

Blackmagic Cintel Film Scanner

The creativity of film combined with a revolution in design!



No other company in the world has more experience at scanning film than Cintel, and now that knowledge has been combined with cutting edge technology to produce the new Blackmagic Cintel film scanner! The new Cintel scanner has been designed with an architectural aesthetic and it's so thin it can even be wall mounted! It features totally redesigned digital servos, high intensity diffuse light source and imaging systems, so you get a real time scanner that scans 35mm and 16mm film up to 30fps in Ultra HD resolution! Now you can use film for post production or unlock millions of hours of film based content for scanning to Ultra HD masters for a new future world of exciting Ultra HD distribution!



Convert Existing Film to Ultra HD

With consumers purchasing large Ultra HD televisions in massive quantities right now, the demand for great Ultra HD content has never been greater and will become a boom market in the next few years. Ultra HD is incredible quality and there are millions of hours of Ultra HD content that's been generated over the last 100 years locked up in 35mm film that is stored in vaults worldwide! The new Cintel scanner will scan negative and positive

35mm film into amazing quality Ultra HD and you can unlock the extra resolution from 35mm film that no one has been able to see until now! 35mm film is natively 4K so the extra quality is already in the film. There is no easier way to generate Ultra HD feature films and television programming for customers to view on their new large screen televisions!



Innovative Design



Automatic Tension



2000ft Capacity



Angled Transport Deck

Designed to hang beautifully on your wall, the Cintel film scanner is constructed using aircraft design techniques for a stiff and vibration free main deck so you get smooth film handling. The core chassis has been designed as a super rigid structural space frame, which results in a design that's dramatically lighter than an older simplistic heavy plate design. This means the Cintel scanner is light enough to be wall mounted in your facility,

making it part of the environment of your color correction suite. Being super thin and wall mounted, it's out of the way until you need to use it, and then it springs to life and performs! Whether wall or desk mounted the innovative design includes sliding doors, built in cleaning rollers and new digital servos to keep your film clean and ensures handling of valuable negative remains gentle.



Latest Technology

The new Cintel film scanner is an innovation in technology. Film traditionally has been a mechanical technology and film products have suffered from poor quality electronics that required experienced engineers to keep them working. The Cintel scanner has been designed with the latest Blackmagic Design image processing technology and features a Thunderbolt 2 connection so you can connect it to your Mac and scan the film directly into your color correction system. That makes setup and use extremely fast plus eliminates slow file copying after scanning. Because Cintel is a Mac OS X Thunderbolt 2 peripheral, you get easy to install software updates that add new features and it also means you can even upgrade your computer whenever you need!



90 MINUTES
OF FILM

=



90 MINUTES
TO SCAN

Realtime Scanning

The Cintel Film Scanner is the world's first real time 4K film scanner to use Thunderbolt 2, making it super easy to set up and install. The new diffuse high intensity light source means the Cintel scanner runs at a smooth real time speed keeping film handling gentle and transfers super fast. The Thunderbolt 2 connection features a massive 20 Gb/s speed so you can transfer all this data direct into your computer without quality limitations. You can even change computers simply by unplugging the single Thunderbolt cable. If you're wall mounting then you can use the longer 30 meter Thunderbolt cables to connect to your grading computer even when hiding the cabling in the wall. With the Cintel scanner, you get the high resolution of a film scanner with the real time use of a traditional telecine!

Renowned Cintel Quality

The Cintel Film Scanner features a super bright spherical RGB LED illumination and an extremely sensitive imaging sensor. That means you get high quality scans that are super sharp even when running at full real time speed. The spherical RGB LED illumination ensures your priceless film is never exposed to unnecessary thermal stress and color fading effects of traditional scanner lamps. In addition, Cintel's patented diffusing sphere technology reduces the visibility of dust and scratches, giving you stunningly beautiful film scans every time. If you're looking for super stable scanning then the optional pin registration gate means you can run non real time frame by frame scanning and get even tighter stability than possible when running real time!

Maintenance Free Connections

The Cintel film scanner is easy to set up and configure thanks to it's Thunderbolt 2 interface. Simply connect the scanner to your Mac OS X workstation, install the software, and start scanning! That means you don't need a dedicated engineer to operate and support the scanner. The Cintel scanner has been designed to give you the freedom to move it between machines or even plug into laptop computers so you can scan your film directly into the computer you're going to use the content on. The HDMI output supports Ultra HD televisions for perfectly accurate focusing and film alignment using a local monitor. The HDMI output can even be converted into SDI video using Blackmagic Mini Converter HDMI to SDI 4K, perfect for connecting into your system for client monitoring!



