

# TCx Display Configuration Utility for Linux

## User's Guide

*Version 1.2502*

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This edition applies to TCx Display Configuration Utility for Linux and to all subsequent releases and modifications until otherwise indicated in new editions.

Toshiba Global Commerce Solutions, Inc. information of this product is available at:  
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## **About this guide**

This guide describes how to install and use the Toshiba TCx Display Configuration Utility.

## **Who should read this guide?**

This guide is intended for the personnel who will install and use Toshiba TCx Display Configuration Utility.

## 1.- Introduction

TCx Display Configuration Utility is a command-line tool used to download, update settings and configure a TCx Display 6149 (Model 5Cx, Model 5Sx, Model 5NR and Models BxT/WxT/BxN/WxN) and TCx Display 6150 (Model Bxx/Pxx) hardware settings.

Customers will be able to download the current settings of the display and load it accordingly.

## 2.- Supported Operating Systems

The following Linux distributions are supported by the tool:

- SLE 12 SP5
- SLE 15 SP5
- SLE 15 SP6
- Ubuntu 20.04
- Ubuntu 22.04
- Ubuntu 24.04

## 3.- Installing the TCx Display Configuration Utility

This utility is distributed in the form of an RPM package to install it. Please follow the next instructions.

### Installation of RPM Package

1. Open a terminal in your system.
2. Change to the directory in which you stored the TCx Display Configuration Utility rpm package, its name is described below.
  - a. `toshiba-tcxdisplaycfgutil-1.2502.0-x.0.x86_64.rpm`<sup>1</sup>
3. Once in the directory type the following:

**`$ sudo rpm -ivh toshiba-tcxdisplaycfgutil-1.2502.0-x.0.x86_64.rpm`**

### Installation of DEB Package

1. Open a terminal
2. Once the terminal is opened please type:  
`$ sudo dpkg -i toshiba-tcxdisplaycfgutil_x.x.x-x.0_amd64.deb`
  - A. password may be required
  - B. enter the user password and hit enter

---

<sup>1</sup> The x represents the build number of the package.

After these steps the TCx Display Configuration Utility will have been deployed in your system placing the files in the next directories:

- /opt/tgcs/dcu/license
  - License Agreement
- /opt/tgcs/dcu/doc
  - Readme file and this document
- /opt/tgcs/dcu/bin
  - The TCx Display Configuration Utility binary
- /usr/bin
  - A symbolic link to the TCX Display Configuration Utility

## 4.- Removing the TCx Display Configuration Utility

Whenever you would like to remove the TCx Display Configuration Utility from the system or update to a newer version please follow the next steps:

### Removal of RPM Package

1. Open a Terminal
2. In the terminal type the following command:

```
$ sudo rpm -e toshiba-tcxdisplaycfgutil
```

3. After running this command, the TCx Display Configuration Utility will be removed from your system.

### Removal of DEB Package

To remove the TCx Display Configuration Utility from your system, follow the next steps:

1. Open a terminal
2. Once the terminal is open type the following command:  
**\$ sudo dpkg remove --purge toshiba-vsp-linux**
  - A. password may be required
  - B. Insert user password and hit enter

## 5.- Running the utility

To run the terminal please open a terminal and type “tcxdisplaycfgutil” as shown in figure 1, this will prompt the different commands the utility supports and since **this operation and the options “-?” and “-g”** do not imply any communication with the USB bus of the monitor and they won’t require any “sudo” access.

On the other hand, **for options “-o, -s, -L and -i” are required to be run with “sudo” privileges**, this is in the terminal you should type the following command followed by any of the options early mentioned.

```
$ sudo tcxdisplaycfgutil -< o / s / i > <<filename>>
$ sudo tcxdisplaycfgutil -L
```

If by any chance you miss to run this command with sudo privileges, a segmentation fault could occur since the access for the USB interface will be denied, no monitor configuration read or write will be held, to avoid this behavior, the tool will validate if is being run as root, if is not, the tool will stop any execution.

