GlobalMed®

TotalExam® HD
User Manual

TotalExam® HD

Introduction

A New Benchmark for Telemedicine

The TotalExam® HD is designed to be easy-to-use and easy-to-hold in order to acquire clear high definition video. Lightweight and durable, the TotalExam HD offers the option to view HD video in both 1080p or 720p at either 30 or 60 FPS (frames per second).

The TotalExam HD uses an advanced technology which allows for the highest quality freeze frame images. The TotalExam HD features auto focus, auto white balance and auto color balance which enhances the quality of the HD images.

Selective exposure control is an advanced option which allows the user to choose the camera's frame rate. TotalExam HD's superior technology allows for these high quality images to be displayed on high definition monitors.

Dear Valued Customer,

GlobalMed sincerely appreciates your investment and the opportunity to service your telemedicine needs. We are committed to providing the very best products and support in the telemedicine industry.

Your feedback is important to our continued success and we welcome your suggestions, comments and concerns. If you have an inquiry for Sales, Customer Service or Technical Support, please contact your reseller directly. You may also reach GlobalMed directly at **+1.800.886.3692** or via email at ***telemed@globalmed.com***. GlobalMed offices are open Monday through Friday, 8am-5pm MST. We look forward to our continued partnership for years to come. Thank you for your business.

Sincerely,

Joel E. Barthelemy
Managing Director

Warnings

This camera is an electrical device: do not attempt to submerge into any kind of liquid. Doing so could result in electrical shock or other hazardous results.

Any dismantling of the camera will void the warranty and could damage the device or cause electrical shock. If it is necessary to clean the camera, remove the power source, utilize a cloth dampened with rubbing alcohol or a disinfecting wipe.

Do not drop or throw the TotalExam HD camera, as damage may occur. Use caution to avoid tripping over the cable leading from the HD POD to the TotalExam HD camera or the power source cable to the outlet. To guard against this, disconnect the cable from the camera and store the camera and cable in the drawer.

Please use the same care while using TotalExam HD as you would with any high-end electrical device.

This device alone is not intended to be used to diagnose, treat, cure or prevent any disease and should not be used as substitute for a health professional's advice. GlobalMed does not accept any liability for injury, loss or damage by use of or reliance on the information gathered by our product.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Compliance with FCC standards means :

1.   Designing the product to meet the strictest standards mandated by the FCC for a device, that being design for home as well as industrial use.
2.   Performing EMI test procedures are defined in the ANSI Standard C63.4. FCC Rules and Regulations
3.   Providing adequate shielding, voltage tuning safeguards in all product manufacturing and test methodologies.
4.   Ensuring that suppliers who provide "bolt-on" tertiary products to our device, are audited and screened to ensure that the above standards are met.

Software and Hardware

The TotalExam HD can be viewed by connecting to a variety of display options. TotalExam HD can be directly connected to a hardware CODEC, a video monitor, or a computer that accepts a HDMI or DVI input and is capable of accepting an HD signal.

There are no software or operating system requirements when using TotalExam HD as a stand-alone product.

What's Included in the TotalExam HD Kit

1. TotalExam HD
2. 10' HDMI A-C cable
3. TE HD POD
4. Derm Hood
5. Tongue Depressor Adaptor
6. Power Supply
7. Power Supply 5V AC adaptor cord (6' in length)
8. DVI-D to DVI-D beaded cable (10' in length)
9. USB 2.0 A male to Mini-B 5pin Male cable (10' in length)