HDMI



Thunderbolt 2



Power

Fast Easy Control

Using the Cintel film scanner is easy and intuitive. You get scanner control software for your Mac that includes everything you need to transfer and capture films to Ultra HD or HD files. Scanned files can also be opened with DaVinci Resolve for further color, restoration and mastering work.



Includes DaVinci Resolve

In the past when film was the main way to get high quality images for post production, Cintel telecine's and DaVinci color correction was the standard combination used worldwide! Now these two wonderful brands are back together again because the Cintel film scanner includes a full copy of DaVinci Resolve software! Now you get full color correction features included so you can take advantage of the Cintel scanner's amazing image quality. You will never be limited creatively by your equipment because you'll have incredible film looks combined with the same powerful color correction toolset used by the world's leading cinematographers!

Cintel Pedigree

Founded by John Logie Baird in 1927

Cintel has been providing high resolution film scanning tools to the film and television industries longer than any other company. Cintel is recognized as one of the world's most trusted researchers, designers and manufacturers of motion picture film scanners. With over 85 years of experience, Cintel has developed and patented key technologies for the highest quality digital

imaging of film for broadcast, post production, and digital intermediate workflows. Now combined with Blackmagic Design's experience in cameras, image processing and DaVinci color correction, the new Cintel scanner is a perfect blend of film tradition, advanced reliable technology combined with elegant industrial design.

1927

John Logie Baird founds the Baird Television Company, later renamed to Cintel.

1950

The first flying spot telecine was installed at the BBC's Lime Grove Studios.

1993

The Cintel Mk III high definition telecine was shown.

2014

Blackmagic Design buys Cintel and redesigns scanner.



Complete Solution

The Cintel film scanner will include everything for a computer solution to film scanning and grading. You get the Cintel scanner with powerful built in Image Mill stabilization and grain reduction, a single 35mm film gate (16mm purchased separately), two film spools, a set of four cleaning rollers, DaVinci Resolve 11 software and desk mount feet included. Unlike many film products, with Blackmagic Design you can be assured there are no fees for installation, no software update fees, no ongoing license fees and no fees if you ever should want to sell your Cintel scanner or, if you want to buy a second hand one in the future there are absolutely no transfer fees!

Cintel Film Scanner



Cintel Film Scanner

Real time film scanner for transferring 35mm and 16mm film at up to 30 frames per second via Thunderbolt 2 at full Ultra HD resolution. Includes DaVinci Resolve Software.

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United States

Blackmagic Cintel Film Scanner



Lo scanner Cintel è la soluzione completa di digitalizzazione e correzione colore della pellicola in tempo reale. Vanta una meccanica di precisione per l'elaborazione della pellicola, una fonte di luce diffusa ad alta intensità e vari componenti utilizzati nelle cineprese. Cintel include un corridoio per pellicole 35mm, bobine, quattro rulli di pulizia, un sostegno per il montaggio su piani orizzontali e il software DaVinci Resolve Studio. Cintel trasferisce la pellicola direttamente su DaVinci Resolve, per il montaggio e la correzione colore istantanei, incluse le funzioni di reinquadratura, riduzione del rumore ed estrazione dell'audio. Operare lo scanner con DaVinci Resolve garantisce un controllo creativo nettamente superiore al telecinema, grazie alle numerose funzioni di software aggiuntive.

Spedizione esclusa

Scanner Features

Tipi di pellicola

Positiva, negativa, interpositiva, internegativa

Mono e colore.

Formati della pellicola

35mm (2, 3, 4 perforazioni), Super 35mm (2, 3, 4 perforazioni)

16mm, Super 16mm

Risoluzione nativa

4096 x 3072

Risoluzione effettiva

3840 x 2880 - Super 35

3390 x 2864 - Standard 35

3390 x 2465 - Anamorphic 35

1903 x 1143 - Super 16

1581 x 1154 - Standard 16

Formati HDMI

3840 x 2160 Ultra HD

1920 x 1080 HD

(Corrispondenza automatica alla risoluzione del monitor)

Audio

Estratto dalle immagini digitalizzate

Riduzione di macchie e polvere

Fonti di luce diffusa. Rulli di pulizia

Opzioni di montaggio

A parete. Su piani orizzontali (sostegno incluso)

Transport Features

Movimento continuo

Velocità di funzionamento:

1 - 30 fps

Avanti e indietro:

1 - 100 fps (35mm)

1 - 200 fps (16mm)

