

INSTALLATION GUIDE

MARKETING COMMUNICATIONS

11/13/12

3DHD VISION SYSTEM



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INSTALLATION GUIDE

3DHD VISION SYSTEM

This installation guide is for use by ConMed Distributors to ensure proper set up of the ConMed 3DHD Vision System. For more detailed information and for trouble shooting by product please refer to the product User Manuals which can be found with each of the individual 3DHD Vision System components.

Tools Required:

- Utility Knife
- Phillips Screw Driver*
- Country specific Power Cord for Cart (*outside the US, Canada, Mexico, and Puerto Rico*)
- 6MM Hex Bit Socket Wrench
- Alignment Target Part #T05713-001

Tools Supplied:

- 4MM Allen Wrench*

Note: If any discrepancies cannot be resolved please report immediately to Viking Systems Technical Support!

technicalsupport@vikingsystems.com or call (800) - 200 - 8824

Inspect all shipping packages for any signs of mishandling or damage! In the event of damage please contact Customer Service:

Email: customerservice@vikingsystems.com or phone: (800) – 200 – 9824

CART:

Note: Cart may or may not be shipped on its side, if so, cut strapping to release cart from pallet and tip cart box to the upright position.

Note: Carts sent outside of the U.S. with the exclusion of Canada, Mexico and Puerto Rico are shipped without an AC Power Cord. It is the responsibility of the installer to provide the proper AC Cord.

- To unpack cart cut strapping, remove top cover and slide side packaging up and over cart.
- Lift cart out of packaging base and place on floor.
- Inspect for any damages, including cosmetic damages.

* Phillips Screw Driver is a registered trademark of Phillips Screw Company

* Allen in a registered trademark of Allen Manufacturing Company

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WARNING: Do not connect AC mains of cart to power.

