

# **TVP5158 Capture Driver for DM365 using DVSDK 3.x**

**Version 00.02.00**

## **Release Notes**

**June 2011**

### **Build ID: 00.02.00.00**

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### **New In This Release**

- Added support for simultaneous video capture from two TVP5158s in DVSDK 3.x.
- Added support for all video modes with Dual-TVP5158 setup.

### **Validation Information**

This release is validated on the following:

- DM365 DVR .
- DVSDK v3.10.00.19
- Git kernel PSP v3.02 with Linux kernel v2.6.32
- Arago root file system for DM6467T

## Supported Features

The following TVP5158 capture modes of operation are supported in this release:

Mode Number	Mode	Supported in this Version
00	2Ch D1 (BT656)	Yes
01	4Ch D1 (BT656 )	Yes
02	4Ch Half-D1 (BT656 )	Yes
03	4Ch CIF (BT656 )	Yes
04	4Ch D1 (BT1120)	No
05	4Ch Half-D1 (BT1120)	No
06	8Ch Half-D1 (BT656 )	Yes*
07	8Ch CIF (BT656 )	Yes
08	4Ch Half-D1 + D1 (BT656 )	Yes
09	4Ch CIF + D1 (BT656 )	Yes
0a	8Ch CIF + D1 (BT656 )	Yes
0b	4Ch Half-D1 CIF progressive (BT656 )	Yes
0c	4Ch Half-D1 CIF progressive (BT1120)	No
0d	8Ch Half-D1 CIF progressive (BT656 )	Yes*
0e	2Ch Half-D1 (BT656)	Yes
10	2Ch D1 (BT656 ) CROP	Yes
11	4Ch D1 (BT656 ) CROP	Yes
12	4Ch Half-D1 (BT656 ) CROP	Yes
13	4Ch CIF (BT656 ) CROP	Yes
14	4Ch D1 (BT1120) CROP	No
15	4Ch Half-D1 (BT1120) CROP	No
16	8Ch Half-D1 (BT656 ) CROP	Yes*
17	8Ch CIF (BT656 ) CROP	Yes
18	4Ch Half-D1 + D1 (BT656 ) CROP	Yes
19	4Ch CIF + D1 (BT656 ) CROP	Yes
1a	8Ch CIF + D1 (BT656 ) CROP	Yes
1b	4Ch Half-D1 CIF progressive (BT656 ) CROP	Yes
1c	4Ch Half-D1 CIF progressive (BT1120) CROP	No
1d	8Ch Half-D1 CIF progressive (BT656 ) CROP	Yes

\* This mode has color artifacts in the TVP5158 captured output.

## Building the driver and Application From Source Code

### ***Building TVP5158 Driver:***

Go to the directory `mcvip_tvp5158/build` and run the following to apply the TVP5158 driver patch to the kernel:

```
$ sh kernel_patch.sh <git_kernel_path>
```

Where, `<git_kernel_path>` is the installed git kernel path in the host PC.

To generate the uImage, build the updated kernel by running the following command in the DVSDK 3.x directory:

```
$ make linux
```

### ***Building Test Application:***

Go to the directory `mcvip_tvp5158/build` and run the following:

```
$ make clean; make
```

This will generate the application executable 'mcvip\_test.out' in the directory `mcvip_tvp5158/bin`

## Launching Sample Application

Bootup the board. Please ensure that you are using kernel-image provided with this release (available under *Bin/kernel-Image* directory).

All the prebuilt executables and scripts are available under *Bin/bin* folder.

Start the test application as follows:

```
$ ./modules.sh
```

```
$ ./mcvip_test.out
```

This will give the user interface to select the required capture mode. On selecting the particular mode, user has the option to select the channel to preview.

## Launch Audio Test (Apply the audio driver patch and build the uImage )

To test the audio driver use the ALSA arecord , aplay and amixer  
16KHz

```
$ arecord -twav -f S16_LE -c4 -r16000 | aplay
```

8KHz

```
$ arecord -twav -f S16_LE -c4 -r8000 | aplay
```

## Fixed In This Release

- Fixed the problem during simultaneous capture from two TVP5158 EVM's.

## Limitations / Known Issues

- The TVP5158 driver only supports the modes specified under the section '*Supported Features*'.
- The driver is validated with limited test suit.
- Color artifact is observed with the capture modes involving 8-CH half-D1.
- Does not support audio.
- With the sample application provided, jitteriness is observed in the display.
- It is observed that switching between different channels for display makes the display freeze for some channels.
- While displaying the CIF and Half-D1 resolutions, the background on D1 display is not cleared, showing jitteriness in the other part of display.