iXon Ultra & Life 888 Quick Start Guide

 OXFORD INSTRUMENTS | ANDOR

2 Unpack the Camera

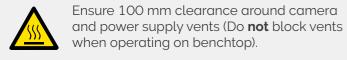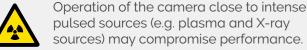| Camera	Essentials			Cables		
	USB 3.0 PCIe Card	Coolant Pipes water cooled models only	Mounting Posts	USB 3.0 Cable	Power Supply	Country Specific Power Cord
iXon Ultra or Life 888 EMCCD Camera (model as ordered)	Documentation scan or visit: **andor.oxinst.com/ welcome**	Software (copy supplied)	C-mount cap (including O-ring)	Multi I/O Timing Cable	Anti-Static Strap	

1 Prepare your Facility

Handle the camera and accessories with care.

Observe anti-static precautions when installing the camera.

Ensure 100 mm clearance around camera and power supply vents (Do **not** block vents when operating on benchtop).

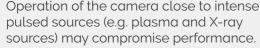Operation of the camera close to intense pulsed sources (e.g. plasma and X-ray sources) may compromise performance.

Keep dry, <70% humidity non-condensing.

Use correct power supply and cables.

Store between -25°C and 50°C.
Operate between 0°C and 30°C.

Refer to the cooling guidelines in Section 5 and the camera user manual for further information.

Refer to the user manual for further information

3 Install Software (Solis or SDK)

You must have administrator access on your PC to perform this installation.

These instructions cover installation of both Andor Solis and Andor SDK if ordered. A copy of the software is provided within the camera box. Additionally, the latest software files are available to download on request, please sign in or create an account at andor.oxinst.com/downloads

Windows: Switch on the PC, run the setup exe from the supplied copy or the downloaded file: e.g. AndorSDK2Setup-<version>.exe.

1. Confirm the version of software (minimum is v2.1x).

2. Follow the on screen prompts.

3. Select the installation directory when prompted.

4. If prompted for camera type select **iXon.**

5. On the final window click on **"Install"**. Continue to follow the on screen prompts.

6. To complete the installation, when prompted select "**Yes, restart the computer now**" and click on the finish button.

Linux:

For detailed instructions on how to install the SDK drivers on Linux please refer the Andor SDK2 Manual, available at andor.oxinst.com/downloads

4 Install the Camera Control (PCIe) Card & Driver

⏻ **Ensure your PC is powered off.**

⚠ **Ensure anti-static precautions and use the anti-static strap provided to prevent potential damage ESD. Keep all screws safe.**
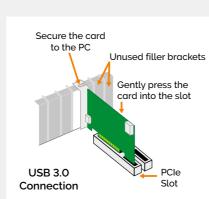
1. Unplug all cables from the rear of the computer. Open the PC enclosure to gain access to the expansion slots.

2. Locate a suitable PCIe slot: **use an x4 PCIe slot only.** *If you are unsure which slot is correct, please consult the PC user manual.*

3. Remove the filler bracket corresponding to the slot you intend to use.

4. Remove the USB 3.0 card from its protective ESD packaging and insert fully into the expansion slot.

5. Ensure the card's mounting bracket is flush with any other mounting or filler brackets to either side of it, then secure the controller card in place.

6. Replace the computer cover and secure with mounting screws if applicable.

7. Reconnect any accessories you were using previously.

Install the USB 3.0 PCIe Card Driver manually (not required for Windows 10)

USB 3.0 PCIe card drivers must be installed manually for PCs running versions prior to Windows 10.
See Startech's website: www.startech.com/downloads enter product code PEXUSB3S25 and hit Search. If a later driver is available, download and install.

Disable Power Management for the "Renesas USB 3.0 Host Controller":

1. Navigate to 'Renesas USB 3.0 Host Controller' properties menu in **Device Manager** (Control Panel>Device Manager> Universal Serial Bus Controllers). Select the **Advanced** tab.

2. Check the **Disable USB 3.0 power management functions** checkbox.

Diagram labels: Secure the card to the PC — Unused filler brackets — Gently press the card into the slot — USB 3.0 Connection — PCIe Slot

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5 Cooling Guidelines

❄ **Note: Always ensure that the temperature of the liquid coolant circulated through the camera head is above the dew point of the camera ambient. Use of coolant at or below the dew point will result in permanent damage to the camera head, due to formation of condensation on internal components.**

1. The iXon Ultra and Life 888 overclock the CCD-201 sensor which generates more heat from the sensor.

2. These models retain the cooling technology and the cooling performance of other iXons at lower readout speeds (10 MHz and below). At higher readout speeds it is necessary to set a higher cooled temperature: -55˚C is acceptable in most modes – refer to the user manual for model details.

3. At higher readout speeds (and shorter exposures) dark current is less important, so this higher CCD operating temperature is expected to be an acceptable compromise.

If an unusual crop mode or operating regime is required please find the camera's temperature settling point before starting the measurement.

1. Set max cooling -110˚C.

2. Run the camera in intended mode for 20 minutes.

3. Note cooling temperature achieved.

4. Set a temperature 2-5˚C warmer as the set point.

5. Run required measurement.

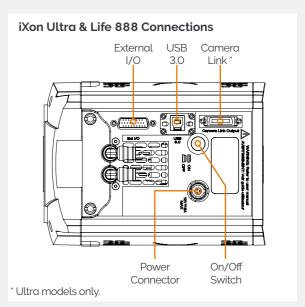If the temperature control circuit unlocks during a measurement it will impact on measurement accuracy, in particular EM gain calibration.

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6 Connect the Camera and Switch on

⏻ **Ensure that the Camera ON/OFF switch is in the OFF position AND your PC is switched OFF.**

- Attach the camera to lens or optical system using the camera C-mount interface as required.
- Insert the 12 V DC power cable into the power connector on the bottom plate of the camera, ensure the orientation is correct. **NEVER** forcibly insert the connector.
- Connect the supplied USB 3.0 cable between the USB 3.0 connector on the camera and the corresponding slot on the PC.
- If required, connect the I/O expander cable to the I/O 15 way D type connector.
- Switch the camera ON using the ON/OFF switch. You should hear an audible confirmation (camera start-up tone).
- Turn ON the PC.
- Start your software.
- View and adjust the acquisition settings as required.
- Start acquiring data.

Note: Only use the USB 3.0 cable supplied by Andor to ensure performance.

iXon Ultra & Life 888 Connections

*Diagram labels: External I/O — USB 3.0 — Camera Link * — Power Connector — On/Off Switch*

* Ultra models only.

? Troubleshoot

Camera start-up tone does not sound on start-up

- The camera start-up tone should be audible momentarily when the camera is switched to ON.
- If this does not occur, ensure that power is connected to the camera and the ON/OFF switch is set to ON.

Support Device not recognised when plugged into PC

- Choose another USB port.

Temperature Trip Alarm sounds (continuous tone)

Should the buzzer sound ensure the following:

Air Cooling

- Check that the air vents on the camera are not blocked and there is sufficient clearance (100 mm) around the camera.
- The ambient air temperature is not above 30ºC.
- The fan has not been deactivated (or the speed set too low) in software.

Please see the Hardware Guide for further information on Troubleshooting.

Online access to technical documentation and software downloads is available at:
andor.oxinst.com/downloads