

Toshiba Display Inventory Driver User's Guide

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About this guide

The guide describes how to install, configure, and use the Toshiba Display Inventory Driver v1.7.

Who should read this guide?

This guide is intended for personnel who will be using the TCx® Displays information provided by Display Inventory Driver (DID) on a system management environment.

Summary of changes

November 2021

This release is including software deployment support on the following POS Systems:

- TCx® 810 6201-2xx/Exx
- TCx® 810E 4828-T2x/E2X

August 2023

- Added support for: Toshiba TCx® 900 4901-91x/E1x/C1x.

Chapter 1. Introduction

The Display Inventory Driver is designed to only extract information from the supported external displays attached to the POS system using USB bus and populate it using the CIM standard.

Supported Hardware

Toshiba Display Inventory Driver can be deployed in the following POS systems¹:

- Toshiba SurePOS 500 4852-x7x
- Toshiba SurePOS 500 4852-x8x

- Toshiba TCx® Wave 6140-100
- Toshiba TCx® Wave 6140-120
- Toshiba TCx® Wave 6140-A30
- Toshiba TCx® Wave 6140-14x (where 'x' could be 'C' or '5')
- Toshiba TCx® Wave 6140-15x (where 'x' could be 'C' or '5')

- Toshiba TCx® 300 4810-3x0/3x1
- Toshiba TCx® 700 4900-7x6/7x7
- Toshiba TCx® 800 6200-1xx
- Toshiba TCx® 810 6201-2xx/Exx
- Toshiba TCx® 810E 4828-T2x/E2x
- Toshiba TCx® 900 4901-91x/E1x/C1x

It will be capable of provide information of the following external display models^{2, 3}:

- SurePoint 4820-21x/51x
- SurePoint 4820-2Lx/5Lx
- TCx® Display 6149-5SR/5SD/5NR
- TCx® Display 6149-5CR/5CD
- TCx® Display 6149-Bxx/Wxx

Older monitors do not have the functionality to provide systems management information.

¹ The Display Inventory driver will retrieve information only from external supported displays, and it will not work on built-in displays.

² All monitors should be connected to USB 12v port and to any of the supported video ports (VGA, DP and USB-C) before use The Display Inventory driver.

³ Each time you connect any of the supported displays, restart the [Display Inventory service](#).

Chapter 2. Installation and Removal Instructions.

This chapter describes the process to deploy the Toshiba Display Inventory Driver in the system.

Installation

For normal installation (User Interface) just double click on the `setup.exe` and follow the setup instructions.

Silent Installation

To do a silent (unattended) installation, open Window Command Prompt as Administrator and enter the following:

```
setup.exe -q
```

Note: For silent installation an automatic reboot is programmed to be done after the process finishes, to avoid this, please type the following command in the command prompt:

```
setup.exe -q -norestart
```

Silent Removal

To execute the silent-uninstall, open Windows Command Prompt as Administrator and enter the following:

```
setup.exe -q -uninstall
```

Note: To run the silent install/uninstall, you must be in the directory where the `setup.exe` is located at.

Chapter 3. Configuring the Driver

The Toshiba Display Inventory Driver includes configuration files for its operation, please refer to this section to know about this configuration.

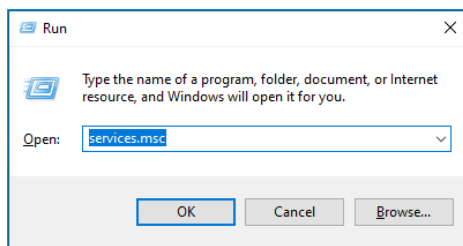
Logging

The driver logs abnormal conditions to `<install_dir>\Toshiba\DSPDRV\LOGGER\dspdrv.log`. For normal production usage there is no need to change this behaviour. In fact, it is not recommended.

