



Sanjay Patel

Chief Technology Officer,
Melford Technologies

In the video world, latency is the time-delay between the instant a frame is captured and the instant that frame is displayed.

Latency is the delay from input into a system to desired outcome; the term is understood slightly differently in various contexts and latency issues also vary from one system to another.

Low latency is a design goal for any system where there is real-time interaction with the video content, such as video conferencing or where real-time interaction or reaction is essential.

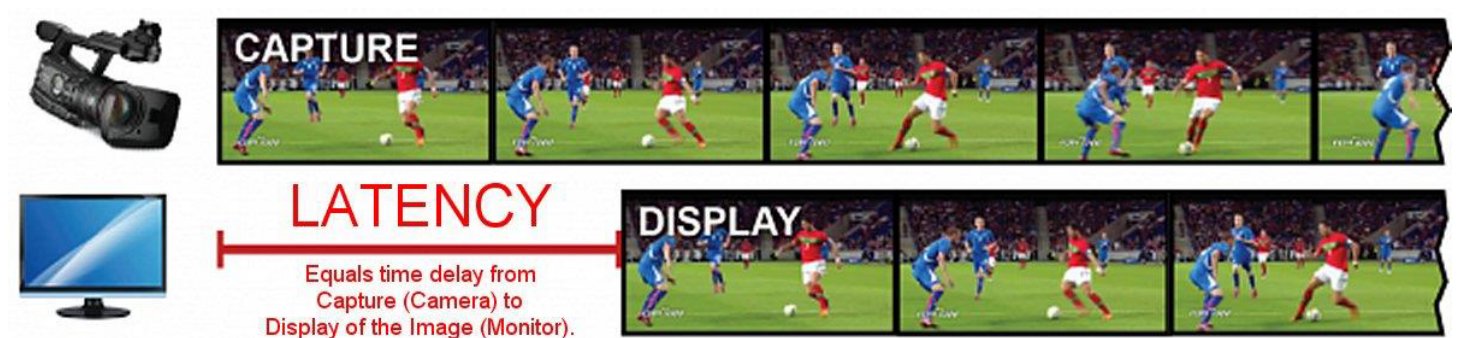
Latency greatly affects how usable and enjoyable electronic and mechanical devices as well as communications are.

Defining “Low Latency”

There is no universal absolute value that defines low latency. Instead, what is considered acceptable low latency varies by application.

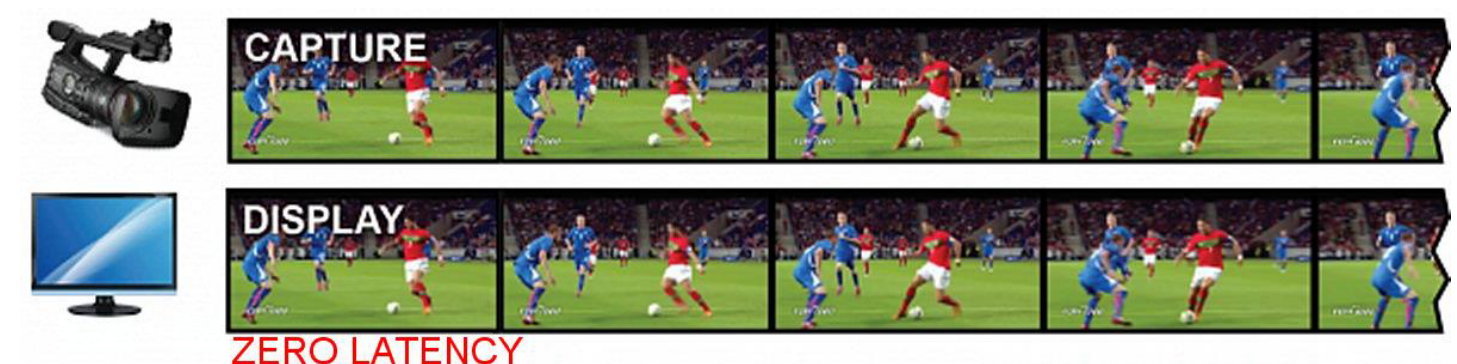
When humans interact with video in a live video conference or when playing a game, latency lower than 100 milli-seconds (ms) is considered low, because most humans don't perceive a delay that small.

PICTURE 1 – Showing potential Video Latency, from Image Capture to Display:



In effect the Monitor is showing a picture that is one & half frames behind the real-life event.

PICTURE 2 – Showing Zero Video Latency, between Image Capture to Display:



By using a graphics card with no buffer, Melford can produce a monitor where the picture displayed, is as close to real-time, as the naked eye can perceive.

Melford's solution to minimise Latency issues

To minimise the effect of Latency in applications where synchronisation, for example, between orchestra and conductor, music and dance, or where stage-acting and sound effects are in use, Melford have incorporated a minimal Latency graphics card, with no buffering.

This enables the Image to be displayed virtually immediately compared to other monitors, that may have image-buffering. This can make the difference between seamless synchronisation of audio sound & vision or the possibility of apparent time-delays between audio sound & vision coordination! Please see the picture 2 above, showing Monitor displaying image in real-time.