



EZcal features

- Diagnosis and configuration of PG Trionic controllers
- Built-in USB storage, SAVE, LOAD, PGFLASH functions
- See “EZcal Instructions” for primary use descriptions

EZcal advanced features

- SMART and LEGACY modes for EZcal
- Language translation localizes menu text
- QUICKLOG records controller data during operation
- Features update with EZcalProUpdate program

NOTE sections 1.1 and 1.2 are not available for “EZcal Green” OR “EZcal+”

1.1 EZcal LEGACY & SMART modes for EZcal

The EZcal SETUP menu (see “EZcal Instructions”) has two settings for EZCAL MODE: LEGACY and SMART; this determines how the EZcal works when displaying controller menus (ie: what is seen when the EZcal is connected to a PG Trionic Inc controller without pressing ESC).

In the LEGACY mode, the EZcal works very similarly to the original EZcal hand held device; the device is “dumb” in that all displayed messages come from the connected controller – the EZcal simply acts as a display window, showing whatever the controller instructs it to do. When a button is pressed on the EZcal, a message is sent to the controller; in turn the controller responds to the button and may change a setting or display different information. The LEGACY mode is compatible with all PG Trionic Inc controllers.

In the SMART mode, the EZcal works like a computer running ASPCUST; the EZcal fetches menu descriptions and value data from the controller, and decides for itself what to display. When a button is pressed, the EZcal decides how to respond to the button; it may change settings in the controller or display different information. The SMART mode is compatible with most PG Trionic Inc controllers; however a few unusual controller features may not work as expected. Occasionally a PG Trionic Inc controller has a new display feature that the EZcal doesn’t support – in such a case a flashing ? is displayed; check for an update for the EZcal (see ****?*?*?*?**!!!!)

Why SMART mode?

There are four benefits to using SMART mode on the EZcal:

- Improved message scrolling
- Language translation
- Quick access to any menu display, rather than only to the HELP message
- Ability to set up QUICKLOG to continuously record controller data



1.1.1 SMART mode enhanced scrolling

In LEGACY mode, scrolling occurs when the total characters of description / label and value exceed the 16 character limit of the display. The complete displayed message is scrolled, which results in sometimes being unable to see the desired value:



The EZcal SMART mode separates the displayed value from the description / label, and does not scroll the value – this makes it much easier to view or adjust the value:



The EZcal SMART mode always tries to avoid scrolling the value, but sometimes that is not possible (for example if displaying a very long value such as platform tilt).

1.1.2 SMART mode language translations

In LEGACY mode, all displayed messages come from the controller, and are always displayed in English:





However, the EZcal SMART mode can translate individual English words and phrases so that displayed messages / menus / etc are shown in the users preferred language:



For language translation, an appropriate file LANGUAGE.TXT must be written to USB storage – this file is created and supplied by PG Trionic Inc, and contains English text and local language translations.

The LANGUAGE.TXT file translates only to a single language – the correct file for the desired language must be chosen.

Of course, it's possible to use more than one EZcal on the same controller, with each translating to a different language using a different LANGUAGE.TXT file.

WARNING: Any attempt to alter the LANGUAGE.TXT file may result in confusing EZcal displays. In such a case, simply delete the file from USB storage.

NOTE: The EZcal SETUP menu (see “EZcal Instructions”) has a setting for TRANSLATE which controls whether language translation is active.

If “YES” is displayed then language translation is active, while “NO FILES” is displayed if the LANGUAGE.TXT file was not found in USB storage.

When “YES” is displayed, press UP/DOWN to change to “NO” which will disable language translation temporarily – till the EZcal is next powered on. If you wish to permanently disable language translation, simply delete the file LANGUAGE.TXT from USB storage.

1.1.3 SMART mode enhanced Quick displays

The EZcal “?” button instantly shows the controllers current HELP message, while viewing any controller menu (there is no need to exit the current menu and navigate to the HELP menu); this feature works in both LEGACY and SMART modes.