AC CORD INSTALLATION FOR CART

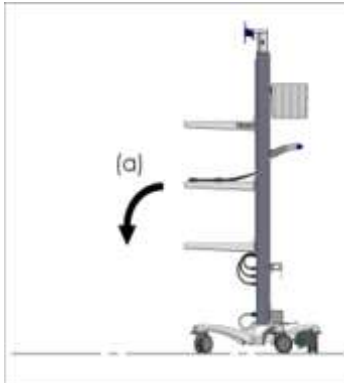


Figure 1

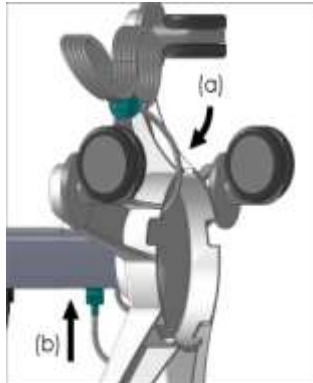


Figure 2

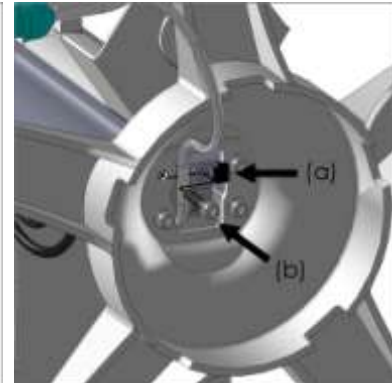


Figure 3

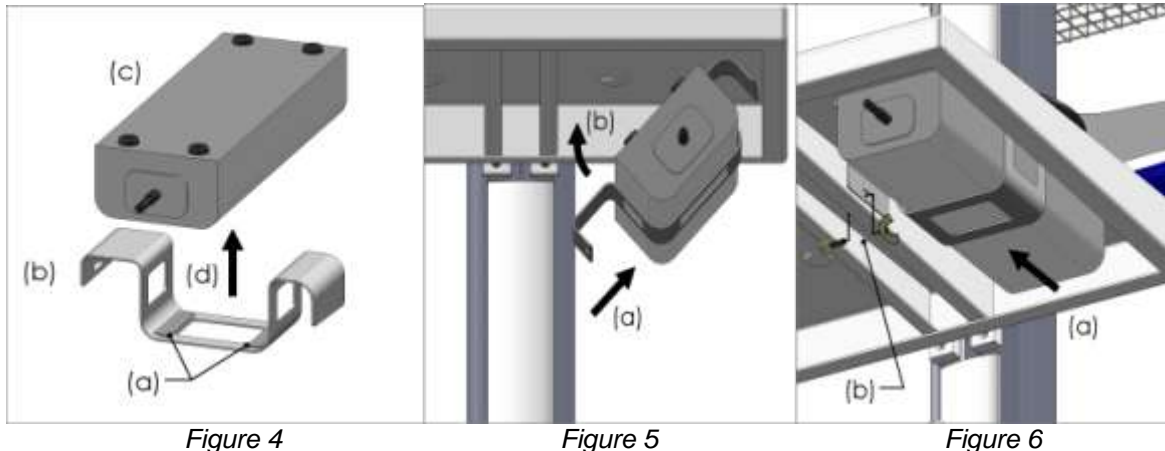
- Tip the Video Cart onto its front end, as shown in *Figure 1*.
 - a. Un-package the Video Cart and carefully tip the Video Cart onto its front end.
- Insert the Hospital Grade Power Cord into the Base of the Video Cart as shown in *Figure 2*.
 - a. Insert the Hospital Grade power under the Base of the Video Cart and feed the plug end of the power cord through the space under the Power Strip and out the front of the Video Cart.
 - b. Plug the Hospital Grade Power Cord into the outlet under the green pilot light of Power Strip.
- Secure the Hospital Grade Power cord using the clip provided with the Video Cart, as shown in *Figure 3*.
 - a. Remove the Cap Screw and Washer holding the power cord clip using a 6mm hex bit, and place the loose clip onto the Hospital Grade Power Cord.
 - b. Secure the clip and power cord back onto the Video Cart using the existing Cap Screw and Washer.

MOUNTING INSTRUCTIONS FOR VIDEO DISPLAY: (SONY)*

- Open 8272-14 Sony* 3DHD video display monitor box and remove power supply
- Inspect for any damage including cosmetic damages.
- Attach monitor Sony* video display AC power supply to mounting bracket underneath middle shelf of Cart. (Sony* monitor only)

* Sony is a registered trademark of Sony Corporation of America.

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- Attach the Mounting Bracket to the Sony* Monitor Power Supply as shown in *Figure 4*.
 - a. Remove backing from the double sided tape on the Mounting Bracket.
 - b. Position the Mounting Bracket so the slotted hole is to the left and the double sided tape is facing up.
 - c. Position the Power Supply feet facing up with the cord to the Sony* Monitor facing you.
 - d. Attach the Mounting Bracket to the Power Supply approximately on center and press firmly together.
- Place the Mounting Bracket & Power Supply under the middle shelf of the Video Cart as shown in *Figure 5*.
 - a. Standing in front of the Video Cart, place the right side of the Mounting Bracket & Power Supply under the right side of the 2nd shelf with the cord to the Sony* Monitor facing you.
 - b. Fold the Mounting Bracket & Power Supply up so it is flat up against the bottom of the Video Cart shelf. The Mounting Bracket & Power Supply should be loosely in position, Do no force into place.
- Secure the Mounting Bracket & Power Supply to the middle shelf of the Video Cart as shown in *Figure 6*.
 - a. Slide the Mounting Bracket & Power Supply forward until the slotted hole in the Mounting Bracket is aligned with the mounting hole in the shelf of the Video Cart.
 - b. Insert the mounting hardware included with the Mounting Bracket and slide the Mounting Bracket & Power Supply to the front of the Video Cart until it is snug, and secure the mounting hardware hand tight.

* Sony is a registered trademark of the Sony Corporation of America.

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- Run 4 prong power cable for monitor video display, through cart channel as shown in *Figures 7-10*:



Figure 7



Figure 8



Figure 9



Figure 10

- Attach one of the 1 m IEC 320 power cords to power supply as shown in *Figure 11*.



Figure 11

- Open 3DHD controller packaging and remove HD-SDI cables. *Figure 12* indicates Left and Right Cables.

