



# TANGRAM

## Release Notes for GT42 – Universal descrambler Module

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## 1 Release Notes for SW 3.0.2 (GT01W GT11 SW ≥ 3.1)

### 1.1 About this document

This document is related with the Tangram system and covers specific aspects of the software 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 3.0.2 V1.0	2016-11-28	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.

### 1.2 About this release

Release Name	Tangram GT42 Rel. 3.0.2
Release File Name	GT42_3.0.2.bin
Release Status	This release is a GA release. It replaces all earlier (service) releases.
Release Build Date	2016-11-28
Release content	The release contains all software needed to run on GT42.
Dependencies	<ul style="list-style-type: none"> <li>▪ GUI web browser: Chrome ≥ 40, Firefox ≥ 35 or Internet Explorer ≥ 11 (Other browser might work, but the functionality cannot be guaranteed)</li> <li>▪ <b>GT42 software 3.0.2 runs only with GT01W GT11 software ≥ 3.1</b></li> </ul>

### 1.3 New Features

- New advanced setting for CI modules to support non-compliant DRE Multi PRO CAMs. This requires hardware revision 1.3A (1301) or later of the GT42.

### 1.4 Improvements and Bug fixing

- PCR on separate PID now handled correctly.
- Fixed issue that caused descrambled services not to be output.

- Fixed issue that could cause the GT42 to crash when configuring it.
- Fixed issue that could cause the GT42 to not descramble correctly after configuration.
- Fixed issue that could lead to CC errors when multiple CAMs had different configuration.

## 2 Change log

### 2.1 SW 3.0.1 (09/2016)

- Added support for non-compliant DRE Multi PRO CAMs via advanced setting.
- Stability improvements (Errors: Unexpected reboot due to memory allocation failure).
- Re-added IGMP selection on the settings tab in the UI.
- Fixed problem that caused blocking of automatically added ECM PIDs to not work after reboot.

### 2.2 SW 3.0 (06/2016)

- Higher performance by new processing software.
  - up to 128 IP inputs and outputs (MPTS CBR or SPTS CBR/VBR).
  - FEC support up to 128 IP inputs.
  - Descrambling of content from multiple input sources, e.g. "Remultiplexing before CI".
  - Operation modes and number of inputs/outputs:
  - Processing bitrate increased to 1200 Mbps.
  - Increased handling of PIDs. Now 4000 PIDs can be handled.
  - HEVC content (service type 0x1F and stream types 0x24 and 0x25) correctly displayed in UI.
- Adding advanced settings for IP inputs, max. expected jitter settable (default = 100ms).
  - Support for bitrates with high dynamic – VBR and higher IP Jitter
- Adding Resource utilization monitor for better controlling the module performance
- Optimized web-UI (better performance).
- Optimized handling for jitter on VBR IP inputs.
- Fixed problem that caused EIT sharing between TANGRAMs to stop after some time.

### 2.3 SW 2.4 (12/2015)

- Some minor bug fixes.

### 2.4 SW 2.3 (08/2015)

- 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)

### 2.5 SW 2.2 (07/2015)

- 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

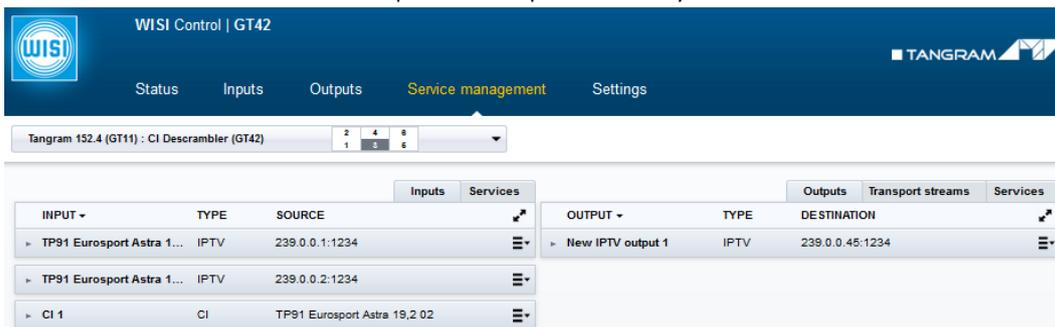
- Improvement of SI table generation (services ordered by SID) after remultiplexing
- Improvements if internal CAM communication – no PAT and PMT errors (CI task > 90%, Uptime was stopped in the UI)

### 2.6 SW 2.1 (05/2015)

- Support of GT01W GT11 FW2.2
- UI: IGMP selection on the settings tab is available again.

