

Transport-Stream Analyser Installation



1. Introduction

The *StreamXpert™* is DekTec's real-time/offline transport-stream analyzer. It is used to analyze/monitor live incoming transport-streams received with one of DekTec's DVB input devices or for offline analysis of recorded transport-stream files.

The main features of the *StreamXpert* are:

- Real-time and offline analysis, monitoring and recording of MPEG-2 transport streams;
- Real-time, analysis and monitoring of OTT HTTP Smooth Streaming (MS-SSTR) and MPEG-DASH on-demand and live streams;
- Complete diagnostic and statistical information for PIDs, services, components and tables;
- Template-based decoding of tables in MPEG-2 private section format;
- Integrated decoder video/audio decoder with support for MPEG-1/2 video, AVC/H.264 Video, HEVC/H.265 Video, MPEG audio, (HE-)AAC audio, AC3 and AC4 audio;
- Unique PID grid for an instant overview of the entire contents of the transport stream;
- Modern and intuitive GUI.

A setup program is available for easy installation or upgrading of the *StreamXpert* software. The installation package includes installation support for the *Dta*, *DtaNw*, *DtPcie* and *Dtu* device drivers, which are required to run the *StreamXpert*.

1.1. DekTec Cards Supported by StreamXpert

The *StreamXpert* supports the following DekTec PCI/PCI-Express cards, USB-2/3 and IP adapters for analysis of streams:

Type	Description	Input Format
PCI		
DTA-112	ATSC/DVB-T/QAM modulator	ASI
DTA-115	Multi-standard modulator	ASI
DTA-120	DVB-ASI input	ASI
DTA-122	DVB-SPI (LVDS) input	SPI
DTA-124	Quad ASI/SDI input	ASI
DTA-140	DVB-ASI input+output	ASI
DTA-145	ASI/SDI input+output, low-profile	ASI
DTA-160	Gigabit Ethernet TSolP + 3 ASI ports	TSolP, ASI

PCI Express		
DTA-2131	Multi-standard VHF/UHF receiver	DVB-T2/T/C2/C, QAM-B/C, ISDB-T, ATSC
DTA-2132	High-End Satellite Receiver	DVB-S2
DTA-2136	Dual QAM-A/B/C receiver	DVB-C, QAM-B/C
DTA-2137 (C)	Dual DVB-S/DVB-S2 receiver	DVB-S/S2
DTA-2138B	DVB-T2/C2 and ISDB-T receiver	DVB-T2/T/C2/C, ISDB-T
DTA-2139 (B)	12-port Cable/Terrestrial receiver	DVB-T2/T/C2/C, ISDB-T
DTA-2142	Multi-mode serial and parallel port	ASI, SPI
DTA-2144 (B)	Quad ASI/SDI ports	ASI
DTA-2145	ASI/SDI input+output, low-profile	ASI
DTA-2152	Dual HD-SDI input+output	ASI
DTA-2154	Quad HD-SDI/ASI input+output	ASI
DTA-2160	Gigabit Ethernet TSolP + 3 ASI ports	TSolP, ASI
DTA-2162	2xGigabit Ethernet TSolP	TSolP
DTA-2172	Dual 3G-SDI/ASI input+output	ASI
DTA-2174	Quad 3G-SDI/ASI input+output	ASI
DTA-2175	HD-SDI/ASI input+output	ASI
DTA-2179	12x HD-SDI/ASI input+output	ASI
DTA-2180	H.264 HD encoder	ASI
DTA-2182	Dual H.264 HD encoder	ASI
DTA-2195	12G-SDI input+output	ASI
USB-2		
DTU-225	FantASI ASI/SDI input	ASI
DTU-236 (A)	QAM measurement receiver	DVB-C, QAM-B/C, ATSC, ASI
DTU-238	DVB-T2/T/C, ISDB-T and ASI analysis probe	DVB-T2/T/C, ISDB-T, ASI
DTU-245	FantASI ASI/SDI input+output	ASI

IP standalone modules		
DTE-3120	Networked ASI input	ASI

2. System Requirements

Platform	Windows 2k8,2k12/2k16, 7, 8, 10
Processor*	Core i5 4 th generation minimum Core i7 4 th generation recommended
RAM	2 GB
Graphics	DirectX 9.0 (or higher) compatible video card
Audio	A sound card is recommended

* Or equivalent AMD processor

3. Files

The [StreamXpert.zip](#) archive contains the following files:

DTC-320 StreamXpert Installation.pdf	This document
StreamXpert Setup.exe	Setup program for <i>StreamXpert</i>

4. Installing the Software

The following install steps should be executed:

1. Extract [StreamXpert.zip](#) into a temporary folder.
2. Run [StreamXpert Setup.exe](#) to install *StreamXpert*.
3. Optionally install appropriate license(s) through *DtInfo*. The *DtInfo* utility can be downloaded [here](#).

