GlobalMed® ClinicalAccess® Station User and Service Manual

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Revision History

Revision	Changes	Date
D	Release.	12-08-2016
E	• Combined User Manual and Service Manual • Changed Sound Bar information • Changed Battery information • Updated PDB screen shots and content	07-07-2017
F	Added audiology row to *Table 4*	08-09-2017
G	Added *"Audiology" on page 18* and audiology row to *Table 10*	08-17-2017

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CHAPTER 1

About the CAS

1.1 Overview

The GlobalMed® ClinicalAccess® Station (CAS) is a mobile telemedicine system that integrates video conferencing, medical devices, and software to enable remote consultations and examinations. The CAS is a modular exam station and is offered with multiple peripheral devices. Frequently used exam station functions include, but are not limited to:

- Video conferencing
- Teledermatology
- Wound care
- Vital sign management
- Sonography
- Imaging
- Patient data transfer and management

1.2 Precautions

Thoroughly review these safety instructions before operating the equipment. Clinical and technical personnel should adhere to warnings and precautions at all times. The telemedicine station and associated devices should only be used by trained professionals. Equipment should be used according to operating instructions outlined in this manual. Only use manufacturer recommended or approved accessories to ensure compatibility (see *Table 1* and *Table 2*).

Table 1 Precautions

Precaution Type	Warning Description
Liquids and Moisture	• Avoid direct contact with liquids on all electrical components and devices on the telemedicine station. • Do not store or operate equipment in areas with excessive moisture.
Mobility	• Care should always be taken when transporting the telemedicine station. Before moving the station, secure monitor(s), close bin(s), and stow loose cords and peripheral devices. Proceed slowly when moving the station over thresholds and uneven surfaces to prevent damage to the system. • To ensure stability, engage all wheel locks when the cart is stationary. Push lever down to lock and up to unlock. Two locks are on the front wheels and one is located on the rear wheel. • The versatility of the CAS enables variable positioning of the patient and operator to address patient- specific needs.
Ventilation	Do not obstruct any ventilation vents on the telemedicine station. This will prevent damage resulting from overheating.
Electrical	**WARNING:** To avoid the risk of electric shock, this equipment must only be connected to a supply mains with protective earth. • Do not use an extension cable or a power strip to provide power to the telemedicine station. • Do not use damaged electrical cables.

This device alone is not intended to diagnose, treat, cure, or prevent any disease and should not be used as a 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 this product.

Table 2 Warning Symbols

Symbol	Description
	General Warning Sign (ISO 7010 – W001)
	Follow Operating Instructions (IEC 60878)
	Type BF Applied Part (IEC 60417 – 5333)
	Take all used batteries to a battery collection site according to your national legislation and the Batteries Directive 2006/66/EU. Do not discard in standard trash or at a trash site.

