

JPEG Bitmap Converter

Feature Description

The Traveo 2 JPEG Bitmap Converter allows the user to import compressed JPEG images directly into the solution using the JPEG bitmap profile. These JPEG images are then decoded by the onboard JPEG decoder at runtime. This means that the decompressed bitmaps need not be included in the assets, reducing the overall asset size.

Supported Platforms

At present, the JPEG Bitmap Converter is exclusively supported on the **Infineon Traveo 2** platform.

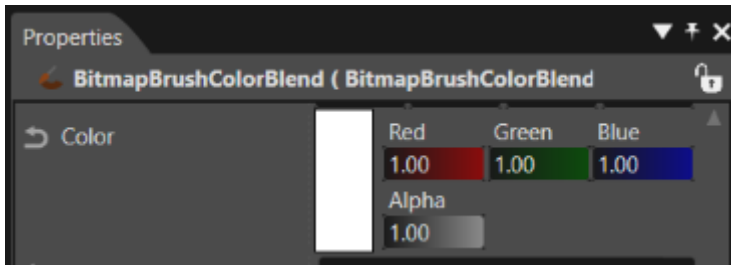
Limitations

The JPEG Bitmap Converter currently has the following limitations.

- **Preloaded Images in the asset only:** The image must be part of the asset and cannot be dynamically supplied at runtime.
- **Supported pixel formats:** The following table shows the supported pixel formats for JPEG images.

Pixel Format	Sampling Configuration	Description
YUV444	Y (Luma) Subsampling: H/V = 1/1 Cb (Chroma) Subsampling: H/V = 1/1 Cr (Chroma) Subsampling: H/V = 1/1	No chroma subsampling. Each Y, Cb, and Cr component has the same resolution.
YUV420	Y (Luma) Subsampling: H/V = 2/2 Cb (Chroma) Subsampling: H/V = 1/1 Cr (Chroma) Subsampling: H/V = 1/1	Cb and Cr components are subsampled by 2 horizontally and vertically. Commonly used in video compression.
RGB	N/A	Standard RGB format without chroma subsampling.

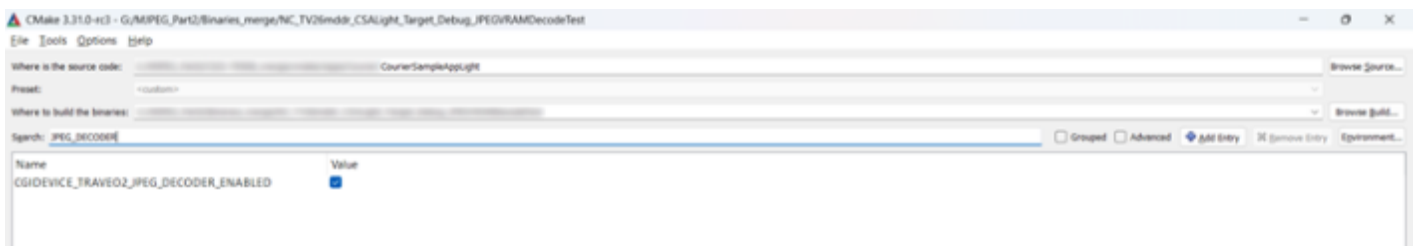
- JPEG images with **YUV420** pixel format must have an **even width**.
- JPEG images with YUV pixel formats (**YUV420/YUV444**) **do not support** changing of color using the **color property** of the **BitmapBrushColorBlend** (or any similar effects which allow changing of color using this property) **on target**.



- Surfaces with compressed formats such as YUV422 and YUV420 only support simple rotation (ie. multiples of 90)

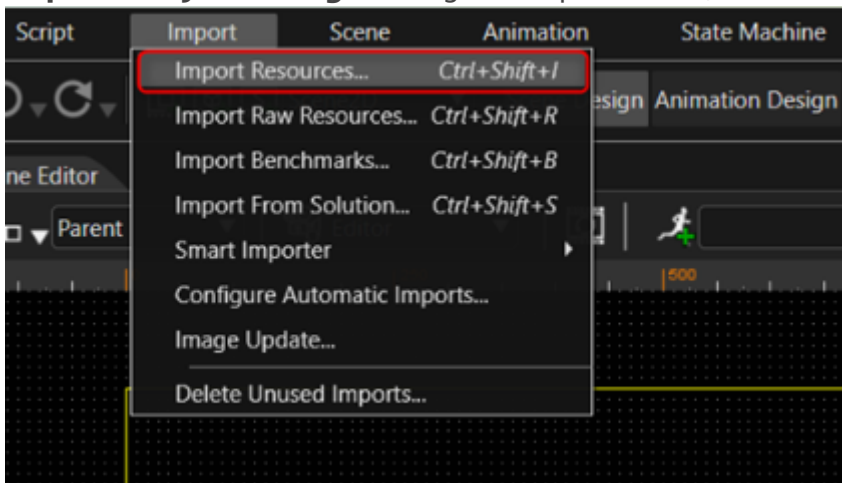
Enabling the JPEG Decoder feature

If the JPEG Bitmap Converter feature is being used, ensure that the JPEG Decoder feature has been enabled in the CMAKE options. While generating the project for target, turn on the CMAKE flag `CGIDEVICE_TRAVEO2_JPEG_DECODER_ENABLED` or add this flag to the toolchain file.