## 6.- Tool Options

Use the following options for changing the settings of a supported TCx Display

```
tcxdisplaycfgutil Version 1.2.0 - TCxDisplay Configuration utility
Toshiba Global Commerce Solutions Copyright (C)2021
---

USAGE: tcxdisplaycfgutil [options]

WHERE OPTIONS are:

-o <filename> Retrieve the current device's configuration.
               Specify the name of the INI file in <filename>.

-g <filename> Generate a pre-defined INI file. Specify the
               name of the INI file in <filename>.

-i <filename> Update devices using only INI file specified in
               <filename>.

-L           List attached devices *1

-s <serial#> Update device's configuration specified by the
               USB Serial Number: <serial#>

-v           Verbose logging to the console during execution

-l <log file> Specify the log file

-?           Usage (this message) and additional help information
```

*Figure 1 TCxDisplay Configuration Utility Options*

### 6.1.- Current Setting [-o <filename>.ini]<sup>2</sup>

This is the option to use when downloading the current settings of the display. The path of the INI file can also be absolute.

```
$sudo tcxdisplaycfgutil -o "<path_were_the_ini_file_is>\currentconfig.ini"
```

### 6.2.- Generate default settings [-g <filename>.ini]

This option generates the default values. The utility can be run in any machine when using this option. Then the generated INI file can be updated accordingly and loaded to a POS machine with TCxDisplay. The path of the INI file can also be absolute.

```
$sudo tcxdisplaycfgutil -g "<path_where_the_ini_file_is>/default.ini"  
$sudo tcxdisplaycfgutil -g default.ini3
```

### 6.3.- Update display [-i <filename>.ini]

Use this option to update the display settings. If there is no serial number specified, the utility will change the settings of all devices attached.

```
$sudo tcxdisplaycfgutil -i monitorcfg.ini
```

### 6.4.- List attached device(s) [-L]

Use this option to display the available TCx Display.

```
$sudo tcxdisplaycfgutil -L
```

### 6.5.- Using device's serial number [-s <serial\_number>]

Use this option to specify which device will be manipulated. It can be used to generate the current settings and update a device.

```
$sudo tcxdisplaycfgutil -s 12345 -o current.ini  
$sudo tcxdisplaycfgutil -s 12345 -i current.ini
```

---

<sup>2</sup> If no serial number is specified the utility will download the current configuration of the first detected monitor, you can verify this using the -L option.

<sup>3</sup> This will generate the \*.ini file in the current directory where the utility was called.

### **6.6.- Show utility logging to console [-v]**

This option will come in handy to external utilities having to capture console logs. This can be used with any other available options.

```
$sudo tcxdisplaycfgutil -o default.ini -v  
$sudo tcxdisplaycfgutil -s 123456 -i current.ini -v
```

### **6.7.- Save utility logging to a file [-l <filename>.log]**

This option will save important execution logs of the utility. Normally, the log file generated will be used for debugging purposes. This can be used with any other available options.

```
$sudo tcxdisplaycfgutil -o default.ini -l test.log  
$sudo tcxdisplaycfgutil -s 12345 -i current.ini -l test.log
```

### **6.8.- Show the help message [-?]**

This option will show the help message and the configuration definition in section 7 of this document.



## 7.- TCx Display Configuration Utility Support

The value entered on the .ini configuration file must be in hex format, always use 2 digits as shown in the **Default Value** cell, otherwise the tool won't be able to read nor upload them to the monitor and an error message will be displayed.

