



MagnaVu PS3, (Magnified Video Dentistry) Project # 10-002 (2/12)

The MagnaVu PS3 is an intraoral imaging system designed to allow the dentist and staff to perform most dental procedures from a more erect and ergonomically correct position similar to medical surgeons. This is accomplished by viewing the images on a monitor of the operating field that have been captured by the MagnaVu PS3. The system is comprised of a dental scope with built in light source and a monitor. The dental scope has a working length of 6-18 inches and is capable of 23x optical/46x digital zoom. Another feature of the scope is the ability to reverse the image on the screen to simulate looking through a mirror. This lessens the learning curve for some clinicians by providing images normally observed clinically. The built in dental light source is comprised of four Light Emitting Diode (LED) light sources



converging to provide optimum lighting of the operating field that can be adjusted to suit the operator's needs. The system is packaged with a 19-inch LCD externally sealed monitor. The MagnaVu scope comes equipped with two RCA and two S-video outputs. Any or all can be converted to any analog or digital video format such as DVI, HDMI, USB, VGA, SDI, FireWire, etc. The use of commercially-available DVD players and other upconversion devices also allows the conversion of this signal to HDMI for high resolution video and still images that rival images obtained from single lens reflex cameras. In addition to affording the ability to view images on a monitor, the system can capture video and still images directly to your computer or to an external device such as a DVD Recorder. The system is marketed in several different configurations to meet the preferences of the provider to include ceiling mount, wall mount, mounting to new or existing light tracks, a countertop model and a mobile cart model (model tested in this evaluation). A nice design of the system is the integrated foot pedal that allows the provider to control several functions of the system without having to touch the scope with gloved hands.



Manufacturer:

Magnified Video Dentistry, Inc
 (877) 556-6587
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 (916) 650-1211 FAX
www.MagnaVu.com

Suggested Retail Price:

\$35,845.00	Mobile cart system with MagnaVu scope, Foot pedal, 19" LCD, control box, assembly, on-site training, 1-year on-site parts and labor warranty.
\$39,235.00	Same as above with 3-year on-site parts and labor warranty.

Government Price:

\$24,438.00	Mobile cart system with MagnaVu scope, Foot pedal, 19" LCD, control box, assembly, on-site training, 1-year on-site parts and labor warranty.
\$27,438.00	Same as above with 3-year on-site parts and labor warranty.

ADVANTAGES:

- + Ergonomically designed system, reducing operator stress and strain
- + Instantaneous, high-resolution images (with upconversion)
- + Excellent demonstration tool; allows view of operating field for multiple students/residents
- + Excellent monitoring tool; aids in the supervision of resident/student progress during procedures
- + Excellent patient education tool; aids staff when communicating treatment plans to patients
- + Excellent documentation tool; capable of recording pre-op/post-op images showing treatment results
- + Excellent color rendition; oral cavity images appear natural
- + Easy-to-use touch pad controls.

- + Convenient foot pedal to control several functions without touching unit controls with gloved hand
- + Variable magnification possible (with dental loupes you would need multiple sets)
- + Variable light adjustment through four settings and adjustable aperture
- + Operating field view/lighting not dependent on head position (such as with loupes/headlamps)

DISADVANTAGES:

- Mobile cart system bulky and more difficult to maneuver than other fixed options
- Cost

SUMMARY AND CONCLUSIONS:

According to the manufacturer, the device addresses the three most critical things needed for improving dental treatment (1) increased magnification, (2) superior lighting, and (3) improved ergonomics. The manufacturer also reports widespread use of this device by national dental organizations, prominent clinical course institutes and several dental schools. This DECS evaluation found that the rate at which providers adapted to this different approach of viewing the operating field varied from provider to provider, with some apparent hesitation to incorporate this device in the delivery of everyday dentistry by a few. It is important to note that acceptance of this device/technique should be similar to the acceptance of indirect vision through a mirror. Indirect vision is a technique that was not learned overnight, but instead over a period of time. If providers are willing to commit to this method of delivering dentistry, the ease of use and effectiveness of the MagnaVu PS3 should improve over time and perhaps may prove to be superior to current methods of viewing the operating field. An added benefit is the reduction of strain on the back, neck, and eyes, commonly found in the current practice of dentistry. The American Dental Association states that nearly 60% of all dentists and staff will retire early due to back, neck, and eye strain and the associated musculoskeletal disorders that are inherent with today's dental care delivery. The MagnaVu PS3 has the potential to reduce those aches and pains and perhaps extend the career of its users. Our evaluation, along with discussions with others that have taken part in MagnaVu PS3 demonstrations, reveals that there is widespread acceptance of the potential of this device in educational settings. The MagnaVu PS3 is a great educational tool that allows instructors to demonstrate procedures while letting students see exactly what the instructor sees in clear, highly magnified video or recordings. This may allow students to learn quickly and more effectively. The MagnaVu PS3 also allows the instructor and other students the ability to see and critique other student's work on large LCD displays during live procedures. The majority of evaluators (7/9) were satisfied with the overall performance of the MagnaVu PS3 and rated it good (6/9) to excellent (2/9). The **MagnaVu PS3** is rated **Excellent** for use in US Air Force dental facilities.