Cummins HD File Conversion Guide

Cindy Myers

Cummins HD File Conversion Guide

Contents

Prerequisites

Intended Audience

EFILive tuners with access to existing tune libraries developed with OEM tools who need to convert these files to work with EFILive.

Computer

It is expected that readers have an advanced understanding of:

- The EFILive V8 Scan and Tune software.
- Users can proficiently use Windows Explorer to move files.

Tuning Knowledge

It is expected that readers have a clear understanding of:

- Cummins ECM types and vehicle applications.

Introduction

To assist tuners who have existing Cummins HD tune file libraries in the *.xcal file format, EFILive has developed a conversion tool called "EFILive XCal" to convert these tune files for use in EFILive software.

.xcal files are essentially .hex files but use the extension of ".xcal".

*Sometimes the xcal file extension might be *.00, *.01, *.02, *.03, etc, in these cases we refer to them as .0? files.

This document is intended to provide EFILive tuners with an overview of the file conversion process.

EFILive XCal is a standalone program that is included with the EFILive V8 software installation. The EFILive V8 software installation is governed by the EFILive Terms and Conditions and the EFILive End User License Agreement.

The EFILive XCal application file (EFILive_xcal.exe) may be copied to and used on any other device, including but not limited to external thumb drives.

Conversion

Supported Applications

EFILive XCal works with the following Cummins HD controllers:

Controller	Year	Notes
CM2450A	2020+	
CM2350A	2017+	New P/N 4384413, 500K CAN bus
CM2350A	2013+	Orig P/N 5290170 or 5317106, 250K CAN bus
CM2250	2010+	
CM2220	2009+	
CM2880	2009+	

OEM File description

*.xcal and *.0? file formats use the industry standard Intel HEX record format with additional XML style meta data describing the file. In this format, they are not compatible with EFILive software or hardware.

The EFILive_XCal conversion tool eliminates the hard work out of importing and padding the files using Hex editors and converts the file into a ready to load unencrypted *.bin file which can be opened in EFILive and saved as *.ctz files.

Once a file has been saved as a *.ctz file in the EFILive software, tune file parameters, security restrictions and read blocking can be added to the tune file prior to copying the *.ctz file onto FlashScan HD or AutoCal HD or emailing the tune file.

Encrypted, zipped or password protected *xcal or *.0? files cannot be converted.

Convert single file tab

The **'Source File'** is the location where the *.xcal (or *.0?) file you need to convert is located on your PC.

The **'Destination'** is the location where the converted file will be saved. This can be the same folder as the 'source', or you can choose another folder.

The **'Suffix'** setting allows for additional data to be added to the converted file name during the conversion process. Users may find this feature helpful to add controller identifiers or other useful information to their tune file names.

The **'Controller Type'** indicates to the software what ECM type it is converting the file for. Due to inconsistencies with Meta data between controller and file types this process cannot be automatic. You **MUST** select the correct ECM type when converting the file.

Once selections are made, select the [Convert] button.

Two files will be saved in the destination location.

1. *.bin conversion of the *.xcal or *.0? file.
2. A text summary *.txt file of the file information.

Name	Date modified	Type	Size
Truck_CM2350A.bin	8/06/2021 11:35 AM	BIN File	4,116 KB
Truck_CM2350A.txt	8/06/2021 11:35 AM	Text Document	2 KB
Truck.xcal	13/03/2021 9:08 AM	XCAL File	8,541 KB

Convert bulk files tab

This option allows users to convert multiple files of the same ECM type in a single process. Files for different ECM types should be sorted into different folders prior to commencing the conversion process.

The **'Source Folder'** is the location where the *.xcal (or *.0?) files you need to convert is located on your PC.

