The Hybrid System **SMA 1 6650 H**
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Colour, Black and White and Greyscale with One Scanning Head

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The ideal connection:
The Hybrid Document Management System, which combines the advantages of digital and analogue technologies. Scanning and filming – with one step into a safe future.

Facts of the SMA Hybrid System

SMA Pro View Software:

The perfect scanner software (scan to file and scan to print solution), for colour, black and white and greyscale. Ten user formats and five DIN formats. With edge enhancement and dark enhancement. Easy-to-use editing and image improvement functions, multiple zoom and print function, with print all and print frequently, create print list and print margin text. Scanning head speed control, forwards and backwards. Easy viewing of all images in a directory. Different file formats, TIFF, G4, CALS, WPF, JPEG etc.

MDI-Interface (Multi-Document). Open and look at several pictures at the same time. Transfer a part of a scan from one format to another file format. Other functions: cropping, despeckle, rotation, 45 different raster formats, cut vertical scale X-axis and Y-axis also X & Y with reference, erase and draw and all zoom functions. Show on the screen in overview, full raster and greyscale rotate functions 90, 180 and 270 degrees. Other functions such as pan-window with magnify and birdseye view functions.

Two Top-Quality Scanners

Scanning head TruScan TITAN Colour
Vivid Colour and Photo-Realistic Black and White Images from the same Scanner

True Color Fidelity and Maximum Image Quality
Whether you're scanning paper or mylar maps, colour-coded or redlined engineering drawings, photographs or large commercial graphics, the TruScan TITAN captures all the brilliant colour and detail of the original. The TITAN maximizes colour precision by capturing 36-bits of data, removing the background noise, and sending the best 24-bits to the host computer. Its superior imaging system holds colour fidelity. In addition:

Precise First-Time Scanning of Monochrome Images
The TITAN provides advanced digitizing tools that ensure the highest quality monochrome performance of any large-format colour scanner. It features Advanced Copy Logic™ (ACL) – TITAN's unique error diffusion algorithm, Dual Point Thresholding, and TITAN's proprietary 2D Edge Sharpening to pick up fine lines in both the scan and feed direction. The result: you can scan even the most demanding monochrome or greyscale originals, like aerial photographs and the most difficult of sepias, with complete reliability.
Titan's innovative *Adaptive Area Thresholding*™ system also enables the scanner to automatically adjust and separate useful information from background noise. Even if your documents are in poor condition, you'll get top-quality images the first time you scan.

TruScan TITAN Facts
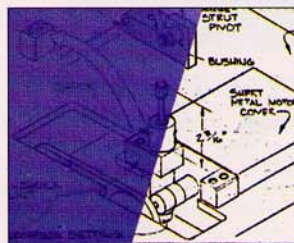**Resolution:** True optical resolution of 400 dpi
Thresholding: VIDAR's 2D Adaptive Area Thresholding (AAT); Advanced Copy Logic (ACL) with Dual Point Thresholding
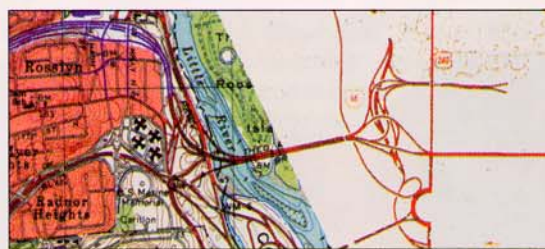
Host Platforms: Windows 95/NT

Upgradable Models:

Models	Speed at 400 dpi	Resolution Range	Colour Mode	ACL
TITAN Plus	0.8 ips	100–800 dpi	24-bit	AAT
TITAN Pro	0.8 ips	100–800 dpi	24-bit	AAT, ACL

Specifications are subject to change without notice.

TruScan TITAN includes Adaptive Area Thresholding

TruScan TITAN scans in full 24-bit color or selects layers of colour (option).

Intelligent scanner corrects page curvature.

Scanning system advantages:

True optical resolution of 400 dpi (3 CCD Cameras with 5000 pixels each) on documents up to 900 x 1200 mm.

Superior quality with the 3-Camera Technology: the reduction rate is always 1:10, whereas with the 1-Camera Technology the rate is 1:20 for DIN A1 size and 1:30 for DIN A0 size documents. The sharp edges of scanned letters easily enable OCR reading.

Fast and uncomplicated:

These are the words to describe the filming and scanning of books and bound volumes of newpapers with the special book cradle. There is an option to adjust the book pressure and speed.

Book curve correction:

The scanning head itself corrects page curvature and line skewing and removes shadowing so that even the material closest to the binding can be read easily. An edge setting masks out borders and areas behind the page.

120° Book cradle (option):

Specially for books that cannot be opened more than 120°. Therefore the scanning head is set to scan to the middle of the book.

for High-Volume Applications

Scanning head TruScan Flash (High Speed)
Outstanding Performance and Unmatched Quality in a Single Scanner

Designed for High-Volume Scanning

Every feature and design element of the TruScan Flash is geared towards increased performance and improved productivity in high production environments.

Both models feature the unique fourth generation *Adaptive Area Thresholding*™ (AAT) system that enables the scanner to automatically adjust and separate useful information from background clutter. Even if your documents are in poor condition, you will get top-quality images the first time you scan.

