

Northlight Scanner

Highest quality archive scanning

FilmLight



The Northlight film scanner is the benchmark for quality in the high-end film restoration market.

Reliability and safe film handling are the hallmarks of Northlight. You can configure the transport system to suit the film condition quickly and easily, whether scanning modern camera negatives or fragile archive materials.

With a host of software features, multiple film gauge functionality, pinless gates and the option of a capstan drive, Northlight can take on the most challenging archive tasks.

Northlight has already been used on many restoration projects at Sony Pictures Entertainment, as well as on Paramount's restoration of *The GodFather*, *The African Queen* and *Dr Zhivago*. Pinewood Studios has also installed a Northlight scanner to restore titles from the StudioCanal British Library.

Northlight embraces 4K workflow and digital cinema projection, too, with a native scanning resolution of 8K.



Northlight 2

Extreme shrinkage managed with ease

The Northlight projector deals with excessively shrunken film—from 1% to 3%—as a matter of course, and can even cope with film shrunken more than 3% if needed.

Several features ensure your film is always treated properly:

Self-adjusting film loop

The projector has two loop rollers that apply a gentle, linear tension to the film. If your film is shrunken, the loop length will vary—so the rollers have been designed to adjust automatically, ensuring that the loop remains symmetrical throughout the scan.

Adjustable wrap rollers

Northlight controls how much contact film has with the sprockets. If film is excessively shrunken (<1%), you can engage fewer sprocket teeth. The sprocket design and adjustable rollers allow transport of film shrunken up to 3%.

Registration pins

Registration pins are available for 0, 1, 2 and 3% shrinkage. For 35mm film stocks, these are available in B&H and KS types.

Capstans

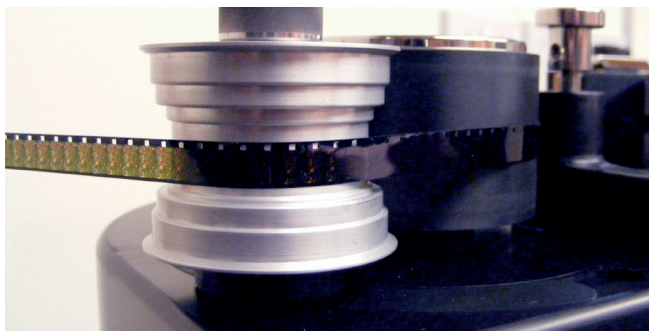
For non-standard or very damaged films, you can perform completely pinless transport by fitting capstans in place of the sprockets.

Alternative sprockets

In rare cases where film is shrunken more than 3%, you can fit alternative sprockets.

Multiple film gauge capability

Northlight handles 35mm and 16mm film gauges as standard; however, the projector and film path are capable of dealing with any sub-35mm gauge and can cater for up to four separate gauges. If you work with film gauges other than 35mm and 16mm, contact FilmLight to discuss your requirements.



Multiple film gauges? No problem

Accurate focus every time

Under normal circumstances, the Northlight gate holds the film flat and the focus remains optimal. However, if the film you are scanning is curved, warped or damaged it may not sit in the same plane as modern material and the focus may be compromised slightly.

The Northlight gate has a manual focus adjustment so that you get flawless focus on every frame, with a default position that allows you to reset focus fast and easily.

Dust busting

The scan capability on both the Northlight and the Northlight 2 enables automatic downstream dust busting processes using 3rd party software products.

The error map is encoded as a second image element into the DPX file to aid automatic dust busting packages.

Northlight's unique, vertical film transport is also specifically designed to minimise dust falling onto the film during the scanning process.

LED light source

The optional LED light source is a drop-in replacement for the standard metal halide lamp; it provides the same illumination with a much lower power consumption, and has the advantage of a very long lifespan.

See the LED Light Source datasheet for more information.

Handle with care

The Northlight scanner treats your film with the care and attention it needs, no matter how damaged or delicate it is.

Gate actuation

The film gate has a linear encoder that provides continuous positional feedback. This allows the Northlight software to instantly adjust the gate actuation if required, reducing the need for you to intervene when scanning damaged material.

The perf hunting feature also detects if a perf is not placed correctly and moves the film slightly before it attempts to engage the gate again.

Pressure/stripper plates

The stripper plate profile is curved and this accurately guides the film during transportation. There is also a greater space between the plates, which allows the scanner to transport thick tape splices.

Pinless scanning

Overscan gates are available for both 16 and 35mm film stocks. These gates offer a much wider scanning aperture and are used without registration pins.

The Northlight software stabilises the images at scan time and outputs the frames at a standard aspect ratio. Alternatively, you can choose not to stabilise the images and output the frames with an over-sized aspect ratio instead, so that you can apply post-scan stabilisation and cropping.



Image from the overscan gate

Greater control

The Northlight control software includes many archive-related software features. You have complete control over:

Transport dynamics, relative to the condition of the stock you're scanning

Control the speed at which film is slewed between the spools or stepped one frame at a time between the sprockets.

Single frame sequence scanning

For damaged sections of film where operator assistance is required (for example, a bad tape splice), progress the scan sequence manually on a frame-by-frame basis. It's easy to switch between single frame and automated sequence scanning as required.

Pinning force

Adjust the default pinning force easily if the film is particularly delicate or damaged.

Minor adjustments of the perf position

When the film is stationary, make adjustments to the perf positions to help you scan through badly spliced sections of film.

Number of gate engage errors

If film contains problematic splices, increase the number of errors allowed so that the scan can continue without stopping.

Key features

- » Scanning speed

Northlight 2	Northlight 1
4K 35mm 0.8 sec/frame	4K 35mm 4.7 sec/frame
2K 35mm 0.5 sec/frame	2K 35mm 2.6 sec/frame
2K S16mm 0.4 sec/frame	2K S16mm 2.1 sec/frame
- » Reflective lens design with a diffraction limited optical resolution of over 200 line pairs/mm (Northlight 2)
- » 8K CCD line arrays provide true alias-free 4K resolution (Northlight 2)
- » Embedded defect map option assists with automated dust-busting
- » True 16-bit colour depth
- » Ultra low noise linear motor scan action
- » Revolutionary, pin-registered projector design with fast spooling
- » Easy to load, safe transport with push button re-racking
- » Unique projector action allowing all current film formats - 16mm, Super16mm, 2/3/4/8 perf 35mm
- » 8 perf VistaVision and 3 perf gate options
- » Stable 700W metal halide diffuse illumination system
- » Up to 8K 35mm or 4K 16mm
- » Academy/scope/full-gate/user-defined crops as required
- » Full resolution oversampling at all output resolutions
- » Full pin registration with exchangeable pin blocks
- » Fully indexed for scanning frame-accurate to EDLs
- » 2000' roll capacity
- » Automatic generation of high quality proxy images
- » Outputs 10-bit or 16-bit log DPX/Cineon files to standard file system
- » Designed to allow unattended roll end-to-end operation
- » Ability to output monochrome DPX files

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