

# CADPRO<sup>®</sup> Advantage

## X-Ray Film Digitizer for Mammography Priors, Digitized Film CAD

### The VIDAR Advantage

The CAD PRO<sup>®</sup> Advantage film digitizer was specifically designed and engineered for use in mammography CAD (computer-aided diagnosis) systems. CAD systems incorporate advanced pattern recognition and image analysis, requiring a film digitizer that meets the highest standards of image quality and reliability. These advanced systems enable radiologists to improve their ability to detect early stage cancers in an efficient manner.

By meeting these rigorous requirements, CAD PRO Advantage is an ideal fit for mammography facilities transitioning to digital technology. It provides the ability to quickly digitize film-based prior studies and, when coupled with the appropriate software, uses the DICOM MG standard to identify the specific mammography view contained on each film. Prior studies are correctly displayed on the mammography reporting workstation alongside the newly acquired digital mammography study.

In order to read a new mammography study, Radiologists and mammographers may require up to two years of prior studies. The ongoing transition to digital technology in mammography has forced radiologists to view both film-based priors and new digital images for the same returning patient read, until now.

### Responding to Marketplace Needs

VIDAR created an innovative design for the CAD PRO Advantage in the important areas of image quality, film feeding and transport, and system speed. We worked closely with major CAD systems providers, mammography-certified radiologists and technologists, engineering consultants and quality assurance experts to ensure that the CAD PRO meets the exacting needs of the mammography marketplace.

The CAD PRO's advanced technology has enabled CAD systems providers to improve radiologists' confidence in accurately detecting breast abnormalities. Likewise, the CAD PRO Advantage is able to bridge the gap in the transition to digital mammography – allowing for the digitization of film-based prior studies so that radiologists can view these priors, with their specific hanging protocols, on the mammography reading workstation. Radiologists and mammographers have limited time for reading studies, and the need to move from digital workstation to light box and back is cumbersome and time-consuming, and creates a less-than-ideal clinical and diagnostic environment.

### Technology Advantage and Innovation

The CAD PRO Advantage offers unmatched spatial and contrast resolution, allowing radiologists to be confident that the image data received from the film digitizer is an exact representation of the original film. VIDAR's Automatic Digitizer Calibration prompts the film digitizer to calibrate automatically before every film digitized and user intervention is not needed to maintain image quality. The CAD PRO includes a closed-loop quality assurance system to ensure the digitizer sub-system meets all FDA/QSA requirements. This combination of imaging technologies results in no variation in image quality from one digitized film to another, and ensures excellent grayscale reproduction for every image.



### Meeting Customer Requirements

VIDAR, as part of its commitment to technology leadership, worked relentlessly to develop an innovative film feeder design for use with software dedicated to high-volume applications. The CAD PRO Advantage offers a modular 50-sheet feeder, whose advanced design eliminates film jams, double feeds, and film pick-up problems that occur with other digitizers. The continuously loading SmartFeeder<sup>®</sup> is the anchor of the film digitizer's reliability. Most importantly, the CAD PRO's feeder is designed for continuous case loading. This allows the user to add cases without interrupting the digitizing process.

The CAD PRO Advantage can digitize a four-film study in less than 120 seconds, which is 2X the speed of other high-resolution digitizers, further increasing productivity. Reliability is ensured due to the recent addition of an LED light source which improves repeatability of the device as well as longevity, and lowers the total cost of ownership. The CAD PRO's modular design allows easy access for maintenance cleaning and light source field replacement, minimizing downtime.

VIDAR's clinically proven technology and unique product designs continue to set the standard for excellence in a number of market segments including PACS, teleradiology, telemedicine, mammography, and oncology. VIDAR's film digitizers are the choice of all major medical image solution providers, and more than 100 systems solution providers worldwide.



Film Size	Nominal Resolution	Pixels	Spot Size (µm)	DPI	Line pairs per mm	Digitizing Speed
24cm x 18cm	5K x 4K	5376 x 4032	44	570	11	20 Seconds
24cm x 30cm	5K x 7K	5376 x 6720	44	570	11	33 Seconds

<b>Clinical Optical Density Range</b>	.05 to 4.2
<b>Bit Depth</b>	32-bit mapped to 16-bit (65,536) or 12-bit (4,096) Grayscale Output
<b>MTBF</b>	≥50,000 hours
<b>Film Sizes</b>	18cm x 24cm and 24cm x 30cm Thickness: 0.006" to 0.008"
<b>Auto Film Feeder</b>	Continuous Loading SmartFeeder® — Modular with 50-film capacity (mixed sized, no presorting necessary)
<b>Translation Table</b>	Linear OD
<b>Geometric Accuracy</b>	Better than 1% or 2 pixels, whichever is greater, in both axes
<b>Scan Rate</b>	200 lines/second (120 films per hour, 18cm x 24cm)
<b>Hardware Interface</b>	USB 2.0
<b>Software</b>	Windows® scanning modules and Linux software development tools available
<b>Power Requirements</b>	Voltage: 85~264 vac Frequency: 47~63 Hz Power: ≤100 watts
<b>Operating Environment</b>	50° to 95° F (10° to 35° C), 20% to 85% relative humidity non-condensing
<b>Storage Environment</b>	0° to 140° F (-18° to 60° C), 20% to 85% relative humidity non-condensing
<b>Illuminator</b>	LED Illuminator, > 500,000 scans
<b>Detector</b>	Solid-state, next-generation High Definition CCD (HD-CCD®)
<b>Dimensions</b>	With Feeder & Exit Tray: 19"W x 21.25"D x 25.5"H (483mm x 540mm x 648mm) Without Feeder & Exit Tray: 19"W x 14.25D x 12.75H (483mm x 362mm x 324mm) Shipping: 24"W x 29"L x 24"H (610mm x 737mm x 610mm)
<b>Weight</b>	45 lbs. (21 kg); shipping weight: 60 lbs (27 kg)

Specifications are subject to change without notice

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VIDAR Publication PN 15790-001 Rev J, December 2009