ATLAS™

Corneal Topography System

Model 9000

Service Manual

Confidential & Proprietary

Part No. 63041, Revision A
September, 2007

PROPRIETARY NOTICE

Carl Zeiss Meditec, Inc.
5160 Hacienda Drive
Dublin, CA 94568

REVISION CONTROL LIST

Document: ATLAS Model 9000 Service Manual
Part No.: 63041
Issued Date: September 2007, Revision A

Listed at the bottom of each page is the part number of the manual, along with the Revision letter and date for that page (for example, 63041A0907). Subsequent revisions to a page will be noted by a corresponding change to the Revision letter and date.

Pages in this document are at Revision 'A' unless noted otherwise below.

Page	Revision	Page	Revision	Page	Revision	Page	Revision

Table of Contents

Section 1 – General Information

Section 2 – Preventive Maintenance & Checkout

Section 3 – Parts Removal / Replacement

Section 4 – Adjustment and Calibration

Section 5 – Troubleshooting

Section 6 – Diagrams

Section 7 – Parts

Appendices

Section 1 – General Information

Notes:

1.1 About This Manual

1.1.1 General Information

This manual is the field service reference for troubleshooting, repair, adjustment, and calibration of the *ATLAS Model 9000 Corneal Topography System*. The manual is intended for use by Field Support Engineers who have completed Carl Zeiss Meditec service training on the ATLAS Model 9000.

The service manual is designed to support Level 1 of a two-level service strategy. Level 1 (on-site) field service employs modular replacement of printed circuit boards and other assemblies that are most effectively repaired at a central repair facility. This is the service strategy used in U.S. domestic field service, and presented in Carl Zeiss Meditec training classes. See Section 1.3 for additional information regarding the *ATLAS 9000* service strategy.

The procedures in this manual assume that the reader is familiar with operation of the instrument. *Complete operating instructions are contained in the ATLAS 9000 User Manual.* Information presented in the user manual is not repeated in this service manual. The user manual can be ordered separately by standard Zeiss parts order. Refer to Section 7.6.1 in this service manual for user manual part number information.

Update revisions to this service manual will be issued by Field Service Bulletin, as required.

The general layout of the service manual is shown below. For greater detail, please refer to the Table of Contents.

Level 1 Service Manual Layout

Section 1 - General Information

Section 2 - PM and System Checkout

Section 3 - Parts Removal / Replacement

Section 4 - Adjustment / Calibration

Section 5 - Troubleshooting

Section 6 - Diagrams

Section 7 - Parts

Appendices

Service Bulletins

1.1.2 Conventions

The following conventions apply in this manual:

- *Front* and *Back* sides of the instrument is as viewed from the front (patient side) of the instrument, unless noted otherwise.
- All tool sizes for screws and nuts mentioned in the instructions are metric unless noted otherwise.

1.2 About Service Bulletins

Field Service Bulletins are a vital element of service support. Bulletins are used to quickly convey technical information on a variety of field service topics, including:

- instrument design changes
- technical problems and corrections
- software updates
- new troubleshooting procedures
- problem alerts
- service manual revisions
- new calibration or adjustment procedures
- upgrade announcements/ procedures
- system checkout – checklist
- service disclaimer form

Your service bulletins should be filed where easily accessible for quick reference.

NOTICE

Field Service Bulletins are Confidential and Proprietary, for the sole use of personnel employed by Carl Zeiss Meditec, Carl Zeiss Meditec affiliates, and authorized Carl Zeiss Meditec distributors.
Carl Zeiss Meditec has a well-deserved reputation for high quality, reliable instruments, unsurpassed in the industry.

As a Carl Zeiss Meditec employee, affiliate, or distributor you are required to handle your service bulletins as appropriate for proprietary and confidential information.

1.3 ATLAS 9000 Service Strategy

On-site service employs modular replacement, wherein faulty circuit boards and certain other assemblies are replaced rather than repaired on-site. These faulty assemblies are shipped to a Carl Zeiss Meditec Repair Center for repairs. There are also certain procedures that require special equipment available only at a Repair Center.

Designated Repair Centers (currently Dublin, California, USA) are the second level of service for the ATLAS. Carl Zeiss Meditec Repair Centers perform major circuit board troubleshooting and repair, plus any other service action that requires special equipment or procedures not available in the field.

Several of the circuit boards in the ATLAS are multilayer boards and use Surface Mount Technology (SMT) components. These boards require special equipment and techniques for troubleshooting and repair.