1.3 Key Features

Figure 1 Complete front view

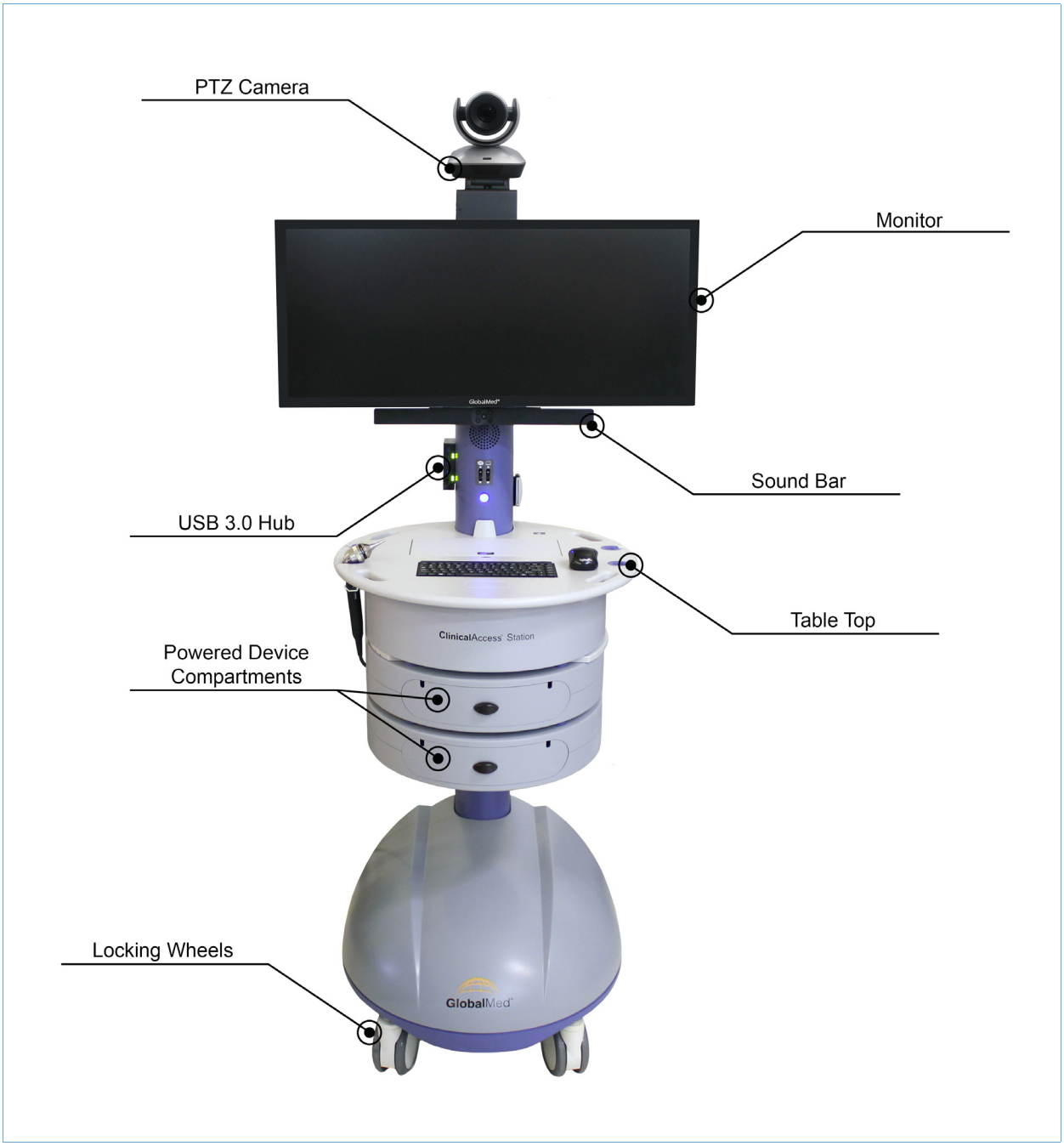


Figure 2 Back view

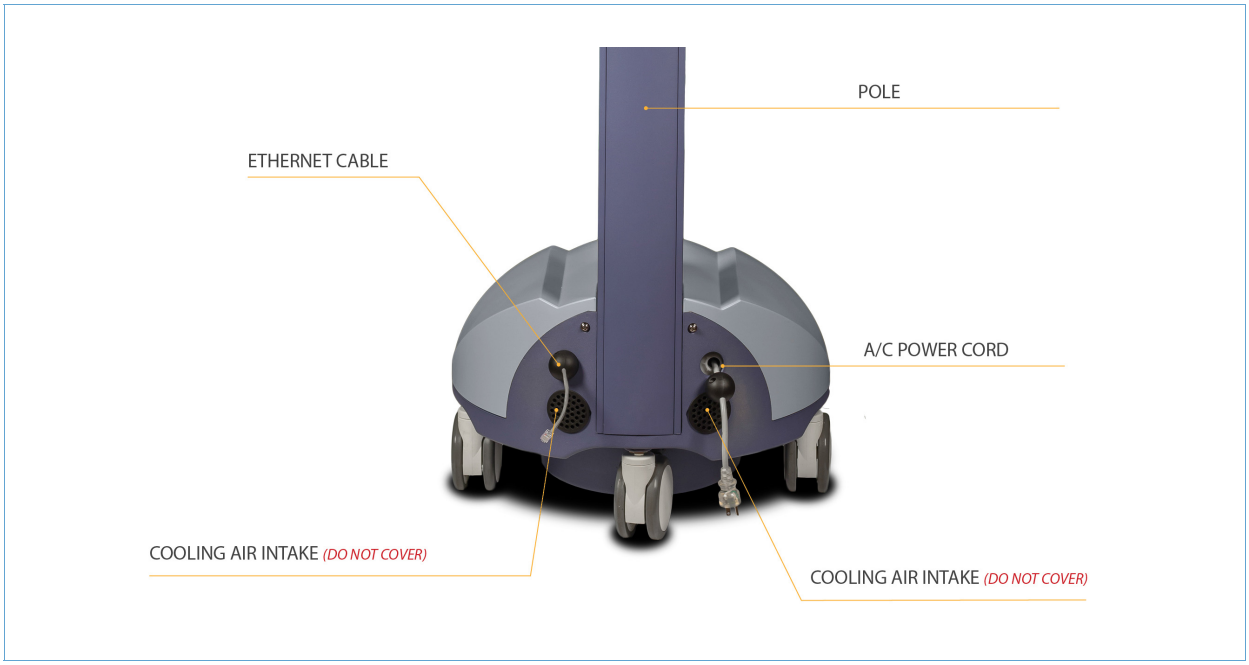


Figure 3 Table top view

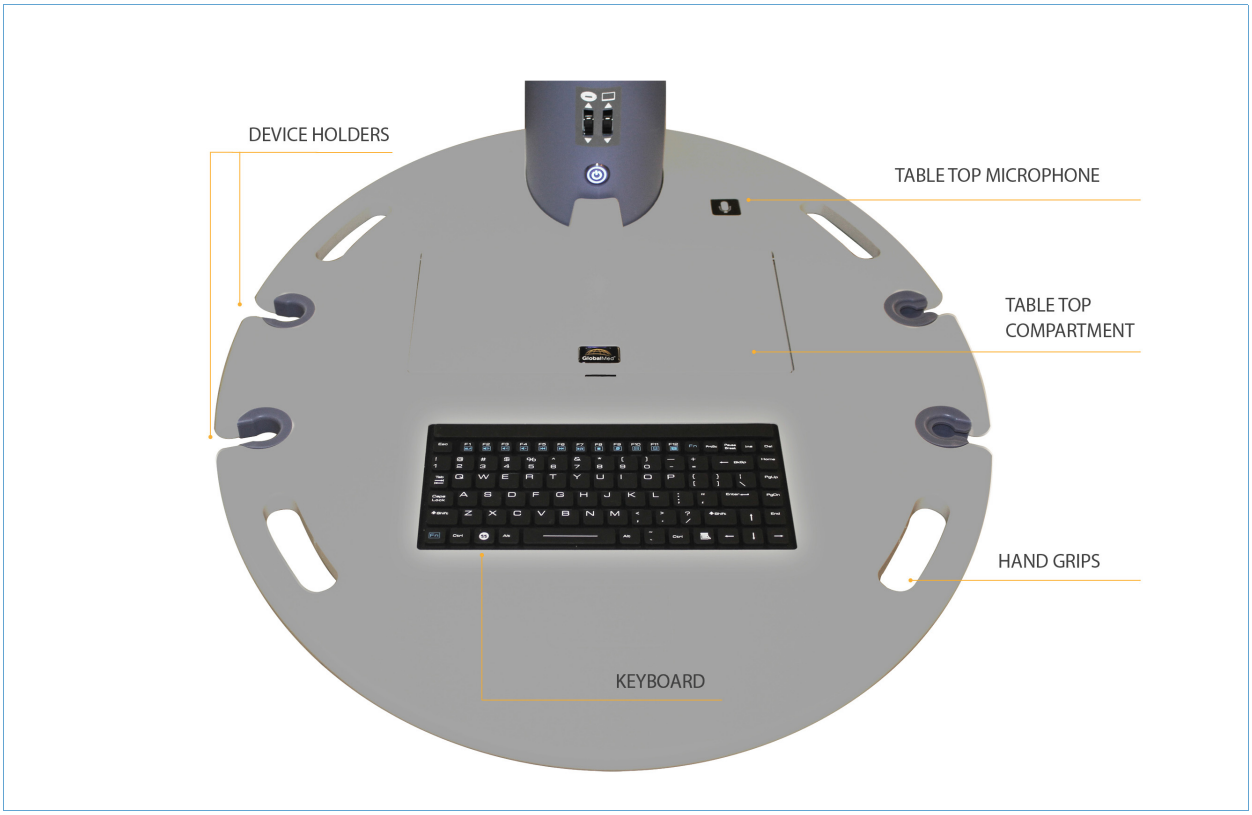


Figure 4 Rear table top view

Figure 5 Sound bar buttons

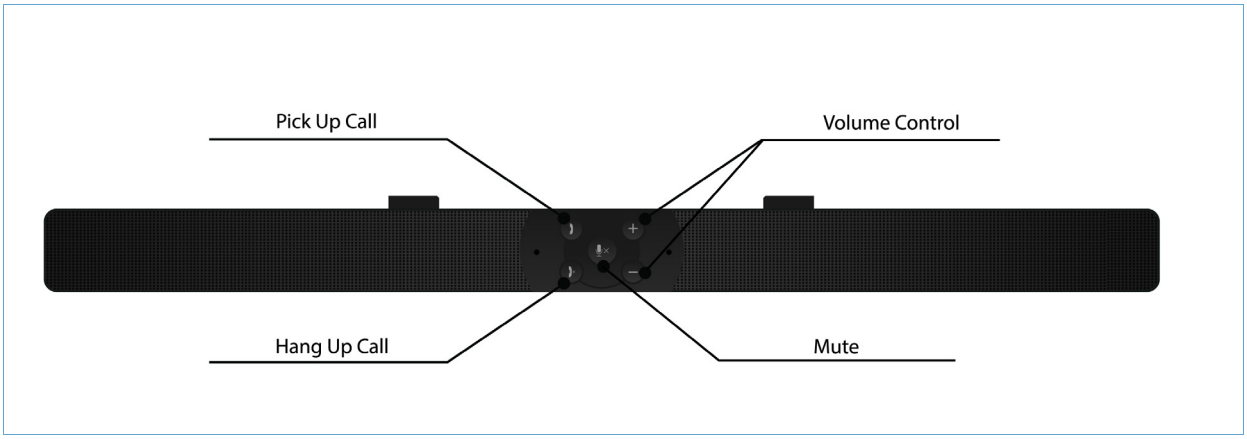
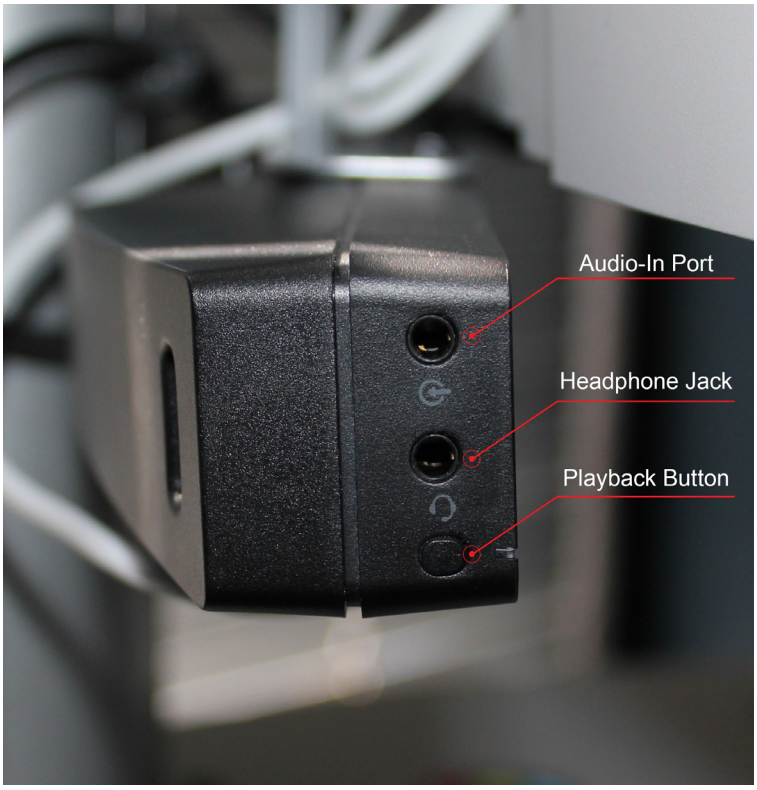


Figure 6 Sound bar jacks



1.4 Technical Specifications

Table 3 CAS specifications

Component	Description
CAS	Dimensions: 71”- 77”H x 27”L x 24”W
Weight	180 lbs. minimum
AC Power	90V to 220V, 50Hz to 60Hz
Battery Power	55AH, 1 hr, 1.60V/cell, 25°C/77°F
Computer	Integrated Dell® computer or similar
Operating System	Windows® 7, 10
Connectivity	Ethernet, WiFi, 4G
Ports	7 USB 3.0 ports, 1 HDMI, two 5 VDC Aux Connectors Connectors, 1 Ethernet
Cables	15’ Ethernet cable reel, 15’ Power cable reel
Display(s)	27” / 22” Dual Monitors, swivel up to 270 degrees 27” Single Monitor, swivels up to 90 degrees 34” Single Curved Monitor, swivels up to 90 degrees DC powered, 1080p Adjustable height: 58” minimum – 64” maximum
Camera	PTZ camera
Table top	Anti-microbial surface Dimensions: 24”w x 28” Adjustable height 36”– 42”
Audio	Dell® Sound Bar 17.4”W x 2.4”D x 1.4”H Speaker Type: Active 1 X sound bar 5 Watt - 90-20000 Hz
Keyboard	Integrated into tabletop; waterproof, antimicrobial
Portability	5” dual caster (5)
Video Conferencing	Compatible with most major hardware and software codecs including: eNcounter®View, EasyShare®, Cisco®, Polycom™, Vidyo®, Avaya™, and others
Devices	Compatible with all GlobalMed approved medical devices

