Camera Calibration
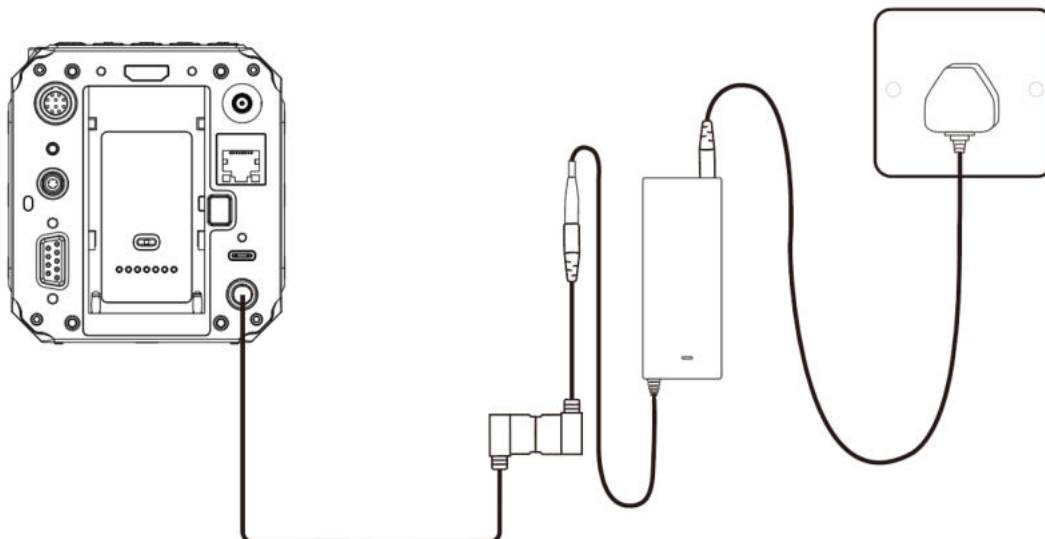# for Z CAM E2 & Z CAM E2 Flagship Series

Introduction
Camera calibration will check and calibrate the sensor of the camera as to fix some issues like hot pixel. It's not listed in the menu but you can activate and run it with instructions below.

This function is available for Z CAM E2 and Z CAM E2 flagship series from firmware 0.95.
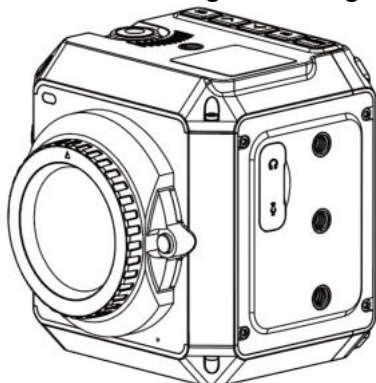
Preparation
Please follow the instructions below before the camera calibration:

1. Connect the camera with power adapter, and make sure the power supply will not stop during the operation. DO NOT use battery!
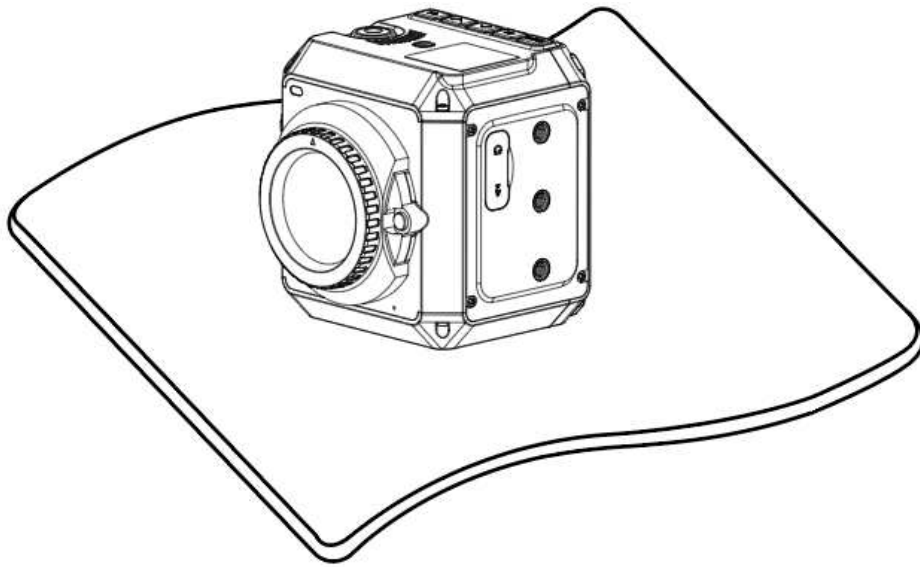

2. Remove the lens (if any) and put on the lens mount cover. Make sure there is no light coming into the camera.

3. Remove ALL the connections including HDMI, USB and Ethernet, and just use the camera body.

4. Disconnect any mobile control from mobile device or computer.

5. Prepare a piece of thick towel or clothes which can wrap up the camera to keep its temperature.

Camera Heat Up

The camera should be heated up over 60℃ (140℉) as to run camera calibration. Follow the steps below to heat up the camera:

1. Power on the camera and make sure there is storage (CFast card or external SSD) in the camera.

2. Select the maximum resolution and frame rate of the camera (as below for different models) and press the **Record** button to start recording.
    - Z CAM E2:   DCI 4K @120fps
    - Z CAM E2-S6:   6K 2.4:1 @60fps
    - Z CAM E2-F6:   6K 2.4:1 @60fps
    - Z CAM E2-F8:   8K @30fps

3. Wrap up the camera with the thick towel or clothes and wait about 30 minutes.

4. Check the temperature of the camera in the status (**MENU** > **System** > **Camera Status**). Please keep the camera wrapped when checking the temperature.

5. When the temperature exceeds 60°C (140°F), press the **Record** button to stop recording.
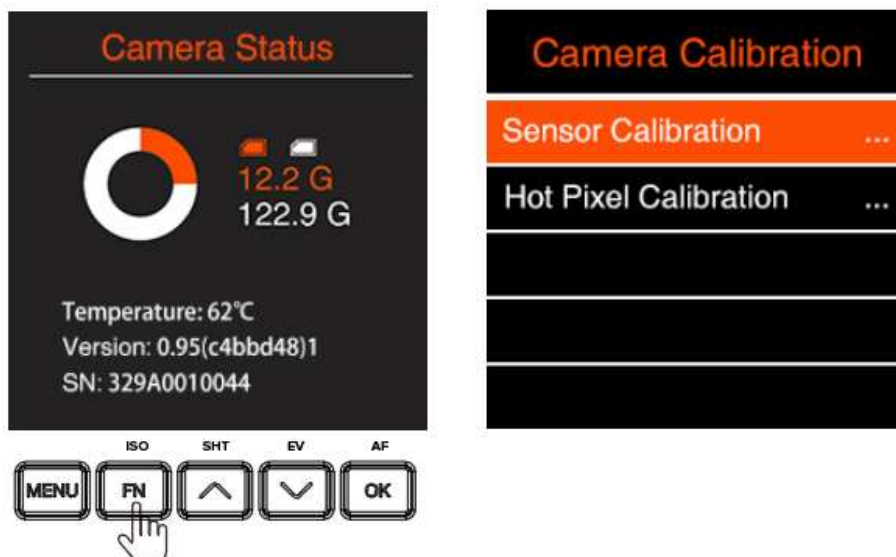

6. Run the camera calibration immediately before the temperature drops down.
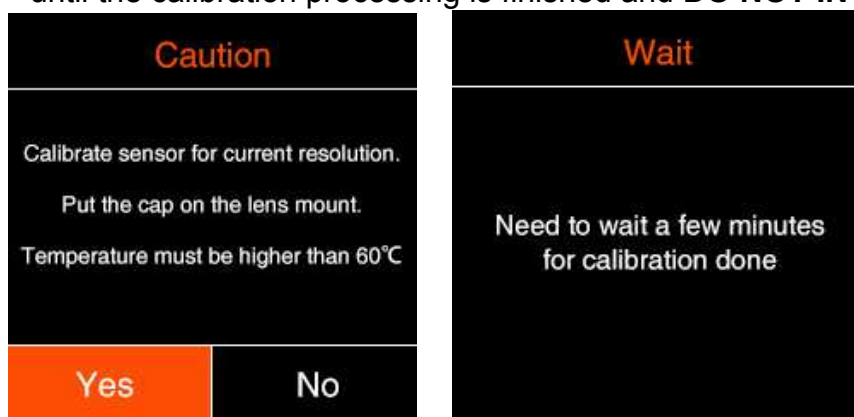
Camera Calibration

After heating up the camera, you can run the camera calibration with following steps:

1. Select the resolution you want to run camera calibration (you can skip this if use **Hot Pixel Calibration** option in step 2)

2. Come to the camera status (**MENU** > **System** > **Camera Status**) and press **FN** button, you will see the camera calibration menu with 2 options.

   - **Sensor Calibration**: It will run a full calibration for current resolution.

   - **Hot Pixel Calibration**: It will only calibrate hot pixels for ALL resolutions in normal dynamic range mode (WDR off for Z CAM E2)

3. Select the one you want and press **OK** button to start it. PLEASE WAIT until the calibration processing is finished and **DO NOT INTERRUPT IT!**

Note that the **Sensor Calibration** will take about 2 minutes, and **Hot Pixel Calibration** will take 5-30 minutes for Z CAM E2 and 5-10 minutes for Z CAM E2 Flagship series.

4. The camera will reboot automatically after the calibration is finished.

Suggestions
1. For Z CAM E2, if you want to do the camera calibration for WDR mode, you should run the **Sensor Calibration** for each resolution individually with WDR mode enabled.

2. If there is new resolution after firmware update, you can run **Sensor Calibration** for the new resolution.