

# Projectors

## Our Projectors

### In the Lab

We have a number of different video projectors available for use in the Dark Lab.

Some of them are permanently mounted in the truss grid: those are ready and waiting for you to plug in and use!

If you would like to project anywhere else in the Lab, please ask Lieven van Velthoven (Dark Lab / Code technician), and he will see if it is possible to mount one for you. (no guarantees, but do ask!) Our projectors vary in brightness, throw ratio, zoom, lens shift, imaging technology, etc.. We can have a chat about which one might best suit your project.

(these terms are explained below if you would like to learn a bit more!)

### To take home

We also have a few projectors that you can take home - namely the BenQ ones listed below. These are bookable through [ORB](#), our online loan store and equipment booking system.

### What do we have?

Here are the models we currently have. Click on the links to find out more!

2x [Epson EB-L635SU](#) (6000 lumen, LCD, 0.8:1 medium short throw) (these are the two main projection screens)

1x [Panasonic PT-VMZ60](#) (6000 lumen, LCD, 1.09-1.77 throw ratio)

1x [Panasonic PT-VMZ71](#) (7000 lumen, LCD, 1.09-1.77 throw ratio)

2x [NEC P525UL](#) (5000 lumen, LCD, 1.23-2.0 throw ratio)

1x [Optoma EH460ST](#) (4200 lumen, DLP, 0.5:1 short throw)

8x [BenQ TH671ST](#) (3000 lumen, DLP, 0.69-0.83 short throw)

### How to use the Dark Lab projectors

The permanently mounted projectors all have an HDMI cable (with USB-C adapter) that you are free to plug into whenever no one else is using them. The two main screens (Area 1 and Area 2) are also hooked up to the two corresponding PC's. Those have a little switch on the desk to choose between input from the PC or your own laptop.

The HDMI cables are labeled as 'Projector 1 (HDMI 1)', etc.; telling you which projector it is connected to, and which input to select on the projector itself.

On (or next to) the screens you will find remotes to turn the projectors on and select the correct HDMI input.

(Please make sure to turn them off when you're done, and stick the remote back where to where it was!)

## Projector terminology

### Throw ratio

The so-called 'throw ratio' of a projector specifies how narrow or wide the projection angle of the lens is. In other words, it tells you how big the image will be, depending on the distance from the screen or wall.

Throw ratio is the projector distance divided by the image width. So for example, a throw ratio of 0.5 means that from one meter away it will 'throw' an image of 2 meters wide onto the wall (or 1 meter wide from 0.5 meter distance, etc.).

### LCD vs. DLP

There are a few different types of projectors, in the sense of how they actually create the pixels on screen. Each technology has its own strengths and weaknesses:

1. LCD projectors

Pros: Amazing colours. No artifacts when taking photos or videos.

Cons: Black levels aren't the best (dark grey instead of black).

2. DLP projectors

Pros: Black levels are usually better than LCD. Native support for 3D through DLP-Sync 3D glasses. Cons: Depending on the shutter speed, problems might arise when trying to take photos or videos (rainbow effect). Some people's eyes are sensitive to this, too. Colour reproduction is often not as good as with LCD.

### Brightness

When it comes to brightness; more is usually better! Thankfully, we have some really bright ones at CCI (up to 7000 lumen).

The light output of the projector will get spread over the whole image; so if you make the image bigger (by placing the projector further away from the screen), that means it will become less bright.

When using cameras, it sometimes helps to dial the brightness down a little, in order not to overexpose or blind the camera.

### Lens shift and mounting

Our more fancy projectors like the Epsos, Panasonic and NECs have a feature called 'lens shift' (both horizontal and vertical). This allows them to shift the image up/down or left/right without physically moving the projector or distorting the image. Very handy!

Most 'simpler' projectors that do not have lens shift tend to project slightly upward - in the sense that if you put them flat (horizontally; level) onto a floor or table, they will project a rectangular image slightly upward onto the wall. This means that if you want to mount one of those projectors from the ceiling, you can place them upside down so that they project slightly downward onto the wall or screen.

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