1.5 Component List

Table 4 Component list

Component	Description
Main Camera	Pan, tilt, and zoom camera that moves up/down in accordance with the adjustment of the monitor. The options for cameras include: • i1000 • i1020 • Cisco® (installation only)
Table Top	Antimicrobial surface, adjustable height.
Monitor (s)	Adjustable height. The options for monitors include: • Dual Monitors: 27” with 22” swing arm • Single Monitor: 27” • Single Curved Monitor: 34”
Power Button	Powers the CAS on and off.
Sound Bar	Sound bar that enables auditory transmission with integrated microphone. Includes audio-in port, headphone jack, and play-back button.
Table Top Compartment	Compartment for TotalExam® HD or TotalExam 3.
***Optional* – Power Device Compartments**	Up to 3, compatible with GlobalMed approved devices (see *Table 5*). • Bin 1: Powered by USB 3.0 connection, compatible with TotalExam cameras. • Bin 2: Powered by USB 3.0 connection, compatible with GlobalMed approved peripheral device(s). • Bin 3: Powered or non-powered options available; primarily used for storage.
***Optional* – Badge Access Reader**	The badge access reader is an optional component that is attached to the side of the CAS pole as an added security measure. Your IT department is responsible for configuring the badge reader system. Contact GlobalMed at 1.800.886.3692 or visit *https://globalmed.desk.com* with questions.
***Optional* – Audiology**	Components integrated into CAS to assist with audiology fittings and diagnostics.
Device Holders	Table top slots for peripheral devices.
Pole	Wired pole that supports monitors. Removable panel provides maintenance access point that should be removed by qualified service personnel only.

Table 4 Component list (Continued)

Component	Description
Monitor Actuator Switch	Adjusts monitor height.
Table Top Actuator Switch	Adjusts table top height.
Keyboard, Mouse	Enables user to interact with computer interface. Waterproof.
USB 3.0 hub	USB 3.0 port for peripheral connection located on the pole of the CAS.
USB 3.0, Bins 1-3 *(as applicable)*	USB 3.0 port used to power Bin 1-3 device(s)
Warning: Ensure that the USB connections is oriented correctly when plugging in USB devices. An incorrect USB connection (plugged in upside down) could result in deactivation of integral the CAS components, requiring a complete system restart to remediate.	
5 VDC Aux Connector	• Do not exceed 1.0 Amp on either AUX Output. • When the CAS is operating on Battery Power, the AUX voltage will vary with the battery voltage. • The battery voltage ranges from 11V to 13.2V depending on its State-of-Charge (SOC).

Table 5 CSA - approved peripherals

Device	Stock Code	
TotalExam® 3 HD Camera & Auto:	GMD5504HD23	Cameras
TotalExam® 3 HD Camera &Auto Focus w/VPH:	GMD5504HD24	
TotalExam® 3 HD Camera & Auto Focus and Otoscope:	GMD5504HD25	
TotalExam® 3 HD Camera, Auto Focus, Otoscope and VPH:	GMD5504HD26	
TotalExam® HD Camera 2.0 w/Polarizing Hood:	GMD5503HD12	
ClearSteth® Send Kit:	GMD50230002	Other Peripherals
WA ECG/EKG 12 Lead System:	GMD50600001	
TotalECG®:	GMD50610001	
TotalVitals™:	GMDTVSBO2T	
Spot Vital Signs™ LXI w/Blood Pressure:	GMD50700001	

Note: Other devices not listed in *Table 5*, when used with the CAS, are not covered by CSA or IEC certifications.

CHAPTER 2

Quick Start for Users

2.1 Overview

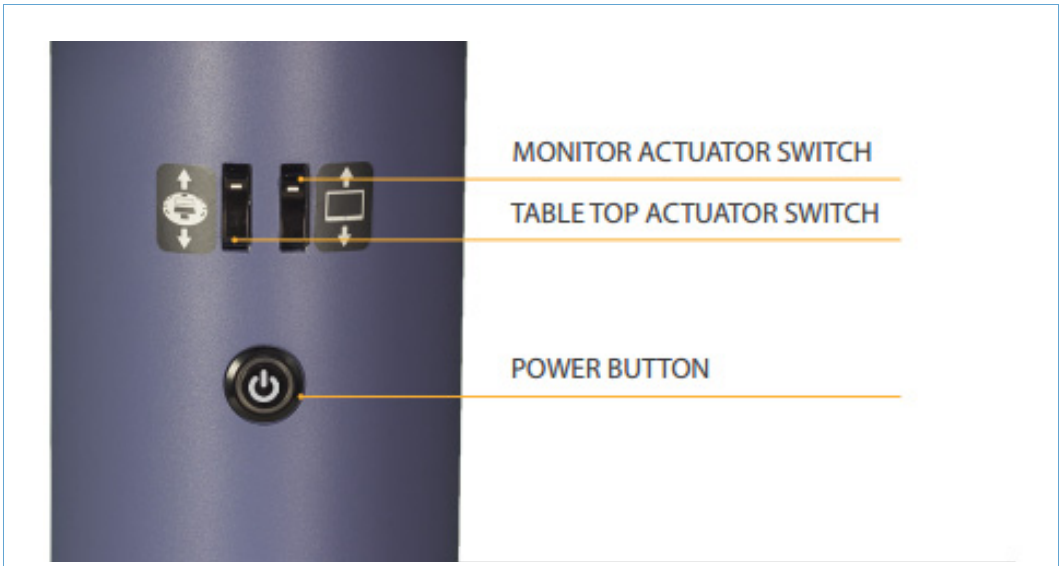
This chapter describes the quick start operations for the CAS. The following topics are discussed:

2.2 Power

The ON/OFF power button of the CAS, when equipped with a computer, is tied to the computer. Plug in the CAS and charge it for 8 hours before first use.

1. To power on, press and hold the power button for approximately one second until the LED light illuminates (see *Figure 7*).

Figure 7 CAS Power button location



2. To power off, initiate a soft power down of the PC via the Windows start menu. The system then follows the proper procedure to shut down the cart fully. The cart also powers down when the computer is put in hibernate mode.
   a. When the computer is put in sleep mode, the cart goes into a lower power state.
   b. If the power button is pressed when the computer and cart are ON, you are reminded to initiate a soft power down of the PC.
3. If configured without a computer, press the power button to power on, and press and hold the power button for about six seconds to power off.

Note: If the communications between the computer and its USP functionality is lost, the power reverts to the manual mode. In that case, shut the computer down first and then manually shut the CAS down by pressing the power button for about six seconds.

Caution: If the computer cannot be used to power down the CAS due to an error, press the reset button located underneath the base shell to initiate a hard shut down (see *"Power Distribution Board Reset Procedure" on page 25*). However, this could cause corruption of computer software and potential loss of data. DO NOT initiate a hard shutdown via the power button or the reset button during the normal use of the CAS.

2.3 Headphone Use

1. Plug the headphones into the headphone jack of the sound bar.
2. Adjust volume as desired.
3. Use the playback button on left side of the sound bar to toggle audio between headphones and sound bar speaker (see *Figure 6*).

Tip: The light on the left side of the sound bar will be lit when audio is being directed to the headphones.

Note: For more information about the sound bar refer to the *Dell Professional Sound Bar User's Guide.*

2.4 Bin Security Software

All compartments within the CAS automatically lock when not in use and can be unlocked via a software trigger. To access this trigger:

1. From the home screen click the CAS padlock icon in the task bar (see *Figure 8*).

Figure 8 Padlock Icon

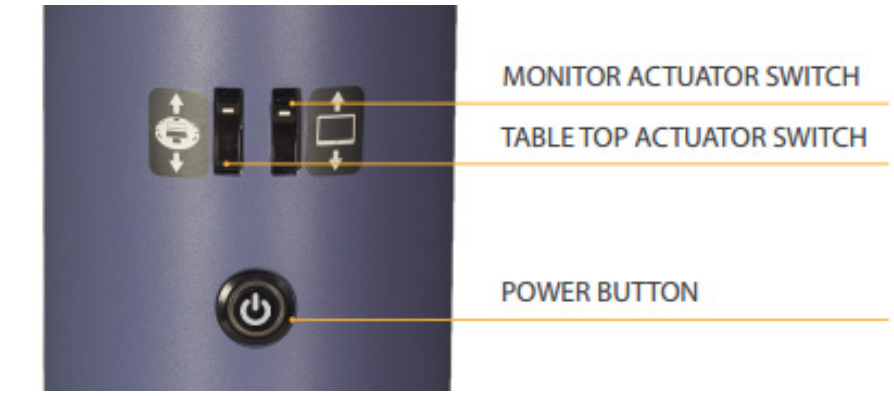
2. This icon serves two functions:
   a. Indicates the locked/unlocked status of the device bins and compartments.
   b. Serves as the software trigger that locks and unlocks all bins and compartments.

