

SIERRA *plus*

For Teleradiology and Low Volume Digitizing

Compact and Affordable for a Variety of Healthcare Settings

The award-winning SIERRA *plus* film digitizer, developed by VIDAR Systems Corporation, represents a significant advance in film digitizer technology and overcomes some of the most common barriers to digitizer use — quality, cost, and size. The ACR-compliant SIERRA *plus* is the lowest cost digitizer for remote primary diagnosis. The SIERRA *plus* also is the first film digitizer small enough to be easily wall-mounted, solving siting problems commonly found at hospitals and radiology offices. It features VIDAR's next-generation proprietary *High Definition CCD (HD-CCD®)* technology. Its unique ADC (Automatic Digitizer Calibration) feature results in virtually no variation in image quality and ensures excellent grayscale reproduction in every image. The SIERRA *plus* meets the needs of healthcare professionals for a high quality, affordable, compact film digitizer capable of being integrated into a variety of healthcare settings, including at the point of care.

Maintenance Free Design and Lower Cost of Ownership

Unlike other digitizers that require biannual calibration or cleaning, VIDAR digitizers need no maintenance or calibration, saving nearly \$2,000 annually. The straight-line film path reduces the need for costly service calls (\$500 or more each) due to film jams. Parts replacement, on-site service, shipping, and service costs for factory repairs can reach \$4,500 annually for laser digitizers. These substantial cost differences are illustrated by a comparative analysis created by PACS expert Michael Cannavo. An analysis of a three-year total cost of ownership demonstrates that the cost of owning a laser digitizer is significantly more than that of a SIERRA *plus*.

Flexibility of Siting

At just 21.5 pounds, the SIERRA *plus* is much lighter than other digitizers that weigh 50-200 pounds. This light weight, combined with its small size — about that of a one-panel light box — makes the wall-mountable SIERRA *plus* ideal for crowded radiology offices and hospitals, where space often is at a premium. It also means that the SIERRA *plus* can be deployed in a number of other settings where quick access to high-quality electronic images would enhance patient care, such as the emergency department, intensive care unit, and coronary care unit, as well as at teaching hospitals and alternate care settings.



Clinically Proven Image Quality

The SIERRA *plus* continues VIDAR's tradition of exceptional image quality. A Mallinckrodt Institute of Radiology study comparing the SIERRA *plus* and the Kodak LS75 laser digitizer demonstrated that there is no difference in image quality and radiologists' preference between radiographs digitized on the two systems. In addition, a ROC (Receiver Operator Characteristic) study conducted at Johns Hopkins University concluded there was no difference in a radiologist's ability to make a correct diagnosis when reading the original films or the SIERRA *plus* digitized images on a high-resolution workstation.

The SIERRA *plus* is supported by VIDAR's excellent customer service. It also delivers unmatched stability, consistency, and ease of use. With no additional burden on their staff, radiologists can be confident that the digitized image is faithful to the hard-copy film, and that their diagnoses are based on accurate, complete information.

SIERRA *plus* — combining unmatched image quality, superior reliability, compact size, and low total cost of ownership — results in the most economical ACR-compliant film digitizer on the market.



SIERRA *plus*

Nominal Resolution	Pixels (14"x17" film)	Spot Size (μ m)	DPI	Line pairs Per mm	Digitizing Speed
1K x 1.25K	1050 x 1275	339	75	1.5	21 Seconds
2K x 2.5K*	2100 x 2550	169	150	3.0	42 Seconds
4K x 5K	4200 x 5100	85	300	5.8	82 Seconds

*ACR Standard for Teleradiology Guidelines [Revision 35 (1998)] recommends 2.5 line pairs/mm minimum

Clinical Optical Density Range	.02 to 3.6
Bit Depth	16-bit mapped to 12-bit (4096) and 8-bit (256) grayscale output
MTBF	>35,000 hours
Film Sizes	Width: 7" to 14" (17.8 cm to 35.6 cm) Length: 7" to 17" (17.8 cm to 43.2 cm) Thickness: 0.006" to 0.008 (0.15 mm to 0.51 mm)
Film Feeder	Single sheet standard "Light Box" loading: head-up, normal reading, left justified Film sizes up to 14" x 17" (35.6 cm x 43.2 cm)
Translation Tables	Linear OD
Geometric Accuracy	Better than 1% or 2 pixels, whichever is greater, in both axes
Hardware Interface	Conforms to the SCSI-2 specification SCSI termination and ID selection switches are accessible at base of unit
Software	Windows [®] scanning modules and software development tools available
Power Requirements	Voltage: 100~240 Vac Frequency: 50~60 Hz Power: \leq 48 Watts
Operating Environment	60° to 85° F (15° to 30° C), 20% to 85% relative humidity, non-condensing
Storage Environment	0° to 140° F (-15° to 60° C), 20% to 85% relative humidity, non-condensing
Illuminator	Cold cathode; \geq 35,000 hours expected life
Detector	Solid-state, next-generation High Definition CCD (HD-CCD [®])
Dimensions	Footprint: 19" W x 18.5" D (48.26 cm x 46.99 cm) Overall: 19" W x 18.5 D" x 40" H (48.26 cm x 46.99 cm x 101.6cm) Shipping: 27" W x 18" L x 27" H (68.6 cm x 45.72 cm x 68.6 cm)
Weight	21.5 lbs. (9.75 kg); shipping weight: 48 lbs. (20.52 kg)
Certifications	CE MDD 93/42/EEC Class I; CAN/CSA C22.2 No. 601.1-M90; Health Canada Class II; Japan-MHW; SFDA; KFDA; FCC Class A; EN 60601-1-2; IEC 60601-1; ISO 9001:2000; ISO 13485:2003

Specifications are subject to change without notice

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