| KEY                          | Item Name               | Range (Hex)    | Default Value (Hex)                | Description   | Support on 6149 5Cx | Support on 6149 5Sx and 5Nx | Support on 6149 BxT/N and WxT/N | Support on 6150 Bxx | Support on 6150 Pxx |
|------------------------------|-------------------------|----------------|------------------------------------|---|---------------------|-----------------------------|---------------------------------|---------------------|---------------------|
| <b>[General] Section</b>     |                         |                |                                    |   |                     |                             |                                 |                     |                     |
| Volume                       | Master Volume           | 00-28          | 20 <sup>4</sup>                    | This is the master volume for the overall sound volume except POS Tone.   | Y                   | Y                           | Y                               | Y                   | Y                   |
| Brightness                   | Backlight Brightness    | 00-20<br>00-FF | 1D <sup>5</sup><br>DC <sup>6</sup> | Set monitor backlight brightness.<br>If offset 46h being set to 32 level (00h). The range will be changed to 00-20 and default value is 1D.<br>If offset 46h being set to 256 level (01h), The range will be changed to 00-FF and default value DC. | Y                   | Y                           | Y                               | Y                   | Y                   |
| RmtPwrCtrl                   | Remote Power Control    | 00-01          | 00                                 | Set the remote power control option<br>00h-Disabled<br>01h-Enabled  | Y                   | Y                           | Y                               | N                   | Y                   |
| ExtBLEn                      | Extended Backlight life | 00-01          | 01                                 | Set Extended Backlight life option<br>00h-Disabled<br>01h- Enabled  | Y                   | Y                           | Y                               | N                   | Y                   |
| AudOutput <sup>7</sup>       | Audio Output channel    | 00-01          | 01                                 | Set which sound source to use<br>00h- Buzzer<br>01h- Speaker Option   | N                   | N                           | Y                               | N                   | N <sup>8</sup>      |
| <b>[BeepOnTouch] Section</b> |                         |                |                                    |   |                     |                             |                                 |                     |                     |
| BOTFreq                      | "Beep"                  | 01-03          | 02                                 | Allow to set which frequency in   | Y                   | Y                           | Y                               | Y                   | Y                   |

<sup>4</sup> For 6149 5Cx that have HW\_CONF level as 1.06 the default value shall be 26h

<sup>5</sup> For 6149 5Cx that have HW\_CONF level as 1.06 the default value shall be 18h

<sup>6</sup> The offset 0x46 is a key that 6149 (Bxx\Wxx) monitor have and only this feature applies for these, when this key is set to 0x01 a default value of 0xDC will be used.

<sup>7</sup> This option will only take place on monitors that have both, buzzer and speakers. If no speaker is present the default will be the buzzer.

