

vCDMstudio

Product Information

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1 Overview

1.1 Introduction

While the algorithms of functions are permanently contained in the ECU program, parameter values as well as characteristic maps and curves are not acquired or optimized until measurements are performed on the test bench and in test drives. Calibration of more complex overall systems is distributed to multiple persons or teams. The parameters of the individual teams and persons are processed on the file level and are merged into new data revision levels. Only a versatile and high-performance tool can let you solve these challenging tasks in ECU development.

vCDMstudio is an efficient tool for editing parameter set files. It is easily used to display, compare and edit parameters created in ECU calibration. When solving complex tasks, filters are used to reduce the number of parameters shown on the screen. In addition to calibrating parameter values you can take values from different files and merge them to create new version levels. Along with parameter values, you can also easily edit calibration data evaluations. vCDMstudio saves them with the history of the maturity level in CDF20 or PaCo files.

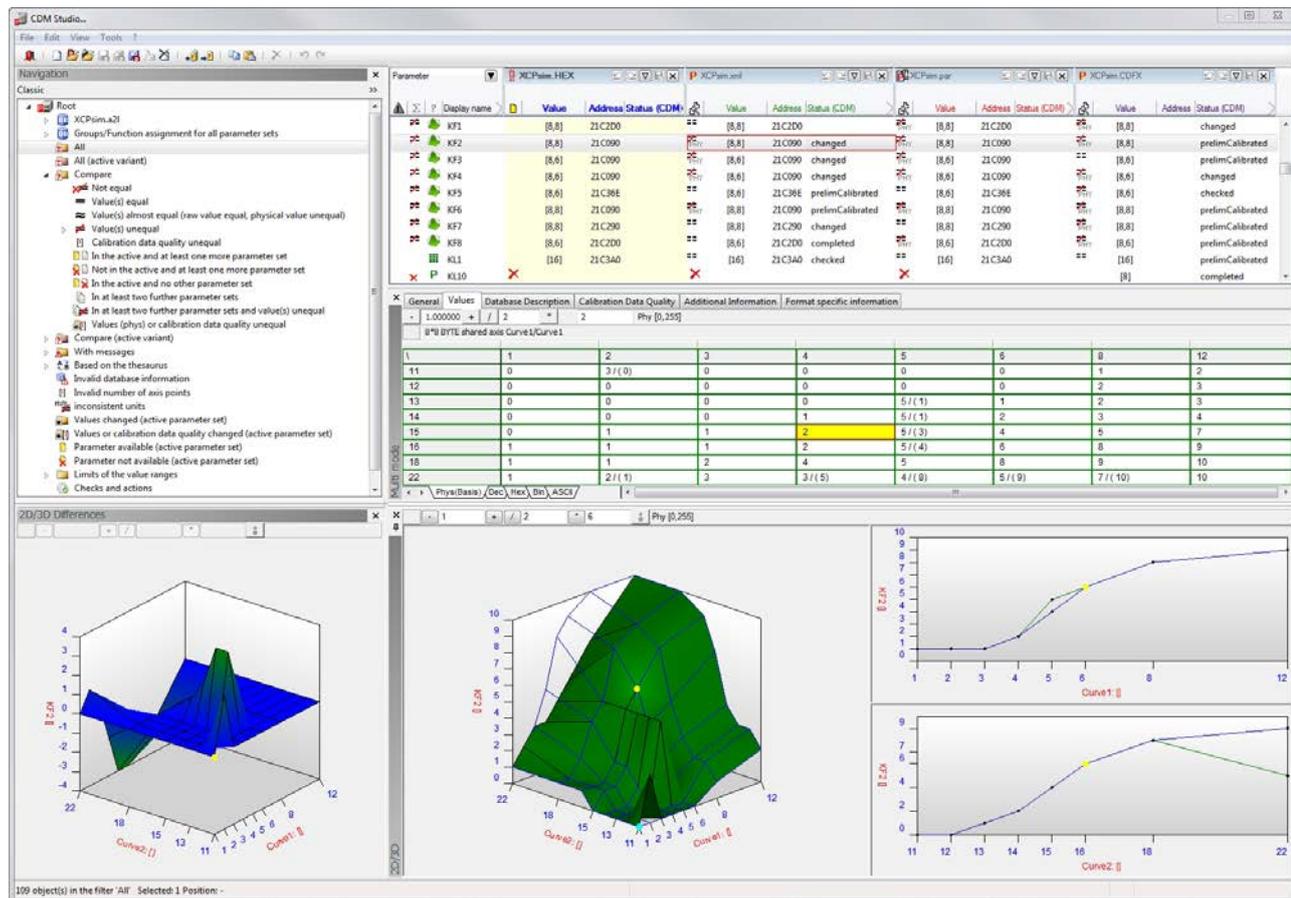


Figure 1: vCDMstudio lets you manage the extensive parameter sets of your ECUs easily and with full traceability

1.2 Overview of Advantages

- > Easily copy and merge parameter set files, both interactively and by batch operations
