

# Lecture recording at the Harvard Division of Continuing Education

*featuring Epiphan Pearl*

## Business Case

At Ivy League schools like Harvard, excellence is more than a reputation – it's a way of life. With ten years of experience in lecture capture and live streaming, the Harvard Division of Continuing Education (DCE) recently sought a worldclass way to update how they make Harvard's distinctive on-campus experience available outside the classroom.

DCE wanted simultaneous HD capture of both the lecturer and their presentation for use in continuing education projects such as:

- › live streaming to students across the globe,
- › video on demand (VOD) and
- › after class review by students in hybrid courses.

They were able to meet these goals by choosing Epiphan's all-in-one recording and streaming solution, Pearl, as a key component in their next-generation Opencast lecture capture system.

## Using Pearl with existing hardware

As with most educational facilities, the school already had a lot of equipment installed. Some classrooms were already very high tech with four robotic cameras (SDI and HDMI outputs) and more than 40 on-desk microphones connected to an audio automixer.

## EPIPHAN VIDEO

Designers of some of the world's most reliable audio visual communication solutions for education, healthcare, aerospace, live event production, 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 more than 1600 universities around the world.



Other classrooms had a single camera on a tripod and several ceiling-based microphones. For classrooms with lots of existing AV hardware, Pearl's six video inputs (two HDMI™ / DVI, two SDI, two VGA) and two ¼" TRS audio inputs, gave the AV team all the flexibility they needed. For less high tech classes, Pearl has lots of capacity to support future equipment upgrades.

The Harvard Division of Continuing Education installed Pearl alongside their existing AV gear. Pearl's small footprint and optional rack-mount kit made it a perfect fit for the already crowded AV closet. Its nearly silent operation meant there was no added noise pollution to worry about. Setup was simple. Installing and testing Pearl took the AV team less than an hour per classroom. Only a few more minutes was needed to configure a video layout combining the picture from the diverse classroom equipment. In no time, they were ready to capture and record!

## Using Pearl with existing learning management software

The Harvard Division of Continuing Education had recently deployed Opencast in the Amazon Web Services (AWS) cloud as its video management system. The lecture capture and recording needed to integrate with this existing system. Here too, Pearl had a great fit.

As a result of the integration, Opencast is able to control recording start and stop times on Pearl according to the timetable loaded into the system. After each lecture, Pearl is configured to automatically transfer recordings to the Opencast server via the campus network. After an editing and transcoding workflow, the recorded lectures available for students within 24 hours of the lecture!

## The right choice

Over the past year, the Harvard Division of Continuing Education deployed more than 40 Epiphany Pearl systems in support of their world-class program.

*"After evaluating many different solutions for lecture capture, we found Pearl's flexibility, reliability, and open model made it the right choice for our program. I'm very happy with our decision to use Pearl; it's now our lecture capture standard."*

— Gabe Russell, Harvard Division  
of Continuing Education\*



\*Opinions do not represent the views of Harvard University or any of its units or officers

## Pearl - so much power in one small unit

Pearl's installation with the Harvard Division of Continuing Education is a success due to the platform's flexibility. And even though the AV team used a plethora of Pearl's functionality in their deployment, Pearl has even more features to accommodate the schools where it is installed.

### Live streaming with Pearl

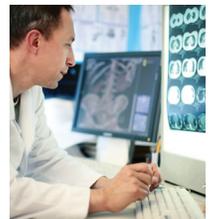
Sometimes schools organize events by premier guest speakers and business leaders that have more attendees than can fit in even their largest lecture halls. To make the most of these lectures and accommodate a wider audience, the universities want to live stream these events. With just a single Pearl in a lecture hall podium, AV engineers are able to simultaneously run online streaming to YouTube (for off-campus viewers), streaming to the school's streaming media server (for on-campus viewers and overflow rooms) and recording for an LMS like Opencast.

### Ease of use for faculty

Since its installation, Epiphan Pearl has proven itself to be a hit with faculty. Its ease of use and unique features allows professors to provide better materials for students. Professors use Pearl to:

#### Show and record video from external sources

During class, professors use not only document cameras for sharing additional materials with students, but also their personal iPads and specialized equipment like microscopes and oscilloscopes. Professors now make use of Pearl's idle HDMI port to connect these devices and capture them as part of the recorded lecture shared with the remote audience.



#### Get lecture recordings to visiting speakers right away

Some visiting speakers ask that a school provides a copy of their lecture recording immediately following the event. Prior to deployment of Pearl in the lecture halls, schools were unable to meet this request. With Pearl, this task is a snap! Pearl can be configured to automatically or manually copy recordings in AVI, MP4 or MOV format directly to a flash drive connected to Pearl via USB 2.0.

#### Pearl + Opencast = a better customized solution for less

Many schools choose to deploy highly customized systems that perfectly fit the needs of their students, faculty, culture and learning environment.

One such solution is to use highly customizable open source software like Opencast paired with Epiphan Pearl. Pearl is an open platform lecture capture appliance. With no recurring fees and free lifetime support and firmware updates, schools get a tailored solution for less.



## Pearl gets results!

Epiphan Pearl combined with occasional use of other Epiphan capture devices like AV.io HD lets schools achieve Ivy League results.

### Students

- › Higher course completion rates
- › Easy access to materials in cases of illness
- › Higher average course grades
- › Easy access to lectures from other programs

### Faculty

- › Ability to share diverse teaching materials
- › Better content for students' self-studies
- › Improved quality of online sessions with AV.io HD

### AV / IT Teams

- › Increased functionality
- › Easy and fast LMS and hardware infrastructure integration
- › Reliable solution with extensive support  
(on Epiphan's support plan)

### School Administration

- › Higher student satisfaction rates
- › Increased faculty loyalty and satisfaction
- › Classroom lecture quality and faculty monitoring through HQ recordings
- › Budget savings (alternative solutions are usually 3-4 times more expensive than Pearl)
- › New profit opportunities via selling more courses online on EDx and Coursera (previous video quality made this less feasible)

