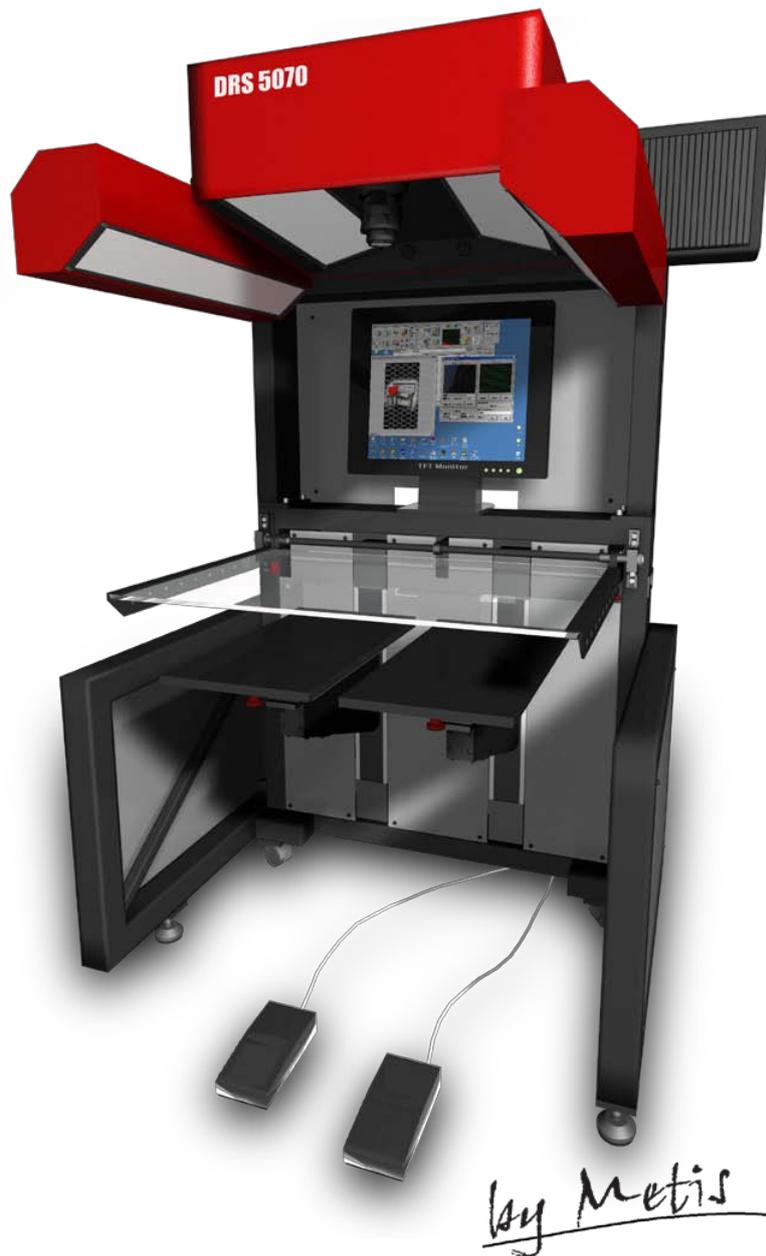


# METIS SYSTEMS

## HIGH QUALITY SCANNERS



## Technical Specifications DRS 5070

ENG v.0310-1.1

# METIS SYSTEMS

## HIGH QUALITY SCANNERS

### INTRODUCTION

The DRS 5070 system is characterized by a new and convenient format (50x70cm) and superior quality, productivity, ergonomics and reliability. The choice of the 50x70cm format is not accidental but reflects the need to deal, within a single scanner, with the maximum number of original size and type. In fact, only a small part of them are usually identified in a standard format (A3, A2, ...) and the 50x70cm format can provide a wider coverage much closer to the real demands of a large and varied collection such as that of a library or historical archive.

The DRS 5070 represents a further evolution of many technologies successfully implemented in previous Metis systems, and was designed to meet a primary need of the digital imaging domain : "the non-invasive and high-quality digital reproduction of books, drawings, maps and parchments".

Among the unique features of the DRS 5070 system we highlight the followings : picture quality do not fear comparison with any other scanner on the market; the system integrates a highly automated and sophisticated electronic book cradle that can accommodate more than 25cm thick originals and capable of very fine pressure adjustments in order to allow safely handling and scanning fragile, valuable and antiques originals; a powerful and highly customizable SynchroLight lighting is integrated into the system allowing to scan different types of originals with maximum results.

