

58-27 DenOptix Digital Imaging System (Project 98-36) (8/99)

The DenOptix Digital Imaging System is a cordless digital radiographic unit that uses photo-stimulated phosphor technology to produce radiographic images instead of the more traditional digital method that uses a Charge-Coupled Device (CCD). The sensor and cable utilized with the CCD is replaced by reusable imaging plates. The reusable imaging plates are positioned like traditional radiographic film. Film sizes include panoramic, cephalometric and full-sized 0, 1, 2, 3, 4. The imaging plates use a high-speed laser scanner to convert the data into electron bits so that the DenOptix software can create files for viewing on a computer monitor. Reading times range from 1 minute 26 seconds for intraoral plates to 2 minutes 55 seconds for panoramic plates, and 4 minutes for cephalometric plates. After the scanning process is complete, the imaging plates are erased by exposing them to a light source (conventional light box). The manufacturer claims the imaging plates can be reused for thousands of cycles. The plates are much less sensitive than conventional radiographic film and can be exposed to low-level light without losing imaging quality. Disposable barrier envelopes protect the imaging plates while providing asepsis. If contaminated, they can be chemically disinfected. Images, which are easily duplicated, can be stored on a hard drive, optical disk, magnetic tape, printed to a standard laser printer, or exported to other providers. Software enhancement capabilities include: zoom, colorization, smooth, emboss, brightness/contrast, positive/negative, sharpen, isodensity, measurement, notes, and export. The DenOptix System allows for a wide range of acceptable exposure times. Any AC or DC intraoral, panoramic, or cephalometric radiographic unit can be used with the DenOptix System to produce radiographic images. The DenOptix System can be used as a stand-alone unit or networked, and is capable of being integrated into any existing dental office management software package. A CCD sensor can be added as an option.



Manufacturer:

Dentsply Gendex
901 West Oakton Street
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(847) 640-5323
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Suggested Retail Price:

\$21,528.00 DenOptix Combo Scanner System
-DenOptix Laser Scanner
-Panoramic/Intraoral carousels
-VixWin Software
-500 barriers
-1 panoramic plate
-20 intraoral imaging plates: size #0 (4), size #1 (2), size #2 (12), size #3 (2)

Government Price:

\$14,000.00 DenOptix Combo Scanner System (contents as listed above)

ADVANTAGES:

- + Cordless system.
- + Easy to position imaging plates.
- + Variety of imaging plate sizes.
- + Laser scanner performed flawlessly.
- + Good backup if conventional radiographic system fails.

- + Reduced exposure time.
- + Convenient measuring system when providing endodontic treatment.

DISADVANTAGES:

- Footprint is large.
- Provided software did not behave like typical windows software.
- Mix of film sizes on the scanner carousel was not always convenient.
- Having one monitor limited viewing capabilities.
- Poor quality of printed images.
- Not DICOM (Digital Imaging and Communications in Medicine) standardized.

SUMMARY AND CONCLUSIONS:

The DenOptix Digital Imaging System is a cordless storage phosphor system that eliminates the sensor and cable necessary for operation with CCD technology. Among its advantages are that it reduces patient radiation exposure and eliminates the need for film processing equipment, developing chemicals, and a dark room. The evaluator felt the system performed reasonably well as a stand-alone unit, but having one viewing station meant the image could not be viewed on multiple separate computer monitors such as in a group practice. The monitor image quality was comparable to traditional radiographic film but hard copy images were not of diagnostic quality. The system is not DICOM (Digital Imaging and Communications in Medicine) standardized, reducing compatibility between facilities. The **DenOptix Digital Imaging System** is rated **Acceptable** for use by the federal dental services.