



## Chameleon Headend Platform Encoder and Broadcast Solution

- ✓ Receive 8VSB, QAM, SRT, ASI and/or IP
- ✓ Output as Analog, SDI, SRT, QAM, ASI and/or IP
- ✓ Encode HDMI, HD/SD-SDI and A/V inputs to IP outputs
- ✓ Optional IP RTP + FEC transmit and receive
- ✓ Full SNMP monitoring and remote control via web interface
- ✓ Low power consumption with redundant PSU options



- Launch a solution optimized for content insertion - encode and add additional video services to channel line-ups
- Enable versatility by mixing and matching modules for different applications within TRU
- Receive and transmit multiple formats simultaneously



## Applications

- ✓ Receive streams from broadcaster sites via SRT, GigE or ASI, with optional RTP + FEC
- ✓ Add local content or security camera feeds to hospitality line-ups using HDMI or SDI encoding options
- ✓ Experience an ideal solution for smaller networks and low-density applications to connect between analog to digital or RF to IP environments
- ✓ Engage with the community by streaming local content like high school sports, town council meetings, local advertisements and religious programming using HDMI, HD-SDI or A/V video sources
- ✓ Configure and manage easily with user-friendly web-based interface
- ✓ Enjoy peace-of-mind with source, module and power redundancy options
- ✓ Enjoy headend visibility and monitor streams from Chameleon with a visual mosaic using All Seeing Eye



# Chameleon Headend Platform Encoder and Broadcast Solution

## Chameleon Encoder Modules

Stream Local Content or add to Hospitality TV Line-Up, Connect Directly with Broadcaster Sites



Up to 4x HD/SD-SDI or A/V analog inputs - encode to HD/SD MPEG-4 or MPEG-2 IP outputs.



Up to 4x HDMI inputs per module - encode to HD/SD MPEG-4 or MPEG-2 IP outputs.

### GNHWENC2S Encoder

<b>HD/SDI</b>	4x inputs, audio embedded
<b>HD-SDI Input Format</b>	1080i@25/30, 720p@30/50/60
<b>SD-SDI Input Format</b>	480i@30, 576i@25
<b>Encoded Outputs</b>	4x HD/SD MPEG-2/MPEG-4 AVC IP outputs
<b>IP-FEC Inputs/Outputs</b>	32x input/output with GNSTREC software option
<b>SRT Send</b>	Up to 4x SRT streams

### GNHWENC2H Encoder

<b>HDMI Ports</b>	4x ports
<b>HDMI Input Format</b>	1080i@25/30, 720p@30/50/60, 480p@60, 480i@30, 576i@25
<b>Encoded Outputs</b>	4x HD/SD MPEG-2/MPEG-4 AVC IP outputs
<b>IP-FEC Inputs/Outputs</b>	32x input/output with GNSTREC software option
<b>SRT Send</b>	Up to 4x SRT streams

Closed Captioning pass-through not supported by encoders.

## Chameleon Processor Module

Receive and Transmit Multiple Formats Simultaneously



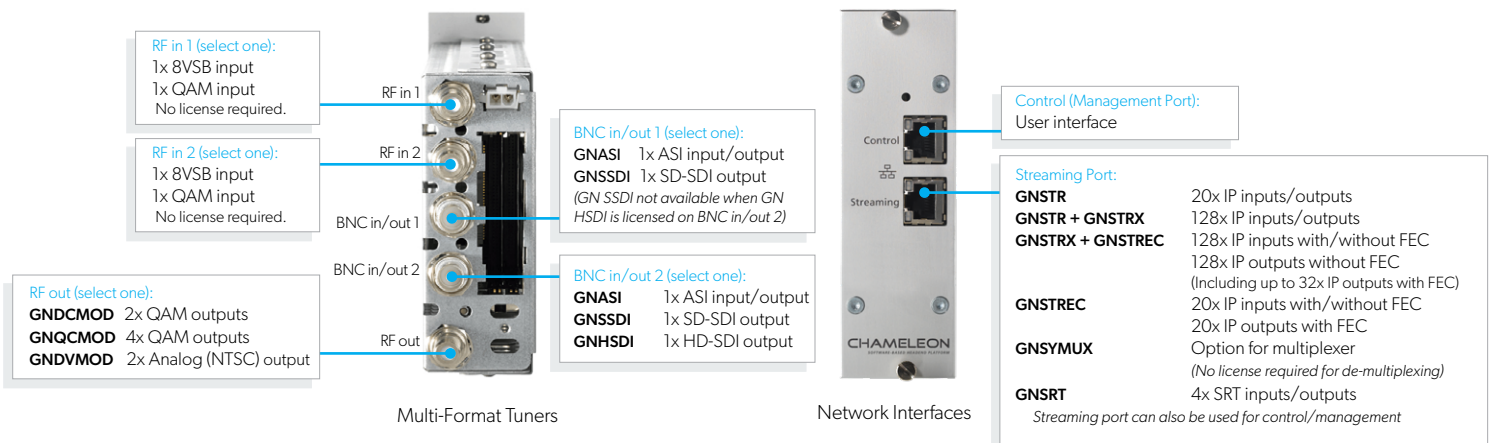
The GNHWA module features multiple input sources including 8VSB, QAM, SRT, ASI and/or IP reception. Video streams can be output as QAM, SRT, Analog (NTSC), HD/SD-SDI, ASI and/or IP.

