DepthVista

DepthVista Build Manual

Version 1.2

e-con Systems

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e-con Systems

Think Camera. Think e-con.

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Contents

Introduction to DepthVista

The DepthVista application is a V4L2 application to view streaming from e-con Systems See3CAM_TOF_25CUG_CHLCC_H01R1 camera.

This document describes the step-by-step procedure to build DepthVista on the host PC.

Prerequisites

The prerequisites are as follows:

- DepthVista application source code.
- CMake (version 3.5 and above).
- DepthVistaSDK.
- libdc1394-25 (For Ubuntu 20.04)

```
sudo apt-get install libdc1394-25
```

- libdc1394-22 (For Ubuntu 18.04)

```
sudo apt-get install libdc1394-22
```

- Qt5- default

```
sudo apt-get install qt5-default
```

Description

DepthVista has USB interface controller with USB Type-C connector to interface with the host PC. It is a ready-to-manufacture camera board with all the necessary firmware built-in and is compatible with the UVC version 1.0 standard. You can integrate this camera into the products, and this helps to cut short the time-to-market.

DepthVista is a UVC compatible and will work with the standard drivers available with Windows and Linux OS. There is no need for any additional driver installation. So, video streaming through UVC is possible without any special drivers on OSes that have built-in support for UVC standards.

Table 1: DepthVista supported Format, Resolutions, and Frame Rates

S.No	Format	Camera Mode	Resolution	Frame Rate (fps) USB 3.2 Gen 1
1	UYVY	RGB Mode	2.3MP (1920 x 1200)	30
			FHD (1920 x 1080)	30

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			HD (1280 x 720)	60
			VGA (640 x 480)	60
2	Y16 (RAW 12-bit)	TOF Mode	Depth (640 x 480)	30
			IR (640 x 480)	30
			Depth + IR (640 x 960)	30
3		RGB-D Mode	1280 x 600 (RGB-D)	30
			1443 X 960 (RGB-D)	30

The TOF camera in DepthVista can be used in two depth modes as follows:

- **Far Mode**: Effective depth range is between 1000 mm to 6000 mm.
- **Near Mode**: Effective depth range is between 200 mm to 1200 mm.

The TOF camera controls of DepthVista are as follows:

- TOF Data Mode
- TOF Depth Range
- TOF Mask
- TOF Gain

The RGB camera controls of DepthVista are as follows:

- Brightness
- Contrast
- Saturation
- Gamma
- Gain
- Sharpness
- White Balance
- Exposure
- Power line frequency

Installing DepthVistaSDK

This section describes the installation of DepthVistaSDK which is essential for building DepthVista.

Getting DepthVistaSDK

DepthVista Source can be obtained by either of the following ways.

1. From .zip file from GitHub
    - Download the DepthVista project as a .zip file
    - Extract the downloaded package using the following command.

```
unzip -X <packageName.zip>
```

2. By cloning from GitHub
    - Clone the repository using the following command

```
git clone https://github.com/econsystems/DepthVista.git
```

Installing DepthVistaSDK

- **<Extracted Directory or Cloned directory>\SDK\Linux\Ubuntu18.04\x64** will have a install.sh file.

Note: If you are using Ubuntu 20.04 install.sh file will be present in **<Extracted Directory>\SDK\Linux\Ubuntu20.04\x64**

- Open the folder containing **install.sh** file, in terminal.
- Run the following command to give executable permission for install.sh file

```
chmod +x install.sh
```

- Run the following command to install the DepthVistaSDK with the following command

```
sudo ./install.sh
```

- Once installation is success, you will get "**Installation DepthVistaSDK success**".

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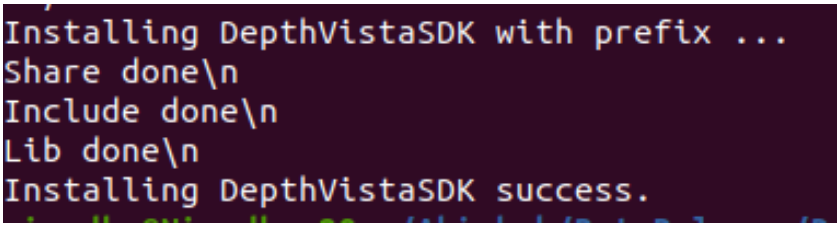

Fig 1: Installation success screenshot.

Building DepthVista

This section will discuss about building DepthVista. Open the **Source** folder in terminal.

1. Make a new directory to place the cmake build files.

```
mkdir build
cd build
```

2. Run Cmake.

```
cmake ..
```

Once the cmake is completed successfully, Configuration Done and Generation Done will appear in the terminal as shown below.

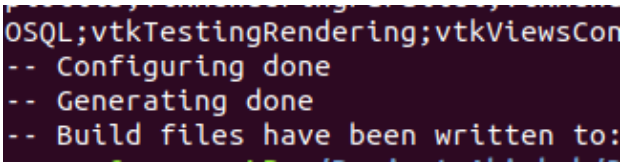

Fig 2: Cmake result.

3. Run make to build the project

```
sudo make
```

Once build is successfully completed, you will get the following print in the terminal as shown below.

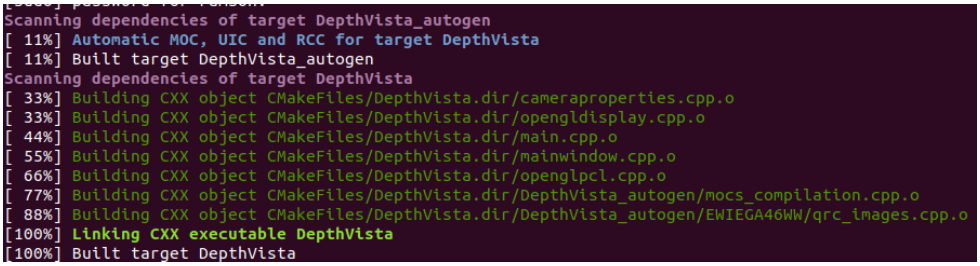

Fig 3: Make result.

4. Copy the **config.ini** present in **Source** directory file to the build folder. Use the following command

```
cp ../config.ini ./
```

5. Running DepthVista

```
sudo ./DepthVista
```

DepthVista Application will open

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6. Follow the *DepthVista_Streaming_Application_User_Manual.pdf* provided in the package.

Troubleshooting

In this section, you can view the list of commonly occurring issues and their troubleshooting steps.

libDepthVistaSDK.so: file format not recognized; treating as a linker script.

The reason for the above error is due to extracting the .zip without using the **unzip command.** Use unzip command to extract the .zip file

```
unzip -X <packageName.zip>
```

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Support

Contact Us

If you need any support on DepthVista product, please contact us using the Live Chat option available on our website - https://www.e-consystems.com/

Creating a Ticket

If you need to create a ticket for any type of issue, please visit the ticketing page on our website - https://www.e-consystems.com/create-ticket.asp

RMA

To know about our Return Material Authorization (RMA) policy, please visit the RMA Policy page on our website - https://www.e-consystems.com/RMA-Policy.asp

General Product Warranty Terms

To know about our General Product Warranty Terms, please visit the General Warranty Terms page on our website - https://www.e-consystems.com/warranty.asp

Revision History

Rev	Date	Description	Author
1.0	23 - May -2022	Initial Draft	Camera Products
1.1	10-November-2022	Changed SDK installation steps	Camera Products
1.2	15-December-2023	Document update	Camera Products

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