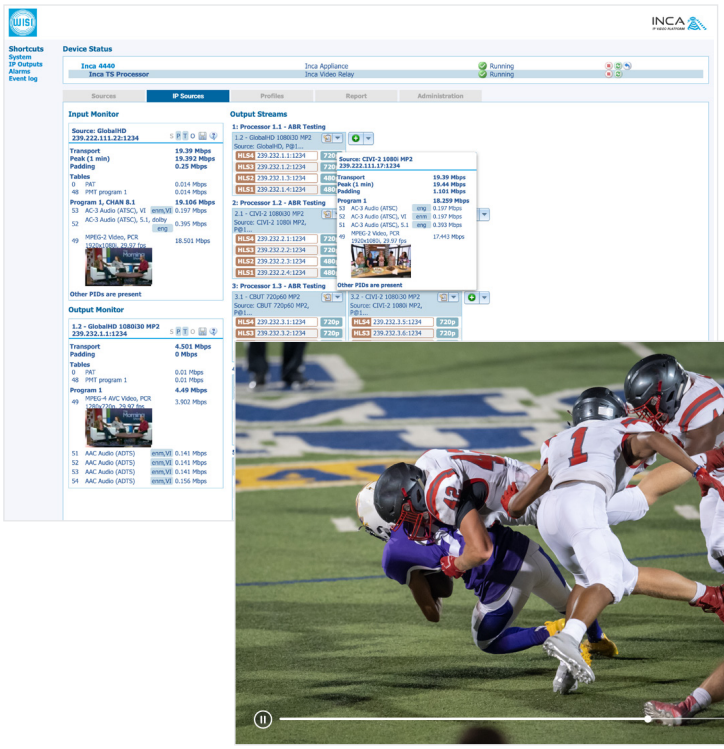
Inca IP Video Platform

Linear and ABR Transcode Solution

- Linear transcoding between MPEG-2, MPEG-4 and HEVC
- ABR transcoding with market-leading cost per stream
- Modular, flexible chassis with less than 200 W per chassis
- Receive IP, SRT, MPEG-DASH inputs
- Output video as multicast IP, HLS or SRT
- Automatic service failover, chassis and power redundancy



Increase visibility with VidiOS™ - includes video thumbnails & stream downloads

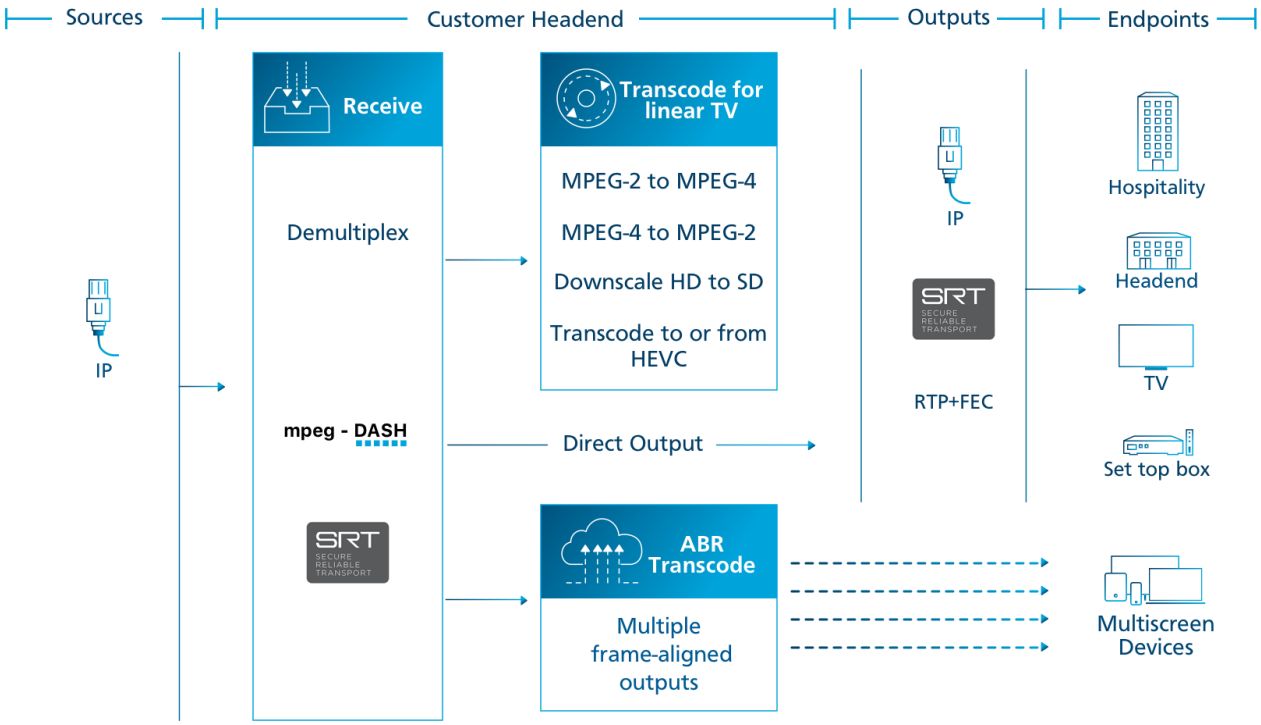
Profit from using a modular platform - add additional audio or video transcodes at any time

