



## EFILive V8 Reference

Cindy Myers

# EFILive V8 Reference

© 2012 [EFILive Limited](#)  
All rights reserved

First published  
9 August 2012

Revised  
29 April 2015

**EFILive®**, **FlashScan®** and **AutoCal®** are registered trademarks of EFILive Limited.

All other trademarks belong to their respective owners.

---

# Contents



.....	8
Prerequisites .....	8
Intended Audience.....	8
Computer Knowledge.....	8
Tuning Knowledge.....	8




.....	9
Introduction.....	9
EFILive.....	9
Scan Tool.....	9
Tuning Tool .....	10
FlashScan .....	11
AutoCal .....	11
Comparison.....	11



.....	12
F2: Scan .....	12
Buttons .....	12
Open .....	12
Save .....	12
Config.....	12
Close .....	13
Parameter Identifiers (PIDs) .....	14
F2: PIDs .....	14

---

Virtual Dashboards.....	15
F3: Data.....	15
F4: Charts.....	15
F5: Gauges.....	15
F6: Maps.....	15
Editing Gauges.....	15
Comparing Data Logs.....	15
Log File Information.....	15
Calculated PIDs.....	15
	
.....	16
F3: Tune.....	16
Buttons.....	16
Open.....	16
Save.....	16
Config.....	16
Close.....	16
Reading Calibrations.....	17
Segments and Checksums.....	18
Editing Calibration Data.....	20
Comparing Two Calibrations.....	20
Flashing.....	20
What causes a failed flash?.....	21
Unlocking may fail because:.....	21
Silencing modules on the network may fail because:.....	21
Downloading the boot-loader may fail because:.....	21
Erasing the controller may fail because:.....	21
Reprogramming the controller may fail because:.....	21
What should I do if the flash process fails?.....	23
Calibration only flash.....	23
Full flash.....	23
Managing Calibration Security.....	25




Security Restrictions Controlled By .....	25
Content Privacy .....	25
Reflash Security.....	25
Device and Controller Restrictions.....	26
Controller Locking/Unlocking .....	26




.....	27
<b>F4: DTC</b> .....	<b>27</b>
Controller Information .....	27
Diagnostic Trouble Codes .....	27
System Readiness Tests.....	27
Changing The VIN .....	27



.....	28
<b>F5: BBX</b> .....	<b>28</b>
Buttons .....	28
Open .....	28
Save .....	28
Read.....	28
Program .....	28
Standalone Operation (BBx) .....	30
Quick Setup.....	31
Security Restrictions:.....	32
Standalone Data Logging (BBL) .....	37
BBL Enabled Controllers .....	37
Available PIDs.....	38
Selected PIDs.....	39
Customizing PIDs.....	40
Standalone Reading and Flashing (BBR/BBF).....	41
BBR/BBF Enabled Controllers.....	41

Switchable Tune Names .....	42
DTC descriptions .....	42
 .....	43
<b>F6: Devices</b> .....	<b>43</b>
Device Configuration .....	43
PC-Based Configuration .....	43
FlashScan Configuration .....	43
AutoCal Configuration .....	43
 .....	44
<b>F7: Licenses</b> .....	<b>44</b>
Tuning Licenses .....	44
VIN Licenses .....	44
Stream Licenses.....	45
 .....	46
<b>F8: Tools</b> .....	<b>46</b>
Search .....	46
Importing Data .....	46
Exporting Data .....	46
Controller Lock/Key Management .....	46
Converting Files.....	46



.....	47
Properties .....	47
General .....	47
Settings .....	47
Display .....	47
Folders .....	47
Printing .....	47
User Info .....	47
Locale.....	48
Units .....	48
Scan Tool.....	50
Dashboard.....	50
Playback.....	50
Tuning Tool .....	51
Read/Flash .....	51
2D Charts .....	51
3D Charts .....	51
Warnings.....	51
 .....	52
Appendix A .....	52
Command Line Options .....	52
/Scan <filename>.....	52
/Tune <filename> .....	52
/DTC.....	52
/BBX.....	52
/Dev <filename>.....	52
/Lic.....	52
/Tool .....	52



.....53

Appendix B .....53

Files and Folders..... 53

Documents Folder ..... 53

Installation Folder ..... 53



.....54

Appendix C .....54

Units ..... 54

Metric ..... 54

Custom..... 54

Display Formats..... 54

Dates..... 54

Numbers ..... 54

Language..... 54

Translations..... 54



.....55

Appendix D .....55

Error Messages..... 55

Error Message Document ..... 55

Reporting Problems..... 56

Obtaining Support Information..... 56

Creating a Support Ticket ..... 56

Asking a Question..... 57

Diagnostic Trace Files ..... 58



---

Read/Flash Trace Files .....	58
Application Log Files .....	59



## Prerequisites

### Intended Audience

EFILive Customers using the V8 Scan and Tune Tool software.

### Computer Knowledge

It is expected that readers have a basic understanding of:

- The Windows operating system;
- Starting and using Windows applications;
- Navigating folders using Windows Explorer.

### Tuning Knowledge

It is expected that readers have a basic understanding of:

- Electronic Fuel Injection;
- Electronic Spark Timing;
- On Board Diagnostics.

And enough common sense to understand the following:

- Make small incremental changes;
- Only make one change at a time;
- Evaluate and analyze the results of each change using the Scan Tool and/or other data logging devices before making the next change;
- Do not make changes that you do not understand;
- If you are unsure about making a particular change, ask a knowledgeable tuner first.

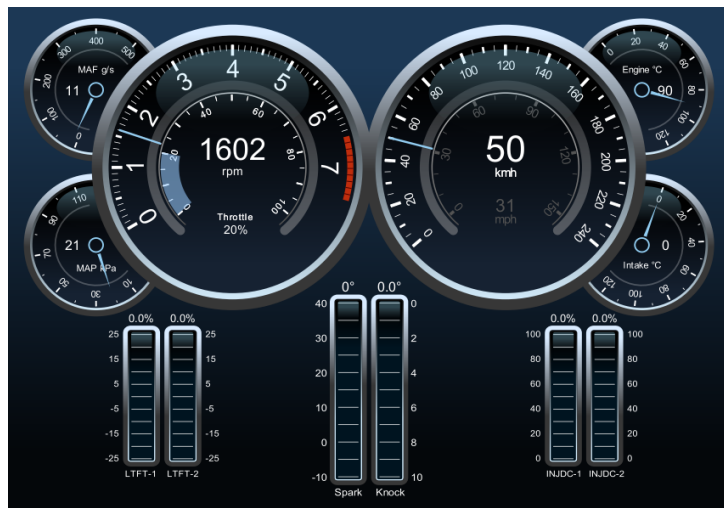


# Introduction

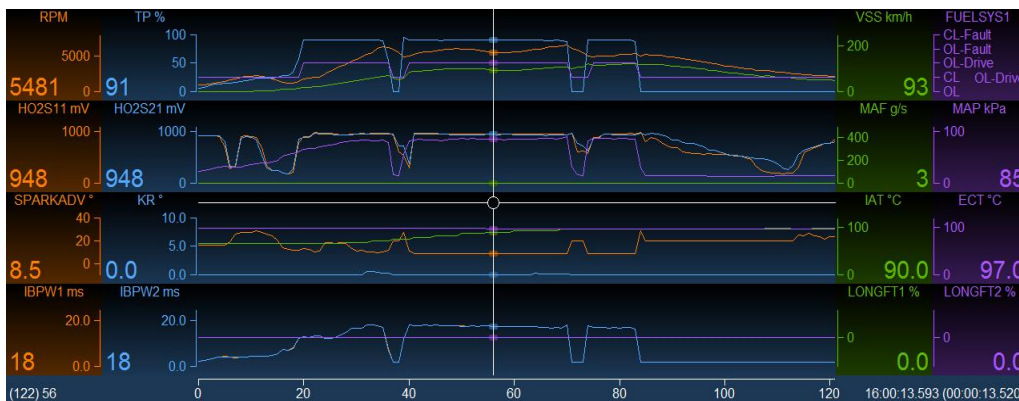
## EFILive

### Scan Tool

The EFILive Scan Tool records real-time data from engine and transmission controllers and can display that information in multiple formats. The logged data can be displayed using gauges similar to the instrument cluster in your vehicle or using strip charts that show data trends over time.



Scan Tool Gauge Display



Scan Tool Strip Chart Display

## Tuning Tool

The EFILive Tuning Tool reads and flashes calibration data and/or operating system code to and from vehicle controllers. The controllers may remain fitted to the vehicle while the read and/or flash processes are performed or the controllers may be removed and used with a bench harness.



Sometimes reading or flashing a controller will fail due to badly behaved modules on the vehicle's network. Badly behaved modules usually fall into the following categories:

- Aftermarket radios.
- Navigation systems.
- Entertainment systems such as DVD players.
- Diagnostic and logging systems.

We recommend disconnecting such devices from the vehicle network or removing power from those devices prior to reading or flashing the engine or transmission controller.

The tuning tool also provides user friendly editing options for changing the calibrations in the controller.

The screenshot shows the EFILive Tune Tool interface. The window title is "EFILive Tune Tool [D:\Blackys\_Documents\EFILive\V7.5\Bins\2009\_Holden\_E38.tun]". The interface is divided into several sections:

- Left Panel:** A vertical menu with icons and labels: F2: Read, F3: Calibration, F4: Properties, F5: Edit, F6: Cal-Flash, F7: Full-Flash, F8: Comments, F9: History.
- Calibration Summary:** A table with columns "Description" and "Value".

Description	Value
Controller	E38
Name/Stream	E38
Operating System	12624402
Operating System Rev	AA
VIN	6G1EP55H19L000000
Serial Number	86K18011X5JA
Boot Block	12605900
Calibration ID	12624488
BCC	YRTM
MCP Software (Ref Only)	
MCP Calibration (Ref Only)	
Last Programmed by GM	Apr 16, 2008
Controller Manufacturer	Delphi
Controller Hardware Specs	PowerPC (32bit), 2MB Flash
Controller Service Numbers	12603892, 12597121, 12612384, 12625455, 12633238
- Image:** A photograph of the E38 controller hardware, labeled "E38".
- Segment Table:** A table with columns "Segment Description", "Part#", "Checksum", and "Comments".

Segment Description	Part#	Checksum	Comments
Operating System	12624402	\$18A3F253	
System	92226294	\$AF2DC4E4	
Fuel System	92223462	\$1D9CE887	
Speedometer	92223480	\$DDCF6CB8	
Engine Diagnostics	92223454	\$7F965C2C	
Engine Operation	92223439	\$1171D047	
- Bottom Panel:** A toolbar with icons for "Open", "Save", "Config", and "Close".

Tune Tool Controller Calibration Display

## FlashScan

FlashScan is really four devices in one:

1. A standalone tool that can display trouble codes, system readiness tests and data logger.
2. A pass-thru device allowing data logging to be displayed in real-time on your laptop computer.
3. A standalone read/flash tool that can read or flash a controller with no laptop or PC required.
4. A pass-thru device that can read or flash a controller from your PC or laptop.



## AutoCal

AutoCal provides a convenient platform for professional tuners to distribute custom tunes to their customers. And for their customers to collect and submit logged data back to the tuner for analysis. It allows the tuner to update and optimize the original tune without shipping and/or removing controllers from customers' vehicles.



## Comparison

Feature	AutoCal	FlashScan
Display/Clear Trouble Codes	●	●
Retrieve System Readiness Test Results	●	●
Pass-thru Logging	●	●
Pass-thru Reading/Flashing	●	●
Standalone Logging	● <sup>1</sup>	●
Standalone Reading/Flashing	● <sup>1</sup>	●
External Analog Inputs		●
Serial Interface	2	●
Master FlashScan Device Required	●	
SD Card		●
Audible/Visible Alarms		●

1. Limited to approximately 6MB of on-board storage.
2. Internal serial interface is available via direct connection to circuit board but opening AutoCal's enclosure will void the warranty.



## F2: Scan

### Buttons

#### Open

**Open (Ctrl+O)** will open a data log file.

**Open Read Only (Alt+O)** will open a data log file that cannot be modified. Use this option to open a scan file that you do not want to accidentally modify.

**Open for Comparison (Ctrl+Alt+ O)** will open a second data log file that will be compared to the existing scan file (not available yet).