The **'Convert File Types'** option allows users to select specific file types within the source folder for conversion. Valid file types are *.xcal and *.0?. To convert all files in the folder users can enter *.* to select all files in the folder.
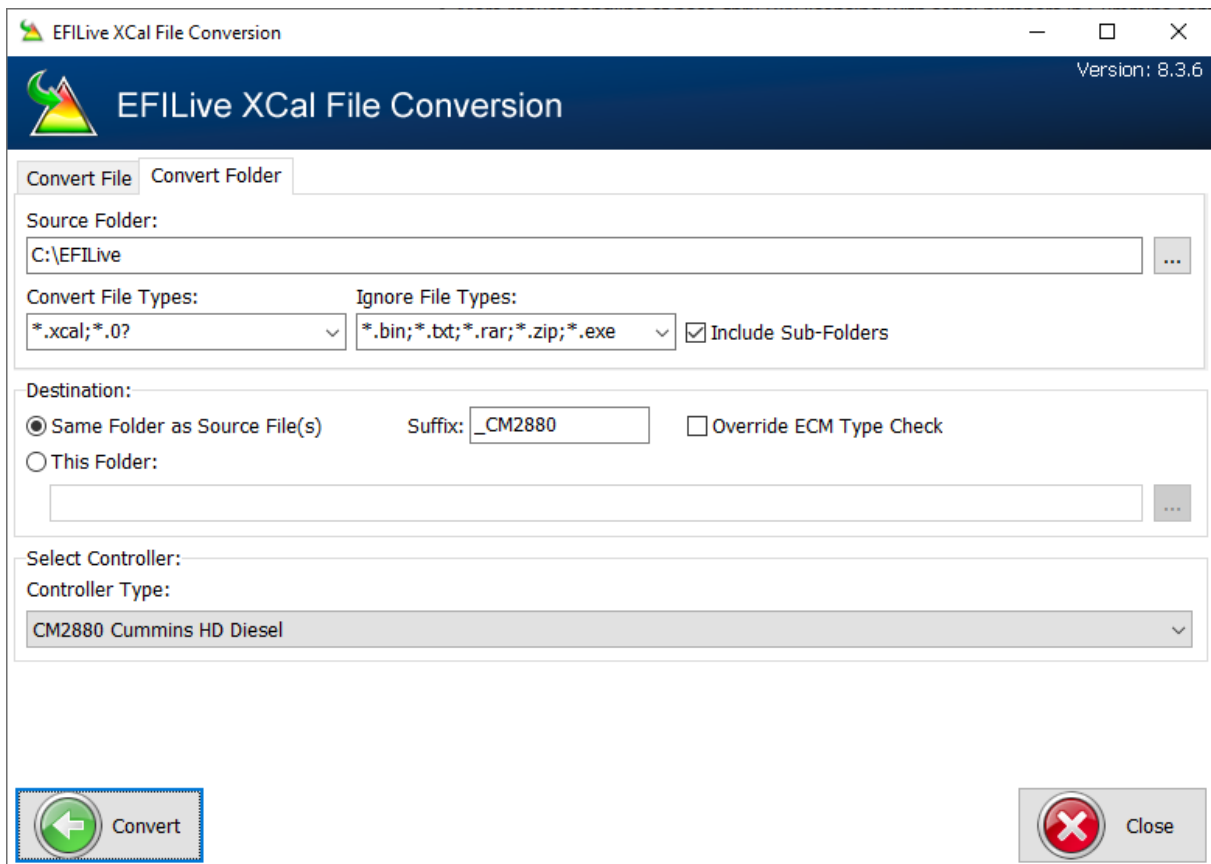
The **'Ignore File Types'** option allows users to exclude specific file extensions. To exclude multiple file types, users should insert a semicolon after each file type is entered.

The **'Include Sub Folders'** selection will determine if files located in sub directories are included in the conversion process.

The **'Destination'** is the location where the converted file will be saved. This can be the same folder as the 'source', or you can choose another folder.
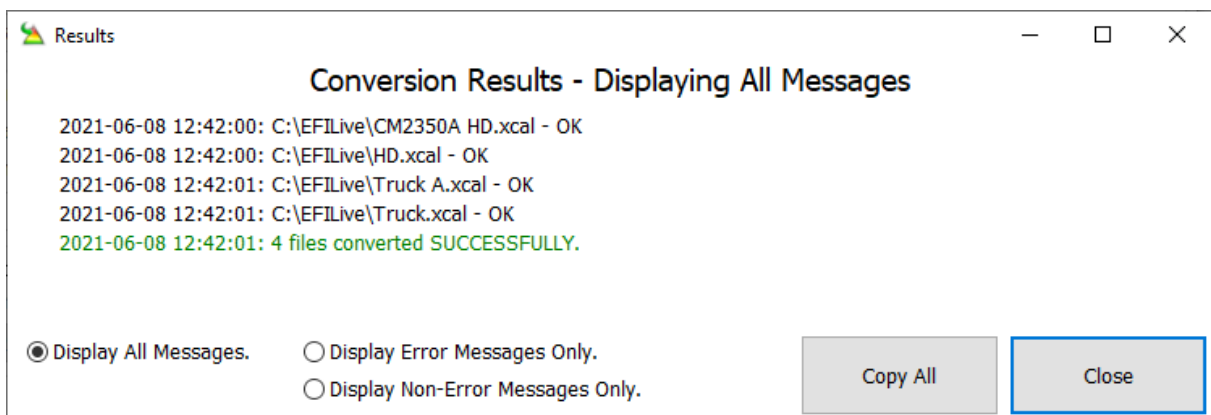
The **'Suffix'** setting allows for additional data to be added to the converted file name during the conversion process. Users may find this feature helpful to add controller identifiers or other useful information to their tune file names.

