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S1D13513

CFG Configuration Utility

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SEIKO EPSON CORPORATION

Rev.1.1

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1. Introduction

CFG is an interactive Windows® configuration tool for determining S1D13513 register values based on a user defined configuration. The configuration information can be used to directly alter the operating characteristics of S1D13513 utilities, such as 13513PLAY, or any program built with the Application Programming Interface (API) or Hardware Abstraction Layer (HAL) libraries. Alternately, the configuration information can be saved in a variety of text file formats for use in other applications.

Note

This program is a utility program designed to assist with testing and evaluating the S1D13513 display controller. It is **not** a display driver for any operating system.

This user manual is updated as appropriate. Please check for the latest revision of this document at vdc.epson.com before beginning any development.

We appreciate your comments on our documentation. Please contact us via email at vdc-documentation@ea.epson.com.

1.1. 13513 CFG Supported Evaluation Platforms

13513 CFG runs on a PC system running Windows XP/Vista and can modify Win32 executable files.

The latest version of the 13513 CFG executable is available on the internet at vdc.epson.com.

2. Installation

To install the 13513 CFG utility, create a folder (e.g. C:\S1D13513\) and copy the following files into the folder.

- cfg.exe
- panels.xml
- cameras.xml

Panels.xml contains predefined settings for a number of panels. **Cameras.xml** contains predefined settings for a number of camera modules. Both files must reside in the same directory as the 13513 CFG utility.

3. Usage

To start 13513 CFG from the Windows GUI, navigate to the directory CFG was installed in and double-click on the program icon. To start 13513 CFG from a Windows command line, start a command prompt window, change to the folder 13513 CFG was installed to, and type the command **cfg**.

The basic procedure for using 13513 CFG is:

1. Start the CFG utility as described above.

2. Open an existing file (i.e. 13513 play.exe) to serve as a starting reference point. (this step is optional)

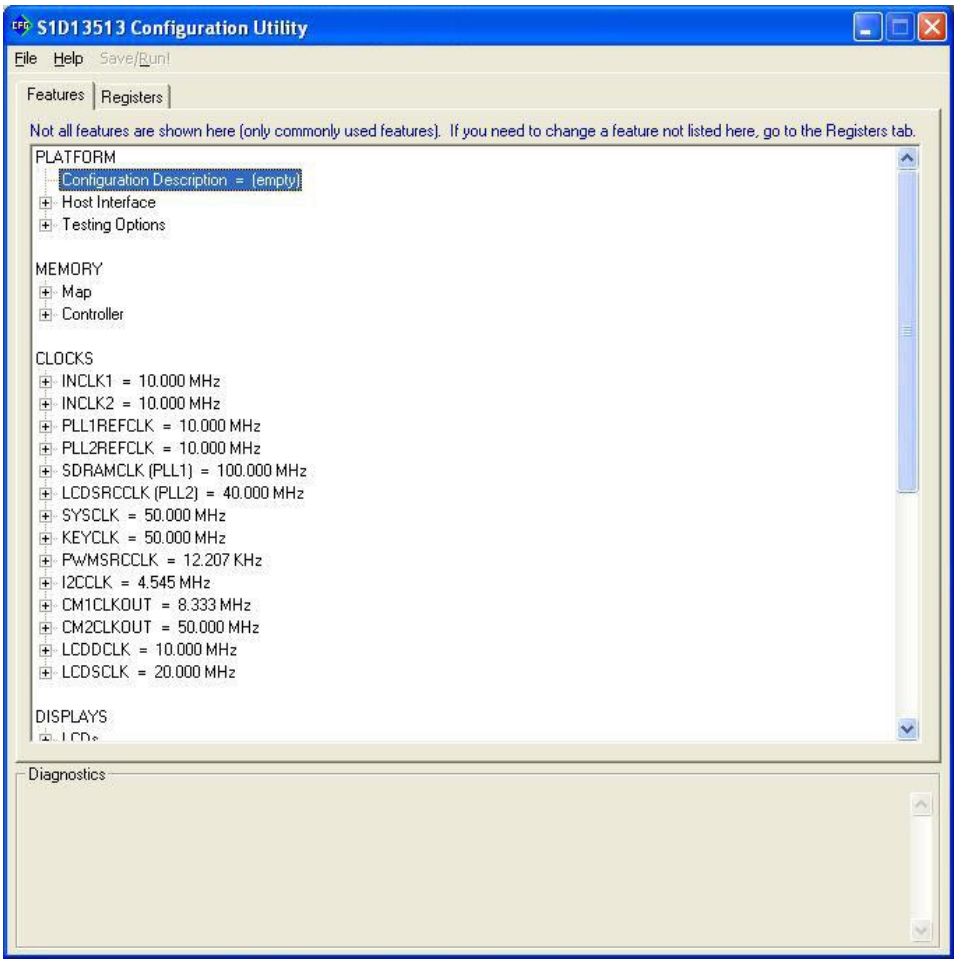
3. Modify the configuration information from the Features tab.

