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Terminology

- IDT Timing Commander Software** Executable file that will execute a personality, connect to a chip on an evaluation board and read or write Settings files. Please contact IDT for the latest version of the file and information on operating systems supported and minimum system requirements.
- Personality** Encrypted file with extension .tcp. Used by IDT Timing Commander Software to determine the characteristics for a specific family of chips. A personality may refer to a single device or an entire family of similar devices. Please contact IDT to obtain the most current version of a personality for the devices of interest.
- Settings File** Text file with extension .tcs. Written or read by IDT Timing Commander Software to save or restore a particular setup for a specific version of a device personality and version of IDT Timing Commander Software. Settings files created with newer versions of IDT Timing Commander software or a device personality may not be compatible when read into older versions of IDT Timing Commander Software or if an older version of the personality is installed. Forward compatibility (older settings files read by newer software and/or personalities) will be maintained.
- Bit Set** A single variable stored within the registers of the device. A bit set may use only part of a register or may span multiple registers, but is thought of as a single field. For example, a 20-bit output divider ratio may be defined as a single bit set of length 20-bits, but may be stored in Register 0x4A, bits [3:0], Register 0x4B, bits[7:0] and Register 0x4C, bits [7:0].
- Metadata** Variable used within the personality, but not stored directly in device registers. For example an Input Frequency is generally not stored anywhere in a device's registers, but must be known to calculate register settings for the device.
- Tooltip** Context-sensitive pop-up that appears briefly as the mouse pointer hovers over an icon or element on the screen. These are intended to provide useful information about the specific item being pointed to.
- Value** When referring to any field that the user can edit, Value means the current internally-represented value of that field.
- Default Value** When referring to any field that the user can edit, Default Value means the value recommended by the personality for that field, taking into account the settings in other fields in the device. Changes to other fields may result in a change to the Default Value. Whenever a field is Unlocked, Default Value = Value. Only by locking a field can a user set a field to a Value other than the Default Value or prevent a field's Value from changing if Default Value changes.
- Display Value** A field may be controlled by a personality to display its Value or Default Value in a more meaningful way. For example, if the Value is defined in MHz, but the actual value is 0.008 MHz, the personality may choose to display this to the user as 8 kHz. In another example, if a bit set represents a divider ratio that can only be an even number and so does not implement the Least Significant Bit, the personality may choose to show a divide ratio of 2 when the bit set value is 1 (i.e. 1 increment of divide-by-2).

Getting Further Help

IDT Timing Commander Software is designed to be used interactively. Context-sensitive ‘tooltips’ will appear when the mouse pointer is hovered-over any icon on the screen. These tooltips will provide information on what function this icon performs and/or limits on values that can be entered into the field. [Figure 1](#) shows an example tooltip that might show up as the mouse hovers over the output frequency metadata field in the diagram.

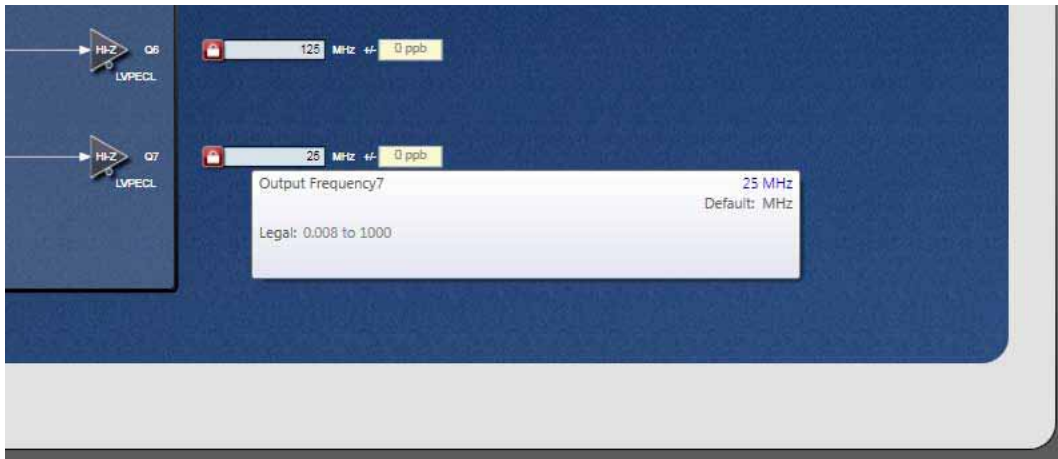


Figure 1: Tooltip Example

This User Guide is available through the User Guide button on the startup screen and will pop-up as a PDF file using Adobe Acrobat Reader.








The About icon on the top-right portion of the screen may be used to generate an E-mail to IDT for assistance (see [Figure 2](#)), including the option to attach a log file that provides IDT with information on the sequence of operations performed by the user in this session to assist in resolving the user’s concern.