Furthermore, the DRS 5070 system is also characterized by: high productivity; high level of automation with the ability to start and control the entire production cycle with foot pedals; the ability to work with or without glass while still maintaining the focus of the original; a high depth of field; and also the possibility (via optional accessory) to acquire books with limited opening angle.

DRS 5070 point of view is perfectly zenithal and the adopted optical and lighting schematic allow high precision, resolution and color fidelity, while maintaining extremely rapid acquisition times.

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### DRS 5070 TECHNICAL SPECIFICATIONS

Maximum scanning format : 50x70cm

Sensor : Tri-linear CCD, 3x12 (36 bit)

High DOF (Depth Of Field) : user adjustable

Lens Focusing : quick and software supported

Optical Resolution (native) : 400PPI (up to 800x400PPI optical) – Adjustable to the desired level up to 800 PPI.

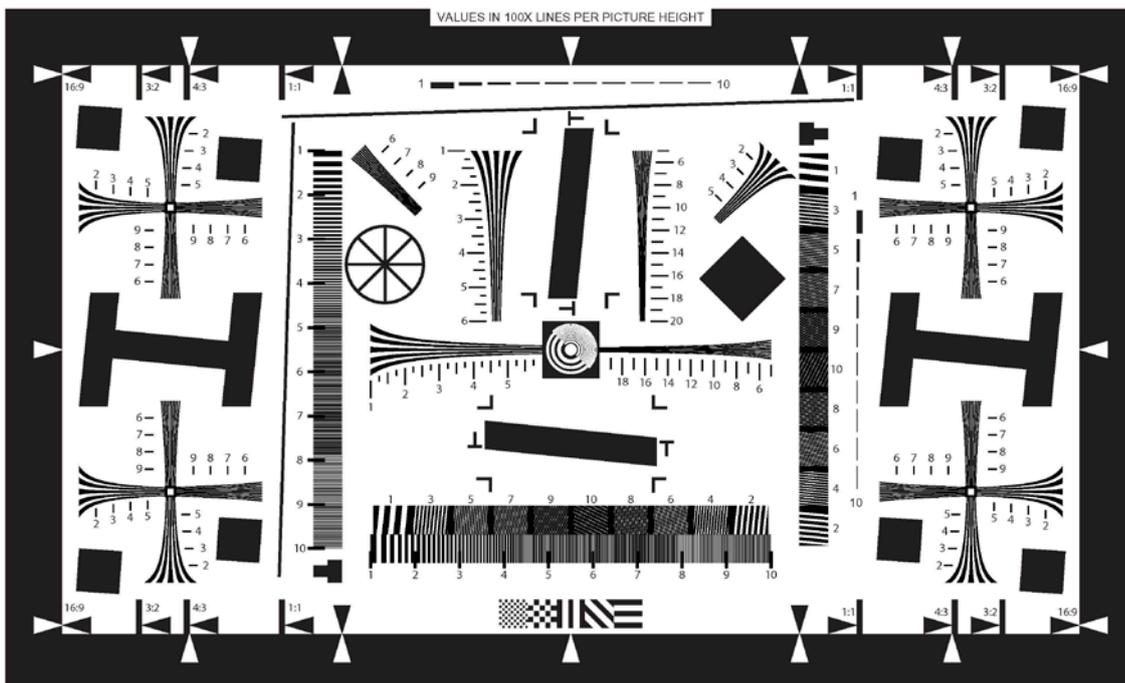
MTF 10% (l/p=line pairs) : 5.5-5.9 l/p at 300PPI ; 7-7.9 l/p at 400PPI

High geometric accuracy (generally error is < 2-3/1000 but can be set lower on request)

Free of aberrations on the images !

Low noise on the images even at faster acquisition speed !

