Thunderbolt Controller LEDs & Test Patterns
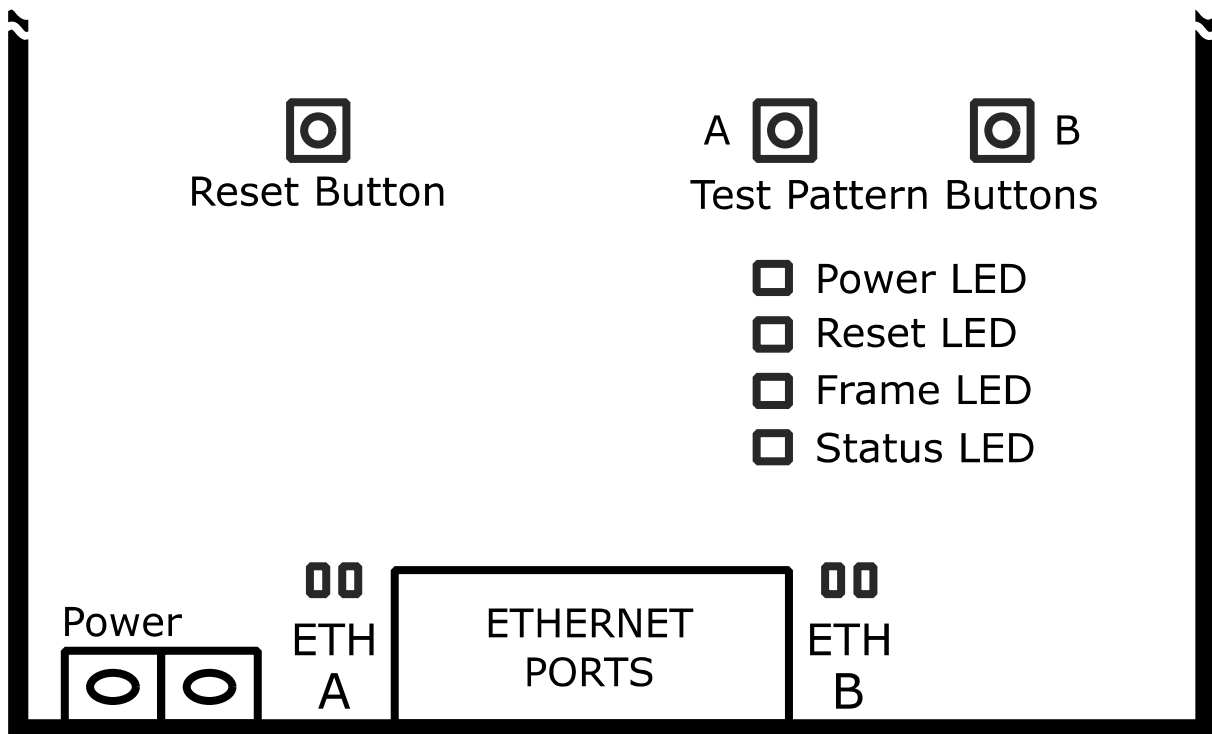
Table of Contents

1. Controller Diagram

2. How to Interpret Controller LED Lights

Use Thunderbolt card LED indicator lights to interpret the controller's status:

- **POWER:** When green light is active, the controller has power
- **RESET:** Hitting the reset button activates the red RESET light, indicating the controller is being power cycled.
- **FRAME:**
    - **Boot Loader Mode:** If the green light is flashing in triplets each second, the controller is in boot loader mode. (In boot loader mode, only test patterns may be displayed.)

- **Application Mode:** Once the sign is out of boot loader mode and an application has been loaded, the green FRAME LED will flash every time a new frame is displayed on the sign. (Test patterns may not be displayed in application mode.)
- **STATUS:**
  - If the green light is on, the controller has loaded something successfully, such as the boot loader or the application.
  - Please ignore the red status light; no use for it has been implemented outside of development.
- **ETH A & B:**
  - If the green light is on: a cable is plugged in, and the cable has been ID-ed by ServCom.
  - If the red light is on: a cable is plugged in, but the cable has not been ID-ed by ServCom.
  - If the green light is flashing: data is passing through the cable successfully. The light flashes at the rate of data passing through the controller.
  - If the red light is flashing: data is traveling to that port, and out of the other port. ???????
  - If both the green and red light flash simultaneously at a steady rate: the cable plugged into that port is bad (i.e. connected at 100 megabit speed and not at gigabit speed).

3. How to Reset a Controller

To manually power cycle the controller, press the RESET button. The RESET light will glow red when the button is pressed, followed by the controller restarting.

4. Using Test Patterns

To perform test patterns, the controller must be returned to **boot loader mode**. To do this, complete the following steps:

- Disconnect the controller from ServCom by unplugging the cable from the controller.
- While holding down buttons A and B simultaneously, press the RESET button.
- Release all buttons. All controller lights will light up together once the application has been successfully erased.
- Hit the reset button to power cycle the controller. The control is now in boot loader mode. (The FRAME light will flash in triplets each second if the controller has been successfully set to boot loader mode.)

In boot loader mode, test patterns are available using the test pattern buttons:

- **Test Pattern Button A:** Change the configuration of the pattern tested.
- **Test Pattern Button B:** Change the brightness of the pattern tested.

To reload the application, reconnect the controller to ServCom, which will load the application automatically.