Attract more viewers to your **live stream** and drive the growth of your brand

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Use versatile live streaming hardware like Pearl-2 to easily publish your broadcast to a variety of popular CDN platforms simultaneously— and watch your online viewership grow.

A new opportunity to promote your brand

As the popularity of live streaming continues to increase, content creators and broadcasters are presented with an expanding variety of options for delivering streams to their online audiences. Some video professionals may select traditional commercial content delivery networks (CDNs) to help deliver live broadcasts, while others prefer to stream to followers and subscribers on social media CDN platforms, like Facebook Live and YouTube.

While live streaming to a single CDN or video platform is an effective way to deliver content to an online audience, using "multi-streaming" lets you to increase engagement by reaching a wider audience on additional platforms.

Multi-streaming lets you live stream to multiple CDNs or platforms simultaneously while also offering significant advantages over single-CDN streaming. For example, you could live stream to Facebook Live, YouTube, and another favorite CDN—all at the same time. Alternatively, you could even broadcast your program to the same CDN at differing bit rates and resolutions, as needed.

If you aim to become a master in live streaming, then it's essential to add multi-streaming to your live streaming tool box. And the best way to take advantage of multi-streaming is by using a versatile live production device with simple-to-use multi-streaming features.

EPIPHAN VIDEO

Designers of some of the world's most reliable audio visual communication solutions for live event production, education, healthcare, aerospace, security and transportation.

Our field-proven video grabbers and professional streaming and recording products capture, record and stream video from just about any source. With over 10 years of experience in audio visual communications, Epiphan's family of products deliver critical communications in every industry.

The advantages of multi-streaming

Epiphan Pearl-2™ is a great example of an encoding product with multi-streaming capabilities.

Available in portable and rackmount form factors, Pearl-2 is a professional live production hardware switching device known for its versatile and comprehensive feature set. With Pearl-2, users can create custom picture-in-picture layouts for their programs, switch layouts while live, and use multi-streaming to stream to multiple CDN locations simultaneously. Users can also record program outputs and individual source ISOs while streaming their programs.

With Pearl-2, the multi-streaming setup process is simple. To enable multi-streaming, log in to the web-based Pearl-2 Admin panel, navigate to the streaming configuration page, and add each of your RTMP streaming endpoints. When it's time to go live, you can publish your multiple broadcasts with the press of a button using the Admin panel, the Pearl-2 touch screen, or the "Epiphan Live" mobile tablet interface.
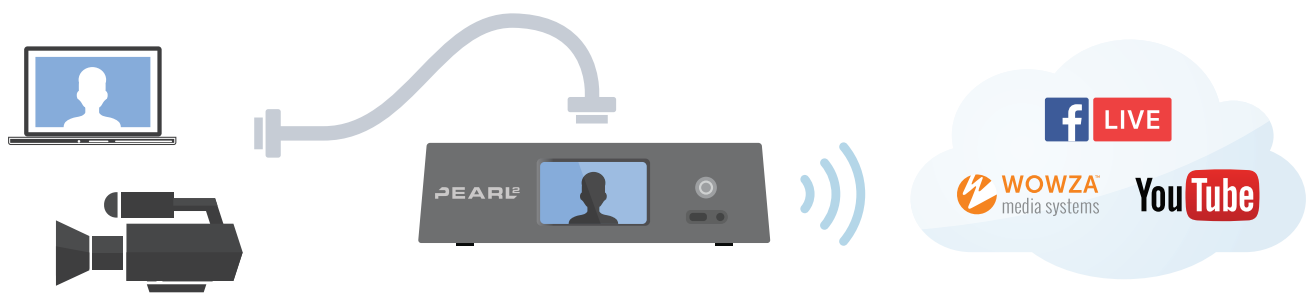

Figure 1: Multi-streaming using Pearl-2

Additionally, some CDNs (like YouTube) offer what's called "adaptive streaming", where a single incoming broadcast is transcoded to different levels of quality based on the viewer's detected bandwidth availability. As a viewer connects and watches a video, the CDN monitors the viewer's bandwidth and dynamically adjusts the quality of the stream, as necessary. Adaptive streaming is important because it helps prevent viewers from encountering disruptive buffering delays throughout the course of the video.

It's also important to consider that not all CDNs are capable of dynamically transcoding a stream in this manner. However, the good news is that you can still offer your viewers a choice of stream quality through the use of "multi-encoding". Multi-encoding lets you publish the same program at different levels of encoding quality to ensure maximum accessibility for your audience. While watching your video stream, viewers have the option to manually select the most appropriate quality stream for their network, as required.