**ISO 12233 and other Targets can be used in order to check MTF, aberrations and even geometric accuracy**

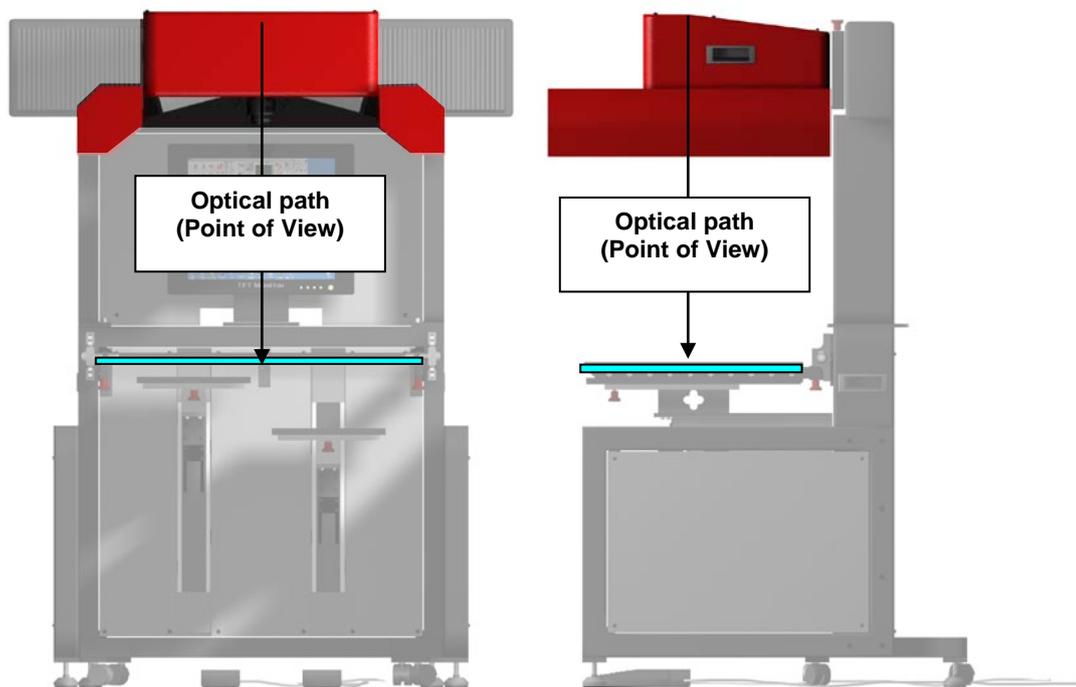


Drawn by Stephen H. Westin ©Cornell University This test chart is for use with ISO 12233 Photography - Electronic still picture cameras - Resolution measurements Chart Serial No. 20-02/11-07 Printed by metis systems srl

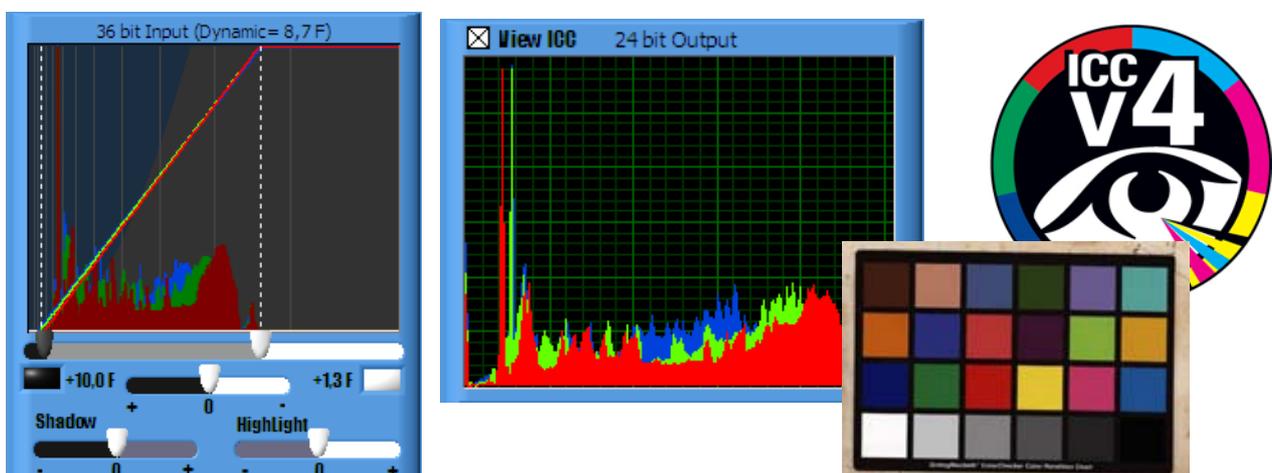
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Zenithal and centered point of view : The DRS 5070 system implements a Zenithal point of view perfectly perpendicular and centred respect to the image plane (DRS 5070 Scan Area). This is an essential point in order to ensure proper and natural viewing perspective of the originals but also uniformity over the full scan area. In fact general image uniformity (even light uniformity) is strongly affected by the point of view position and only centered and Zenithal point of view are usually allowed for professional high level reproductions.



