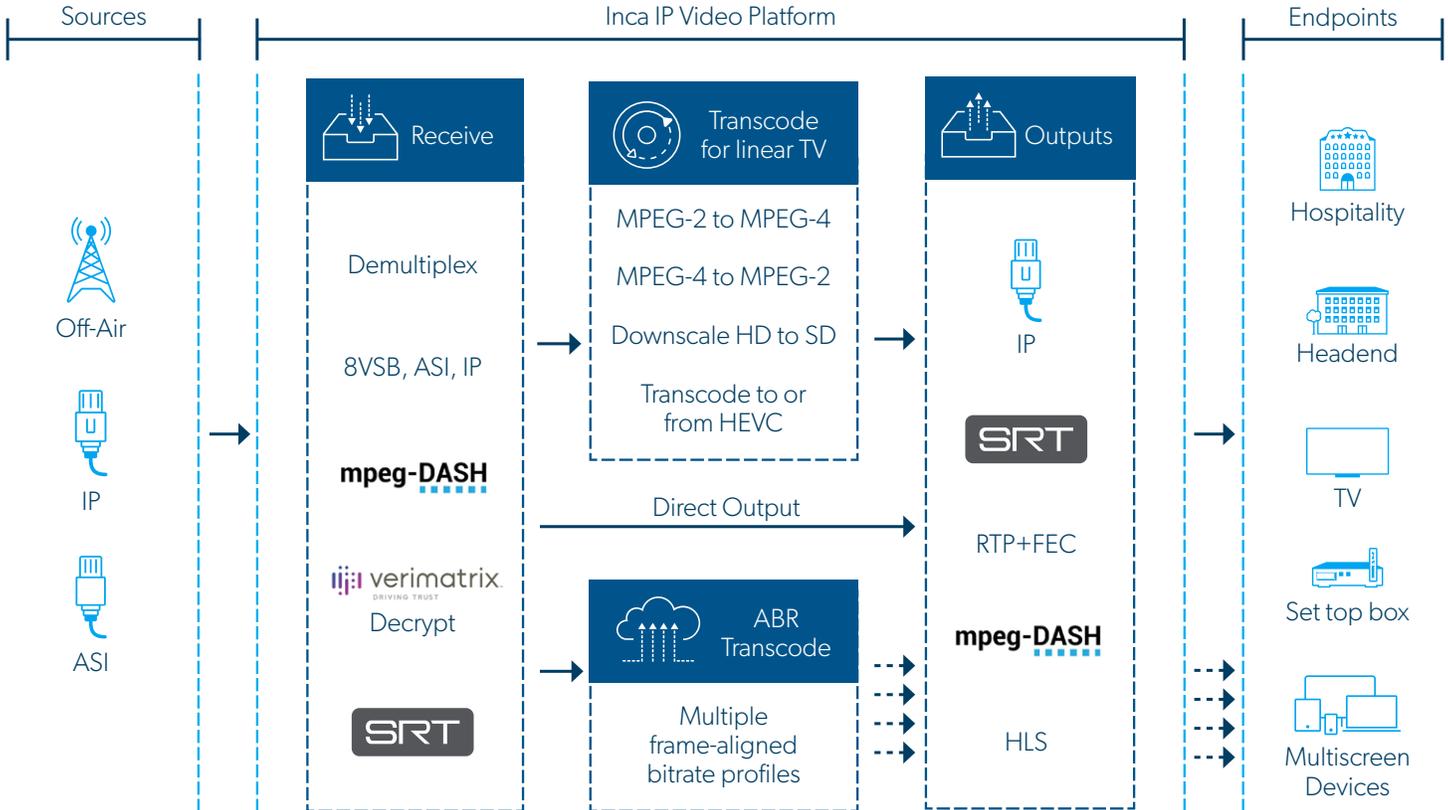
## Applications

- ✓ Receive, decrypt and re-multiplex ABR sources at the edge to deliver IP video using existing hospitality site infrastructure.
- ✓ Receive local broadcast channels and transcode them for delivery over linear and multiscreen networks.
- ✓ Improve video quality for ABR deployments with advanced de-interlacing and by upscaling to 1080p50/60.
- ✓ Launch new live OTT services, eliminate set-top boxes and expand your subscriber base beyond your existing distribution network.
- ✓ Enable efficient HD and SD IP video distribution by transcoding high bitrate MPEG-2 or MPEG-4 AVC sources to optimized MPEG-4 AVC or HEVC.
- ✓ Deliver IPTV services to networks where multicast delivery is not possible; for example, over leased DSL facilities.
- ✓ Distribute video easily and securely from broadcaster sites or between remote sites using the low latency SRT protocol.
- ✓ Streamline OTT deployment. Package streams and serve player devices directly or feed a cache or CDN.