Tip: When the computer is not in use, press the power button three times consecutively to unlock all compartments.

2.5 Monitor and Table Top Height Adjustment

1. To raise and lower the monitor, use the monitor actuator switch on the front, right side of the CAS. Press the switch up or down to move the monitor in the desired direction (see *Figure 9*).

Figure 9 Actuator switch locations



2. To raise and lower the table top, use the table top actuator switch on the front, left side of the CAS. Press the switch up or down to move the table top in the desired direction (see *Figure 9*).

2.6 Battery Power Indicators

The power button LED light is visible on the outside of the CAS station and has blink patterns that indicate the power condition of the cart (see *Table 6*).

Table 6 Power Indicators

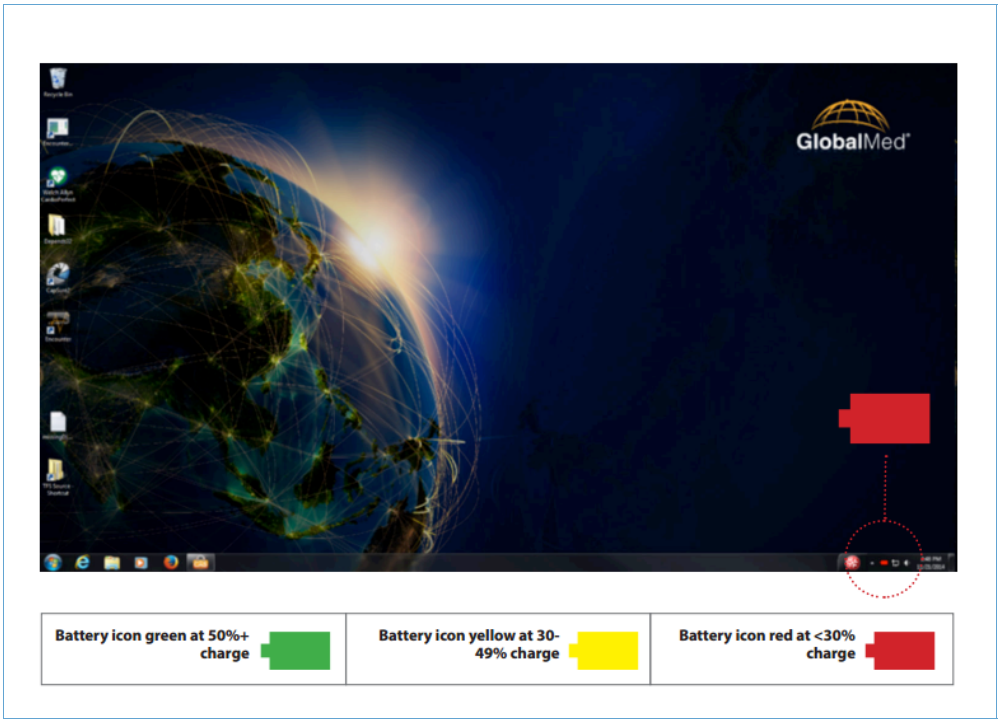
Power Level	LED Indicator
CAS Power Off	LED off
CAS on AC Power (Plugged In)	LED Always On
CAS on Battery Power >20% charge	One short blink every 30 seconds

Table 6 Power Indicators (Continued)

Power Level	LED Indicator
CAS on Battery Power 15-20% charge	Two short blinks every 30 seconds
CAS on Battery Power 10-15% charge	Three short blinks every 30 seconds
CAS on Battery Power 5-10% charge	Blinking steadily at 1-second: Station will shut down soon

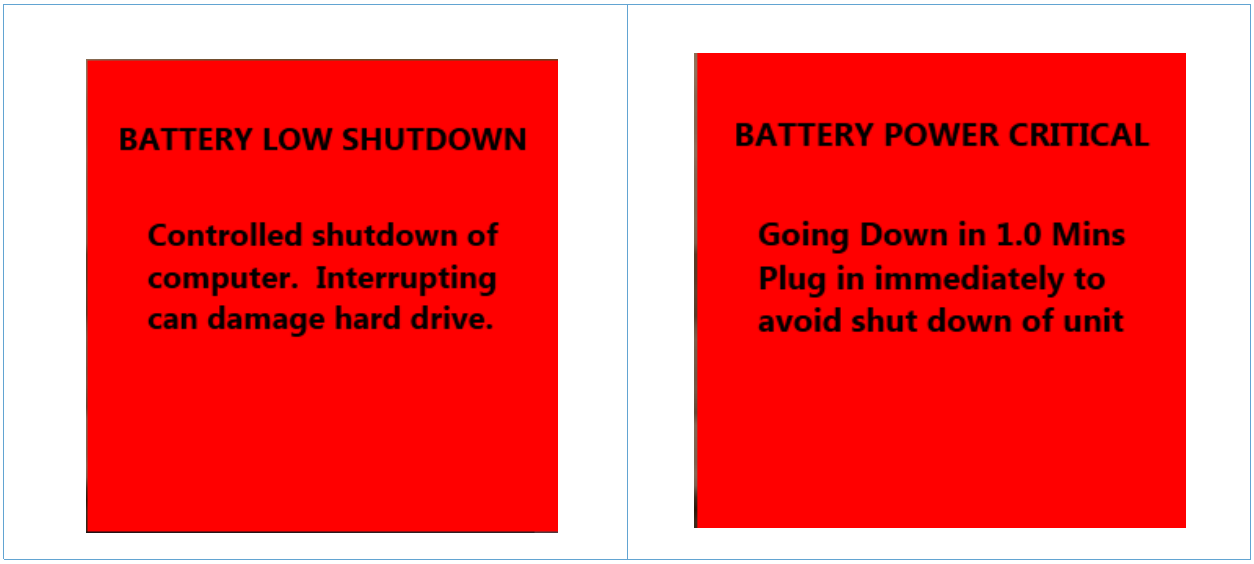
To accurately track the battery power levels at values greater than 30 percent, the CAS software interface displays a color-coded battery icon located on the bottom right corner of the Windows task bar (see *Figure 10*).

Figure 10 Battery Level on desktop



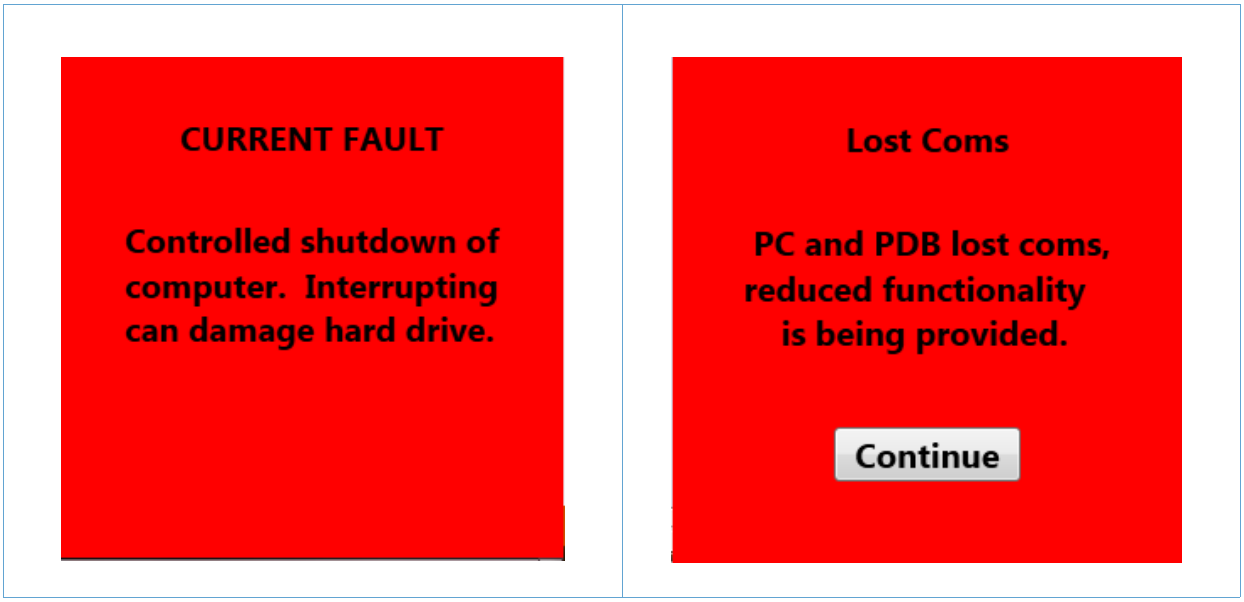
When the CAS battery reaches critical level of less than 30 percent, a warning window appears (see *Figure 11*). To avoid a potential loss of data, plug the CAS into an AC power outlet or save all relevant information before shutting down.

