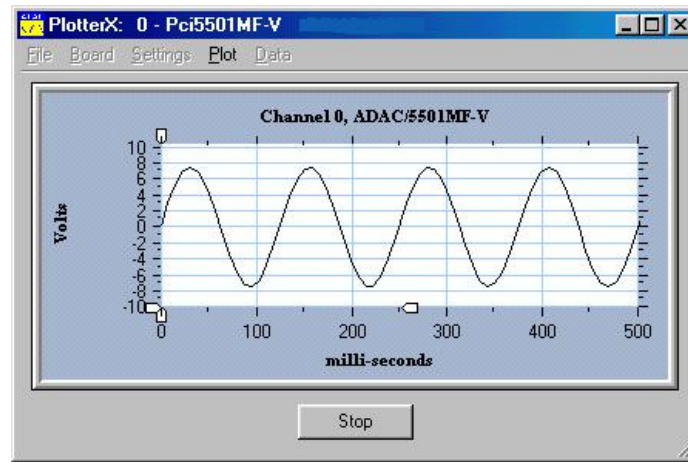


# PlotterX, PlotterX Plus, and ADAC Config Getting Started



*PlotterX*

PlotterX and PlotterX Plus allow you to have your acquisition system *out-of-the-box* and running in minutes. After you've installed your ADAC Board's software support from the data acquisition CD and have installed your ADAC/5500 Series Board in an available PCI slot, simply open PlotterX, select the board, and run the PlotterX application. PlotterX samples one analog input channel up to the maximum specified rate of the data acquisition board. However, users who require more than one analog input channel can upgrade to PlotterX Plus. The "plus" application contains all of the features of PlotterX, with the added capability of collecting data from all of the analog inputs on your ADAC board.

Both PlotterX and PlotterX Plus can display acquisition data in real-time.

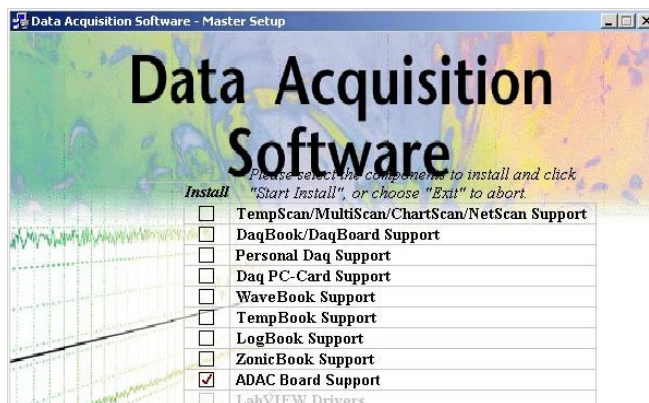
Boards Supported by PlotterX and PlotterX Plus		Associated Example File	General Comments
ADAC Series, Board Part No.	Board Identity in PlotterX & PlotterX Plus		
ADAC/5500MF	Pci5500MF	Pci5500.con	<p>PlotterX and PlotterX Plus can be used with Windows 98/ME/NT/2000/XP.</p> <p><b>PlotterX</b> allows data collection and display for <i>any individual</i> analog input channel. It is shipped free with ADAC/5500 Series PCI boards.</p> <p><b>Plotter X Plus</b> allows data collection and display for <i>all</i> analog input channels on ADAC/5500 Series PCI boards.</p> <p>Individuals who purchase PlotterX Plus are provided with an authorization code for accessing the application.</p>
ADAC/5501MF	Pci5501MF-0	Pci5501.con	
ADAC/5502MF	Pci5501MF-0	Pci5501.con	
ADAC/5501MF-V	Pci5501MF-V	Pci5501-V.con	
ADAC/5502MF-V	Pci5502MF-V	Pci5502-V.con	
ADAC/5503HR	Pci5503HR-0	Pci5503.con	
ADAC/5504HR	Pci5504HR-0	Pci5504.con	
ADAC/5503HR-V	Pci5503HR-V	Pci5503-V.con	
ADAC/5504HR-V	Pci5504HR-V	Pci5504-V.con	

**Note:** Although the primary focus of this document is on PlotterX and PlotterX Plus, some attention has been given to ADAC Config since that application is used to configure board .con files. The .con files are used by the PlotterX applications.

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## 1. Installation

PlotterX is installed automatically when you elect to install **ADAC Board Support** from the data acquisition master setup CD.



