

# Easy ISO recording with Pearl Rackmount Twin

## Create all your video assets (ISOs, program recording and program streaming) with a single Pearl Rackmount Twin

When producing a live event, your primary goal is to have a captivating, interesting live presentation to stream to your audience. If you have more than one source (for example, a presenter and slides), this usually includes creating picture in picture layouts that include both the presenter and slides. However as experienced pros know, there often comes a request after the event to get one or more of the stream components individually (for example, just the speaker). If all you have is the final 720p (or even 1080p) stream with the speaker as a tiny picture in picture overlay taking up part of the screen, chances are you don't have what you need for post-processing that clip.

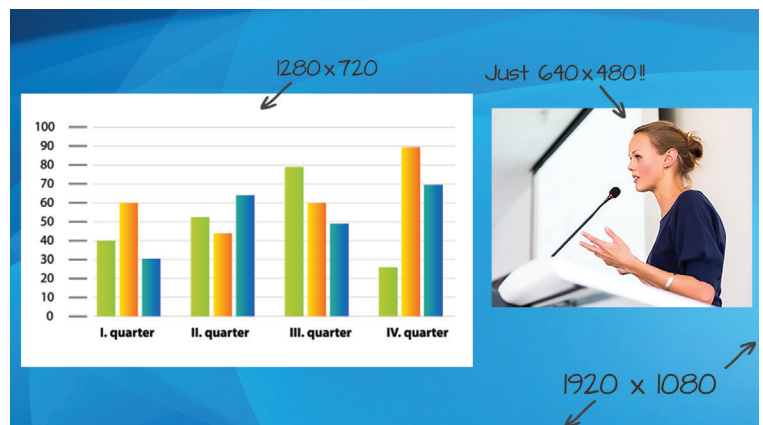
## The best way to solve this problem is to be prepared

Prepare up front for those post-show requests by having full-size, HD quality ISOs of each component video. Pearl Rackmount Twin, a high-density, small-footprint system has two independent live video mixers that let you set-and-forget one system (for recording masters) and use the other to create custom layouts, do live switching and streaming. It's the perfect solution for streaming live events while concurrently recording ISOs.

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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.



Notice that in this layout, the speaker's frame is only 640x480.  
It's impossible to bring this back up to a full size.

## How have people tried to solve this problem before?

Historically, if you wanted to both stream and record your event, you needed encoders, scalers, a recording appliance and a streaming system. Oh, and the host of splitters and cables that go with this rat's nest of systems. If any one of those critical links fails or comes loose during production, you could be out of a job!

Even if you were willing to risk this kind of solution with multiple points of failure, if the implemented solution can't crop or scale your video sources, or if you don't have enough splitters, you may not be capable of recording full quality ISOs. For example, without scaling, the only way to build a picture in picture layout for streaming, requires you to force 1080p-capable cameras and video sources to capture at 720 and 480p. The result is even if your master recordings are done through a different encoder, they are no bigger or better than what was produced in the live stream.

And without separate encoders for each video source, this multi-piece solution also forces you to make compromises with regards to bitrate, video and audio codecs, key frame interval and file format due to the fact that the same encoded data is used for both streaming and post-production.

## How is the Pearl Rackmount Twin solution different?

With all-in-one systems, like Pearl Rackmount Twin, you can do the streaming and recording in one system. You can even scale and crop video sources, meaning you can record full-quality video while producing one or more live streams.

For optimum reliability, Pearl Rackmount Twin has two completely separate video production units: there are two power supplies, two hard drives, two encoders, etc. So you can dedicate one unit to being your ISO recorder (that doesn't need to be touched during your event) and the other for producing, switching, recording and streaming your live production.



