EFILive AutoCal
Information for End Users

Cindy Myers

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Prerequisites

Intended Audience

Customers who have purchased custom tunes from a professional tuner who has supplied an AutoCal device and requires basic operational instructions for both AutoCal and 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.

Introduction

What is AutoCal?

EFILive's AutoCal device is intended to provide 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.

AutoCal can be configured in a variety of different ways to best suit your tuner's operational requirements and the needs of their customers. Your tuner may provide additional support documentation tailored to the specific setup they use for AutoCal

Differences between FlashScan V2 and AutoCal

There are significant differences between FlashScan V2 and AutoCal for end users. It is important that both the tuner and the tuner's customer (end user) understand these differences.

- With FlashScan V2, end users have the ability to create, view, and modify tunes. With AutoCal, only the tuner has that ability.
- Tunes from multiple sources can be flashed with FlashScan V2, however AutoCal is limited to flashing tunes provided by a single tuner.

A FlashScan Device is Required

FlashScan is required to create tunes for an AutoCal device. AutoCal devices cannot create tunes.

Software Requirements

In order to copy files to and from your AutoCal device and your computer, the EFILive V8 Scan and Tune Application must be installed. The installation of the software also provides the device drivers for your AutoCal device.

For AutoCal to be functional, the software and firmware used with your AutoCal will need to match the software and firmware used with your tuner's FlashScan V2 device. Users should only update software and firmware at their tuners specific request. Updating to software and firmware versions higher than your tuner may lead to your tuner being unable to offer you support until they update.

EFILive V8 Scan and Tune software can be found here:
http://www.efilive.com/downloads.html

Firmware and Bootblock is managed within V8 Scan and Tune software, instructions to upgrade firmware and bootblock can be found here:
https://support.efilive.com/kb_article.php?ref=7243-SFGL-2949

AutoCal Functionality

Standalone Mode

Reading, flashing, logging and clearing codes.

Pass-thru Mode

Read, log and flash supported controllers using the EFILive V8 software.

Log data and retrieve trouble codes with the V7.5 software.

AutoCal cannot be used in pass-thru mode with the V7.5 software to read, flash or lock any controllers.

AutoCal Information for End Users

AutoCal Package Contents

The contents of your AutoCal product may vary due to being supplied directly from your tuner or parts supplier. At a minimum your AutoCal will be shipped with:

- EFILive AutoCal hardware device.
- EFILive OBDII cable (J1962-A to RJ45).
- EFILive USB cable (USB-A to USB-B).

Licensing

Each AutoCal device ships with one VIN license that may be used for tuning one engine and one transmission controller.

Tuners can manage the number of available VIN slots they wish their AutoCal devices to hold. AutoCals will ship with a default maximum VIN slot count set to 1. AutoCals are configurable to a capacity of 221 VIN licenses.

Updating VIN slot limits is at the sole discretion of the tuner. EFILive (and other parties) cannot provide this service.

Although AutoCal can be used to return a vehicle to stock, doing so will not "reset" the VIN license that was used to flash the vehicle.

VIN licenses cannot be copied from one FlashScan or AutoCal device to another device even if a tuner has previously licensed a controller to a FlashScan device.

Linking FlashScan to AutoCal

For an AutoCal device to be functional, your tuner must link the AutoCal to their FlashScan device.

There are two ways to link an AutoCal device to FlashScan V2.

1. Physically Link AutoCal.
2. Remotely Link AutoCal.

Your tuner will select the most convenient for their business model.

Historically when an un-linked AutoCal device performed its first controller flash, it would automatically link itself to the Master FlashScan device that created the file being flashed, thereby linking itself to that Master FlashScan. That automatic linking is no longer supported and will not occur under any circumstances.

Connecting AutoCal

WARNING

The RJ45 connection used on the OBDII cable (B) is the same as used on a standard computer network cable. Never connect the OBDII cable to your computer's network socket, or a network cable to your EFILive device. Damage will almost certainly occur to either your computer or EFILive device.

Using AutoCal

The following instructions describe the functionality and use of your AutoCal device. The menu structure and entries are based on the Simple Menu structure as this is the default and recommend mode for most customers.

For the menu selections to be valid, ensure your AutoCal device is connected to your vehicle's OBDII port.