*Master Setup, Partial Screen*

The simple steps are discussed in the *ADAC/5500 Series Installation Guide* (p/n 1107-0940). The process includes the addition of short cuts to PlotterX and ADAC Config under "ADAC" on your start/programs tool bar.

**Note:** PlotterX Plus uses the same installation process as PlotterX.

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## 2. Getting Started

### 2.1 Set Windows such that file extensions are visible.

Microsoft Windows' default options are set so that you cannot view file extensions. In regard to ADAC/5500 Series boards, this may cause confusion when you need to identify files by their extensions. If your Windows operating system does not permit the viewing file extensions, you should make the extensions viewable as follows:

#### 2.1.1 Windows XP/2000:

From the Windows Desktop:

- Click the **<Start>** button, select "Run", and type the word "explorer".
- Select Tools... Folder Options.
- In Folder Options, click on the View tab.
- Uncheck "Hide file extensions for known file types".
- Click the **<Apply>** button.
- Click "Like Current Folder" [under Folder View].

#### 2.1.2 Windows NT4/ME/98:

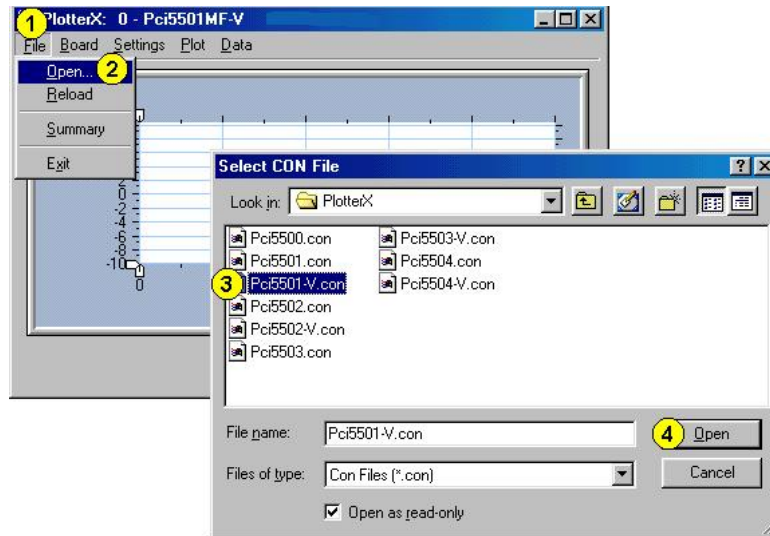
From the Windows Desktop:

- Click the **<Start>** button, select "Run", and type the word "explorer".
- Select View... Folder Options.
- In Folder Options, click on the View tab.
- Uncheck "Hide file extensions for known file types."
- Click the **<Apply>** button.
- Click "Like Current Folder" [under Folder View].

## 2.2 Run PlotterX [or PlotterX Plus]

Complete the following steps to run PlotterX, and confirm that your board is properly installed in your PC. The steps are highlighted by the figure below.

- (1) Pull down the PlotterX **File** Menu.
- (2) Select “**Open.**”
- (3) Select the **.con** *example file* that has been provided for the specific board type, **for example**, you would select **Pci5501-V.con** if you had installed an ADAC/5501MF-V board. The default location of the example files is **C:\ADAC\Pci55xx\PlotterX**.
- (4) Click the **<Open>** button.



*Selecting the Board's Associated .con File*

**Be sure that you select the .con file that is associated with your board's model number. File names are proved in the table on page 1.**

**Note:** The **.con** example file input configuration setting default is **single-ended** for the ADAC/5500MF (Pci5500MF) and **fully-differential** for all other ADAC/5500 Series boards. The *ADAC/5500 Series User's Manual* (p/n 1107-0905) includes a section that discusses how to make single-ended and differential connections.

## 2.3 Run PlotterX with Custom Board Settings

After running PlotterX with a supplied **.con** example file, you can use **ADAC Config** to modify user configuration settings. An example follows. Note that the final section of this document provides additional information regarding ADAC Config.

