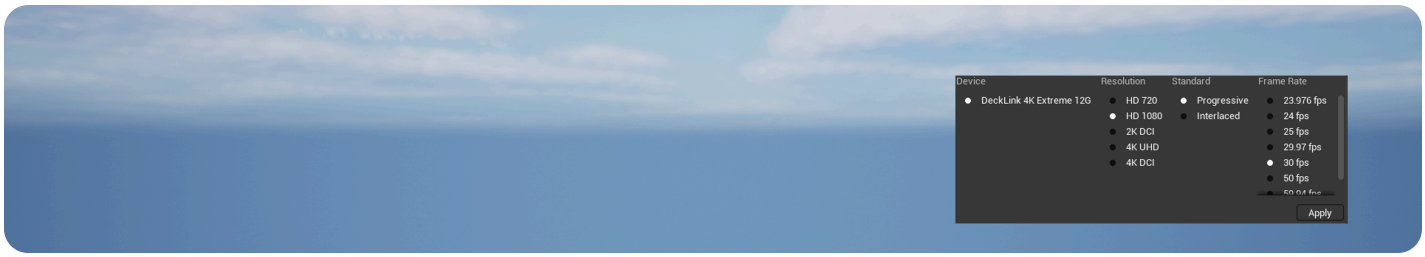
Blackmagic Media Reference

Describes the options and settings exposed by the Blackmagic Design Media Framework components.



This page describes the options and settings exposed on Blackmagic Media Framework objects.

Supported Blackmagic Cards

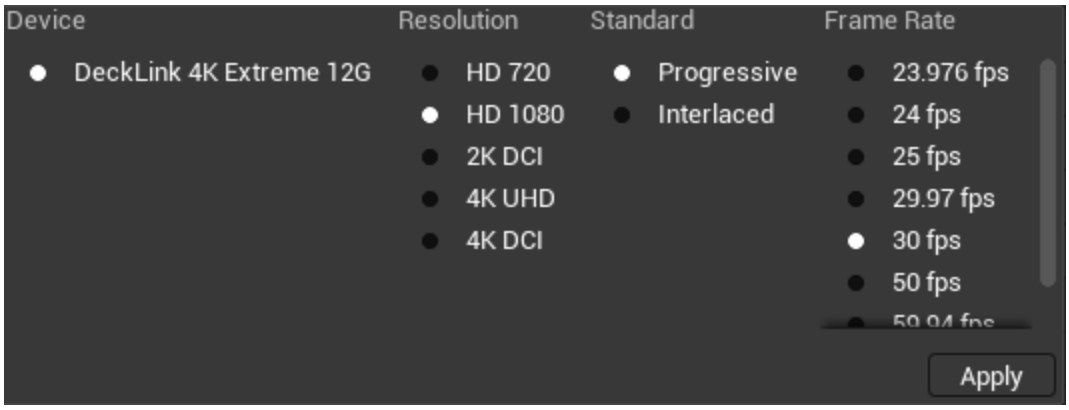
The Blackmagic Media Source and Blackmagic Media Output have been tested with the following cards:

- **DeckLink 4K Extreme 12G**
- **DeckLink Duo 2**
- **DeckLink 8K Pro**

Other devices may or may not work as expected.

Blackmagic Media Source Settings

Each Blackmagic Media Source object that you create exposes the following configuration settings.



Configuration Options

Property	Description
Device	Sets the Blackmagic device and SDI connection that this Media Source will use to bring video into the Unreal Engine. If you have multiple cards or devices attached to your computer, you can choose which one to use here.
Resolution	Sets the resolution of the incoming video feed. Note that this must match the actual video feed exactly.
Standard	Sets whether the incoming video feed is progressive or interlaced. Note that this must match the actual video feed exactly.
Frame Rate	Sets the number of video frames per second in the incoming feed. Note that this must match the actual video feed exactly.

Other Blackmagic Options

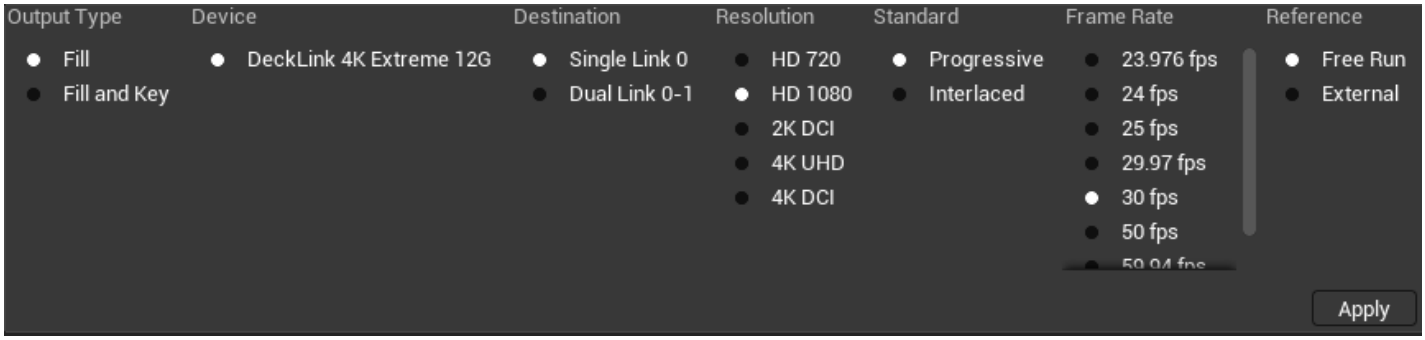
Property	Description
Timecode Format	Specifies the type of timecode that accompanies the video signal.