When you open a version 7 (\*.efi) data log file, you will be asked to confirm the controller type and transmission type. If you re-save the file using the version 8 software then you won't be asked for the controller type or transmission type when re-opening the version 8 file (\*.pld)

**Clear Logged Data (Ctrl+N)** will clear the existing logged data.

**Open Dashboard (Shift+Ctrl+O)** will open a dashboard file. The most recently used dashboards can also be selected from the drop down list at the bottom of the Scan Window.

#### Save

**Save (Ctrl+S)** will save the scan file with its current name.

**Save As (Alt+S)** will save the scan file with a new name.

**Save Dashboard (Shift+Ctrl+S)** will save the dashboard with its current name.

**Save Dashboard As (Shift+Alt+S)** will save the dashboard with a new name.

#### Config

**Config (Alt+Enter)** opens the EFiLive Property Settings window at the Scan Tool category.

**Calculated PIDs (Ctrl+K)** opens the Calculated PIDs editor window.

**Display/Change Log File Information (Ctrl+I)** allows you to view and modify log file specific information.

**Chart Properties (Shift+F4)** displays the chart editing panel that can be used to customize the dashboard charts.

**Dashboard Properties (Shift+F5)** displays the dashboard editing panel that can be used to customize the dashboard gauges.

**Map Properties (Shift+F6)** displays the map editing panel that can be used to customize the dashboard maps (not available yet).

---

## Close

**Close (Ctrl+F4)** closes the Window. If any changes have been made and not yet saved you will be asked to save the changes.



After you have modified which PIDs appear on the charts or gauges, the PID changes will be automatically saved in the current dashboard.

You may customize that behavior using the: Properties->Scan Tool->Dashboard->PID Selection Options.

---

## Parameter Identifiers (PIDs)

### F2: PIDs

PIDs are the heart and soul of data logging. PID stands for **Parameter Identifier** and as the name suggests a PID uniquely identifies a discreet data element that can be logged from the engine or transmission controller.

EFILive can log many different types of PIDs:

#### **Generic PIDs**

Generic PIDs are available on all controllers that are fitted to vehicles registered in the US and subject to OBDII regulation. Effectively that means generic PIDs are available on all vehicles supported by the EFILive Scan Tool.

#### **Enhanced PIDs**

Enhanced PIDs are defined by the manufacturer to provide data above and beyond what is required to satisfy the US OBDII regulations.

#### **Direct Memory Access (DMA) PIDs**

DMA PIDS are defined explicitly by EFILive to provide specific information directly from the controller's memory. EFILive's DMA PIDs have been carefully designed to provide accurate and useful tuning information directly from the heart of the controller. Many DMA PIDs provide values used by the controller when indexing (looking up) data from calibration tables.

#### **Calculated PIDs**

Calculated PIDs may be defined by the user as mathematical expressions that use the values of other PIDs (including other calculated PIDs) to provide additional information. For example you could create a PID to compute the injector duty cycle from the RPM and injector pulse width as follows:  $\text{duty cycle} = \text{pulse} * \text{rpm} / 1200$ .

#### **External PIDs**

External PIDs are provided to collect external information such as FlashScan's analog voltages, dynamometer integration and third party data logger integration.

Third party vendors wishing to integrate their external data logging with FlashScan are encouraged to contact EFILive to discuss integration options.



---

## Virtual Dashboards

### F3: Data

The Scan Tool's Data tab page shows each selected PIDs' data and statistical information (not available yet).

### F4: Charts

Strip charts show the recorded logged data. This view of the data is usually the most useful for analyzing trends over time and for comparing various PIDs's values at the same point in time.

### F5: Gauges

The Gauges tab page shows a virtual instrument cluster that displays the logged data in real time. To display the gauges as a full screen, press F11. To exit from full screen mode press F11 again.

### F6: Maps

Maps are used to display a single PID as a surface function of two other axis PIDs. For example you could choose to plot the spark advance surface function on a grid indexed by RPM and throttle position. Map data can be compared with calibration tables to evaluate tuning changes. Maps can also be configured to record percentage differences (via carefully crafted calculated PIDs) between commanded and actual calibration data which can then be used to update the calibrations. (not available yet)

## Editing Gauges

See the separate document "EFILive V8 Gauge Editor".

## Comparing Data Logs

(not available yet)

## Log File Information

To display and/or change the non-PID information in the log file, such as comments and various vehicle options, select the "Display/Change Log File Information" option from the [Config] button's drop down menu or press the Ctrl+I hotkey.

## Calculated PIDs

To create or edit calculated PIDs select the "Calculated PIDs" option from the [Config] button's drop down menu or press the Ctrl+K hotkey.



## F3: Tune

### Buttons

#### Open

**Open (Ctrl+O)** will open a tune file.

**Open Read Only (Alt+O)** will open a tune file that cannot be modified. Use this option to open a tune file that you do not want to accidentally modify.

**Open for Comparison (Ctrl+Alt+O)** will open a second tune file that will be compared to the existing tune file (not available yet).

#### Save

**Save (Ctrl+S)** will save the tune file with its current name.

**Save As (Alt+S)** will save the tune file with a new name.

**Save As (Read Only)...** will save the tune file with a new name and flag the file as read only to prevent any further modifications to the file until the read only flag is removed. To remove the read only flag, right click on the file using Windows Explorer and select Properties, then uncheck the Read-only check box.

**Save (Calibration Only)** will save only the calibration portion of the tune file. Calibration only files are significantly smaller than a full tune file.



Use this option to save multiple calibrations for storage on AutoCal devices that have limited capacity. Calibration only files cannot be re-opened nor edited using the Efilive software.

**Save, For AutoCal (Shift+Ctrl+S)** same as “Save” but tags the saved file with the attached FlashScan’s License number which authorizes the saved file for use with any AutoCal linked to the FlashScan device.

**Save As, For AutoCal (Shift+Alt+S)** same as “Save As” but tags the saved file with the attached FlashScan’s License number which authorizes the saved file for use with any AutoCal linked to the FlashScan device.

**Save (Calibration Only), For AutoCal** - same as “Save (Calibration Only)” but tags the saved file with the attached FlashScan’s License number which authorizes the saved file for use with any AutoCal linked to the FlashScan device.

#### Config

**Config (Alt+Enter)** Opens the Efilive Property Settings window at the Tuning Tool category.

#### Close

**Close (Ctrl+F4)** closes the Window. If any changes have been made and not yet saved you will be asked to save the changes.

---

## Reading Calibrations

Click on the [Auto Detect] button to detect which controllers are available for reading via the attached FlashScan or AutoCal device.

If the controllers cannot be automatically detected, you can manually select the controller(s) by right clicking in the grey square and selecting the correct controller.

The green tick that appears on the controller's image indicates which controller (engine or transmission) will be read. Click on either controller to select it for reading.

**Try Alt Keys** attempts to unlock the controller using additional keys. Use this option if EFILive reports that the controller is locked.

**Key** allows you to specify the actual key that will be used to unlock the controller. Use this option if you know the controller is locked and if you know the key that was used to lock it. Keys may be entered in decimal (1..65535) or in hexadecimal (\$0001..\$FFFF).

**Assume Lock May Be Faulty** ignores any errors reported by the controller during unlocking and assumes the lock is non-functional and proceeds with the read operation regardless. Use this option if EFILive reports that the controller is locked or that the controller has "returned to normal operations".

**Try Additional Unlock Strategies** attempts to unlock the controller by using a different seed/key strategy. If and when a controller cannot be unlocked using the above options, EFILive support may request that you use this option in conjunction with additional data supplied by EFILive support. Using this option without the additional data from EFILive support is not useful.

**High Speed (VPW Only)** will use the high speed VPW mode to transfer data from the controller. High speed VPW runs at 41.6kbps which is 4 times faster than standard VPW which runs at 10.4kbps.



For CAN controllers, EFILive has developed a proprietary "Fast CAN Mode" that can be selected in the FlashScan/AutoCal device settings. EFILive's Fast CAN Mode provides a modest speed increase when reading and/or flashing controllers.

**Show Summary When Finished** will automatically display the "F3: Calibration" tab page when reading is complete.

**Read** will start the read process.

**Quit** will stop the read process. Stopping a read process midway through will not harm the controller. Usually an ignition off-countdown-on cycle will reset the controller successfully. In the worst case scenario you may need to reset the controller by removing and restoring battery power.

---

## Segments and Checksums





Controllers store their operating system code and calibration data in flash memory which is a type of computer memory that retains its contents even when power is removed. Usually flash memory is extremely robust and the data programmed into it remains unchanged for many, many years. However faults can and do occur, so the controller must be able to reliably detect if and when the contents of the flash memory change unexpectedly.

Controllers employ various strategies to detect if and when the flash memory changes, one such strategy is to constantly sum up all the numbers in the controller's flash memory and to compare the total sum to a known sum that has previously been stored in the controller's flash memory. That sum is called a checksum. If the computed sum does not match the stored sum then the controller assumes that the flash memory has been corrupted and that the data is no longer reliable.

Once a change has been detected the controller will usually go into limp mode or it may even prevent the engine from starting.

When EFILive is used to edit a calibration file the controller must be told that the changes are ok and should not be detected as faults. To do that, EFILive computes the correct checksum and stores that checksum back into the flash memory. That way, when the controller performs its own sum it will match the sum stored by EFILive.

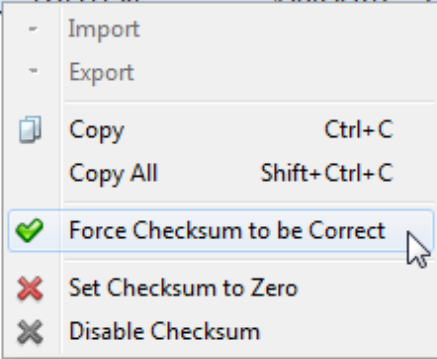
Each segment's checksum status can be one of four states; each state is displayed by EFILive using a different icon:

	Checksum is correct.
	Checksum is incorrect but disabled. This means the segment checksum has been set incorrectly but the controller has been instructed to not compute or verify the checksum during normal operating conditions. If a flash memory fault does occur the controller will not be able to detect it and the controller will continue to operate with faulty data. Usually this is caused when the data has been modified by a third party who has not updated or is not technically competent to update the checksum correctly.
	Checksum is correct but disabled. This means the segment checksum has been set correctly but the controller has been instructed to not compute or verify the checksum during normal operating conditions. If a flash memory fault does occur the controller will not be able to detect it and the controller will continue to operate with faulty data.
	Checksum is incorrect This indicates that the data in the tune file does not match the controller's checksum. EFILive will not allow a tune file with incorrect checksums to be flashed into a controller.

If you read a controller or open a tune file that shows one or more incorrect checksums we highly recommend not using that tune file to re-flash back into the same controller or into any other controller.

Sometimes the checksums are left disabled when a vehicle leaves the manufacturer (we don't know why), but Efilive can correct and re-enable the checksums. To do that right click on the segment you wish to correct and select "Force Checksum to be Correct".

Segment Description	Part#	Checksum	Comments
✘ Operating System	12654130	\$3D85E81C	Checksum invalid.
✔ System			
✔ Fuel System			
✔ Speedometer			
✔ Engine Diagnostics			
✔ Engine Operation			



The image shows a context menu for the 'Operating System' segment. The menu items are: Import, Export, Copy (Ctrl+C), Copy All (Shift+Ctrl+C), Force Checksum to be Correct (highlighted with a green checkmark), Set Checksum to Zero (with a red X), and Disable Checksum (with a grey X).

You may select multiple segments and correct them simultaneously.

Depending on the size of the segments it may take a few seconds to recompute and update the checksums.



NEVER, EVER force a checksum to be correct unless you are 100% certain that the file was obtained from a **working controller** and that the file has **not be tampered with or modified** outside of the Efilive software. Doing so will almost certainly render the controller inoperable and possibly unrecoverable.

---

## Editing Calibration Data

(not available yet).

## Comparing Two Calibrations

(not available yet).

## Flashing

**Try Alt Keys** See Reading Calibrations for explanation of this item.

**Key** See Reading Calibrations for explanation of this item.

**Assume Lock May Be Faulty** See Reading Calibrations for explanation of this item.

**Try Additional Unlock Strategies** See Reading Calibrations for explanation of this item.

**High Speed (VPW Only)** See Reading Calibrations for explanation of this item.

**Test Flash Only** will simulate the flash process, complete with full data transfer to/from the controller. Use this option to test whether a flash will be successful or not without risking the integrity of the controller. Test flashing neither erases the flash memory nor programs any new data into the controller, therefore it is safe to interrupt a test flash, and even a test full-flash can be safely interrupted. For the same reason, test flashing is not able to test for correct battery voltage. If your battery voltage is too high or too low then the erase or flash may fail.