However, in SMART mode, it is possible to customize the function by adding additional menu displays, which can be quickly accessed with the “?” button at any time:





Initially, the “?” button shows only the controllers current HELP message.

To add an additional menu display:

- Access the required display menu using LEFT/RIGHT and ENTER/ESC as needed
- Press and hold the “?” button, then quickly press the UP button
- The menu will be “moved up” in to the Quick display
- Repeat the process for additional display menus (to a maximum of 20)

To access the additional Quick displays:

- Press and hold the “?” button, the current Quick display will appear (which might be the HELP message or a “moved up” menu displays)
- Press LEFT or RIGHT to move between different Quick displays; also shown is the number of “moved up” quick displays

To remove a Quick display:

- Press and hold the “?” button, then press LEFT/RIGHT until the no longer wanted display is shown
- Quickly press the DOWN button; the menu will be removed from the Quick display

NOTE: The current set of Quick displays is stored in the file QUICKLOG.TXT in USB storage:

MxxxVxxx=10,48,42,43,44,45,46,160,163

NOTE: After a controller software update, it is possible for the Quick displays to become un-synchronized with the controller; in this case simply use press “?”+DOWN to remove invalid displays, then “move up” the required displays again.

1.2 EZcal QUICKLOG menu

The EZcal QUICKLOG menu works in conjunction with the “?” button Quick displays set up in SMART mode.

It can be useful to log controller values, while carrying out certain activities on the machine – The EZcal can be configured to log controller values, with no need for a PC (except to read and process the resulting logged data).

To prepare for QUICKLOG:

- Access EZcal controller menus using the EZcal SMART mode
- Use the “?” button Quick display – add required menu displays, and remove un-needed ones
- For each controller value to be logged, access it in the normal way using LEFT/RIGHT and ENTER/ESC, then use press “?”+UP to “move up” the display to the Quick displays
- Repeat this for all values to be logged – the order added will determine the order logged
- If there are any extra Quick display values not needed, press “?”+DOWN to remove them; there is no need to remove the Quick HELP message display
- Now press “?”+ESC to immediately access the EZcal Pro menus



To use QUICKLOG:

- Access the EZcal Pro menus and select the QUICKLOG menu
- Enter an appropriate filename; press UP/DOWN to set each character, and LEFT/RIGHT to move between characters; press ENTER when the filename is correct
- The EZcal will prompt for confirmation, displaying “:NO” after the filename; to confirm the filename, press UP/DOWN to show “:YES” then press ENTER
- The EZcal will now create the filename in USB storage, and carry out initial logging preparation; the display will show “WORKING” followed by “READY TO LOG” (and a number indicating how many controller values will be logged)
- Press ENTER to begin logging; the display will show “LOGGING” and a count which increases for each complete set of values logged to USB storage
- If desired, press LEFT/RIGHT to see individual controller values (and the current EZcal display message) for monitoring purposes
- Press ENTER again to stop logging (there may be a short delay if many values are being logged, as the EZcal stops only after finishing the current complete set of values)
- Press ENTER again repeatedly to start/stop logging as needed
- Press ESC to close the file and finish – it is essential to close the file before disconnecting the EZcal from the controller

The file created by QUICKLOG has a “.CSV” extension and is “comma-delimited”; spreadsheet programs should be able to open the file and separate logged data in to individual columns.