Specifications

Dimensions	WxDxH = 1" x 8" x 1"
Weight	0.25 lbs
Focus	Auto 35mm - ē ∞
Pixels	10.1 Mega Pixel from a ½" CMOS Sensor
Horizontal Resolution	1080 Progressive Scan
Signal to Noise Ratio	Greater than 72dB
Captured Resolution	1920 x 1080
Frames per Second (True fps)	60 Progressive
Output Signal	HDMI and DVI
Output Format	12 bit RGB36
Number of Outputs	2 (HDMI and DVI concurrently)
Color Adjustments	Auto Color/White Balance (AWB)
ACC	Full iris control
Lighting	8-7200K LEDs with variable intensity
Operating Temperature Range	0°C – 42°C, 32°F – 107°F / 30 - 70% RH/ 700 - 1060 hPa
Operating Humidity	Less than 90%
Power Consumption	12W
Voltage Range	5V Power ECI60601 medical grade
Lens	F3.0 part glass 9mm
Designated Power Supply	Switching power supply, P/N: SMDA30-02 Input Voltage Range: 100 - 240VAC, 47 - 63 Hz Output Voltage: 5VDC, 5A max
Storage Transport Conditions	-10 to 70°/ 10 to 100%RH/ 500 to 1060 hPa

Markings

Important safety markings and definitions:

1. (marking on power supply); definition: Warning: dangerous voltage

2. (marking on power supply); definition: General warning sign

3. ; definition: DC voltage

4. ; Definition: "On" / "OFF" power

5. ; Attention, consult ACCOMPANYING DOCUMENTS

Installation: HD POD

Installation: HD POD to a PC
If you are connecting the kit with a PC, the output of the HD POD must be routed into the DVI-D input of the Video Frame Grabber card or another approved video frame grabber PCI card. Then another DVI-D cable will be need to routed from the graphics card to your display or monitor.

Installation: HD POD to a hardware CODEC
If using the camera directly with a CODEC, simply select an output on the back of the POD (either DVI-D or HDMI), and connect a cable between the HD POD and the CODEC.

Installation: HD POD to the TotalExam HD Camera
Power the HD POD by connecting the supplied 5V AC adaptor. Plug the HDMI cable from the camera into the front of the HD POD, and then press the power button next to the input. The camera's LEDs will flash and the LED on the front of the POD will illuminate.

HD POD configuration settings for CODEC
•   Select an output on the back of the POD (HDMI or DVI-D)
•   For CODECs that utilize a 720p signal, on the back of the HD POD, select the switches
        labeled "2" and "4" and flip them to the down position.
•   For CODECs that utilize a 1080p signal, on the back of the HD POD, select the switches
        labeled "2" and "4" and flip them to the up position.
•   Connect the appropriate cable to the HD POD and the CODEC.
•   Connect the supplied 5V AC adaptor to the HD POD.
•   Plug the camera HDMI cable into the front of the HD POD.
•   Press the power button next to the camera cable input.
•   The camera's LEDs will flash and the LED on the front of the HD POD will illuminate.
•   To view the TotalExam HD camera, on the CODEC remote select the menu option for sharing
        the input that the HD POD is connected to.

Installation: TotalExam HD

Installation of the TotalExam HD is simple. There are no drivers to install unless you plan to use an ADLINK HDV62 Video Frame Grabber or another approved video frame grabber PCI card.

Simply plug the HDMI cable between the TotalExam HD Handset and the HD POD.

Then, plug in the HDMI or DVI-D cable into your preferred video display, monitor, video CODEC (i.e. Polycom, Tandberg, Lifesize, Sony or Cisco) or your chosen HD video output.

Prerequisites

- Hardware CODEC that accepts HDMI or DVI-D inputs
- Monitor which has HDMI or DVI-D inputs

The TotalExam HD requires the use of the HD POD and the power supply included with the camera.

If you would like information on how to bring TotalExam HD images into your PC, please visit our website www.GlobalMed.com or call 1.800.886.3692.