For Carl Zeiss Meditec U.S. domestic operations, *the ATLAS service procedures listed below must be performed at a Carl Zeiss Meditec Repair Center in Dublin California*. All other service procedures can be performed in the field.

- ***** Optics head repair
- ***** CMOS camera assembly replacement or repair

**** Note -** Optics Assembly can be replaced as a complete unit in the field. Only internal repairs and calibrations of the Optics Head FRUs must be done at the Service Center.*

1.4 Precautions

The following precautions should be observed whenever the ATLAS is being installed or serviced. Point out to the customer any potential hazard and the appropriate corrective action.

1.4.1 General Safety Precautions

- The ATLAS Model 9000 should be used in a cool, dry and dust-free environment.
- The ATLAS Model 9000 is designed to operate from one of three AC line voltages. These are: 100v, 120v, 220/240v at 50/60 Hz. Before connecting the power cord to the ATLAS Model 9000, check to make sure the ATLAS Model 9000 is configured for correct AC line voltage.
- Although the ATLAS Model 9000 is designed for continuous operation, it should be turned off when not used for an extended period of time.

- The ATLAS Model 9000 is equipped with a three-prong plug. To prevent electric shock, the instrument must be plugged into an outlet with a ground receptacle. If the plug does not fit the outlet, contact an electrician. *DO NOT* disable or remove the ground pin.
- *DO NOT* overload the AC outlet being used to operate the ATLAS Model 9000.
- If the power cord or plug on the ATLAS Model 9000 system or peripherals is damaged, a shock or fire hazard may result. *DO NOT* allow operation of the ATLAS Model 9000 or peripherals until the damaged cord or plug has been replaced.
- Ensure that the fuses installed in the ATLAS Model 9000 and peripherals are of the proper type and rating.
- Use of an extension cord is not recommended. Doing so may compromise the safety of the operator and/or patient.
- *DO NOT* operate the ATLAS Model 9000 in a wet or moist environment.
- *DO NOT* spill liquid on the ATLAS Model 9000 keyboard.
- To ensure the safety of the patient and operator, peripheral equipment, such as the printer, will comply with one or more of the appropriate safety standards, such as CSA, DEMKO, ETL, FIMKO, KEMA, NEMKO, NOM, SEMKO, TUV, UL, and SABS.
- *DO NOT* connect or disconnect cables while the power is on.
- *DO NOT* place the ATLAS Model 9000 on an uneven or sloped surface.

1.4.2 Instrument Precautions

- When the ATLAS Model 9000 is being unpacked, save the original shipping materials for possible future use. Whenever the ATLAS Model 9000 is shipped, the instrument must be transported in its original shipping package to prevent damage.
- When spare parts are received, save the shipping materials for returning the defective part(s), if appropriate.
- The ATLAS Model 9000 unit is delicate and should be handled with care. If it is dropped, or receives any other significant impact, it may not work properly.
- It is advised that you wear an ESD wrist strap and ground the wrist strap to a well-grounded metal surface at all times when handling ATLAS Model 9000 PCBs. Before touching any PCB, ensure that you first discharge any electrostatic charge that may have built up on your body. A convenient way to do this is to simply touch a bare metal surface on the ATLAS Model 9000 while the system is plugged into a well-grounded power outlet. If the ATLAS Model 9000 is not plugged in, some other well-grounded surface must be used.
- Proper ElectroStatic Discharge (ESD) precautions must be observed whenever you are disassembling or handling the ATLAS Model 9000 system's circuitry. Many of the components are extremely vulnerable to static discharge damage. A Field Service Static Protection Kit is available for order and must be used for ESD protection during ATLAS Model 9000 service. Refer to Appendix A for details regarding this kit.
- The ATLAS Model 9000 system has ventilation openings to allow for the release of heat generated during operation. If these openings are blocked, built-up heat can cause failures that may result in a fire hazard. Ensure that none of the ventilation openings on the ATLAS Model 9000 system and peripherals are blocked.

- *DO NOT* flex the circuit boards. The ATLAS Model 9000 and peripherals use multilayer circuit boards. Multilayer circuit boards are inherently susceptible to damage by excessive flexing.
- *DO NOT* use accessories that are not designed for this ATLAS Model 9000. Use only those parts recommended by Carl Zeiss Meditec to achieve optimum performance and safety.

1.4.3 Meaning of the Warning Labels

The following safety alert symbols indicate important safety messages in this Service Manual. When you see one of these symbols, carefully read the relevant entry that will alert you of possibilities of damage to the device, personal injury, or even death.

Danger!
Warning of possible accident and injury hazards.

Caution!
Warning of possible technical damage.