### *An example of using ADAC Config.*

In this example the user wants Channel 0 to be the only channel on the channel list. For this goal, the steps are as follows (see figure):

(1) From the Desktop's Start Menu, navigate to the **ADAC Config** window as follows:

**Start > Programs > ADAC > ADAC Config > ADAC Config**

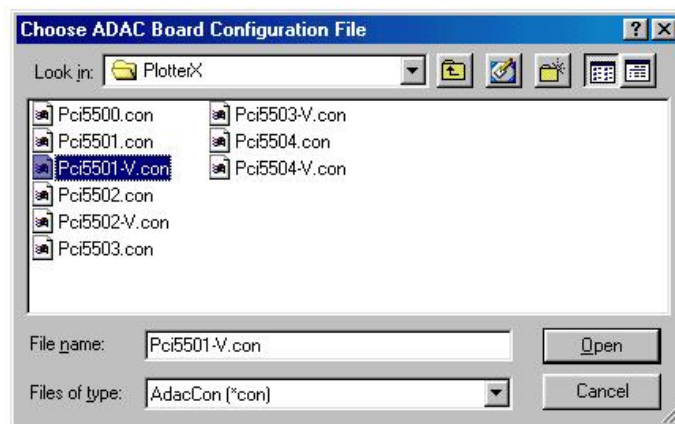
a) After the ADAC Config window opens, go to its **File** Menu.



*Selecting "Open" in the ADAC Config Window's File Menu*

b) Select **Open**. The "**Choose ADAC Board Configuration File**" will appear (following figure).

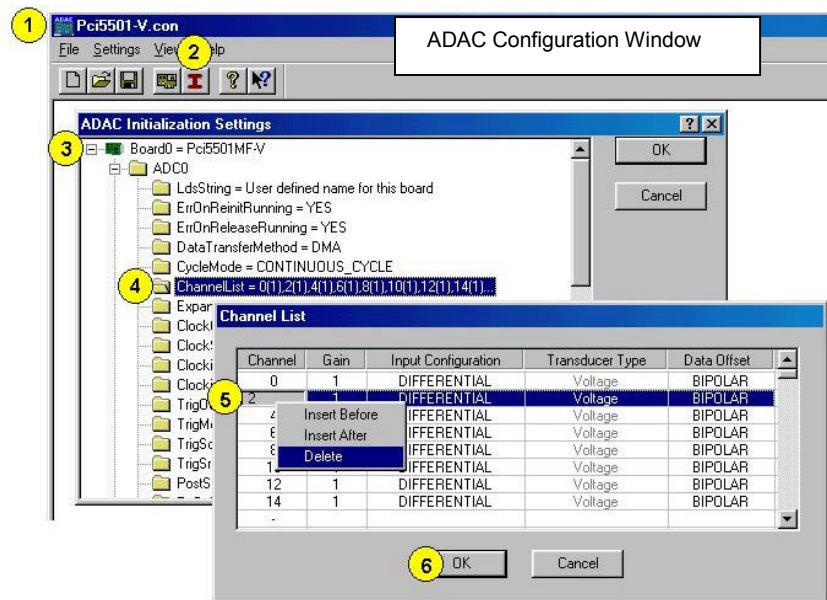
c) Select the **.con** file that is preceded by the name of the ADAC board, e.g., Pci5501-V.con, as indicated in the following figure.



*Selecting the Board's .con File in ADAC Config*

**Note:** The ADAC Config Window will show the .con file identity in the title bar. In the following figure we see that the file is Pci5501-V.con. If we were using a board other than an ADAC/5501MF-V, a different .con file would need to be selected. The table on page 1 includes board nomenclature and associated .con files.

(2) Click on ADAC's <Initialization Settings> (I) button. This is item (2) in the following figure.



*Using ADAC Config to Delete Channels*

- (3) Expand the Board folder, then expand the applicable *signal-type* folder, e.g. ADC0, DAC0, DAC1, DIN0, DIN1, etc. In this example we are expanding the ADC0 folder.
- (4) Double-Click on the **Channel List** selection. The Channel List dialog box appears.
- (5) Select the first channel to be deleted [or otherwise changed]. In this example we will start by deleting channel 2. Right-Click on the channel – a “Insert Before / Insert After / Delete” option box will appear. Select “Delete”.
- (6) Click the <OK> button, then repeat steps 5 and 6 for the other channels that are to be deleted.

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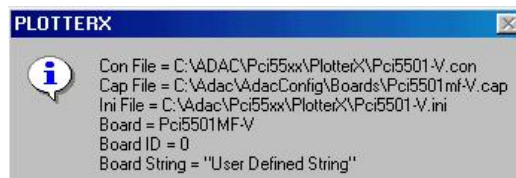
## 3. PlotterX Menu Commands

### 3.1 File Menu

**Open** - This allows you to select the configuration (.con) file you wish to use.

**Reload** - Re-initializes the PlotterX software. Use the reload command if you encountered an error due to a configuration conflict. Prior to using reload, check the configuration settings and resolve the conflict. Note that the PlotterX window "grays-out" in the event of a configuration conflict. After you have corrected the error, re-initialize (re-load) PlotterX.

