

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-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	v1.11.1.263	Device driver 'system' file (executable).
DtPcie64.inf	v1.11.1.263	Device driver information file (".inf").
DtapiService32.exe	v3.8.4.91	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.

DtDrvInstall.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 1.11.1.263) 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
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_SAMP_RATE_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