

# OXScan 14K



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See the  
**Bigger**  
Picture

ultra-high resolution film scanner

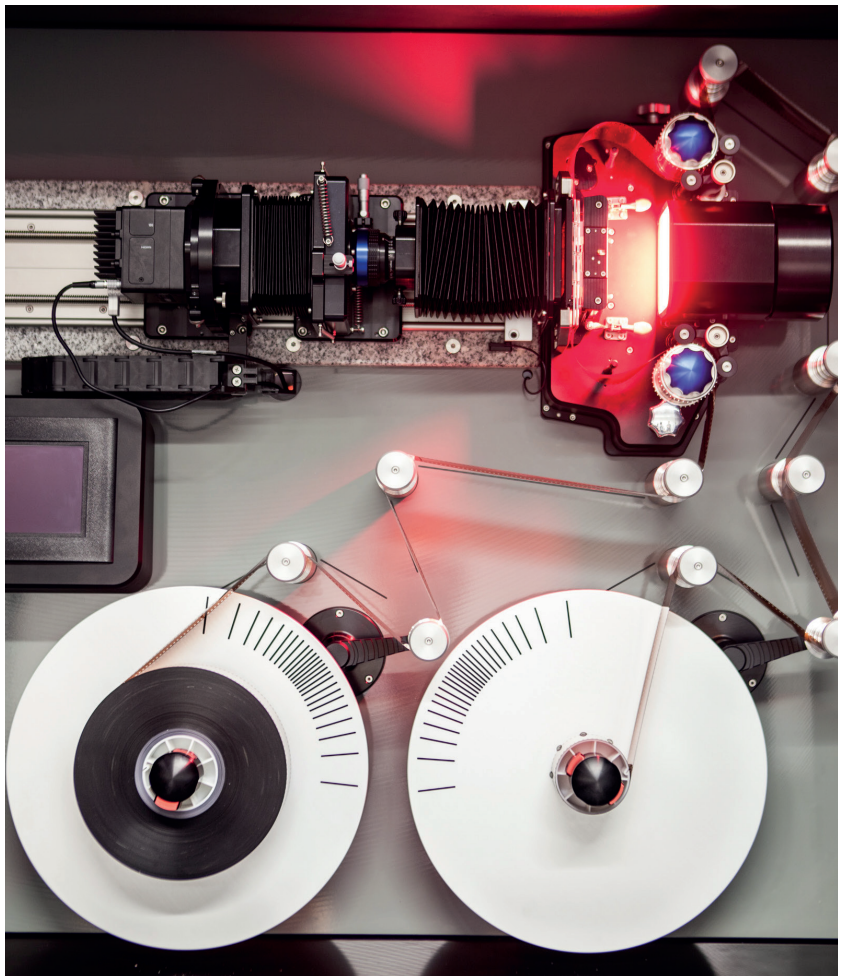