# Inca IP Video Platform Live Linear and ABR Solution

## High-Density IP Processing for Linear or ABR Applications



## Available Modules

Up to 4 modules can be installed in a single Inca chassis. Modules can be mixed and matched to support different applications.

8VSB / QAM Receiver Module		XC3 Transcode Module	
<b>Tuners</b>	4x 8VSB ATSC or DVB-C Annex B QAM	<b>Transcode/Transrate/Downscale</b>	Linear - up to 12x HD or 30x SD inputs Adaptive bitrate - 6x HD to 4x ABR profiles <i>(other configurations available)</i>
<b>Input Connectors</b>	4x RF 75 ohm F-Type	<b>De-interlacing options</b>	Weave, bob
<b>Payload</b>	HD/SD, MPEG-2/MPEG-4 AVC/HEVC SPTS/MPTS	<b>Codecs</b>	MPEG-4 AVC and MPEG-2, 4:2:0
ASI Module		HXC Transcode Module	
<b>ASI Fixed Input Ports</b>	6x	<b>Transcode/Transrate/Downscale</b>	Linear - up to 10x HD or 20x SD inputs Adaptive bitrate - 6x HD sources to 6x ABR profiles <i>(other configurations available)</i>
<b>Input Connectors</b>	6x 75 ohm BNC	<b>De-interlacing options</b>	Advanced, weave, bob Convert 25/30 fps to 50/60 fps <i>(Module density is impacted when using advanced de-interlacing or uprating)</i>
<b>Bitrate</b>	Up to 108 Mbps per port	<b>Codecs</b>	HEVC, MPEG-4 AVC and MPEG-2, 4:2:0
<b>Payload</b>	HD/SD, MPEG-2/MPEG-4 AVC/HEVC SPTS/MPTS		



# Inca IP Video Platform Live Linear and ABR Solution

## Chassis Specifications



### 4440 Chassis Density

<b>Linear Transcoding</b>	Up to 48x HD or 90x SD sources				
<b>ABR Transcoding</b>	Multi-birate profiles: Up to 24x HD sources to 6x ABR profiles Up to 80x SD sources to 2x ABR profiles				
<b>Video Network Interfaces</b>	<table border="0"> <tr> <td>Front network options: 8x 1000 Base-T 4x 10 Gig SFP+</td> <td>Rear network options: 4x 1000 Base-T 2x 10 Gig SFP+</td> </tr> <tr> <td>Capacity for up to 3x transcoder/receiver modules</td> <td>Capacity for up to 4x transcoder/receiver modules</td> </tr> </table> <p>VLAN tagging supported for all video traffic.</p>	Front network options: 8x 1000 Base-T 4x 10 Gig SFP+	Rear network options: 4x 1000 Base-T 2x 10 Gig SFP+	Capacity for up to 3x transcoder/receiver modules	Capacity for up to 4x transcoder/receiver modules
Front network options: 8x 1000 Base-T 4x 10 Gig SFP+	Rear network options: 4x 1000 Base-T 2x 10 Gig SFP+				
Capacity for up to 3x transcoder/receiver modules	Capacity for up to 4x transcoder/receiver modules				
<b>8VSB/QAM Receivers (optional)</b>	Up to 16 tuners				
<b>ASI Input Ports (optional)</b>	Up to 24 ports				

## Technical Specifications

### Transport Stream Processing

<b>Inputs</b>	MPEG-2 SPTS/MPTS transport stream Multicast / Unicast UDP IP, SRT, MPEG-DASH Optional 8VSB/QAM, ASI
<b>Outputs</b>	MPEG-2 transport stream Multicast / Unicast UDP IP, SRT, MPEG-DASH, HLS Transcode to SPTS Demux or pass through to SPTS/MPTS
<b>Input and Output Codecs</b>	MPEG-2, MPEG-4 AVC and HEVC, 4:2:0
<b>Resolutions and Frame Rates</b>	Standard HD and SD broadcast frame sizes and frame rates for sources and outputs. De-interlace to progressive for multiscreen applications.
<b>Transport Stream Optimizations</b>	PID and program filter and remap, jitter correction, strip null padding, transport rate VBR <-> CBR conversion (XC modules) VBR --> CBR conversion (HXC modules)
<b>Transport Modes</b>	Constant, variable, peak
<b>Closed Captions</b>	EIA 608/708 passed through if present in source. (708 available in XC modules only)
<b>DVB Subtitle burn in</b>	Select by language <i>(Available for linear transcode using XC modules)</i>
<b>DVB Subtitle PID passthrough</b>	Passed through if present in source <i>(Available for linear outputs using XC modules)</i>
<b>SCTE Ad markers</b>	Passed through if present in source <i>(Available for linear outputs only)</i>
<b>3rd Party Packager Support</b>	Compatible with ecosystem partners: Anevia, Broadpeak, Edgware, Innovative Systems, Vecima, XPERI, TV2, Wowza <i>(For information about other integrations, please inquire.)</i>