**Cal Flash** will start the calibration only flash process. Calibration flashing only changes the calibrations in the controller and not the operating system. A calibration flash can be interrupted without rendering the controller inoperable.

**Full Flash** will start the full flash process. Full-flashing changes the operating system and the calibrations.



A full flash cannot be safely interrupted for older style controllers (eg LS1, L31, E54, and all Pxx controllers ). Interrupting a full-flash has a high probability of rendering those controllers inoperable and unrecoverable. If a full-flash is interrupted on the older style controllers, restart the full-flash process as soon as possible without removing power from the controller.

**Quit** will stop the cal-flash or full-flash process. Do not interrupt the full-flash process. If you absolutely must interrupt a full-flash process, please wait until it is more than 20% complete. See next section for more information on how to recover from a failed flash.

---

## What causes a failed flash?

When a controller is re-flashed, EFILive performs the following steps:

1. Unlock the target controller.
2. Request other modules on the network be silent and respect the re-flash process.
3. Download a proprietary boot-loader program, designed and written by EFILive into the target controller (not all controllers require a bootloader).
4. Erase the target controller.
5. Reprogram the target controller.

Any of those 5 steps could fail for many different reasons. Below are some of the common reasons why each of those steps could fail.

### Unlocking may fail because:

- The controller has been locked with a custom key by you or by some other tuner. In that case you must supply the key to the EFILive pass-thru software prior to reading or flashing the controller. You cannot supply a custom key when using FlashScan/AutoCal in standalone mode.
- The controller's security system has been damaged or is non-functional. In that case please check the "Try Alt Keys" and "Assume Lock May Be Faulty" check boxes and retry the flash process.
- The controller's security system has been modified by a non-EFILive tuner to use a different unlock strategy. In that case contact EFILive support and we will attempt to help you unlock the controller using the "Try Additional Unlock Strategies" option.
- The controller is not the correct controller. Trying to unlock one type of controller using another type of controller's key will fail and report that the controller is locked.

### Silencing modules on the network may fail because:

- Some aftermarket modules do not honor the request to be silent. In that case, please disconnect or disable all aftermarket electronic modules by removing their fuse or power supply. Typical culprits are radios, navigation systems, phone systems and other entertainment systems.

### Downloading the boot-loader may fail because:

- One of the above failures occurred.

### Erasing the controller may fail because:

- The boot-loader was not downloaded correctly.
- The vehicle's battery voltage is out of range. The battery voltage must be close to 12V.
- The erase command can take up to 60 seconds. During that time if any other module starts to transmit on the network the erase may not complete successfully.
- A cable has become disconnected.

### Reprogramming the controller may fail because:

- The vehicle's battery voltage is out of range. The battery voltage must be close to 12V.

- 
- The reprogramming command can take up to 10 minutes. During that time if any other module starts to transmit on the network the reprogramming may not complete successfully.
  - A cable has become disconnected.



---

## What should I do if the flash process fails?

### Calibration only flash

A calibration-flash failure is not critical and will generally not result in an unrecoverable controller. To recover from a failed calibration only flash, turn the ignition off, wait 30 seconds, turn the ignition back on, wait a further 10 seconds, the retry the calibration only flash.

If the calibration only flash continues to fail:

1. Remove battery power from the controller, by either removing the controller's fuse or by disconnecting the battery from the vehicle.
2. Wait 30 seconds.
3. Reconnect power.
4. Retry the calibration only flash.

### Full flash

A full flash failure is critical and may result in an unrecoverable controller. To attempt to recover from a full flash failure please follow the controller specific instructions:

**For controllers that are any of the following:**

- LS1A Gen III 97-98 PCM
- LS1B Gen III 99-08 PCM
- E54 LB7 Duramax ECM
- L31 Vortec 98-00 PCM
- All Pxx controllers

A full flash failure may cause these controllers to be rendered inoperable and unrecoverable. If a failure occurs while full flashing one of these controllers.



**DO NOT REMOVE POWER FROM THE CONTROLLER.**

As long as the controller remains powered up, EFILive's proprietary boot loader running in the controller will continue to wait for a successful full flash procedure. Simply retry the full flash procedure until it is successful.

If, for some reason power is removed from the controller the only other chance of recovery is that the original failed flash actually made it to about 15%-20% complete. In that case the operating system and communications code may have been restored enough to allow the controller to continue to operate in dead poll mode.



Retry the full flash procedure, if it fails with "no communications" error then the controller has probably been rendered inoperable and unrecoverable. The only way to recover the controller is to disassemble it and physically remove, reprogram and replace the flash chip on the main circuit board.

---

**For all other controllers:**

A full flash failure will generally not render these controller inoperable since the controller's built in boot block is not erased and will continue to allow the controller to be reprogrammed after the failure. To recover from a full flash failure, retry the full-flash process again.

If the full-flash continues to fail:

1. Remove battery power from the controller, by either removing the controller's fuse or by disconnecting the battery from the vehicle.
2. Wait 30 seconds.
3. Reconnect power.
4. Retry the full flash.

If calibration or full flashing continues to fail, please see this knowledgebase article: [http://support.efilive.com/kb\\_article.php?ref=8254-QOGC-9586](http://support.efilive.com/kb_article.php?ref=8254-QOGC-9586)

---

## Managing Calibration Security

Calibration security can be used to control how your calibration file(s) can be used by others. You can enable or disable a host of restrictions to suit most requirements.

### Security Restrictions Controlled By

The security settings cannot be changed unless a FlashScan device is connected. The connected FlashScan's license number is copied into the "Master FlashScan License" field. Once the file has been saved, the security settings can only be changed/cleared when that same FlashScan (or a FlashScan with the same license number) is connected.

To clear all security settings and to remove the FlashScan License number, click the [Clear All Security Settings] button while the correct FlashScan device is connected.

### Content Privacy

**Can be Viewed and Modified** allows anyone who has the tune file to display and modify the contents of the file.

**Can Only be Viewed** allows anyone that has the file to view the file but not to modify it.

**Cannot be Viewed or Modified** means that anyone who has the file cannot view the file and therefore cannot modify it either\*.

\***Note:** Tunes with the restriction "cannot be viewed or modified" have their comments and modification history erased to prevent the recipient from viewing this information.

### Reflash Security

**Can be Calibration-Flashed or Full-Flashed** means the file can be either calibration-only flashed or full flashed into controllers that support either of those two options.

**Can Only be Calibration-Flashed** means the file can only be used as a calibration-only flash. It cannot be used to full flash a controller.

**Can Only be Full-Flashed** means the file can only be used as a full flash. It cannot be used to calibration-only flash a controller.

**Auto-Lock controller during flashing** means the target controller will be locked with a secret key that prevents the calibration from being read out of the controller. To unlock the controller it must be flashed with a tune file that does not have this option checked. Usually a stock file is used for unlocking duties.



Currently Auto-Locking is supported for the LS1B, E38, E40, E54 (LB7), E60 (LLY) and E92 controllers only.

---

## Device and Controller Restrictions

**Device License** restricts the tune file to being flashed only by devices that have this license number.

**Device Serial** restricts the tune file to being flashed only by the single device that has this serial number.

**Controller Serial** restricts the tune file to being only flashed into the controller that has this serial number.

**Controller VIN** restricts the tune file to being only flashed into controllers that match the VIN pattern supplied. A VIN pattern may use a dot to indicate “don’t care” characters. All other characters must match the target VIN.

For example, the VIN pattern: “6G1 . . . . . 6 . . . . .” will match ONLY VINs that start with the three letters “6G1” and that also have a “6” at position 10.

**Remote License** shows that the tune file may be used by any remote AutoCal device that is linked to the License number shown. To set the Remote License, use one of following drop down options on the [Save] button:

- Save, For AutoCal
- Save As, For AutoCal
- Save (Calibration Only), For AutoCal

**Note:** Where device and controller restrictions are implemented, tuners should provide an unrestricted stock tune to assist in ECM recovery of a failed flash.

## Controller Locking/Unlocking

(not available in V8 yet, continue to use V7 for locking/unlocking duties).



## F4: DTC

### Controller Information

Displays various OBDII data that can be read from the controller, including CVNs (Calibration Verification Numbers).

### Diagnostic Trouble Codes

(not available in V8 yet, continue to use V7 for this feature).

### System Readiness Tests

(not available in V8 yet, continue to use V7 for this feature).

### Changing The VIN

(not available in V8 yet, continue to use V7 for this feature).



FlashScan provides an option to capture ALL diagnostic data from a connected vehicle into a single text file report in standalone mode. Select FlashScan's menu option: F3 Diagnostics -> F4 Record All Diags.

AutoCal (in Advanced Menu mode) also captures ALL diagnostic data using the option: Trouble Codes->Record Diags.



## F5: BBX

### Buttons

#### Open

**Open (Ctrl+O)** will open a configuration file.

#### Save

**Save (Ctrl+S)** will save the configuration file with its current name.

**Save As (Alt+S)** will save the configuration file with a new name.

**Save Quick Setup (Shift+Ctrl+S)** will save the current quick setup configuration file.

**Save Quick Setup As...(Shift+Alt+S)** will save a quick setup configuration file with a new name.

**Save Quick Setup As (Read Only)...** will save a quick setup configuration file with a new name and make the file read-only. That means the file can't be accidentally modified unless the read-only flag is removed. To remove the read only flag: Using Windows Explorer, right click on the quick setup file and select "Properties" then uncheck the "Read-only" check box.

#### Read

**Read (Ctrl+R)** reads the current configuration from the attached device.

#### Program

**Program (Ctrl+P)** Programs the attached device with the current configuration and any supporting files that have been updated since the device was last programmed.

**Program Selections Only (Faster)** programs the attached device with only the configuration file. This option should only be used if you have only changed PID selections. If you have changed the number and or type of controllers for either scanning or tuning then you should use the Program or Program All Required Data options.

**Program Selections and Configuration Files (Slower)** formats and then programs the attached device with all configuration files regardless of whether they are out of date or not.

**Format CONFIG File System** formats the CONFIG file system in which the configuration and supporting files are stored. When making significant changes to the BBX options, it is a good idea to format the CONFIG file system to discard any old/unused files prior to programming.



To save CONFIG file space you may also elect to exclude the DTC description files from FlashScan devices. In that case FlashScan will only be able to display DTCs but not their descriptions.

DTC description files are not copied to AutoCal devices.

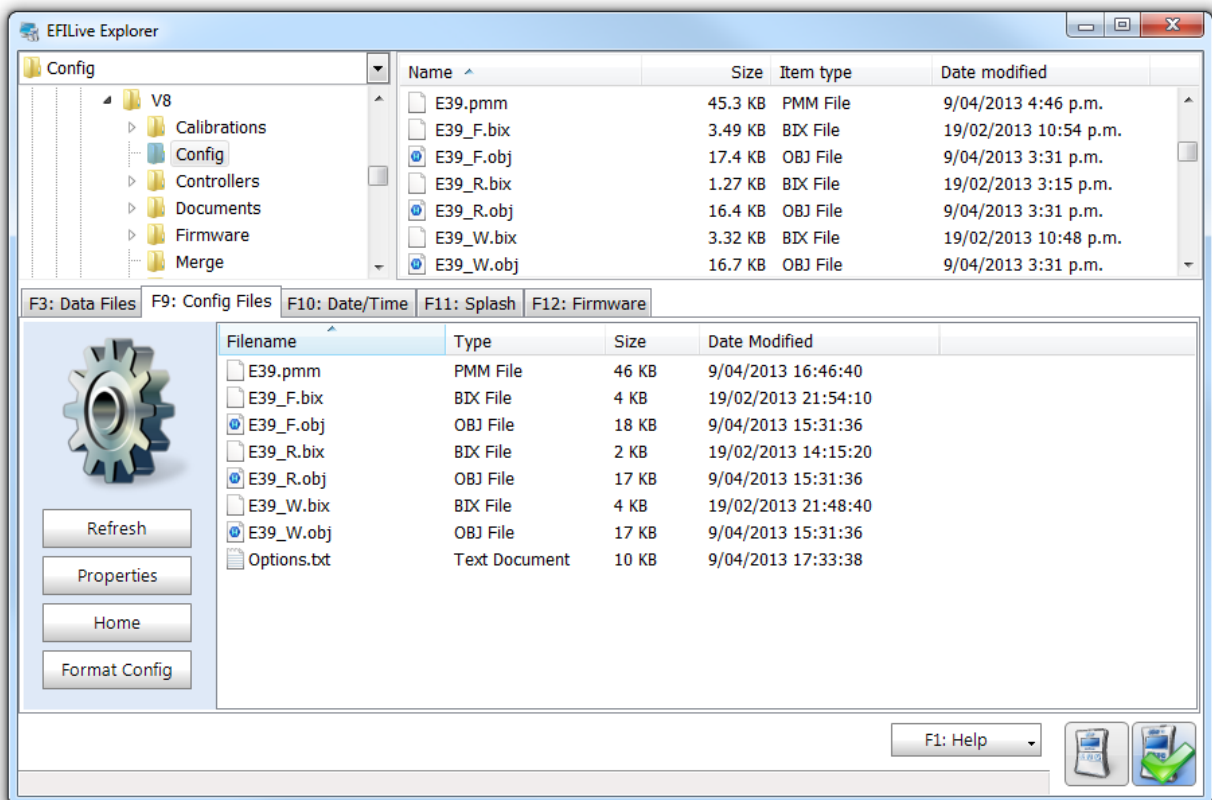
## Standalone Operation (BBx)

Standalone operation (aka BBx) is used to describe the operations that FlashScan and AutoCal devices can perform without being connected to a laptop or PC.

