

## E-710 Software Release V2.1.0

Release date: 2007-23-02

Valid from: 2007-23-02

### User login for software download\*:

Username: E710

Password: mc4c5x

**\*Because of the limited attachment size capacity of many mail servers the updates for the host software are not attached to this message. The software and manual updates listed below are available for download at [www.pi.ws](http://www.pi.ws). Download instructions are given at the end of this document. Please contact the PI Germany sales department if you want to get a CD ROM.**

### Firmware Description

<b>Name of Software</b>	Firmware for E-710.3CD, E-710.4CD, E-710.4CL, E710.P3D, E-710.C3D, E-710.P4D (3- and 4-channel devices)
Version, file date	V5.040, V6.040, V7.040, 7 March 2006
Previous versions	V5.037 or V6.037 When the previous version is V5.0xx (V5.010 to V5.037) then update with version V5.040. When the version is V6.0xx (V6.010 to V6.037) then update with version V6.040. Otherwise when version was V7.0xx update with version V7.040
What's new?	<ul style="list-style-type: none"> <li>- Bugfixing</li> <li>- TR command: <ul style="list-style-type: none"> <li>- no upper limit of table rate. With older versions the upper limit was 100.</li> <li>- additional option: switch off the interpolation of generator points</li> </ul> </li> </ul>
Update recommended for customers	Who want to use <ul style="list-style-type: none"> <li>- Wave Generator,</li> <li>- DDL</li> <li>- table rate &gt; 1</li> </ul>
Files	REV5040.HEX, REV6040.HEX, REV7040.HEX
Firmware needed	
Manual with file date	E-710_User_PZ80E539.pdf; 12 January 2007
Comments	-

<b>Name of Software</b>	Firmware for E-710.6CD (6-channel devices)
Version, file date	V2.15, 23 March 2005
Previous versions	-
What's new?	<ul style="list-style-type: none"> <li>• Not being updated at this time</li> </ul>
Update recommended for customers	-
File	CH6PA215.Hex
Firmware needed	
Manual with file date	E-710_User_PZ80E539.pdf; 12 January 2007
Comments	-

**Host Software:**

<b>NanoCapture™</b>	
Version, file date	4.3.0, 09 February 2007
Previous version	4.0.9, 19 October 2005
What's new?	<ul style="list-style-type: none"> <li>• Layout changes</li> <li>• New devices supported: E-761 and E-755.</li> <li>• <i>Device Interface</i> window splitted into 2 separate windows: <i>Device Connection</i> and <i>Command Terminal</i>.</li> <li>• <i>Command Terminal</i> window: <ul style="list-style-type: none"> <li>- Added <i>Update NNC</i> button in order to indicate that the NanoCapture™ software data and user interface has to be refreshed (asterisk) and to permit refreshing it consequently.</li> <li>- Added <i>Clear/Copy</i> functionality in the terminal report part.</li> <li>- Removed locking from SAI and CST commands.</li> </ul> </li> <li>• <i>Device Parameter Configuration</i> window: <ul style="list-style-type: none"> <li>- For usability reasons, the parameter lists are no longer sorted strictly according to their function groups.</li> <li>- Non GCS parameter files (from NanoCapture™ Version &lt; 4.0.0) can be loaded.</li> <li>- "invalid" can no longer be selected manually as a parameter value.</li> <li>- E-710.6CD: the parameter group "Customer" is only available for channel 1.</li> <li>- Improved management of the "Paste" functionality.</li> <li>- Improved management of the "Save" functionality.</li> <li>- New menu item <i>File → Load and select</i>: loads a parameter file and selects the loaded parameters automatically.</li> <li>- New menu item <i>View → Axis Matrices</i>: opens a window displaying following parameter matrices: the axis/sensor matrix and the piezo/sensor matrix if available.</li> <li>- New iconbutton to write the selected parameters into RAM and EEPROM.</li> </ul> </li> <li>• <i>AutoZero</i> window: <ul style="list-style-type: none"> <li>- Added LEDs indicating if the axis autozeroing was successful.</li> <li>- Added <i>dft</i> checkboxes. If checked, use the internally saved parameter - for the voltage at the zero position - to perform for the AutoZero procedure on the axes concerned. (Consequently, if this checkbox is marked, the user doesn't need Command Level (CCL) 1 to perform an AutoZero through the NanoCapture™ user interface with an E-710 controller).</li> </ul> </li> <li>• <i>Select connected axes</i> window can now be called from the main menu.</li> <li>• <i>Measurement Setup</i> window: the number of decimal places can be set for some controls and indicators on the user interface.</li> <li>• <i>Visual Panel</i> window: <ul style="list-style-type: none"> <li>- Changed the error handling: if an error occurs while updating the informations (and if it is not a communication error), the error text is displayed in a text field in this window.</li> <li>- The default values from the command fields are now</li> </ul> </li> </ul>