**Summary** – Displays a summary for the selected board. The summary includes board identification and locations of the configuration (.con), capabilities (.cap), and initialization (.ini) files that are associated with the ADAC Config program. See figure.



*Summary*

**Exit** - Closes the PlotterX program.

### 3.2 Board Menu

Displays the board number, and the model number, of the board that PlotterX is running. The board number is the number assigned to the ADAC board. The first board is 0, the second board is 1... etc.

### 3.3 Settings Menu

**Force Continuous Cycle** - Select to perform continuous collection of data; de-select to collect data as defined by changes you have made to your board's ini file.

### 3.4 Plot Menu

**Channels** - Select the channels you want to display or log to file. Note that PlotterX is limited to one analog input; PlotterX Plus will plot as many channels as you have connected to your board. To change the scan list: modify the configuration file channel list setting with the ADAC Configuration Utility. The channel list setting effects the data that is either logged to file or sent to Excel when using PlotterX Plus.

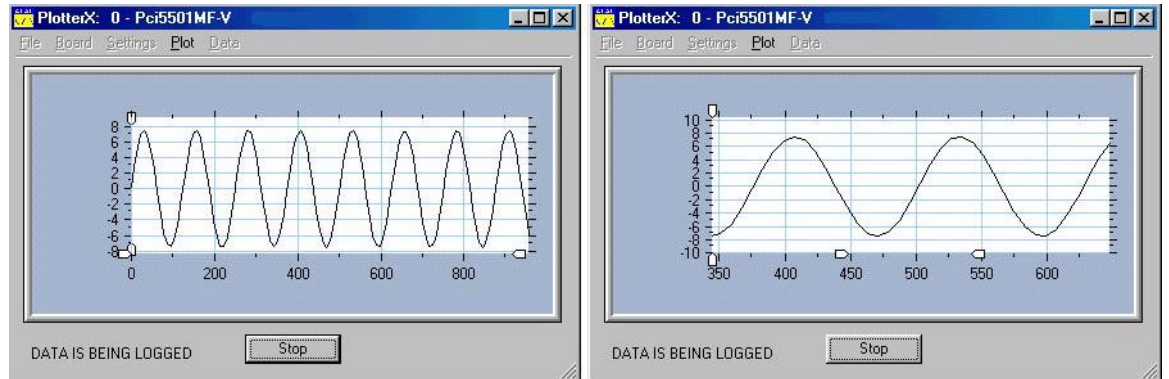
**Restore Default Styles** - Restores the plot settings to factory default.

**Captions** - Allows you to create a title for the plot and label the X & Y axis. The PlotterX figure on page 1 includes captions.

**Bipolar Voltage Scale** - Select the board gain you are using to auto-scale the graph to your data when taking bipolar readings (for example:  $\pm 10V$ ).

**Unipolar Voltage Scale** - Select the board gain you are using to auto-scale the graph to your data when taking unipolar readings (for example: 0-10V).

**Note:** The displayed graph's scale can be changed by dragging the sliding white arrows along the X and Y coordinates (see figure).



### *Changing the Scale*

In the above figure (left side), the two white arrows at the end of the X-axis were moved inward. In addition, the two arrows on the Y-axis were moved away from the "0" line. These two actions resulted in the plot shown on the right-hand side of the figure. The actual data is the same in both figures despite the different appearance, which is due solely to the change in scale.

**Temp Scale** - Currently not supported.

**Raw Scale** - Default, displays data as voltage.

**Show Legend** - When selected, a pop up window will display a color-coded legend for the channels being displayed; uncheck to make the legend window disappear. The legend is intended primarily for PlotterX Plus.

## 3.5 Data Menu

**Select Log File** - Specify the name of the file for storing the collected data.

**Log Parameters** - Specify the parameters for the logging of your data:

- Log File Format - Choose between formatted text or comma separated.
- Time Stamping - Enable will time stamp your data in the log file.
- Stamping Interval - Enter the time stamp interval (in seconds).

**Enable Logging to File** - Check to save data to a file. Uncheck and displayed data will be discarded.

**Snapshot to File** - Saves data displayed in window to a file.

**Snapshot to Excel** (PlotterX Plus Only) - Saves data displayed in window to an Excel file.

**New Window** (PlotterX Plus Only) - Launches a new plot window; use the Plot menu in the new window to select channel, etc.