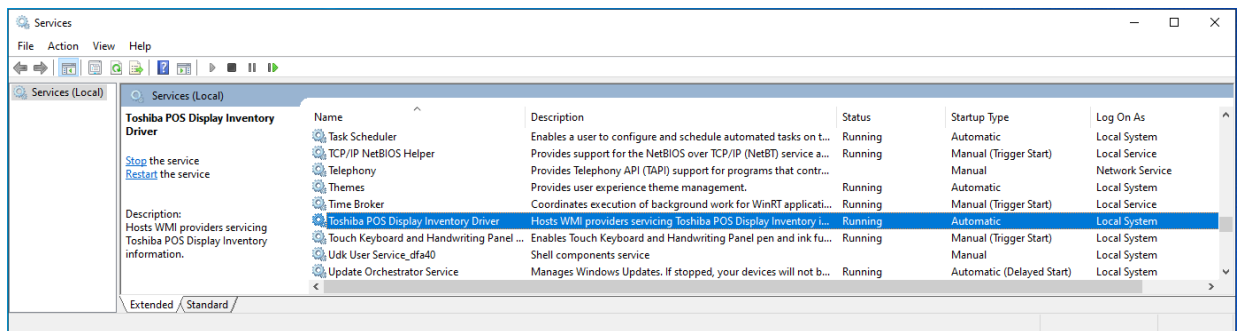
However, if any problem arises, additional information might be required logging for support purposes.

To enable detailed logging:

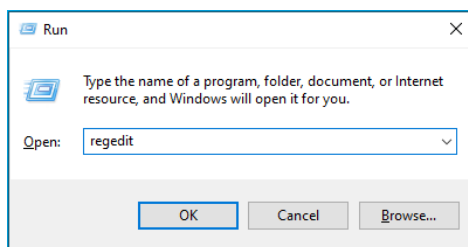
1. Open `services.msc` by pressing “Windows Key + R”



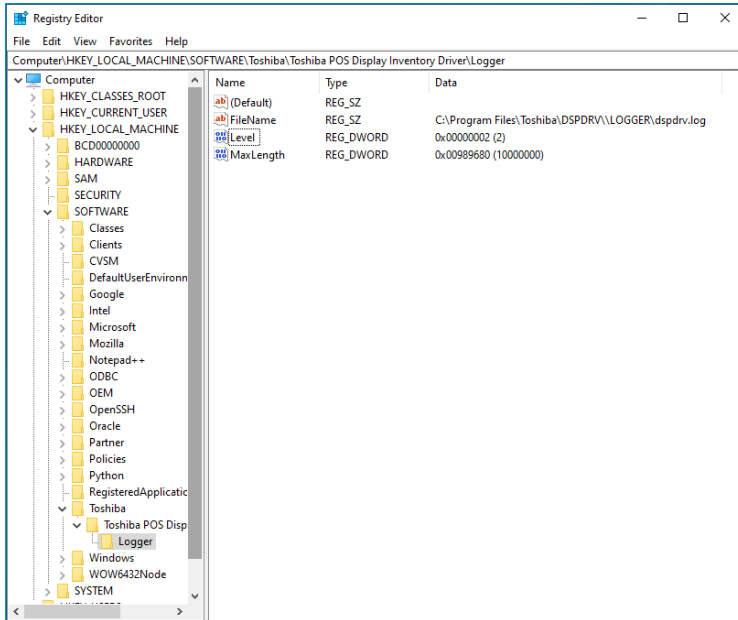
2. Stop `DSPDRVWsvc` service in Windows application `services.msc`.