The **'Controller Type'** indicates to the software what ECM type it is converting the file for. Due to inconsistencies with Meta data between controller and file types this process cannot be automatic. You **MUST** select the correct ECM type when converting the file.

The **Convert** button will parse the folder(s) selected. Files that match the "Convert File Types" field and that do not match the "Ignore File Types" field will be converted.

When the conversion is complete file processing summary will be displayed.

Conversion time varies depending on PC specifications. Using an i5-7600 CPU it took under two minutes to bulk convert 400 CM2350A files.

Two files for each source file converted will be saved in the destination location.
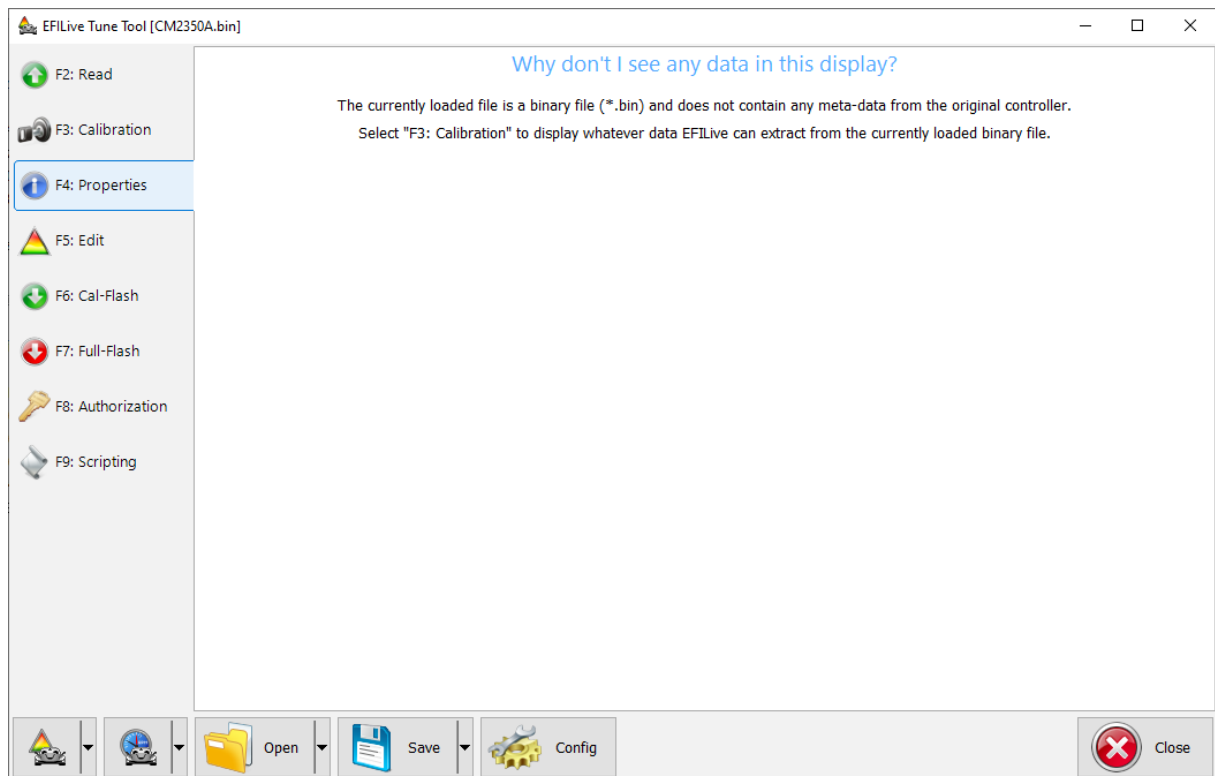
1. *.bin conversion of the .*xcal or *.0? file.
2. A text summary *.txt file of the file information.