Figure 11 Battery Level Low warning indicator



If the CAS experiences any abnormal electric current, you are notified to shut down (see *Figure 12*). Additionally, if the CAS loses communication with the Power Distribution Board you are notified (see *Figure 12*). In each case, contact your IT or Biomedical department for further troubleshooting.

Figure 12 Error messages on CAS

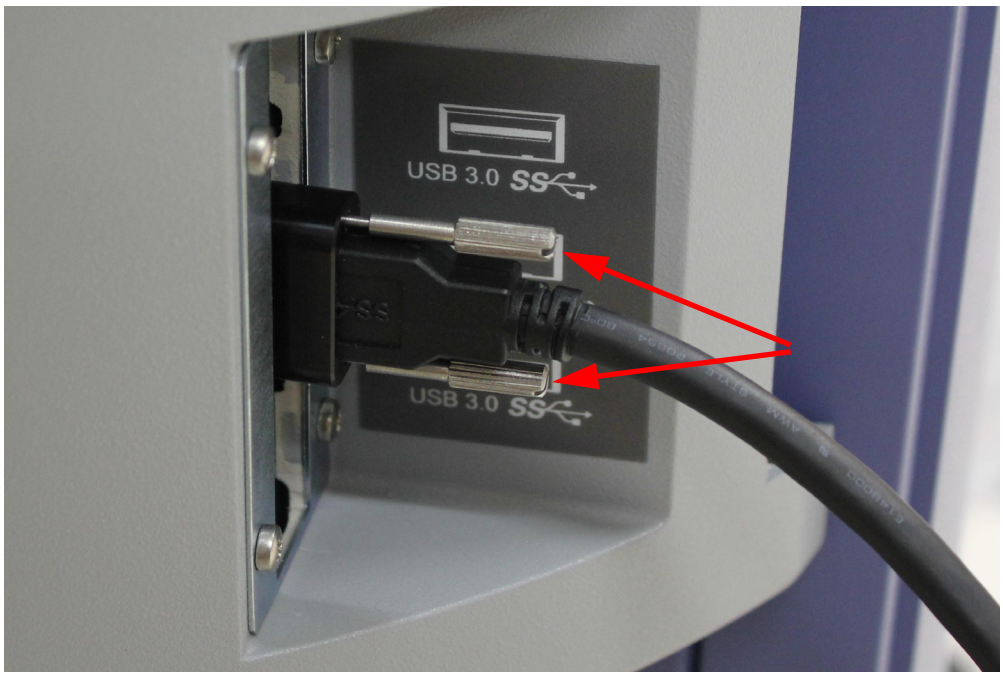


2.7 Connecting a TotalExam® camera to the CAS

1. Plug in the TotalExam camera via USB 3.0 port.
2. Tighten the two thumb screws (see *Figure 13*).

Note: The USB connector can be unreliable without the thumbscrews tightened.

Figure 13 Thumbscrew USB connection



2.8 Audiology

If your CAS unit has optional Audiology components please refer to the following user manuals:

- *Astera with HiFreq Audiometer*
- *NoahLink*
- *Aurical HIT Chamber*
- *Zodiac PC-based Diagnostic Tymp with Inserts*
- *Probe Microphone Measurement Unit with HiPro*

CHAPTER 3

Maintenance and Troubleshooting

3.1 Overview

This chapter discusses basic maintenance and troubleshooting guidelines for the CAS. The following topics are discussed:

Note: The ClinicalAccess Station is not intended to be serviced or maintained while in use.

3.2 Basic Maintenance

Table 7 CAS basic maintenance

Component	Maintenance Solution
Main Camera Maintenance	Should the main camera become loose or unstable, tighten the screws surrounding the base. Also, tighten the main center screw of the rotating hinge of the main camera to increase tension and stabilize camera for lower angle views.
Monitor Bracket	Check the screws attaching the monitor to its supportive bracket and adjust as necessary.
Battery Charging	When turning the CAS on for the first time, it should be plugged into an AC outlet for at least 8 hours before running on the battery. This will charge the battery and still allow the user to operate the CAS. The purpose is to allow the battery fuel gauge to begin operation from a full charge. Battery power should last 6-8 hours at full load.
Battery Replacement	This must be performed by qualified service personnel only. Please contact GlobalMed at 1.800.886.3692 or visit ***https://globalmed.desk.com***

3.3 Battery Maintenance

Even with battery charging, the chemicals in the battery may deplete, causing the battery to deliver less power and for shorter periods of time. At some point, the chemicals are consumed and the battery requires replacement (see ***Table 8***).

Note: Batteries are a consumable item and not covered under the GlobalMed warranty. The functionality of the battery should be evaluated annually to determine if a replacement is needed.

Table 8 Reasons for shortened battery life

Reason	Explanation
Irregular use	• The battery should be used as backup rather than a full-time power source. • If the CAS is stored while not plugged into the AC for extended periods of time, it should be taken out of storage and plugged in every 3-6 months to maintain the cell life of the battery.
Storage Temperatures	• If the battery is stored outside of ambient temperature (77°F), the usable life is shortened. • Ambient temperature may not be a problem for UPS batteries used in air-conditioned areas, but it could be a problem in industrial locations, unprotected environments, or hot climates.
Discharges	• The number and length of discharges can also affect the battery's ability to deliver power. • The more discharges and the deeper the discharges (depleting the battery to 0%) can shorten the battery's life.
Maintenance	• Corrosion buildup can lead to shortened life. Vacuum the battery to remove any potential debris.

3.3.1 Tips for Maintaining the Battery

- Keep the cart in a well-ventilated area.
- Avoid exposure to extreme heat, cold, or humidity.
- Avoid placing the battery near radiant heat sources or exposing to direct sunlight.
- If corrosion does occur, use a toothbrush to clean with hot water and baking soda solution, once corrosion-free, apply petroleum jelly to the terminals, nuts, or bolts to avoid future corrosion.
- Avoid exposure to chemicals (do not spray cleaning chemicals or other solutions near the battery).

3.4 Cleaning Procedures

The purpose of these procedures are to provide clear direction and instruction with regard to the cleaning requirements for the CAS. These procedures reference the classification scheme found in the Centers for

Disease Control and Prevention (CDC), *Guidelines for Disinfection and Sterilization in Healthcare Facilities, 2008*. In order to stratify the relative degree of risk for infection when utilizing the individual the CAS components, the procedures are categorized into three levels. The categories and their basic definitions are as follows:

- **Critical:** Items present a high risk for infection if they are contaminated with any microorganism.
- **Semi-critical:** Items that contain mucous membranes or non-intact skin.
- **Non-critical:** Items that contact intact skin but not mucous membranes.

Table 9 details the component type, the CDC disinfection and sterilization procedure, and the CDC classification based on the product's use.

- **ALWAYS** use approved disinfecting wipes and/or a soft cloth, lightly moistened with the approved cleaning solutions per CDC guidelines.
- **ALWAYS** check with CDC guidelines and product manuals, if in doubt.
- **NEVER** spray any liquids directly on the unit or any of the components.
- **NEVER** use any abrasive cleaners or volatile solvents.
- **NEVER** use any alcohol, ammonia, or abrasive products on screens or monitors as they can etch the screen surface and cause the surface to appear cloudy.

