UVITEC
CAMBRIDGE

Alliance **IRIS**

Your Next Generation **Blot Imaging System**

www.uvitec.co.uk

SUMMARY

Alliance IRIS
Excellence In Every Detail

Alliance IRIS is the latest generation top-end imaging system on the market for chemiluminescent and fluorescent Western blots. It combines outstanding optical sensitivity with advanced imaging technologies to help researchers reveal even the most challenging signals with confidence.

Developed from years of laboratory experience, every detail of the system reflects a practical understanding of scientific workflows, from image acquisition to daily usability.

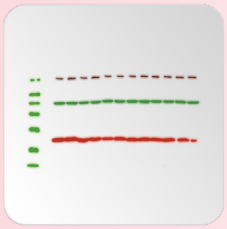
IRIS brings together elegant design, robust engineering and intuitive operation to fit naturally into modern research environments. The system is available in both touchscreen and PC-based versions for more flexibility.


IRIS

INNOVATIVE

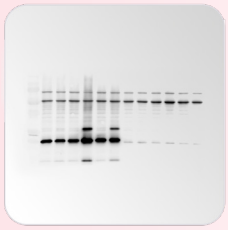
One System,
Endless Possibilities

01



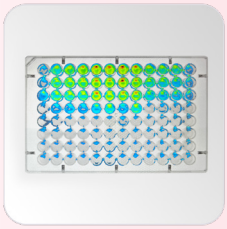
Western blots

02



DNA / RNA gels

03



In-cell Westerns

04

Luciferase

UVITEC was born in Cambridge and inspired by the future. With years of laboratory experience, our product design team is very familiar with researchers' daily workflows. Today, versatile and user-oriented design is always at the core of our developments.

Tailored for your lab

The design of IRIS, available both in standalone and PC-based versions, is a testament to its practicality and user-friendliness. It is easy to clean, robust and compact to fit seamlessly into modern research environments. Inspired by the red square in our logo and the distinctive shape of the DNA molecule, its design connects IRIS to the very essence of molecular research, symbolizing the pursuit of knowledge and discovery.

One System, Endless Possibilities

IRIS adapts to a wide range of molecular biology applications. Its modular architecture enables researchers to perform chemiluminescence Western blot imaging, epifluorescence applications, DNA and RNA gel documentation, visible imaging and bioluminescence experiments within a single platform.

Next Generation LED Tables

To support safer and more sustainable imaging practices, UVITEC Cambridge is the first to introduce a UV-LED technology, ensuring a smooth transition from traditional UV tubes. Indeed, UV-LEDs have a longer lifespan: they can operate for thousands of hours without significantly losing light intensity and efficiency. In addition, these LED conditions prevent damage to your most sensitive samples, while providing enhanced compatibility with today's most widely used fluorescent and safe dyes.

By combining application versatility with durable illumination technology, IRIS is an innovative imaging platform that adapts to evolving scientific needs.

Our unique features at a glance

Flexible LED Tables:

- Safer and more sustainable LED technology compared to UV tubes
- Interchangeable slide-out Tables to match your application needs

Versatile application coverage:

- Chemiluminescent / fluorescent Western blots imaging and DNA/RNA gel documentation
- Optional NIR / RGB epifluorescence modules
- Bioluminescence imaging for luciferase applications

How to choose the right Table for your needs ?

UV-LED Tables	Recommended Use	Application Dyes
UV-LED Table **For classic UV detection**	Ideal for traditional UV-excited fluorescence applications · Best choice for standard nucleic acid visualization under UV excitation	· Ethidium Bromide DNA gels · ProQ® Emerald 300 · SYBR® Gold / SYBR® Green / SYBR® Safe · GelRed® · TLC plates (UV-fluorescent compounds)
Blue LED Table **For safe & versatile fluorescence**	Optimized for safer DNA/RNA staining and sensitive protein detection · Ideal UV-free alternative for nucleic acids, proteins and imaging of biological samples	· GelGreen® / Midori Green® · SYBR® Gold / SYBR® Green / SYBR® Safe · SYPRO® Ruby · Coomassie-stained gels & proteins · Ponceau S staining · Silver stain · Tissue samples · Petri dish colony screening · Autoradiographs & X-ray films
White LED Table **For Broad visible light applications**	Perfect for colorimetric and general imaging workflows · Best choice for visible staining and documentation of gels and membranes	· Coomassie-stained gels & proteins · Colorimetric stains · Silver, copper & zinc stains · Ponceau S membranes · Tissue samples · Petri dishes (colonies) · Autoradiographs & X-ray films · TLC plates
Chemi Tray (no UV) **For chemiluminescence & epifluorescence**	Designed for advanced imaging beyond standard gel visualization · Ideal for highly sensitive detection without transillumination (= bottom illumination)	· Chemiluminescence detection (Western blots, membrane-based assays) · Epifluorescence imaging of samples and slides · Immunoblotting (HRP / ECL-based detection) · Low-light biological signal detection

