

The Definition and Significance of Real-time Editing

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Points for Real-time Editing

Real-time editing benefits editors by reducing waiting time while they are editing. It maximizes total editing efficiency and reduces the amount of time spent on a project

There are three important factors that are necessary for a real-time editing system:

1. The result of editing does not require rendering and can be immediately played back for monitoring.
2. Analog video and audio playback is in the equivalent quality of the final output result.
3. The editing result does not require rendering and can be output to the desired signal format for the final output.

Items 1 and 2 are important factors. When the second factor can be achieved, editors can check the clip in the final quality while they edit, which prevents them redoing or correcting the work after checking the final status. Removing this extra step of reverifying the final output reduces the amount of time an editor spends on the project. Item 3 is critical when considering the total editing working hours especially on the systems that does not achieve item 2, because there is a possibility of re-doing the work after checking the final quality. Even for systems that achieve item 2, enabling the third will accelerate the working speed towards the final result output. A true real-time editing system should realize all the three items above.

What Canopus Provides as Real-Time

Canopus real-time editing system realizes all the 3 points above. The definition of real-time playback is to playback the editing result without any rendering, and analog AV and DV signals are played in the same highest quality as the final output in a full frame rate. The analog AV signal realizes broadcasting quality and maintains complete audio and video synchronization. This is important factor in order to check color correction, titles, or audio and video timing in the final master quality video and audio while editors are editing. Canopus real-time DV editing system will also output DV signal along with analog signal, so that the clips be recorded to a DV deck at the same time.

EDIUS NX and EDIUS SP for HDV have all three items above for DV editing. These products

inherently have real-time editing features, and also the best total work efficiency in their product range, from playback quality to tape output.

While EDIUS SP for HDV does not realize the third factor for writing back to HDV camera, this depends on whether the second factor exists or not. EDIUS SP for HDV realizes the second completely and cuts working hours of editing while reviewing the final output quality. This is the most significant point about EDIUS SP when compared to other competitors that do not achieve the second item.

What Other Companies Provide as Real-Time

Many of the NLE systems that use software-only solutions claim that they have real-time features, however these are “pseudo-“real time. Many of these systems skip frames to reduce the image-processing load when playback cannot catch up and play back the audio normally. Not only do they use frame skipping, but they also reduce video quality. Most of these systems will only provide a preview screen on PC overlay. Some systems claim that they have real-time DV editing features, but performance significantly drops when DV is output in real time. The entire purpose of real-time DV editing is that it requires no rendering to check the final output result on the monitor and speaker or when writing back the final result to a deck. These types of systems cannot fulfill the original purpose. Many of real-time system only realize point 1.

There are systems that fulfill items 1 and 3 but do not fulfill the second, and this will make it impossible to check video effects with low quality video, even if rendering is not required for playback. This will often force the editor to repeat rendering and editing after checking on the final output.