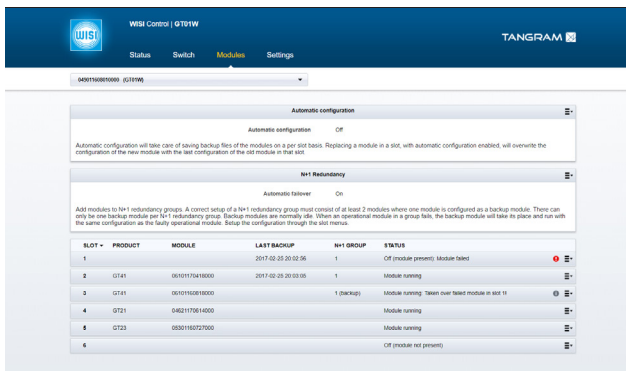




# Tangram Video Platform

## High-Density Video Processing

- ✓ Options for analog, 8VSB, QAM, ASI and encrypt/decrypt
- ✓ Low power consumption, AC or DC power options
- ✓ Bandwidth expansion with four SFP slots
- ✓ Combine up to 6 modules based on deployment needs
- ✓ Hot-swappable modules, fan trays and power supplies
- ✓ High reliability with module and source redundancy



Save rack space, power and cooling costs - consolidate multiple functions into a single integrated solution

Replace racks of legacy end-of-life or end-of-support headend equipment with one sophisticated platform

Rest easy with reliable 24/7 operation thanks to quality WISI engineering and strong North American technical support



Tangram chassis shown with GT12 module.

### Applications

- ✓ Protect streams for hospitality applications with Pro:Idiom, BISS, Samsung LYNK encryption, or Verimatrix bulk decryption
- ✓ Integrate into existing infrastructure by replacing costly equipment with a high-density IP to QAM modulator
- ✓ Receive up to 48x 8VSB, off-air channels and deliver as IP outputs
- ✓ Connect directly with broadcasters or maintain secure point-to-point signals with SRT or ASI
- ✓ Maintain legacy revenue streams for analog customers by bridging digital headend equipment to analog services
- ✓ Improve visibility with a visual mosaic of all headend streams using All Seeing Eye monitoring platform



### Available Modules

Up to 6 modules can be used in a single Tangram chassis. One module type can be installed exclusively or in combination with other modules to support different applications.



**GT21  
IP to Analog**  
Up to 6x analog channels on 2x RF outputs



**GT23  
IP to QAM**  
Up to 12x QAM channels on 2x RF outputs



**GT31  
Satellite Receiver**  
4x DVB-S/S2/S2x and ISDB-T tuners on 4x RF inputs



**GT32  
ASI to IP/IP to ASI**  
4x ASI input or output, demux & passthrough



**GT33  
8VSB/QAM to IP**  
8x 8VSB/QAM tuners on 4x RF inputs



**GT41  
Video Processor**  
Encrypt/decrypt, mux/demux, SRT, RTP + FEC

### Module Specifications

GT21 IP to Analog	
<b>IP Inputs</b>	32x Services
<b>IP Input Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>IP TS Input Format</b>	SPTS CBR/VBR, MPTS CBR
<b>Video Downscaling</b>	2x MPEG-4 HD and 2x MPEG-2 SD concurrent (NTSC)
<b>Audio Dolby Decoding</b>	Yes, with GTDOL license

GT23 IP to QAM	
<b>IP Inputs</b>	128x Services
<b>IP Input Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>Modulation Compliance</b>	DVB-C, Annex B
<b>Modulation Type</b>	16-, 32-, 64-, 128-, 256-QAM
<b>Service Remultiplexing</b>	Yes, with GTSYMUX license
<b>Service Processing</b>	PID filtering & remapping, PCR correction and de-jitter, Advanced PSI/SI regeneration

GT31 Satellite Receiver	
<b>RF Input Tuners</b>	4x Tuners
<b>Modulation Type</b>	DVB-S/S2/S2x or ISDB-T
<b>IP Outputs</b>	64x (128x with GTSTRX license)
<b>IP Output Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>IP FEC Outputs</b>	32x, with GTFEC license
<b>Service Remultiplexing</b>	Yes, with GTSYMUX license

GT32 ASI to IP/IP to ASI	
<b>ASI Inputs &amp; Outputs</b>	4x Ports
<b>IP Inputs &amp; Outputs</b>	64x Streams (128 with GTSTRX license)
<b>IP Input &amp; Output Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>IP TS Input &amp; Output Format</b>	SPTS CBR/VBR, MPTS CBR
<b>IP FEC Inputs &amp; Outputs</b>	Yes, with GTFEC license
<b>Service Remultiplexing</b>	Yes, with GTSYMUX license

GT33 8VSB/QAM to IP	
<b>RF Inputs</b>	8x Tuners per module 8VSB ATSC or QAM DVB-C Annex B
<b>IP Output Bitrate</b>	Max. 425 Mbit/s per output TS, Max. 850 Mbit/s total
<b>IP Output Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>IP FEC Outputs</b>	32x, with GTFEC license
<b>IP Packet Format</b>	MPEG-TS over UDP/IP and RTP/IP

GT41 Video Processor	
<b>IP Inputs &amp; Outputs</b>	32x or 64x Streams (128 with GTSTRX license)
<b>IP Input &amp; Output Protocol</b>	UDP/RTP/RTP+FEC Unicast and Multicast, IGMP v2 and v3
<b>IP TS Input &amp; Output Format</b>	SPTS CBR/VBR, MPTS CBR
<b>IP FEC Inputs &amp; Outputs</b>	32x or 64x or 128x streams (with GTFEC license)
<b>Service Remultiplexing</b>	Yes (GTSYMUX functionality is included)
<b>Encryption</b>	AES128, Samsung LYNK, Pro:Idiom, BISS
<b>Bulk Decryption</b>	BISS, Verimatrix
<b>SRT Receive</b>	Up to 4x SRT streams