- > Highly flexible and protects your investment, because all commonly use data formats are supported, including CDF 2.0, DCM, Intel hex, Motorola-S, PAR and PaCo
- > Simultaneous comparison of multiple parameter set files gives user an overview of the different parameterization variants
- > Saving of parameter set files as M script or code files (in C or hex format) enables easy export of parameter values to other important tools in the development process
- > Quickly generate various reports, including MS Excel format
- > Execute batch operations, such as making changes to values or calibration status information
- > Scalable solution: vCDMstudio is a single workstation solution, but it is also available in other tools – in both CANape and vCDM, which is a database-supported platform for calibration teams
- > Automation interface for merging, exporting and comparing parameter set files
- > Integrated data set management lets you edit data sets from external measurement and calibration tools, e.g. INCA or ATI Vision

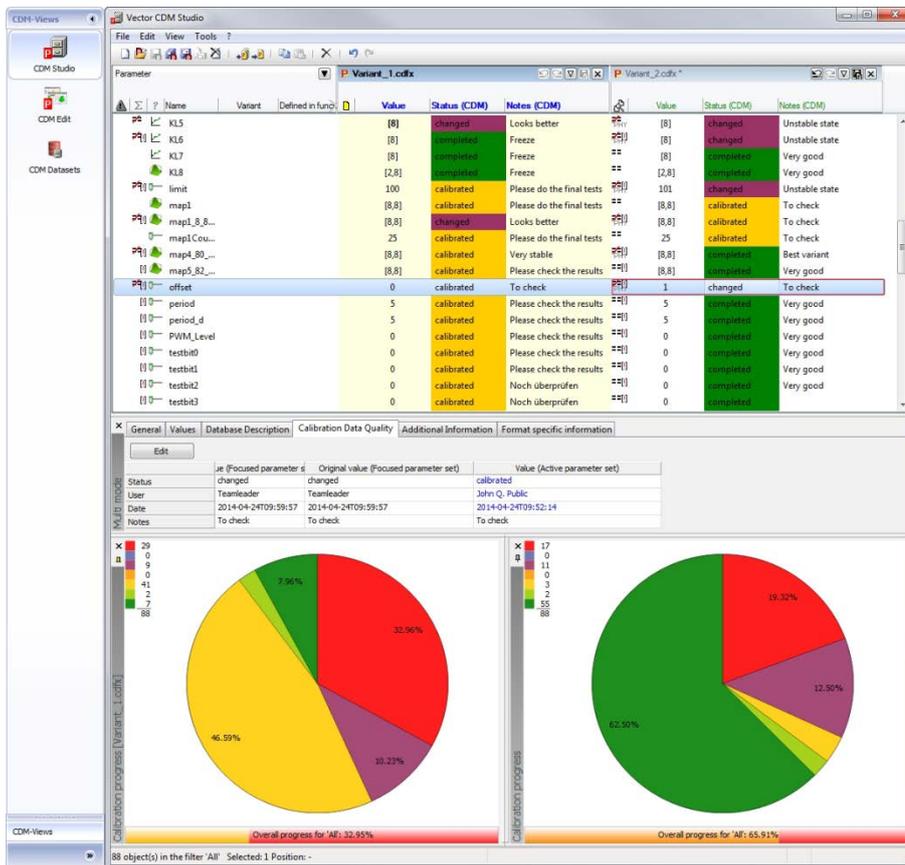


Figure 2: Evaluate calibration data in vCDMstudio

1.3 Application Areas

The primary application area of vCDMstudio is to efficiently manage ECU parameterizations on the file level. Primary users are calibration engineers and project leaders. In using vCDMstudio, you retain an overview of your work packages, reliably track parameter changes and manage data levels responsibly. Since all relevant file formats of the automotive industry are supported, it does not matter which measurement and calibration tool is used to generate the parameter files.