Licensing a Controller

The first time a flash is performed to a new controller (using the *Prog 1* thru *Prog 5* or *Full 1* thru *Full 5* AutoCal menu options shown below) it must be allocated an available VIN license. To perform the allocation you will be presented with a question on the AutoCal:

Press the *Ok* button on the AutoCal keypad to confirm you wish to license the controller to the AutoCal device.

Press the *Prev* Button if you do not want to license the controller.

This is a final confirmation you wish to allocate the license. Pressing the *Ok* button on the AutoCal keypad performs the license allocation.

Press the *Prev* Button if you do not want to license the controller.

Simple Menu Structure

Each consecutive option shown is accessed by pressing the **Next (Down Arrow)** button on your AutoCal keypad. The **Ok** button is used to select/execute each the current selection.

F S 2 - L i n k R e q u i r e d	Displayed if AutoCal is not linked to a FlashScan V2 device. AutoCal cannot be used to flash tune files until this link is made. Contact your tuner for Linking.
D i s p l a y D T C s	Display Diagnostic Trouble Codes present on connected (and supported) engine and transmission controllers.
R e c o r d D i a g s	Records Diagnostic information for the connected controller including VIN, OS and CVN. Information is usually recorded and emailed to your tuner.
C l e a r D T C s	Clear Diagnostic Trouble Codes present on connected (and supported) engine and transmission controllers.
S e l e c t P I D s	Select the controller type you wish to generate log files for. Your tuner will enable specific controllers. The message **"Config Required"** indicates your device must be programmed with the Options.txt configuration file. Contact your tuner to obtain this file.
R e c o r d D a t a	Log vehicle data (PIDs) that you can send to your tuner to allow your tuner to further customize the tunes provided.
D i s p l a y D a t a	Displays the selected PID's real time data to the AutoCal screen.
S w i t c h T u n e s	If your tuner has supplied you with custom tunes using EFILive's proprietary custom operating systems; Cummins CSP[5] and/or Duramax DSP[5], then this option is used for switching between those tunes on the fly. Tuners can deactivate this option.

`Read  1`	Read the calibration from the first configured controller type. Typically this will be done to read your stock vehicle calibration. Unused Read options are not displayed on the AutoCal Simple Menu.
`Read  2`	Read the calibration from the second configured controller type. Typically this will be done to read your stock vehicle calibration. Unused Read options are not displayed on the AutoCal Simple Menu.
`Read  3`	Read the calibration from the third configured controller type. Typically this will be done to read your stock vehicle calibration. Unused Read options are not displayed on the AutoCal Simple Menu.
`Read  4`	Read the calibration from the fourth configured controller type. Typically this will be done to read your stock vehicle calibration. Unused Read options are not displayed on the AutoCal Simple Menu.
`Read  5`	Read the calibration from the fifth configured controller type. Typically this will be done to read your stock vehicle calibration. Unused Read options are not displayed on the AutoCal Simple Menu.
`Prog  1`	Program the first supplied vehicle calibration into your vehicles engine or transmission controller. Unused Prog options are not displayed on the AutoCal Simple Menu.
`Prog  2`	Program the second supplied vehicle calibration into your vehicles engine or transmission controller. Unused Prog options are not displayed on the AutoCal Simple Menu.
`Prog  3`	Program the third supplied vehicle calibration into your vehicles engine or transmission controller. Unused Prog options are not displayed on the AutoCal Simple Menu.

`Prog 4`	Program the forth supplied vehicle calibration into your vehicles engine or transmission controller. Unused Prog options are not displayed on the AutoCal Simple Menu.
`Prog 5`	Program the fifth supplied vehicle calibration into your vehicles engine or transmission controller. Unused Prog options are not displayed on the AutoCal Simple Menu.
`Full 1`	Program the first supplied vehicle operating system and calibration (full-flash) into your vehicles engine or transmission controller. Unused Full options are not displayed on the AutoCal Simple Menu.
`Full 2`	Program the second supplied vehicle operating system and calibration (full-flash) into your vehicles engine or transmission controller. Unused Full options are not displayed on the AutoCal Simple Menu.
`Full 3`	Program the third supplied vehicle operating system and calibration (full-flash) into your vehicles engine or transmission controller. Unused Full options are not displayed on the AutoCal Simple Menu.
`Full 4`	Program the forth supplied vehicle operating system and calibration (full-flash) into your vehicles engine or transmission controller. Unused Full options are not displayed on the AutoCal Simple Menu.
`Full 5`	Program the fifth supplied vehicle operating system and calibration (full-flash) into your vehicles engine or transmission controller. Unused Full options are not displayed on the AutoCal Simple Menu.
`Save Trace`	Save a trace (debug) file which can be provided to your tuner to identify an issue you may experience with reading, programming or logging data from a vehicle controller.
`Del Scan Files`	Delete all logged data files to free up space on your AutoCal device for additional data logs or additional tune files.