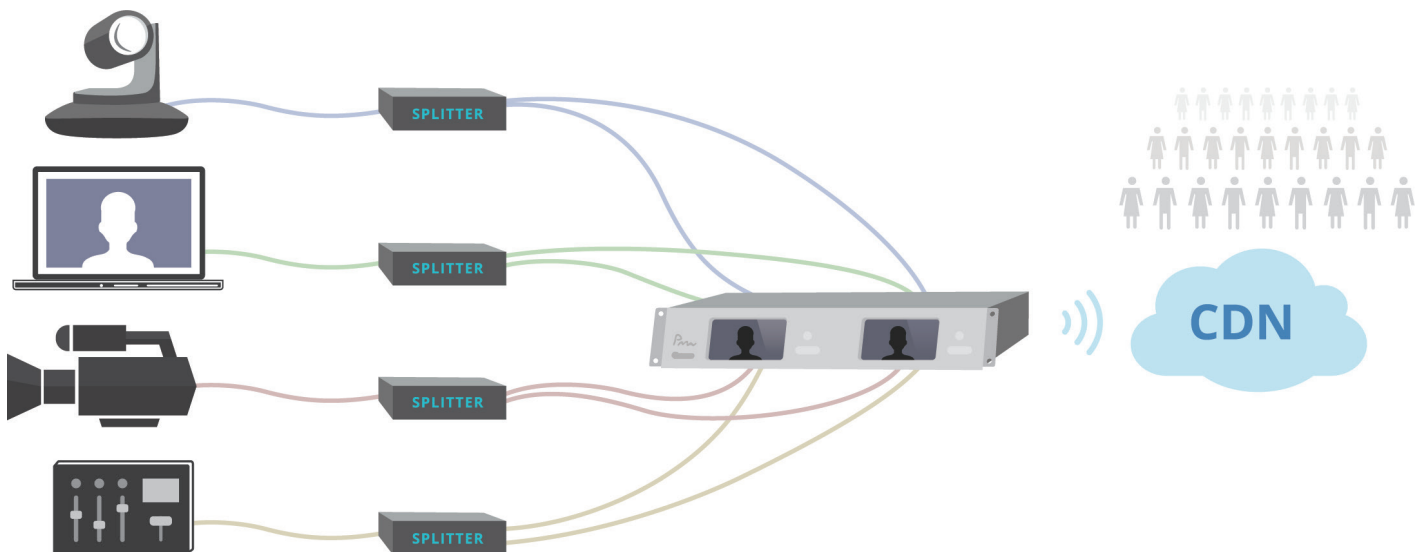
You'll end up with:

- a) what you would get from your historical solution (your live production streamed and recorded) and
- b) a full set of masters with settings chosen specifically for your post-processing workflow, with no compromises on frame size, bitrate, GOP or quality.

You'll have exactly what you need for your live event and for handling post-event client requests or creating top quality video-on-demand products from your feeds.

## How do I set it up?

For a no-fail solution we recommend splitting your video and audio inputs into two sets of feeds, one for each Pearl unit in the Pearl Rackmount Twin. Use high-quality splitters with locking cables whenever possible. Connect one set of feeds to each Pearl unit and use uninterrupted power supplies (UPS) with at least 10 minutes of backup power for your Pearl units, active splitters and cameras.



## Pearl 1 – ISO recordings

This Pearl system is creating your master recordings during the event.

### To set it up:

1. Create a channel for each of your three HD video sources.
2. Configure encoding to match the input frame size.
3. Use a high bitrate and framerate (e.g. 8000 kbps and 30 fps).
4. Choose a high quality audio encoding format of your choice for audio coming in over HDMI, SDI or through balanced TRS.
5. Choose the recording format you'd like (mp4, mov or avi) and the size or time limit for each file, based on your post-production needs.

### When it's time to start your event, use the front touch screen, web interface or APIs to:

- Start recording for each channel. That's it. You're done. It's a set-and-forget arrangement with no worries about user error causing any problems during the event.

