

DtPcie Driver

Windows Device Driver Installation

1. Introduction

DtPcie is the Windows device driver for DekTec’s line of digital-video PCIe cards. The driver is used for all new DekTec PCIe cards that have a type number starting with “DTA-” older cards still use the **Dta** driver. The **DtPcie** driver supports operation of multiple parallel PCIe cards.

Installation of the **DtPcie** device driver is straight-forward: Running a set-up program will automatically install or upgrade the device driver.

1.1. PCI Cards Supported by the DtPcie Device Driver

The **DtPcie** device driver supports the following DekTec PCIe cards:

DTA-2110	10GbE NIC for SMPTE 2110
DTA-2111B	Multi-Standard Cable/Terrestrial Modulator for PCIe
DTA-2116	All-Standard 3GHz Modulator for PCIe
DTA-2127	Quad S2X Receiver with 3G-SDI/ASI Port for PCIe
DTA-2131B	Multi-Standard Cable/Terrestrial Demodulator for PCIe
DTA-2132	High-End Satellite Receiver for PCIe
DTA-2139B	Twelve-Channel Cable/Terrestrial Receiver for PCIe
DTA-2139C	12x ATSC T/T2 ISDB-T QAM Receiver for PCIe
DTA-2172	Dual 3G-SDI/ASI ports for PCIe
DTA-2174B	Quad 3G-SDI/ASI ports (1x12G) for PCIe
DTA-2175	HD-SDI/ASI input+output with relay bypass for PCIe
DTA-2178-ASI	Octal Bidirectional ASI Ports for PCIe
DTA-2178	Octal 12G-SDI/ASI ports with genlock for PCIe
DTA-2274B	12G-SDI and Triply-Buffered 3G-SDI Output for PCIe

1.2. Files

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

DtPcieInstall.exe	Setup program that installs the DtPcie device driver.
DtPcie Installation.pdf	This installation document.

The setup program copies two **DtPcie** device-driver files into a selectable directory, defaulting to [C:\Program Files\DekTec\Drivers](#).

DtPcie64.sys	v3.3.1.363	Device driver 'system' file (executable).
DtPcie64.inf	v3.3.1.363	Device driver information file (".inf").
DtPcieNw64.sys	v1.0.1.56	DekTec NDIS device driver 'system' file (executable).
DtPcieNw64.inf	v1.0.1.56	DekTec NDIS device driver information file (".inf").
DtapiService32.exe	v5.1.2.121	DTAPI Service executable.

Thereafter, setup instructs the Plug'n Play manager to install the device driver files. A log file is created, to aid debugging in case of an install failure.

DtDrivInstall.log	Log of installation events.
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2. Installing the Software

The **DtPcie** setup program is self-contained. Installing the device driver is as simple as running the setup executable and pressing “Next” a few times.

NOTE

- A Windows device driver can only be installed by a user account with the privilege to *load and unload device drivers*, e.g. administrator.
- Please make sure that no application is currently running that uses a DekTec PCIe card.
- Windows 7 and Windows Server 2008 requires updates to support SHA 256: <https://support.microsoft.com/en-us/help/4472027/2019-sha-2-code-signing-support-requirement-for-windows-and-wsus>

The device driver can be installed *after* the PCIe card has been inserted into the system (§2.1), or *before* the hardware is inserted (Pre-Installation, §2.2). Both approaches are equally valid.

2.1. Hardware Inserted Prior To Device-Driver Installation

This scenario assumes that:

- The **DtPcie** device driver software has not been installed before on the PC, and
- A DekTec PCIe card has been inserted into the PC and the PC is powered on.

Sometime after booting the PC, the **Found New Hardware Wizard** will show up. As no device-driver software has been installed yet, you should **CANCEL** the wizard.

You can now run the **DtPcie** setup program to automatically install the device driver. After the installation completes, the PCIe card can be used immediately. No reboot is required.

2.2. Pre-Installation: Device Driver Installed without Hardware Present

This scenario assumes that:

- No previous version of the **DtPcie** device driver software has been installed on the PC, and
- No DekTec PCIe cards are present in the PC.