Property	Description
Capture Audio	Determines whether the Unreal Engine captures audio from the Media Port.
Audio Channels	Specifies the audio channel that contains the signal you want the Unreal Engine to capture.
Max Num Audio Frame Buffer	Sets the maximum number of frames of audio data the Unreal Engine will store in memory at any given time. If the input video jumps or hitches, you can try raising this value.
Capture Video	Determines whether the Unreal Engine captures video from the Media Port.
Color Format	Determines the order of the color channels that make up each pixel in the input video, and the number of bits in each channel.
Max Num Video Frame Buffer	Sets the maximum number of frames of video data the Unreal Engine will store in memory at any given time. If the input video jumps or hitches, you can try raising this value.
Log Drop Frame	When enabled, the Unreal Engine prints a message to its output log every time it detects a dropped frame in the input feed.
Encode Timecode in Texel	When enabled, the engine embeds the timecode of each frame into the captured video. You can use this to check that the timecode for each frame of input matches the values you're expecting. See Timecode Texel Encoding.
Synchronize with Engine's Timecode	By default, the Unreal Engine attempts to play the video frames as they come in. Enable this setting to buffer incoming frames, and try to align them with the Unreal Engine's internal timecode. If the timecode of any buffered frame matches the Unreal Engine's internal timecode for

Property	Description
	any frame, the video input will be synchronized with from that frame forward.
Player Overrides	Leave these options at their default values for Blackmagic Media Sources.

Blackmagic Media Output Settings

Each Blackmagic Media Output object that you create exposes the following configuration settings.



Property	Description
Output Type	Determines whether the Unreal Engine outputs only the fill image, or both the fill and key images. When you set this to **Fill Only**, only the fill image is output to the **Source** set below. When you set this to **Fill and Key**, the fill image is output to the **Source**, and the key is output to the **Key Source**.
Device	Sets the Blackmagic device and SDI connection that this Media Source will send its video feed to. If you have multiple cards or devices attached to your computer, you can choose which one to use here.
Resolution	Sets the resolution of the video feed produced by this Media Output.

Property	Description
Standard	Sets whether the output feed produced by this Media Output is progressive or interlaced.
Frame Rate	Sets the number of frames per second in the video feed produced by this Media Output.
Key Source	Sets the port that will receive the key images from the Unreal Engine, when the **Output Type** is set to **Fill and Key**.
Timecode Format	Determines whether the Unreal Engine should embed timecode in the output feed, and which timecode format it should use.
Pixel Format	Determines the order of the color channels that make up each pixel, and the number of bits in each channel.  If you want to output the alpha, set the **Output Type** setting to **Fill and Key**, and use the **Key Source** to send the alpha to an output port on your Blackmagic card.
Number of Blackmagic Buffers	Sets the number of buffers used to transfer each frame image from the main thread memory to the Blackmagic card. Lower values are more likely to cause missed frames as it waits for each transfer to complete; larger numbers are more likely to increase latency.
Interlaced Fields Timecode Need to Match	When producing an interlaced video feed, this setting determines whether the timecode values for both fields in a single interlaced frame need to match.
Number of Texture Buffers	Sets the number of buffers used to transfer each frame image from the GPU to main thread memory. Lower

Property	Description
	values are more likely to cause a bottleneck on the GPU side as it waits for each transfer to complete; larger numbers are more likely to increase latency.
Wait for Sync Event	When this option is disabled, and you don't already have the Unreal Engine genlocked to an input signal, the engine runs at the fastest frame rate it can manage and provides all the frames it generates to the Blackmagic card. Each time the card is ready to output a new frame, it selects one of the frames generated by the Engine. When this option is enabled, the Unreal Engine does not generate any new frames of output until the Blackmagic card is ready to accept the new frame. The effect is similar to genlock, but instead of locking the Unreal Engine's frame rate to an input signal, it locks the Engine's frame rate to the output timing of the Blackmagic card. This option is most useful when you don't already have an input signal that you can lock the Unreal Engine's frame rate to, but you want to ensure that the Engine is producing only one output frame for every frame in the output video feed. Do not enable this option if you already have the Unreal Engine genlocked to an input feed using a custom time step.
Encode Timecode in Pixel	When enabled, the engine embeds the timecode of each frame in the output signal. See Timecode Texel Encoding.