4. Save the new configuration.
   Configuration information can directly modify any executable built with the Application Programming Interface (API) or Hardware Abstraction Layer (HAL) libraries, or it can be saved as an ASCII text file. Several ASCII text file formats are supported. Most are formatted C header files used to build display drivers or standalone applications.

4. 13513 CFG Configuration Tabs

13513 CFG displays two tabs which can be selected at the top of the main window. The following sections describe the purpose and use of each tab.

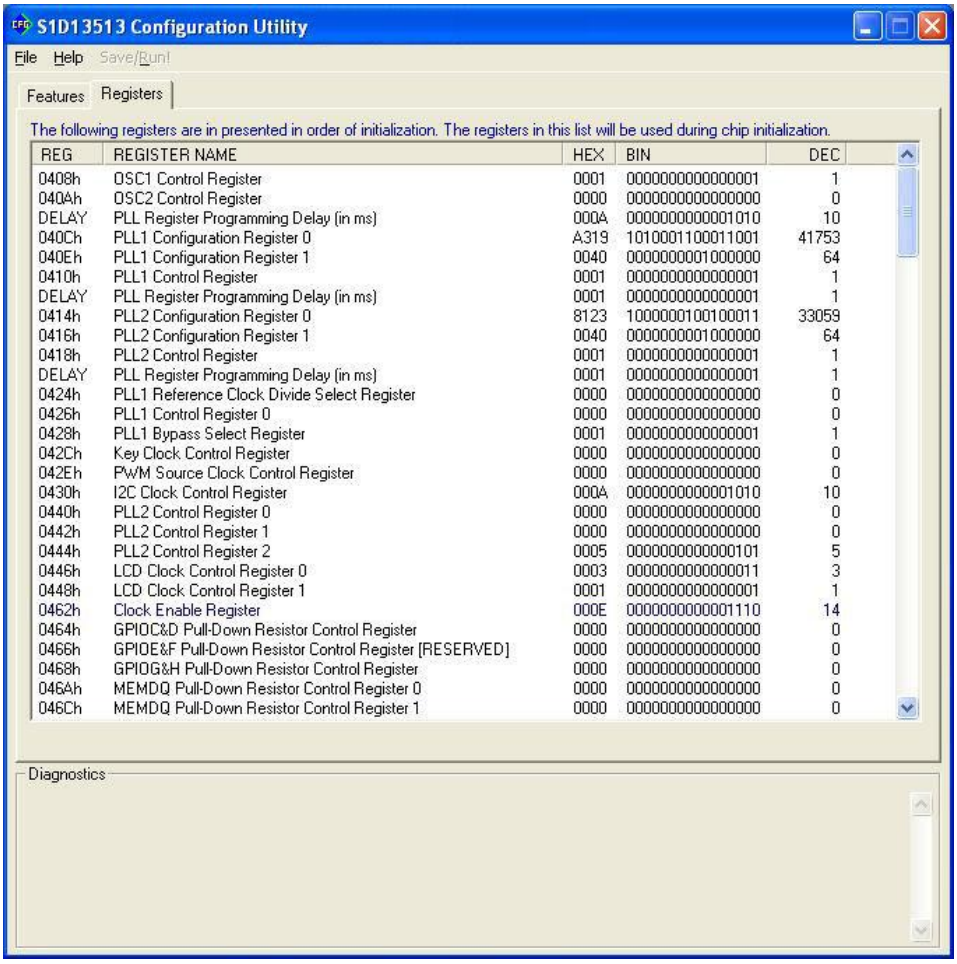
4.1. Features Tab



The Features Tab allows a specific S1D13513 configuration to be defined. All features are presented in a tree-control pane. The configuration is changed by selecting the desired setting for each feature. If the **panels.xml** and **cameras.xml** files are present in the same folder as the 13513 CFG utility, a number of predefined panel and predefined camera configurations are available.

For detailed information about each feature, hover the cursor over the feature name and a tooltip will be shown with expanded information (i.e. corresponding registers and bitfields). The Diagnostics pane displays a warning if any features have been set with invalid values.

4.2. Registers Tab



The Registers Tab allows viewing and editing of the S1D13513 register values. The registers are listed in the order in which they will be initialized by an application.

Scroll up and down the list to view the register values which are determined from the configuration settings on the Features Tab. Hovering over a register displays the functionality of the bitfields in that register.