|	
S N :	Displays the serial number of your AutoCal device.
L I C :	Displays the license number of your AutoCal device.
F i r m w a r e	Displays the firmware version of your AutoCal device.
B o o t B l k	Displays the bootblock version of your AutoCal device.

Advanced Menu Structure

The advanced menu structure provides access to a range of additional menu options and is accessed by programming the AutoCal using V8 Scan and Tune software.

EFILive recommends that end users ONLY access the advanced menu options at the request of their tuner.

To display the Advanced Menu, connect AutoCal to your PC and open the V8 Scan and Tune software;

1. Select [F6: Devices] to open the FlashScan and AutoCal Device settings window.
2. Click the [Read] button to read the existing settings from your AutoCal device.
3. Select [F5: Options], and select Display Advanced Menu.
4. Click [Program].
5. Once programming is complete, AutoCal must be rebooted for these changes can take effect.
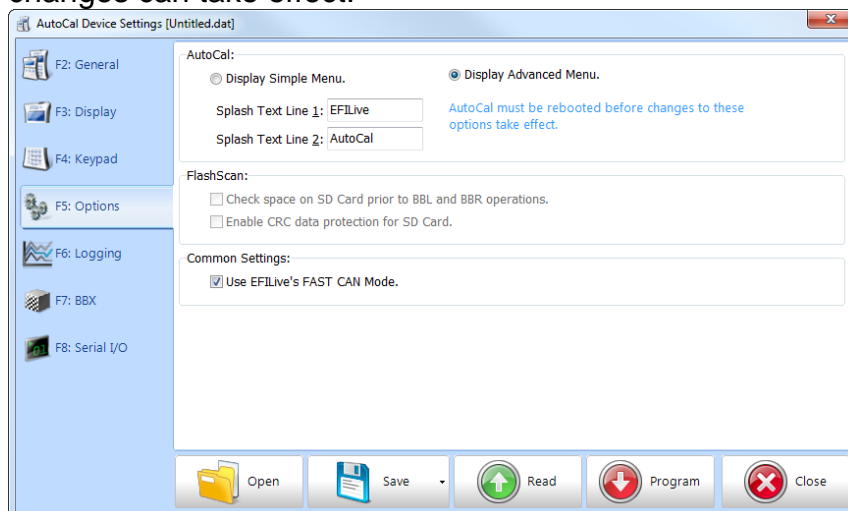
Copying Data to/from AutoCal

There are several methods available to move data to/from your AutoCal device. The method used will depend on what data needs to be moved and how the tuner chooses to manage content.

Copying data will be required for the following operations:

- Copying tune files between your AutoCal device and your PC/laptop.
- Copying logged data files between your AutoCal device and your PC/laptop.
- Copying trace (debug) files between your AutoCal device and your PC/laptop.
- Updating device settings, BBX settings, and supporting configurations.

Using EFILive Explorer

Tune files, log files and trace files can be copied to and from your AutoCal device using the *EFILive Explorer* application, installed automatically during the EFILive V8 Scan and Tune Application software installation.

Connect the AutoCal device to the PC containing EFILive V8 Scan and Tune software, and open the EFILive Explorer icon located on your desktop.

