

Epiphan Pearl



Release 3.15.1
June 15, 2015

Quick Start

This section covers two methods to help you get up and running quickly with your Pearl.

Before you get started, make sure you have:

- a video source (i.e. a camera, a computer, a tablet, or a phone) (for SDI and HDMI, the source must not be HDCP protected)
- for SDI or HDMI sources, accompanying audio over the same source cable
- the appropriate cables or adapters to convert the output to SDI, HDMI or VGA (if needed)
- optionally, a separate TRS audio source such as a microphone
- ideally, a network with Dynamic Host Configuration Protocol (DHCP)
- a computer with a web browser connected to the same network (this is referred to as the “admin” computer in the steps below)



These instructions include steps for setting up and configuring audio. Skip these optional steps if you do not want to configure an audio source at this time.

Pearl is pre-configured with two plug and play channels: Auto A and Auto B. This quick start uses these channels to get you streaming and recording as soon as possible.

Get started quickly with auto channels:

1. Turn on your HD source and connect the output cable to a port in Row A on the back of Pearl (if needed, use an adapter such as the DVI to HDMI adapter).
2. If desired, plug a second source into one of the Row B inputs on the back of the system.
3. (optional) Attach a set of left/right TRS audio cables from your audio source to the TRS audio input ports on the back of Pearl.
4. Connect the Ethernet cable to the Pearl. Connect the Ethernet cable to your network.
5. Attach the power cable to the system and plug it into a power source.
6. Press the power button on the back panel to turn on the system.
7. Wait for the Pearl to complete the power up sequence. The system is ready a few moments after the power LED illuminates.
8. (optional) Plug speakers or headphones into the 3.5 mm audio jack at the front of Pearl.

The system automatically configures the channel's frame size to match the source resolution and calculates the best bit rate for the default frame rate of 30 fps.

Pearl's front screen, if enabled (it is enabled by default, see [Configure the touch screen](#)), updates to show you previews of your channel(s) for confidence monitoring. Use your speakers or headphones to verify audio quality and levels.



In release 3.15.1 your channel will not automatically have audio. Audio is added in the following steps.



To view the auto channels:

If you don't want to add audio to your channel, you're done with configuration!

You can start viewing the channel(s) immediately by using a browser on a computer on the same network.

1. Find the system's serial number. It is printed on a sticker on the back of the system, or available on the system information display on the touch screen. To access the serial number from a single channel view or grid view, touch the system settings (**gears**) button then touch **System Status**.

| System Status | | | |
|----------------|-------------------|------------------------|-------------|
| Device | | Status | |
| Serial | D569D134 | Date | 1-Jun-2015 |
| Grabber | D2P280194 | Time | 16:18:46 |
| Firmware | 3.15.1a | Uptime | 2:37:09 |
| | | t, °C | 77.0 / 53.6 |
| Network | | Storage | |
| IP Address | 192.168.0.183 | 929.8 free of 929.9 GB | |
| MAC | C0:3F:D5:69:D1:34 | 100% | |

2. Open a browser window on a computer on the same LAN or network
3. Browse to one of the following URLs:

For Auto A: <http://<IP Address for Pearl>/preview.cgi?channel=1>

For Auto B: <http://<IP Address for Pearl>/preview.cgi?channel=2>

For example: <http://192.168.0.183/preview.cgi?channel=2>

You'll find alternate connection streams (i.e. RTSP or MPEG-TS) for these channels by logging into the admin interface and accessing Auto A and Auto B by the links under the Channels menu. See [What is streaming?](#).

Configure audio

Pearl is managed from a web interface. This interface acts as a configuration utility and system monitor.

You can access the web interface via either the device's IP address on your network, via DNS-based discovery if you have Bonjour services installed, or via a static recovery IP address. This quickstart uses the IP address method. You can follow other discovery methods described in the section [Connect to the admin interface](#).

Connect to the admin interface:

1. Find the system's IP Address:
 - from a single channel view or grid view, touch the system settings (**gears**) button then touch **System Status**; or
 - if your system doesn't have any channels showing, touch the screen anywhere to move to the system settings screen then touch **System Status**.

