



BOSCH

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BVMS - Decoding details

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1 Document information

Project	BVMS
Reference	n/a
Version	5
Last modified	 25 April 2019

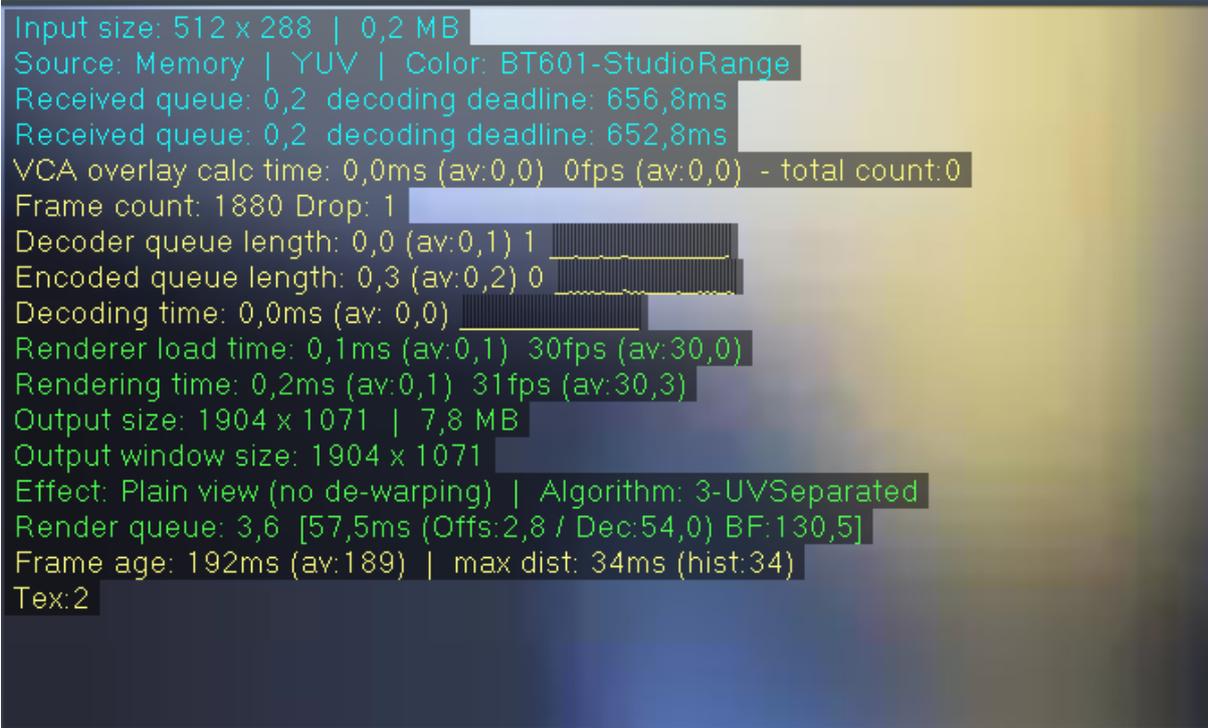
1.1 Version history

Version	Date	Author	Comment
5	2019-04-25	Verhaeg Mario (BT-SC/PAS4-MKP)	

2 Introduction

BVMS has a complex decoding framework. In order to verify streaming (recording and live) parameters and investigate potential issues, a debugging mode can be enabled. When this debugging mode is enabled the operator client is able to display additional information on top of the video stream, as shown in the image below.

The functionality described in this document is not suitable for production related use-cases. It should only be used to verify the system configuration or trying to find the root-cause of system related issues. Once the system configuration is verified or issues are resolved, this functionality should be disabled again.



```
Input size: 512 x 288 | 0,2 MB
Source: Memory | YUV | Color: BT601-StudioRange
Received queue: 0,2 decoding deadline: 656,8ms
Received queue: 0,2 decoding deadline: 652,8ms
VCA overlay calc time: 0,0ms (av:0,0) 0fps (av:0,0) - total count:0
Frame count: 1880 Drop: 1
Decoder queue length: 0,0 (av:0,1) 1
Encoded queue length: 0,3 (av:0,2) 0
Decoding time: 0,0ms (av: 0,0)
Renderer load time: 0,1ms (av:0,1) 30fps (av:30,0)
Rendering time: 0,2ms (av:0,1) 31fps (av:30,3)
Output size: 1904 x 1071 | 7,8 MB
Output window size: 1904 x 1071
Effect: Plain view (no de-warping) | Algorithm: 3-UVSeparated
Render queue: 3,6 [57,5ms (Offs:2,8 / Dec:54,0) BF:130,5]
Frame age: 192ms (av:189) | max dist: 34ms (hist:34)
Tex:2
```

This document describes how to enable this debugging mode and how to use the information shown in the overlay.