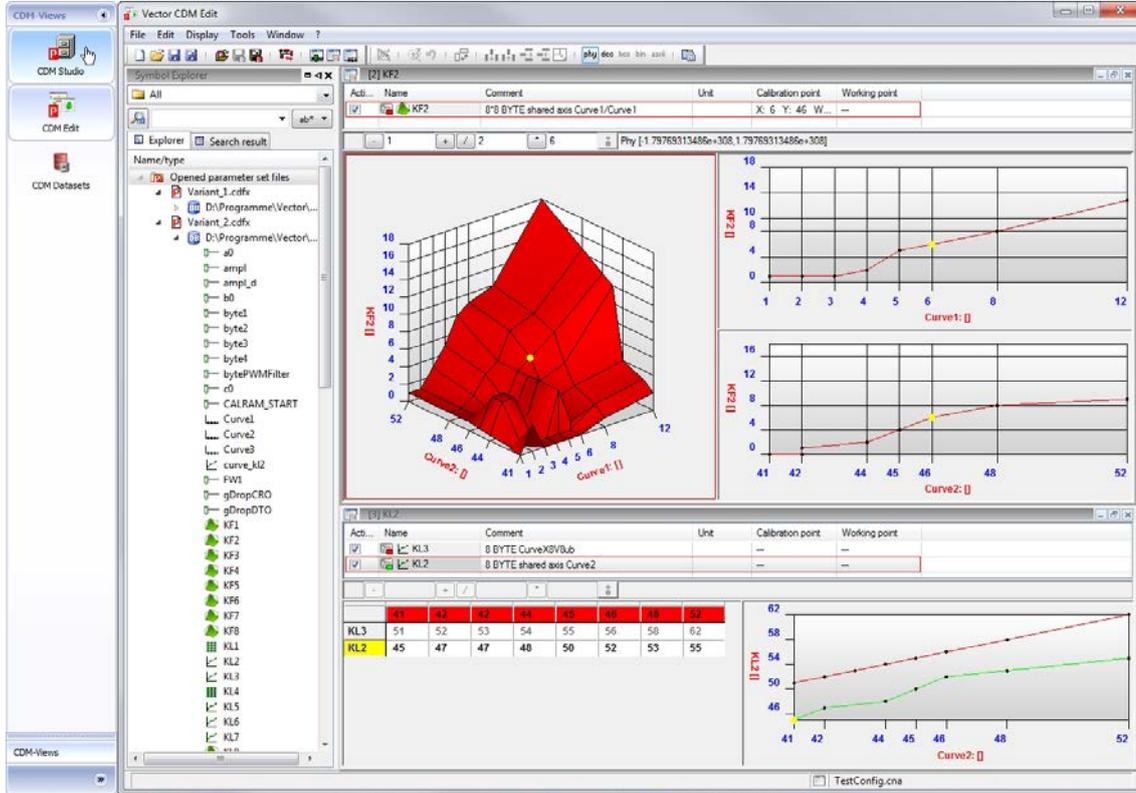


Figure 3: Graphic display of characteristic curves and maps in CDM Edit

1.4 System Requirements

- > Windows 10/8.1/8/7/Vista (Vista only 32-bit)
- > PC with at least 2.8 GHz, 2 GByte RAM and graphics card with at least 128 MByte RAM

2 Functions

A parameter set contains the values of parameters that are specified in the ECU description file. vCDMstudio manages these parameter sets and supports various file formats. vCDMstudio offers the following functionality here:

- > Load, visualize and edit parameter sets from symbolic, address-independent parameter set files or from binary files. This makes their processing independent of the ECU program revision level at which the file was generated.
- > Configure and execute various editing steps easily via an automation interface
- > Simultaneous loading of multiple parameter set files from your calibration process. Because standard formats are used, you can edit parameter files from various tools on the market, e.g. CANape or INCA from ETAS or ATI Vision from Accurate Technologies.
- > User-friendly interface for displaying and editing parameter set files

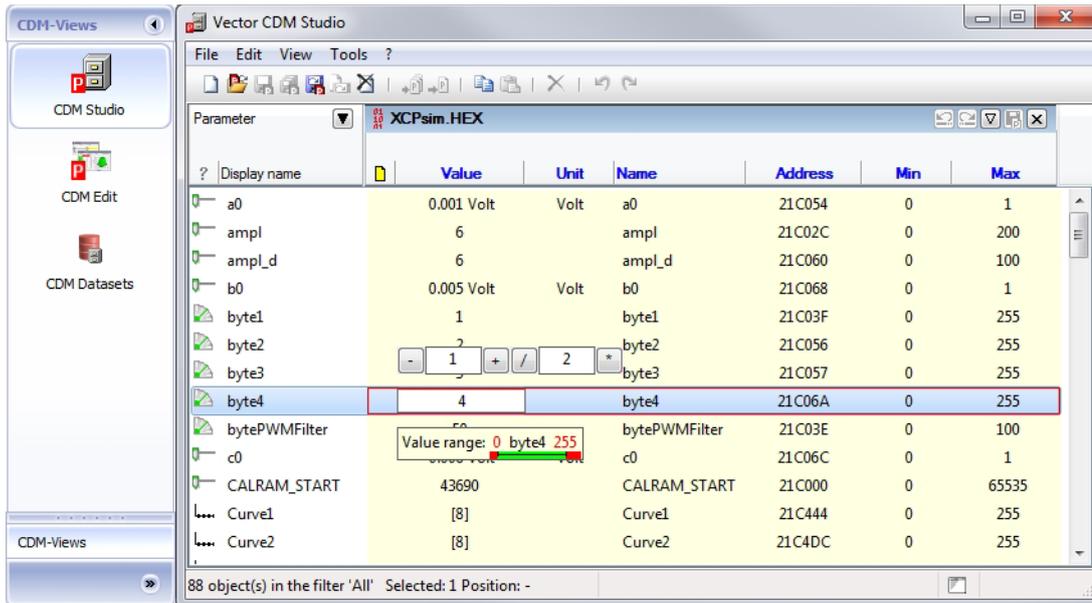


Figure 4: Edit parameters in vCDMstudio

- > Fast editing of parameter values, since you can edit properties directly in the list view
- > Interpolation is performed when copying characteristic curves and maps with different numbers of interpolation points
- > Graphic representation of characteristic curves and maps to efficiently compare differences
- > Clever filter mechanisms for defining individual views of parameter sets give users a better comprehensive view
- > Generate reports in different formats, e.g. MS Excel format or HTML
- > Export and import configurations

3 Supported File Formats

- > DCM, PAR, KON, CSV, CVX, PaCo, CDF2.0. In the XML-based PaCo and CDF formats, additional meta-information can be stored for each parameter value, e.g. maturity level, value history, author, date and comments
- > To reintroduce parameter values back to the development process, vCDMstudio also saves the data as an M-script for model-based development and as code files in C, Hex and ASM formats. Here you can use templates to control exactly what the files should contain.
- > Modification of flashable binary files from parameter sets in Intel-Hex and Motorola-S formats

4 Calibration Data Management in Teams

Data created during calibration (program and data revision levels, description files, and various documentation) can be managed in a database, process-conformant, using the stand-alone software tool vCDM (Vector Calibration Data Management) and can be saved for reuse in other projects. Management of variants, versions and configurations gives you the ability to master the high complexity of calibrations with confidence. Parameter authorization and access rules make it is easy to detect and resolve data conflicts. Extensive reports guarantee monitoring of project progress and quality. In vCDMstudio, you can download your work packets from the database and conveniently load finished parameter set files directly back into the database system.



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