Left = All Black Cable ring

Right = Black cable with white ring



Figure 12

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- Run the HD-SDI video cables through cart extension channel as shown in *Figures 13 and 14*:



Figure 13



Figure 14

- Right angle end goes to the CCU (middle shelf).
- Reinstall plastic cart column covers.
- Unpack Sony* 3D monitor.
- Inspect for any damages including cosmetic damages.
- Vesa Mounting* pattern on back of the Sony* monitor, once unpacked should look like picture shown in *Figure 15*:



Figure 15

Where Shown:

- Loosen the top 2 middle screws
- Remove the bottom 2 screws where shown in in *Figure 16*.

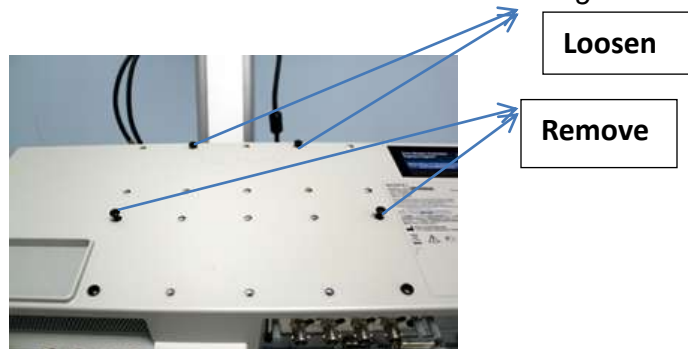


Figure 16

* Sony is a registered trademark of Sony Corporation of America.

* Vesa Mounting is a trademark of Video Electronic Standards Association.

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- Attach monitor video display to cart's Vesa* mounting bracket.
- Attach the remaining two bottom screws to remaining holes in the Vesa* mounting bracket, tighten all screws, Vesa* bracket should look like pictures shown in *Figures 17 and 18*:



- Connect power cord to Sony* monitor video display as shown in *Figure 19*:



Figure 19

- Connect left (black) HD-SDI video cable to Sony* 3G Card input 1
- Connect right (white) HD-SDI video cable to Sony* 3G Card input 2

MONITOR AT THIS POINT WILL LOOK LIKE FOLLOWING PICTURE IN *FIGURE 20*



Figure 20

MOUNTING INSTRUCTIONS FOR VIDEO DISPLAY: (PANASONIC)*

- Unpack 8272-19 Panasonic* 3D monitor video display.
- Inspect for any damages including cosmetic damages.

* Vesa is a trademark of Video Electronic Standards Association.

* Sony is a registered trademark of Sony Corporation of America.

* Panasonic is a registered trademark of Panasonic Corporation Japan.

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- Remove existing vesa mounting plate from the cart and install 200/200 Vesa Plate* as shown below in *Figures 21 and 22*.