RELIABLE

Uniform Illumination With **Chromascan Technology**

Chromascan technology:

- Uniform illumination accross the sample
- Up to 12 epifluorescence module packs
- Reliable multiplexing with no crosstalk

A Brief History of Excitation Light Sources

Epifluorescence users seek consistent and uniform illumination in their applications.
Traditional imagers that you will find on the market often rely on the following illumination modes.

White light

The very first epifluorescent imaging systems started by using white light-based technology, a process that involves converting white light into red, green and blue via large band filters. Its limitation lies in multiplexing as it becomes impossible due to the light intensity being divided by three.

Spot LED

The next generation and most commonly found epifluorescent imaging systems use Spot LED technology. However, NIR/IR excitation channels originate from the same excitation source, decreasing significantly the light intensity in these channels. Depending on the manufacturer, filter quality varies, influencing crosstalk and multiplexing capacities.

Scanner

More recently, the introduction of laser-based technology raised interest towards near-infrared and infrared applications. Despite its benefits, this technology remains expensive, requires long acquisition time, and is limited to 2 channels of excitation.

Discover our Chromascan Concept

Our well-known illumination system overcomes these challenges, providing strong light and multiplexing possibilities. Our new unique Chromascan concept goes beyond, by offering more accurate quantification, and fewer crosstalk issues. The acquisition time is rapid. IRIS leaves no room for uncertainty by guaranteeing that your samples are scanned in the same way, everywhere.

Upgrade your System at Anytime

IRIS is fully customizable, tailored to your workflow, and upgradable. At UVITEC, to fit the various numbers of epifluorescent dyes that may be used in a laboratory, we have designed 12 different packs including excitation and emission modules for you to easily insert into your system at any time you decide to start working on epifluorescence.

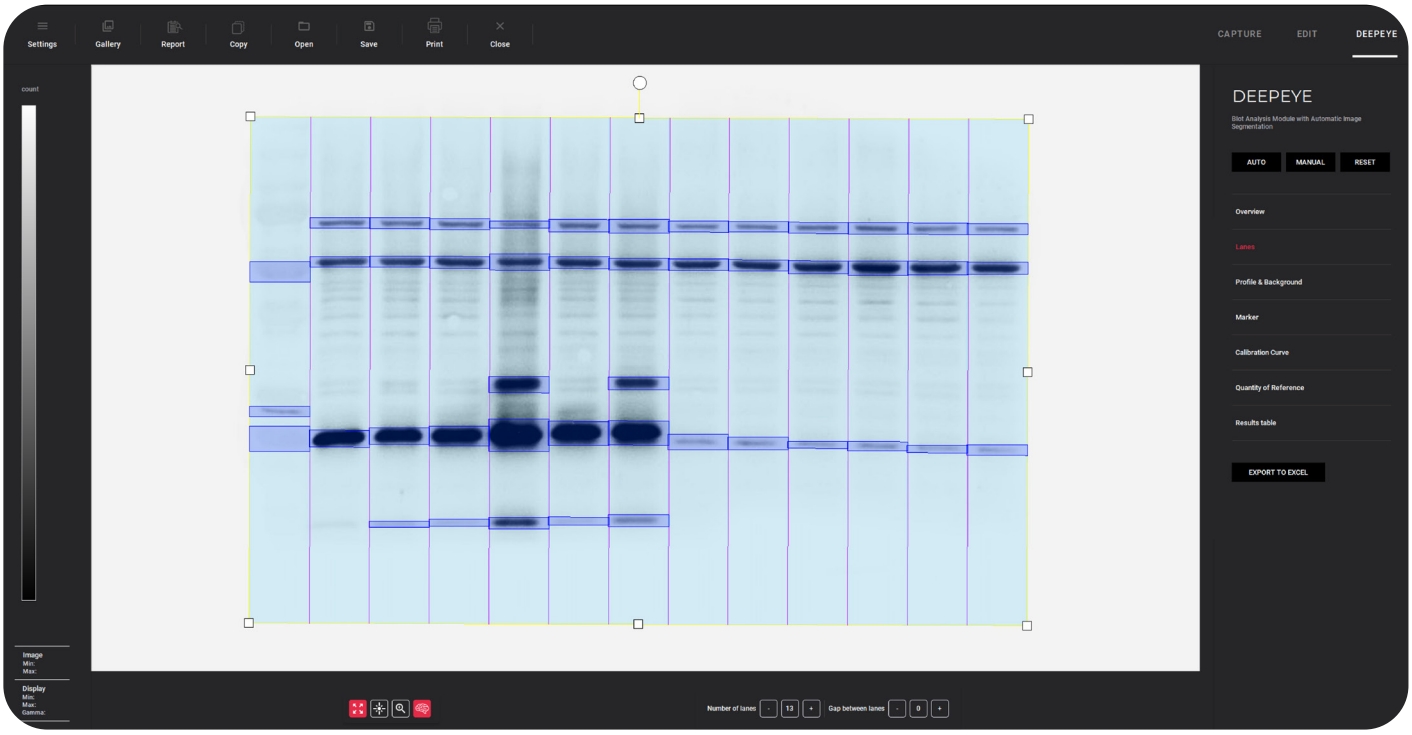
How to choose the right Chromascan module pack according to your dyes ?