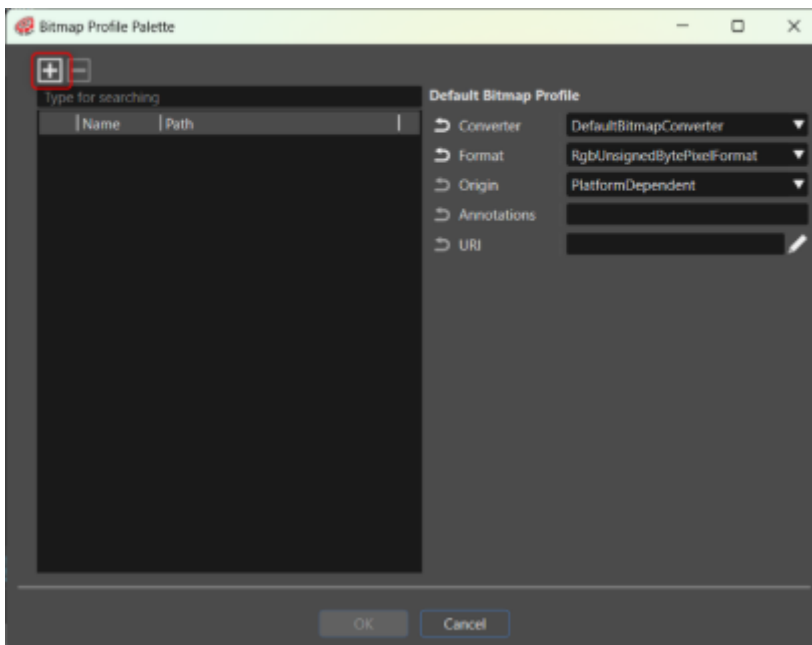


How to use the JPEG Bitmap Converter

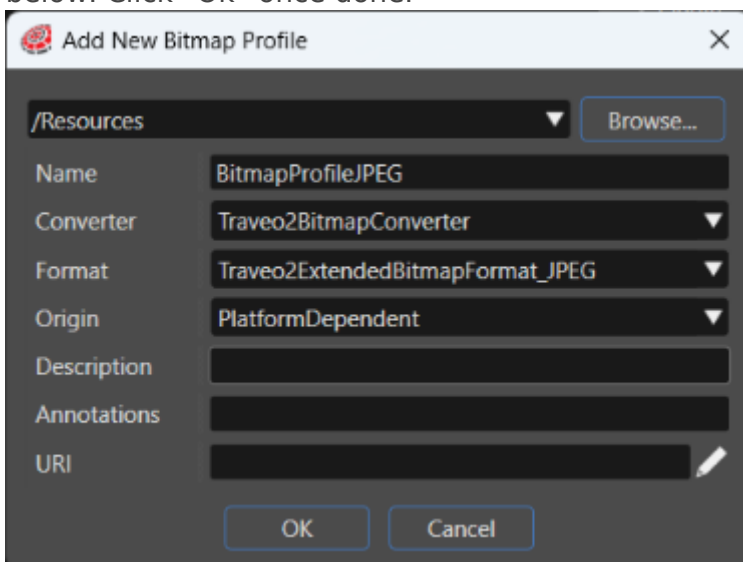
1. **Import the JPEG image:** Using the import menu, select "**Import Resources**"