	<p>handled separately for position and voltage commands.</p> <ul style="list-style-type: none"> <li>- When pressing &lt;Enter&gt; on the command fields while the value was not changed, the current value is now also sent to the controller.</li> <li>• For <i>Step Response</i> in closed-loop: <ul style="list-style-type: none"> <li>- Added possibility to avoid that the stage returns to the start position at the end of the step.</li> <li>- Added possibility to make a relative step.</li> <li>- Added a button to optimize the step acquisition time.</li> <li>- Added check of on target status before the step command is sent.</li> </ul> </li> <li>• Wave Generator: <ul style="list-style-type: none"> <li>- Added a button to get the target curve from the controller without having to run the generator.</li> <li>- <i>Advanced Waveform</i>: when more than one generator is used, the user can choose if the results from 2 generators have to be represented on 2D or 1D Diagram.</li> <li>- The <i>Wave Generator Settings</i> window was included in the main window as a tabbed pane and redesigned. Now the user can decide to disable/enable the DDL use in one click instead of deselecting/reselecting the Table Nr. (i.e. for checking DDL effects).</li> <li>- Bugfix: Error 17 (Parameter Out Of Range) came before loading the real position curve for "Target, Real, Error".</li> <li>- For E-710K117: adapted the number of points that can be read (63488) for the Wave Generator.</li> </ul> </li> <li>• Graphs: <ul style="list-style-type: none"> <li>- Time scales are now in [ms] instead of [s].</li> <li>- Added controls permitting to change the graph scale manually (coupled with the Zoom ON icon button).</li> </ul> </li> <li>• While parameter reading/writing: <ul style="list-style-type: none"> <li>- Added name of the concerned parameter group upon the processing status scale.</li> <li>- If an error occurs, the error message that pops up contains the concerned channel and parameter identifier.</li> </ul> </li> <li>• Bugfix: while loading a .dat file the number of points was not set correctly.</li> <li>• CCL level no more taken from the former connected device.</li> <li>• Removed program crashes that occurred with some special configurations.</li> <li>• Management of exponential/floating point notation for graph scales and cursor text.</li> <li>• Management of the <i>Servo Parameter Changes</i> window: <ul style="list-style-type: none"> <li>- The &lt;Cancel&gt; button is now usable.</li> <li>- The window may also appear when disconnecting the controller.</li> </ul> </li> </ul>
Update recommended for customers	All
Files	
Firmware needed	V5.027, V6.027, V2.12 or V7.04
Manual with file date	NanoCapture_SM071E420.pdf, 16 January 2007
Comments	➤

<b>PIO Samples</b>	
Version, File date	
Previous version	
What's new?	<ul style="list-style-type: none"> <li>• The PIO Sample now consists of: the source code for a DLL that provides access to the PIO communication port</li> <li>• The source code for a test program that uses this DLL</li> <li>• The DLL is provided in two versions, one using the new DAQmx standard, the other one using the older NIDAQ 7.2 standard</li> <li>• The samples are still for the PCI-DIO-96 card</li> </ul>
Update recommended for customers	- Who want to use the fast PIO communication from their own software
Files	PIO programming examples with PCI-DIO-96 card: - LabView vi, using llb. - C code, using dll.
Firmware needed	Independent of firmware
Manual with file date	None
Comments	➤ PIO programming examples with PCI-DIO-96 card.