StreamXpert can now be started using the desktop shortcut.

5. Command-line options

5.1. Syntax

StreamXpert [-cf config_file]

5.2. Options

-cf Load StreamXpert options from the specific file (config_file).

5.3. Examples

StreamXpert -cf C:\myconfigfile.sxc

6. Revision History

Revision	Date	Change description
v2.7.0	2019.09.19	<ul style="list-style-type: none"> • Support for dynamic update the list of available USB and IP adapters on connect/disconnect/enable/disable • Bug fix for possible application hang on H.264/AVC stream • Bug fix for possible DTA-2137 tuning issue • Bug fix Es Info treeview did show CC errors in red even for 0 errors
v2.6.0	2019.08.02	<ul style="list-style-type: none"> • Support for DTA-2132 High-End Satellite Receiver PCIe adapter • Support for configuring alias names for IP URL's
v2.5.0	2019.06.07	<ul style="list-style-type: none"> • Support for DTA-2172 Dual 3G-SDI/ASI Ports PCIe adapter • Support for new ATSC, DVB, MPEG and ISDB tables and descriptors • Support for Dolby AC-4 decoder v2.1.1 and several AC-4 bugfixes • Support for Closed Caption presence/absence information in ES info • Extra CA System Name added for scrambled PID and Services • Extra IP adapter info for IP address, Network alias name in adapter selection dropdown • Bug fix: DTA-2145 in failsafe could not be used • Bug fix: IP addresses were not always persistently stored • Bug fix: TR 101 290 logging did not use correct profile on mode change • Bug fix: custom configuration file was not loaded; introduced in v2.3.0 • Bug fix: Video was not decoded for specific OTT stream • Bug fix: Video and Audio was not decoded for specific OTT stream • Bug fix: RTP IP address did automatically change into UDP; Note: RTP FEC is currently not enabled in StreamXpert since FEC statistic are not shown • Bug fix: USB adapter disconnect sometimes resulted in a crash • Bug fix: Messages and Trace bar could not be activated after undock-hide • Bug fix: ES info for LATM or ADTS audio was not shown
v2.4.1	2019.02.20	<ul style="list-style-type: none"> • Support for DTA-2139B Twelve-Channel Cable/Terrestrial Receiver for PCIe • Bug fix: DtapiService crash was seen on older PC's that did not support AVX instruction set
v2.4.0	2019.02.04	<ul style="list-style-type: none"> • Support for Dolby AC-4 meta data and audio decoding • Support for DTA-2175 HD-SDI/ASI input+output PCIe adapter • Bug fix: in some cases, AAC audio was not decoded • Bug fix: for crash when Windows Audio Service was disabled • Bug fix: for crash when selecting collapsed teletext ribbon bar • Bug fix: OTT didn't decode live DASH streams when only 1 presentation field was available • Bug fix: TR101290 EIT_actual_error was counted every 10 seconds instead of every 2 seconds
v2.3.0	2018.05.28	<ul style="list-style-type: none"> • Support for OTT analysis mode: HTTP Smooth Streaming (MS-SSTR) and MPEG-DASH manifests visualization. MPEG-DASH profiles decoding is supported for both on-demand and live streams containing AVC/H.264 video and AAC audio • Support for detection of AVS,AVS+ and AVS2 encoded video (no decoding support yet) • File input ribbon media control added • Decoding TV view now shows service name, resolution, bitrate and codec info • Bug fix: ISDB-T Parameter Emergency-Alarm Broadcast was not shown
v2.2.1	2018.03.16	<ul style="list-style-type: none"> • Bugfix: MS Office font was required for Teletext decoding