#### Pro Tip #1:

The number one cause of failure during a live event is user error. Avoid this problem by creating an extra channel on Pearl 1 that is a static picture in picture layout with your most commonly used speaker camera and her slides. Since this channel won't be live streamed, you can make it 1080p and set the same encoding settings you use for your other ISO recordings. If there's an error during the live switched stream, you'll always have this backup picture in picture that you can use for immediate video-on-demand. (Of course, you can also use your ISOs to create high quality video-on-demand products too!) Remember to start recording this channel when you start your event.

## Pearl 2 – Live production

This Pearl system is handling your live production including layout switching, video and audio monitoring, streaming and recording your produced event.

### To set it up:

1. Create your live stream channel.
2. Choose a frame size, bitrate and framerate that matches the capability of your uplink (e.g. 720p, 2000 kbps, 30 fps).
3. Create layouts for your channel. Make your live stream engaging by using a mix of picture in picture layouts, some with just one source and some with branding content like simple lower thirds and corporate or event logos.
4. Create pre and post show layouts to show “starting soon” and “thank you for attending” messages.
5. Configure and test your stream.

### When it's time to start your event, use the front touch screen, web interface or APIs to:

- Select your pre-show layout.
- Start streaming your channel.
- Start recording your channel.
- Throughout the event, switch the layout you're broadcasting in your live stream.



### Pro Tip #2:

To stream or record a second version of your produced live event (at a different bitrate, frame size, etc), configure your live production channel on Pearl 2 with the highest settings you'll need, then set one of the two video output ports to display your stream. Feed that signal back to an available HDMI input port as an additional source and add it as a full-sized layout to a new channel. Choose your desired encoding, streaming and recording settings and you're done! Just remember to start recording and/or streaming this channel when you start the live event.

## Following these simple instructions, at the end of your event you'll have:

1. Individual ISO files of original sources (high quality, at original frame size, optimized for your post-production workflow) from Pearl 1
2. Streamed and recorded program feed with live switching from Pearl 2
3. Using Pro tip #1: Recorded program feed with a static picture in picture layout (1080p backup version) from Pearl 1
4. Using Pro tip #2: Streamed and/or recorded program feed with live switching (different frame size, bitrate, etc) from Pearl 2

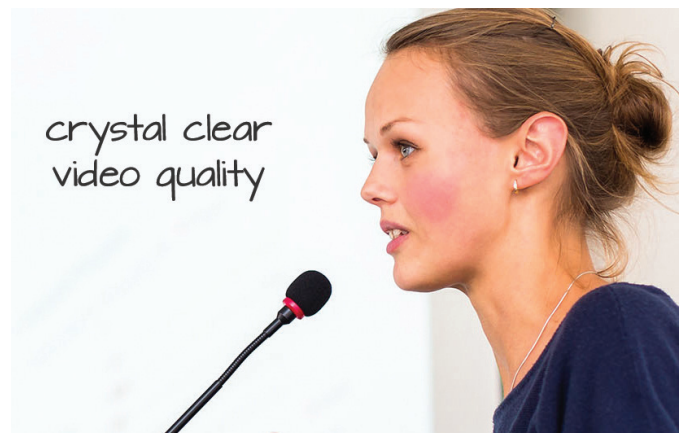
For added protection against hard drive failure due to rough handling during shipping, or to hand off your recordings immediately after the event, consider setting up Pearl's automatic file upload task which automatically uploads completed recordings to USB-attached storage or a network attached drive through ftp, sftp, scp, RSYNC, or CIFS.

## Summary

Producing high-quality live events means handling not only the live stream, but also any resulting requests for re-use of the data in the stream. Give your clients the best and keep (or build!) your reputation as a leader in live event production by using Pearl Rackmount Twin to both record ISOs and produce a dynamic and engaging live stream.



*Don't be stuck with this!*



*Use Pearl Rackmount Twin to record ISOs and get this!*

Learn more about our Pearl models,  
or request a custom demo to see you  
how Pearl can work for you!



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