### Demux to IP and TS Probes

<b>From IP Sources</b>	10x included. License option available for 48, 96 or 144 direct outputs or probes
<b>From 8VSB/QAM, ASI Sources</b>	Up to 64 direct outputs included

### Power

<b>Type</b>	Dual redundant hot swap
<b>Input</b>	100 ~ 240 VAC @ 50 - 60 Hz AC Input: 100 ~ 240 VAC @ 50 - 60 Hz DC Input (optional): -36 to -72 VDC
<b>Power</b>	< 200 W typical

### Physical

<b>Mounting</b>	19", 4 post rack, 1RU Slide rails included
<b>Dimensions</b>	438 x 44 x 525 mm 19" x 1.75" x 20.7"
<b>Rack Rail Depth</b>	620 - 805 mm 24.4" - 31.8"
<b>Weight</b>	15 kg / 33.1 lb
<b>Operating Temp.</b>	0 ~ 40 °C

### Audio Transcoding (optional - licensed per stream)

<b>Source Audio Codecs</b>	AC-3, EC-3, AAC (ADTS & LATM), MPEG 1/2 Audio Layer I/II
<b>Source Audio Channels</b>	7.1, 5.1, 2.0, 1.0
<b>Output Audio Codec</b>	AC-3, EC-3, AAC (ADTS & LATM), MPEG-1/2 Audio Layer I/II
<b>Output Channels</b>	2.0, 1.0
<b>Audio Processing</b>	Nielsen watermark extraction and ID3 tags insertion

### Redundancy Options

<b>Service Failover (Licensed per output)</b>	Automatic failover to backup source Automatic recovery to primary source
<b>N+1 Chassis Redundancy (Licensed per chassis)</b>	Automatic failover to spare chassis Automatic recovery to primary chassis

### Management

<b>Configuration</b>	Powerful VidiOS™ web-based user interface
<b>Visual Mosaic Monitoring</b>	Compatible with All Seeing Eye monitoring product - All Seeing Eye probe capability included
<b>Management Network Interface</b>	1000 Base-T
<b>NIC Redundancy</b>	LACP, active failover, round robin
<b>SNMP</b>	SNMP trap forwarding

### Regulatory Compliance

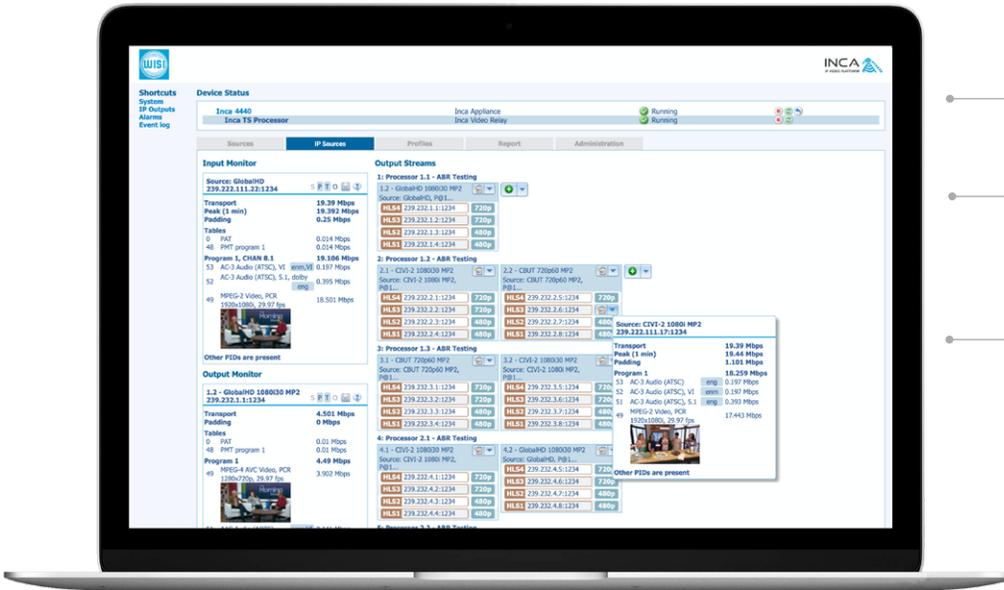
<b>EMC Standards</b>	FCC Part 15 Class A
<b>Safety Standards</b>	IEC/CSA/UL 62368-1



# Inca IP Video Platform Live Linear and ABR Solution

## VidiOS™ Management & Monitoring Tools

Meet VidiOS™, Inca's advanced processing and monitoring engine that provides unique visibility into every step of the video processing chain.