Chromascan Modules	Application Dyes
Chromascan UV365 pack module EX365nm-EM590nm	Qdot 565, Qdot 655, Qdot 705, TLC plates, microplate, Alexa 350, DAPI
Chromascan Light Blue pack module EX440nm-EM500nm	DAPI, CFP, Cerulean, Alexa Fluor 405, Cascade Blue, Pacific Blue, DyLight 405, Atto 425
Chromascan Blue pack module EX480nm-EM550nm	FITC, Alexa Fluor 488, GFP, SYTOX Green, Fluorescein, Cy2, Sypro Ruby, DyLight488
Chromascan Deep Blue pack module EX480nm-EM600nm	YFP, eYFP, Venus, Alexa Fluor 514, FITC, mCitrine
Chromascan Green pack module EX540nm-EM600nm	Rhodamine, Alexa Fluor 532, Alexa Fluor 555, Cy3, PE, TRITC, ProQdiamond, DyLight 549, mRuby3
Chromascan Deep Green pack module EX540nm-EM650nm	Cy3.5, Atto 565, Rhodamine 6G
Chromascan Orange pack module EX580nm-EM650nm	DsRed, mCherry, Cy3.5, Alexa Fluor 568, Texas Red, Atto565, Atto594, Alexa594, mStrawberry, mKate2
Chromascan Red pack module EX640nm-EM700nm	Alexa Fluor 647, Alexa Fluor 660, Cy5, APC, Atto633, Atto 647N, DyLight 633, DyLight 650
Chromascan NIR pack module EX680nm-EM750nm	Alexa Fluor 680, Alexa Fluor 700, Cy5.5, IRDye 680RD, Atto 680, Atto 700, APC-Cy7, DyLight 680
Chromascan LIGHT IR pack module EX740nm-EM750nm	Alexa Fluor 750, Cy7, IRDye 800CW, VivoTag-S 750, DyLight 755
Chromascan IR pack module EX740nm-EM800nm	Cy7, IRDye 800RS, ZW800-1, Atto 740, HiLyte Fluor750
Chromascan FAR IR pack module EX780nm-EM850nm	Alexa Fluor 790, Cy7.5, IRDye 800CW, VivoTag-S 800, DyLight 800

INTELLIGENT

Effortless
Data Analysis

IRIS' software transforms molecular imaging into a seamless experience, by delivering fast and accurate results across your entire workflow.



Get Your Images in One Click

Auto is our motto. Enjoy our 1-click acquisition process with fully automatic exposure, lighting and focus mode. Our software allows you to get outstanding quantifiable images and perfect detection. Each picture is automatically saved into a built-in gallery to make sure your data is secure and easily accessible. Predefined application protocols streamline your routine experiments, while custom protocols can be created to match your unique workflows.

Experience Effortless Data Analysis with DeepEye

IRIS introduces DeepEye, an unprecedented technology in the world of molecular imaging. As soon as your Western blot is captured, our new software automatically detects lanes, bands and molecular markers – dramatically reducing the time needed for manual adjustments allowing you to go straight to analysis.