<sup>8</sup> For TCx Display 6150 Pxx there is no buzzer

|                          |   |       |    |  |   |   |                 |                 |                 |
|--------------------------|---|-------|----|--|---|---|-----------------|-----------------|-----------------|
|                          | Frequency                                 |       |    | hertz to play of touch beep<br>01h- 2000<br>02h-1300<br>03h-875  |   |   |                 |                 |                 |
| BOTDur                   | “Beep”<br>Duration                        | 01-0A | 02 | Allow to set the time the beep is played   | Y | Y | Y               | Y               | Y               |
| BOTVol                   | “Beep”<br>Volume                          | 00-28 | 18 | Allow to set the beep sound level  | Y | Y | Y <sup>9</sup>  | N               | Y               |
| BOTEvent                 | Touch<br>Event<br>Trigger<br>Point        | 00-03 | 01 | Allow to set the behavior when the beep is touched<br>00h- Disabled<br>01h- Finger Touch Down<br>02h-Finger Touch Up<br>03h- Both.                 | Y | Y | Y               | Y               | Y               |
| <b>[POSTone] Section</b> |   |       |    |  |   |   |                 |                 |                 |
| SoftVol                  | Sound<br>Volume<br>level for<br>soft tone | 00-28 | 18 | Allow to control the sound volume in soft tone state.  | Y | Y | Y               | N               | Y               |
| LoudVol                  | Sound<br>Volume<br>level for<br>loud tone | 00-28 | 26 | Allow to control the sound volume in loud tone state.  | Y | Y | Y               | N               | Y               |
| <b>[OpPanel] Section</b> |   |       |    |  |   |   |                 |                 |                 |
| IconBright               | Icon<br>Brightness                        | 00-20 | 1B | Allow to set backlight brightness on all buttons   | Y | Y | Y <sup>10</sup> | Y               | Y               |
| PwrEn                    | Power<br>Button<br>Enabled<br>/Disabled   | 00-01 | 01 | This setting applies to power button only. Allow to make the power button functional if the setting is enabled.<br>00h - Disabled<br>01h - Enabled | Y | Y | Y               | Y <sup>11</sup> | Y <sup>12</sup> |
| PwBtnBh                  | Power<br>Button<br>Behavior               | 00-02 | 00 | The behavior while the end user presses the power button.<br>00h – Off mode.<br>01h – Video Off mode.<br>02h – Video/Audio Off mode.               | N | N | Y               | Y               | Y               |
| <b>[OSD] Section</b>     |   |       |    |  |   |   |                 |                 |                 |
| OSDEn                    | OSD<br>Control                            | 00-01 | 01 | Allow to use the On screen Display menu.<br>00h-Disabled<br>01h-Enabled  | Y | Y | Y               | N               | Y               |
| OSDRPCEn                 | OSD<br>Remote<br>power<br>control         | 00-01 | 01 | Allow to use “Remote Power Control” settings on OSD Menu<br>00h-Disabled<br>01h-Enabled  | Y | Y | Y               | N               | Y               |
| OSDEBLEn                 | OSD<br>Extended                           | 00-01 | 01 | Allow to use Extended backlight life on OSD Menu   | Y | Y | Y               | N               | Y               |

<sup>9</sup> It will be only available if the monitor has a built-in speaker, as well as Tone1Vol and Tone2Vol

<sup>10</sup> There is no icon LED, but will apply to Power LED Button

<sup>11</sup> If the power button is disabled in TCx 6150 Display, then will switch to remote power control mode automatically.

<sup>12</sup> If the power button is disabled in TCx 6150 Display, then will switch to remote power control mode automatically.

|                              |                            |       |    |   |   |   |                 |   |   |
|------------------------------|----------------------------|-------|----|---|---|---|-----------------|---|---|
|                              | backlight life             |       |    | 00h-Disabled<br>01h-Enabled   |   |   |                 |   |   |
| OSDIBCEn                     | OSD Buttons LED Brightness | 00-01 | 01 | Allow to use "Button LED Brightness" option in OSD Menu<br>00h-Disable<br>01h-Enabled | Y | Y | N <sup>13</sup> | N | N |
| OSDVCEn                      | OSD Volume                 | 00-01 | 01 | Allow to use the OSD volume menu<br>00h-Disabled<br>01h-Enabled                       | Y | Y | Y               | N | Y |
| OSDBCEn                      | OSD Brightness             | 00-01 | 01 | Allow to use "Brightness" option in OSD Menu<br>00h-Disabled<br>01h-Enabled           | Y | Y | Y               | N | Y |
| PwrBtnDely                   | Power Button enabled delay | 00-FF | 14 | Allow to change the delay time of enable power button after user exits OSD            | Y | Y | Y               | N | Y |
| PwrDwTmr <sup>14</sup>       | Power Down timer           | 00-64 | 00 | This sets the countdown timer to turn of the system after pressing the power button   | N | N | Y               | Y | Y |
| Contrast                     | Contrast                   | 00-64 | 50 | Set monitor contrast  | N | N | Y               | N | Y |
| SleepTmr                     | Sleep Timer                | 01-FF | 05 | Set the time for entering the sleep mode  | N | N | Y               | N | Y |
| PushMsg                      | Push message on/off        | 00-01 | 01 | Set the push message behavior.<br>00h-Enabled<br>01h-Disabled                         | N | N | Y               | N | Y |
| <b>[PortControl] Section</b> |                            |       |    |   |   |   |                 |   |   |
| PortCtrl2 (Touch)            | USB Port2 Control          | 00-01 | 00 | Set the USB Downstream port on/off<br>00h-ON<br>01h-Off                               | N | N | Y               | Y | Y |
| PortCtrl3 (Left USB Port)    | USB Port3 Control          | 00-01 | 00 | Set the USB Downstream port on/off<br>00h-ON<br>01h-Off                               | N | N | Y               | Y | Y |
| PortCtrl4 (Right USB Port)   | USB Port4 Control          | 00-01 | 00 | Set the USB Downstream port on/off<br>00h-ON<br>01h-Off                               | N | N | Y               | Y | Y |
| PortCtrl5 (Top USB)          | USB Port5 Control          | 00-01 | 00 | Set the USB Downstream port on/off  | N | N | Y               | Y | Y |