Before any BBx operations can be performed, the device must be configured with the appropriate data files. The data files that are copied to the device are:

- **Options.txt:** contains the options that you have selected to be available via BBx, such as which controllers to enable, which PIDs to log, which DTC descriptions will be available and the switchable tune names.
- **\*.pmm files:** contain the PID definitions for each controller that you have selected for BBL.
- **\*.obj files:** contain the read and flash configurations for each controller that you have selected for BBR and/or BBF.
- **\*.bix files:** contain additional read and flash configurations for some controllers that you have selected for BBR and/or BBF. Not all controllers require the \*.bix files.

For advanced users, it is possible to use EFLive Explorer to manually copy the necessary configuration and support files from \Program Files\EFLive\V8\Config\ to a FlashScan or AutoCal device, however it is much easier and more accurate to use the [F5: BBx] setup option in the EFLive Software.



EFLive Explorer showing BBx configuration files for the E39 controller



Many of the configuration files are intimately linked to FlashScan's and AutoCal's firmware version. Use the [Check Firmware] button in the main EFLive Scan and Tune Window to update the firmware and associated configuration files.



---

## Quick Setup

V8 Scan and Tune [F5: BBX] -> [F6: Quick Setup] tab page provides a complete BBX configuration profile that can be used to configure a device in one easy step. Quick setups are most often used by tuners to create a single configuration file that they can email to their customers to allow their customers to quickly and easily configure an AutoCal device. Quick setups are not limited to AutoCal devices, they can also be used to configure FlashScan devices.

Create a new quick setup file using the **New Quick Setup** button.



Open an existing quick setup file using the **Open Quick Setup** button.

Program the quick setup into a device using the **Program Quick Setup** button.

Save a new quick setup file using one of the three drop down options on the [Save] button.

A black box quick setup file (\*.bbx) contains copies of all the configuration data and tune files required to configure the AutoCal device. All necessary data and files are copied into the quick setup file when it is saved.

The data that is copied into the quick setup file is:

- The device settings that are currently configured in the [F6: Devices] window. You can modify the device settings by clicking on the [Edit AutoCal Settings] button on the [F6: Quick Setup] tab page. FlashScan device settings can be modified by selecting the [Edit FlashScan Settings] item on the drop down box on the [Edit AutoCal Settings] item.
- The current file which contains the controllers and PID selections that are currently configured in the [F5: BBX] window.
- All required supporting configuration files (\*.obj, \*.pmm, \*.bix and \*.drc).
- Various options that are to be performed when the user programs the quick setup configuration in to their device:
  - **Format the CONFIG file system before copying BBX configuration files to device** will as the description suggests format the CONFIG file system. It is recommended that you check this option to ensure all old configuration files are removed from the target device.
  - **Delete all existing tune files before copying new tune files to device** will delete all existing \*.ctz and \*.coz files from the /EFILive/Tune folder of the target device.
  - **Overwrite existing tune files when copying new tune files to device** will automatically and without any warning, overwrite existing files on the device. It is recommended that you check this option otherwise if a file already exists on the device then it will not be copied from the quick setup to the target device.
- Up to 10 \*.ctz and/or \*.coz tune files can be added to the quick setup configuration. To add one or more tune files to the quick setup configuration, click the  button. To remove selected tune files, click the  button.

Quick Setup.bbx files can be emailed to your end user to program or reprogram AutoCal.

Quick Setup.bbx files should be saved in the folder: \My Documents\EFILive\V8\BBX

Tuners and end users will need to manage file names and the appropriate back up of files, particularly for tune files should multiple Quick Setup configurations be required.

Tuners should provide instructions to end users on how to program Quick Setup.bbx files based on the configuration changes made.

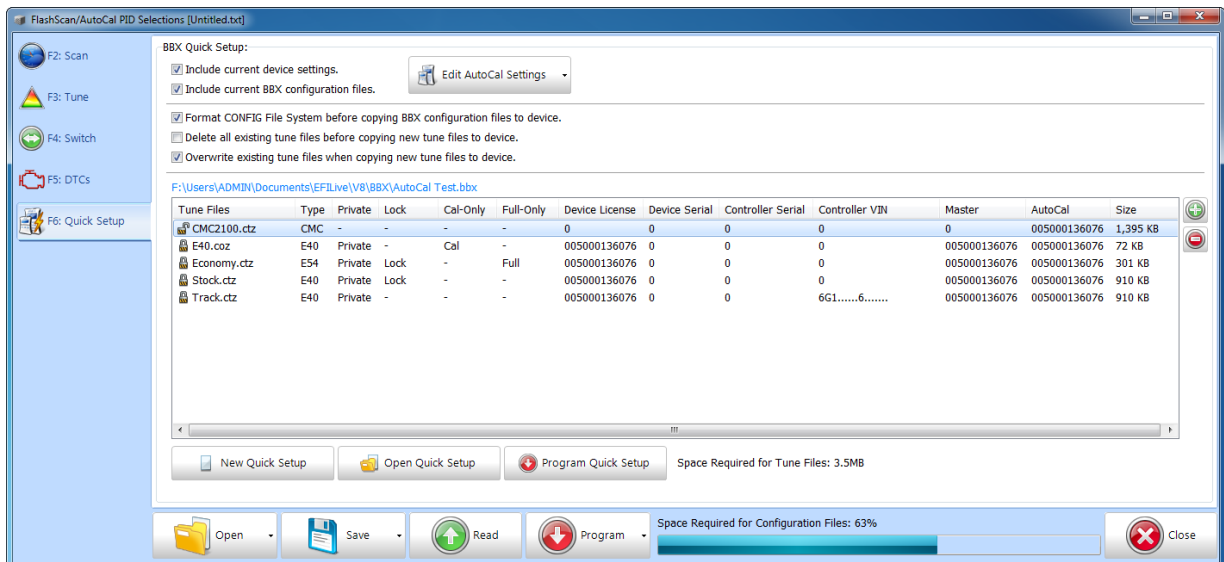
### Security Restrictions:

You can select one or more tune files and right click to modify the various security attributes of the tune files as well as the file name. Modifying these attributes does not alter the original tune file, it only alters the copy of the file that is stored in the Quick Setup file.

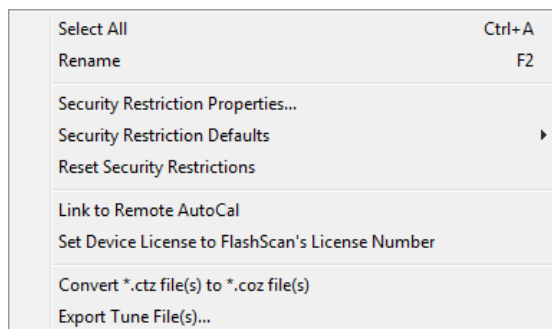
The padlock icon next to the tune file name displays the security restrictions status of that file.

If the padlock icon is locked for a tune file, then you cannot modify the security restrictions for that file. You must reset the security restrictions before you can set new restrictions. To reset security restrictions, the Master FlashScan device that was used to enable current security settings must be connected to your PC.

The security restrictions status padlock is only updated when a Quick Setup file is saved.



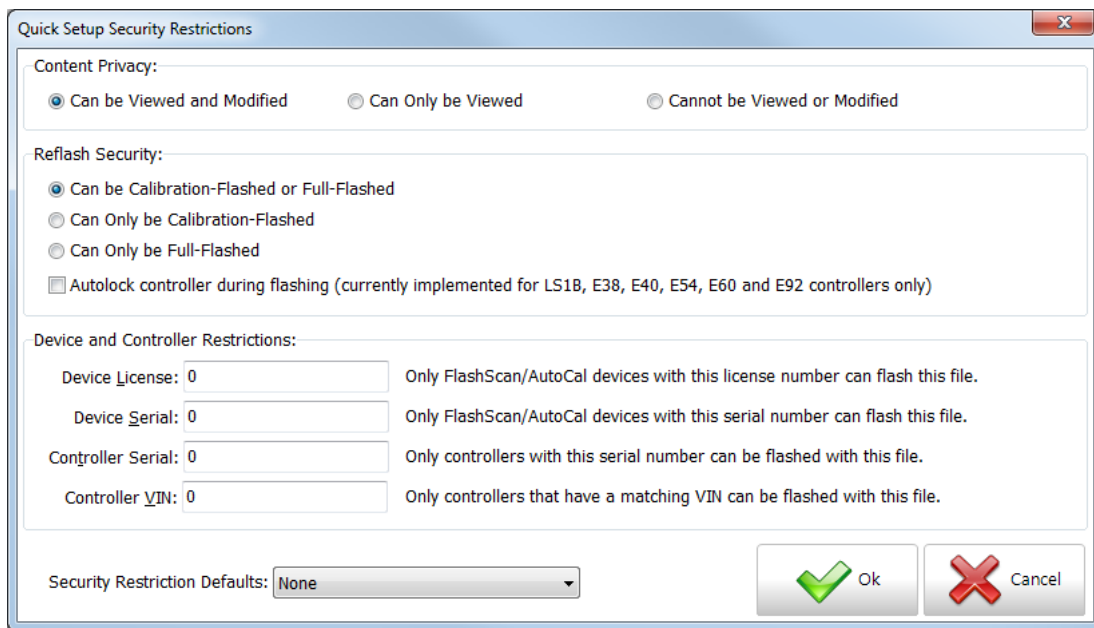
There are a variety of security settings available using the right click option on one or more tune files.



**Select All** – allows all files in the Quick Setup to be selected at once.

**Rename** – allows a single file to be renamed.

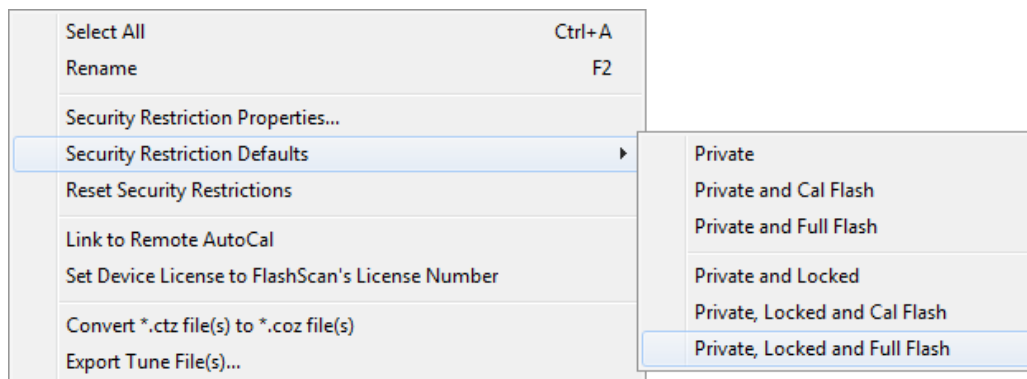
**Security Restrictions Properties** – manages single file or multiple file security settings via pop-up window, where the following options are available:



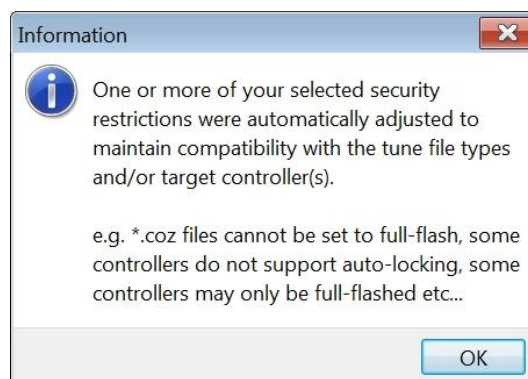
Security can either be set by selecting individual components under each section heading, or via selecting Security Restrictions Defaults which lists a range of pre-defined options that are available.