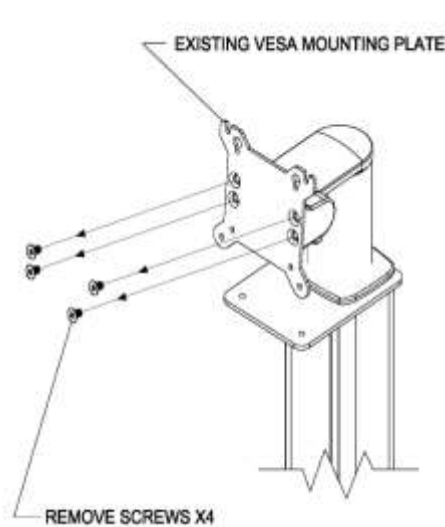


Figure 21

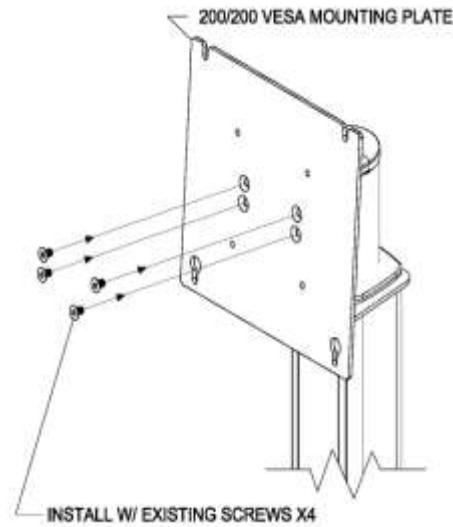


Figure 22

200/200 VESA MOUNTING* PLATE INSTALLATION

1. Remove the four (4) existing screws from the front of the existing tilt / swivel VESA mount* plate, and remove the existing VESA mounting* plate. See *Figure 21*.
2. Using the four (4) existing screws, install the 200/200 VESA mounting* plate to the existing mounting holes provided on the cart. See *Figure 22*.
 - Once the 200/200 Vesa Plate* as been installed, place Panasonic* monitor video display on bracket as shown in *Figures 23 and 24*.



Figure 23



Figure 24

* Vesa Mounting is a trademark of Video Electronic Standards Association.

* Panasonic is a registered trademark of Panasonic Corporation Japan.

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- Connect power cord for Panasonic* Monitor (There are 3 power cords on the middle shelf, ensure you use the longest cord (1 1/2MM)). Ensure the metal clip on the monitor is engaged to secure the power cord. See *Figure 26*.
- Connect left (black) HD-SDI video cable to the SDI-1 input as shown in *Figure 25*.
- Connect right (white) HD-SDI video cable to the SDI-2 input as shown in *Figure 25*.



Figure 25

THE MONITOR AT THIS POINT WILL LOOK LIKE THE FOLLOWING PICTURE IN *FIGURE 26*



Figure 26

Engage Clip

3DHD CONTROLLER:

- Unpack the 8170-6 3DHD controller.
- Inspect for any damages, including cosmetic damages.
- Place the controller on the middle shelf as shown below.
- Connect video cables to proper left (black) and right (white banded) HD-SDI outputs on controller.
- Attach power cord to controller.
- Place controller feet in the shelves detents to stabilize unit as shown in *Figure 27*.

* Panasonic is a registered trademark of Panasonic Corporation Japan.

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Figure 27

3DHD LIGHT SOURCE:

- Unpack the 8050-2 3DHD light source. Inspect for any damage, including cosmetic damages.
- Place the light source on top of the 3DHD controller (position feet in detents on controller cover). As shown in *Figure 28*.



Figure 28

- Attach power cord to light source.

FINISHED CART ASSEMBLY WILL LOOK LIKE FOLLOWING PICTURES IN FIGURES 29 and 30



Figures 29

Figure 30

3DHD VISION SYSTEM

OPERATIONAL CHECKS:

NOTE: THESE OPERATIONAL TESTS ARE THE SAME FOR BOTH SINGLE CHANNEL and DUAL CHANNEL 3DHD CAMERA HEADS

- Connect cart power cord to power outlet.
- Turn on power to monitor video display, camera control unit.
- The monitor video display should display color bars with on screen display (OSD) as shown in *Figure 31*.

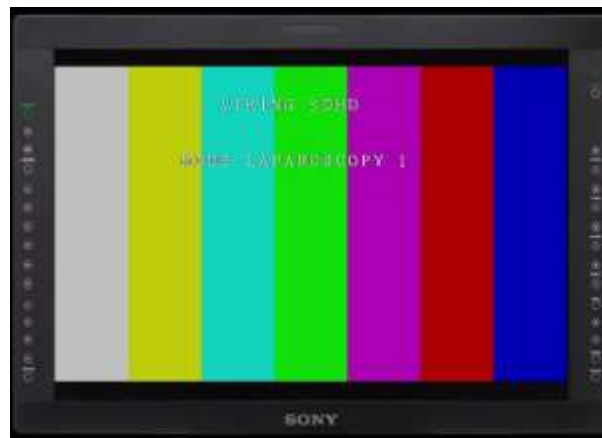


Figure 31

- Unpack 3DHD Vision Systems 3DHD glasses, 8272-15 and 8272-16 overwear glasses.
- Put on a pair of 3DHD Vision Systems 3D glasses and view the monitor video display screen.
- Color bars should be present in both right and left eyes. The on screen display (OSD) should only be present in the left eye. The on screen display (OSD) should not be visible with right eye only.
- Unpack 8170-9 Dual Channel Camera Head or 8170-8 Single Channel Camera Head and inspect the camera housing and cable for cuts, tears, cracks, or other defects.
- Connect 8170-9 Dual Channel Camera Head or 8170-8 Single Channel Camera Head to front panel connector on 3DHD controller. **NOTE:** *Ensure that the camera head connector is facing UP when plugging into the CCU.*
- Color bars should turn off and video image should now appear on the monitor video display.