Powered by advanced image recognition and deep learning approaches, DeepEye accelerates data interpretation while preserving the integrity of raw experimental data.

Reveal Every Pixel of information

IRIS' analysis package offers powerful tools for molecular weight determination, protein quantification, and distance calculation. Greyscale visualization is enhanced with adaptable display controls, including histogram views and a representation of the percentage of shades of grey captured (up to 65,535 grey levels).

Enjoy Seamless Navigation

Designed for efficiency, IRIS features a responsive interface in which menu navigation itself reflects our wish to save you unnecessary steps. Exiting a tool is as simple as clicking outside its window. Real-time interactivity adds another layer of innovation: click directly on a region of interest on your image to instantly display the signal intensity at that precise location.

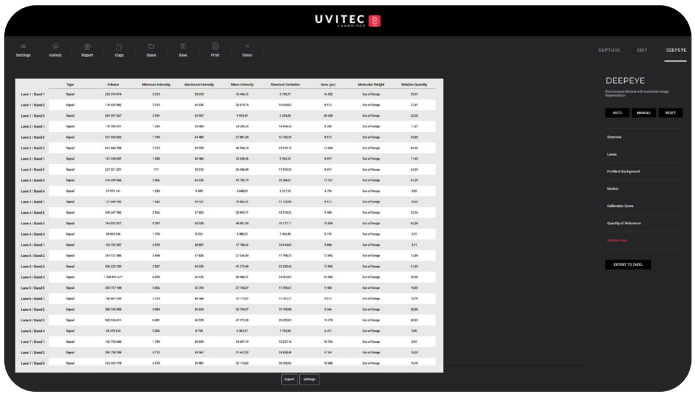
Our unique features at a glance

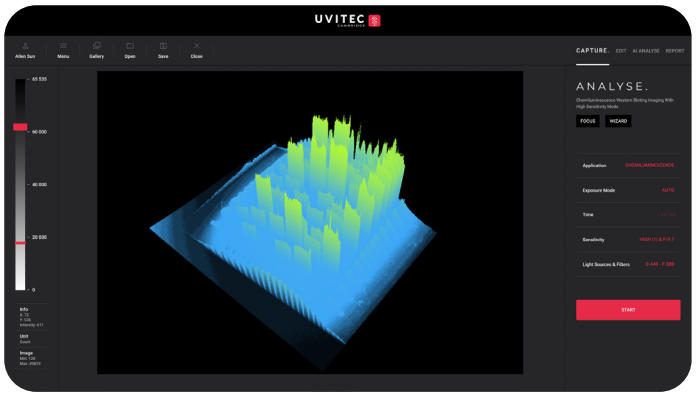
Acquisition:

- 1-click to image
- Custom protocols
- Built-in gallery

Advanced analysis:

- Automatic detection of marker, bands & lanes for effortless protein quantification
- High greyscale dynamic representation up to 65,535 grey levels
- Molecular weight determination and distance calculations
- Histogram visualization



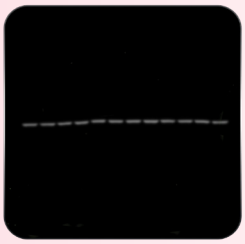


SENSITIVE

Wider
Lens Aperture

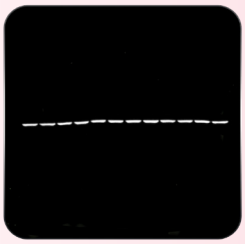
Just as the human iris opens a window to the world, our IRIS imager opens a portal to a molecular universe where your protein of interest is revealed in unprecedented detail. Combining all the parameters presented below, IRIS guarantees sensitivity.

01



f/0.95

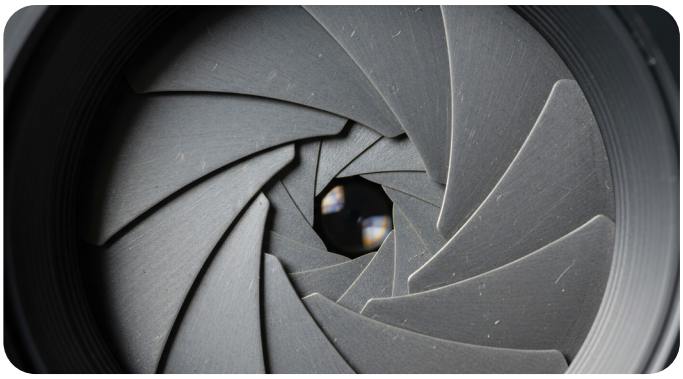
02



f/0.75

Collect More Light

IRIS has its eyes wide open: its lens features an impressive f/0.75 aperture, which allows it to capture an incredible amount of light. In optics, the smaller the focal number, the more light your device collects.