Detailed descriptions for each individual component are documented under Managing Calibration Security.

**Security Restrictions Defaults** - manages single file or multiple file security settings via a range of pre-defined options that are available.



Where multiple files are selected, and security restrictions are not compatible across all files, the Quick Setup will automatically adjust security levels to the 'next applicable' security level. The following message will be displayed.



---

**Reset Security Restrictions** – removes security settings on single file or multiple file selections. The Master FlashScan device that was used to enable any current security settings must be connected to your PC.

Resetting security restrictions WILL NOT reset the Remote License field. Remote License is not a security restriction. A Remote License is an enabler that allows an AutoCal to flash tunes created by a particular FlashScan.

To clear a remote license, users must open the tune file and clear the remote license using the [F3: Tune] -> [F4: Properties] menu selection.

To modify a remote license, simply select the right-click option “Link to Remote AutoCal”.

**Link to Remote AutoCal** – enables an AutoCal to flash tunes created by a particular FlashScan. This is not a security restriction.

**Set Device License to FlashScan’s License Number** - restricts the tune to being flashed only by FlashScan devices that have the same License Number.

**Convert \*.ctz file(s) to \*.coz file(s)** – converts \*.ctz file(s) to \*.coz file(s) where \*.coz file formats are supported for the controller type selected. If the controller type does not support \*.coz file format, the file(s) will remain in \*.ctz format. Files cannot be converted from \*.coz format to \*.ctz format.

**Export Tune File(s)** - If you accidentally lose or delete the original \*.ctz tune files that were used to create a quick setup file, you can recover them using this option.

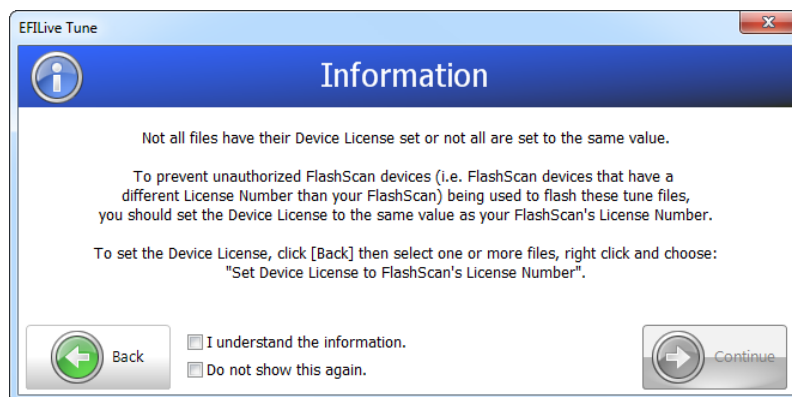
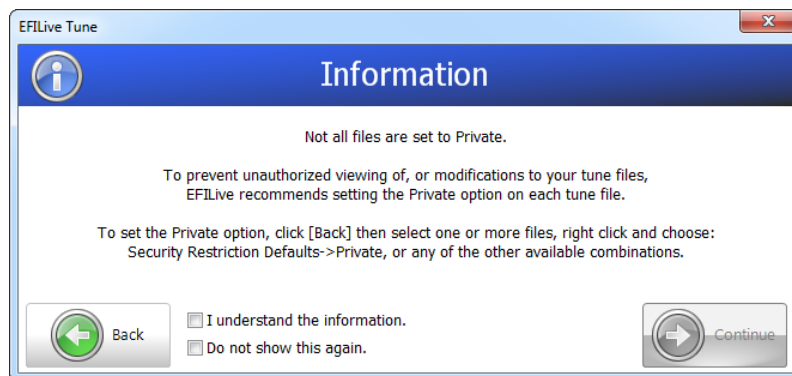
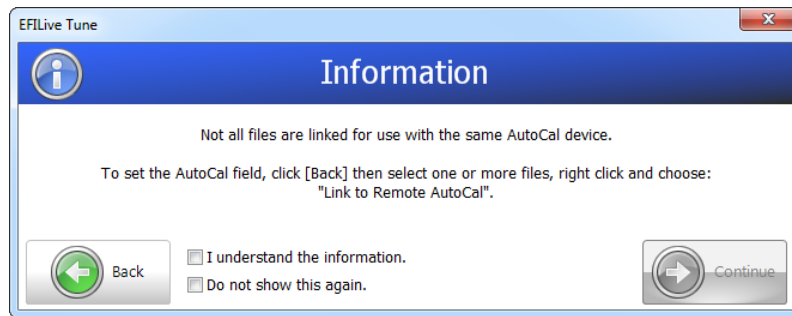
**NOTE:** When you change the security restrictions of files in the quick setup list, those restrictions are not applied immediately to the files. Instead, security restrictions are only applied to the files in the quick setup list when the quick setup file is saved.



EFILive recommends at least the following settings for AutoCal quick setup tune files:

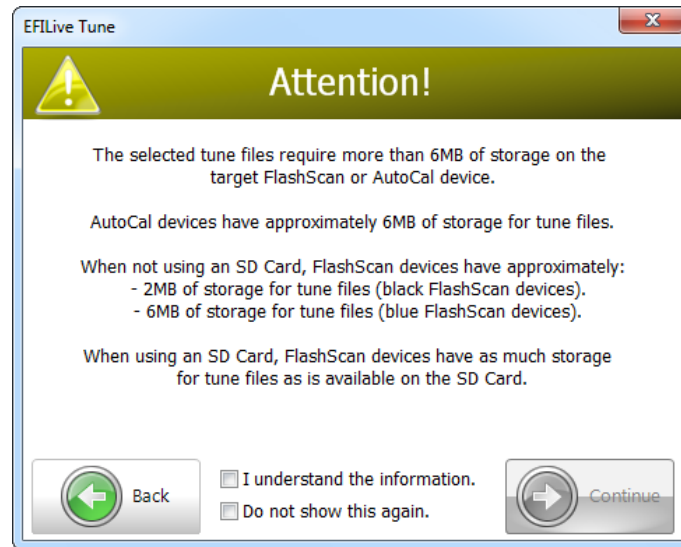
- Private
- Lock (Currently locking is supported for the LS1B, E38, E40, E54 (LB7), E60 (LLY) and E92 controllers only)
- Device License (to prevent un-authorized FlashScan’s from flashing tunes).
- Master License (to implement file security).
- Remote AutoCal License (to give AutoCal ‘permission’ to flash tunes created by a particular FlashScan).

Should Quick Setup files be saved without appropriate settings, the following warning messages will be displayed during the [Save] process:



Tuners have the ability to select [Back] and modify the Quick Setup, or select [Continue] after selecting one of the available check boxes. Selecting [Continue] will allow the Quick Setup to be saved in its 'unsecured' format.

Should collective tune file sizes exceed 6MB, the following warning message will be displayed during the [Save] process:

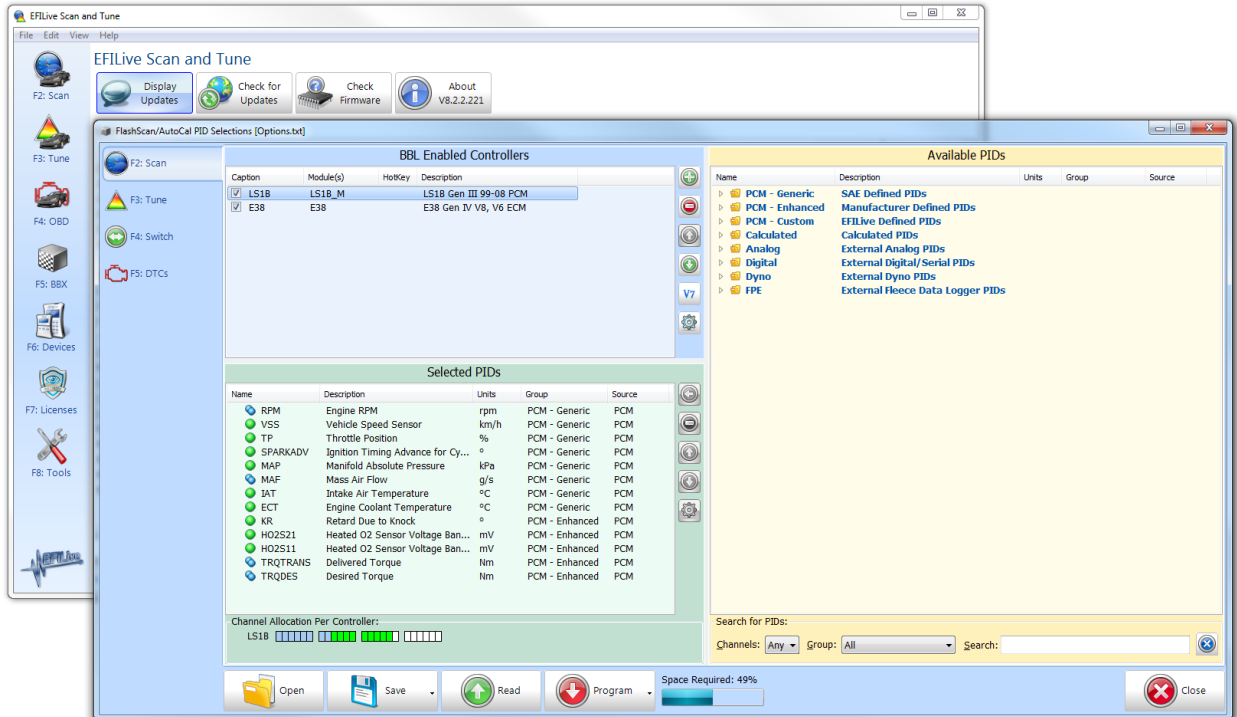


Tuners have the ability to select [Back] and modify the Quick Setup, or select [Continue] after selecting one of the available check boxes. Selecting [Continue] will allow the Quick Setup to be saved.

Should Quick Setup files be programmed into AutoCal where tune file(s) are not licensed for use with that device, the following warning message will be displayed:



## Standalone Data Logging (BBL)




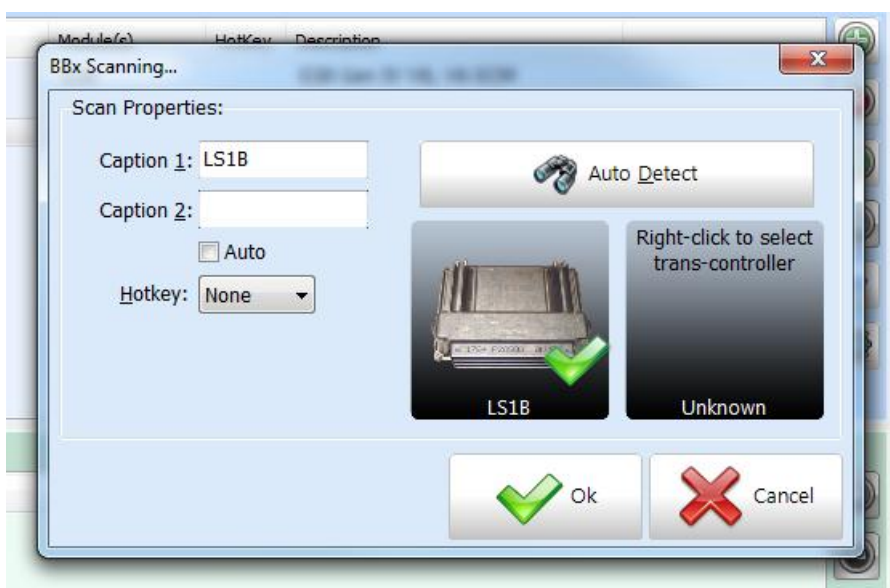
[F5: BBx] option showing LS1B BBL PID selections

The [F2: Scan] page is divided into three regions:

1. **BBL Enabled Controllers** shows which controllers are selected for Black Box Logging.
2. **Available PIDs** for the currently highlighted controller.
3. **Selected PIDs** for the currently highlighted controller.

### BBL Enabled Controllers

To add a new controller, click on the  button or right-click and select "Add", or press the hotkey Shift+Ctrl+Ins.