Revision	Date	Change description
		<ul style="list-style-type: none"> • Bugfix: DTA-2131 QAM-B config did not always set default symbol rate • Bug fix: the last-set IP-address was not loaded on start
v2.2.0	2018.02.14	<ul style="list-style-type: none"> • Support for Teletext decoding • Support for DTA-2131 QAM-B • Bug fix: StreamXpert needed to be restarted every 2-3 days when dongle license was used
v2.1.7	2017.05.31	<ul style="list-style-type: none"> • Bug fix: closed captions were garbled for video streams with a frame rate above 30fps • Bug fix: active Tr101290 profile was not updated when switching between standards
v2.1.6	2017.04.20	<ul style="list-style-type: none"> • Bug fix: when switching between services it could take tens of seconds before decoding the video of the newly selected service began • Bug fix: display resolution for interlaced HEVC content was reported as the field resolution (i.e. half height) • Bug fix: Frame rate for HEVC with an invalid NumUnitsInTick field was reported as "1.#J"
v2.1.4	2017.02.28	<ul style="list-style-type: none"> • Support for SCTE-35 stream-type • Bug fix: VLAN configuration was not working
v2.1.3	2017.01.02	<ul style="list-style-type: none"> • Now possible to use offline mode with NIC-only license • Bug fix: SX license on DTE-31xx series was not accepted • Bug fix: audio decoding not running smooth after switching to another service
v2.1.2	2016.10.12	<ul style="list-style-type: none"> • Updated ATSC version of build-in template for AC-3 descriptor • Bug fix: on Windows XP the TR 101 290 tab page was empty
v2.1.1	2016.09.26	<ul style="list-style-type: none"> • Bug fix: failure to detect presence of DTA-2138B, DTA-2144B and DTU-245B cards
v2.1.0	2016.09.15	<ul style="list-style-type: none"> • Support for offline (file based) analysis • Support for TSolP RTP streams with an extended RTP header • Bug Fix: failure to decode services from a transport-stream with 204-byte packets
v2.0.30	2016.06.14	<ul style="list-style-type: none"> • Bug fix: failure to decode services which use a separate PID for the PCR • Bug fix: interruption in decoding when the PAT changes, but the service that is being decoded remains unchanged (i.e. when a new service is added or other service is removed from the PAT)
v2.0.29	2016.05.20	<ul style="list-style-type: none"> • Bug fix: TS bitrate reported as 0bps after a temporary loss-of-signal
v2.0.28	2016.05.11	<ul style="list-style-type: none"> • Support for extraction of metadata from AC4 sub-streams • Restored support for using the StreamXpert on Windows XP. NOTE: we recommend using windows 7 or higher • Bug fix: occasional crash that occurred when number of services in the transport-stream changes • Bug fix: lip-sync issue with (E)-AC-3 audio • Bug fix: StreamXpert would not list local NICs if there were more than 10 local NICs available • Bug fix: failure to decode video streams with a large vbv-delay
v2.0.25	2016.02.18	<ul style="list-style-type: none"> • Restored '+' and '-' keyboard shortcuts for 'zapping' through services to decode • Identify custom tables by name, instead as a 'private/custom table', if

Revision	Date	Change description
		<p>there is a XML template definition for the table. E.g. AIT table is now identified as AIT in the PID and service trees</p> <ul style="list-style-type: none"> • Restored option to select a specific character code table for decoding of string in P(SI) tables/descriptors • Bug fix: aspect ratio was not always maintained correctly by the video decoder • Bug fix: failure to Digicypher video • Bug fix: crash of StreamXpert when there are no (or no licensed) input adapters in the system • Bug fix: closed caption where garbled when both the primary and secondary closed caption streams where present • Bug fix: could only decode the first video/audio PID from a service with more than one video/audio stream • Bug fix: AC-3 audio was not decoded properly when multiple (complete + partial) AC-3 audio frames where encapsulated in one PES packet
v2.0.24	2015.10.20	<ul style="list-style-type: none"> • Bug fix: AVC/HEVC video with an access unit per field would not decode smoothly or freeze regular • Bug fix: crash when decoding AVC/HEVC with an access unit per field • Bug fix: failure to receive IP streams via a DTA-160/2160/2162
v2.0.23	2015.10.15	<ul style="list-style-type: none"> • Added support for decoding video while connected via a remote desktop session • Increased max. number of services in decode popup to 50 • Increased with of service and PID dropdowns controls in decode ribbon tab • Bug fix: failed to decode a service with (E-)AC-3 audio on a Windows 7 machine • Bug fix: incorrect resolution was reported for some HEVC streams • Bug fix: some HEVC video streams where not decoding smoothly. NOTE: this does not apply to 4k resolutions (CPU specs are TBD) • Bug fix: Lite version refused to decode 8-bit AVC streams • Bug fix: field parity in vbi_data_descriptor was displayed as even when it should be odd and other way around
v2.0.22	2015.09.30	<ul style="list-style-type: none"> • New ribbon based GUI look • Support for HEVC and AVS decoding • Support for Dolby AC-4 metadata • Dolby certified Dolby Digital and Dolby Digital Plus audio decoder • Full screen decoding with a dual-screen mode • Support for DTA-2152/2154/2174 and DTU-238 • Many bug fixes

7. Contact Information

Please find our contact information below:

DekTec Digital Video B.V.
Godelindeweg 4
1217 HR Hilversum
The Netherlands

Tel: +31 35 20 30 100

Fax: +31 35 20 30 101

email: <mailto:support@dektec.com> / <mailto:info@dektec.com>

website: <http://www.dektec.com>