The screenshot below indicates the key areas and some basic operations of the *EFILive Explorer* application:
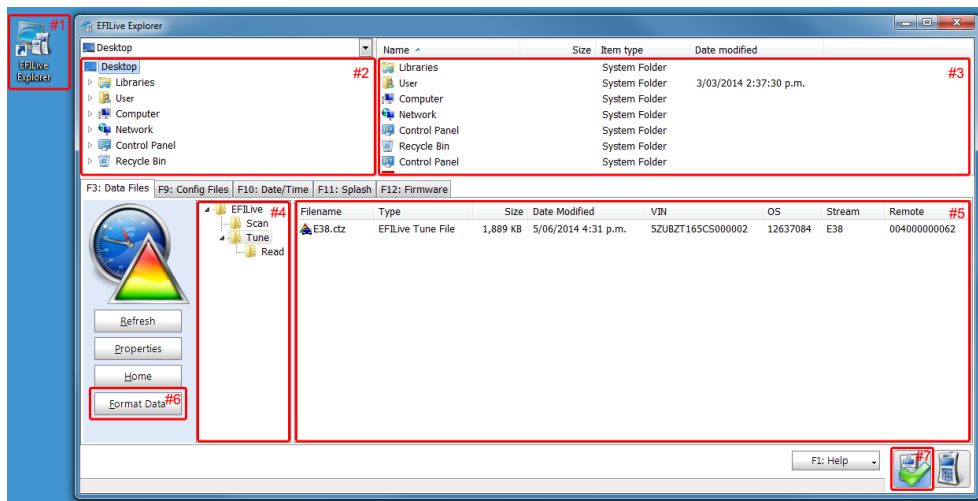
- #1: Desktop shortcut; double click on the *EFILive Explorer* desktop shortcut to open the application.
- #2: Computer folder list; folders present on your computer (resembling Windows Explorer).
- #3: Computer file list; listing of files in the currently selected folder of the #2 pane.
- #4: AutoCal folder list; folders present on the internal flash memory of your AutoCal device. This folder structure is described further in the next section.
- #5: AutoCal file list; listing of files in the currently selected folder of the #4 pane. The example shown is indicative of what would be shown if you had read your stock E38 engine controller to send to your tuner.
- #6: Format the internal flash memory file system.

    Note: Performing this operation will erase all tune files, log files and trace files from the AutoCal device. Ensure you have a backup (see the 'Copying Data to/from AutoCal' section) of your device before performing this operation.

- #7: AutoCal connection status; the green tick indicates that your AutoCal device is connected and recognised by the *EFILive Explorer* application. If your AutoCal device was not connected before starting *EFILive Explorer* click on the AutoCal icon to connect *EFILive Explorer* to your device.

AutoCal Folder Structure

The AutoCal flash memory folder structure (shown in the previous screenshot as #4) is designed to accommodate different groups of files. The menu options you select on your AutoCal keypad will reference files in these specific folder locations.

The function of each folder is described below:

Folder	Purpose
EFILive	Root level folder; this folder does not contain any files. Files CANNOT be saved in this directory
Scan	Contains files created by the *Record Data* operation and *Save Trace File* operations. Files in this folder will typically be provided to your tuner to refine your calibrations.
Tune	Contains calibration files which can be programmed with the *Prog 1* to *Prog 5* or *Full 1* to *Full 5* operations. This is where calibrations from your tuner must reside in order to be available to program your vehicle.
Read	Contains calibration files which you have read from your vehicle controller(s) with the *Read 1* to *Read 5* operations. This is where calibrations you will send to your tuner will reside.

Your tuner can create custom folders. Tunes placed in custom folders will only be accessible using the Advanced menu when the ***Display folders when selecting tune files for flashing*** option is enabled via Device Settings. Tunes placed in custom folders will not display in the Simple menu.

Copying Configuration files to/from AutoCal

Device settings, BBX settings, and supporting configuration files can be emailed to you from your tuner to program or reprogram AutoCal. Tuners and end users will need to manage file names and appropriate back up of files should multiple configurations be required.

Options.txt files should be saved in the folder: \My Documents\EFILive\V8\Config

To program configuration file changes, connect AutoCal to your PC and open V8 Scan and Tune Software.

1. Select [F5: BBX]
2. Select Open, and navigate to your required Options.txt file.
3. Select appropriate [Program] option. There are 4 options available. Your Tuner should assist you in choosing the correct selection.

   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.

AutoCal Quick Setup

Device settings, BBX settings, supporting configuration files and up to 5 *.ctz and/or *.coz tune files can be emailed to you from your tuner to program or reprogram AutoCal.

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.

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

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

- The device settings.
- The current Options.txt file which contains the controllers and PID selections.
- All required supporting configuration files (*.obj, *.pmm, *.bix and *.dtc).
- Up to 5 *.ctz and/or *.coz tune files.

To program Quick Setup files, connect AutoCal to your PC and open V8 Scan and Tune Software.