You can pre-install the Dta device driver by running the **DtPcie** setup program.

Then, shut-down the computer and insert the DekTec PCI card in a free PCI slot. After powering up the computer again, the device driver should install itself just after booting. On Windows, the **Welcome to the Found New Hardware Wizard** shows up. Choose **Install the software automatically (Recommended)**. Press **Next** and **Finish**, and the driver installs.

2.3. Upgrading an Existing Driver

The setup program can also be used to upgrade an already installed **DtPcie** device driver to the latest version. Again, no reboot should be required.

3. Troubleshooting

3.1. Checking Device Status in the Device Manager

The Windows device manager can be used to check whether the Dta driver runs properly. To check the device status of a DTA PCIe card:

1. Open the Windows device manager: right-click **My Computer**, select **Manage**, and go to **Device Manager** under **System Tools**.
2. Locate the DekTec device in category **Professional audio/video interfaces**.
3. Right-click the device, select **Properties**, and check the **Device status** pane.

The status should be: **This device is working properly**. If not, don't try the Windows Troubleshooter (it does not know anything about DekTec cards), but inspect the event log (§3.2) and the install log (§3.3). If the computer does not boot, please review §3.4.

3.2. Checking the Event Log

The System Event Log can be consulted to check whether the **DtPcie** device driver has been loaded and started properly. To open the System Event Log:

1. Right-click **My Computer**, select **Manage**, and open **Event Viewer** under **System Tools**.
2. Select the **System** log.
3. Driver messages from DekTec devices have **DtPcie** in the **Source** column.

If the driver loads successfully, the following event message is logged:

The DtPcie driver (Rev 3.3.1.363) has loaded successfully.

The device-driver version listed in this message should match the **DtPcie**-version number listed in the file overview in 1.2.

For each DekTec PCIe card inserted in the system, a start-up message listing PCIe-Card Type, Firmware Version and Slot Number should be logged, e.g.:

The DTA-2175 (Firmware Version 0) in PCI Slot 3 has started successfully.

Obviously, if the **DtPcie** driver detects an error while trying to start the PCIe-Card, the message above will not occur. Instead, an error message is logged, which may be helpful to find the source of the problem.

3.3. Checking the Install Log

The install log is a text file (**DtDrivInstall.log**) written into **C:\Program Files\DekTec\Drivers** (or a redirected path). In case of installation troubles, please contact DekTec at support@dektec.com, attaching the install log.

3.4. PC Does Not Boot

In some exceptional cases, inserting a DekTec PCI card into a PC may stop that PC from booting. The PC may already be suspended in the BIOS start-up sequence. Assuming that the PC does boot when the DekTec PCI card is not inserted, this may be caused (1) by a broken PCI card, or (2) by a bad contact on the PCI bus.

3.4.1. Broken PCI Card

Whether or not the PCIe card is broken can be checked just after powering up the PC, by observing the LED on the PCIe bracket of the card. If the LED stays blank (does not flash), the PCIe card is probably broken and should be returned to DekTec for repair.

3.4.2. Bad Contact on PCI Bus

From practical experience it is known that the PCIe Bus is quite sensitive to dust or grease on the PCIe-connector fingers of a PCIe card. A single bad contact may lead to system instabilities, including:

- Boot failure;
- Invisibility of a PCIe card during installation;
- System crash at the moment that the **DtPcie** device driver starts.