<sup>13</sup> On non-supported keys by the monitor type, the utility will set the value as 0x00 to avoid monitor malfunctioning

<sup>14</sup> For 6149 5Cx monitors the keys PwrBtnTmr, Contrast, OSDLanguage, OSDTransparency, OSDTimeOut and SleepTmr, will take the 0x00, 0x050, 0x00, 0x00,0x14,0x05 values respectively as these are the default values for these monitors.

|                                      |                      |       |    |  |   |   |   |                 |   |
|--------------------------------------|----------------------|-------|----|--|---|---|---|-----------------|---|
| Port)                                |                      |       |    | 00h-ON<br>01h-Off  |   |   |   |                 |   |
| PortCtrl6<br>(Tailgate<br>USB port)  | USB Port6<br>Control | 00-01 | 00 | Set the USB Downstream port<br>on/off<br>00h-ON<br>01h-Off   | N | N | Y | Y               | Y |
| PortCtrl7<br>(USB<br>Audio)          | USB Port7<br>Control | 00-01 | 00 | Set the USB Downstream port<br>on/off<br>00h-ON<br>01h-Off   | N | N | Y | Y <sup>15</sup> | Y |
| CamControl<br>(Camera) <sup>16</sup> | EdgeCam              | 00-01 | 00 | Set EdgeCam on/off for Aura<br>15/156 and shall be ignored in<br>other screen sizes<br>00 – Off (Disabled)<br>01 – On (Enabled)<br><br>This setting will also change the<br>Top USB port (53h) based on<br>the result of 57h | N | N | N | Y               | Y |

## USB PORT Control Ordering on TCx Displays

For newest monitor models like 6149 BxT/WxT series and 6150 Pxx, USB 2.0 ports have been integrated which can be disabled or enabled using the keys described previously in **[PortControl] Section**, the list below clarifies how to identify them.

2. Touch Control
3. Left Side Mounted Downstream Port
4. Right Side Mounted Downstream Port
5. Top Side Mounted Downstream Port
6. Tailgate Mounted Downstream Port
7. Audio.

<sup>15</sup> It's not visible physically in the tailgate and end user will not be able to access the port per the implementation.

<sup>16</sup> Only available on Aura 15" and 15.6" displays. CamControl has higher priority than PortCtrl5, what you type in CamControl will be reflected in PortCtrl5.

## Known limitations and workarounds

1. In order to have a clean installation, you must remove any previous version of this utility.
2. The utility does not support updating more than 1 display when using serial number. The command below is not supported:

```
$sudo tcxdisplaycfgutil.exe -s 12345 -s 01234 -i TGCSMonCfg.ini
```

3. The above example will only update the device with serial number "01234". In order to update all devices, do not specify any serial number.
4. To avoid any irreversible damage to the TCx Display, do not unplug the USB cable while a FW update process or a configuration process is going on.
5. Whenever a current configuration file is generated, this is using the -o option, to edit this ini file you may require sudo access as it would be protected, opposite case when using the -g option the generated \*.ini file won't require any special permission to be edited.