1. Select [F5: BBX]
2. Select [F6: Quick Setup]
3. Select Open Quick Setup and navigate to your required Quick Setup.bbx file.
4. Select appropriate options that are to be performed when the quick setup is programmed into the device. Do not change any of these settings unless instructed by your tuner. Your tuner may have already selected these for you.

   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.

5. Select [Program Quick Setup].

Unlinking AutoCal from a FlashScan device

An AutoCal can be unlinked from a FlashScan device to allow that AutoCal device to be relinked to another FlashScan V2 device. This feature would most commonly be used when the end user wishes to use another tuner with EFILive FlashScan V2 for their tuning services.

Unlinking an AutoCal is at the sole discretion of the tuner. End users should make appropriate inquiries on the tuner's unlinking policy prior to purchase. EFILive (and other parties) cannot provide this service.

There are two ways to unlink an AutoCal device to your FlashScan V2.

1. Physically Unlink AutoCal; requiring the FlashScan V2 that created the link and the AutoCal to be physically connected to the same PC to unlink.
2. Remotely Unlink AutoCal; requiring the FlashScan V2 that created the link to generate a remote unlinking code for the AutoCal user to activate.

Once an AutoCal has been unlinked, it must be linked to another FlashScan V2 prior to flashing tune files. Linking can occur by physically connecting FlashScan and AutoCal to the PC and selecting Link, or a remote linking code can be issued by the tuner.

Once AutoCal is linked to a different FlashScan V2, all tune files that were created by the original tuner with the original FlashScan V2 can no longer be flashed by the AutoCal device.

Tuners should implement a process to ensure the end user's stock file is converted from the original FlashScan V2 to the new FlashScan V2. Failing to do so will prevent end users from flashing their stock tune.

Once an AutoCal has licensed a controller, that controller will remain licensed to that AutoCal regardless of any FlashScan to which the AutoCal is linked.

Unlinking and relinking an AutoCal device does not require additional licensing provided the controller originally tuned remains the same. Additional AutoCal VIN licenses are required to tune additional controllers.

Power-Up Modes

You can access special reset or operational modes by holding down certain keys during the powering up process.

Hold Ok key to boot into dead-poll. Used primarily when a software upgrade has not executed correctly.

Hold Next key to activate advanced menu. Previously a user had to connect AutoCal to a PC, change the settings and then program the settings into AutoCal. Now the advanced menu mode is accessible temporarily without requiring a PC.

Hold the Prev key to reset the device settings to factory defaults. The factory defaults are only active until the next power up unless deliberately saved by the user. This option is useful when there is a setup issue that prevents the user from modifying the device settings using the built in Settings Editor.

Hold the Prev & Next keys to format the CONFIG file system and to reset the device settings to factory defaults. The factory defaults are only active until the next power up unless deliberately saved by the user. This option is useful when there is a setup or configuration issue that prevents the user from modifying the device settings using the built in Settings Editor.

Error Codes

If an error occurs while using AutoCal, users can look up the error code description in the EFILive V8 Scan and Tune software.

The [F8: Tools] -> [F8: Error Codes] menu item provides an error code lookup function, and the "EFILive Error Codes.pdf" document accessed by selecting the Windows Start Icon and navigating to Program Files->EFILive->V8->Documents->EFILive Error Codes.pdf is also available. Both options provide error code descriptions, causes and actions.

Should the issue not be resolved after reviewing the Error code list, end users should refer to the Supporting AutoCal section of this document for further information.

Supporting AutoCal

Tuners are responsible for supporting customers to whom they have provided AutoCal devices. Supporting AutoCal includes supporting the EFILive software and USB driver installations that are required to configure AutoCal and to move tunes to/from AutoCal.

Unlike FlashScan, EFILive will not provide support directly to AutoCal end users. EFILive will provide support only to the owner of the FlashScan V2 device to which an AutoCal is registered.

There may be cases where the demarcation of support responsibilities may be unclear or unworkable. In such cases, Tuners should contact EFILive (support@efilive.com) to discuss alternate support solutions.

Registering AutoCal and Warranty

EFILive will provide a standard 12 month warranty on all labour and materials. Customer warranty claims should be made through the Tuner that provided the AutoCal device.

Your AutoCal product must be registered to activate the product warranty. Product registration and warranty information can be entered on the EFILive website directly by visiting the link below.

Warranty & Product Registration: http://www.efilive.com/product_registration.html