If one of these symptoms occurs, DekTec recommends extracting the DekTec PCIe card, checking/cleaning the connector fingers and re-inserting the card, if possible in a different PC or in a different PCIe slot, and avoiding mechanical strain on the PCIe connector. If the problem persists, please contact DekTec at support@dektec.com

4. DtPcie WDM Device Driver Revision History

Version	Date	Change Description
v3.3.1.363	2024.04.26	<ul style="list-style-type: none"> DTA-2110: Fix for possible fail for software pipe transmit on time DTA-2132: Fix for potential crash on GetConstellationPoints() for a multi-input stream DVB-S2 signal
v3.3.0.362	2024.02.02	<ul style="list-style-type: none"> Support for DtDevice::GetTxClockCount() to establishing the relationship between the transmit-clock and a user defined (ToD) clock. Requires new firmware version: DTA-2172 v2, DTA-2174B v5, DTA-2178 v3 DTA-2111B: support for firmware v1; fix for potential low MER on startup DTA-2127/75: Support for SetTxClockOffset()/GetTxClockOffset() DTA-2132: Spectral Inversion auto detect did not work as expected
v3.2.0.354	2023.10.23	<ul style="list-style-type: none"> Support for DTA-2131B Multi-Standard Cable/Terrestrial Demodulator for PCIe DTA-2111B: DVB-T2SPLP license support was missing DTA-2172/75/74B/78: SDI output did not recover from application crash (introduced in Aug23 SDK)
v3.1.0.349	2023.08.30	<ul style="list-style-type: none"> Support for DTA-2111B Multi-Standard Cable/Terrestrial Modulator for PCIe Support for DTA-2178 firmware v2 2 (NTSC genlock signals can now be used to genlock fractional (U)HD outputs)
v3.0.0.345	2023.06.16	<ul style="list-style-type: none"> Support for DTA-2110 10GbE NIC for SMPTE 2110 DTA-2127: Improved RF level measurement for > 0 dBm and < -88 dBm DTA-2127: LinkMargin and EbN0 statistics were not supported for DVB-S DTA-2139C: Added GetConstellationPoints() call for ATSC 1.0 DTA-2139C: DTAPI_STAT_PER was not implemented for ATSC DTA-2139C: DtAdvDemod::OpenStream() was only supported for ATSC 3.0
v2.1.4.342	2023.03.17	<ul style="list-style-type: none"> Fix for DTA_2172/74B/78 creation of a crashdump for an application sharing a port with others results in blocking of other applications sharing the same port
v2.1.1.339	2023.01.31	<ul style="list-style-type: none"> Fix for DTA_2172/74B/78 SetTxClockOffset() returns DTAPI_E_IN_USE
v2.1.0.338	2022.12.20	<ul style="list-style-type: none"> Support for DTA-2116 All-Standard 3GHz Modulator for PCIe
v2.0.3.333	2022.11.24	<ul style="list-style-type: none"> Support for DTA-2127 Quad S2X Receiver with 3G-SDI/ASI Port for PCIe Fix for DTA-2139C ATSC3.0 demodulation not working due to change in Feb2022 SDK Fix for DTA-2172/74B/78: GetGenlockState reported a 1080i reference signal as a 1080psf
v1.15.2.311	2022.06.13	<ul style="list-style-type: none"> Fixed issue that would lead to an DTAPI_E_BUSY error when using SetIoConfig to switch between ASI and SDI mode on a DTA-2172/2174B/2178
v1.15.0.305	2022.02.16	<ul style="list-style-type: none"> Support for DTA-2174B firmware version 3 DTA-2139C: Prepare for new hardware revision 0.2 that support ATSC 3.0 Korean mode DTA-2174B: 525i59 (NTSC) GenRef can now also be used to lock 720p29.97, 1080i59, 1080p29, 1080psf29 and 2160p29.97, this requires new DTA-2174B firmware version 3
v1.14.0.297	2021.12.15	<ul style="list-style-type: none"> Support for synchronizing the onboard Time-of-Day clock to a monotonically increasing OS clock Fix for potential inaccessible VPD items after a deleted item
v1.13.19.295	2021.09.16	<ul style="list-style-type: none"> DtPcie driver improvement for potential start up issue on specific PCs DTA-2132: Fan speed was fixed; temperature controller was not operational
v1.13.6.282	2021.07.05	<ul style="list-style-type: none"> DTA-2139C: Occasionally ports did not lock for ATSC 3.0 configurations with multiple subframes DTA-2139C: BerPresRs value was too low for QAM-B (J.83B) DTA-2172: Support for firmware version v1; double buffered output support