Accelerazione

5-30 fps/s

Tolleranza di restringimento della pellicola

Garantita fino al 2%, maggiore se il dispositivo è utilizzato con cura

Capacità

Circa 609,6m

Connessioni

Uscita video HDMI

1 x HDMI 1.4 a 10bit 4:2:2 solo per visualizzazione di anteprima

Interfaccia computer

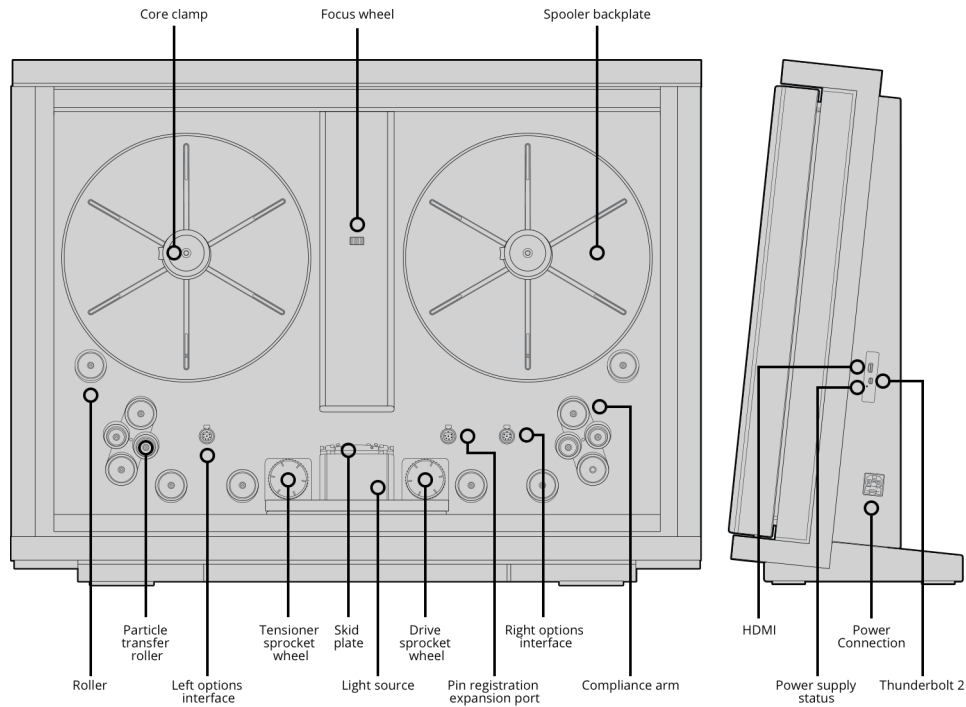
Porta Thunderbolt 2 per cattura audio e video

Opzioni di interfaccia

Uscita sincronizzata programmabile

Ingresso audio analogico a livello di linea bilanciato

Ingresso audio digitale AES



Accessori

Pacchetto di accessori per il 16mm

Requisiti di Alimentazione

Voltage Range

90 - 240V AC

Power

200W

Specifiche Fisiche



Ideal Film Conditions

Temperatura operativa

18 - 28C

Umidità relativa

Massima del 65% senza
condensazione

Cos'è Incluso?

Blackmagic Cintel Film Scanner

Sostegno per montaggio su piani orizzontali

8 x 1mm spaziatori di bobina

Software DaVinci Resolve 12 Studio

Software Cintel e manuale

Garanzia

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CINTEL FAQ's

Q. What film formats are supported?

- 35mm gate fitted as standard.
- 16mm gate is available as an optional extra
- no current support for 8mm or 72mm formats

Q. What film perforations (perfs) are supported?

A. All common 2,3 & 4 formats are supported for 35mm and 16mm formats; this is regardless of shape or size of sprocket holes. 2-perf is supported on 35mm but not for 16mm.

Q. What audio formats does Cintel film Scanner support?

A. Currently optical audio only
– We have been working on a audio/keycode reader which will be available later this year. It will allow customers to capture optical or magnetic audio in realtime. Shipping date TBC

Q. How is a 'Visual Audio Track' processed?

A. It is scanned as part of the image and converted into an audio track from the images via the 'Extract Audio' function within Resolve.

Q. How does Cintel Film Scanner actually scan the film stock?

A. Each frame is lined up and positioned within the gate where its super bright, spherical RGB LED illuminates the frame equally and clearly. The Cintel Film Scanner imaging sensor records all RGB information at once and produces a full frame RAW image for each frame. Similar to RAW recording in digital cameras.

Q. How does Cintel Film Scanner manage and remove dust and scratches?

A. Cintel's patented diffusing sphere reduces the visibility of dust and scratches as it scans, effectively removing unwanted elements in real-time. Utilising high quality, sharp LED based technology removes heat stress and potential colour fading from any film scan.