<b>Firmware Wizard</b>	
Version, file date	1.0.1, 15 July 2003
Previous version	
What's new?	• Not being updated at this time
Update recommended for customers	-
Files	fw_wizard.exe
Firmware needed	Firmware for E-710 controllers
Manual with file date	None
Comments	-

<b>GCS LabVIEW</b>	
Version, file date	3.4.4b
Previous version	3.4.4a
What's new?	• Minor changes, help window and LabVIEW manual bugfixes
Update recommended for customers	<ul style="list-style-type: none"> <li>- Who want to wait for motion to stop.</li> <li>- Who have problems with the previous version.</li> <li>- All customers who start with their programming.</li> </ul>
Files	GCS:_LabVIEW: PI Terminal.vi E710_Simple_Test.vi E710_Configuration_Setup.vi E710_Sample_Application_1.vi Joystick_Operation.vi E710_All_VIs.vi E710_WaveGenerator_Sample_Program.vi Low-Level folder: Communication.llb GCSTranslator.dll General command.llb Joystick.llb Limits.llb Old commands.llb PZT voltage.llb

	Special command.llb Support.llb WaveGenerator.llb File handling.llb Optical or Analog Input.llb Version.txt
Firmware needed	V5.027, V6.027, V7.04 or V2.12
Manual with file date	E710_GCSLabVIEW_PZ141E_344b.PDF, 10 January 2007
Comments	This LabVIEW driver set is based on the PI General Command LabVIEW driver set. If you also own one of the following PI systems, you can request the system-specific VIs for those systems from the PI Sales Department: C-843, C-843.PM, C-848, C-865, C-880, E-516, E-755, E-816, F-206, M-840 or M-850

<b>GCS DLL</b>	E7XX_GCS_DLL.dll
Version, file date	3.0.0. 01. February 2007
Previous version	2.0.2. 22. March 2006
What's new?	<ul style="list-style-type: none"> <li>• The missing functions E7XX_NMOV() and E7XX_NMVR() are implemented in the E7XX_GCS_DLL.dll.</li> <li>• Bugfix: The number of trigger points within the command TWS was limited to 2000. The limit is now 16000. This error only occurred when the string interface was used (e.g. LabView) and not when the function E7xx_TWS() was used;</li> <li>• Parameter 0x0F000000 (Power-up Read Id-Chip Enable) is available.</li> <li>• Parameter 0x02000101 (Sensor Board Gain): the selection values were corrected.</li> <li>• Changes in the MOV command to prevent axes not concerned from drifting away</li> <li>• Bugfix: #5 (Is controller moving?) and ATZ (AutoZero)</li> <li>• If the command WGO is used with the parameter E7XX_BIT_WGO_SINGLE_RUN_DDL_TEST each following WGR starts a new wave cycle and records the data specified with DRC.</li> <li>• Added error check in E7XX_DRC function when record channel no. different from axis no.</li> <li>• The wave table size for controller version E-710K117 was set to 63488 points.</li> </ul>
Update recommended for customers	All
Files	E7XX_GCS_DLL.dll; E7XX_GCS_DLL.lib; PIControllerErrors.h, E7XX_GCS_DLL.H
Firmware needed	V5.027, V6.027, V2.12 or V7.04
Manual with file date	E-710_GCSDLL_PZ147E115.pdf; 11 January 2007 The manual now contains a detailed description of the wave generator handling.
Comments	-

<b>PZTControl</b>	PZTControl.exe
Version, file date	3..2.2, 05. February 2007
Previous version	3..0.10; 08. July 2005
What's new?	<ul style="list-style-type: none"> <li>• Removed bugs</li> </ul>

Update recommended for customers	- All
Files	PZTControl.exe, ConnectController.avi, cwui.ocx, NTGraph.ocx
Firmware needed	E7XX_GCS_DLL.dll V1.0.1.0; Firmware V5.027, V6.027, V2.12 or V7.04
Manual with file date	PZTControl_PZ145E310.pdf; 01 July 2005
Comments	-

<b>LabView</b>	
Version, file date	1.1.0, 13 Dec 2002
Previous version	
What's new?	<ul style="list-style-type: none"> <li>• Not being updated at this time</li> </ul>
Update recommended for customers	-
Files	E710_Uilities.llb, E710LV110.llb
Firmware needed	Independent of firmware
Manual with file date	SM069E11.pdf, 26 October 1998
Comments	➤

### Download Instructions:

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6. Click on *E-710*
7. Click on *Release* (if you click on *Documents* you will get the latest manuals)
8. Click the download button below the latest CD-Mirror (including the manuals that were with the release)