### GNHWA Processor

<b>Codecs</b>	MPEG-2, MPEG-4 AVC, HEVC
<b>HD Video Formats</b>	1080i@30/50/60, 720p@60
<b>SD Video Formats</b>	480i@30, 576i@25
<b>Encryption</b>	BISS, AES, Samsung LYNK, Pro:Idiom
<b>SRT Send and Receive</b>	Up to 4x SRT streams

## Processor License Configuration Options

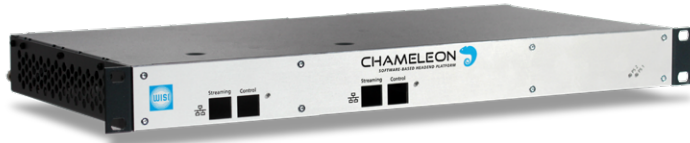
The management network interface is available to access WISI's intuitive user interface for configuration and monitoring controls. The streaming video network interface allows IP inputs and outputs, with options for FEC, multiplexing, encryption and decryption.





# Chameleon Headend Platform Encoder and Broadcast Solution

## Chameleon Chassis Options



Chameleon GN20 chassis

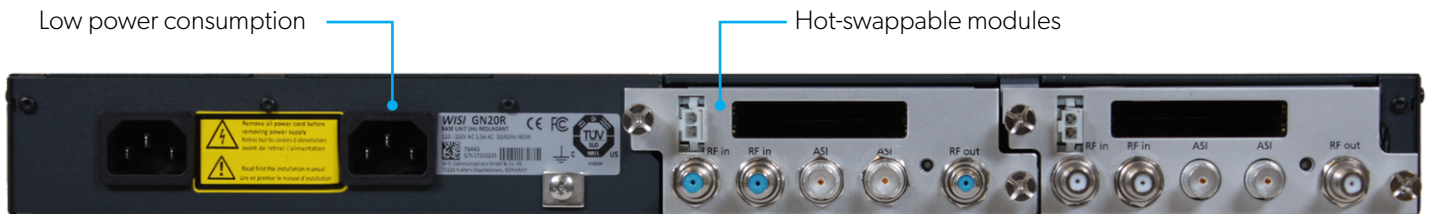


Chameleon GN50 chassis

Chassis Options	GN20R	GN20B	GN50W0110
<b>Physical</b>	1RU chassis Up to 2x Chameleon modules	1RU chassis Up to 2x Chameleon modules	3RU professional chassis Up to 10x Chameleon modules
<b>Dimensions</b>	482.6 x 44.45 x 235 mm (19" x 1.75" x 9.25")	482.6 x 44.45 x 235 mm (19" x 1.75" x 9.25")	443 x 132 x 475 mm (3RU, 19"- Rack) (17.44" x 5.2" x 18.7")
<b>Power Supply</b>	Dual redundant power, integrated fan	Single power, integrated fan	Single PSU with option for redundant power, Integrated Ethernet switch and fan
<b>Operating Power</b>	<60 W	<60 W	<245 W
<b>Operating Temperature</b>	-5 - 45°C (23 - 113°F) ETSI EN 300 019-1-3 Class 3.1	-5 - 45°C (23 - 113°F) ETSI EN 300 019-1-3 Class 3.1	-20 - 50°C (-4 - 122°F)
<b>EMC</b>	EN 50083-2, FCC CFR 47 Part 15 (Class A)	EN 50083-2, FCC CFR 47 Part 15 (Class A)	EN 50083-2, FCC CFR 47 Part 15 (Class A)
<b>Safety Compliance</b>	CE, UL/CSA/CAN 60950-1	CE, UL/CSA/CAN 60950-1	CE, UL/CSA/CAN 60950-1

## Chameleon Platform Specifications (applies to all modules)

Management		IP Streaming	
<b>Configuration</b>	Web-based user interface	<b>Remultiplexing</b>	Included with GNSYMUX
<b>Monitoring</b>	Stream monitoring and logging with GNMON All Seeing Eye integration with GNASE	<b>Stream Optimization</b>	PID filtering and remapping, PCR correction and de-jitter, Advanced PSI/SI regeneration
<b>SNMP</b>	SNMP Trap Forwarding	<b>Network Interfaces</b>	1x GigE port (1x management, 1x streaming), 10/100 Base-T management, 1000 Base-T streaming
		<b>IP-Input/Output Bitrate</b>	Max. 850 Mbit/s total
		<b>IP-Input/Output Protocols</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
		<b>IP-TS-Input/Output</b>	SPTS CBR/VBR, MPTS CBR