Q. How is not having a 'Pin Gate' advantageous?

A. A pin gate holds the the film for each scan, moving out of the way as the next frame advances before returning once again to lock the frame down for scanning. This constant movement on and off the film surface can mark or damage the sprocket holes therefore damaging the film stock.

Q. What resolution is 35mm film?

A. Technically, and very generally, speaking film doesn't have a resolution as its an analogue format and so isn't pixel based, but when projected to greater and greater scales an film image will look increasingly poorer as the grain of the film emulsion will also increase. It's an

Apple and Oranges comparison...

There have been many tests to provide a standard answer, but the variation in film stocks, processing quality and accurate projection further complicate the answer. Generalising these results, and considering what is the optimal projected resolution before grain becomes too great, its commonly accepted that 35mm film is equivalent to 4-6K digital, with an approximate image resolution of 14 million pixels.

This means Cintel Film Scanner's 4K resolution is ideal for capturing 35mm at its optimal image quality.

Q. Does Cintel Film Scanner support Positive and Negative film scanning?

A. Yes – Cintel scans and digitises both negative stock and positive print film stocks. Specifically, it supports the following:

1. Negative
2. IP (Inter-Positive or 'safety copy')
3. INeg (Inter-negative or edit duplicate)
4. Print

** In order of general preference for quality of the final digital scan*

Q. How much does the scanner weigh?

A. Approx 63KG (exc. flight case)

Q. Does Cintel Film Scanner support KeyCode?

A. Not currently. However, the optional Audio/Keycode reader will have this functionality when released. Shipping date TBC.

Q. What version of DaVinci is needed to support Cintel?

A. You will need DaVinci Resolve 12 or higher. It's recommended that customers download the Resolve software from the Cintel section of the Blackmagic Design website.

Q. What Mac or PC hardware is recommended for Cintel?

A. We recommend following the DaVinci Resolve configuration guides for UltraHD 4K workflows. DaVinci will 'see' Cintel as a 4K capture device and the host workstation will need to match and support the requirements of handling RAW 4K data rates.

Q. What file format does Cintel produce?

A. Cintel delivers a .CRI file – via DaVinci Resolve's capture support. This is a 'Cintel Raw File' and is similar to .DNG as a digital image file with embedded associated metadata. Data is stored as single image file and a sequence consists of sequentially numbered files.

Q. How does a .CRI file fit into a dailies workflow?

A. As a proprietary RAW file format .cri will require conversion in to a preferred .dpx or video file format for dailies (e.g ProRes). DaVinci Resolve can support export requirements as per

any productions needs and will batch export a range of digital files directly from the scanned media project.

Q. What is Cintel Film Scanner's data rate?

A. With each frame scanned at Full Aperture 4K Cintel delivers video with a data rate of 22.4MB per frame.

24p – 537MB/s or, 32GB per minute

25p – 560MB/s or, 33GB per minute

30p – 672MB/s or, 40GB per minute

(That's a lot of data!)

Q. What storage is recommended for Cintel?

A. With a considerable data rate of up to 672MB/s at 30p 4K capture a fast RAID based storage is recommended to prevent dropped frames on capture. Blackmagic's beta tests used a Promise Pegasus 2 R8 @ RAID0 which provided a reliable 750MB/s write speed. A Blackmagic Multidock with 4x PNY Prevail SSDs in an OS set 'stripe' also delivered a data speed of up to 800MB/s, but only offered limited storage capacity from current SSD products – with a storage demand of up to 40GB per minute larger RAID capacities are essential for longer scanning times.

Q. How does Cintel Film Scanner connect to my workstation?

A. Cintel Film Scanner has a Thunderbolt 2 port to provide up to 20Gb/s data speed, meaning it can stream 4K scans at real-time 30p and can connect to any Thunderbolt 2 enabled workstation via a single cable.

Q. What is the HDMI port for?

A. Cintel Film Scanner's HDMI port provides a monitor output to ensure operators can see line up and scan in real-time easily.

Q. Does Cintel always scan in realtime?

A. No. Whilst a key feature of Cintel is that it *can* scan in 4K at up to 30p in real-time, this scan rate can be configured and adjusted in DaVinci Resolve to suit the media. A slower, less than real-time scan may be preferred for fragile or older stock.

- 1 frame to 30 frames per second.

Q. What dynamic range does the Cintel Scanner provide?

A. This is not a simple answer. From a digital POV the scanner uses the same 4K global sensor as URSA with a measured latitude of 12 stops. But, output is variable on the type and density of the celluloid, as well the development process of the stock.