ATS-VI Release Notes

Version 6.0.8
April 10, 2012

Introduction

The ATS-VI allows you to acquire, view, and save data from AlazarTech PCI / PCIe digitizer boards under LabVIEW®.

The VIs can also be includes as subVIs to any user LabVIEW® application.
See the release history below for changes in this version. Please send bugs reports, comments, or suggestions for changes to AlazarTech Inc.

Installation

The ATS-VI will run on versions of LabVIEW® greater than or equal to 7.1 under various Microsoft Windows platforms (including: Windows 2000 Professional, Windows 2000 Server, Windows XP Home, Windows XP Professional, Windows Server 2003, and Windows XP Professional x64 Edition, and 32- and 64-bit Windows 7).

To install ATS-VI, double click on the Setup.exe file and follow the instructions.

The installer copies the LabVIEW® SDK files to "%Drive%\AlazarTech\ATS-VI\<version>". Use the "Add and Remove Programs" Control Panel applet to uninstall the software.

Note that the AlazarTech drivers for your board should be installed on your computer in order to run this program. If the AlazarTech device drivers are not installed, each example and sample VI will display a pop-up signifying that "No ATS boards were found".

Compatibility

This SDK is compatible with LabVIEW® versions greater than or equal to 7.1. It has been tested under LabVIEW versions 7.1, 8.2, 8.6, 2009, and 2009 64-bit.

Feedback

If you find a bug in the software, please include the following with a bug report:

- The error number and description displayed, if any.
- A brief description of the steps that led to the problem.

Release History

Version 6.0.8	April 10, 2012

New Feature:
Add support for ATS9625, 2-channel 250 MS/s PCIe digitizer with a user-programmable FPGA and AC coupled inputs.

Add support for the ATS9626, 2-channel 250 MS/s PCIe digitizer with a user-programmable FPGA and DC coupled inputs.

Add ATS9440_SimpleAsyncDMA_Skip.vi, a sample application that demonstrates how to configure ATS9440 sample skipping.

Bug Fixes:
Fix ATS9350 default external trigger input parameters.

Version 6.0.7	July 21, 2011

New Feature:
Add support for ATS9351, 2-channel 500 MS/s PCIe digitizer.

Add ATS9350, ATS9351 and ATS9870 simple AsyncDMA samples programs.

Add ATS9350, ATS9351 and ATS9870 Example_1_Segments.vi sample programs. These programs demonstrate how to acquire records of up to 2GS to on-board memory, and transfer them to LabVIEW buffers.

Bug Fixes:
Change ATS_ErrorCode.vi to call AlazarErrorToText to get text representation of error codes.

Version 6.0.6	January 18, 2011

Bug Fix:
Fix cosmetic bugs in ATS9440 sample vi front panels.

Version 6.0.5	January 6, 2011

Bug Fix:
Fix a bug where ATS_ID.vi would generate "This vi requires ATSxxx and the available one is ATSyyy" errors with the ATS460, ATS660 and ATS860.

Version 6.0.4	January 4, 2011

New Feature:
Add support for ATS9440, 4-channel 125 MS/s PCIe digitizer.

Version 6.0.3	August 10, 2010

New Feature:
Add "ATS_Examples\ATS9325" directory and modify "ATS_Advance\ATS_Cards_GBL.vi" to add support for the ATS9325.

Add "ATS_Advance\ATSh_GetBoardKind.vi" to allow finding a board's type from its handle.

Modify "ATS_Easy\ATS_ID.vi" to get a board's name and type by calling ATSh_GetBoardKind.vi rather than ATSh_GetCPLDVersion.vi.

Version 6.0.2	August 10, 2010

New Feature:
Modify ATS-VI to support LabVIEW for Linux. The ATS-VIs now works with LabVIEW version 8.6 or later.

Version 6.0.1	May 21, 2010

New Features:
Add VIs for the ATS460 that demonstrate how to configure and acquire from a two board, master-slave board system using Traditional AutoDMA mode to "ATS_Examples\ATS460\DualPort_AsyncDMA_Recommended".

Rename the ATS460 two-board, master-slave, NPT AutoDMA mode sample VI in "ATS_Examples\ATS460\DualPort_AsyncDMA_Recommended" to "ATS460_AsyncDMA_MS_NPT.vi" to distinguish it from the "Traditional" AutoDMA mode master-slave samples.

Bug Fixes:
Update ATS9870 samples to include 40 and 100 mV input ranges

Fix ATS_Asyc_Buffer_Size.vi and ATS_Trigger.vi so that they work correctly with master-slave board systems.

Version 5.8.3	January 12, 2010

New Feature:
Add support for pre-trigger samples with ATS9462-FIFO. Note that this feature requires driver ATS9462 driver 5.7.7 or later.

Version 5.8.2	November 24, 2009

New Feature:
Add VIs to configure the AUX I/O connector as either a trigger output signal, or an AutoDMA trigger enable input signal. Also add VIs to demonstrate how to use this feature with an ATS9462 and ATS9870.

Note that this feature requires ATS driver version 5.7.6 or later.