Register settings may be changed by double-clicking on the register in the listing. Manual changes to the registers are not checked for errors, so caution is warranted when directly editing these values. For detailed descriptions of each register, refer to the *S1D13513 Hardware Functional Specification*, document number X78B-A-001-xx.

Note

Register values that are manually entered on the Register Tab may be changed by 13513 CFG if further configuration changes are made on Features Tab. In this case, the user is notified with a message in the Diagnostics pane when the user returns to the Register Tab.

5. 13513 CFG Menus

The following sections describe some of the options in the File and Help menus.

5.1. Open…

From the File menu, select "Open…" to display the Open File Dialog Box.

The Open option allows the 13513 CFG utility to read the configuration information from programs based on the API or HAL libraries. When 13513 CFG opens a file, it scans the file for an identification string, and if found reads the configuration information. This feature may be used to quickly arrive at a starting point for register configuration.

The 13513 CFG utility supports a variety of executable file formats. Select the file type(s) 13513 CFG should display in the "Files of type" drop-down list. Then select the "File name" from the list and click the Open button.

Note

13513 CFG is designed to work with utilities programmed using a given version of the API/HAL. If the configuration structure contained in the executable file differs from the version 13513 CFG expects, the Open command will fail and an error message is displayed. This may happen if the version of 13513 CFG is substantially older, or newer, than the file being opened.

