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The gel viewer in USB3151 is a tall-ish machine capable of resolving the bands in gels through illumination of dye trapped in the DNA's helix. It consists of several components:

The *transilluminator*, a low, flat metal box containing the ultraviolet light source for exciting dye molecules,

The *camera box*, a pyramid-shaped box which permits the gel to be viewed without a user having to expose his/her eyes to dangerous ultraviolet emissions from the transilluminator,

The *imager*, a simple computer system capable of displaying images captured by the camera and saving them to a memory card,

The *printer*, a smaller white box capable of printing images captured by the camera that will for our purposes not be used, and

The *card adaptor*, a USB-based device capable of reading the unusual memory card format output by the imager.

To view a gel in the gel viewer:

Procedure

1. Carefully lift the **camera box** off the top of the **transilluminator**.
2. Place your **gel tray** on the clear window on the transilluminator. Orient the wells facing towards the front of the machine.
3. Place the camera box back on the transilluminator. Ensure the camera's adjustment knobs are facing towards the front of the machine.
4. Press the switch on the front of the transilluminator to the "on" position.
5. Press the switch on the front of the imager to the "on" position. Be patient, as the imager must load.
6. Play with the camera's adjustment knobs until the image appears clear and easy to resolve.