

# VIDAR Dental Film Digitizer

## Medical Grade Film Digitizer for Dental Applications

### Specialized Medical Device for Digitizing X-ray Films

Paper scanning is an office task and can be done with general office equipment. Medical film digitizing is an imaging procedure governed by medical and industry regulations. The VIDAR's Dental Film Digitizer is specifically tailored for the dental application and is a regulated medical device for use in diagnostic applications. Special attention must be paid to the unique challenges of accurately and reliably visualizing the details in medical films – an opinion and/or decision will be made about patient care based on these images.

VIDAR employs specialized optics to deliver quality results specifically for transmissive materials such as x-rays, not reflective media. Our imaging system is designed to accurately render the full grayscale data with minimal noise throughout the specified grayscale density range. VIDAR medical products repeatedly meet demanding Optical Density tests that include specifications for both noise and linearity – at all grayscale steps. This is a calculation of clinically relevant Optical Density – not DMAX. For medical professionals this difference is important.

The precision built into every VIDAR product includes attention to accurate transitions between grayscale values and consistency in the digitizer output from pixel to pixel, scan-to-scan, and year-to-year. VIDAR's Dental Film Digitizer has a unique ADC (Automatic Digitizer Calibration) feature that ensures excellent grayscale reproduction.

VIDAR Systems Corporation has more than 18 years of experience in optical design for medical imaging applications. Our products are designed in response to clinical demands for a high quality, productive and reliable medical grade x-ray film digitizer for PACS, teleradiology, remote primary diagnosis, mammography, oncology, and now dental imaging. VIDAR has placed more than 20,000 high quality, competitively priced medical devices worldwide.

### Clinically Proven Image Quality

Clinical studies at leading institutions such as Johns Hopkins University and the Mallinckrodt Institute of Radiology have demonstrated an effective clinical comparison between film and VIDAR's digitized images, even in demanding applications like mammography where native resolution may approach 16+ LP/mm.



### Multiple Benefits

- Digitizes panoramic film for cost-effective integration into the patient's digital record
- Provides high quality images, for primary diagnostic reading and fast scanning (18-22 seconds at 300 DPI for typical panoramic film)
- Digitizes patient films from other referral facilities or for consultation
- Digitizes prior patient files so that file space can be reclaimed and used for other purposes
- Increases insurance claims approval and payment

### Reliability, Flexibility and Productivity

VIDAR's reputation for reliability is world-renowned, and a key to our products becoming the #1 selling medical film digitizers. A variety of software connectivity options exist for easy integration into practice management systems.

VIDAR offers high-speed scanning of dental images without sacrificing quality, and supports scanning of all dental film sizes: Panoramic, Cephalometric, and Bitewing films.



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| Film Size  | DPI | Line pairs Per mm | Digitizing Speed         |
|--|-----|-------------------|--------------------------|
| Full Periapical series<br>Holder size 4.875" x 11.5"<br>12.4 x 29.2 cm | 75  | 1.5               | 4.4 Seconds              |
|  | 150 | 3.0               | 8.8 Seconds              |
|  | 300 | 5.9               | 17.6 Seconds             |
| Panoramic<br>5" x 12"/6" x 12"<br>12.7 x 30.5cm/15.2x30.5cm            | 75  | 1.5               | 4.5 Seconds/ 5.4 Seconds |
|  | 150 | 3.0               | 9 Seconds/ 10.8 Seconds  |
|  | 300 | 5.9               | 18 Seconds/ 21.6 Seconds |
| Cephalometric<br>8" x 10"<br>20.3x25.4cm                               | 75  | 1.5               | 7.2 Seconds              |
|  | 150 | 3.0               | 14.4 Seconds             |
|  | 300 | 5.9               | 28.8 Seconds             |

### Specifications

|  |   |
|--|---|
| <b>Clinical Optical Density Range</b>                | 0.2 to 3.6 (calculated with medical noise and linearity requirements)   |
| <b>Optical Density Sensitivity (D<sub>MAX</sub>)</b> | 4.1 OD  |
| <b>Supported Films</b>                               | Size 0, 1, 2, 3, 4, films (placed in a holder which meets minimum film size specifications)<br>Panoramic and Cephalometric films  |
| <b>Bit Depth</b>                                     | 16-bit mapped to 16-bit (65,536), 12-bit (4096) and 8-bit (256) grayscale output  |
| <b>True Optical Resolution</b>                       | 300 dpi   |
| <b>Grayscale Reproduction Repeatability</b>          | < 0.5% variation  |
| <b>Film Sizes</b>                                    | Width: 6" to 13" (15.2 to 33cm)<br>Length: 4" to 13" (10.2 to 33cm)<br>Thickness: 0.006" to 0.008 (0.15 mm to 0.20 mm)  |
| <b>Geometric Accuracy</b>                            | Better than 1% or 2 pixels, whichever is greater, in both axes  |
| <b>Hardware Interface</b>                            | USB 2.0   |
| <b>Software</b>                                      | TWAIN compliant interface, and software development tools available<br>Clinical DICOM software available separately   |
| <b>Power Requirements</b>                            | Voltage: 100~240 Vac, Frequency: 50~60 Hz, Power: ≤48 Watts   |
| <b>Operating/Storage Environment</b>                 | Operating: 60° to 85° F (15° to 30° C), 20% to 85% relative humidity, non-condensing<br>Storage: 5° to 140° F (-15° to 60° C), 20% to 85% relative humidity, non-condensing                 |
| <b>Illuminator</b>                                   | LED Illuminator   |
| <b>Detector</b>                                      | Solid-state, next-generation High Definition CCD (HD-CCD <sup>®</sup> )   |
| <b>Dimensions</b>                                    | Footprint: 19" W x 13.30" D (48.26 cm x 33.78 cm)<br>Overall: 19" W x 13.30 D" x 8" H (48.26 cm x 33.78 cm x 20.3cm)<br>Shipping: 27" W x 18.5" L x 27.38" H (68.6 cm x 6.99 cm x 69.47 cm) |
| <b>Weight</b>  | 22 lbs. (10 kg); shipping weight: 40 lbs. (18 kg)   |
| <b>System requirements</b>                           | Pentium IV or higher PC<br>Hi Speed USB 2.0 port<br>CD-ROM Drive<br>512 MB RAM or higher<br>Microsoft Windows XP or VISTA   |

Specifications are subject to change without notice.

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