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- The on screen display (OSD) on the monitor video display screen should display the following as shown in *Figures 32*.



OSD Reference
for text only

Figure 32

- Aim and focus Camera Head at an object in the room that has a horizontal edge
- (such as a shelf or top of door or doorway).
- View monitor video display without Viking 3D Glasses and verify (the double) image displayed horizontal edges are at the same horizontal plane as shown in *Figure 33*.



Figure 33

STEREO ENDOSCOPE:

- Unpack the 8191-05/06 Dual Channel Stereo Endoscope or 8191-01/02 Single Channel Stereo Endoscope.
- Inspect the (Dual Channel or Single Channel) Stereo Endoscope for cracks and other defects.
- Look through the scope and check optical system (both Channels for Dual Channel Scope) for a clear, crisp image. If Image is compromised, clean Endoscope Lens surface with alcohol, as instructed per Endoscope IFU.

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- Attach (Dual Channel or Single Channel) Stereo Endoscope to appropriate Camera Head by pushing down coupler latching feature. Insert Endoscope and releasing coupler latching feature, as shown in *Figure 34*.



Figure 34

WARNING: *Ensure Endoscope is securely locked to Camera Head.*

LIGHT GUIDE:

- Unpack the 8054-7 or 8054-8 light guide.
- Inspect the outer sheathing for nicks, cuts, or voids.
- Aim one end of light guide up at the overhead lighting and view other end to verify light passing through (you can cover and uncover end facing toward light with finger to verify light passing through).
- Before attaching light guide to light source verify the Wolf* port is at the arrow position on the front right of light source, as shown in *Figure 35*.



Figure 35

- Connect light guide proximal end to the light source
- Connect distal end of light guide to stereo endoscope light post adapter.

* Wolf is a tradename of Richard Wolf.

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LIGHT SOURCE TESTING:

- Turn on 3DHD light source by pressing power button on upper left corner.
- When the power switch is pressed the Stand-by Light will blink and there will be a 3 to 4 second delay before Xenon Lamp illuminates, at this time the system is performing a self-diagnostic check.
- Push the Stand By button to allow the light source to emit light to the light guide as shown as shown in *Figure 36*:



Figure 36

Light Intensity Switch's

- The tip of the Endoscope should be emitting light. **WARNING: Do not aim light directly into the eyes of another person.**
- Push the light intensity membrane switches + to increase and – to decrease the light output or intensity. Range is 0%, 20-100% in 5% increments. Holding the + or – button will change the intensity more quickly. Verify the light at distal tip of Endoscope changes levels when light intensity is varied. Set at 100% when done testing.

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3DHD SYSTEM TESTING:

- Put on a pair of Viking Systems 3D Glasses and aim 3DHD Camera Head (with Scope and Light Guide attached) at a non-reflective white object, as shown in *Figure 37*.



Figure 37

- Press White Balance Button on front of camera controller and verify on monitor screen video display that the on screen display (OSD) looks as shown in *Figure 38*:

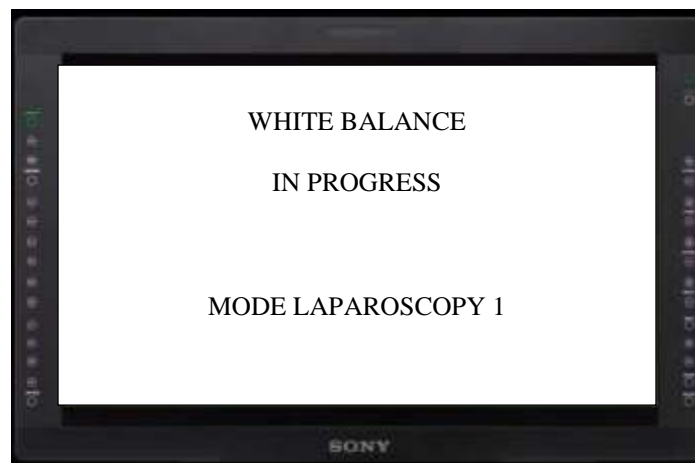


Figure 38

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- Once white balance completes the on screen display (OSD) looks (for a brief period) as shown in *Figure 39*.