5.2. Save

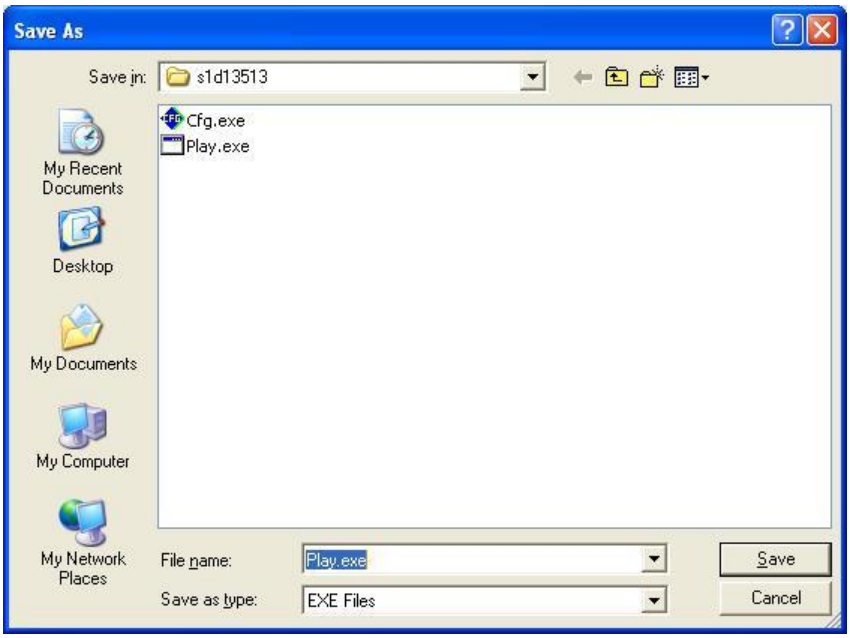
From the File menu, select “Save” to perform a fast save of configuration information to the file that was previously opened with the Open menu option. The file that was opened will be updated with the new configuration information.

Note

This option is only available once a file has been *opened*.

5.3. Save As…

From the File menu, select “Save As…” to display the Save As dialog.



“Save As” is similar to Save, except the dialog permits renaming the file before it is saved. Using this technique, a user can configure a number of files differing only in configuration information and name.

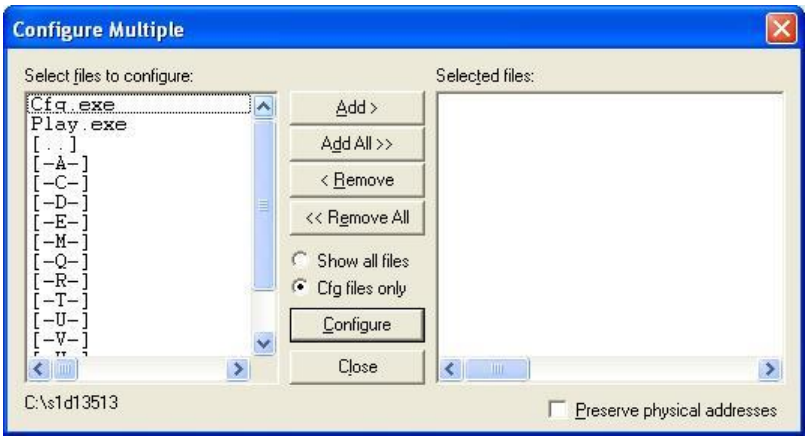
Note

When “Save As” is selected, an exact duplicate of the file as opened by the “Open” option is created containing the new configuration information.

5.4. Configure Multiple

After determining a desirable configuration, the Configure Multiple option allows the information to be saved into one or more executable files built with the API/HAL libraries.

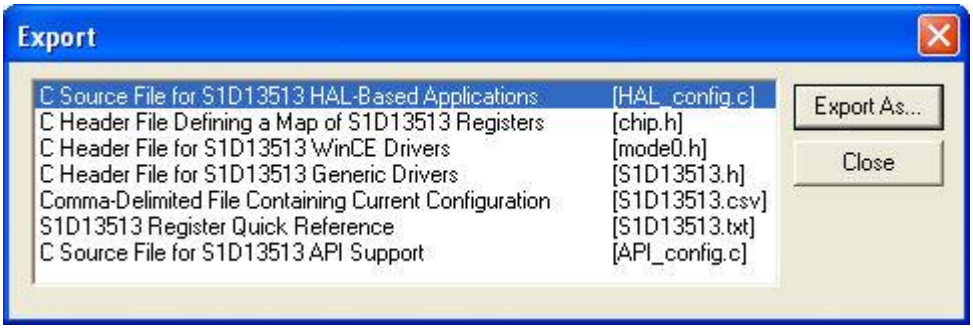
From the File menu, select “Configure Multiple” to display the Configure Multiple Dialog box.