Table 9 CDC cleaning guidelines

Component	Procedure	CDC Classification
External surface areas	Items that may come in contact with non-intact skin for a brief period of time are usually considered noncritical surfaces and are disinfected with intermediate-level disinfectants such as phenol, iodine solution, alcohol, or chlorine.	Semi-critical
Table top	Gently wipe the Table Top with a disinfecting wipe and or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical

Table 9 CDC cleaning guidelines (Continued)

Component	Procedure	CDC Classification
Wheels and base	Gently wipe the base covering and wheels with a disinfecting wipe and or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical
Cables and cords	Gently wipe all of the exposed cables and cords with a disinfecting wipe and or soft cloth, lightly moistened with a facility or CDC approved cleaning solution. All of the electrical cords must be unplugged before cleaning. After cleaning, check that all of the cables and cords are properly plugged in.	Non-critical
External surface areas	Gently wipe external surface areas with a disinfecting wipe and or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical
Monitor screen(s)	Use a soft cloth to gently clean the screen(s). The screen(s) are fragile. Do not scrape or tap the screen(s) with any sharp objects. Upon contamination, use a soft cloth moistened with an approved spray designed for monitors and computer screens. Wipe the display with a soft, dry cloth after cleaning.	Non-critical
Camera body	Gently wipe the camera with a disinfecting wipe and/or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical
Camera lens	ONLY use a lens cloth and a lens cleaner specifically designed for camera lenses.	Non-critical
Microphone	Gently wipe the microphone body and bracket with a disinfecting wipe and/or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical
Device storage bins	Gently wipe the bin's exterior and interior surfaces with a disinfecting wipe and/or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical
Keyboard	Gently wipe the table top keyboard with a disinfecting wipe and/ or soft cloth, lightly moistened with a facility or CDC-approved cleaning solution.	Non-critical

3.5 Troubleshooting

Table 10 CAS troubleshooting

Issue	Solution
CAS will not power on	• If the unit still does not power on after plugging in the AC power cord, there could be a faulty AC cord. Without AC power the CAS cannot charge the battery. • Press the reset button on the bottom of the CAS, (refer to *"Power Distribution Board Reset Procedure" on page 25*) and then press the power button. • Remove the base shell (refer to *"Base Shell Removal for Access to Shell Interior" on page 28*) and check all cable connections into the battery.
Over current / power overload	Contact your IT department and have them refer to *"PDB Monitor: Status Tab" on page 37* to verify the power supply fault and trace it back to whatever device is causing the overload.
Cord reel damage	A damaged cord reel should only be serviced by qualified service personnel.
No sound when using headphones	• If using a headphone splitter, remove from sound bar and plug headphones directly into headphone jack. • Check the volume on the sound bar and on the computer. • Check that the white light on the lower right side of sound bar is lit, indicating power.
Microphone not functioning	• Check that the center mute button on the sound bar is off. • Check that the white light on the lower right side of sound bar is lit, indicating power.
Audiology components not powering on	• Remove the base shell (refer to *"Base Shell Removal for Access to Shell Interior" on page 28*) and check all cable connection into the power brick and then into the four AC power outlets within the base shell.

CHAPTER 4

Servicing the CAS

4.1 Overview

This chapter describes various routine services that can be performed on the CAS. The following topics are discussed:

4.2 Power Distribution Board Reset Procedure

The Power Distribution Board (PDB) reset switch is located underneath the CAS base shell near the front-right base wheel (see *Figure 14*).

Figure 14 PDB reset switch location

1. Press the reset switch.
2. Wait 30 seconds.
3. Release the switch.

Note: Make sure the switch is returned to its original position.

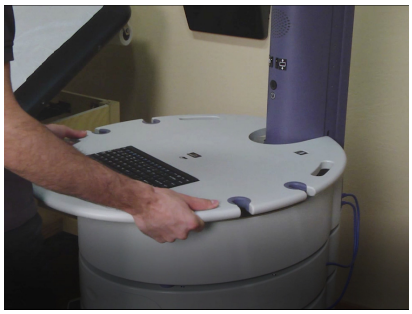
4.3 Table Top Removal

The table top must be removed to access the computer and its embedded USB hubs.

1. Unscrew the two screws directly beneath the table top mount.
2. Grab the nearest hand grips and pull the table top outwards away from the pole (see *Figure 15*).

3. Lift the table top straight up while continuing to pull away from the pole (see *Figure 15*).

Figure 15 Directions to pull the table top for removal



4. Unplug all wired connections to the keyboard, mouse, and computer before completely removing the table top (see *Figure 16*).

Figure 16 Wired connections to unplug

5. Hang the table top on the right side of the table using the metal hook, as shown in *Figure 17*.

Figure 17 Table top hook

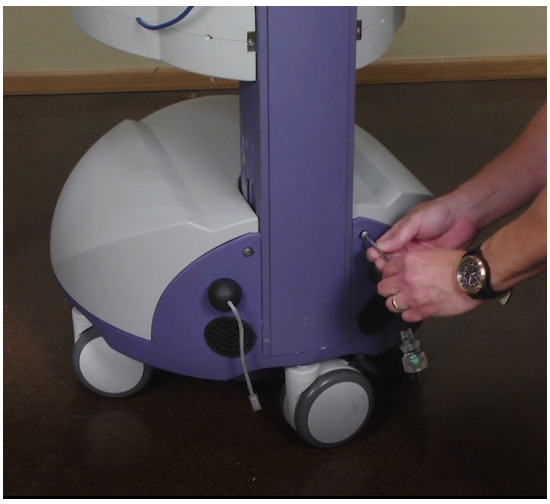
4.4 Base Shell Removal for Access to Shell Interior

To service multiple components instrumental to device functionality remove the base shell.

Warning: To avoid electrocution, unplug the AC power cord from the wall receptacle and turn off power to the cart before accessing the shell interior.

1. Remove the two screws located directly above the Ethernet and power cables on the backside of the base shell (see *Figure 18*).

Figure 18 Location of the screws on backside of base



2. Grasp the front of the base shell, pull away from the pole and place aside.

4.5 Battery Charger Fuse Replacement

1. To replace the battery charger fuse, remove the base shell to expose the base interior. For more information see "*Base Shell Removal for Access to Shell Interior*" on page 28.

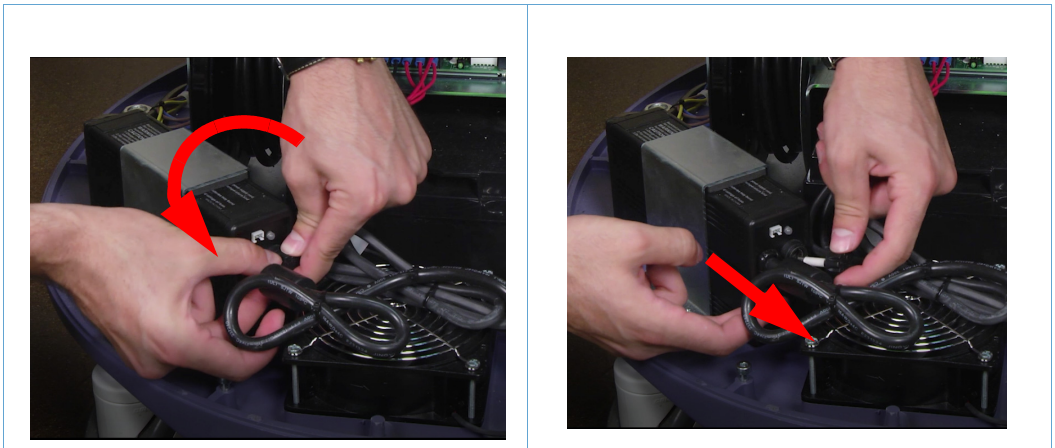
Warning: To avoid electrocution, unplug the AC power cord from the wall receptacle and turn off power to the cart before accessing the shell interior.

2. The battery charger is adjacent to the battery and main base ventilation fan (see *Figure 19*).

Figure 19 Battery charger location

3. Access the fuse by twisting the rubber knob counterclockwise. The knob is located on the front of the battery charger (see *Figure 20*).

Figure 20 Fuse access location and removal



4. Remove the blown fuse from the knob and insert a replacement fuse.

5. Apply pressure onto the knob head and turn clockwise to reinsert the new fuse and knob into the battery charger (see *Figure 21*).

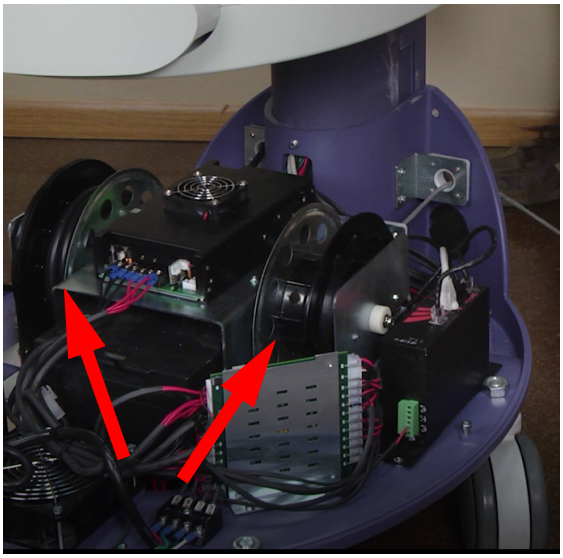
Figure 21 Reinserting fuse and knob

4.6 Extended Pull Reel

The Ethernet and power cables can catch on their respective pull reels if the cables are overly extended. This could prevent the cables from retracting into the cart, leading to possible damage or user injury.