Multi-encoding can also help maximize the results of your multi-streaming efforts. In some multi-streaming situations, your selected CDNs may have technical requirements that differ from one another (such as resolution and bit rate). Hardware encoders like Pearl-2 use multi-encoding to essentially re-encode your program at different settings and tailor your broadcast for each destination CDN or video platform.

For example, you might use multi-encoding and multi-streaming with a versatile live production switcher to:

- Record at a high bitrate/frame size and stream at settings suitable for your bandwidth

- Stream a switched program to multiple CDNs

- Stream to a single CDN at multiple bitrates / frame size

- Create a lower quality external stream and high quality local stream

- Include your switched live program as part of another layout

  ...and much more!

Whatever the specifics of your unique live streaming scenario, the use of multi-streaming and multi-encoding helps add valuable live streaming flexibility. Stream to audiences across multiple platforms, enable live stream accessibility for viewers across all levels of bandwidth, and use the resulting increase in viewership to cultivate your brand.

An example of multi-streaming in action!

Let's say you'd like to send a 1080p live stream to three different platforms: YouTube, Facebook Live, and a third CDN (e.g. Wowza Streaming Cloud™). YouTube and Wowza Streaming Cloud accept broadcasts in 1080p, but Facebook Live recommends encoding a stream in 720p at a bitrate of 4 Mb/s.

Streaming your program to YouTube and Wowza Streaming Cloud is particularly easy because both platforms accept streams encoded with the exact same settings. With Pearl-2, you simply configure two broadcast publish destinations using the YouTube and Wowza RTMP streaming endpoints and user streaming keys. When your stream is ready to go live, you're able to push your broadcast to both platforms concurrently.

Publishing your program for Facebook Live at a smaller resolution is a simple process that requires the use of multi-encoding. Pearl-2 accepts a variety of video sources, including SDI (up to 12G), HDMI™, 4K HDMI, DVI, USB and, notably, RTSP sources over a network (like IP cameras). Here's the neat part: your 1080p program (streaming to YouTube and Wowza Streaming Cloud) actually generates its own RTSP stream.

Using this RTSP input feature, you can use your 1080p program as the source for a second channel. The contents of the second channel mirrors that output of the original 1080p channel. From here, you simply configure the encoding settings for this new program to fit the Facebook Live specifications: 720p resolution and 4 Mb/s bit rate.

CHANNEL 1
RTSP

CHANNEL 1, 1080p
(with video sources)
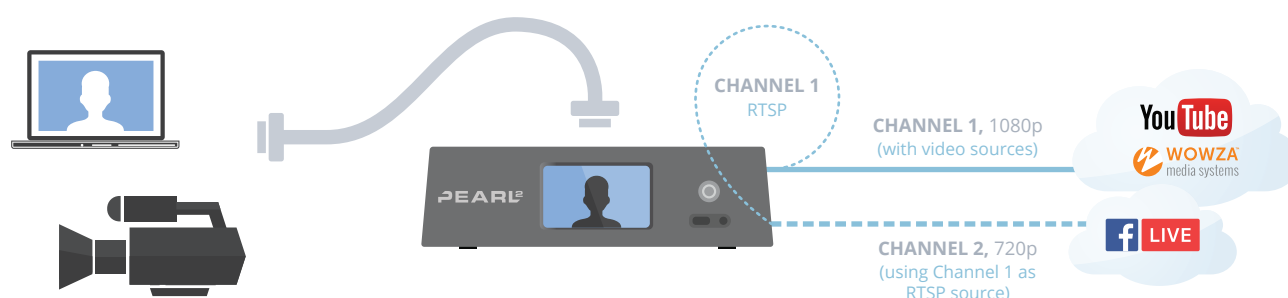
CHANNEL 2, 720p
(using Channel 1 as
RTSP source)

Figure 2 Using Pearl-2 with multi-streaming and multi-encoding

Set this new 720p program to broadcast to Facebook Live, and when you're ready to broadcast, simply publish both programs. You're now streaming your live production to all three locations simultaneously—YouTube, Facebook Live, and Wowza Streaming Cloud.

The beginning of something great

The use of multi-streaming offers significant advantages compared to single-CDN streaming, allowing you to multiply your viewership and increase the growth of your own unique brand.

When it comes to mastering live streaming, versatility is key. Professional-quality live production switchers like Pearl-2 help take your live productions to the next level with advanced feature sets—such as multi-streaming—that let you adapt to every live streaming scenario and increase engagement by reaching a wider audience on more platforms.

Visit epiphan.com/pearl-2 for more information.

Pearl-2, desktop version For portable live production