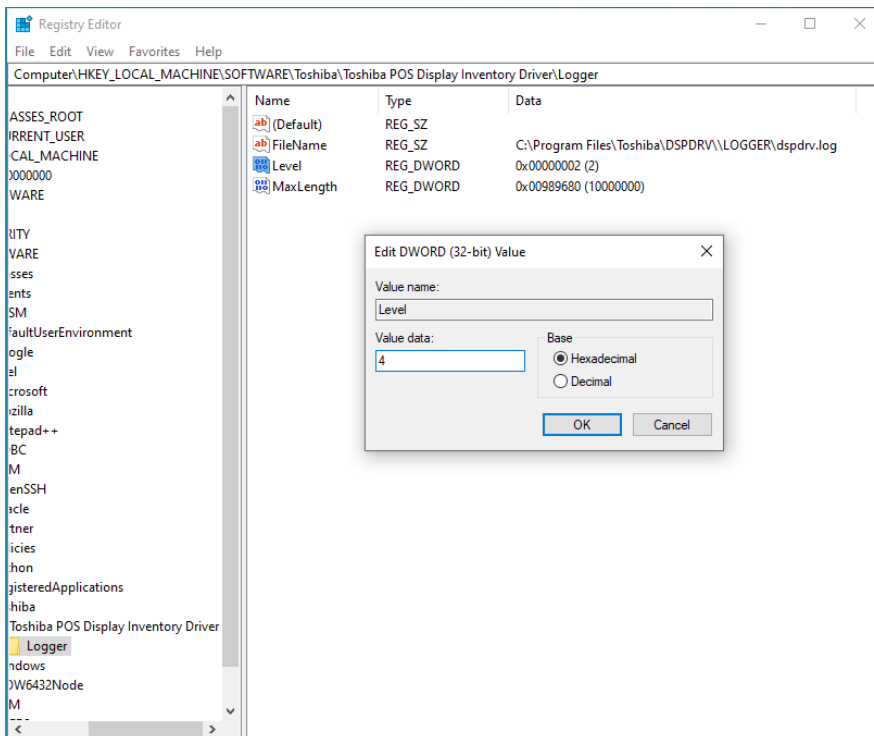
3. Open the Windows `regedit` application:



4. Navigate to 'HKEY_LOCAL_MACHINE\SOFTWARE\Toshiba\Toshiba POS Display Inventory Driver\Logger':



Under Logger, change the registry 'Level' to 3 or 4 for a detailed trace logging by double-clicking on it.



Log Levels:

- 0 - Off
- 1 - Error
- 2 - Information (production default)
- 3 - Debug
- 4 - Trace

It may also be required to increase the log file size by adjusting the '**MaxLength**' value if logging for an extended period.

MaxLength=10000000 (production default)

Notes:

- Digits should not be separated.
- When reaches to MaxLength no more logging is recorded.

5. After you set up the log configuration, restart the '**DSPDRVWSvc**' service.

Firmware Tools

There is a configuration file <install_dir>\Toshiba\DSPDRV\BIN\dspdrv.ini which contains the names of firmware update utilities named:

- EloDownload.exe,
- 4820MonUtil.exe,
- aipflash.exe,
- dspenum.exe,
- MON_COM.exe

The purpose of this list is to inhibit the Monitor Inventory driver from accessing the monitor while any one of these programs is running a video or touch firmware update. The values should not need changing.

Chapter 4. Data Provided by Display Inventory Driver

Property	Description
BUS	Shows the bus of how the display is connected to the POSS default must be "USB"
Device Category	Shows the device category
Firmware Revision	Shows firmware version
Manufacturer Date	When the display was built
Manufacturer Name	Who built the display
Mechanical Revision	Mechanical revision
Physical Device Name	Device Model Name
Model name	Device model
Serial Number	Device serial number
Horizontal Screen Size	Display horizontal screen size (mm)
Vertical Screen Size	Display vertical screen size (mm)
Horizontal Resolution	Horizontal resolution px
Vertical Resolution	vertical resolution px
Refresh Rate	Display Frequency
Supported Resolution and Refresh Rate	It describes the supported resolution and refresh rates supported by the monitor
Preferred Resolution and Refresh Rate	It is the preferred resolution and refresh rate in which the monitor will perform at its best
Display Technology	Indicates the technology the display is built with: 0 – Unknown 1 – Other 2 - Passive LCD Matrix 3 – Active LCD Matrix 4 – Cholesteric LCD 5 – Field Emission 6 – Electro Luminescent 7 – GAS Plasma 8 - LED
Scan Mode	The mode of scan for the Display 0 – Unknown 1 – Other 2 – Single 3 – Dual

