

C-887 Software Release 18.02.2015

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Valid from: 18 February 2015

User login for direct software download via FTP*:

<ftp://pi-ftp.ws>

Username: f008c1fe

Password: C887kr5f8g

***Because of the limited attachment size capacity of many mail servers the updates for the host software are not attached to this message. 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.**

PI Hexapod Emulator (former Firmware and Mechanics Simulation):

Version	V 1.0.2.0
Previous version	V 1.0.1.0
What's new?	- New QEMU version
Manual	PI_Hexapod_Emulator_C887T0001.pdf
Comments	<p>The behaviour of the simulation is identical to that of the simulated hardware except for the points described in the PI_Hexapod_Emulator_C887T0001.pdf Technical Note. The standard User Manuals for the C-887 Hexapod controller (MS204E) and for the Hexapod (default: H-840; User Manual MS201E) are also valid for the simulation except for the information superseded by the Technical Note.</p> <p>Features of the simulation:</p> <ul style="list-style-type: none">- Simulated Hexapod model: H-840.D1 You can change the simulated Hexapod model as described in the Technical Note.- Simulated Hexapod controller: C-887 with GCS syntax version 2.0; can be switched to GCS syntax version 1.0. using the CSV command- Simulated analog input channel with identifier 1; intensity maximum is at the position $X = Y = Z = 0.4 \text{ mm}$ and $U = V = W = 0$.- Simulation of macros is possible.- Simulation of the data recorder is possible, but the recorded data is not always meaningful.- Graphical user interface of the simulation software has been removed due to performance issues.- The simulation can be used in PIMikroMove or with other software running on the same PC as the simulation software. The connection to the simulation must be established via the TCP/IP interface. The IP address of the simulation is "localhost", the port is "50000".

Host Software:

Name of Software	PIMikroMove
Version	2.17.3.0
Previous version	2.17.1.0
Changelog	<p>2.17.3.0</p> <p>What's new?</p> <ul style="list-style-type: none"> • Display "Motor Out" in Single-Axis windows and on the Axes table tab card for PLine® and motorized stages • Demo motion is no longer available for Hexapods when using GCS syntax version 1.0 • Global error monitoring window at bottom of main window • For positions of Hexapod axes, PIMikroMove tries to find out proper default for number of displayed digits <p>Fixed</p> <ul style="list-style-type: none"> • Scan 2D: Labels of axis ticks for Z axis were not updated correctly after scan • "No valid CAD data" was shown on new connection of a Hexapod with GCS1 firmware • Target position in Hexapod platform window was not updated in all cases • C-884: "illegal axis" error code was shown by PIMikroMove when the first axis was configured as "NOSTAGE" • "Reset layout" cleared the icons on the tab windows • Layout problems when the "Host Macro Quick Start" window was docked on the left or right side of the main window • E-761: PIMikroMove crashed when the "Device Parameter Configuration" windows was called • GCS1 Hexapod: Sometimes pivot point could not be changed • Communication problems occurred with Hexapods when using GCS syntax version 1.0 • Sometimes state of Hexapod axes was not correct when "Stop" was pressed on Hexapod control unit • "NOSTAGE" selection for C-867 was not possible although supported by the controller • Hexapod Platform Settings: System velocity was limited by GUI • Target values were not updated in GUI after 2D scan
Update recommended for customers	<ul style="list-style-type: none"> - Who want to perform simple automation tasks without the need to program an application - Who want to learn the syntax of the GCS commands (via the Log window) - Who want to test the equipment before programming an application
Files	PIMikroMove.exe, PIMikroMove_SM148E.zip
Manual	PIMikroMoveUserManual_SM148E2110.pdf
Comments	<p>PIMikroMove is a graphical user interface to the C-867, F-206, M-824, M-840, M-850, C-887, E-725, E-861, E-712, E-753, E-816, E-871, C-880, C-848, E-755, C-663, C-863, C-702 and C-843.</p> <ul style="list-style-type: none"> • Can be connected to more than one controller (board) at the same time (in the future more controllers will be supported). • Its command input facility represents an easy way to experiment with various commands. • Simple automation is also possible with host macro facility. More than one controller can be commanded inside one macro. • Position pad to control the motion of axes by mouse and joystick(s). • Data recorder window to view, calculate FFT and export the data