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## 4. Error Codes

Refer to the *ADAC ADLIB WIN User's Manual* (p/n 1107-0902) for details regarding error codes received when running PlotterX. A PDF version of the document is installed on your hard drive as a part of ADAC product support. The default location is in the Programs group, accessible from the Desktop Start Menu.

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## 5. Removing PlotterX

If you should want to uninstall PlotterX [or PlotterX Plus], use the ADD/REMOVE software function in the Windows Control Panel.

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## 6. Using ADAC Config

Users of ADAC/5500 Series Boards need to become familiar with the ADAC Config window, as it is from this application window that boards can be removed, added, and configured.

ADAC Config can be accessed from the Windows Desktop by navigating as follows:  
**Start > Programs > ADAC > ADAC Config > ADAC Config**

From the Window's **File** menu you can open a configuration file (.con) to change its settings or save an existing configuration file under a new name.

After clicking the Initialization Settings> (**I**) button, you can select, via folder, the parameters that need to be configured. From ADC0, for example, we could select ChannelList and change the configuration of several parameters, including Gain and Data Offset, as indicated in the following figure.

Double-clicking on a cell in the Channel List box produces a pull-down list of configuration options.

In this example we see that we can choose to have Channel 0 set to have a **Gain** of 1, 2, 3, or 4; an **Input Configuration** of Differential, Single-Ended, or Pseudo-Differential, and a **Data Offset** of Bipolar or Unipolar. Refer to the *ADAC/5500 Series User's Manual* (p/n 1107-0905) for detailed information.

Channel	Gain	Input Configuration	Transducer Type	Data Offset
0	1	DIFFERENTIAL	Voltage	BIPOLAR
2	1	DIFFERENTIAL	Voltage	BIPOLAR
4	2	SINGLE_ENDED	Voltage	UNIPOLAR
6	4	PSEUDO_DIFFERENTIAL	Voltage	BIPOLAR
8	8	DIFFERENTIAL	Voltage	BIPOLAR
10	1	DIFFERENTIAL	Voltage	BIPOLAR
12	1	DIFFERENTIAL	Voltage	BIPOLAR
14	1	DIFFERENTIAL	Voltage	BIPOLAR

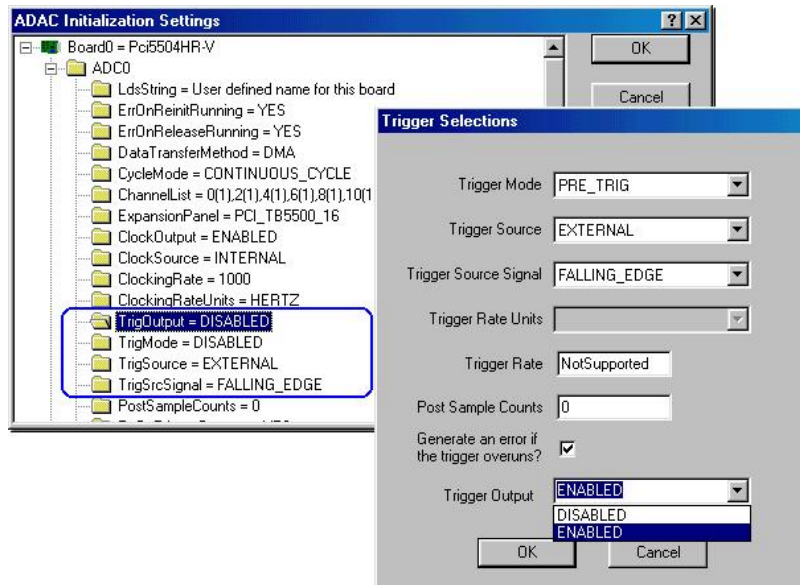
*Channel List Setting Options for ADC0*



In the following figure, the **TrigOutput** folder was used to open the **Trigger Selections** box. The Trigger Selections box can be opened by double-clicking on any one of the following folders, which are located in the **ADAC Initialization Settings** window.

- **TrigOutput**
- **TrigMode**
- **TrigSource**
- **TrigSrcSignal**

After the settings are finalized, click the **<OK>** button. The new selections will be reflected in the ADAC Initialization Settings window (following figure).



### *Changing Trigger Settings*

At this point you should understand how to access ADAC Config and understand how the application is used to change configurations. Although only two examples were provided, i.e., how to change parameters in the Channel List and how to change Trigger Selections, you should be able to change other board parameters with little effort, as the method is essentially the same in each case.