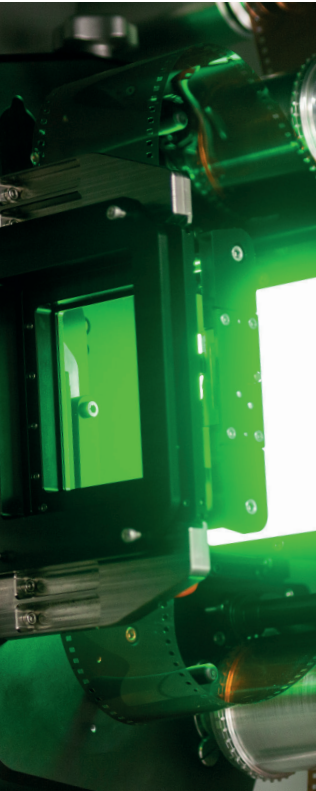
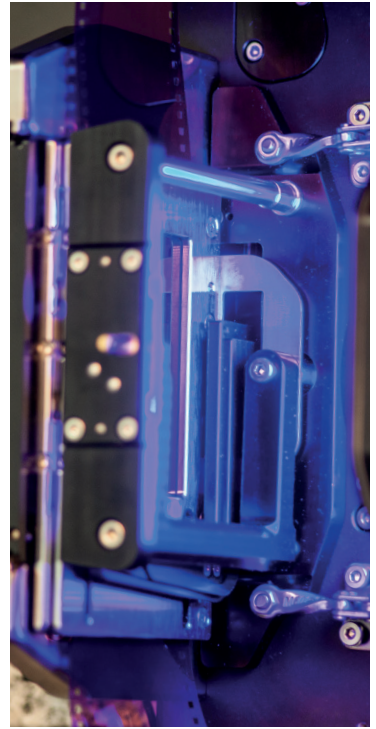
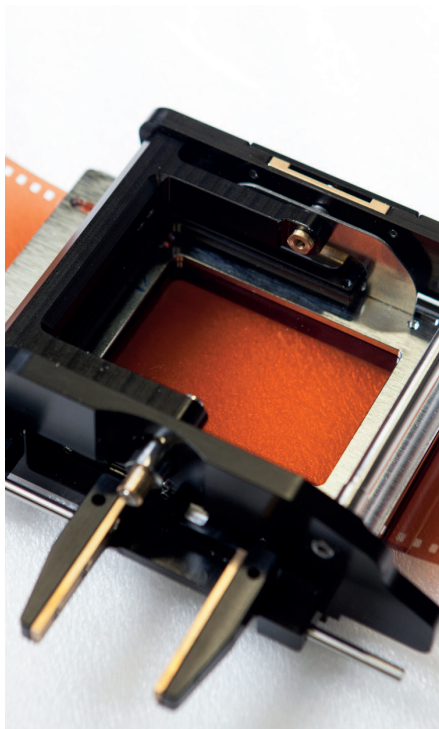
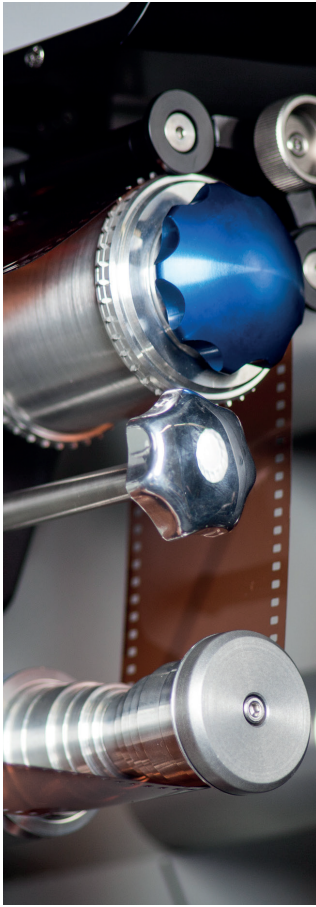
# OXScan 14K