TotalExam HD Controls

There are five buttons on the top of the TotalExam HD camera (hand piece). Holding the TotalExam HD camera by keeping the buttons on top (pointed up) will correctly orient the video image.
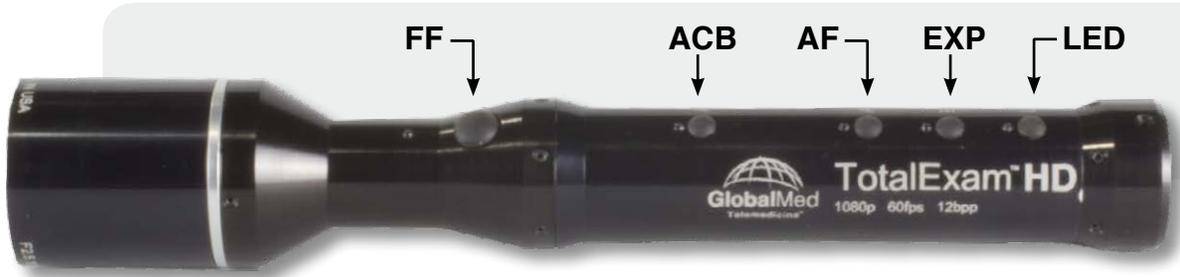
FF button = Freeze-Frame Control

The FF button allows the user to freeze live video to allow for closer examination of an image. To freeze the live video, press the FF button and release. The image will be frozen upon release of the button. The still image will remain on the screen until you press the FF button again to release the frozen image.

Removing the power source will also release the frozen image.

ACB button = Auto Color Balance or Auto White Balance

The ACB button allows the user to adjust the way light effects the image. There are two distinct white balancing methods that the user can choose from to optimally white balance the Total Exam HD. The correct white balancing method is dependent on whether the user intends to capture the image from a distance of over 1 meter (Perspective Image) or within 1 meter (Micro Image). The following describes the relevant procedures for each scenario.

Be sure to select the LED light level prior to selecting the ACB option. To further optimize the lighting, attach the Derm Hood and Touch Collar for close up examinations of the area you want to color balance against.

PERSPECTIVE IMAGE WHITE BALANCING PROCEDURE:

For images that are taken over 1 meter away from the area of interest, the most effective white balancing technique involves aiming the camera at a white sheet of printer paper and pressing the ACB button. Be sure to position the paper in the same location as the patient's area of interest while holding the camera at the same distance from which the image will be captured. Unless a polarization or derm hood is being used, do not activate the integrated LED lights while white balancing. If the area of interest is moved from the position where the initial white balancing took place, the user will have to repeat the white balancing procedure. It is thus suggested that the subject remain in one place during image acquisition.

MICRO IMAGE WHITE BALANCING PROCEDURE:

Before attempting to white balance the device, be sure to select the desired LED light level (see p. 11). Hold a white sheet of printer paper directly against the camera and press the ACB button.

NOTE: If the Total Exam HD cable disconnects during use, it is suggested that the user repeat the white balance procedure to ensure highest-quality image capture.

NOTE: To further optimize the lighting, attach the Derm Hood and Touch Collar for close up examinations of the area you want to color balance against.

TotalExam HD Controls cont.

AF button = Auto Focus Control

TotalExam HD is an automatic focusing camera and defaults to automatic focus when powered up. Pressing the AF button both disables and enables autofocus. It is recommended that the Auto Focus Control feature be disabled while the camera is on but not in use. If it is not disabled, the camera will continue to work to focus and overtime could cause excessive wear on the focusing mechanism.

Also, if utilizing the camera at the same focal length for a period of time, turn off the Auto Focus Control Feature and the camera will maintain that focal length and allow the user to capture multiple images at a selected focal length (i.e. the inside of the mouth).

LED

EXP

EXP button = Exposure Time
Pressing the EXP button cycles the TotalExam HD's exposure time. The camera defaults to an exposure time of 60 FPS. This exposure setting reduces blurring in images.

One press of the button changes the exposure to 30 FPS. Another press lowers the exposure to 15 FPS.

The lower exposure allows the camera sensor to gather more data per frame by increasing the amount of light, thus deepening the color of an image.

LED button = LED Light Control
The camera contains a light carousel for illuminating the viewing area.

Pressing the LED button turns the TotalExam HD LED ring on.

Holding the button down ramps up the diodes until they reach their peak brightness.

Continuing to hold the button down will cause the light to taper off. Release the button when the desired brightness is achieved.

TotalExam HD Attachments

The DermaHood

The DermaHood is designed to slide onto the end of the TotalExam HD camera and is utilized for up close examinations. The purpose of the DermaHood is to focus the light from the camera's LEDs down onto the surface area being examined. The DermaHood is used in conjunction with the Touch Collar and ACB button for up close examinations of the skin's surface.

