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REIMAGINE DETECTION

CAMERA

TRiCAM

Intensified CMOS Camera

The TRiCAM is a compact intensified camera.

It is designed for scientific and industrial applications that require low-light imaging and/or nanosecond exposures. With built-in signal generators, the TRiCAM is capable of ultra-short exposures through fast gating and frequency-domain imaging using lock-in detection.

Ultra-short Gating

The camera's effective exposure time can be reduced to < 3 ns (FWHM) for time resolved imaging, or capturing very fast events.

Programmable Signal Generator

TRiCAM delivers sub-nanosecond precision for precise synchronization of the event with the exposure.

Easy Coupling

Packed into a compact aluminium enclosure, it is easy to attach the TRiCAM to any fluorescence microscope.

High-sensitivity Intensifiers

You can choose from a wide variety of high-sensitivity image intensifiers to match the spectral needs of your application.

Fiber-optically Coupled

Our experienced engineers couple the sensor to the image intensifier for 10 - 20 times more light efficiency, in a compact and light weight form.

Intensify Your Camera

The TRiCAM platform can be highly customised and used to intensify non-intensified cameras.

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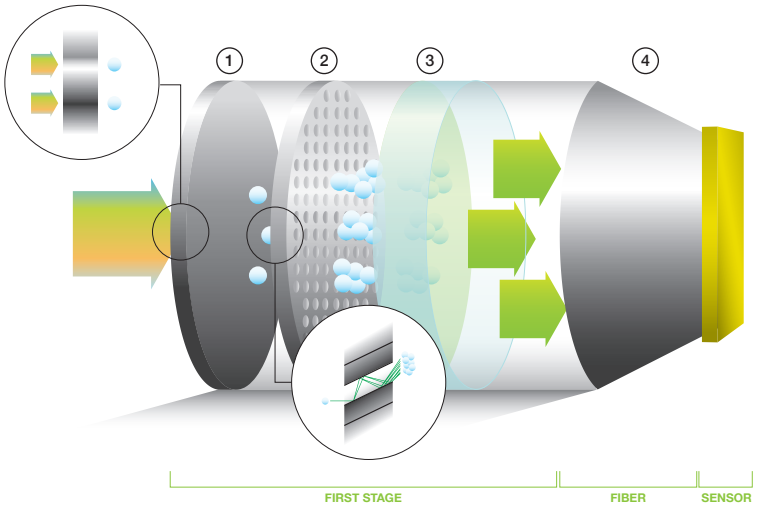
Intensifier working principle

Photons are converted into electrons at the photocathode (**1**). These are accelerated towards the micro-channel plate (**2**) by an electric field and hit the channel walls. Depending on the voltage across the channel, multiple electrons are generated by secondary emission.

This cloud of electrons is accelerated towards the anode screen (**3**), where the electrons are converted back into photons by the phosphor layer, and these photons are transferred to the camera by a fiber-optic taper (**4**).



Applications

Laser Induced Fluorescence (LIF)

Time-gated luminescence

Bio- and chemiluminescence imaging

Plasma physics

Single Photon imaging

Particle Image Velocimetry (PIV)

Solar PV and LED characterization

Combustion research

Single-molecule imaging

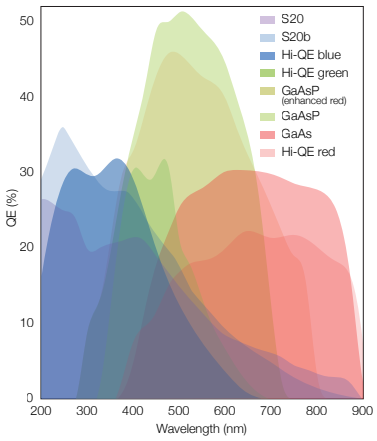
Fluorescence Lifetime-Imaging Microscopy (FLIM)

Förster Resonance Energy Transfer (FRET)

Time-gated Raman / Laser Induced Breakdown Spectroscopy (LIBS)

Time-resolved imaging & spectroscopy

Diffuse Optical Tomography (DOT)



Gating capability

Burst Mode

Set response to a preset number of synchronisation pulses.

If the number of pulses is reached, further input pulses will be ignored.

Number of input pulses in a burst can range between 1 and 1,000,000.

Cycled Gating

Change gate settings between two successive camera frames.

Rapidly switch gate settings in a couple of nanoseconds.

Up to three different gate timing settings can be preset.

Multiple Exposures

A single sync pulse gives rise to a preset number of output pulses.

Number of output pulses per input can be set between 1 and 1,000,000.

Frequency of output pulse train can be set between 0.05 Hz and 4 MHz.

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Lambert Instruments is dedicated to development, production and worldwide sales of products for **time resolved imaging at low-light levels**.

Our mission is to enable our users to **reveal previously unseen phenomena**. Our products provide a possibility to record fast events at low-light conditions. Together with our software, we **reimagine detection** to offer complete solutions to challenging imaging problems.