



Release Notes for GT41 – IP Processing Module

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1 Release Notes for SW 3.0 (GT01W GT11 SW ≥ 3.1)

1.1 About this document

This document is related with the Tangram system and covers specific aspects of the Firmware releases. These release notes do not reflect all changes between software versions. Minor changes and usability improvements in the web UI, are for example not shown.

History of this Document:

Version	Date	Changes
SW 3.0 V1.0	2016-06-03	Released

Type of Release:

Type	Description
GA Release	General available A General Release has no restrictions for testing and includes the last Service Releases.
SR Release	Service Release A Service Release is a special Release to solve a customer specific problem.
TR Release	Test Release A Test Release is a special Release to solve some problems and add some features.

1.2 About this release

Release Name	Tangram GT41 Rel. 3.0
Release File Name	GT41_3.0.bin
Release Status	This release is a GA release.
Release Build Date	2016-06-02
Release content	The release contains all software needed to run on GT41.
Dependencies	<ul style="list-style-type: none"> ▪ GUI web browser: Chrome ≥ 40, Firefox ≥ 35 or Internet Explorer ≥ 11 For getting the best performance it would be recommended to use the Google Chrome browser. (Other browser might work, but the functionality cannot be guaranteed) ▪ GT41 SW3.0 runs only with GT01W GT11 SW ≥ 3.1

1.3 New Features

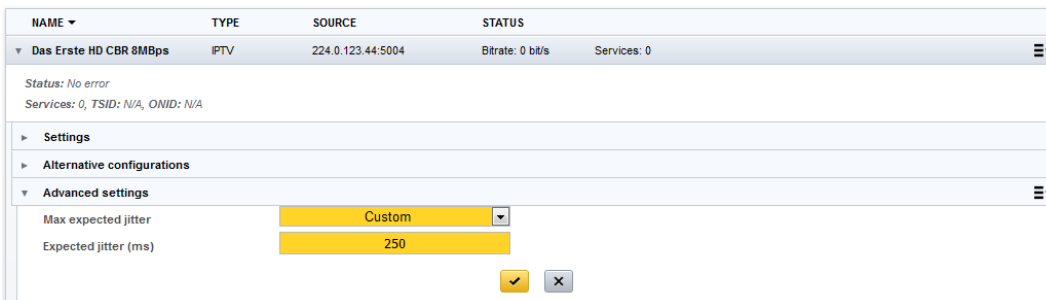
- Higher performance by new processing software (FPGA and FW)
 - up to 128 IP Inputs and Outputs (MPTS CBR or SPTS CBR/VBR) instead 64 with SW2.4
(per default 64 IP Inputs and Outputs are enabled, with GTSTRX Extension license up to 128 IP Inputs and Outputs)
 - FEC support up to 128 IP Inputs instead 64 with SW2.4
 - Operation modes and number of inputs/outputs:

	Operation Mode	Input	Input Type	Output	Output Type
GT41	Descrambler mode	128	IP UDP/RTP/RTP+FEC MPTS CBR or SPTS VBR/CBR	128	IP MPTS CBR or SPTS VBR/CBR
				32	IP MPTS CBR or SPTS CBR with FEC
	Scrambler mode	128	IP UDP/RTP/RTP+FEC MPTS CBR or SPTS VBR/CBR	128	IP MPTS CBR or SPTS VBR/CBR
				32	IP MPTS CBR or SPTS CBR with FEC
	Pro:Idiom mode	32	IP UDP/RTP/RTP+FEC MPTS CBR or SPTS VBR/CBR	32	IP MPTS CBR or SPTS VBR/CBR
				32	IP MPTS CBR or SPTS CBR with FEC

Adding Scrambling support for DVB-CSA, AES und Samsung LYNK scrambling

(enabled by GTSCR for scrambling up to 32 service, GTSCRX extension up to 128 service, GTAES for up to 128 service, GTLYNK for Samsung scrambling up to 8 service)