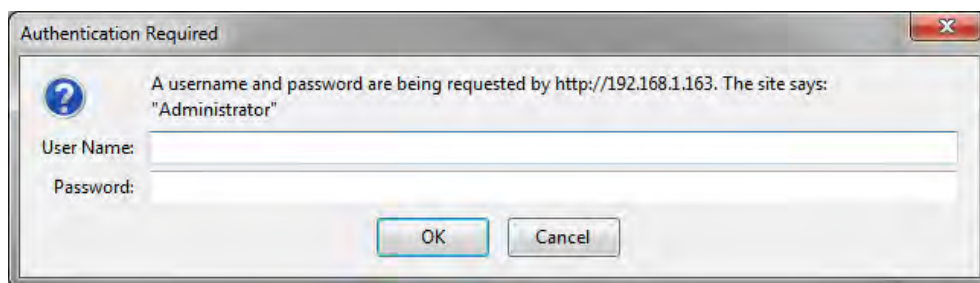
| System Status | | | |
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| Device | | Status | |
| Serial | D569D134 | Date | 1-Jun-2015 |
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| Network | | Storage | |
| IP Address | 192.168.0.183 | 929.8 free of 929.9 GB | |
| MAC | C0:3F:D5:69:D1:34 | 100% | |

2. Type the following string into the address bar of your web browser on your admin computer (where <ip address> is the ip address of your Pearl):

`http://<IP address of Pearl>/admin`

For example: `http://192.168.0.183/admin`

3. Enter the user name and password then click **OK**. The administrative user is 'admin'. Initially no password is set. To set a password follow the procedure outlined in [User administration](#).

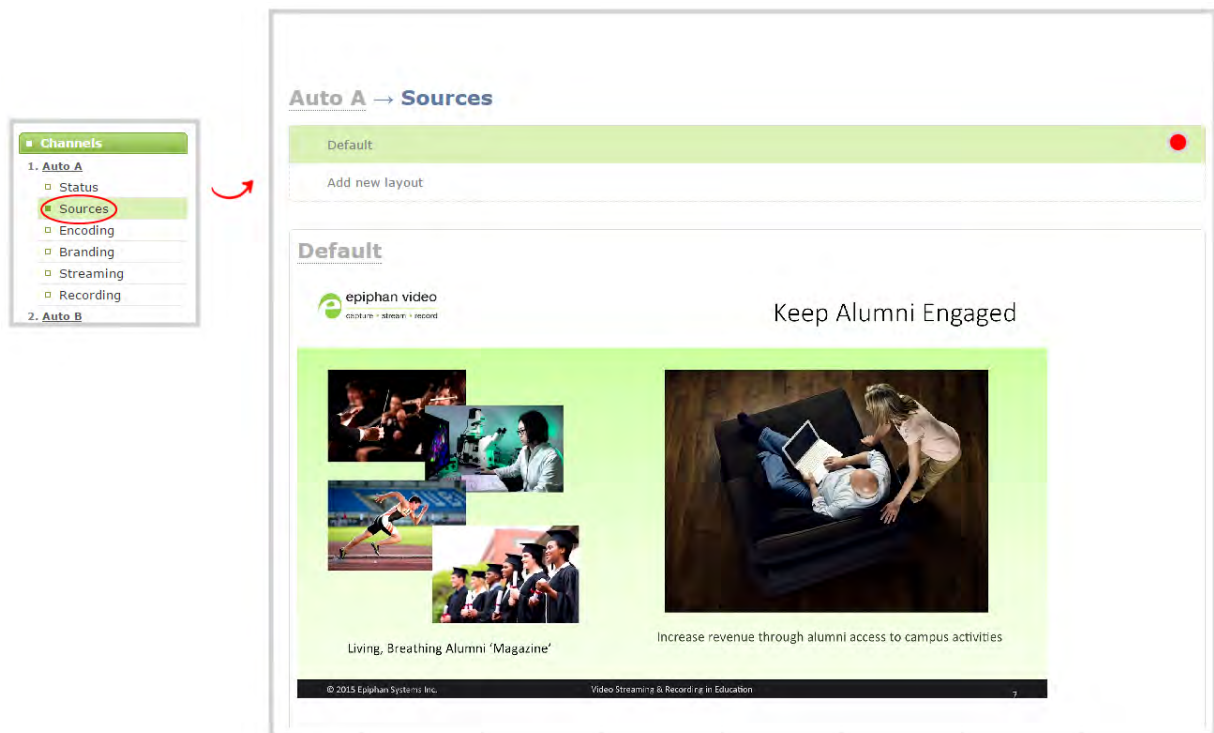


Add audio to the channel's sources list

Channels expose your sources to your streaming users and prepare the sources for recording. Your auto channel already has the video source added - you need only add the audio source of your choice.