OXScan 14K delivers a high resolution output, from 2K to 14K from a range of film formats, and enables the user to visualize the live image in HD without lengthy time or data consuming post processing.

Great moments in film can only be created with huge amounts of technical and artistic expertise – and of course, a sprinkling of magic. OXScan 14K has been designed to ensure great film moments are captured at their very best – high quality images that echo the technical and artistic expertise that created them. Developed initially for the ultra-high resolution ingest of 65mm Original Camera Negative film for mastering up to 14K RGB at 16 bit, OXScan14K can now manage multiple film formats – 70mm, 65mm, 35mm (currently 4 perf only) and 16mm. OXScan 14K was developed to enable users to see “the bigger picture”, producing images which are high resolution, high quality, accurate and with high fidelity color performance.







## Key Features

The OXScan 14K combines three key features - an ultra-high resolution native camera of 14K, with two different optional servo systems for either precise film transport and image stability (sprocket system), or an accurate adaptable archive friendly capstan system, that uses software to aid in its final delivery, and the flexibility of scanning a variety of film formats. OXScan 14K delivers a high resolution output, from 2K to 14K from a range of film formats and enables the user to visualize the live HD image without lengthy time delays in post processing. Developed by the experienced engineering team at DFT, not only does OXScan provide a high quality deliverable, but it also gives users a highly flexible and user- configurable scanner, which can adapt to suit multiple uses.

### Ultra-high resolution & range of film formats

The OXScan 14K excels in the ingest of large format 65mm (5/15 perf) new Original Camera Negative as well as print 70mm films, mastering up to 14.3K horizontal and 10.7K vertical resolution, at up to 16 bit RGB. At full resolution (14K) it can achieve a

maximum scanning speed of 2.8 seconds per frame, while handling film gently and accurately at this high level of resolution. For faster scans the OXScan can be equipped with a 12K camera for scanning speeds up to 2.2 seconds per frame. With this slightly reduced resolution camera a scanning speed up to 2 seconds per frame is possible with a native 8K resolution (for 35mm film).

The OXScan 14K is positioned to deliver the demands of the highly anticipated 8K UHD market, making it a game changer for high quality deliverables from 70mm through to 16mm, facilitating access to unseen quality for future generations.

### Liquid cooled LED light source

The OXScan 14K uses liquid cooled, super-low-power light emitting diodes to enable a high resolution output, while handling the film safely. Automatic and manual control of the LED light source means the user can predetermine the conditions of final deliverables with ease.

### Precise & safe film transport

Film stability is critical for the capture of precise, high

resolution images. Sprocket and pin transport provides both horizontal and vertical image stability and is well suited for 35mm and 65mm film in good condition. Capstan film transport (optional) is better suited to more difficult and delicate films, as it provides both a smooth and gentle management of the material. Optical Pin Registration enables accurate image stability.

## Software features

Virtually any resolution, from 2K to 14K, including custom output, can be created, using the built-in scaler software, with optimization for ROI 'regions of interest'. This gives users the flexibility to select and focus on specific areas of the film to be scaled according to need.

The image viewer and image analyzer provide options for digital zoom and pan, selection of regions of interest and a live view of histogram and pixel values.

To customize and optimize the light & transfer feature, the user can select RGB density ranges and levels for linear, log/CPD and even input custom transfer characteristics.

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# Key Features

As the world's first ultra high resolution film scanner for 16mm, 35mm & 65mm/70mm films OXScan 14K provides:

- **High fidelity and authentic color performance**
- **High performance image stability**
- **Flexibility and choice of deliverables**
- **Range of file output formats**

## **High fidelity & authentic color performance**

OXScan 14K uses true 16 bit color sampling and captures an unparalleled level of details from the original film. Multiple images, one for each RGB color, are taken from each frame, which in combination with the high resolution scan, guarantees accurate color resolution and fidelity. With the dynamic range capability of the OXScan 14K, users obtain an accurate dynamic response, leaving no detail behind.

it is equipped with optical pin registration, providing reliable and repeatable stability.

## **Flexibility & choice of deliverables**

Users can choose from a range of formats on the same film scanner. Film gauge options include 70mm/ 65mm (5 perf and 15 perf), 35mm (4 perf) and 16mm with native resolutions from 2K all the way through to 14K, offering users a high degree of flexibility and choice.