Supports Color	This is a Boolean value to identify if the display supports color or not.
Supported Video Sources	The Different Supported Video Sources the Display can support
Current Video Source	The current video source in which the Display is connected to the POS system
Light Source Type	This will indicate the light source type of the display 0 – Unknown 1 – Other 2 – LED 3 – Cold Cathode
Light Source Illumination Type	The type of illumination the monitor has built in.
Light Source Count	The number of light sources the display has
Recommended Brightness Level	The recommended brightness level to set the monitor to properly work
Current Brightness level	The current Brightness level the display has
Backlight state	Whether if the backlight is on or off, 1 for On and 0 for Off
Hours Powered Count	The time in hours that the display has been powered on
Current Backlight POH	The time in hours that the backlight has been powered on
Power Management Modes	The Power management modes the display supports

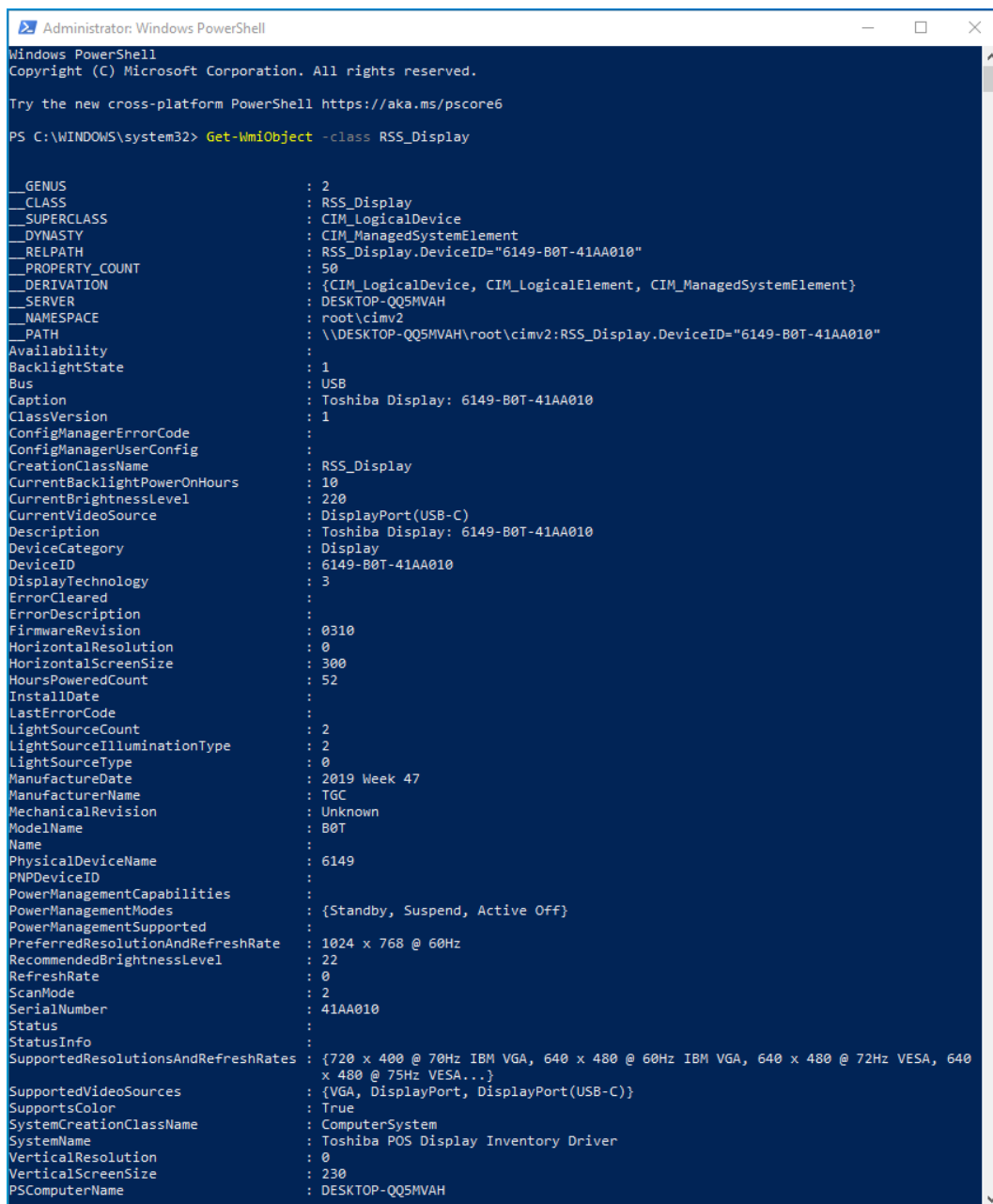
Chapter 5. Accessing the Display Information