Scan Controller Properties, LS1 controller selected

---

Caption 1 and Caption 2 contain the text that will be shown on FlashScan's or AutoCal's data logging selection menu. On FlashScan the two captions are displayed on a single line with a space separating them, on AutoCal the two captions are displayed on two separate lines.

Some controllers (such as the LS1B) are capable of controlling both the engine and automatic transmission. In that case, use the Auto checkbox to indicate whether or not an automatic transmission is present. That will ensure the PIDs displayed in the **Available PIDs** area are for the correct transmission type.

If you allocate a hotkey (F1...F4) to this controller, then you may select this controller for data logging duties on FlashScan by pressing that hotkey on FlashScan's keypad. Hotkeys are not supported on AutoCal.



If you are currently connected to your vehicle, you may click [Auto Detect] to attempt to identify the controller(s) in your vehicle, otherwise right-click on the shaded squares to select the appropriate engine/transmission controllers.


To remove a controller from the list, click the  button or right-click and select "Delete", or press the hotkey Shift+Ctrl+Del.




Deleting will delete all highlighted controllers and all their selected PIDs.

To retain the selected controllers and their selected PIDs while preventing the controllers from being visible in the FlashScan or AutoCal menus, uncheck the checkbox next to the controllers.

To move the highlighted controllers up or down in the list click on the  and  buttons respectively or press the hotkeys Shift+Ctrl+UpArrow or Shift+Ctrl+DownArrow respectively.

To select V7 compatibility options click on the  button. The V7 compatibility options allow you to specify the V7 dashboard that will be automatically loaded if/when you open the data file in the V7 software. You can also add V7 calculated PID names that will be automatically displayed if/when you open the data file in the V7 software. Calculated PIDs are not computed nor displayed by FlashScan or AutoCal in BBL mode.

To modify an existing controller selection, click on the  button or right-click and select "Properties" or press the hotkey Shift+Alt+Enter.

## Available PIDs

The list of available PIDs is slightly different for most controllers. Each time you highlight a different controller in the BBL Enabled Controllers section the PIDs shown in the Available PIDs section may change.



The list of available PIDs is divided into a number of groups displayed with blue headings. You can configure the display to automatically expand all the groups via: Properties->Scan->Dashboard->Expand PID Selection Groups Automatically.


To help locate a specific PID, you can enter all or any part of the PID's name, description or units into the "Search:" text box at the bottom of the window. When you stop typing into that text box EFILive will search for and display only those PIDs that match the search text. For example, if you were looking for a PID that had something to do with spark, then you should enter the text spark.


Click the  button to clear the search options and display all PIDs again.



---

## Selected PIDs

To include PIDs in the data log, you must “select” them. To select PIDs, highlight them and drag them from the Available PIDs section to the Selected PIDs section, or click the  button or press the hotkey Ctrl+Ins.

To unselect PIDs, highlight them and click the  button or press the hotkey Ctrl+Del.

You can highlight multiple PIDs at once by left-clicking on them in combination with the Ctrl or Shift keys. Holding the Ctrl key down while left-clicking will allow you to select multiple individual PIDs. Holding the Shift key down while left-clicking will allow you to select a range of PIDs. Only PIDs that are in the same group can be selected at once.



### ***Known Issue:***

If you are logging PIDs from an ECM and TCM simultaneously and you have selected a PID from the transmission controller (TCM) that has an identically named PID in the engine controller (ECM), then when the log file is loaded back into the V8 software for viewing, that TCM PID will be displayed as if it originated from the ECM.

That is a restriction of the \*.efi (V7.5 log file format). That restriction will be removed and the TCM PIDs will display their true origin once the V8 scan tool software is available.

## Customizing PIDs

PIDs may be customized to display different units on FlashScan's or AutoCal's display and/or to activate alarms on FlashScan based on limits that you set. Alarms are not supported on AutoCal.

**Default PID properties:**

Description: Vehicle Speed Sensor

Name: VSS      Module: ECM      Channels: 1

Sample value: 60km/h      Units: km/h      Precision: 0

**Custom PID properties:**

Active

Quick select: mph      Invert:

Caption:      Factor: 0.621371      Offset: 0.000000

Sample value: 37.3mph      Units: mph      Precision: 1

**Alarms:**

Minimum:      km/h       Active      Time: 10 x10 ms

Maximum: 100 km/h       Active      Hold: 0 s

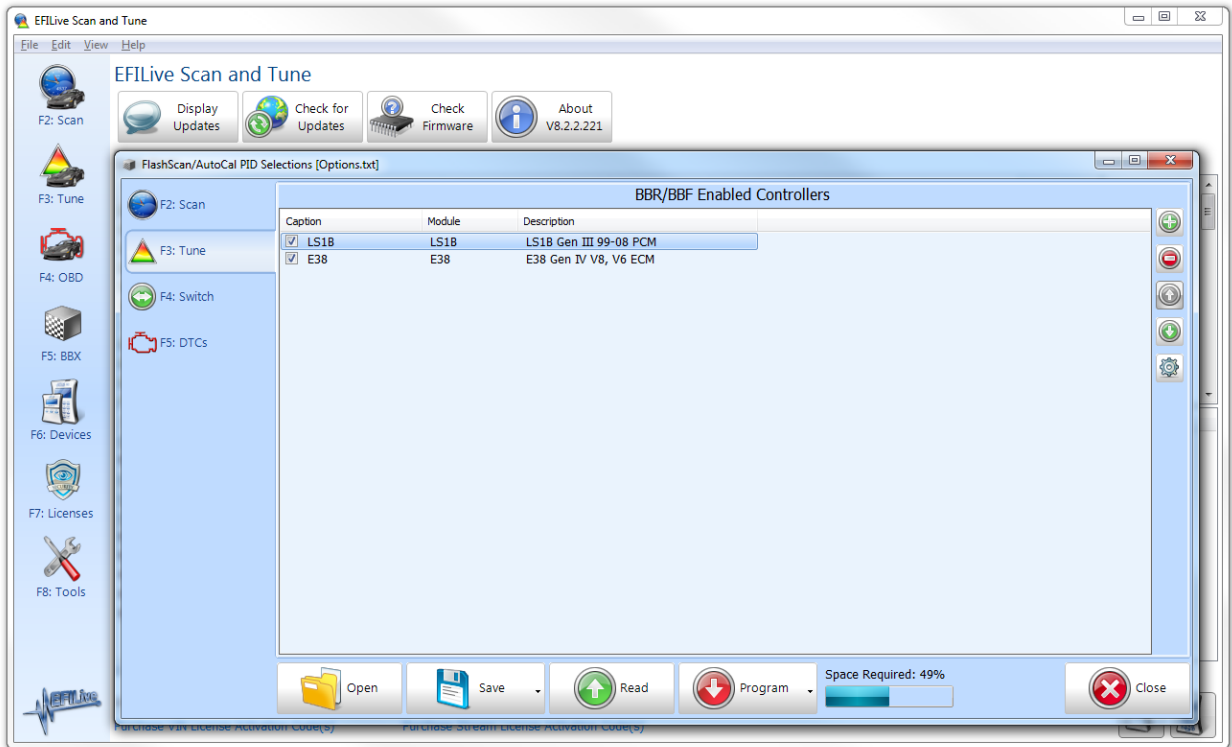
Audio Style: Medium      Visual Style: No LEDs

Ok      Cancel

PID Properties showing custom units (mph) and alarm for vehicle speed PID

The “Hold” time option is not available yet. When implemented, that option will cause the FlashScan or AutoCal display to display the value that triggered the alarm for a pre-determined number of seconds, while continuing to log data in the background.

## Standalone Reading and Flashing (BBR/BBF)




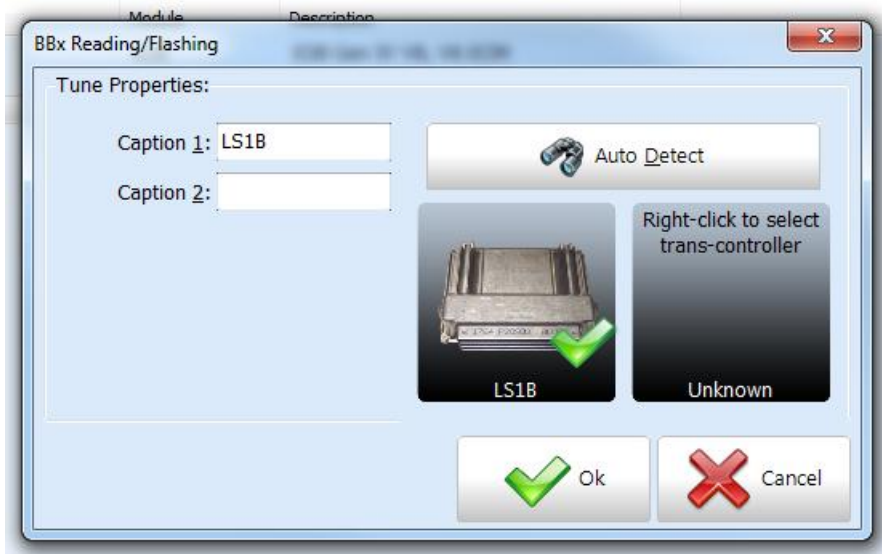
[F5: BBx] option showing LS1B BBL PID selections

The [F3: Tune] page contains one region:

1. **BBR/BBF Enabled Controllers** shows which controllers are selected for Black Box Reading and Flashing.

### BBR/BBF Enabled Controllers

To add a new controller, click on the  button or right-click and select "Add", or press the hotkey Shift+Ctrl+Ins.



Tune Controller Properties, LS1B controller selected

---

Caption 1 and Caption 2 contain the text that will be shown on FlashScan's or AutoCal's data logging selection menu. On FlashScan the two captions are displayed on a single line with a space separating them, on AutoCal the two captions are displayed on two separate lines.



If you are currently connected to your vehicle, you may press [Auto Detect] to attempt to identify the controllers in your vehicle, otherwise right-click on the shaded squares to select the appropriate engine/transmission controller.


To remove a controller from the list, click the  button or right-click and select "Delete", or press the hotkey Shift+Ctrl+Del.



Deleting will delete all highlighted controllers.

To retain the selected controllers and their selected captions while preventing the controllers from being visible in the FlashScan or AutoCal menus, uncheck the checkbox next to the controllers.

To move the highlighted controllers up or down in the list click on the  and  buttons respectively or press the hotkeys Shift+Ctrl+UpArrow or Shift+Ctrl+DownArrow respectively.

To modify an existing controller selection, click on the  button or right-click and select "Properties" or press the hotkey Shift+Alt+Enter.

## Switchable Tune Names

DSP5 (Duramax 5 option switch) and CSP5 (Cummins 5 option switch) tunes can be switched on the fly from a FlashScan device. Enter the names of the switchable tunes that you want to appear on FlashScan's switchable tunes menu.

## DTC descriptions

FlashScan is capable of reading trouble codes. Trouble codes are displayed as codes with an option to display a description of the trouble code. This section allows you to select which trouble code description file(s) you want copied to your FlashScan device. The description files are relatively large and will take up space on FlashScan that could otherwise be used for configuring more controllers. If you find that all the controllers you need configured will not fit on FlashScan, you can uncheck one or more of these description files to prevent them from being copied to FlashScan.



AutoCal cannot display DTC descriptions so there is no point copying these files to an AutoCal device.



## F6: Devices

### Device Configuration

#### PC-Based Configuration

This section is not written yet.

#### FlashScan Configuration

This section is not written yet.

#### AutoCal Configuration

This section is not written yet.



## F7: Licenses

### Tuning Licenses

Each FlashScan device can be configured with a combination of three different licenses:

1. Scanning and Logging which means the device operation is limited to scan tool duties and reading any EFILive supported GM and/or Cummins controllers. It cannot be used to flash (i.e. re-program) any controllers.
2. GM Tuning which means the device can flash any EFILive supported GM controller.
3. Cummins Tuning which means the device can flash any EFILive supported Cummins controller.

### VIN Licenses

VIN Licenses in the attached device are displayed on the [F3: VINs] tab page. Each VIN license can be used to flash two controllers: one engine controller and one trans controller. The two controllers need not be fitted to the same vehicle, or even related in any way.

**License #** shows the status of the VIN license. A grey tick indicates that at least one part of the license has been used, a green tick indicates that the license has not been used yet.

**Engine** shows the last 9 letters/digits of the engine controller serial number to which the license has been allocated.

**Transmission** shows the last 9 letters/digits of the transmission controller serial number to which the license has been allocated.