High Color Fidelity : typical  $\Delta E$  is  $<3-4$  (measured in the sRGB and Adobe 1998 color spaces); Full ICC Color Profiles support.



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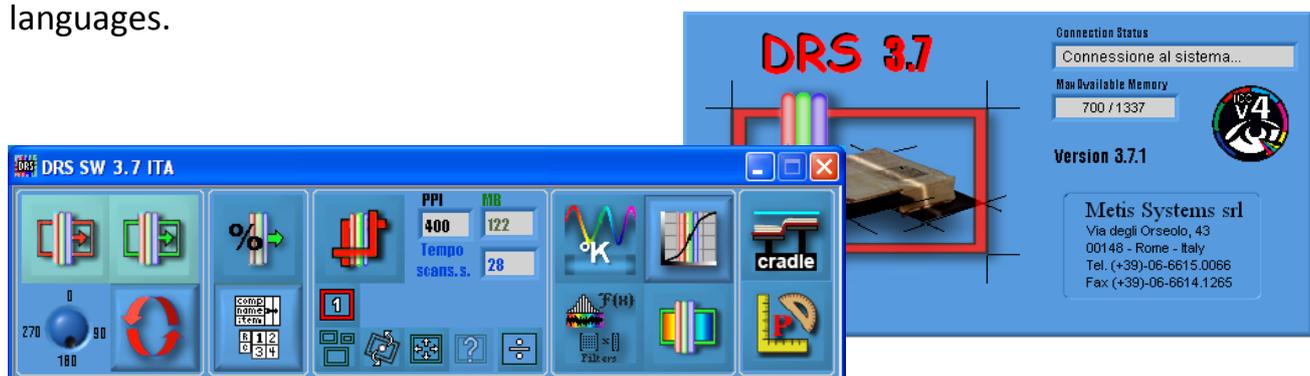
*SynchroLight Lighting* : Metis SynchroLight lighting, with high CRI (Color Rendering Index), free of IR/UV and active during scan; includes 4 independent illuminators that may be controlled in order to obtain up to 15 different light schematics. Thanks to the unique light concentration technique and to the linear and uniform enlightening during the entire scanning process, the SynchroLight guarantees perfectly homogeneous results over the full 50x70cm scan area.

*Book Cradle* : completely electronic, motorized and automated, accepts books up to 50x70cm and 25 cm thick. It integrates sensors for automatically detecting the book weight and pressure against the glass with an accuracy of just a few grams. Book cradle accuracy, speed and even manual/automatic modes are highly customizable by the user. The electronic balance is also unique. The DRS 5070 Book Cradle provides by far the most accurate and sophisticated behavior allowing to work in full security even with the most delicate and valuable originals.

*Motorized Glass* : can be removed easily for operating without glass. Furthermore it's also possible to work with the glass but without contact. The glass opening/closing may be manually or automatically controlled.

*3 foot pedals* allow to control the book cradle and the acquisition process. Foot pedals may also be programmed for specific tasks in order to avoid the need for interfacing the mouse or keyboard during the digitization.