In this section we discuss how to retrieve information and how to interact with what the Display Inventory Driver provides.

Enumerating Instances

To querying the WMI (Windows Management Instrumentation) class “RSS_Display” and get information from the supported displays you can use `Get-WmiObject` command in *PowerShell (as Administrator)*, to do so, please run the next command:

> `Get-WmiObject -class RSS_Display`



```
Administrator: Windows PowerShell
Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6

PS C:\WINDOWS\system32> Get-WmiObject -class RSS_Display

__GENUS                : 2
__CLASS                 : RSS_Display
__SUPERCLASS            : CIM_LogicalDevice
__DYNASTY                : CIM_ManagedSystemElement
__RELPATH               : RSS_Display.DeviceID="6149-B0T-41AA010"
__PROPERTY_COUNT        : 50
__DERIVATION            : {CIM_LogicalDevice, CIM_LogicalElement, CIM_ManagedSystemElement}
__SERVER                : DESKTOP-QQ5MVAH
__NAMESPACE             : root\cimv2
__PATH                  : \\DESKTOP-QQ5MVAH\root\cimv2:RSS_Display.DeviceID="6149-B0T-41AA010"
Availability            :
BacklightState          : 1
Bus                     : USB
Caption                 : Toshiba Display: 6149-B0T-41AA010
ClassVersion            : 1
ConfigManagerErrorCode  :
ConfigManagerUserConfig :
CreationClassName       : RSS_Display
CurrentBacklightPowerOnHours : 10
CurrentBrightnessLevel  : 220
CurrentVideoSource      : DisplayPort(USB-C)
Description             : Toshiba Display: 6149-B0T-41AA010
DeviceCategory          : Display
DeviceID                : 6149-B0T-41AA010
DisplayTechnology       : 3
ErrorCleared            :
ErrorDescription        :
FirmwareRevision        : 0310
HorizontalResolution    : 0
HorizontalScreenSize    : 300
HoursPoweredCount       : 52
InstallDate             :
LastErrorCode           :
LightSourceCount        : 2
LightSourceIlluminationType : 2
LightSourceType         : 0
ManufactureDate         : 2019 Week 47
ManufacturerName        : TGC
MechanicalRevision      : Unknown
ModelName               : B0T
Name                    :
PhysicalDeviceName      : 6149
PNPDeviceID             :
PowerManagementCapabilities :
PowerManagementModes    : {Standby, Suspend, Active Off}
PowerManagementSupported :
PreferredResolutionAndRefreshRate : 1024 x 768 @ 60Hz
RecommendedBrightnessLevel : 22
RefreshRate             : 0
ScanMode                : 2
SerialNumber            : 41AA010
Status                  :
StatusInfo              :
SupportedResolutionsAndRefreshRates : {720 x 400 @ 70Hz IBM VGA, 640 x 480 @ 60Hz IBM VGA, 640 x 480 @ 72Hz VESA, 640
x 480 @ 75Hz VESA...}
SupportedVideoSources   : {VGA, DisplayPort, DisplayPort(USB-C)}
SupportsColor           : True
SystemCreationClassName : ComputerSystem
SystemName              : Toshiba POS Display Inventory Driver
VerticalResolution      : 0
VerticalScreenSize      : 230
PSComputerName          : DESKTOP-QQ5MVAH
```

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