Benefit:
These VIs allow users to use configure AUX I/O connector as trigger enable input signal. This allows scanning applications to supply a trigger enable signal at the start of each frame of an image.

Bug Fix:
Add ±40 and ±100 mV to input ranges supported by the ATS9870.

Benefit:
This fix allows users to select all of the input ranges supported by the ATS9870.

Bug Fix:
Add support for "10 MHz PLL" external clock mode with the ATS9870.

Benefit:
Use the "10 MHz PLL" external clock mode to synchronize the ATS9870 sample clock to a user supplied 10 MHz input signal. This mode generates a 1 GHz sample clock that can be decimated by a user selected value of 1, 2, 4, or any multiple of 10.

Version 5.8.0	July 23, 2009

New Feature:
This is the first release of ATS-VI with full support for the ATS-9870 digitizer.

Benefit:
The user can use the supplied VIs to quickly develop an application.

New Feature:
ATS-9462 and ATS-9870 SinglePorted (on-board) memory support.

Benefit:
Prior to this release, users of the ATS-9462 only had FIFO Streaming support.

With the on-board memory, the ADC data can be stored into the acquisition memory at full acquisition.

The on-board memory can also act as a very deep FIFO between the Analog to Digital

converters and PCI Express bus, allowing very high data transfer rates across the PCIe bus, even if the operating system or another motherboard resource temporarily interrupts DMA transfers.

Note that for previous customers, an upgrade is required to add the additional memory to the older ATS-9462.

New Feature:
New sample VI application, "ATS460_AsyncDMA_MS.vi" that demonstrates how to use multiple ATS-460 boards in a system.

The sample is located in directory:
%drive%:\AlazarTech\ATS- VI\5.8.1\ATS_Examples\ATS460\DualPort_AsyncDMA_Recommended

Benefit:
A user can control 2 or more boards in Master-slave mode or as separate devices.

Bug Fix:
Negative value for Offset parameter to allow for PreTrigger data to be captured.

Benefit:
In AsyncDMA mode, while using the Traditional capture mechanism, it is now possible to use the offset value as the Pre-trigger (-) value or as the Post-trigger (+) value.

Version 5.7.	March 18, 2009

New Feature:
An AdobePDF® version of the "ATS-VI User Manual" was included in the "%drive%\AlazarTech\ATS-VI\5.7.1\Documents" directory.

Benefit:
The user has quick and easy access to the manual on the same PC that the development is being done.

Also, all data type information is displayed in the LabVIEW® data type colors.

New Feature:
First release to include a Release Notes file.

Benefit:
The user can easily examine the changes to new versions of the ATS-VI, and assess the need for an upgrade, as related their project.

New Feature:
New sample VI application, "ATS9462_SimpleAsyncDMA.vi" that demonstrates

Asynchronous Infinite NPT Acquisitions using an ATS9462 digitizer.

The sample is located in directory:
%drive%:\AlazarTech\ATS- VI\5.7.1\ATS_Examples\ATS9462\DualPort_AsyncDMA_Recommended

Benefit:
This simplified sample VI can be used as a quick start VI, for customers using a single ATS9462 digitizer in OCT, Image Scanning or Radar applications. It is meant to be a building block to which a user can add his/her application details.

New Feature:
New sample VI application, "ATS9462_SimpleAsyncDMA_MS.vi" that demonstrates *Asynchronous Infinite NPT Acquisitions* using a Master/Slave pair of ATS9462 digitizers.

The sample is located in directory:
%drive%:\AlazarTech\ATS-
VI\5.7.1\ATS_Examples\ATS9462\DualPort_AsyncDMA_Recommended

Benefit:
This simplified sample VI can be used as a quick start VI, for customers using a Master/Slave set of ATS9462 digitizers in OCT, Image Scanning or Radar applications. It is meant to be a building block to which a user can add his/her application details.

New Feature:
New sample VI application, "ATS660_SimpleAsyncDMA_MS.vi" that demonstrates *Asynchronous Infinite NPT Acquisitions* using a Master/Slave pair of ATS660 digitizers.

The sample is located in directory:
%drive%:\AlazarTech\ATS- VI\5.7.1\ATS_Examples\ATS660\DualPort_AsyncDMA_Recommended

Benefit:
This simplified sample VI can be used as a quick start VI, for customers using a Master/Slave set of
ATS660 digitizers in OCT, Image Scanning or Radar applications. It is meant to be a building block to which a user can add his/her application details.

New Feature:
New VIs: (refer to the User Manual for details)

- ATS_AsyncGetPendingBufStatus.vi
- ATS_AsyncGetPendingEmptyBufStatus.vi
- ATS_AsyncGetPendingFullBufStatus.vi

Benefit:
These new VIs give the user the flexibility of monitoring the buffer usage in an AsyncDMA application. Unwanted buffers may be discarded in order to avoid an

Overflow situation.

The ATS_AsyncGetPendingBufStatus.vi page of the ATS-VI User manual has a detailed explanation of its usage.

New Feature:
Verification and Test using LabVIEW® version 8.2 and 8.6.

Benefit:
Users that upgrade their LabVIEW® development suite from earlier versions to versions 8.X can be assured that ATS-VI is fully compatible.