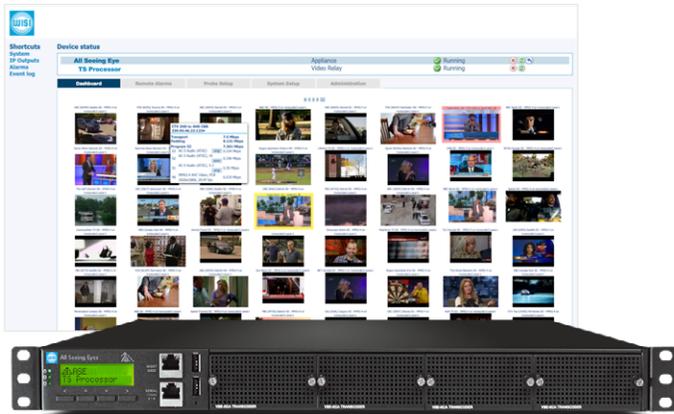


Enables rapid configuration and deployment

Experience deep visibility and efficient troubleshooting

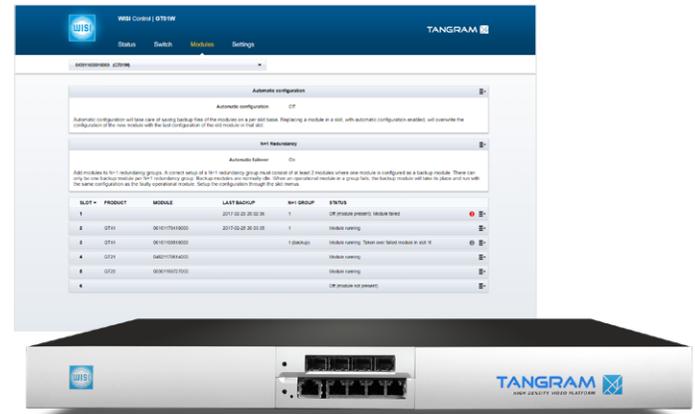
Experience effective diagnostic tools with video thumbnails, stream sample downloads, detailed stream statistics including PID and payload details, warnings and errors

## Pair with the All Seeing Eye for confidence monitoring



- ✓ Visual monitoring of all headend streams
- ✓ Efficient troubleshooting with visual highlighting of impairments, email notifications
- ✓ Overview mosaic of video thumbnails

## Pair with the Tangram for more output options



- ✓ Enable Verimatrix, Pro:Idiom, Samsung LYNK or BISS encryption
- ✓ Combine modules in a 1RU chassis to meet specific application needs
- ✓ Bridge between digital and RF - migrate to IP distribution and connect to existing edge networks



# Inca IP Video Platform Live Linear and ABR Solution

## Ordering Part Numbers

### Inca IP Video Platform

<b>4440dvp</b>	4x bay modular video processing chassis One front or rear network interface option required Up to 90x video transcodes per chassis
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### Network Interface Options

<b>NIC-RC-1G-4x</b>	4x GigE rear network card Allows up to 4x transcode/receive modules
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<b>NIC-RSP-10G-2x</b>	2x 10G SFP+ rear network card Allows up to 4x transcode/receive modules
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<b>NIC-FC-1G-8x</b>	8x GigE front network option Allows up to 3x transcode/receive modules
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<b>NIC-FSP-10G-4x</b>	4x 10G SFP+ front network option Allows up to 3x transcode/receive modules
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### Power Supply Options

<b>PSU-DC-INCA</b>	DC power supply unit to upgrade chassis to redundant, hot swappable DC power
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### HXC Transcode Modules

<b>VMA-HXC-200</b>	HXC transcode module for MPEG-2, MPEG-4 AVC and HEVC inputs/outputs Includes advanced de-interlacing
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### XC Transcode and Receiver Modules