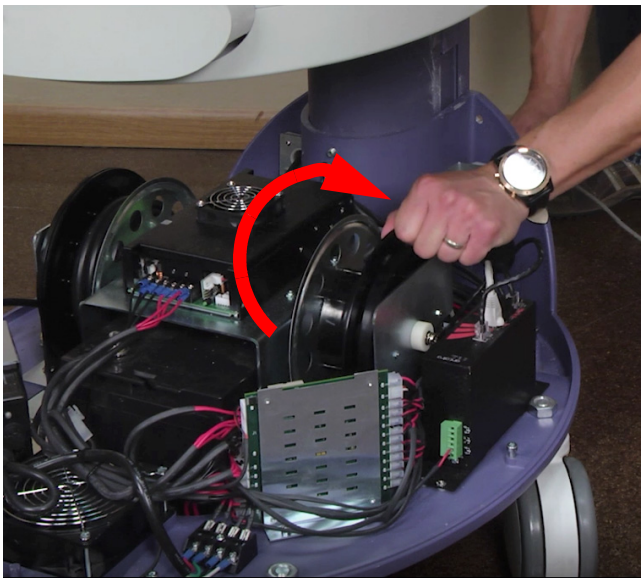
1. Remove the base shell to access the pull reel. For more information see "*Base Shell Removal for Access to Shell Interior*" on page 28.
2. Locate the pull reel that is linked to the overextended cable (see *Figure 22*).

Figure 22 Location of pull reel



3. Grasp the pull reel and rotate clockwise until it audibly clicks (see *Figure 23*).

Figure 23 Rotating the pull reel



4. Release the reel and guide the cable until it has fully retracted.

4.7 Power Bin Removal

In the event of a malfunction that requires access to the inside of the CAS base shell, a bin may need to be removed in order to improve access.

1. To remove a bin from the cart assembly, make sure that all associated devices have been taken out of the bin to avoid potential damage.
2. Unscrew the two screws located on the backside of the bin (see *Figure 24*).

Figure 24 Screw location for bin removal

3. Unplug any cables connected to the USB ports on the back pane of the CAS.
4. Grasp the bin from the front and slowly pull it outwards, away from the pole and set aside.

4.8 Air Filtration Preventive Maintenance

The air filtration vents located on the lower back side of the CAS base are essential for maintaining air flow within the shell. Over time, debris can build

up and block these vents, preventing the components within the shell from receiving proper ventilation. These vents should be cleaned once a month.

Warning: To avoid electrocution, unplug the AC power cord from the wall receptacle and turn off power to the cart before accessing the shell interior.

1. Remove the screws holding each vent in place on the backside of the base shell (see *Figure 25*).

Figure 25 Air vent and screw location on CAS

2. Pull out the screen cover to expose the Styrofoam filter.
3. Use compressed air to blow away any debris or dust that has accumulated in each vent as well as the Styrofoam filter itself.
4. Replace the filters and reinsert each previously removed screw.

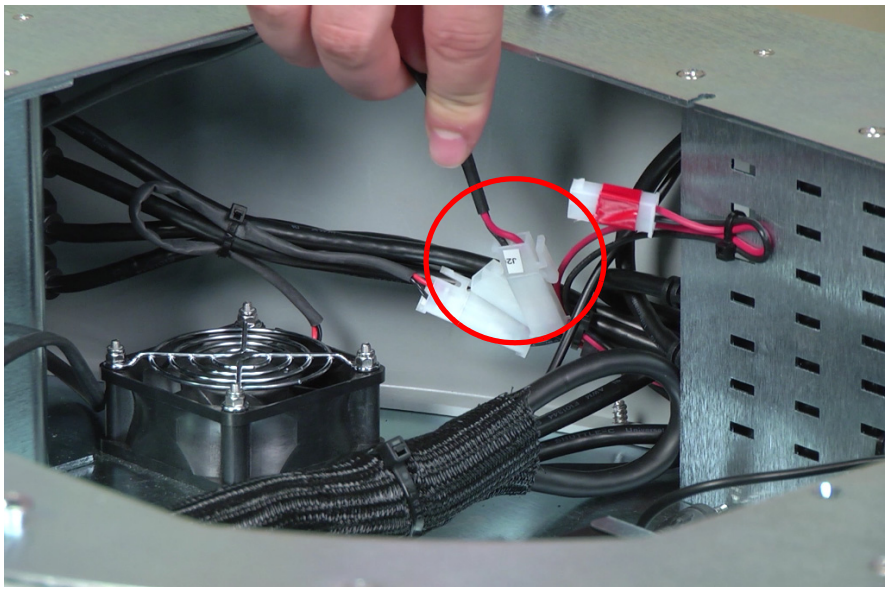
4.9 Solenoid Unlocking Override Procedure

In the event of a PDB failure, the solenoid locking/unlocking mechanism for the bins and compartment on the table top must be activated mechanically instead of using a software trigger.

Note: This should be performed by your IT or biomedical personnel or skilled technical personnel trained on the CAS.

1. Remove the table top from the CAS. For more information see "*Table Top Removal*" on page 26.
2. Identify the labeled J2 and J3 molex connectors, located on the right side of the table top interior (see *Figure 26*).

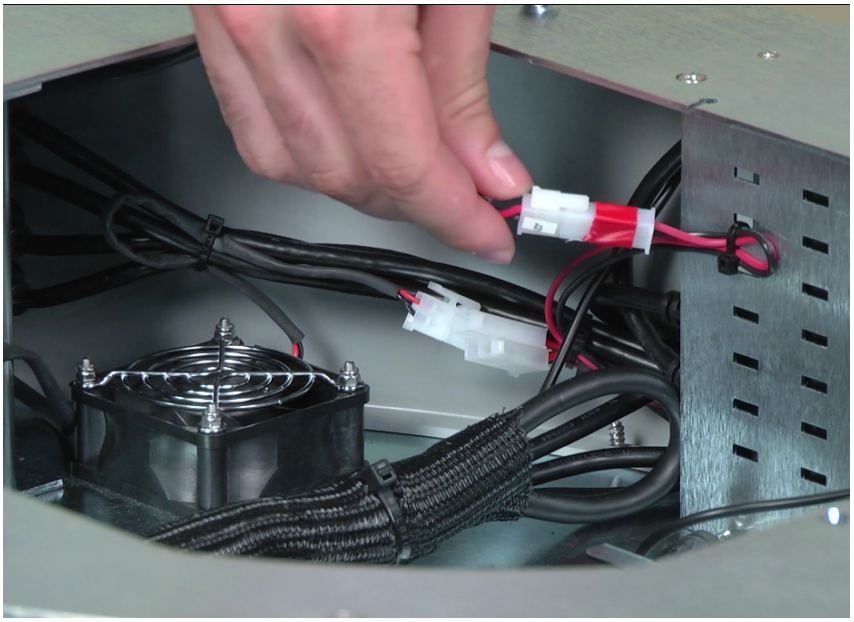
Figure 26 J2 molex connector location example



   a. The J2 connector regulates the locking mechanisms within the Powered Device Bins.
   b. The J3 connector controls the locking mechanism within the TotalExam Table Top Compartment.
3. Establish an AC power connection with a power terminal in order to provide voltage to the relevant components.
4. To unlock the Powered Device Bins:
   a. Unplug the J2 connection and connect it to the adjacent tethered connector with red tape.

b. An audible click is heard and the Powered Device Bins unlock, allowing access to the peripherals within (see *Figure 27*).

Figure 27 J2 connected with red tape connector



5. To unlock the TotalExam Table Top Compartment:
   a. Unplug the J3 connection and connect it to the adjacent tethered connector with red tape.
   b. An audible click is heard and the TotalExam Table Top Compartment unlocks, allowing access to the peripherals within.

Warning: Once the device bins are unlocked, be sure to unplug the J2 and J3 connector from the red tethered connector. A prolonged connection (approximately 10 minutes) could cause overheating of solenoids and a pose a potential risk to the user.

4.10 Power Distribution Board

The PDB monitoring program is a feature in the CAS software interface, and is used to set PDB functions. Your IT or biomedical personnel, or skilled technical personnel trained on the CAS, use this software during the servicing process to monitor component statuses.

1. To access the PDB monitoring program, locate the color coded battery icon on the right side of the Windows task bar.
2. Right click the battery icon and select **Show Monitor** to open the PDB program.
3. An Administrative password is required to access the control screen.The default password is ‘su’.
4. The PDB monitor control screen appears upon successful login.

4.10.1 PDB Monitor: Status Tab

Figure 28 Status Tab view

Table 11 Status Tab descriptions

Field	Description
F/W Version	Current PDB firmware version.
CAS Serial#	Serial number of the station.
Power Path	Method of powering the CAS, either AC power or battery.
Battery Voltage	Displays voltage (in Volts) over the battery.
Battery SOC	Displays currently reported battery SOC (State of Charge).
System Current	Displays current (in Amperes) over the battery.