You can purchase additional VIN licenses from EFILive's web site, just click the [Purchase Activation Code\(s\)](#) link in the software. You must provide two critical pieces of information when purchasing VIN licenses.

1. The controller's serial number. Click the [Copy] button on the [F2: Hardware] tab page to copy the serial number to the Windows Clipboard.
2. The auth code. Click the [Copy] button on the [F3: VINs] tab page to copy the auth code to the Windows Clipboard.

After placing your order for additional VINs you will receive an email in about 5 minutes with your activation code. The activation code must be entered into the Activation Code field and the License Number must be set to the number of licenses the device will contain after the new VIN license are added. For example if the device currently contained 10 VIN licenses and you purchase 3 more, then select 13 as the License Number.

If you do not receive an email response from the automated VIN license web page, please log into the EFILive store and view the notes attached to your order. If the order failed there will be a reason, if the order succeeded you email may

---

have been filtered by a SPAM filter. In that case your activation code will be shown in the order notes.

## Stream Licenses

Stream licenses are available for some controller types. Stream licenses allow for unlimited tuning of various controller types.

Stream Licenses in the attached device are displayed on the [F4: Streams] tab page. Each Stream license can be used to flash unlimited numbers of controllers of that type.

**Code** shows the stream code as shown on the EFILive web store and the status of the stream license. A grey cross indicates that the stream is not active on the device. A green tick indicates that the stream is active on the device.

**Description** is a description of the stream.

**Status** shows the status of the stream license.

Not all controller types have stream licensing available. EFILive is working on ways to provide stream licensing for additional controllers.

You can purchase additional Stream licenses from EFILive's web site, just click the [Purchase Activation Code\(s\)](#) link in the software. You must provide a critical piece of information when purchasing Stream licenses.

1. The controller's serial number. Click the [Copy] button on the [F2: Hardware] tab page to copy the serial number to the Windows Clipboard.

After placing your order for additional Streams you should receive an email within one business day with your activation code. The activation code must be entered into the Activation Code field and the correct Stream must be selected from the drop down list box.

If you wish to claim your VIN license rebates when purchasing Streams, please contact [sales@efilive.com](mailto:sales@efilive.com).



## F8: Tools

### **Search**

This section is not written yet.

### **Importing Data**

This section is not written yet.

### **Exporting Data**

This section is not written yet.

### **Controller Lock/Key Management**

This section is not written yet.

### **Converting Files**

This section is not written yet.





# Properties

## General

### Settings

When Opening the “F6: Devices” window:

Use these options to determine how the software will initialize the information displayed in the “F6: Devices” window.

Load settings from:

Check the **most recently used file** option to cause the most recently opened or saved device (\*.dat) file to be re-opened. This option is useful for EFILive dealers when setting up multiple AutoCal devices.

Check the **connected device** option to cause the software to attempt to read the device settings from the currently connected device. This option is useful for tuners who are using the same device most of the time.

If no device is connected then the software needs to know which device specific options to enable. Select the option that best suits your needs.

### Display

The main EFILive window displays the most recently used tuning files and the most recently used scan files. You can select which columns of data you would prefer to be visible by checking the appropriate quick start check boxes. The columns can also be selected by right clicking on the list of files in the main EFILive window and selecting “Select Columns”.

Many sub-windows display a set of tab options down the left hand side of the window and a set of buttons across the bottom of the window. Those controls take up some screen real-estate. To allow the window more screen real-estate, you may choose to make the tabs and buttons smaller. The tab and button sizes can also be controlled using the menu option View->Hide Tab Descriptions and View->Small Buttons.

### Folders

Not available yet.

### Printing

Not available yet.

### User Info

Record your user information here. The text that you enter into the Author field can be optionally copied into tune files that you create. Select one or both of the check boxes to cause the text to be copied into tune files when they are being saved.

---

If you check the “Created By” check box, then when you first save a tune file after reading it from a controller, the text will be copied into the file’s “Created By” field. Once the “Created By” field is populated in the tune file it cannot be changed.

If you check the “Modified By” check box, then each time the file is saved, the text will be copied into the file’s “Modified By” field. The modified field will be overwritten each time the file is saved.

The other fields; Name, Company and Email are used as default settings for sending receiving data log files, tune files and support files between a customer and a their tuner or EFILive. (The email subsystem is not operational in the EFILive software yet).

## Locale

Because the EFILive software is used in many countries around the world it must be able to handle data transfers using different numeric and date formats. There are three options for formatting numbers and dates:

1. **Display:** these settings control the format of numbers and dates that are displayed on this computer’s screen.
2. **Clipboard:** these settings control the format of numbers and dates that are copied to and pasted from the clipboard.
3. **Import/Export:** these settings control the format of numbers and dates that are exported from and imported to the software.

The last option, Import/Export is probably the most important. If for example you are based in the US and you attempt to send an exported file to a colleague in Europe then you could select the Euro number and date formats to allow your exported data to be imported seamlessly by your European colleague.

## Units

The EFILive software is extremely flexible when it comes to displaying data in your preferred units. By default the EFILive software uses metric units to store and display data values. However, many customers are more familiar with and prefer to work with US/Imperial units. The Units settings allow you to define any units in which to display your data.

There are two tab pages in the Units section:

1. **Conversions:** This is where you tell the EFILive software how to convert from the underlying metric value to the units of your choice.
2. **Units:** This is where you define the units of your choice.

To define a unit, for example “Knots” which measures speed:

- Select the “Units” tab page and click on the green plus button (Ctrl+Ins).
- Type the name of the units: Knots, then press Tab.
- Type the group: Speed, then press Tab.  
Note: The group name is important because it determines which units are offered by the software, when displaying values that deal in speed.
- Enter the description for multiple units, i.e. Knots, then press Tab.
- Enter the description for single units i.e. Knot, then press Tab.
- Enter the most likely minimum value for this unit, i.e. 0, then press Tab.
- Enter the most likely maximum value for this unit, i.e. 50.

To define the conversion from km/h to Knots:

- 
- Select the “Conversions” tab page and click on the green plus button (Ctrl+Ins).
  - From the drop down list in the first column, select km/h, then press Tab.
  - From the drop down list in the second column, select Knots, then press Tab.
  - Enter the number of decimal places to display, i.e. 0, then press Tab.
  - Enter the multiplication factor that you should multiply 1 km/h by to get 1 Knot, i.e. 0.54, then press Tab.
  - Enter the value to add to the above multiplication if required. In this case no additional offset is required, so enter 0, then press Tab.
  - If the conversion requires that the metric value should be inverted prior to multiplying by the factor, then check the “Invert” check box. In this case inversion is not required, so leave the check box unchecked.

You can test the conversion by sliding the “Test” slider left/right. The values of the metric and converted units are displayed.

You may have noticed that when you create or modify units the icon to the left of the unit name shows differently. To see a description for each icon, right click on any unit and select “Show Legend”.

A user modified entry can be restored to its system default by right clicking on it and selecting “Restore” (Ctrl+R).

---

## Scan Tool

### Dashboard

**Show PIDs' Controller Names** causes PIDs to be listed in drop down selection lists prefixed with their controller names. This option is useful to help distinguish between PIDs with identical names from different controllers. For example ECM.RPM and TCM.RPM, without the controller prefix both PIDs would display RPM only.

**Show PIDs' Descriptions** causes PIDs to be listed in drop down selection lists along with their description. This option is useful to help you identify PIDs as sometimes it is difficult to identify them by their name only.

**Show PIDs' Alphabetically** causes PIDs to be listed in drop down selection lists sorted alphabetically. Otherwise the PIDs are listed in the order that they are displayed in the PID selection list.

**Expand PID Selection Groups Automatically** causes all groups in the list of available PIDs to be automatically expanded.

**Ask to Save PID Changes** will prompt you to save any changes that you make to the PID selection.

**Automatically Save PID Changes** will automatically save any changes that you make to the PID selection without asking.

**Automatically Discard PID Changes** will automatically discard any changes that you make to the PID selection without asking.

**Hardware Acceleration** will force the EFILive software to use OpenGL hardware acceleration if it is available on your system. You can check the OpenGL hardware capabilities by clicking on the [About] button in the main EFILive window.



If your system does not have hardware acceleration, it may attempt to support OpenGL using software emulation. In that case, using OpenGL with the EFILive software will be slower than not using OpenGL.

**Use Simple Data Plot** will plot data in the charts using a less accurate but faster drawing algorithm to display compressed chart data. Use this option if you have a slow PC.

The drawing is only less accurate when the zoom level displays more data frames on the screen than there are horizontal pixels in the charts. Once the zoom level can display each frame of data in one or more pixels then this option has no effect.

**Show Descriptions As Caption Hints** will display PID descriptions as pop-up hints when you hold the mouse over a PID caption in the charts.

**Show Button Hints** determines if the hints on the "Hide/show PID" and "Autoscale" buttons in the charts' y-axis are displayed or not.

### Playback

**Arrow Key Scrolls** sets the number of frames that the Left and Right arrow keys will move the chart inspector.

**Ctrl+Arrow Key Scrolls** sets the number of frames that the Ctrl+Left and Ctrl+Right arrow keys will move the chart inspector.

---

## Tuning Tool

### Read/Flash

Use these options to select the default settings for reading and flashing controllers.

### 2D Charts

Not available yet.

### 3D Charts

Not available yet.

### Warnings

Disable/Enable various warning messages that are displayed by the EFILive software.



## Appendix A

### Command Line Parameters

#### Command Line Options

The EFILive Scan and Tune software can be started using various command line options. The command line options allow shortcuts to be created that can be used to start the software and automatically select one of the main menu options.

##### **/Scan <filename>**

Automatically opens the Scan window and displays the named log file.

##### **/Tune <filename>**

Automatically opens the Tune window and displays the named tune file.

##### **/DTC**

Automatically opens the OBD window.

##### **/BBX**

Automatically opens the Black Box Configuration window.

##### **/Dev <filename>**

Automatically opens the Device Settings window and displays the named settings file.

##### **/Lic**

Automatically opens the Licenses window.

##### **/Tool**

Automatically opens the Tools window.



## Appendix B

### Files and Folders

#### Files and Folders

##### Documents Folder

The EFILive software stores data files in the **My Documents\EFILive\V8** folder of the user who installed the software.

##### Installation Folder

By default the EFILive software installs the application files into the folder:

For Windows 32 bit systems: **C:\Program Files\EFILive\V8**

For Windows 64 bit systems: **C:\Program Files (x86)\EFILive\V8**

However, you may choose any folder in which to install the EFILive software during the installation process.



## Appendix C

### International Settings

## Units

### Metric

All numeric data managed by EFILive applications is stored and computed in metric units.

### Custom

Numeric data may be displayed in either the default metric units or in user defined custom units.

Custom units can be created and managed using: Properties->General->Units.

See the [Units](#) section of this document for more info.

## Display Formats

### Dates

Two date formats are supported, European style dates that display the day first like this: **15 Jan 2012**, and US style dates that display the month first like this **Jan 15, 2012**.

### Numbers

Two number formats are supported, European style numbers that display like this: **12.345,67**, and US style numbers that display like this **12,345.67**.

Numeric and date formats may be configured independently for Display, Clipboard and Import/Export duties using: Properties->General->Locale.

See the [Locale](#) section of this document for more info.

## Language

### Translations

The EFILive applications have been released in English; they have not been translated into any other language.





## Appendix D

Troubleshooting

### Error Messages

#### Error Message Document

Error numbers are listed in the EFILive Error Codes.pdf document that can be accessed via: Start->All Programs->EFILive->V8->Documents->EFILive Error Codes.