Figure 39

- Press and hold the white button on the 3D camera head. The white balance should initiate and complete as displayed above.
- Press and release the left Blue Button on the camera head and the control unit will beep once. Now press and hold the same left Blue Button and the control unit will beep twice. The left Blue Button as shown in *Figure 40*.



Figure 40

- Press and release right Blue Button and the brightness on screen display (OSD) will appear on the monitor. Now when pressing left and right buttons on the camera head while the brightness is displayed the cursor on screen will move left and right and the video signal brightness on monitor will change.

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ALIGNMENT OF THE SCOPE/CAMERA:

- The alignment should be checked periodically. **WARNING: If the system comes out of alignment it WILL cause eye strain and discomfort. In severe cases 3D effect will be lost.**
- **Do not wear** Viking System 3D glasses. Hold the tip of the Endoscope approximately 4 to 5 inches (100 – 130mm) from the alignment target. *Targets Included with Installation Guide.*
- Rotate the camera so that the long line of the cross is horizontal on the monitor.
- Move the Endoscope closer to the target and ensure that the vertical lines of the two crosses overlap.
- Tip of the Endoscope should be approximately 2 inches (50mm) from the target.
- The horizontal lines shall also overlap so that there is no visible gap between them, as shown in *Figures 41 and- 42.*



Figure 41 - GOOD



Figure 42 - BAD

IF MISALIGNMENT IS DETECTED:

- Remove the Endoscope from the camera head.
- Direct the camera head at the target, keeping its distance from the target approximately 20 inches (500mm). Observe two images of the target.
- Rotate the camera head so that the long line of the cross is made horizontal on the monitor.
- Make sure both lines from the two images are horizontal and overlap. NOTE: The vertical line will not overlap by design. If the horizontal lines are misaligned as shown in *figure 44* the camera head came out of alignment, most likely having been dropped. If the camera head is aligned then the scope is the issue, see *figure 43.*



Figure 43 - GOOD



Figure 44 - BAD

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MONITOR PLACEMENT:

- It is important to properly position the monitor, if not set up correctly, cross-talk will be present, causing surgeon's discomfort, headache, degraded 3D effect or even complete loss of 3D.
- The monitor mount has a swivel joint on the back which allows for tilting. To correctly set-up monitor it should be tilted in such a way that the imaginary line perpendicular to the monitor plane coming from the center of the monitor is at the level of the surgeon's eyes.
- Refer to Monitor User Manual, for illustrations and proper viewing angles.

3DHD 2D CAMERA HEAD TESTING IF PURCHASED WITH SYSTEM:

- Remove 8170-7 2D camera head from its packaging and inspect the camera housing and cable for cuts, tears, cracks, or other defects.
- Connect camera head to control unit (Attach a C-Mount Coupler if available) and verify video is present on the monitor video display and on screen display (OSD) displays as shown in *Figures 45*.



OSD Reference for
Test Only

Figure 45

- Aim camera head at white scene and press and hold the right (white) Button on 2D camera head and the white balance will initiate.
- Press and release the right (white) button and the brightness on screen display (OSD) will appear on monitor.
- Now when pressing left and right buttons on the camera head, while the brightness is displayed, the curser on screen will move left and right. The video signal brightness on monitor will change.
- Allow OSD to clear prior to next step.

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- Press and release the left (blue) button on the camera head and the control unit will beep once. Now press and hold the same left (blue) Button and the control unit will beep twice.
- To ensure you are achieving full 2D resolution, aim the camera head at an image and verify wearing the Viking Systems 3D glasses that an image is present in the left and right eyes (close one eye at a time to verify image presence).

SYSTEM SHUTDOWN:

- System can be shut down by unplugging the power cord from the wall, or by shutting down components individually and then proceeding to unplug from the wall.