The left pane lists files available for configuration and the right pane lists files that have been selected for configuration. Files can be selected by clicking the “Add” or “Add All” buttons or by double-clicking any file in the left pane.

5.5. Export

After determining a desirable configuration, “Export” allows the user to save the register information as a variety of ASCII text file formats



The following is a list of the currently supported output formats:

- C header file tailored for use in writing HAL library applications.
- C header file which lists each register and the value it should be set to. (additional configuration information and hints such as clock frequencies and display resolutions are suppressed)
- C header file tailored for use in developing Windows CE display drivers.
- C header file intended for use in developing display drivers for operating systems such as Linux, QNX, and VxWorks.
- Comma delimited text file containing the configuration information in CSV format.
- Text file that can be used as a reference guide to the S1D13513 registers.
- C source file containing configuration information for S1D13513 API support.

After selecting the file format, click the “Export As…” button to display the file dialog box which allows the user to enter a filename before saving.

5.6. Save and Run

After determining the desired configuration, “Save and Run” allows the user to save the configuration information to an executable file that was opened with the Open menu option and then run that file.

Note
This option is only available once a file has been *opened*.

5.7. Command Line

The “Command Line” option is used in conjunction with “Save and Run” option. When the “Command Line” option is selected, the Command Line Box is open and allows the user to input the arguments for running the executable file when the “Save and Run” command is used.

Note
This option is only available once a file has been *opened*.

5.8. Enable Debugging

This menu item is Reserved for internal use only.

5.9. Enable Tooltips

Tooltips provide useful information about many of the items in the Features pane. Placing the mouse pointer over any feature will display additional information below the 13513 CFG window.

To enable/disable tooltips check/uncheck the ‘Enable Tooltips’ option in the Help menu.

Note
Tooltips are enabled by default.

5.10. Tooltip Delay

Specifies the time before tooltips fade.

5.11. ERD on the Web

This “Help” menu item is a hotlink to the Epson Reasearch and Development website. Selecting “Help”, then “ERD on the Web” starts the default web browser and opens the Epson Research and Development home page.

The latest software, drivers, and documentation for the S1D13513 are available on this website.

5.12. Update Common Controls

13513 CFG uses some of the latest common control DLLs. On systems using earlier versions of the common controls, certain controls may not appear correctly. This option updates the Common Controls required for proper operation of 13513 CFG.

5.13. About 13513 CFG

Selecting the “About 13513 CFG” option from the “Help” menu displays the About 13513 CFG dialog box which contains version information and the copyright notice for 13513 CFG.

6. Comments

- Options in the File Menu and Save/Run! Menu may be “greyed out” if they are not selectable in the current state of the 13513 CFG utility. For example, the “Save”, “Save As”, and “Save and Run” options from the File menu, and the Save/Run! Menu are “greyed out” if no file has been opened in 13513 CFG.

- 13513 CFG allows the user to manually alter the registers values. The manual changes may violate memory and LCD timing as specified in the *S1D13513 Hardware Functional Specification*, document number X78B-A-001-xx. If this is done, unpredictable results may occur. Epson Research and Development Inc. does not assume liability for any damage done to the display device as a result of configuration errors.

7. Change Record

X78B-B-002-01 Revision 1.1 - Issued: March 29, 2018

- Updated address/contact page
- Updated Epson web page and email address
- Minor formatting changes

X78B-B-002-01 Revision 1.0 - Issued: December 12, 2007

- released as Revision 1.0

X78B-B-002-00 Revision 0.01 - Issued: November 08, 2007

- initial draft of the document

8. Sales and Technical Support

For more information on Epson Display Controllers, visit the Epson Global website.

https://global.epson.com/products_and_drivers/semicon/products/display_controllers/

For Sales and Technical Support, contact the Epson representative for your region.

https://global.epson.com/products_and_drivers/semicon/information/support.html