SCANITY 2

The High-Performance Film Scanner

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Unprecedented Speed, Quality, and Precision

The Scanity series of film scanners is internationally recognized as the benchmark for high-quality film scanning, renowned for combining superior optical resolution and high-density image reproduction with exceptional throughput performance.
DFT and its award-winning development team have re-engineered Scanity, once again setting a new standard for excellence in film scanning. The result is Scanity 2 - the high-performance film scanner.
Retaining trusted core concepts, Scanity 2 incorporates essential innovations to deliver reliability and performance alongside the adaptability and maintainability needed to meet tomorrow's challenges.

Innovative Core Technology

Scanity 2 elevates the proven and trusted high-performance architecture of Scanity to unprecendented levels of speed, quality and precision. Cutting-edge data processing technology and an advanced imaging platform provide ultra-high dynamic range, significantly faster scanning speeds, and a greatly extended overscan area. The new Scanity 2 core components comprise an advanced multi-stage TDI sensor and a high-speed GPU-processing platform, retaining unique features like true RGB capture, WetGate, real-time IR dirt and scratch matte generation, and Soundhouse based audio.

Flexible Performance

Scanity 2 provides superior image fidelity, gentle film handling, and enhanced support for digital restoration workflows essential for exceptional professional archival and post-production operation. Its tremendous throughput, ultra-high dynamic range, and precise image stability in both time-critical as well as archive preservation workflows ensure highest efficiency in the market. Scanity 2 is designed for scalability, upgradeability, and long-term operational service.

Significantly Faster Scanning Speed

Scanity 2 delivers speeds in 4K RGB-IR never seen before .

With a 50% increase in speed, compared to the earlier Scanity models, Scanity 2 achieves **Real-Time** capability.

The new Speed Mode provides even higher speeds of **Double Real-Time** at standard density range.

Faster scanning speeds and choice of **Operating Modes** allow for significant increase in productivity of digitization workflows.

Optimized Performance: Three Operating Modes to Suit Your Project

1. PERFORMANCE MODE

The standard Performance Mode delivers dynamic response comparable to the previous Scanity models. Perfectly suited for most film material Performance Mode enables high-quality film scanning in Real-Time in 4K RGB-IR. The performance mode offers an optimal balance between throughput and dynamic performance, making it the ideal choice for a wide range of digitization projects.

2. MAX HDR MODE

The new Max HDR Mode provides the maximum dynamic sensitivity in both monochrome and color. Without any limitation to B/W only, this Max HDR Mode is specifically designed to capture the entire density range and highest level of detail of dense and very dense B/W and color film.

3. SPEED MODE

The Speed Mode is designed to achieve maximum scanning speeds of up to 48 fps in 4K RGB-IR. Even at these exceptionally high digitization speeds, Scanity 2 maintains a reliable dynamic response. Ideal for projects with standard requirements, the Speed Mode excels in throughput, significantly enhancing operational efficiency.

Key Benefits

- **Significantly Faster Scanning Speeds**
- **Advanced TDI Sensor Technology**
- **High Dynamic Range in Color and B/W**
- **Customized Precision Illumination**
- **Optical Pin Registration (OPR)**
- **Huge Overscan, Near Edge-to-edge**
- **DFT Workstation with Optional Integrated Storage**
- **Futureproof Technology for Seamless Updates**

Advanced TDI Sensor Technology: Maximum Dynamic Range in Color and B/W

Scanity 2 captures RGB-IR with four high-performance line-scan cameras. Each features a new multi-stage HDR TDI sensor. The sensor is manufactured in state-of-the-art technology on a single die showing perfect uniformity along the sensor width. In every operating mode, at every speed, all color channels are captured simultaneously at full resolution. Sensor capture control and lighting configuration are precisely matched and tuned to three distinct Scanner operating modes, tailored to the specific requirements of different film material.

Customized Precision Illumination

The high-performance light source of Scanity 2 is optimized to accurately reproduce a film's original colors. The light source is carefully tuned to the multi-stage TDI sensors for maximum density and color capturing performance.
This harmonized setup of light source, optical components, and cameras enables Scanity 2 to capture density peaks with minimal interference from secondary densities, resulting in color reproduction that is true to the original.

Optical Pin Registration (OPR):

Image stability is of paramount importance in film scanning. For Scanity 2, DFT has adopted and optimized the Optical Pin Registration (OPR) function of the film scanner Polar HQ.
The OPR of Scanity 2 delivers precise interframe image positioning along both the horizontal and the vertical axis. The algorithms for perforation hole detection are highly robust and adaptable to specific film material to compensate for damaged or missing perforation holes. The result is absolute stability of scanned images, without the need for any post-scanning image stabilization.

Huge Overscan Area, Near-edge-to-edge

Visible width of film in Scanity 2 is significantly increased to near edge-to-edge. Maintaining the Scanity HDR pixel pitch, the visible width is notably increased to 5,300 pixels (35mm) / 4,700 pixels (16mm).
The sensor's resolution covers perforation holes on both sides of the film as well as the entire optical audio track area. Image capture with near edge-to-edge detail makes Scanity 2 exceptionally well-suited for restoration work requiring large overscan images.