1.2.1 EZcal QUICKLOG example file

The EZcal QUICKLOG “.CSV” file is created with a heading line description of each value, followed by multiple data lines each time stamped with a time since the EZcal was connected:

QUICKLOG=M439V016

TIME,"PLATFORM TILT","O/R","Tleft","Tright","P8-5","P8-8"

000409.49,"-1.1',0.4'", "NEUTRAL", "48", "50", "1.92V", "2.14V"

000409.68,"-1.2',0.4'", "NEUTRAL", "49", "52", "1.94V", "2.12V"

000409.87,"-1.2',0.4'", "NEUTRAL", "62", "50", "2.03V", "2.13V"

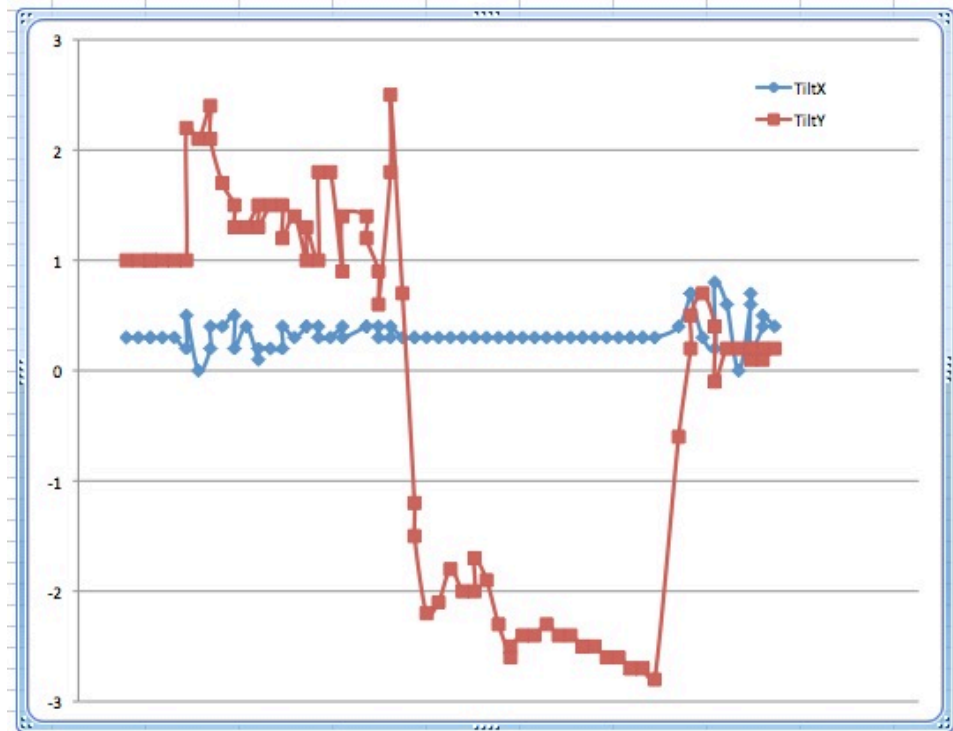
000410.05,"-1.1',0.6'", "ACTIVE", "72", "55", "2.47V", "2.10V"



If this file is opened in a spreadsheet program, it should be able to convert the data in to rows for each set, and columns for each value:

	A	B	C	D	E	F	G
1	TIME	PLATFORM TILT	O/R	"Tleft"	Tright	P8-5	P8-8
2	409.49	-1.1',0.4'	NEUTRAL	48	50	1.92V	2.14V
3	409.68	-1.2',0.4'	NEUTRAL	49	52	1.94V	2.12V
4	409.87	-1.2',0.4'	NEUTRAL	62	50	2.03V	2.13V
5	410.05	-1.1',0.6'	ACTIVE	72	55	2.47V	2.10V
6							
7							

Appropriate selection of controller values to log, logging during relevant machine functions, and careful spreadsheet use, can provide useful machine data, for example:





1.2.2 EZcal QUICKLOG logging speed

The EZcal QUICKLOG menu logs multiple data fetched from the controller; fetching each logged data takes time so there is a maximum logging speed determined by the number of items being logged. However, sometimes there is no need to log data at the maximum possible rate – it is possible to set a “maximum logs per second” rate to limit logging when needed.