		<ul style="list-style-type: none"> added • DTA-2178-ASI: Support for firmware version v1
v1.12.0.271	2021.05.27	<ul style="list-style-type: none"> • DTA-2132: DVB-S software demodulation support added for virtual port 2 • DTA-2172/74B/78: Added ability to report reception time of the last Top-of-Frame event on the Genlock port
v1.11.1.263	2021.02.03	<ul style="list-style-type: none"> • DTA-2139C: bug fix for inverted Spectrum Inversion statistic
v1.11.0.262	2020.11.18	<ul style="list-style-type: none"> • Latest Firmware versions DTA-2174B v2, DTA-2178 v1 and DTA-2139B v1 are now indicated with status UPTODATE; it is recommended to use this driver version for these latest firmware versions
v1.10.0.257	2020.08.25	<ul style="list-style-type: none"> • DTA-2178 Octal 12G-SDI/ASI ports with genlock: Initial release • DTA-2174B: Bug fix for swapped odd and even lines from a SMPTE 425-5 quad-link 4K input
v1.9.2.254	2020.07.08	<ul style="list-style-type: none"> • DTA-2139C: Optimized calibration of the RF level measurement • DTA-2139C: Added DTAPI_STAT_FREQ_SHIFT and DTAPI_STAT_SAMPRATE_OFFSET statistics
v1.9.0.250	2020.06.03	<ul style="list-style-type: none"> • DTA-2178-ASI bug fix for driver sometimes fails to load (with generic power failure error)
v1.8.0.168	2020.05.06	<ul style="list-style-type: none"> • DTA-2178-ASI Octal Bidirectional ASI Ports for PCIe: initial release • DTA-2139C 12x ATSC T/T2 ISDB-T QAM Receiver for PCIe: initial release
v1.7.0.153	2020.03.13	<ul style="list-style-type: none"> • DTA-2174B: Support for 12G and quad link 4K (firmware v1 package required) • DTA-2132/2139B: Improved for potential tuning errors
v1.6.0.149	2020.02.25	<ul style="list-style-type: none"> • DTA-2172/74B: Support for per port pixel offset, relative to a Genlock reference • DTA-2132: Improved locking for specific symbol rates
v1.5.0.128	2020.01.10	<ul style="list-style-type: none"> • DTA-2174B: Quad 3G-SDI Ports for PCIe (variant 1 firmware): Initial release • DTA-2132: Auto symbol rate and fast blind scan support added • DTA-2132: Bug fix for low SNR and lock problem • DTA-2132: Bug fix for possible invalid statistics returned • DTA-2274B: Bug fix for Genlock for the 3G-port not working
v1.4.0.111	2019.11.06	<ul style="list-style-type: none"> • DTA-2274B: 12G-SDI and Triply-Buffered 3G-SDI Output: Initial release • DTA-2132: Improved tuning configuration for IQ port • DTA-2172: DtPcie driver didn't update after installing DtPcie installer v1.3.0 • DTA-2172/75: Added DtDevice::SetTxClockOffset() for precise control of the transmit clock
v1.3.0.72	2019.07.26	<ul style="list-style-type: none"> • DTA-2132 High-End Satellite Receiver for PCIe: Initial release • DTA-2175: firmware v1 support
v1.2.0.66	2019.05.16	<ul style="list-style-type: none"> • DTA-2172: Initial release • DTA-2139B: bugfix for incorrect DTAPI_E_INVALID_LEVEL on DTAPI_STAT_RFLVL_CHAN getstatistic • DTA-2139B/2175: bug fix for Windows standby resulting in a hang • DTA-2175: bug fix for missing Transparent Packets functionality
v1.1.0.59	2019.02.20	<ul style="list-style-type: none"> • DtapiService crash was seen on older PC's that did not support AVX instruction set • DTA-2139B: Initial release
v1.0.9.55	2019.01.24	<ul style="list-style-type: none"> • DTA-2175: Initial release