### 2.7 SW 2.0 (02/2015)

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



- Type of service for IP outputs settable via UI (UI, FPGA)
- CAM supervision and watchdog is supported by the FPGA --> no cc-errors on active watchdog.
- Add an warning on Web-UI if MPTS VBR output is configured (MPTS VBR is not defined by a standard)
- Improved streaming of PCR accuracy (FPGA) → less PCR accuracy errors (Priority 2 TR 101290)
- Add error flag on service management tab if a descramble error is existing (UI)

### 2.8 SW 1.5 (11/2014)

- Support of IP TS Inputs with VBR and FEC (FPGA)
- Support of GT01Ox chassis (FW)
- FEC dimensions on IPTV input streams with FEC will be shown correctly on the UI (UI)
- Same SID order in the Output PAT as in the input PAT (Add all service)

### 2.9 SW 1.4.3 (07/2014)

- 60 output streams are configurable, now (FW, FPGA)
- Internal optimization of IPTV output streams with 0 bitrate (FW, FPGA)

### 2.10 SW 1.4.2 (07/2014)

- Improvements on the monitoring of the scrambled PIDs – unable to descramble all PIDs (FW, UI)

- Optimization of the CI source selection – none (FW)
- Optimization of the internal memory usage – unit rebooting (FW)

### 2.11 SW 1.4.1 (05/2014)

- Disable CI smoother as default (FW)
- Optimization of the CI smoother (FPGA)
- Improvements on the watchdog – watchdog failure, reboot (FW)

### 2.12 SW 1.4 (03/2014)

- FEC error protection for 4 IP outputs – FEC operation mode (FPGA,UI)
- CAM supervision and watchdog with SNMP traps (FW, UI)
- Enable and disable PSI/SI tables via UI (UI)
- Support of multiple SNMP traps destinations (UI)
- Optimization of configuration for multiple IP outputs (UI)
- Including SAP (Session Announcement Protocol) for IPTV channel scan (FW)
- Improvements on Service descrambling (FW)

### 2.13 SW 1.3 (01/2014)

- Extension the Output streams to 60 MPTS/SPTS VBR or CBR (FPGA)
- Adding diagnostic file download (FW)
- Optimization of status and displaying scramble flags on UI (FW)
- Improvements on Service descrambling (FW)
- Improvements on IP Input streaming (FPGA)
- Optimization of UI communication via GT01W – proxy (FW)

### 2.14 SW 1.2.1 (10/2013)

- Optimization of Memory Management – Increasing System Heap (FW)

### 2.15 SW 1.2 (08/2013)

- Optimization of VLAN Tags on the IP Input Streams (FPGA, 1.1srA1)
- Adding the Power Reset functionality of a CA-Module (UI)
- Extension the Output streams to 32 MPTS/SPTS VBR or CBR (FPGA)
- Optimization of the User-Management (UI)
- Adding Backup and Restore functionality (FW)
- Basic Support of SNMP v1 and SNMPv2c (SNMP)
- Improvements of the Service Names on the Output Service Management (UI)
- Optimization of Unicast Output Streaming (FW)
- Output streaming optimization during a CAM configuration (FW)
- Optimization of Date & Time information on a TS (FW)

### 2.16 SW 1.1 (07/2013)

- Including a autonomic Manager (FW)
- Optimization of internal Management
  - Using a reserved VLAN-ID for internal communication between GT11 and the modules
  - Access to all modules in one GT01 via GT11 without a configured module Management IP Address (FW)
- Support of generation from EITs for each SPTS Stream (FW)
- Extension the Output streams to 20 MPTS/SPTS VBR or CBR (FPGA)
- Excluding the Management Settings on a Factory Reset (FW)

- Optimization of LCN configuration and playout (FW)
- Plausibility check of Settings - LCN, NID, ONID, ... (UI)
- Optimization of a PID Update after the “unblock” operation (FW)
- Plausibility check of Output Settings – same Address and Port (FW)
- Optimization the displaying of measured bitrate (UI)
- Optimization of SDT Update (FW)

### **2.17 SW 1.0 (07/2013)**

- Settings Optimization of IPTV Input Streams (UI)
- Support of PSI/SI handling (FW)
  - Remove a CA descriptor in the PMT
  - Blocking PIDs for example EMM, ECM, CAT
- Optimization the Displaying of Scrambled/locked Service (UI)
- Optimization of the Rescue Mode (UI)

### **2.18 SW 0.91 (04/2012)**

- Optimization the measurements of bitrates (FW)
- Optimization of Slot Detection on GT01 chassis

### **2.19 SW 0.90 (04/2012)**

- Support of 4 MPTS/SPTS input and output streams (FPGA)
- Support of 4 MPTS/SPTS Streams for descrambling (FPGA)
- Support of Remultiplexing functionalities (FPGA)