To add audio to your channel:

1. In the web interface, click the Auto A channel; the channel expands.
2. Click Sources; the sources configuration page opens.



3. You're automatically editing the Default layout in the channel layout editor. The Auto-A source is previewed in the layout area.
4. Scroll down and choose an audio source from the displayed list.
5. Scroll down and click **Save** at the bottom right of the screen to save your changes.
6. Click **Status** for your channel.
7. Notice the **Stream Info** section has an item named Video that reflects your channel's settings (the frame rate is specified as <resolution size>@30 for 30 frames per second). It also provides an indication of the current actual frame rate.



Record the Channel

The channel is set up and streaming. This may be all you need, but if you like, you can also record the stream. You can choose to initiate and control channel recording from either the touch screen or the web interface.

To control recording from the touch screen:

1. If viewing the grid view, touch the channel for which you wish to control recording; the channel view is displayed.
2. If necessary, touch the screen once to display the controls for the channel.
3. Touch the recording control button; the touch screen will start a timer to indicate the length of the recording. Touch the control again to stop recording. (If the button is not visible, recording control via the touch screen is not enabled; see [Configure the touch screen](#).)



To control recording from the web interface:

1. From the web interface, scroll to the **Channels** section.
2. Click **Recording** for your channel; the Recording page is displayed.
3. Click the red **Start** button; the text at the top of the screen changes to indicate the recording is starting, then indicates the length of time since the recording started.
4. Click the black **Stop** button; the recorder stops.

5. Refresh the page by clicking **Recording** again; the page reloads and a file list appears that shows your newly recorded stream snippet.
6. Click the file name to download and view your recording.

What's Next?

Now that you have a source setup and ready to stream, you can fine-tune the system to your exact requirements. You can look at topics such as:

- [Create a simple channel](#)
- [Create a custom channel](#)
- [Live video mixing / switching](#)
- [What is streaming?](#)
- [File and recording transfer](#)
- [User administration](#)

When you have completed system tuning, make sure to back up the system configuration using the procedure described in:

- [Save and Restore Device Configuration](#)

Refer to the table of contents for a complete list of the topics covered.

Live video mixing / switching

Pearl is a video mixer and supports live video mixing (also known as live video switching) while you are capturing, streaming and recording. Video mixing is a great way to create dynamic content for your viewers and recordings. With Pearl, switching happens in less than half a second (< 500 ms)!

This means you can start your stream with a video source showing a countdown, move to a single-camera view, then switch between multiple cameras or multiple layouts with more than one source, and end again with a thank you message for attendees. (Layout switches made in your channel are reflected in both the live stream and recording.)

For example, your stream could look like this:



Before you can switch between layouts, make sure you have your custom channel with layouts created. See [Create a custom channel or layout](#).

Now on to the fun part!

There are two ways to perform live switching. You can use either the web UI or the touch screen.

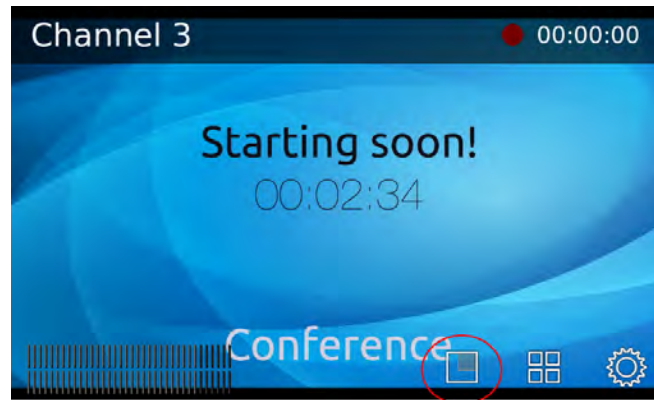
Switching / mixing using the touch screen

Switching live video inputs, or video mixing, is simple and intuitive using Pearl's touch screen. Simply scroll to the channel you want to work on, select the layout switching mode and apply the layout you want to use.