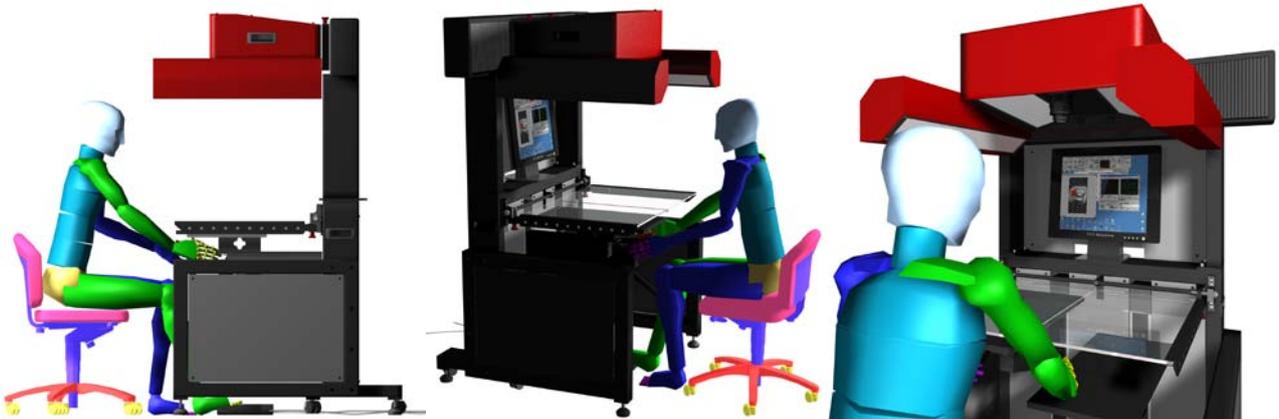
*Acquisition Software* : DRS 3.7.1 or greater for Windows. This is very powerful software with a user friendly interface (icon based) and plenty of tools which allows to maximize productivity and image quality. DRS Software is currently available in English, French and Italian and may easily be localized in order to support more languages.



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High ergonomics thanks to an attentive design and also to the extremely high level of automatization in the software and hardware.



Performances stable during time : it's not required to recalibrate the system often (as in many other scanners) in order to maintain high and stable results. Color quality and reliability over time (but also sharpness, resolution, geometric accuracy) is extremely stable in the DRS 5070 system thanks to specific technology and solutions adopted by Metis.

High uniformity : high resolution and lighting uniformity is provided over the full scan area tanks to the proprietary DRS 5070 design (no compromises were allowed).

CameraLink Professional Interface : in order to connect the DRS 5070 system to the PC, a professional CameraLink interface have been adopted by Metis. This is the fastest and more reliable imaging interface today existing and is generally used in the industrial/scientific market were reliability and performances are not an option.

System size (cm): Height 165, Width 102, Depth 98

# **METIS SYSTEMS**

## **HIGH QUALITY SCANNERS**

### **DRS 5070 PRODUCTIVITY**

DRS 5070 productivity have been measured from page to page (averaging the time required for 10 consecutive scans) including the following steps : automatic image scanning, automatic image processing, automatic page split, automatic file naming, basic filters, automatic saving, automatic book cradle opening, operator time in order to turn a page, operator time to issue a foot pedal/pc command to close the book cradle and start a new scan, time for the book cradle to close and be ready for next scan. Because operator times and processing times are sometimes overlapped there may be just a slight difference on small scans.

DRS 5070 have been set by default when measuring the productivity times by delivering always high quality images without any defect.

Anyway real productivity may change respect to measured value (may improve also) depending on original type, current PC configuration, DRS software settings and also on operator speed of course (the time required to turn a page or change an original is mandatory). For these reasons the following tables and times must be considered indicative only of the DRS 5070 productivity.

Scan time can be further reduced respect to the following measured data by using the “Turbo” option in the DRS Software (image quality is anyway slightly affected).

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Best production times as measured on the DRS 5070 (in seconds) :

DRS5070 at native resolution and 24bit color  (time measured on 10 consecutive scan)	A3 300PPI		A3 400PPI		A2 300PPI		A2 400PPI	
	Scan Time	Total Time	Scan Time	Total Time	Scan Time	Total Time	Scan Time	Total Time
Scan+Save TIFF+ include book cradle/operator times	9s	<b>&lt;16s</b>	12s	<b>&lt;18s</b>	12s	<b>&lt;19s</b>	17s	<b>&lt;23s</b>

Best production times converted from seconds to page per hour :

DRS5070 at native resolution and 24bit color  (time measured on 10 consecutive scan)	A3 300PPI (1xA3 or 2xA4)		A3 400PPI (1xA3 or 2xA4)		A2 300PPI (1xA2 or 2xA3)		A2 400PPI (1xA2 or 2xA3)	
	A4/hour	A3/hour	A4/hour	A3/hour	A3/hour	A2/hour	A3/hour	A2/hour
Scan+Save TIFF+ include book cradle/operator times	~ 450	~ 225	~ 400	~ 200	~ 380	~ 190	~ 300	~ 150