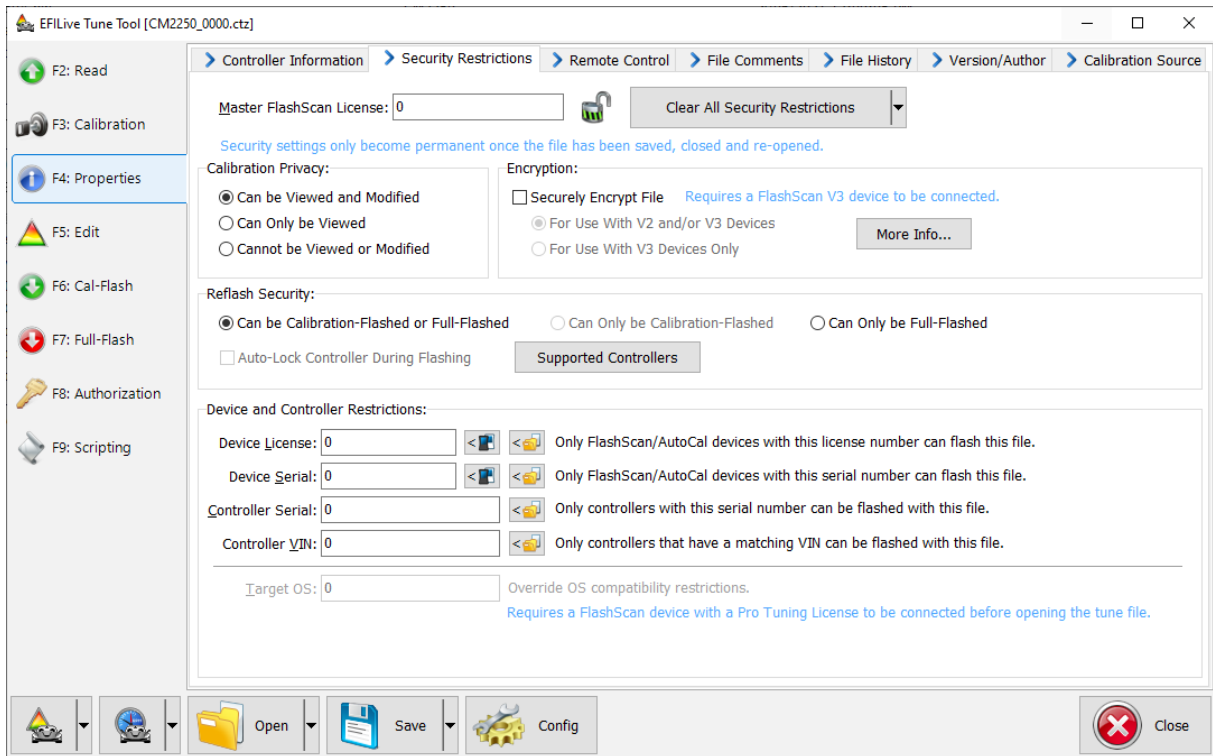| Name	Date modified	Type	Size
CM2350A HD_CM2350A.bin	8/06/2021 12:42 PM	BIN File	4,116 KB
CM2350A HD_CM2350A.txt	8/06/2021 12:42 PM	Text Document	2 KB
HD_CM2350A.bin	8/06/2021 12:42 PM	BIN File	4,116 KB
HD_CM2350A.txt	8/06/2021 12:42 PM	Text Document	2 KB
Truck A_CM2350A.bin	8/06/2021 12:42 PM	BIN File	4,116 KB
Truck A_CM2350A.txt	8/06/2021 12:42 PM	Text Document	2 KB
Truck_CM2350A.bin	8/06/2021 12:42 PM	BIN File	4,116 KB
Truck_CM2350A.txt	8/06/2021 12:42 PM	Text Document	2 KB

Using *.bin files in EFILive Software

*.bin files can be opened in EFILive software, however the EFILive software prevents resaving a *.bin file. File Saving in EFILive software is restricted to EFILive's *.ctz format.

EFILive's tune file security is dependent on the tune file being in EFILive's *.ctz format.   When opening a *.bin file in V8 Scan and Tune the [F4: Properties] window using is not accessible until the file is saved as a *ctz file.

After opening the *.bin file select Save or Save As and save the file into EFILive's *.ctz format.

The tune file must then be closed and re-opened to display [F4: Properties] selections.

Key points to remember

- Make sure the correct ECM type selected from the drop down list.
- When doing bulk conversions only have file types from the same ECM type in the folder selected and sub folders.
- Run the program as administrator so Windows gives it full permission to write in to directories.
- The conversion tool only works with the ECM's defined in the Supported controllers list.
- Any encrypted, zipped or password protected OEM files will not work, the files must be Intel Hex based.