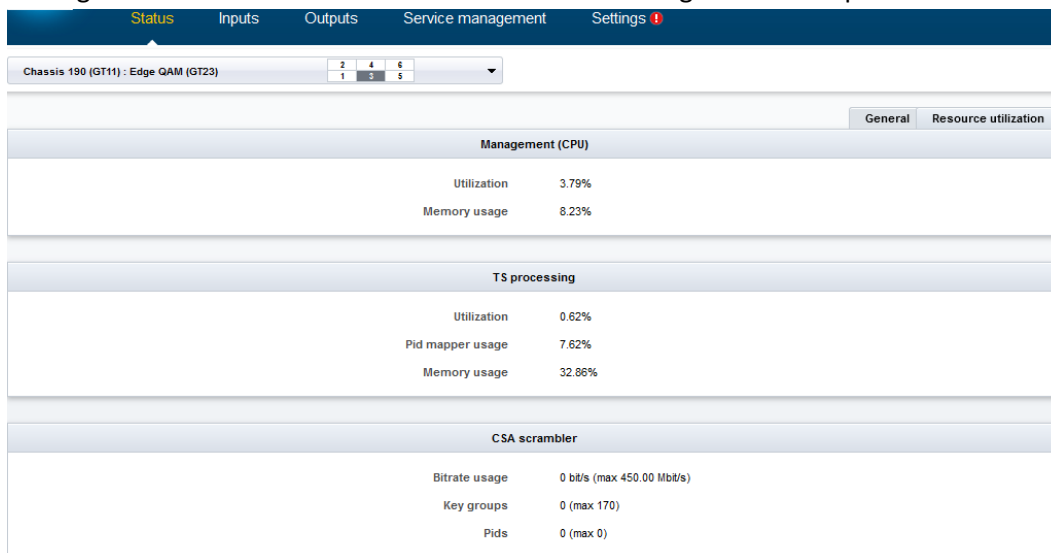
- Scrambling throughput max. 850 Mbps (DVB-CSA) and max. 850 Mbps (AES, LYNK)
 - Adding BISS descrambling support (enabled by GTBISS licenses, up to 8 service)
 - Descrambling BISS throughput max. 300 Mbps
 - T2-MI de-encapsulation of IPTV inputs (enabled by GTT2MIDE, GTDT2MIDE, GTQT2MIPL licenses) up to 2 T2-MI de-encapsulators, max. 8 PLPs per T2-MI
 - Processing bitrate max. 1200 Mbps total instead 600 Mbps with SW2.4
 - Number of support PIDs max. 4000 total instead 1440 with SW2.4
- Adding advanced settings for IP inputs, max. expected jitter settable (default = 100ms)



The screenshot shows a configuration page for an IPTV input named 'Das Erste HD CBR 8MBps'. Under the 'Advanced settings' section, 'Max expected jitter' is set to 'Custom' and 'Expected jitter (ms)' is set to 250. There are confirmation buttons (checkmark and X) at the bottom of the settings area.

→ Support for bitrates with high dynamic – VBR and higher IP Jitter

- Adding Resource utilization monitor for better controlling the module performance



The screenshot displays the 'Resource utilization' tab for 'Chassis 190 (GT11) : Edge QAM (GT23)'. It is divided into three sections:

- Management (CPU):** Utilization 3.79%, Memory usage 8.23%
- TS processing:** Utilization 0.62%, Pid mapper usage 7.62%, Memory usage 32.86%
- CSA scrambler:** Bitrate usage 0 bit/s (max 450.00 Mbit/s), Key groups 0 (max 170), Pids 0 (max 0)

1.4 Improvements and Bug fixing

- Optimized web-ui (better performance)
- Optimized handling of IP inputs with jitter and VBR.
- Optimized performance
- EIT sharing between TANGRAMs could stop after some time.

2 Change log

2.1 SW 2.4 (12/2015)

- Some minor bug fixes.

2.2 SW 2.3 (08/2015)

- Support of FEC on IP Inputs (Enabling with GTFEC license)
- Access and all changes will be logged and can be provide by syslog (Precondition: authentication is enabled)
- Enhancements of SNMP get information, for more details take a look on the MIB files.
- Improvement of IP inputs (On the IP inputs services and bitrates = 0 was shown rarely and the inputs was no longer available)
- Added Note: Make sure Pro:Idiom "Scramble all" does not exceed maximum number of services.