Back of Chameleon GN20R chassis loaded with two GNHWA processors



# Chameleon Headend Platform Encoder and Broadcast Solution

## Chameleon Ordering Part Numbers

### Chassis

<b>GN20R</b>	1RU subrack for up to 2 Chameleon modules Dual redundant power
<b>GN20B</b>	1RU subrack for up to 2 Chameleon modules Single power
<b>GN50</b>	3RU professional subrack for up to 10 Chameleon modules Single or dual redundant power
<b>GN50W0110</b>	Redundant 110 VAC PSU for GN50W0110

### Modules

<b>GNHWA</b>	Chameleon processor
<b>GNHWENC2S</b>	Chameleon encoder for HD/SDI or A/V inputs
<b>GNHWENC2H</b>	Chameleon encoder for HDMI inputs

### Encryption/Decryption (Processor Module)

<b>GNSCR</b>	32x services with simulcrypt or BISS scrambling
<b>GNSCR + GNSCRX</b>	128x services with simulcrypt or BISS scrambling
<b>GNAES</b>	32x services with AES128 or BISS2 scrambling
<b>GNAES + GNAESX</b>	128x services with AES128 or BISS2 scrambling
<b>GNLYNK</b>	32x services with Samsung LYNK scrambling
<b>GNLYNK + GNLYNKX</b>	128x services with Samsung LYNK scrambling
<b>GNPISCR8</b>	8x services with Pro:Idiom scrambling
<b>GNPISCR16</b>	16x services with Pro:Idiom scrambling
<b>GNPISCR24</b>	24x services with Pro:Idiom scrambling
<b>GNBISS</b>	8x services for BISS or BISS2 descrambling

### Audio Licences (Processor Module - Analog/SDI Output Only)

<b>GNBTS</b>	MTS/MTS+SAP (BTSC) audio output for 1x Analog output or up to 2x SDI outputs
<b>GNDOL</b>	Dolby Digital (AC-3) audio decode for 4x Analog outputs per module <i>(Required for baseband audio output in SDI. Not required if passing through encoded AC-3)</i>

### Input/Output Licences (Processor Module)

<b>GNDCMOD</b>	Option for dual QAM outputs 2x (Annex A/B/C) - One RF output port per module, up to 2x dual licenses can be applied per module
<b>GNQCMOD</b>	Option for quad QAM outputs 4x (Annex A/B/C) - One RF output port per module, up to 1x quad license can be applied per module
<b>GNVDMOD</b>	Option for 2x analog outputs (NTSC)
<b>GNSSDMOD</b>	Option for 1x SD/SDI to analog (NTSC) modulator
<b>GNDSMOD</b>	Option for 2x SD/SDI to analog (NTSC) modulators
<b>GNASI</b>	Option for 1x ASI in/out on BNC
<b>GNDAISI</b>	Option for 2x ASI interfaces on BNC
<b>GNSSDI</b>	Option for SD SDI decoder on BNC
<b>GNDSDI</b>	Option for 2x SD SDI outputs on BNC
<b>GNHSDI</b>	Option for HD SDI decoder on BNC

### Redundancy & Monitoring Licences (All Modules)

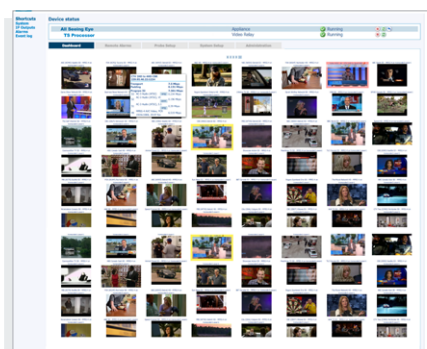
<b>GNMON</b>	License for transport stream monitoring & logging
<b>GNASE</b>	Option for rendering TS analysis and thumbnails to Inca All Seeing Eye
<b>GNRED</b>	Option for IP input signal redundancy <i>(1x per module)</i>
<b>GNRED</b>	Option for N+1, 1+1 module redundancy <i>(1x per GN50 chassis for up to 5x redundancy groups)</i>

### IP Streaming Licences (All Modules)

<b>GNSTR</b>	Option for IP streaming of up to 32x SPTS/MPTS
<b>GNSTR + GNSTRX</b>	Option extension for IP streaming up to 128x SPTS/MPTS <i>(processor only)</i>
<b>GNSTREC</b>	Option for IP streaming of up to 32x SPTS/MPTS with FEC
<b>GNSYMUX</b>	Option for multiplexer including system SI/PSI tables computation for interconnected multiplexers of this network <i>(additional option for processor, included with encoder)</i>
<b>GNSTR</b>	Option to send or receive an SRT stream (MPTS/ SPTS) with AES encryption/decryption. Up to 4x SRT licenses per module <i>(encoder module enables SRT send only)</i>

## Visual Video Monitoring with the All Seeing Eye

Compatible with WISI's Chameleon, Tangram and Inca Video platforms



- Real-time color-coding to highlight stream impairments and outages
- Monitor all IP video services in a headend, including streams from 3rd party vendors
- Monitor locally and remotely using any web browser