TANGRAM

WISI

High Density Video Processing Platform

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WISI Tangram Video Platform

The WISI Tangram Video Platform is a high density digital TV Headend for contribution of digital TV via IP Networks and end to end IPTV solutions such as On demand TV, Connected TV and OTT (Over The TOP – WEB TV).
The platform is highly customizable and offers advanced DVB stream processing in a small footprint 1 RU chassis concept.
The GT 01 chassis can be equipped with 6+1 modules and comes with an integrated high speed GigE switch.
Six processing modules are rear loaded boards, which perform all necessary signal processing functions. The platform can be used in a central or distributed Headend architecture and provides the following processing functions in a central location: DVB-IP Gateway for DVB-S/S2, -C, -T, -T2, Descrambling, Remultiplexing, Scrambling, PSI/SI-Processing and Modulation.
In a decentralized architecture with regional Hubs, the modulation is done in the hub site and the aggregated digital TV streams are transported via an IP network and are terminated in Edge-QAMs, -PALs and -FMs for re-modulation and transmission in HFC networks.
A high capacity switching module implements two major functions of the WISI Tangram Video Platform. Firstly, it operates as a configurable switching unit for audio/video streaming via Gigabit Ethernet. Secondly, it provides the management interface for controlling the entire Tangram unit.
The GT supports SPTS (Single Program TS) and MPTS (Multi Program TS) as well as unicast and multicast SPTS/MPTS traffic including IGMP.
The GT 01 chassis can be equipped with two load sharing redundant power supplies and contains high performance monitored fans for cooling. Modules, fans and power supplies are hot swappable.

The TANGRAM product portfolio is composed of the modules mentioned in the table on the right.

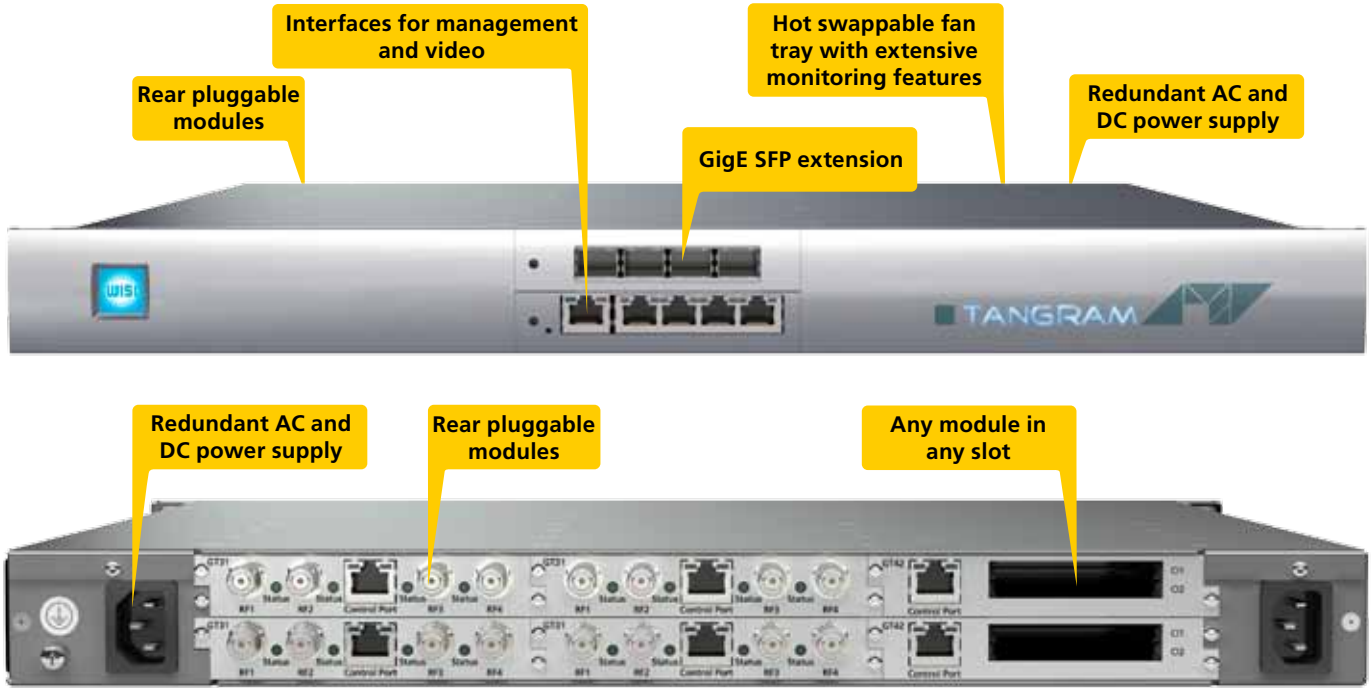
General features:

- Customizable headend architecture for CATV & IPTV
- Advanced DVB stream processing
- Small footprint in 1RU chassis
- 6+1 modules
- Hot swappable fan tray
- Fully redundant concept (1+1, n+1)
- Switch + passive backplane
- Scrambling + MUX function
- High density, high quality, high performance, high flexibility
- Edge modulation QAM, PAL, FM
- DVB-Gateway, acquisition, aggregation
- DVB-CI interfaces for service descrambling
- RJ45 + SFP interfaces

Tangram Video Platform Components:

GT 01	19" 1 RU chassis with backplane, power supply (48 VDC/230 VAC), fan tray and 16 port GigE switch + control
GT 12	Switch extension board SFP
GT 21	6× IP to PAL on two RF ports
GT 22	16× IP to FM on one RF port
GT 23	8× IP to QAM with Remux and scrambler on two RF ports
GT 31	4× input universal frontend DVB-S/-S2/-T/-C
GT 42	4× CI module
GT 50 W 0048	Redundant power supply 48 VDC
GT 50 W 0230	Redundant power supply 230 VAC

System Overview



16 port GigE switch + control

- Operates as a configurable switching unit for audio/video streaming via Gigabit Ethernet.
- Provides the management interface for controlling the entire GT unit.

Streaming interface

- Standard 1000BASE-T, 100BASE-TX, 10BASE-T
- Data format Unicast/Multicast SPTS/MPTS
- Encapsulation MPEG-TS over UDP/RTP

Analogue Streaming interface

- Standard 1000Base-T, 100Base-TX, 10Base-T
- Protocol SNMP, HTTP
- User Interface Webserver/HTML

Supplement modules

GT 12 Switch extention board with 4 SFP slots

- Provides optical or electrical access
- Provides port and service redundancy

GT 12

GT 42 Descrambling module

- Module with 4 CI-slots
- Support of Multi Channel Decryption (MCD)
- Decryption of MPEG-2 & MPEG-4 streams

GT 50 W 0048 Redundant power supply 48 VDC
GT 50 W 0230 Redundant power supply 230 VAC

System applications

DVB-IP Gateway

GT 31 – Streamer

- Multi Transportstream reception for DVB signals
- 6×4 DVB-S/-S2/-T/-C/-ASI inputs
- Gigabit Ethernet output for MPTS and SPTS signals
- Teletext and EPG data handling
- Web browser user interface
- Separate management port
- Supports GT42 (4x CI) for service descrambling
- Support for Multi Channel Decryption (MCD) of the 4 CIs
- 1+1, n+1 redundancy option

Edge processing

GT 21 – Edge PAL

- Full PAL/NTSC-M/SECAM support
- Analogue Stereo and NICAM
- Supports GT42 (4x CI) for service descrambling
- 36 PAL channels per 1 RU

GT 22 – Edge FM

- Full MPEG-1/2 audio decoding
- Digital FM modulation
- RDS insertion
- 48 FM channels per 1 RU

GT 23 – Edge QAM

- Multiplexing & scrambling
- DVB-C
- Supports GT42 (4x CI) for service descrambling
- 48 QAM channels per 1 RU

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