2.3 SW 2.2 (07/2015)

- Adding CSA simulcrypt scrambler for IPTV out (Enabling with GTSCR license, max. 32 inputs and outputs, scrambling up to 64 PIDs, new operation mode: CSA scrambler)
- Adding Pro:Idiom scrambler for IPTV out (Enabling with GTPISCR license, max. 8 inputs and outputs, scrambling up to 8 services and 10 PIDs each, new operation mode: Pro:Idiom scrambler)
- Enhanced IP input redundancy trigger configuration
Adding bitrate and service threshold

Redundancy mode ON OFF

Linger time (seconds)

Latency time (seconds)

Bitrate threshold ON OFF

Minimum bitrate (kbit/s)

Services threshold ON OFF

Minimum number of services

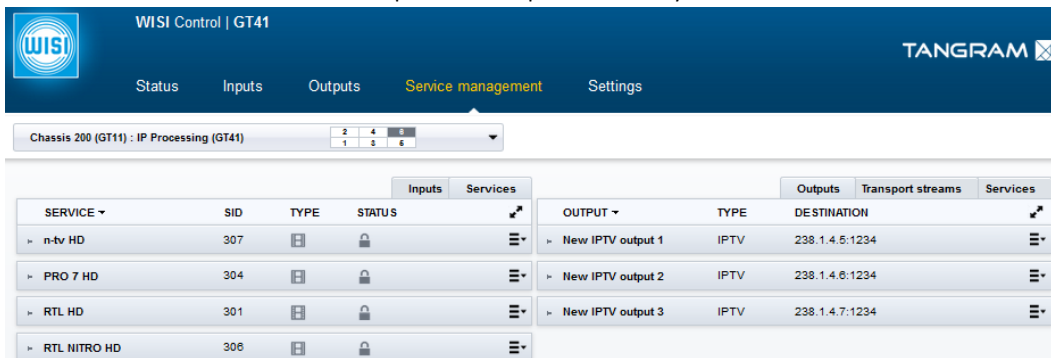
- Improvement of SI table generation (services ordered by SID) after remultiplexing

2.4 SW 2.1 (03/2015), (GT01W GT11 SW ≥ 2.2)

- Support of GT01W GT11 SW2.2
- UI: IGMP selection on the settings tab is available again.
- Improvements of the stability – unexpected reboot (memory allocation failure).

2.5 SW 2.0 (03/2015), (GT01W GT11 SW ≤ 1.4.1)

- New UI look-n-feel, and UI enhancements (UI)
The look-n-feel of the user interface is updated for improved usability.



The screenshot shows the WISI Control | GT41 web interface. The top navigation bar includes 'Status', 'Inputs', 'Outputs', 'Service management', and 'Settings'. The 'Service management' section is active, displaying a table of services and outputs.

Inputs				Services			Outputs		Transport streams	Services
SERVICE	SID	TYPE	STATUS	OUTPUT	TYPE	DESTINATION				
n-tv HD	307	[Icon]	[Icon]	New IPTV output 1	IPTV	238.1.4.6:1234				
PRO 7 HD	304	[Icon]	[Icon]	New IPTV output 2	IPTV	238.1.4.6:1234				
RTL HD	301	[Icon]	[Icon]	New IPTV output 3	IPTV	238.1.4.7:1234				
RTL NITRO HD	306	[Icon]	[Icon]							

- Type of service for IP outputs settable via UI (UI, FPGA)

- Add an warning on Web-UI if MPTS VBR output is configured (MPTS VBR is not defined by a standard)

2.6 SW 1.0 (08/2014)

- Initial Release
- Input: 64 SPTS (CBR or VBR)^{*1} | 16 MPTS (CBR or VBR)^{*2}
Output: 16 MPTS (CBR or VBR)^{*1} | 64 SPTS (CBR or VBR)^{*2}
- Multiplexing/Remultiplexing^{*3}
- PID Remapping and filtering
 - ^{*1} operation mode "splitter"
 - ^{*2} operation mode "combiner"
 - ^{*3} the multiplexing functionality (GTMUX) is included in the hardware