Experience beautiful video delivery with a carrier-grade solution

Applications

- Optimize the format, resolution and bitrate of large numbers of live satellite, IP and off-air digital sources for delivery to set-top boxes or multiscreen devices.
- Clean up problematic sources for ABR deployments with advanced de-interlacing options.
- Enable efficient HD and SD IP video distribution over DSL and cable networks by transcoding high bitrate MPEG-2 or MPEG-4 AVC sources to optimized MPEG-4 AVC or HEVC.
- Distribute video easily from broadcaster sites or between remote sites using SRT.
- Receive all your local broadcast channels, including all primary HD and secondary SD sub-channels, and transcode them for delivery over DSL, cable and over-the-top networks.
- Launch new live OTT services, eliminate set-top boxes and expand your subscriber base beyond your existing distribution network.
- Deliver IPTV services to networks where multicast delivery is not possible; for example, over leased DSL facilities.
- Experience streamlined OTT deployment. Serve HLS clients directly or feed cache or CDN.

Transcode, Transrate or Downscale for Linear or ABR Applications



Available Modules

Up to 4 modules can be used in a single Inca chassis. One module type can be installed exclusively or in combination with other modules to support different applications.

GI30 Transcode Module	
Transcode/Transrate/Downscale	Linear - up to 12x HD or 30x SD inputs Adaptive bitrate - up to 24 profiles
De-interlacing options	Weave, bob
Codecs	MPEG-4 AVC and MPEG-2, 4:2:0

GIHXC103 Transcode Module	
Transcode/Transrate/Downscale	Linear - up to 6x HD or 12x SD inputs
De-interlacing options	Advanced, weave, bob
Codecs	HEVC, MPEG-4 AVC and MPEG-2, 4:2:0
Capacity	Up to 3x modules per 4440 Chassis

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Chassis Specifications

4440 Chassis Density	
Linear Transcoding	Up to 48x HD or 90x SD sources
ABR Transcoding	Multi-bitrate profiles: Up to 24x HD sources to 4x ABR profiles Up to 48x SD sources to 2x ABR profiles
Video Network Interfaces	Front network options: 8x 1000 Base-T 4x 10 Gig SFP+ Capacity for up to 3x transcoder/receiver modules Rear network options: 4x 1000 Base-T 2x 10 Gig SFP+ Capacity for up to 4x transcoder/receiver modules

Power	
Type	Dual redundant hot swap
Input	100 ~ 240 VAC @ 50 - 60 Hz Redundant DC power option available
Power	< 200 W typical

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

Technical Specifications

Transport Stream Processing	
Inputs	MPEG-2 SPTS/MPTS transport stream Multicast / Unicast UDP IP, SRT, MPEG-DASH
Outputs	MPEG-2 SPTS transport stream Multicast / Unicast UDP IP, SRT, HLS Transcode to SPTS Demux or pass through to SPTS/MPTS
Input and Output Codecs	MPEG-2 and MPEG-4 AVC, HEVC 4:2:0
Source Resolutions and Frame Rates	1920x1080i @ 30/25 1280x720p @ 60/50 720x576i @ 25 720x480i @ 30 704x480i @ 30 544x480i @ 30 528x480i @ 30 *Other formats supported, please inquire*
Output Resolutions and Frame Rates	1920x1080i/p @ 30/25 1440x1080i/p @ 30 1280x720p @ 60/50 1280x720p @ 30/25 854x480p @ 30 852x480p @ 30 720x576i/p @ 25 720x480i/p @ 30/25 704x480i/p @ 30/25 544x480i/p @ 30/25 528x480i/p @ 30/25 192x192p @ 15 (PIP) *Other formats supported, please inquire*
Transport Stream Optimizations	PID and program filter and remap, jitter correction, strip null padding, transport rate VBR <--> CBR conversion
Transport Modes	Constant, variable, peak
Closed Captions	EIA 608/708 passed through if present in source
DVB Subtitle Burn In	Select by language
DVB Subtitle PID	Passed through if present in source
SCTE 35 Ad Markers	Passed through if present in source