<b>VMA-XC3</b>	High-density transcode module for MPEG-2/MPEG-4 with 3x transcode processors
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<b>VMA-ASI-6-XC2</b>	Six port ASI interface with 2x transcode processors
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<b>VMA-ASI-6-XC</b>	Six port ASI interface with 1x transcode processor
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<b>VMA-8VSB-4-XC2</b>	Quad 8VSB/ClearQAM tuner interface with 2x transcode processors
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<b>VMA-8VSB-4-XC</b>	Quad 8VSB/ClearQAM tuner interface with 1x transcode processor
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### Redundancy Licenses

<b>VSL-SFOPROBE-LIC</b>	VidiOS™ service failover license Monitor one primary service for up to six error conditions, with user configurable thresholds Automatic failover to secondary source, with automatic recovery to primary source
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<b>VSL-SYS-RED-44XX</b>	License for N+1 chassis redundancy <i>(1 per redundant chassis)</i>
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### Audio Transcode Licenses

<b>VSL-AUX-A3X-DM-LIC</b>	5.1 Dolby audio transcode license for 5.1 Dolby AC-3/EC-3 sources
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<b>VSL-AUX-A3X-LIC</b>	2.0 Dolby audio transcode license for stereo Dolby AC-3/EC-3 sources
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<b>VSL-AUX-DM-LIC</b>	Audio transcode license between MPEG-Audio and AAC Encode to AAC for additional bitrates
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### Transcode Licenses for HXC-200 Modules (1x License per module)

<b>VBE-XCH-FLEX-24HT-LIC</b>	Linear flex transcode license Transcode 10x HD or 20x SD between MPEG-2, MPEG-4 AVC, and HEVC
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<b>VBE-XCH-FLEX-ABRT-LIC</b>	ABR flex transcode license Transcode to frame-aligned AVC outputs: 4x HD to 6 (max 1080p60/50), or 6x HD to 6 (max 1080p30/25 or 720p60/50), or 20x SD to 2 bitrate profiles <i>(Other combinations included in license)</i>
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### Transcode Licenses for XC Modules (1x License per Transcode Processor)

<b>VBE-XCA-HD-LIC</b>	4x MPEG-4 HD linear transcode license Transcode 4x HD streams from MPEG-4/MPEG-2 to MPEG-4
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<b>VBE-XCA-SD-LIC</b>	10x MPEG-4 SD linear transcode license Transcode 10x SD streams from MPEG-4/MPEG-2 to MPEG-4 interlaced outputs
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<b>VBE-XCA-FLEX-MPEG2-LIC</b>	MPEG-2 flex transcode license Transcode 2x HD or 4x SD streams from MPEG-4/MPEG-2 to MPEG-2
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<b>VBE-XCA-FLEX-ABR-HR-LIC</b>	ABR high res flex transcode license Transcode to frame-aligned AVC outputs: 1x HD to 6 (max 1080p30/25 or 720p60/50), or 2x SD to 5 bitrate profiles
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<b>VBE-XCA-FLEX-ABR-LIC</b>	ABR flex transcode license Transcode to frame-aligned AVC outputs: 1x HD to 6 (max 1080p30/25 or 720p60/50), or 2x HD to 4 (max 720p30, two downscales per source), or 2x SD to 5, or 4x SD to 2 bitrate profiles
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### IP Streaming Licenses

<b>VSL-DTA-48</b>	VidiOS™ 48x direct output license Receive full multiplexes via IP, demultiplex all programs
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<b>VSL-STM-SRT-LIC</b>	SRT connection license, per stream. Receive or send one encrypted SRT stream Up to 60x SRT connections per 4440 chassis
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<b>VSL-PKG-LIC</b>	Packaging license, per service Generate packaged outputs, with customizable URLs Serve up to 1200 clients directly, or via CDN/cache
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<b>VSL-STM-ABRX-LIC</b>	ABR Receive Activation License, per stream Receive MPEG-DASH streams and convert to Transport Stream
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<b>VSL-VMX-ABRX-LIC</b>	Verimatrix OTT Decryption Decrypt up to 50x OTT streams. Up to 100x streams can be decrypted in a 4440 chassis.
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Max progressive output format for linear transcode licenses: 1280x720p50/60.  
More license options available, including PIP licenses for Mediroom deployments, ask your sales rep.

To arrange an online demonstration or to discuss your project, please send a request to [sales@wisi.tv](mailto:sales@wisi.tv) (North American Office)

We're here to help +1 855 998 4665 • [wisigroup.com](http://wisigroup.com) • [sales@wisi.tv](mailto:sales@wisi.tv) (North American Office)