Figure 2: E-mailing IDT for Further Help

Meanings of Icons


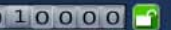
Main Screen Icons

| | | |
|--|------------------|---|
|  | About | This icon allows the user to see the version numbers of the IDT Timing Commander Software and the personality currently in use. It also allows the user to contact IDT via E-mail, with or without attaching a log file to assist in resolution of any issues. |
|  | Error Tab | Indicates one or more errors are present. Click on this icon to open the Error/Warning Panel if it is not open. |
|  | Warning Tab | Indicates one or more warnings are present. Click on this icon to open the Error/Warning Panel if it is not open. |
|  | Chip Connect | Clicking on this icon will cause an attempt to establish a connection with a device in a USB-attached Evaluation Board (EVB). The device will be tested to determine if it is the device referred to in this personality or not. |
|  | Write to Chip | Clicking on this icon when located in the top-right corner of the screen will write all register values to the chip. Clicking on this icon beside a register in Register View will write out only that register to the connected chip. |
|  | Read from Chip | Clicking on this icon when located in the top-right corner of the screen will read all register values from the chip and replace the internal bit set Values with them, even if they are Locked. Clicking on this icon beside a register in Register View will read only this register's value |
|  | Connection Setup | Clicking on this icon will allow setup of Chip Connect parameters |

Icons Associated with Data Entry Boxes

| | | |
|--|-----------------|---|
|  | Unlocked | This icon will appear beside a data-entry field to indicate that the field is not locked by the user and is using the Default Value for the field as calculate by the personality for that device. The user may click on the icon itself to lock the field with its current value. |
|  | Locked | This icon will appear beside a data-entry field to indicate the field's value has been locked by the user. The field will become locked whenever the user enters a Value here that is different from the Default Value for the field or if they click on the Unlocked icon when the Default Value is present. Locking a field will prevent its Value from changing in reaction to other changes performed elsewhere in the device. Note that reading from a connected physical device will override a Lock for any bit sets read from the device. |
|  | Error | There is an error associated with the field this icon is attached to. Hovering over the field with the mouse will bring up a tooltip with more details on the error. The error can also be viewed via the Error/Warning Panel portion of the screen (Error/Warning Panel may need to be expanded by clicking on the Error or Warning tab). Note that a Settings file may not be saved while there are unresolved errors. |
|  | Warning | There is a warning associated with the field this icon is attached to. Hovering over the field with the mouse will bring up a tooltip with more details on the error. The error can also be viewed via the Error/Warning Panel portion of the screen (Error/Warning Panel may need to be expanded by clicking on the Error or Warning tab). Warnings do not prevent saving of a Settings file. |
|  | Needs Attention | This icon alerts the user that the Default Value has changed for the locked field the icon is attached to. The user may click on the Needs Attention icon itself to clear the alert if they wish the value to remain as-is. Alternatively, the user may unlock the field, allowing the field to assume the Default Value. Or the user may change the locked value to a different locked value by entering new data into the field. |
|  | Modified | Alerts the user that the value in this field has been modified, either by the user or by the personality from its original value. Clicking on this icon will return the Value to the previous setting and remove the alert. |

Types of Data Entry Boxes

| | | |
|--|------------|---|
|  | Check Box | This data entry format is used for binary values that may only be set to 0 (box cleared) or 1 (box checked). |
|  | Bit-by-bit | This data entry format is used when it makes most sense to set each bit individually. Each bit may be set to 1 or 0 only. |



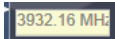
Combo Box

This data entry format provides a drop-down menu of selections. Selection values may be fixed or may be adjusted by the personality in response to other fields changing.



Text Entry

This data entry format allows direct keyboard entry of values. Values will be checked against the programmed data type for the field as they are typed.



Read-Only

This field is read-only. It may not be accessible to the user at all or may have a writeable version at another (single) location in the diagram or bit set views.



Areas of the Screen



Figure 3: Overall Screen View with Areas Pointed Out

- | | | |
|----------|---------------------|---|
| 1 | Device ID | This indicates the specific device being indicated. Clicking on this will bring up a menu that allows the settings to be viewed and other settings file related activity to be performed. |
| 2 | Error/Warning Panel | This section will expand and contract as errors or warnings are generated within the personality in reaction to user inputs. Clicking on the Warning or Error Tab will hide or reveal this section of the screen. Note the arrow at the end of each error or warning. Clicking on the arrow will take you to the view or popup where the field that flags the error or warning is generated. That field will be highlighted with a yellow surround on the screen. |
| 3 | View Selection | Clicking on these tabs will bring up the different views of the chip setup. |
| 4 | Search | Any field or diagram element can be highlighted by typing in its name in this Search box. |
| 5 | Zoom | These will increase or decrease the zoom level of the main window. |
| 6 | Pop-up | Diagram elements that are shaded grey like this will bring-up a pop-up menu when clicked. |



IDT
TIMING COMMANDER™
Get Command of Your Timing Tree

User Guide

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