3 Configuration

The debugging mode has not been included in the normal configuration parameters and needs to be enabled using the Windows registry.

Before starting the BVMS Operator Client needs to be closed.

Experience with editing the Windows registry and general IP video parameters is required.

3.1 Prepare registry

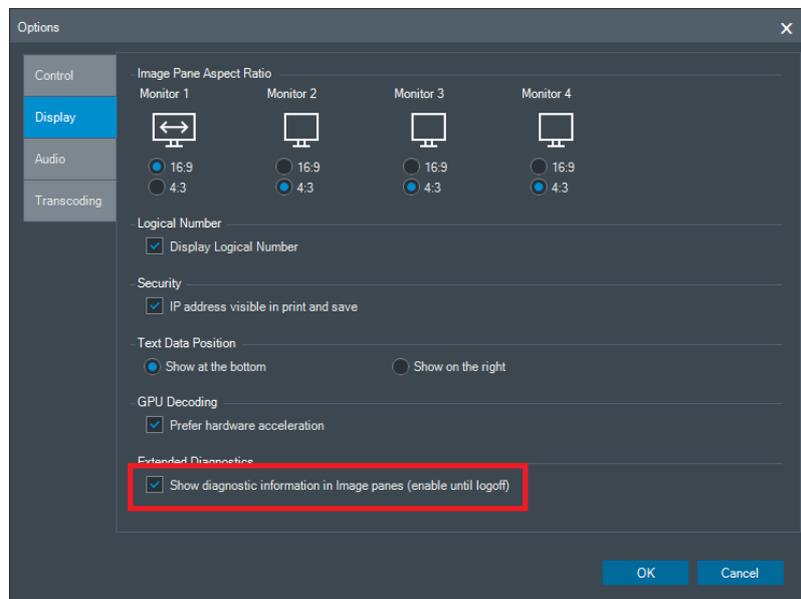
The following registry key needs to be added to the Windows registry. Open "regedit.exe" and add the key described below (administrative rights are required).

Windows Registry Editor Version 5.00

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Bosch\BVMS\ImageDecoder]  
"DisplayDiagnosticsInfo"=dword:00000005
```

3.2 Configure BVMS Operator client

Open the BVMS Operator client, open the **Extra** menu and click **Options**. Go to the **Display** tab and check **Show diagnostic information in Image panes (enable until logoff)**.



Click **OK** and drag and drop a camera into an image pane (live or recording).

4 Usage

4.1 Parameters

Parameter	Description
Input size	Resolution and memory consumption of the video stream coming from the camera.
Source	Not important. Only for engineering debugging purposes.
GOP	GOP structure of the stream, showing I frames, B frames and P frames.
Received queue	Not important. Only for engineering debugging purposes.
VCA overlay calc time	Time it takes to calculate the VCA overlay and how much VCA information is delivered from the camera.
Frame count	The total amount of decoded frames. When the system is overloaded the percentage of dropped frames might increase.
Decoder queue length	Number of frames that are currently processed by the decoder.
Encoded queue length	List of encoded frames waiting to be decoded.
Decoding time	Time it takes to decode a frame.
Renderer load time	Not important. Only for engineering debugging purposes.
Rendering time	Not important. Only for engineering debugging purposes.
Output size	Resolution and memory consumption of the video stream put on the monitor. This is depending on the size of the Image Pane.
Output window size	Resolution and memory consumption of the video stream put on the monitor. This is depending on the size of the Image Pane.
Effect	Plain view, circle view, panorama view, or cropped view.
Render queue	Not important. Only for engineering debugging purposes.
Frame age	Latency between frame generation and visibility on screen.
Tex	Not important. Only for engineering debugging purposes.

5 Disable functionality

Remove the registry key described below.

```
Windows Registry Editor Version 5.00
```

```
[HKEY_LOCAL_MACHINE\SOFTWARE\Bosch\BVMS\ImageDecoder]  
"DisplayDiagnosticsInfo"=dword:00000005
```