

DIQUAD provides a complete service for dental offices, evaluating dental x-ray image quality and radiation dose. A report is provided which includes data on nine image quality and dose measurements. The following measurements are provided:

- Image Sharpness
- Film Contrast
- Film Density
- Film Base + Fog Level
- Effective Film Speed
- Film Processor Quality
- Residual sodium thiosulfate (hypo or fixer)
- Patient Dose
- Half-Value Layer



DIQUAD Analyzer™*

The DIQUAD Analyzer™* consists of a Luxel+ Dosimeter and Kodak Dental Films, especially packaged for DIQUAD. Special test patterns are used for measurement purposes.

*Patent pending

Background

Founded by Joel E. Gray, Ph.D., DIQUAD is dedicated to improving image quality and film processing in dentistry while lowering patient doses. Dr. Gray is a medical physicist with 20-years experience in clinical medical imaging at Mayo Clinic Rochester. In addition he has worked as a consultant to industry and healthcare organizations, and for Lorad (where he helped to develop the Selenia full-field digital mammography system) and Landauer, the world's leading provider of personnel dosimetry services.



DIQUAD also provides consulting services and educational materials. We maintain a database of all data collected and an archive of all Analyzer™* films. This database allows us to develop statistics for particular states or regions and show where your practice stands in terms of dental image quality and patient doses relative to your colleagues.

DIQUAD, LLC

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DIQUAD Analyzer™*

User's Guide

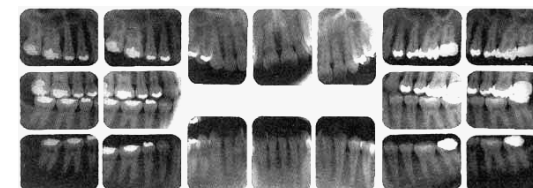


Better Image Quality— Lower Patient Dose

Assure Image Quality and Low X-Ray Doses for Your Patients—

- Competitive Advantage
- For Film and Digital Imaging
- Improving Photographic Processing
- Reduce Patient Doses
- Assistance for X-Ray Questions & Image Quality Problems

DIQUAD, LLC Dental Image Quality and Dose



Using Landauer OSL technology.



With specially packaged Kodak Dental Film with D and E-F speed films in one packet.

*Patent Pending

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Instructions For Use

The DIQUAD *Analyzer*^{TM*} is easy to use. Just follow these simple instructions. If you have any difficulties or questions call DIQUAD's Customer Service Number—

1-866-498-1662

1. Before exposing an *Analyzer*^{TM*} please complete the DIQUAD *Analyzer*^{TM*} Survey Data Form.
2. Remove one *Analyzer*^{TM*} from its envelope and assure that the serial number on the envelope is the same as the number on the bottom of the *Analyzer*^{TM*}. Record this number on the Survey Data Form.

It is important to place this Analyzer^{TM*} and the processed films from this Analyzer^{TM*} into this same envelope before returning to DIQUAD.

3. Shape the *Analyzer*^{TM*} into a box by folding the tab under the portion with the hexagonal dosimeter on top, bringing the tab out the other side. When completed the structure should form a well-shaped box.

The *Analyzer*^{TM*} should look like this—



Note that the rectangular part of the tab should be visible.

4. Place the *Analyzer*^{TM*} on a solid surface with the hexagonal dosimeter facing up.

For digital imaging—Place the digital detector on top of the film packet inside the *Analyzer*^{TM*}.

5. Bring the x-ray tube over the *Analyzer*^{TM*} and center the cone over the hexagonal dosimeter. The end of the cone should be in contact with the *Analyzer*^{TM*} but should not be compressing it.



6. Determine the kVp, mA, and number of pulses or exposure time (usually in milliseconds, ms) used for adult patient bitewing x-ray images in this room.
7. Expose the *Analyzer*^{TM*} at the number of pulses (or exposure time) determined in the Step 6.
8. Remove the *Analyzer*^{TM*} from under the x-ray tube.

For digital imaging—Remove the digital detector from the *Analyzer*^{TM*} and digitally process the images. Do **not** remove the film packet from the *Analyzer*^{TM*}, nor process the films. Go to step 12.

9. For film imaging, remove the film packet from inside of the *Analyzer*^{TM*}.
10. In the darkroom, remove the **two films** from the film packet.

Note— There are two dental films in each dental packet. Both must be processed and returned to DIQUAD for analysis.

11. Process these two films, assuring that they do not overlap, in the same way you process your clinical intraoral films.
12. Place the Survey Data Form, two processed films (for film imaging), and the *Analyzer*^{TM*} in the envelope with the same serial number as on the *Analyzer*^{TM*} and seal the envelope.

For digital imaging—Identify each image with the appropriate seven-digit *Analyzer*^{TM*} serial number and transfer them as TIFF files to a CD-ROM. Place the CD-ROM in a cardboard or plastic CD case.

13. Place the envelopes, the CD-ROM for digital imaging, **and the control dosimeter** in the postage-paid envelope, seal the envelope, and drop it in the mail to DIQUAD, LLC.

That's all there is to it!!

Thank You, Very Much

for your help in measuring your dental image quality, film processor quality, and patient dose!!

