

HIGH PRODUCTION MICROFICHE SCANNER

LEADING THE INDUSTRY

In 1987, **Mekel Technology** introduced the world's first production microfilm scanner, followed closely by its first commercial microfiche scanner. Today, the Mekel **MACH7 microfiche scanner** is the most advanced fiche and aperture card scan system on the market and is recognized throughout the industry for its automation, reliability and ease-of-use.

- Captures **microfiche, jacket** and **aperture card** media
- Scans at **high speeds** from even the most difficult film
- Advanced **image quality**. Compliant with **FADGI, Metamorfoze** and **ISO** standards.

VERSATILITY

COM. Jackets. Step and Repeat. Using the latest Mekel CCD camera, lens and smoothlight fiber optic technologies, the **MACH7** microfiche scanner converts any microfiche image to a digital file. Both **bitonal and grayscale images can be captured simultaneously** without impacting speed.

SUPERIOR IMAGE QUALITY

The **MACH7** delivers clear and consistent image quality while offering a variety of image adjustment feature options:

- Automatic crop
- Automatic rotation
- Automatic invert
- Automatic mirror
- Automatic deskew
- Software focus

SPEED

- Designed to operate at speeds of **200 images or more per minute**
- Microfiche hopper holds up to 75 microfiche for **quick batch scanning**
- Removable microfiche arm comes standard to **automate the loading/unloading process**

SIMPLE SOFTWARE

The **MACH7** delivers with Mekel's **FastFiche** software for on-the-fly scanning and processing and **QuantumScan** and **QuantumProcess** software suite for advanced capture, editing and efficiency.

FastFiche HIGHLIGHTS

- Easy-access tabs for quick job set-up
- Intuitive software eliminates a lengthy software learning curve
- Advanced menus for detailed image enhancement
- Dual-scan capability to capture and view both bitonal and grayscale images simultaneously without impacting speed
- Image quality controls and previews for real-time image enhancement
- Flexible file-naming capabilities

Quantum HIGHLIGHTS

QuantumScan

- Automatic frame or fixed-grid image detection
- Optimum resolution
- Project presets
- Image quality settings
- Pre-scan testing
- Multiple ribbon output options
- Easy workflow integration
- **IMAGEhost** integration

QuantumProcess

- Optical Character Recognition (OCR) for keyword search
- Batch processing
- Zoom capability
- Editing toolkit
- Fixed-grid frame replication
- Irregular frame flag
- Blackout framing
- Image enhancement
- Dual output option
- Document separation tagging



FEATURES

MEKEL 2.0

Mekel 2.0, the latest evolution in Mekel Technology's acclaimed line of microform capture and processing solutions, includes new features to increase the efficiency of production microfiche scanning.

- **Serpentine Scan Option**
Increases throughput and life of hardware
- **OCR Title Naming**
Recognizes header or title text for accurate, convenient file naming
- **Windows 10 support**
- **Optical Character Recognition**
Creates OCR searchable files (QuantumProcess only)
- **Opaque Capture**
For printed aperture card text and microfiche title bars

Compatible with **IMAGEhost**
Image Retrieval System

HARDWARE SPECIFICATIONS

CAMERA/OPTICS

Up to 12-bit dynamic range with gamma correction grayscale output. Full depth of pixels processed.
Advanced adaptive Automatic Gain Control (AGC) handles varying film density in real-time across the fiche
80 megapixel/second camera; 160 megapixel/second output
Full 8,192 pixel CCD array for highest true optical dpi in the industry
Mekel smoothlight fiber optic bundle provides balanced lighting across entire scan area; no hot spots or shadowing

RESOLUTION

100-600 true optical dpi; 4x-96x reduction ratio

FILM HANDLING

Manual or automatic loading/unloading option
Input hopper capacity up to 75 fiche
Optional automatic aperture card loading arm

SPEED (fully processed)

24x/200 dpi: Up to 200 ppm
42x/200 dpi: Up to 200 ppm
48x/200 dpi: Up to 260 ppm

FILM TYPES

Supports all standard aperture card and fiche types including: standard or long jackets; COM; AB Dick; Ultra Fiche and Microx; 16mm or 35mm; combo 16/35mm; simplex or duplex; positive or negative; Diazo; Silver; Vesicular; duplicates; cine/comic mode formats

HARDWARE ENHANCEMENTS

Real-time image sharpen and enhancement done in hardware with no reduction in throughput
Optional microcard module
Optional pre-scan lamp for aperture card text and opaque title bar capture



"The Quantum software saves us time and money because we scan once and can have multiple workstations processing rolls in the background."

**Ryan Ivie, Conversion Service Manager
ImageSource, Inc.**

SOFTWARE SPECIFICATIONS

IMAGE SCANNING AND PROCESSING

Continuous automatic scanning
Interactive selection of individual images or automatic capture of entire fiche row as an individual image
Real-time automatic and manual control of rotation, cropping, deskew and automatic compression of film background density
Real-time image processing provides 5x the typical processing speed
Task set-up by job or saved in set-up file
Optical Character Recognition (OCR) of selected title bar text
Optical Character Recognition (OCR) of final output images (QuantumProcess only)

FRAME DETECTION

Single-pass intelligent pre-scan automatically detects all images regardless of size or location
"Presence Pre-scan" feature allows for faster throughput on COM by automatically detecting and scanning only those frames that contain data

CAPTURE OPTIONS

Microfiche

- Full sheet; rows; individual images
- Single; row-by-row; serpentine scan modes

Aperture Card

- Film image; full card capture (optional with pre-scan lamp)

User-defined title bar/header (translucent/opaque) pre-scans for layout, naming and indexing references
Simultaneous grayscale and bitonal capture for increased efficiency (FastFiche; QuantumProcess)

VIEWING/BROWSING

View full or partial screen in real-time or by thumbnail, emulating fiche layout
Real-time dual view of bitonal and grayscale images (FastFiche; QuantumProcess)

IMAGEhost OPTION

Easy **IMAGEhost** integration for online hosting, storage, retrieval, editing and output

FILE FORMATS

Simultaneous output to grayscale and bitonal formats (FastFiche; QuantumProcess)
Output to single or multi-page TIFF and PDF (FastFiche; QuantumProcess)
Output to TIFF (G4/LZW/uncompressed), JPEG, PDF, PDF/A, JPEG2000, bitonal CALS type 1 and others (QuantumProcess only)
OCR output to single/multi-page .pdf, .txt and HOCR formats (QuantumProcess only)

TECHNICAL SPECIFICATIONS

Operating System:	Windows 7, 8 and 10 Professional; 64-bit only
Power Requirements:	50Hz or 60Hz/100v to 240v AC/800 watt single-phase, switchable for domestic or international use
Agency Approvals:	FCC, UL and CE certification
Dimensions (LxWxH)/Weight:	33 x 18 x 19 in. (130 lbs.) / 83.8 x 45.7 x 48.3 cm. (56 kg.)
Includes external Dell high-end multi-processor, multi-core workstation for maximum uptime and performance	



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