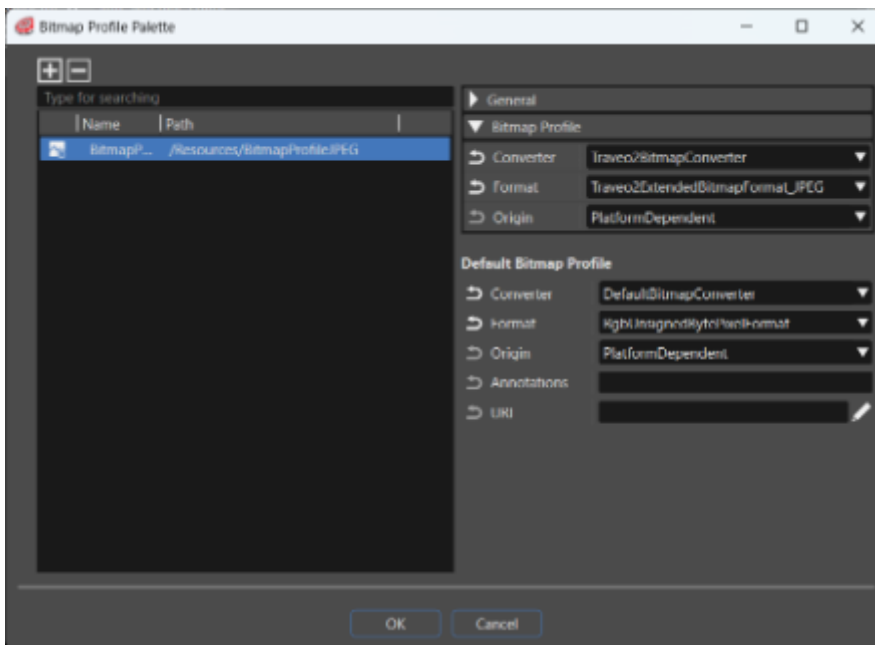
2. Choose a JPEG image and click "Open".



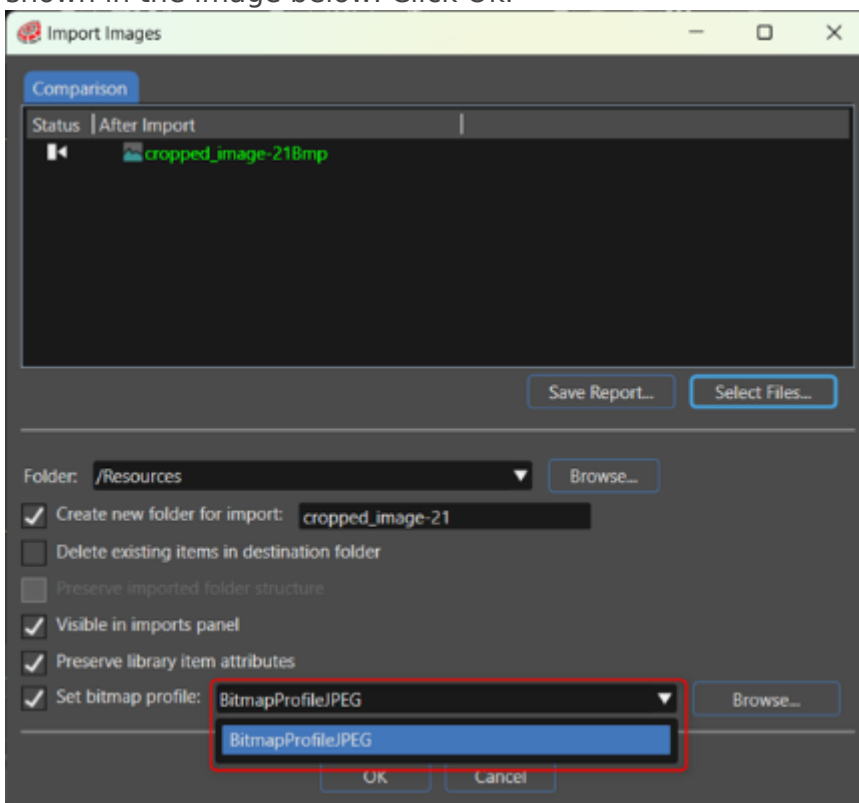
5. In the Add new Bitmap Profile dialog that opens, populate the fields as shown in the image below. Click "Ok" once done.



6. On the Bitmap Profile Palette, confirm that the JPEG Bitmap Converter has been added as shown in the image below and press Ok.



7. Select the JPEG Bitmap Profile from the dropdown menu if it is not already selected as shown in the image below. Click Ok.



8. Add the image to the scene by dragging and dropping it into the scene editor.
9. Select "Generate Asset Library" option in File menu to generate the asset and check if the compressed JPEG images have been put into the asset.
10. The asset generation export report should show the image of the encoded JPEG image. In the image below it is visible that the image is only 33kb which is much lesser than the decompressed bitmap size for the same image.

Asset Generation Report			
Name	Type	Size [B]	Offset [B]
DevicePackage	DevicePackag	64.00	0
DefaultRenderMode	RenderMode	180.00	64
TransitionRules	TransitionRule	1,400.00	1480
Resources#cropped_image-21#cropped_image-218mp	Bitmap	33,388.00	3424
Display	Display	108.00	36812
Scenes#RenderTarget2D	RenderTarget	156.00	36920
Scenes#Scene2D	Scene2D	732.00	37076
State Machines#GlobalStateMachine	StateMachine	156.00	37808
Total		36,184.00	0
Save Report... Close			

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