Get The Best Quantifiable Pictures

IRIS provides a remarkable resolution of up to 30 megapixels (9.2MP native), which ensures that you can discern even the finest details in your imaging experiments.

In addition, our system provides pictures with high density of grayscale within the camera, enabling you to precisely analyze your samples. The closer you get to 65,535 grey levels, the more quantifiable information you have access to.

Detect Even The Weakest Signals

IRIS' optical system is further enhanced by its exceptional dynamic range, with an optical density (OD) of 4.8. This means that IRIS can capture a wide range of signal intensities without losing crucial information. Whether you are working with faint signals or intense ones, IRIS can accommodate your needs with ease.

Keep It Cool

To maintain its sensitivity, IRIS relies on a sophisticated cooling system, using a three-stage Peltier normalized camera. This cooling system allows you to minimize background noise and detect your lowest signals.

Our unique features at a glance

Imaging performance:

- Up to 30 megapixels resolution
- f/0.75 custom lens
- Deep cooling via 3 stages Peltier
- OD 4.8 dynamic range

F/0.75

F/16

2 DESIGNS AVAILABLE

TOUCHSCREEN

Get the Cambridge Touch

IRIS Touchscreen configuration combines imaging, acquisition and analysis within a single compact workstation. Its large adjustable 15.6-inch touchscreen offers a remarkable resolution to ensure that every detail of your molecular imaging experiment is vividly displayed.

- Integrated standalone imaging workstation
- Large adjustable 15.6" high-resolution touchscreen
- Compact footprint for optimized bench space
- Fast access to acquisition and analysis tools
- Robust design adapted to daily laboratory use

2 DESIGNS AVAILABLE

PC-BASED

Built Around Your Laboratory Workflow

IRIS PC-Based configuration offers maximum flexibility for laboratories operating within established IT infrastructures and centralized workstation environments. By connecting the imager directly to a dedicated computer, you can integrate IRIS seamlessly into your existing workflow.

- Ideal for laboratories with dedicated IT standards
- Easy integration into existing workstation environments
- Flexible user management and data organization
- Convenient for shared or centralized computer setups
- Familiar workflow for researchers preferring PC-based operation

⚠ PC not provided with the system

SPECS OVERVIEW

Alliance IRIS
Chemiluminescence & Fluorescence

Practicality

- **1-click to image** > effortless acquisition, in no time
- **Full automation** > hands-off, automated routines
- **Interchangeable Tables** > hassle-free sample positioning
- **DeepEye software** > revolutionized acquisition and analysis

Imaging

- **Up to 30 megapixels** > 9.2MP native camera resolution
- **f/0.75 custom lens** > unrivalled camera sensitivity
- **3 stages Peltier Cooling** > reduction of background noise
- **OD 4.8 dynamic range** > outstanding weak/strong detection ratio

Detection capabilities

- **Chromascan concept** > homogeneous fluorescent light
- **Uvipure technology** > enhanced UV for EtBr and all safe stains
- **Confocal discs** > precise signal wavelength capture
- **Multiplexing** > imaging of several proteins

Design

- **2 configurations** > Standalone & PC-Based
- **Wide door opening** > easy access to darkroom
- **Sustainable UV** > UV LED 312nm
- **Robustness** > stainless steel and epoxy paint

Chemiluminescence	Western blotting
Fluorescence	(Optional) DNA and RNA gels with fluorescent stains
Epi Fluorescence	(Optional) Selection of NIR/RGB modules from 12 combinations available
Bioluminescence	In-vivo Luciferase and Fluorescence
Visible Imaging	(Optional) Colorimetry and Protein gels

THEY TRUST US

More than 10.000
users worldwide

UNIVERSITY OF CAMBRIDGE

UNIVERSITY OF OXFORD

Institut Pasteur

UNIVERSITY OF CALIFORNIA

THE UNIVERSITY OF MELBOURNE

SAREPTA THERAPEUTICS

Make It Visible