The Touch Collar

The TotalExam HD Touch Collar is a single use, disposable device. In the course of an examination, it is possible for the Touch Collar to come in contact with mucous membranes or broken skin, which may represent a potential biological hazard. As a result, precautions like protective gloves are recommended. After use, the Touch Collar should be disposed of as medical/biohazard waste.

Tongue Depressor Adaptor

The Tongue Depressor Adaptor clips on to TotalExam HD at the narrow neck of the camera. The adaptor attaches underneath the camera's lens (opposite of buttons). It holds a standard tongue depressor blade for examinations of the throat and mouth.

Cleanup Procedure

The TotalExam HD Camera is an FDA registered Class I non-sterile medical device. The camera is used in conjunction with three accessories: the Tongue Depressor Adaptor, Derm Hood and the disposable Touch Collar.

The Derm Hood and the Tongue Depressor Adaptor are not intended to be patient contact components and as such, are designed to be cleaned and reused multiple times. The Touch Collar, on the other hand, is intended for patient contact and is a single use component.

Component	Procedure	Frequency
TotalExam HD Camera and Cord	Gently wipe all parts of the outer surfaces of the equipment and cord with a disinfecting wipe and/or soft cloth moistened with a facility or CDC approved cleaning solution.	At least weekly or when contaminated
TotalExam HD Camera Lens and Light Shield	ONLY use a lens cloth or soft cotton swab with a lens cleaner specifically designed for camera lenses. NO EXCEPTIONS	At least weekly or when contaminated
TotalExam HD Derm Hoods and Tongue Depressor Adaptor	Derm Hoods and the Tongue Depressor Adaptor can be gently wiped down or soaked in a facility or CDC approved cleaning solution. NO EXCEPTIONS	After each use
TotalExam HD Touch Collars	N/A	Dispose after each use

Warranty and Return Policy

All GlobalMedia Group, LLC (GMG) products are warranted under the following terms:

Products that become defective during the first year after the order is shipped will be repaired or replaced by GMG free of charge. This limited warranty is contingent upon proper use of the product and does not cover products that have been damaged (scratches, bent metal, broken components) misused, modified, or subject to unusual physical or electrical stress. All returns for any other reason must be made within the first 30 days from time of shipment and will be subject to a 25% restocking charge. Buyer must include all original components, literature, and packaging in the same salable condition received to avoid any additional charges.

All returned materials must have a GMG return materials authorization (RMA) number. Authorized returns must be shipped freight prepaid to GMG. GMG reserves the right to refuse any return that is sent COD or without an RMA number visible on the exterior of the package. Unauthorized returns, refused shipments, and authorized returns of nondefective merchandise after the above stated return periods are subject to additional charges.

Limited Liability Agreement

No claim made by the buyer shall be for an amount greater than the purchase price of the goods in respect of which the claim was made, regardless of whether the claim pertains to damage incurred in shipping, failure to ship, or inherent defects. GlobalMedia Group will in no way be liable for incidental or consequential charges. In all events, GMG reserves the option of repair or replacement at its discretion. GMG takes no responsibility for incorrect, outdated, or otherwise inaccurate information, including pricing and product specifications. GMG is not responsible for typographical errors or omissions and shall not be liable for any incidental or consequential damages caused directly or indirectly from any GMG product. In addition, GMG reserves the right to change prices, specifications or discontinue products at any time without prior notice while reserving the right to refuse or conduct a cancellation on its transaction activities due to price inconsistency from its suppliers. Rev. 09.20.2012

This product is designed and manufactured in Scottsdale, Arizona, USA by GlobalMedia.

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FCC
FEDERAL COMMUNICATIONS COMMISSION · USA ·

This equipment also has a FCC classification of: "Class A Digital Device." The FCC Rules contained in Title 47 of the CFR, Part 15 Subpart B and ICES-003

The equipment has a CSA classification of: "Type BApplied Part"

CE

EU Directive 93/42/EEC

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