The Flash Upgrade also includes Advanced Copy Logic™ (ACL), Flash's unique error diffusion algorithm, with Dual Point Thresholding, and Flash's proprietary 2D Edge Sharpening to pick up fine lines in both the scan and feed direction. The result: you can scan demanding monochrome or greyscale originals, from the most difficult sepias to aerial photographs, with complete reliability.

TruScan Flash Facts

Resolution: True optical resolution of 400 dpi
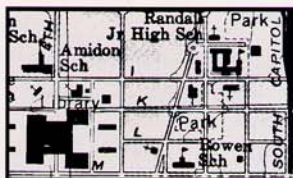
Scaled Resolution: 100–1600 dpi in increments of 100

Accuracy: Raster image dimensions relative to original ± 0.1% ± 1 pixel between any two points in any document size up to E or A0 size (factory verified using Applied Images MT8 mylar target).
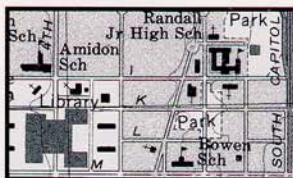
Host Platforms: Windows 95/NT

Upgradable Models:

Models	Speed at 200 dpi	AAT	Edge Sharpening	ACL
Flash	6 ips	yes	1D	n/a
Flash Upgrade	6 ips	yes	2D	yes

Specifications are subject to change without notice.

Scanned at 400 dpi in normal mode.

Scanned at 400 dpi using Advanced Copy Logic.

TruScan Flash Upgrade features error diffusion with black-and-white point setting.

THE LATEST CAMERA GENERATION – UPGRADABLE TO HYBRID SYSTEMS – THE SMA-1H AND THE SMA-0H

- **Operation is very easy** since the motorized book support is operated via two foot switches. One controls the up and down movement, the other serves as the shutter release. The experienced operator can achieve a filming speed of 6 negatives per minute, including turning the pages! All while sitting down.

- **Engineering Drawings up to A1 or A0 size,** maps and other documents can rapidly be microfilmed with the SMA-1 H or SMA-0 H. The basic 35-mm camera includes top light, an exposure meter and a high-resolution lens to produce negatives which exceed all international microfilm standards.

- **The Image Field** alignment precisely indicates the film area. This is very important when filming books and other documents with dimensions outside standard DIN sizes.

- **Automatic Exposure control** to increase filming speed by eliminating manual needle adjustment depending on background colour in the drawing to be microfilmed.

- **The Operator** himself can place the photo cell at the camera head to film drawings and maps or at the glass plate in order to measure only the edge of a book page or a newspaper page. This is very important to get density 1.0 to 1.2 on the microfilms irrespective of how dense or black the letters on the papers are.

- **Upgradable and affordable.** With the SMA Hybrid Systems you can start with the microfilm unit SMA-1 H or SMA-0 H and add the desired scanning head later on. These systems is designed today for the future.

- **16-mm filming** is simple with the special 16-mm attachment (optional extra). Maximum copy size will normally be A2.

- **Full step or half step:** A slight turn of the handy knob on the outside of the camera head sets the film step and feeds the proper film mask. The actual setting can immediately be checked by simultaneous optical indication on the control board.

Technical Data

Roll Film Camera 35 mm		SMA-1H	SMA-0H
Maximum copy size	mm	594 x 641	841 x 1200
Reduction range	10.5 to 30 x, infinitely variable	●	●
Focus	automatic across the whole range	●	●
Height adjustment	motorized;	●	●
	pre-selection 10.5 – 14.8 – 21 – 30 x	●	●
	other sequences on request (e.g. ISO or BSI)	●	●
Exposure measuring	via photo cell with needle adjustment	●	●
Automatic exposure control	Optional accessory cat.-no. 811 21 15	●	●
Lens	Carl Zeiss S-Biogon f = 40 mm	●	●
Shutter speed	3/4 sec., fixed	●	●
Film	35 mm x 30 m roll film, unperforated	●	●
Camera head	360 degrees rotation	●	●
Variable filmsteps	1/1, 1/2, 1/4 steps	●	●
Book cradle	motorized for book thickness	18 cm	20 cm
Illumination	top light 4 x 200 W	●	●
Colour Filming	w/optional colour attachment. incl. 4 halogen bulbs.	●	●
	Simple switching between black/white and colour	●	●
Electrical Data	220 V, 50 or 60 Hz, 2000 W	●	●
Dimensions	height 231 cm (column 30 x) width 218 cm, depth 130 cm	●	●
Weight	approx. 190 kg	190 kg	290 kg
SMA + 16 mm Variations:			●
Reduction Range	10.5 – 30 x (column height 231 cm)	●	●
	10.5 – 42 x (column height 268 cm)	●	
	for 35 mm, range stays at 10.5 – 30	●	●
Maximum Copy Size	A2 with standard column 30 x	●	●
With 16-mm Film	A1 with special column 42 x	●	
Negative Size	14 x 20 mm Full Step	●	●
	14 x 10 mm Half Step	●	●

In the interest of technical progress we reserve the right to alter specifications any time without notice.

- **Colour Microfilm Attachment** is available as an optional accessory: 4 halogen lamps provide excellent illumination for color filming at 3600° K, e.g. with Cibachrome Colour Microfilm. Easy switching between black/white and colour lamps. The Zeiss S-Biogon lens is fully colour corrected.