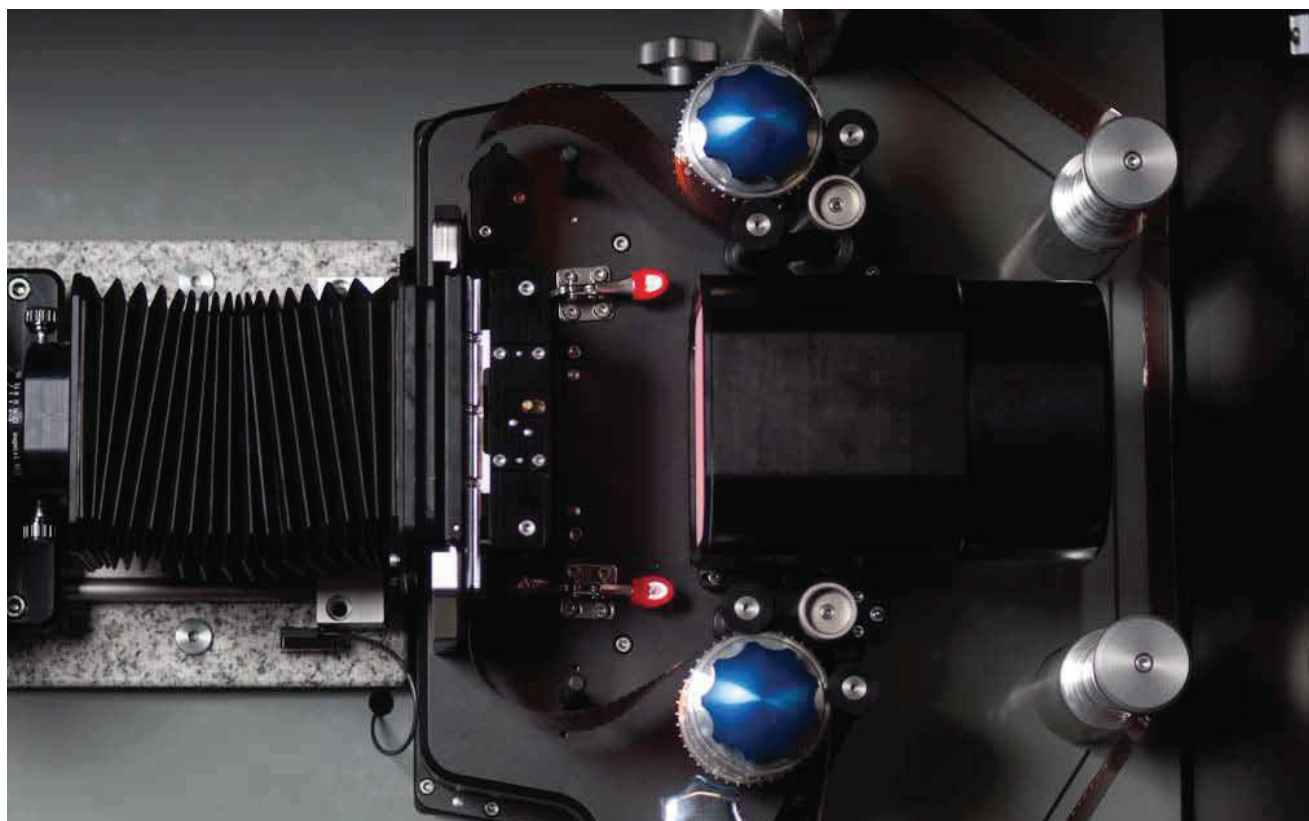
## **High performance image stability**

OXScan 14K uses a pin-registration mechanism to give a high performance, which is both repeatable and stable. For the gentler handling of aged/archived films with a shrinkage of up to 3%, the OXScan 14K capstan system is a useful servo option and

## **Range of output formats**

All standard output file formats and multi-resolution transcoded deliverables are available. Users can define DPX and TIFF master file deliverables with selectable 10 or 16 bit output.





## Why DFT?

### QUALITY YOU CAN RELY ON

OXScan 14K is part of a range of high-end film scanners from the world-renowned Digital Film Technology. With decades of experience in developing high quality film scanners such as Spirit and Scanity, DFT's dedicated engineering team builds on proven reliability and passion for innovation, making DFT the market leading provider to the film archive industries.

### WORLDWIDE SUPPORT

From day one of the installation throughout the product lifetime, our global network of dedicated, and experienced engineers provides customer support from 24/7 telephone or e-mail assistance through to complex servicing or emergency breakdown repair.