	recorded with the internal data recorder of the controller <ul style="list-style-type: none"> • 1D and 2D Scan to visualize data • 2D Auto find to find maximum of analog input value • 3D Visualization of Hexapod position
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Name of Software	PI_GCS2_DLL
Version	3.2.1.0
Previous version	3.1.2.0
Changelog	Changes introduced by version 3.2.1 (January 22, 2015) <ul style="list-style-type: none"> • fixed: crashed with PI_qIFC() • fixed: PI_InterfaceSetupDlg() did not show any dialog window Changes introduced by version 3.2.0 (December 17, 2014) <ul style="list-style-type: none"> • new: first release for OS X • new: support parameter "Maximum Motor Output Voltage" supported in stages database (PI_CST() and PI_AddStage()) • fixed: problems with PI_CST() and C-867 if more than one axis is given
Update recommended for customers	-
Files	PI_GCS2_DLL.dll, PI_GCS2_DLL.h, PI_GCS2_DLL.lib, PI_GCS2_DLL_x64.dll, PI_GCS2_DLL_x64.lib
Manual with file date	PIGCS_2_0_DLL_SM151E230.pdf
Comments	➤ The PI_GCS2_DLL.dll is needed for PIMikroMove.exe. Customers who wish to develop their own host software can use the DLL, lib and header files to import the DLL and let it handle the communication via RS-232 and TCP/IP.

Name of Software	GCS LabVIEW drivers
Version	6.6.0.0
Previous version	6.6.0.0
What's new?	- Same version as before
Recommended for customers	- Who want to use LabVIEW for programming their application - Customers using the C-887 controller - Who had problems with the previous version
Files	GCS_LabVIEW: <ul style="list-style-type: none"> - 1D Scan.vi - 2D Scan.vi - 2Detector_Automated_Align.vi - 2D_Manual_Align.vi - Automated_2D_Align.vi - C887_Configuration_Setup.vi - C887_F206_M8X0_All VIs.vi - C887_Sample_Application_1.vi - C887_Sample_Application_1_TCPIP.vi - C887_Simple_Test.vi - F206_Configuration_Setup.vi - Find_threshold_With_2_Systems.vi - M8X0_Configuration_Setup.vi - Omega_Device_Automated_Align.vi - PI Terminal.vi

	<ul style="list-style-type: none"> - Show_Save_Load_XYZ_Data.vi - Show_Save_Load_XY_Data.vi <p>Low-Level folder:</p> <ul style="list-style-type: none"> - Analog control.llb - Communication.llb - Controller Algorithms.llb - Coordinate Systems.llb - File handling.llb - GCSTranslator.dll - General command.llb - Joystick.llb - Limits.llb - Macros.llb - Old commands.llb - Optical or Analog Input.llb - Scan support.llb - Special command.llb - Support.llb - Version.txt
GCSTranslator for Linux	libpi_gcs_translator.so
Manual	C887_GCSTLabVIEW_MS209E.pdf
Comments	<p>This LabVIEW driver set is based on the PI General Command LabVIEW driver set. If you also own one or more of the following PI systems, you can request the system-specific VIs for those systems from the PI Sales Department:</p> <p>Analog controller, C-702, C-843, C-843.PM, C-848, C-865, C-866, C-867, C-880, E-516, E-709, E-710, E-712, E-753, E-755, E-761, E-816, E-861, Mercury, or Mercury_GCS</p>

Name of Software	PI LabVIEW Merge Tool
Version	6.6.0
Previous version	6.6.0
What's new?	- Same version as before
Recommended for customers	- Who want to control more than one PI controller via LabVIEW on one system.
Files	<p>MergeDrivers.llb README.txt Sub-folder "DLL_Versions":</p> <ul style="list-style-type: none"> - Sub-Folder "GCSTranslator_win32": <ul style="list-style-type: none"> - GCSTranslator.dll - Sub-Folder "GCSTranslator_win64": <ul style="list-style-type: none"> - GCSTranslator.dll <p>Sub-folder "MergeSupport":</p> <ul style="list-style-type: none"> - dir.mnu - Sub-folder "Low Level": <ul style="list-style-type: none"> - Analog control.llb - Communication.llb - Controller Algorithms.llb - Controller display.llb

	<ul style="list-style-type: none"> - dir.mnu - E761_DirectAccess.llb - File handling.llb - General command.llb - implicit.txt - Joystick.llb - Limits.llb - Macros.llb - Multix.llb - obsolete.txt - Old commands.llb - Optical or Analog Input.llb - PZT voltage.llb - Scan support.llb - Special command.llb - Support.llb - Version.txt - WaveGenerator.llb
GCSTranslator.dll version	Vers. 1.6.1.21
Manual	PILabVIEWMergeTool_SM154E.pdf
Comments	<p>To ensure an unobstructed use of the PI LabVIEW driver sets of multiple controllers, it is necessary to merge all PI LabVIEW driver sets together using the PI LabVIEW Merge Tool.</p> <p>This procedure guarantees that only one PI LabVIEW driver set consisting of the latest vis is present on the system.</p>