Demux to IP and TS Probes	
From IP Sources	10x included. License option available for 48, 96 or 144 direct outputs

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

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

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

Regulatory Compliance	
EMC Standards	EN 50083-2
Safety Standards	CE

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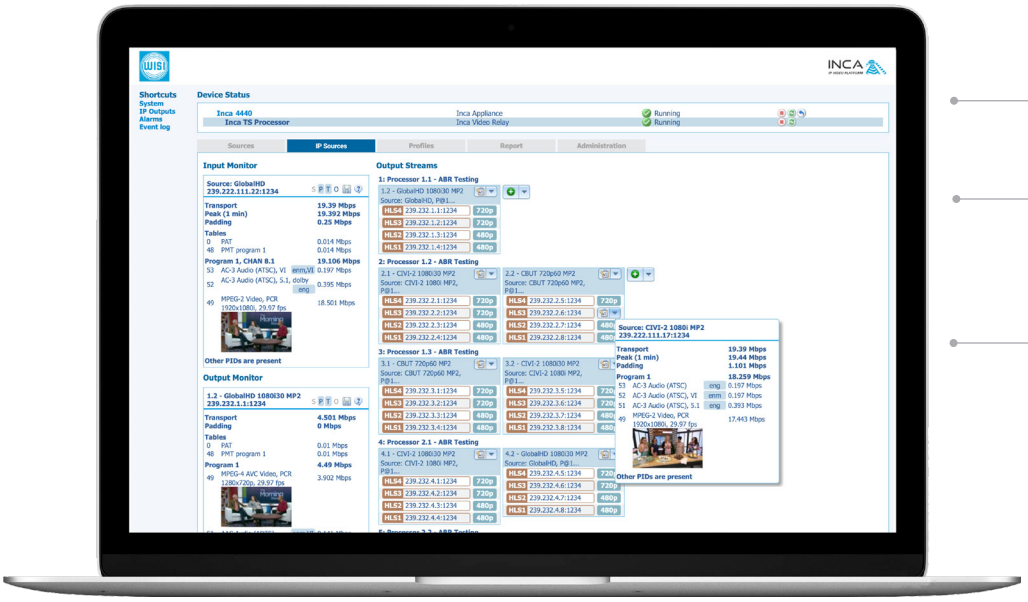
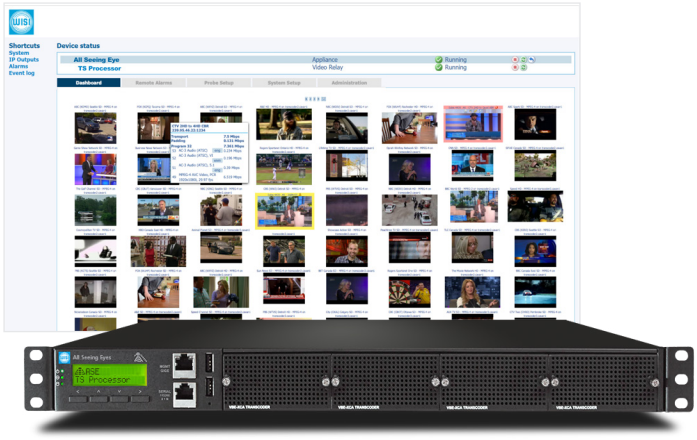
VidiOS™ Management & Monitoring Tools

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



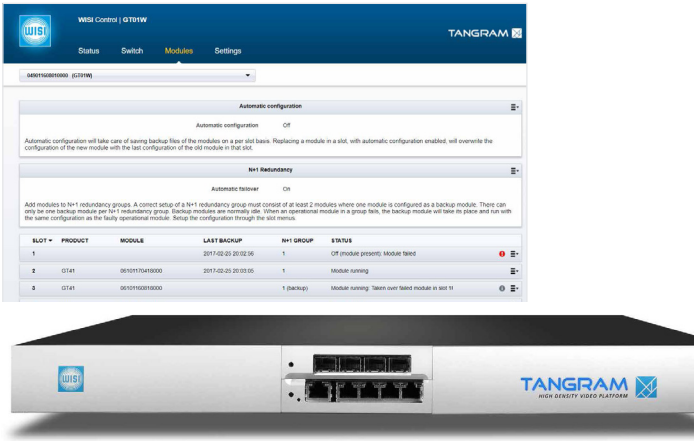
- Enables rapid configuration and deployment
- Experience deep visibility and efficient troubleshooting
- Experience effective diagnostic tools with video thumbnails, stream sample downloads, detailed stream statistics including PID and payload details, warnings and errors