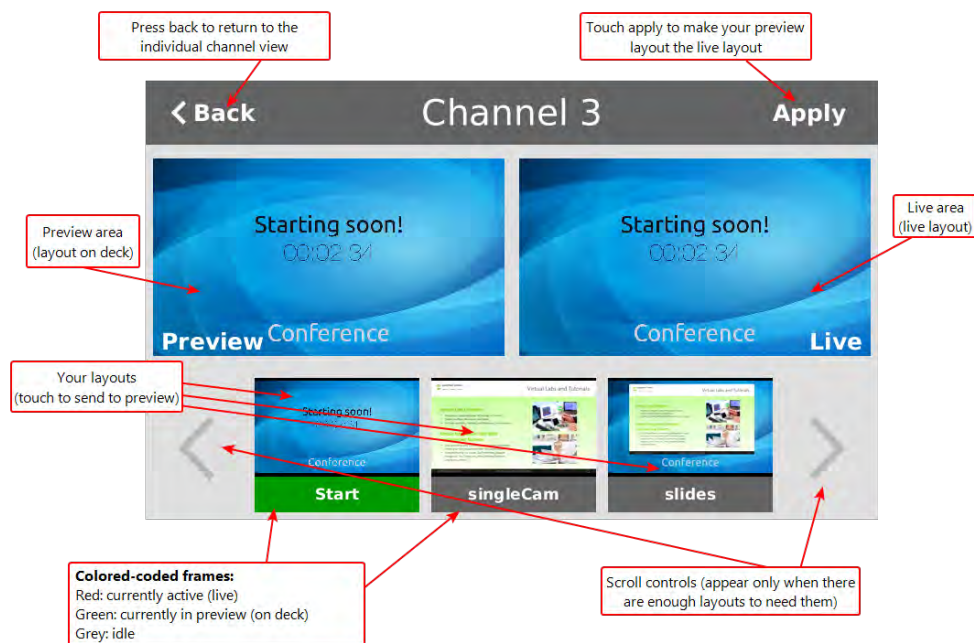
By default layout control is enabled for the touch screen, but it's possible your touch screen has been configured by the administrator to prevent layout switching, or even channel monitoring. If the instructions below don't work for you, see [Block \(or allow\) recording control from the touch screen](#) for details on enabling layout control by the touch screen.

To switch video using the touch screen:

1. If needed, touch the screen once to turn it on.
2. If needed, touch your channel in the grid view to change it to individual view.
3. If needed, touch the screen once to enable controls on the screen.



4. Touch the button to start layout switching mode; the screen changes to display your layouts.



5. Initially, your live layout (which is displayed on the right side) is the same as your preview, or on deck, layout. It appears in the list at the bottom with a green bar on the frame to show it is in preview. Touch any other layout; the touchscreen updates to show your new layout in preview.



6. Both the live layout and the preview layouts update at a reduced frame rate to the live stream, but fast enough that you can see what is happening.
7. When ready, touch **Apply** to cause the layout currently in preview to become live; the switch happens and your screen is updated.
8. Continue to switch layouts as needed for the duration of your event or recording.
9. Touch **Back** to return to the individual view screen at any time or when you are done video mixing.

Switching / mixing using the web UI

Switching live video inputs, or video mixing, is fast and easy using the web UI. For best results, you may wish to be in a location where you can see the live action, and have a solid understanding idea of what is in each of your layouts. Good layout names can help with this. See [Rename a layout \(custom channel\)](#).

To do live video mixing:

1. Connect to the admin interface using your preferred connection mechanism. See [Connect to the admin interface](#).
2. Login as admin.
3. Follow the steps in [Custom channel layout editor](#) or [Create a custom channel or layout](#) to get to the channel layout editor.



4. The currently active layout has a red button in the rightmost column.
5. Touch the empty circle for another layout to make it the active layout; the layout changes in the live stream (and recording), and the new row gets the red button.



6. Continue to switch layouts as needed for the duration of your event or recording.