Table 11 Status Tab descriptions (Continued)

Field	Description
Battery SOH	Displays currently reported battery SOH (State of Health).
12V SW **Computer** **Exam Cam** **Solenoid** **TFAN** **BFAN** **Monitor** **CODEC** **Ethernet**	All display a corresponding: Voltage (in Volts) Current (in Amperes) ON/OFF value Status ('GOOD' being determined based on a threshold value for each parameter).
PDB Board Temp	Displays currently reported temperature (in Fahrenheit).
Run Time	Displays currently reported elapsed run time since PDB startup.
Currently Listening on Port	Displays address of the serial (COM) port currently being used for PDB communications.
Shutdown System (button)	CAS system shut down in 5 minutes. Be sure to close out of all programs to avoid loss of data.
Unlock Drawers	Unlock the drawers of the CAS.

4.10.2 PDB Monitor: Fuel Gauge Tab

Figure 29 Fuel Gauge Tab view

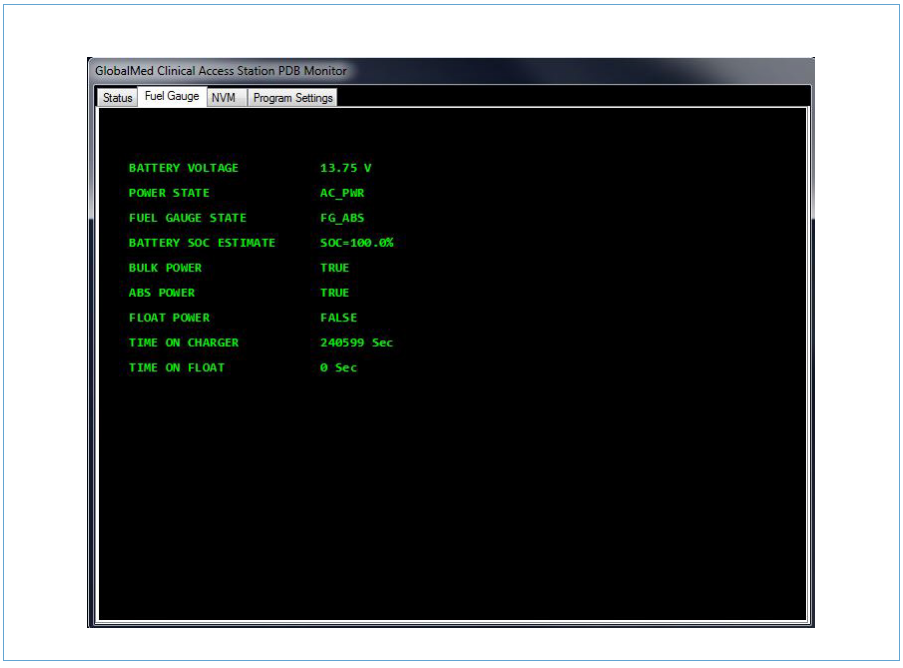


Table 12 Fuel Gauge Tab descriptions

Field	Description
Battery Voltage	Displays currently reported voltage (in Volts) over the battery.
Power State	Displays currently reported method of powering the CAS, either AC power or battery.
Fuel Gauge State	Displays currently reported fuel gauge state.
Battery SOC Estimate	Displays currently reported battery SOC (State of Charge).
Bulk Power	Displays true/false report on the usage of bulk power.
Abs Power	Displays true/false report on the usage of abs power.
Float Power	Displays true/false report on the usage of bulk power.
Time on Charger	Displays aggregate number of seconds elapsed while running on float power.
Time on Float	Displays aggregate number of second elapsed while running on float power.

4.10.3 PDB Monitor: NVM Tab

Figure 30 NVM Tab view

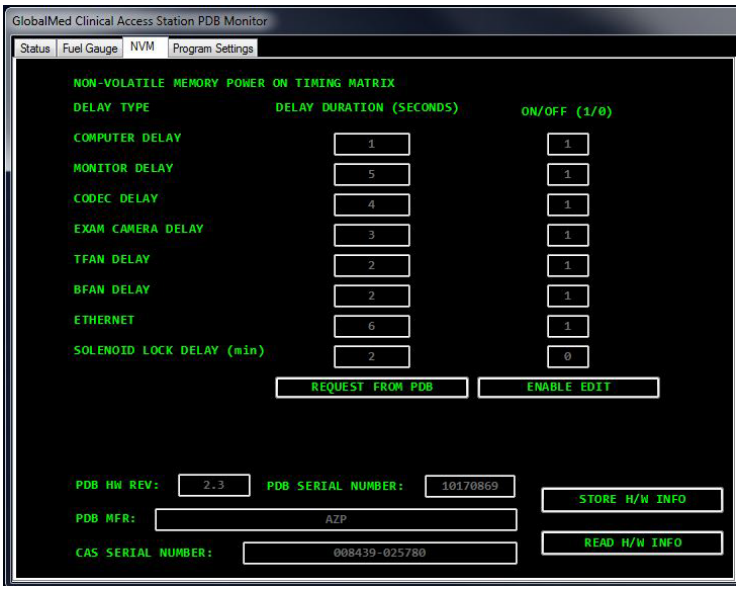


Table 13 NVM Tab descriptions

Field (Buttons)	Description
Request From PDB	Sends a predefined message to the PDB from the PC requesting the current values stored in the PDB Non-Volatile Memory (NVM). These values are read and stored in the corresponding text boxes (delay duration and on/off).
Enable/Disable Edit	Enable/Disable editing of the delay duration and on/off text fields. When pressed: • Changes the visible name of this button to **DISABLE EDIT** • Changes functionality as described in Screen 6. • **REQUEST FROM PDB** button name changes to **UPLOAD MATRIX TO PDB** • Changes functionality as described in the 'Timing Matrix Edit Enabled' When pressed again **ENABLE EDIT** appears and the above is reversed.
Store H/W Info	Sends a predefined message from the PC to the PDB requesting to store hardware info derived from the corresponding user interface text fields on this NVM tab.
Read H/W INFO	Sends a predefined message to the PDB from the PC requesting the current values stored in the PDB NVM corresponding to the user interface text fields on this NVM tab.
Computer Delay **Monitor Delay** **CODEC Delay** **Exam Camera Delay** **TFAN Delay** **BFAN Delay** **Ethernet** **Solenoid Lock Delay**	All display a corresponding startup. Each field can be set ranging from 1-300 seconds: Delay Duration (in seconds) ON/OFF (1/0, respectively)
PDB HW REV	Current hardware revision number of the PDB.
PDB Serial Number	Serial number corresponding to the PDB hardware.
PDB MFR	Manufacturer of the PDB hardware.
CAS Serial Number	Serial number corresponding to the CAS unit.

4.10.4 PDB Monitor: Program Settings Tab

Figure 31 Program Settings Tab view

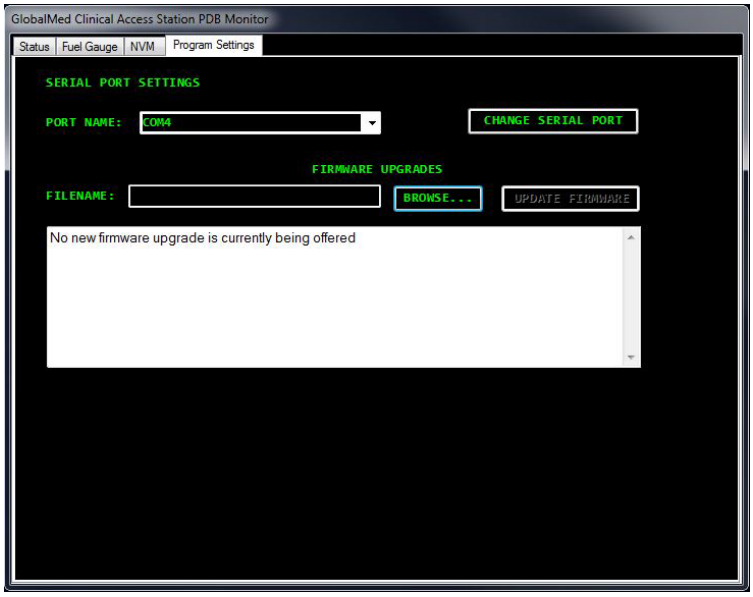


Table 14 Program Settings Tab descriptions

Field	Description
Port Name (Drop Down Menu)	Lists the available serial (COM protocol) ports available to the system and allows selection of one.
Change Serial Port (Button)	After a port is selected it is imperative this button is pressed to confirm port selection.
Filename	Displays the file that is selected for the firmware update. To proceed with the update you must press the Update Firmware button.
Browse	Searches for a firmware upgrade file.