Name of Software	PI HexapodSimulationTool
Version	2.2.2.0
Previous version	2.2.1.20
Changelog	<ul style="list-style-type: none"> • replaces PI ForceCalc • supports Hexapod coordinate system handling
Update recommended for customers	-
Files	<ul style="list-style-type: none"> - glu32.dll - glut32.dll - Hexapod_Simulation_CustomerVersion.exe - hexdata_H-206.F1.dat - hexdata_H-810.D1.dat - hexdata_H-811.D1.dat - hexdata_H-811.DV.dat - hexdata_H-820.D1.dat - hexdata_H-824.D1.dat - hexdata_H-824.DV.dat - hexdata_H-824.G1.dat - hexdata_H-824.GV.dat - hexdata_H-840.D1.dat - hexdata_H-840.G1.dat - hexdata_H-850.G1.dat - hexdata_H-850.GV.dat - hexdata_H-850.H1.dat - hexdata_H-850.HV.dat

	<ul style="list-style-type: none"> - hexdata_M-840.5DG.dat - hexdata_M-840.5PD.dat - PIHexapodCSLib.dll
Firmware needed	-
Manual	C-887_Benutzerhandbuch_MS204D110.pdf C-887_UserManual_MS204E110.pdf
Comments	Program for <ul style="list-style-type: none"> ➤ Calculating approximate loads on the individual struts as a function of the load on the platform ➤ Calculating available workspace of the Hexapod

Name of Software	PI ForceCalc
Version, file date	-
Previous version	-
Changelog	<ul style="list-style-type: none"> • Replaced by PI HexapodSimulationTool
Update recommended for customers	-
Files	
Firmware needed	-
Manual with file date	
Comments	<ul style="list-style-type: none"> ➤ Program for calculating approximate loads on the individual struts as a function of the load on the platform.

Name of Software	EtherCAT XML Device Description for PI Hexapods
Version	1.02
Previous version	1.01
Controller	C-887.311
What's new?	<ul style="list-style-type: none"> •
Update recommended for customers	-
Files	PI CIFS RE ECS V2.2.X_V1.02.xml
Firmware needed	-
Manual	C887T0005_C-887_311_EtherCAT.pdf
Comments	File for <ul style="list-style-type: none"> ➤ XML Device Description for PI Hexapods ➤ Only valid for C-887.311 controller ➤ Copy file to the ESI-directory of the EtherCAT master ➤ In TwinCAT 3.x this directory is located in \TwinCAT\3.x\Config\Io\EtherCAT

Updating Software

Prerequisite

- ✓ Active connection to the Internet.
- ✓ If your PC uses a Windows operating system:
 - If the PI Update Finder program is not on your product CD:
You have downloaded the PI Update Finder from our Update Portal (<http://www.update.pi-portal.ws>).
 - You have the PIUpdateFinder_EN_A000T0028.pdf Technical Note for the PI Update Finder on hand. You can find the document on the product CD in the "Manuals" directory.
- ✓ If the PC to be updated is **not** directly connected to the Internet:
You have Technical Note
Updating_software_without_internet_connection_EN_A000T0032.pdf for the PI Update Finder at hand. You can find the document on the product CD in the "Manuals" directory.
- ✓ If your PC uses a Linux operating system:
 - You have the user name and password for the C-887 at hand. Both of these are provided by this document.

Updating PC-software in Windows

- Use the PI Update Finder:
 - When the PC to be updated is directly connected to the Internet: Follow the instructions in the A000T0028 Technical Note.
 - When the PC to be updated is not directly connected to the Internet: Follow the instructions in the A000T0032 Technical Note.

Updating the PC software on Linux

- 1 See "Update recommended for customers" above to decide if an update is advisable for your application. If yes, proceed with the steps listed below.
- 2 Open FTP download site (<ftp://pi-ftp.ws>). Use, for example, the Windows Explorer for that purpose (do **not** use the Internet Explorer).
- 3 Navigate to the CD Mirror directory and download the latest version of the product CD.
- 4 Save the downloaded archive file on the PC.
- 5 Unpack the file to a separate installation directory.
- 6 In the directory with the unpacked files, go to the linux subdirectory.
- 7 Unpack the archive file in the linux directory by entering the command `tar -xvpf <name of the archive file>` on the console.
- 8 Read the accompanying information (readme file) on the software update.

- 9 Log onto the PC as a superuser (root rights).
- 10 Install the update.