Pair with the All Seeing Eye for confidence monitoring



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

Pair with the Tangram for more output options



- Enable Verimatrix, Pro:Idiom, Samsung LYNK or BISS encryption/decryption
- Deliver IP, Analog or QAM outputs
- Combine up to 6 modules in 1RU to mix different applications based on deployment needs

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Ordering Part Numbers

Inca IP Video Platform

GI01R4440	4x bay modular video processing chassis One front or rear network interface module required per chassis

Network Interface Modules

GINIC1G4	4x GigE rear network card Allows up to 4x transcode/receive modules
GINIC10G2	2x 10G SFP+ rear network card Allows up to 4x transcode/receive modules
GINIC1G8	8x GigE front network module Allows up to 3x transcode/receive modules
GINIC10G4	4x 10G SFP+ front network module Allows up to 3x transcode/receive modules

Power Supply Options

GI44SPSDC	DC power supply unit to upgrade chassis to redundant, hot swappable DC power

Hardware Processing and Receiver Modules

GIHXC103	HXC transcode module for HEVC inputs/outputs. Includes advanced de-interlacing Up to 3x HXC modules can be supported per 4440 chassis
GI30	High-density transcode module for MPEG-2/MPEG-4 with 3x transcode processors

Redundancy Licenses

GISFOVER	VidiOS™ service failover license Monitor one primary service for up to six error conditions, with user configurable thresholds Optionally fail over to secondary source, with automatic recovery to primary source when error clears
GICHARED	License for N+1 chassis redundancy (1 per redundant chassis)

Audio Transcode Licenses

GIAUX3XDM	5.1 Dolby audio transcode license for 5.1 Dolby AC-3/EC-3 sources
GIAUX3X	2.0 Dolby audio transcode license for stereo Dolby AC-3/EC-3 sources
GIAUXCTRC	Audio transcode license between MPEG-Audio and AAC Encode to AAC for additional bitrates

Transcode Licenses for HXC Module (1x License per module)

GITRC6HEH	6x HEVC HD transcode license Transcode 6x HD video streams between HEVC and MPEG-2/MPEG-4
GITRC12HE	12x HEVC SD transcode license Transcode 12x SD video streams between HEVC and MPEG-2/MPEG-4
GITRC624	6x MPEG-2/MPEG-4 HD transcode license Transcode 6x HD video streams between MPEG-2 and MPEG-4

Transcode Licenses for GI30 Modules (1x License per Transcode Processor)

GITRC4H4	4x MPEG-4 HD transcode license Transcode 4x HD video streams between MPEG-2 and MPEG-4
GITRC10S4	10x MPEG-4 SD transcode license Transcode 10x SD video streams between MPEG-2 and MPEG-4
GIFLEX2	MPEG-2 flex transcode license. Flex license can be configured in the user interface to transcode: * 2x HD MPEG-2/MPEG-4 to MPEG-2 HD/SD * 4x SD MPEG-2/MPEG-4 to MPEG-2 SD
GIFLEXABR	ABR flex transcode license. Flex license can be configured in the user interface to transcode: * 1x HD MPEG-2/MPEG-4 to 6x ABR MPEG-4 profiles, top output profile of 1080p30 or 720p60 * 2x HD MPEG-2/MPEG-4 to 4x ABR MPEG-4 profiles, top output profile of 720p30 * 2x SD MPEG-2/MPEG-4 to 5x ABR MPEG-4 profiles * 4x SD MPEG-2/MPEG-4 to 2x ABR MPEG-4 profiles *Max two downscales per source*

IP Streaming Licenses

GIPRO48	VidiOS™ 48x Direct Output License Receive full multiplexes via GigE ports, demultiplex all programs Up to 144 direct outputs per 4440 chassis from IP sources
GISTMSRT	1x license per stream, per stream Receive and decrypt one SRT stream, or send and encrypt one SRT stream
GIHLS	HLS streaming license, 1x license per Inca chassis Generate HLS outputs automatically from ABR transcoded outputs Serve up to 700 HLS clients directly, or up to 2.8 Gbps of output bandwidth to CDN or cache

More license options available, including PIP licenses for Mediaroom deployments, ask your sales rep.

To arrange an online demonstration or to discuss your project, please send a request to export@wisi.de