---

## Reporting Problems

### Obtaining Support Information

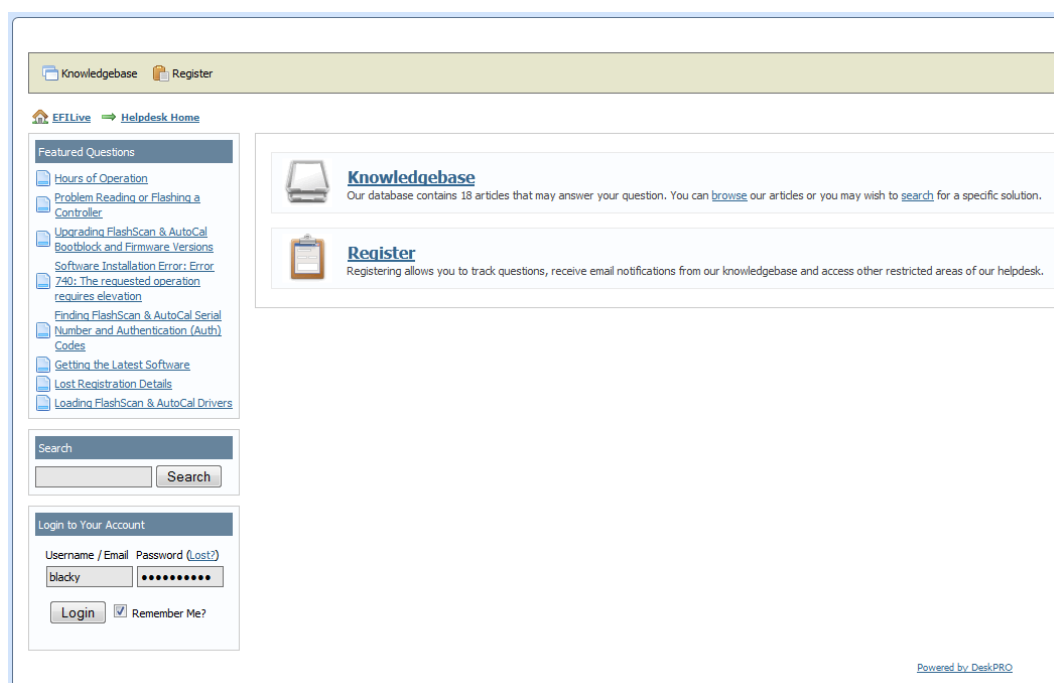
If you purchased your FlashScan or AutoCal device from an EFILive dealer, your first contact for obtaining support should be that dealer. The dealer can direct you to the appropriate resources to help resolve problems using the EFILive software and/or FlashScan/AutoCal devices.

If you purchased your FlashScan or AutoCal device directly from EFILive you may visit our web site and select one or more of the appropriate Support menu options.

### Creating a Support Ticket

The EFILive Helpdesk is a web based application. The EFILive Helpdesk can be accessed here: <http://support.efilive.com/>

When you first visit the EFILive Helpdesk you will be presented with a screen similar to the image below.



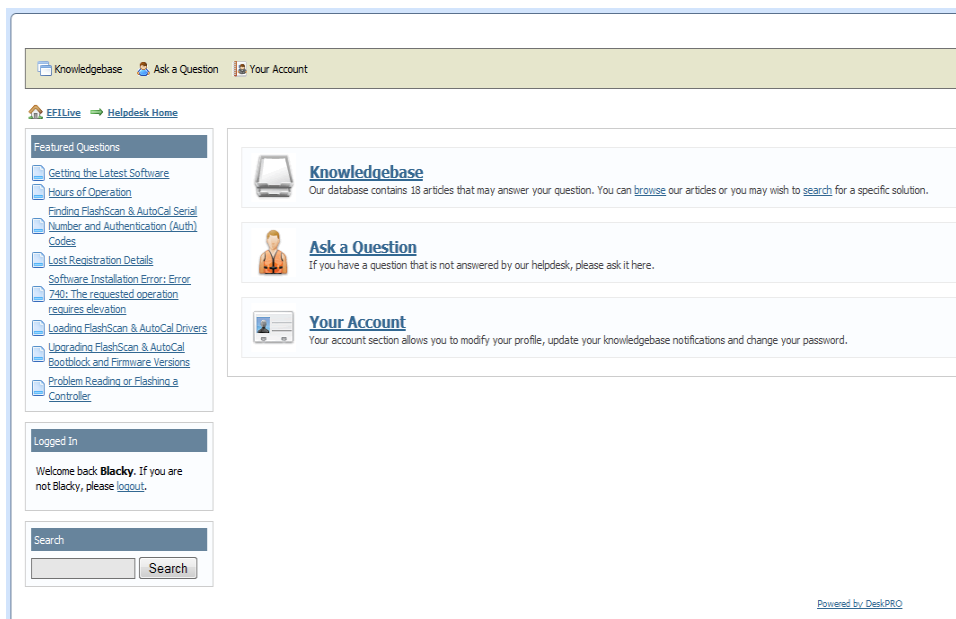
The EFILive Helpdesk Username and Password are shared with the EFILive Forum. If you already have an account on the EFILive Forum, enter the same **Username** and **Password** in the **Login to Your Account** section.

If you do not currently have an EFILive Forum account select the **Register** link and sign up as a new user. By following this link you will be redirected to the registration section of the EFILive Forum. If you are not automatically redirected back to the EFILive Helpdesk on completion of the registration process simply go back to <http://support.efilive.com/> and login (as described above).

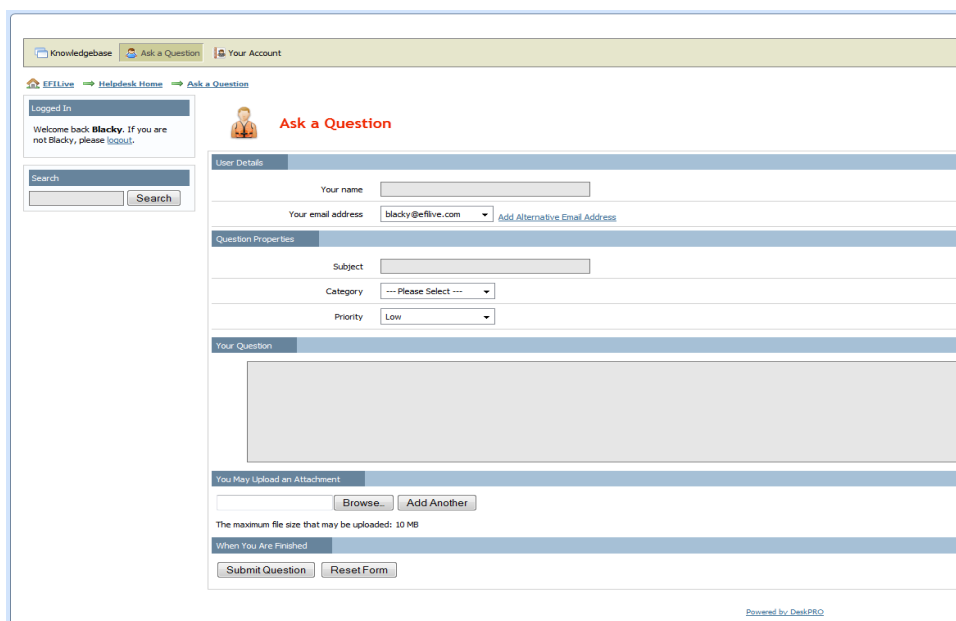
If you cannot remember your EFILive Helpdesk/Forum username or password you can recover it by visiting the link below and entering your email address:  
<http://forum.efilive.com/login.php?do=lostpw>

## Asking a Question

When you have signed into the EFILive Helpdesk you will be presented with a screen similar to the image below.



To create a new service request, select the **Ask a Question** link. You will be presented with a screen similar to the image below.



The questions on the form must be answered as accurately and completely as possible to provide EFILive Support with the information necessary to resolve your service request.

In the **Your Question** field please include a general description of the problem. Also include the results of any diagnostics steps that have been carried out in consultation with EFILive Support or an Authorized EFILive Dealer.

When all of the fields have been completed create the service request by clicking the **Submit Question** button.

## Diagnostic Trace Files

### Read/Flash Trace Files

When the EFILive application reads or flashes a controller the details of the read/flash process may be saved in trace files for diagnostic purposes.

If you experience difficulty reading or flashing a controller, EFILive Support may request that you send the appropriate trace file to EFILive.

Trace files are created on your PC or laptop in the folder: \My Documents\EFILive\V8\Trace and are named using the following naming convention:

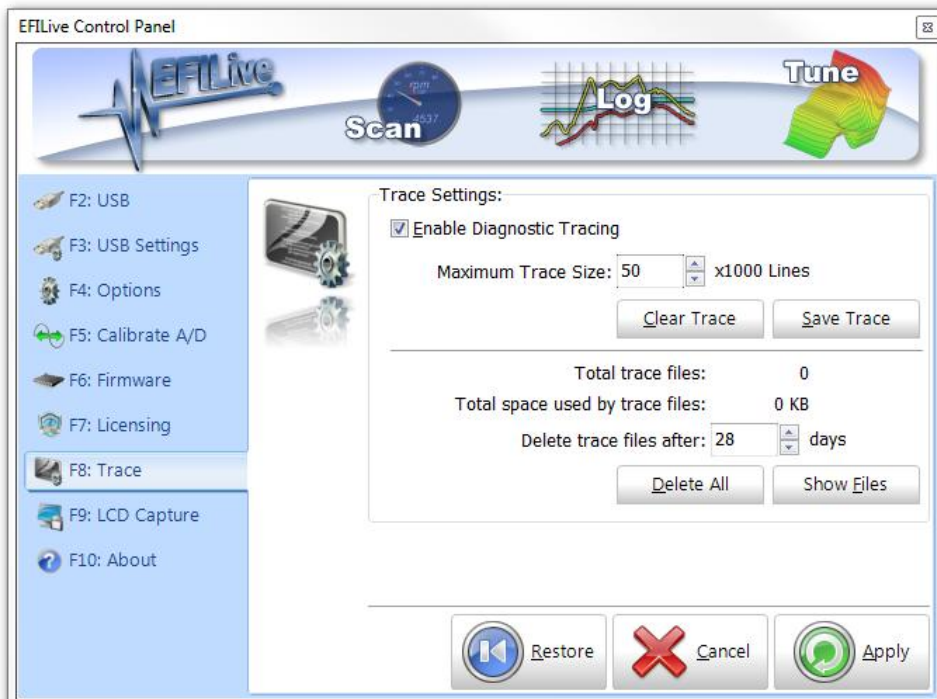
YYYYMMDD\_HHNNSS\_T\_CCC.htx

Where:

- YYYYMMDD: is the year, month and day that the trace was recorded.
- hhnnss: is the hour, minute and second that the trace was recorded.
- T: is the mode and is one of
  - R=Read
  - F=Full-Flash
  - W=Cal-Flash.
- CCC: is the controller type
- htx: is the file extension.

An example trace file name might be: 20110604\_214334\_F E38.htx which contains a trace of a Flash attempt on an E38 controller on June 04, 2011 at 09:43:34pm.

Trace files can be managed using the EFILive Control Panel application on the [F8: Trace] tab page.



---

## Application Log Files

Each EFILive application can be forced to create a log file in which important information about the state and progress of the application is saved. To force an application to create and maintain a log file, hold down the **Ctrl** key while starting the application.

Log files are created in the folder: \My Documents\EFILive\V8\Trace with a filename that matches the application being logged. The files contain plain text that can be read using any text editor including the Windows Notepad program.

Each diagnostic message is stored on a separate line and consists of three pipe “|” delimited fields.

1. Timestamp
2. Process ID
3. Message

A typical application log file will contain information like this:

```
10:21:37.083|5008|Version: 8.2.2 Build 208
10:21:37.083|5008|Create Form: fMain_ScanAndTune
10:21:37.084|5008|Opened INI file: D:\EFILive_Production\V8\EFILiveSystem.ini
10:21:37.085|5008|Opened INI file: D:\Blackys_Documents\EFILive\V8\Config\EFILiveScanAndTuneLayout.ini
10:21:37.086|5008|Opened INI file: D:\Blackys_Documents\EFILive\V8\Config\EFILiveScanAndTune.ini
10:21:37.087|5008|Opened INI file: D:\EFILive_Production\V8\EFILiveCalculatedPids.ini
10:21:37.087|5008|Opened INI file: D:\Blackys_Documents\EFILive\V8\Config\UserCalculatedPids.ini
10:21:37.149|5008|Opened internal INI file
10:21:37.149|5008|Opened internal INI file
10:21:37.152|5008|Closed internal INI file
10:21:37.152|5008|Closed internal INI file
10:21:39.395|5008|Closed INI file: D:\EFILive_Production\V8\EFILiveSystem.ini
10:21:39.397|5008|Closed INI file: D:\Blackys_Documents\EFILive\V8\Config\EFILiveScanAndTuneLayout.ini
10:21:39.398|5008|Closed INI file: D:\Blackys_Documents\EFILive\V8\Config\EFILiveScanAndTune.ini
10:21:39.399|5008|Closed INI file: D:\EFILive_Production\V8\EFILiveCalculatedPids.ini
10:21:39.400|5008|Closed INI file: D:\Blackys_Documents\EFILive\V8\Config\UserCalculatedPids.ini
10:21:39.401|5008|Destroy Form: fMain_ScanAndTune
```