# Specifications

## Film formats

Film size	65/70mm (70mm uses the same 65mm gate assembly)
	S35mm/35mm
	S16mm/16mm
Perforations	65mm (5, 15 perforations), 35mm (4 perforations)
Film type	Negative, positive and interpositive

## Gate specification

Type	Pin registration with sprocket. NEW OPTION: Soft capstan motor drive system (overscan-capability of up to 40% )	
	Pin registration	Capstan system
Film format for gate	65mm/70mm S35mm/35mm	S35mm/35mm S16mm/16mm
Shrinkage	1 %, higher values can be tested individually	< 3%
Image stability	< 5 µm shift in x and y Software stabilization	< 5 µm shift in x and y Software stabilization

## Machine specifications

Height	1908 mm
Width	1294 mm
Depth	910 mm (without door handles)
Weight	450 kg
Power & consumption	Power Supply: 110 - 240 V / 10 A

## Optical System

Camera options	Area based sensor for full resolution 14K RGB Area based sensor for full resolution 12K RGB (monochrome CMOS area array with sequential RGB & Infrared capture per pixel)
Light Source	RGB-IR LED (Cold) diffuse light source
Bit depth signal processing	16 bit
Dynamic range	Density range (DR) 4.15

## Workstation (typical configuration)

Processor	Intel Core i9- 10940X 14x 3,3GHz (Max Turbo 4.6 GHz) (or similar)
Graphics Processing Unit	Nvidia RTX 3090 (or similar)
Image processing SSD	Samsung SSD M.2 2280 980 Pro, PCIe Gen 4.0 x4, NVMe™ 1.3c (or similar)
Operating system SSD	Samsung SSD 860 PRO SATA, 512 GB, 5200 ECO 6GB/s 7mm (or similar)
Operating system	Windows 10 LTSC
Ethernet 10 G	10 Gbit/s PCIe8 Intel X710-DA2 2x SFP+
Fibre channel customisation (or similar)	Qlogic FC 16 Dual Port
External storage	User Defined



Recommended scanning modes - native

12K sensor	65mm 5/15 perf:	full resolution (11.6K)
	35mm 4 perf:	full resolution (11.6K) or 8K
14K sensor	65mm 5/15 perf:	full resolution (14.3K)
	35mm 4 perf:	full resolution (14.3K)

Scanning speed\*

	12K sensor (full resolution)	14K sensor (full resolution)
2 perf /4 perf/ 5 perf	2.2 sec/frame   0.5 fps	2.8 sec/frame   0.4 fps
15 perf	2.4 sec/frame   0.4 fps	3.0 sec/frame   0.3 fps

\*Refers to max. achievable scanning speeds. Scanning speeds may vary due to processing configuration and storage bandwidth.

Spooling speed

Standard	3 frames per second
Fast (only recommended for new film)	5 frames per second

Output deliverables

File format	TIFF and DPX
Bit depth	10, 16
Output color space	CPD, RAW

Software features

Full transport and scanning control	Manual control of the light source and film transport
Custom output resolution selection	Selection of custom output regions from original scanned image
Job-based settings	Ability to save all preferences and custom settings to job files for re-use
Image re-sizing	Full resolution image can be resized down to 8K/4K as second output without reduction of scanning speed
Image viewer and analyser	Digital zoom/pan/region select/ROI histogram and pixel values
Sensor live view	Live view of the sensor at 1080p
Histogram/waveform monitor	Live view of histogram and waveform data viewer
Auto calibration	Automatic calibration for potential uneven light source
QC playback monitor	Playback of proxy generated images
Image comparer	Wipe image comparison tool
Aperture correction	Luminance sharpening tool
Transfer Characteristic (LUT) Control	Full control of RGB density ranges and levels for linear, log/CPD and custom transfer characteristics
Focus Meter Tool	Numerical UI feedback of measured focus to facilitate set-up process



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DFT's policy is one of continuous improvements and we reserve the right to change the specification at any time without prior notice.