DFT Workstation with Optional Integrated Storage Solution

During operation of a high-speed, high-resolution scanner like Scanity 2, enormous data is generated, requiring high bandwidht and reliably storage access. Even high-performance storage systems can become a bottleneck, potentially requiring a reduction in scanning speed or limitation of other I/O activity on the storage.
With the new DFT Workstation integrated into Scanity 2, DFT now offers an optional high-speed storage solution within the scanner itself. The scanner can write to its internal storage at full speed without any external bandwith requirements. Transfer of project data to a postprocessing workstation or a central storage infrastructure can happen during idle periods or in the background at any available bandwidth. This approach enables users to maintain their existing IT setup while fully leveraging the performance of a high-speed film scanner.

Designed to Evolve: Future-Ready Technology for Seamless Updates

In Scanity 2, DFT implements a new GPU-based technical processing platform designed to support film scanner developments and future more powerful components. The system of state-of-the-art modular components - including sensors, light source, optics, electronics, data processing hardware and storage interfaces - has been developed to ensure compatibility with upcoming software advancements and easy upgrade of future advanced components.
Investing in Scanity 2 means securing long-term technological reliability, future-readiness, and sustained investment value.

Get in touch

For more information about Scanity 2 please contact our sales team.
We are available to provide comprehensive information and dedicated assistance to support your film scanning needs.
sales@dft-film.com

FILM TRANSPORT	
Play / Record Speeds	Performance Mode: 24 fps Max HDR Mode: 10 fps Speed Mode: 48 fps *Speeds apply to 4-perf film stock at 4K resolution in full RGB-IR, Sufficient storage bandwidth required. Speeds may vary subject to capture settings.
Optional Lens Gate Assemblies S35/35mm S16/16mm S8/8mm	Roller gate with reference edge on which the film travels Optical perforation registration and evaluation Pressured air supported film gate No parts where the film might slide or wear
WetGate for 35mm and 16mm	Optional 16mm, 35mm film gates
Film Format 35mm	Maximum scan width: 31.8 mm; Pixel pitch 6.0 µm; 2-perf; 3-perf, 4-perf, 8-perf (VistaVision); Cinemascope Fixed settings for Full Aperture (Super 35) and ACA (Academy Camera Aperture)
Film Format 16mm	Maximum scan width 14.1 mm; Pixel pitch 3.0 µm; S16 or 16mm Fixed settings for S16, N16
Keykode Reader	For 16mm and 35mm films Film stock recognition and film stock memory recall, metadata generation
Film Length	On cores 2000 feet, 609 m; A/B wind
Shuttle Speed	2.2 m/s = 120 fps on a 4-perf 35mm film
IMAGE CAPTURE SYSTEM	
Image Sensors	3 multi-stage high-resolution TDI sensors (Time Delay and Integration) for Red, Green, Blue channels 1 multi-stage high-resolution TDI sensor for IR channel (optional)
Image Processing	Signal processing: look-up table, matrix, look-up table, factory and custom settings, Spatial processing: for image formatting in scanning speed, including anamorphic unsqueeze 2:1; Processing quantization: 16 bit
Dynamic Sensitivity	Performance Mode: delivers increased Dynamic Range through integrated simultaneous HDR (High Dynamic Range) technology for full-resolution RGB-IR scans* Max HDR Mode: delivers maximum Dynamic Range, applying an increased spread in exposure ratios Speed Mode: delivers standard Dynamic Range at maximum speed * Performance Mode provides a Dynamic Range equivalent to earlier Scanity models.
File Format	10 bit LOG / LINEAR DPX according to SMPTE 268M 16 bit LINEAR TIFF A wide range of streaming deliverable formats and compressed formats through batch processing, please refer sales for latest details. Presets for various image resolution
Components and Packing	3 x 10 bit, RGB, filled to 32 bit with padding at bits 0 and 1 4 x 8 bit, RGBA packed to 32 bit Alpha (A) = space("0") 4 x 16 bit, RGB 3 x 16 bit, RGB 2nd workflow step rendering on multiple Scanity workstations supports data backup drives
MECHANICAL DIMENSIONS	
Cabinet WetGate Supply Unit (option)	984mm (width) x 1943 mm (height) x 811mm (depth) - including door handles Weight: ca. 320 kg / 705 lb 600mm (width) x 1700mm (height) x 750mm (depth)
Cabinet Transport Crate WetGate Supply Unit Crate	1220mm (width) x 2210mm (length) x 1080mm (height); Weight: ca. 93 kg / 205 lb 770mm (width) x 2140mm (length) x 960mm (height); Weight: ca. 100 kg / 220 lb
AC POWER CONNECTIONS	
AC Supply	1-Phase mains connection 230 V, 50 Hz 2-Phase mains connection 200 V-220 V, 50/60 Hz 2-Phase mains connection 100 V-120 V, Class 1 wiring
Power Consumption	1.5 kVA, typically

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