### System Specifications

Management	
<b>Configuration</b>	Web-based user interface
<b>Monitoring</b>	Stream monitoring and logging with GTMON All Seeing Eye integration with GTASE
<b>Network Interface</b>	4x GigE Use GT12 module to add 4x SFP
<b>SNMP</b>	SNMP Trap Forwarding

Transport Stream Processing	
<b>Input &amp; Output Codecs</b>	Support for MPEG-2 and MPEG-4, HEVC, SPTS & MPTS, demux & remux
<b>Optimization</b>	Strip null padding, jitter correction, PID & program remap & filter*

\* Not applicable to GT21 IP to Analog module



# Tangram Video Platform

## High-Density Video Processing

Chassis Options	GT01W0110 (for AC power)	GT01W0048 (for DC power)
<b>Physical</b>	1RU chassis with backplane, fan tray and integrated GigE switch	1RU chassis with backplane, fan tray and integrated GigE switch
<b>Dimensions</b>	19" x 1.77" x 18.6" (483 x 45 x 473 mm)	19" x 1.77" x 18.6" (483 x 45 x 473 mm)
<b>Power Supply</b>	Single or Redundant PSU 110V AC	Single or Redundant PSU 48V DC
<b>Power Consumption</b>	<250 W	<250 W
<b>Operating Temperature</b>	0 - 45°C	0 - 45°C
<b>EMC</b>	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

Ordering Part Numbers	
<b>Chassis Options</b>	
<b>GT01W0110</b>	Tangram chassis for AC power, capacity for up to 6x modules
<b>GT01W0048</b>	Tangram chassis for DC power, capacity for up to 6x modules
<b>GT55W0110</b>	Redundant power supply 110 V AC
<b>GT55W0048</b>	Redundant power supply 48 V DC
<b>Module Options</b>	
<b>GT12</b>	SFP extension module
<b>GT21</b>	Tangram IP to analog (NTSC) module, up to 6x MPEG-2/4 SD or 3x MPEG-2/4 HD plus 3x MPEG-2/4 SD IP sources
<b>GT23</b>	Tangram IP to QAM module, 12x QAM outputs
<b>GT31</b>	Tangram satellite receiver module, 4x DVB-S/S2/S2x & ISDB-T tuners, 4x RF inputs
<b>GT32</b>	Tangram ASI to IP/IP to ASI module, 4x ASI input/output
<b>GT33</b>	Tangram 8VSB/QAM to IP module, 8x ATSC/QAM receivers, 4x RF inputs
<b>GT41</b>	Tangram universal processing module for scrambling, mux/demux, up to 64x SPTS/MPTS (includes GTSTR & GTSYMUX for IP streaming)
<b>Streaming/Multiplexing</b>	
<b>GTSTRX</b>	License option extension for IP streaming in GT31, GT32, GT33 & GT41 up to 128x SPTS/MPTS
<b>GT FEC</b>	IP streaming in/out FEC per module. Up to 128x input & 32x output.
<b>GTSYMUX</b>	License option for multiplexer for GT23, GT31, GT32 & GT33
<b>GTSRT</b>	License option for SRT receive with AES decryption for GT41. One SRT connection per license. Up to 4x SRT connections per module.
<b>Audio Licenses</b>	
<b>GTBTS</b>	4x BTSC/ (2 SAP) option for GT21
<b>GTDOL</b>	6x Dolby AC3 decode option for GT21
<b>Encryption/Decryption</b>	
<b>GTAES</b>	License option for AES128 scrambling for GT31 & GT41 for 32x services
<b>GTAES + GTAESX</b>	License option extension for AES128 scrambling for GT31 & GT41 for 128x services
<b>GTLYNK</b>	License option for Samsung Hotel TV LYNK scrambler for 32x services in one MPTS (IP output only)
<b>GTLYNKX+GTLYNKX</b>	License option extension for Samsung Hotel TV LYNK scrambler for 128x services in GT31 & GT41
<b>GTPISCR8</b>	License option for Pro:Idiom scrambler for 8x services in GT41 (IP output only)
<b>GTPISCR16</b>	License option for Pro:Idiom scrambler for 16x services in GT41 (IP output only)
<b>GTPISCR24</b>	License option for Pro:Idiom scrambler for 24x services in GT41 (IP output only)
<b>GTSCR</b>	License option: - DVB simulcrypt (CSA) scrambling for GT23 & GT41 for up to 32x services - BISS scrambling for GT41 for up to 32x services
<b>GTSCR + GTSCRX</b>	License option extension: - DVB simulcrypt scrambler (CSA) for GT23 & GT41 for up to 128x services - BISS scrambling for GT41 for up to 128x services
<b>GTBISS</b>	License option for BISS descrambling for 8x services in GT31 & GT41
<b>GTVMX</b>	License option for Verimatrix bulk descrambling (AES128) for 32x services in GT41
<b>GTVMX + GTVMXX</b>	License option extension for Verimatrix bulk descrambling (AES128) for 128x services in GT41
<b>Monitoring</b>	
<b>GTASE</b>	Module license option for rendering TS info & thumbnails in Inca All Seeing Eye - powerful headend monitoring tool with overview mosaic
<b>GTMON</b>	License option for basic transport stream monitoring & logging per module
<b>Redundancy</b>	
<b>GTRED</b>	License option for input redundancy per GT module

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