To set the maximum QUICKLOG rate of the EZcal:

- Access the EZcal Pro menus and select the SETUP menu
- Access the QUICKLOG sub-menu; press UP or DOWN to set the maximum number of logged data sets per second (from 1 to 99 per second)
- Be aware that high rates may not be achievable when logging many data items
- NOTE: The selected rate is remembered until it is changed again

1.2.3 EZcal QUICKLOG manual logging

The EZcal QUICKLOG menu can be configured to log a single set of data items, instead of continuously logging.

In the EZcal SETUP menu, set QUICKLOGrate to zero (0).

Now in the QUICKLOG menu, when READY TO LOG is shown, press ENTER to log a single set of data items.

Repeat as needed by pressing ENTER additional times. Remember to press ESC to close the file, when done.

NOTE: The selected zero rate is remembered until it is changed again.

1.2.4 EZcal SLOWLOG logging speed (added December 2012)

EZcal QUICKLOG logging can be at much slower rates, allowing for long term datalogging.

To set the maximum SLOWLOG rate of the EZcal:

- Access the EZcal Pro menus and select the SETUP menu
- Access the QUICKLOG sub-menu; press DOWN to reach 0, and press down again
- The sub-menu will change from QUICKLOG to SLOWLOG, and the setting will now be number of seconds between logs
- Press UP or DOWN To set the required time between logs (from 1 second to 255 econds)
- NOTE: The selected rate is remembered until it is changed again

To return to normal QUICKLOG rate of the EZcal:

- Access the EZcal Pro menus and select the SETUP menu
- Access the SLOWLOG sub-menu; press DOWN to reach 0, and press down again
- The sub-menu will change back to QUICKLOG, and the setting will again be number of logs per second (defaulting to 42/s)
- Repeat adjustment as above (section 1.2.3)



1.3 EZcal FLASHSAVE

The EZcal PGFLASH menu normally is used to update the software of a controller, but it can be used to replace a controllers original program with software for a different type. Sometimes, the CALIBRATIONS data is lost, if the different software stores the data in different places.

If the FLASHSAVE option is enabled, PGFLASH will store the calibrations prior to replacing the software, then optionally restore them to the new software.

To set the FLASHSAVE option of the EZcal:

- Access the EZcal Pro menus and select the SETUP menu
- Access the FLASHSAVE sub-menu; press UP or DOWN to select NO or YES
- When YES is selected, FLASHSAVE will be attempted

When the FLASHSAVE option is enabled, and PGFLASH is used to replace software, a short FLASHSAVE display occurs before software is updated, while calibrations are stored. Then after the update, a warning is displayed "WARNING! PART NUMBER CHANGED" - press ENTER now and a second FLASHSAVE is displayed, while calibrations are restored.

IMPORTANT: It is not recommended to change controller software to that of a different type; even if the replacement results in a working controller, the part number label will be incorrect. Warranty claims may be affected by such action.



2.1 EZcal CLONE SAVE / RESTORE menus (added August 2014)

The EZcal CLONE SAVE and CLONE RESTORE menus work together to enable simple and quick transfer of all PGT controller data including any machine calibrations (height, overload, etc) from one controller to another. This is useful in particular if it is necessary to replace a controller.

To prepare for CLONE use:

- CLONE menus are only available by pressing DOWN while connecting the EZcal to the controller
- When connected with DOWN pressed, the CLONE SAVE menu is immediately displayed

To use CLONE SAVE:

- The CLONE SAVE menu should be seen as soon as the EZcal is connected to the "original" controller, with DOWN pressed
- There is no need to enter a filename - the file PGTCLONE.TXT is always used
- BE SURE that you are connected to the "original" controller that you wish to clone data from
- The EZcal will prompt for confirmation, displaying ":NO"; to confirm the CLONE SAVE function, press UP/DOWN to show ":YES" then press ENTER
- The display will show "WORKING" followed by a counter that increases as all the "original" controller data is saved
- The display will show "FINISHED" when the CLONE SAVE is complete; it's OK now to disconnect the EZcal

To use CLONE RESTORE:

- After connecting the EZcal to the "replacement" controller with DOWN pressed, and seeing the CLONE SAVE menu, press RIGHT to see the CLONE RESTORE menu
- There is no need to enter a filename - the file PGTCLONE.TXT is always used
- BE SURE that you are connected to the "replacement" controller that you wish to clone data to; realize that any and all existing data in this controller will be replaced!
- The EZcal will prompt for confirmation, displaying ":NO"; to confirm the CLONE RESTORE function, press UP/DOWN to show ":YES" then press ENTER
- To be really certain, the EZcal will show "PROCEED?" and request a second confirmation - again change ":NO" to ":YES" and press ENTER
- The display will show "SCANNING MENUS" while the controller is being checked to make sure it's ok to restore to
- The display will show "WORKING" followed by a counter that increases as all the controller data is restored
- The display will show "FINISHED" when the CLONE RESTORE is complete

During CLONE RESTORE, error messages will be shown if the "replacement" controller is not of the same type, or has a software version older than that of the "original" controller.

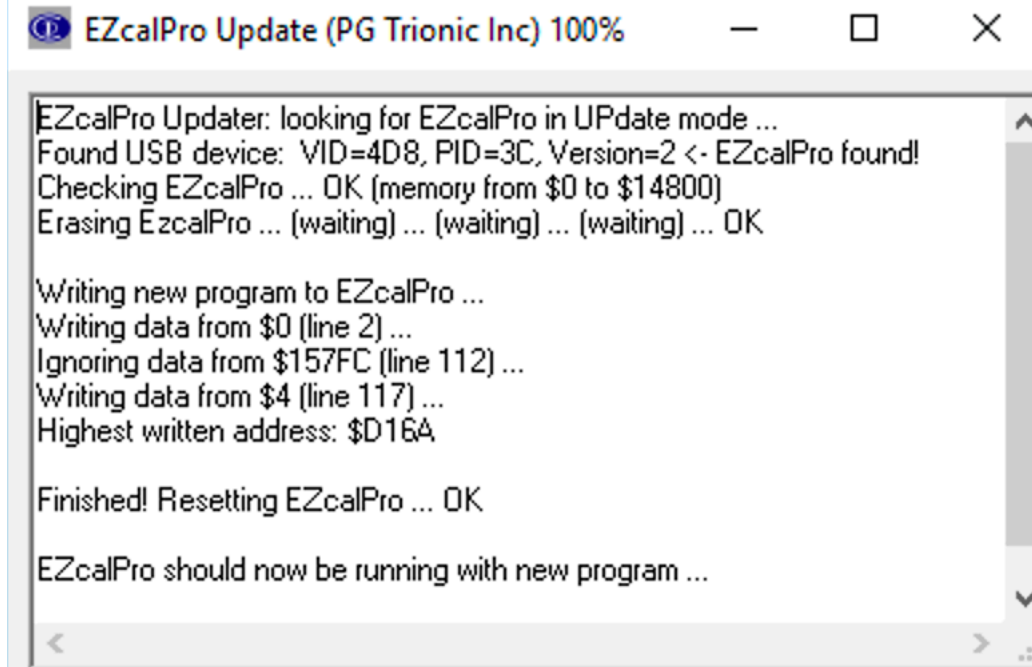


3.1 EZcal updates

The program within the EZcal can be updated to provide additional features or to support newer PG Trionic, Inc controllers. An available computer PC program “EZcalProUpdate.exe” is needed, along with the updated program file “EZcalPro.hex”.

To update the EZcal, connect to a PC via USB **while holding down the UP arrow key** (remember UP=UPDATE); the EZcal display illumination will start flashing to confirm readiness for update.

Ensure you have both files needed (“EZcalProUpdate.exe” and “EZcalPro.hex”), and run the exe program; it will display messages confirming the update along with a % completion – wait till the update is complete:



When the update is complete, the EZcal display illumination will stop flashing, and the EZcal can be used. The EZcal ABOUT menu can be used to confirm the update, if necessary.