Note!
Device operating instructions

1.5 Internal Layout

The parts drawings in Section 7 of the Service Manual illustrate the internal physical layout of the instrument. Diagrams in Section 6 illustrate the system interconnect arrangement and proper cable routing.

1.6 System Overview

The ATLAS Corneal Topography System (CTS) Model 9000 is a diagnostic instrument that measures the curvature of the cornea and produces a corresponding color topography map. The map can be viewed on the TFT panel and printed in color. The resultant information can be used to help diagnose eye pathology and make surgical decisions.

The ATLAS 9000 is an X86 Compatible PC which uses a customized software application (MasterVue) running on top of Windows XP embedded OS.

The Optics Head projects a series of light rings onto the cornea of the eye. The rings are focused on the cornea by positioning the optics head-with the joystick. Once the rings are in focus, the button on top of the joystick is depressed to capture an image of the eye. The instrument then determines corneal curvature values by measuring the distance between the rings. These values are then converted by the software into a topographical map of the cornea.

1.7 Functional Description

1.7.1 Base Module

The following items are major components in the ATLAS 9000 computer assembly. Refer to Section 7 for identification and location information for each sub component.

Computer Board

The Computer board is a mini-ITX form factor PC motherboard. It uses the Intel Pentium M processor and runs under Windows XP operating system. The Computer Board is responsible for the operating tasks on the instrument. In addition to the traditional Motherboard/CPU detail, its functions also include:

- Video driver- Hardware necessary to display an image on the internal TFT screen, or external monitor.

  Note - *Separate Circuitry for video capture is no longer needed, as it is handled in software.*

- External Interface – USB Printers, Flash Drives, Network Interface, Keyboard, Mouse, External Display, are all negotiated through the Computer Board.

- HDD/Optical Drive interface – Computer Assy contains both IDE and SATA interface for internal storage devices.

Figure 1.1 (next page) details the board's connectivity.

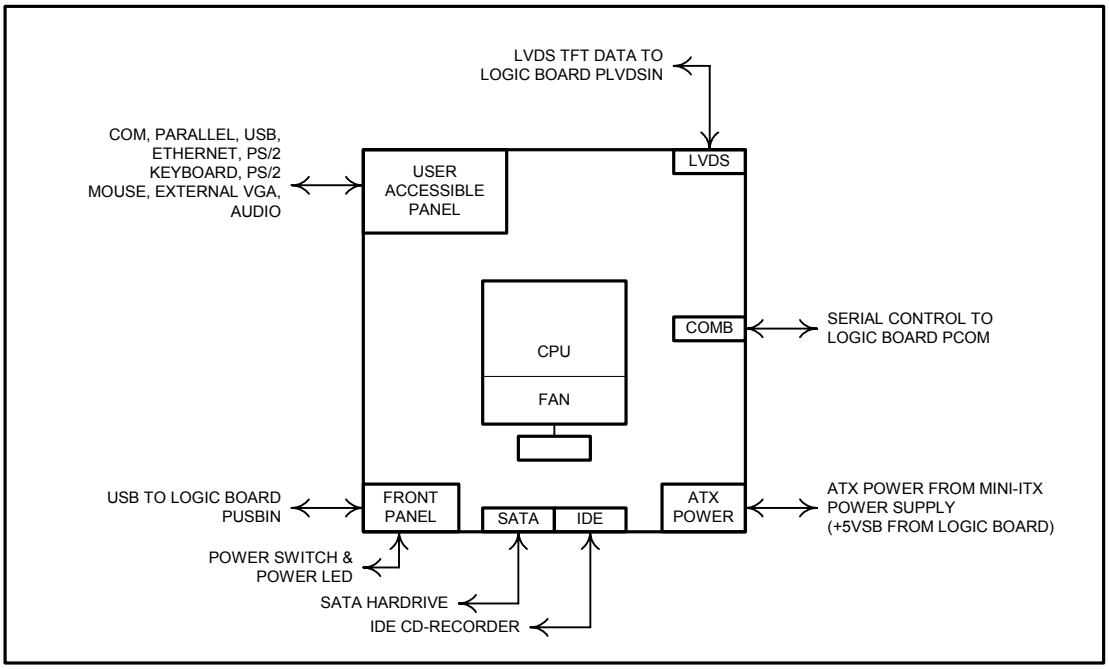


Figure 1.1

Logic PCBA

The Logic PCBA provides the interface between the serial port controlled components and the motherboard. The Logic PCBA has no calibration requirements.

The following describes the function at each connector:

Figure 1.2 (next page) details the board's connectivity.

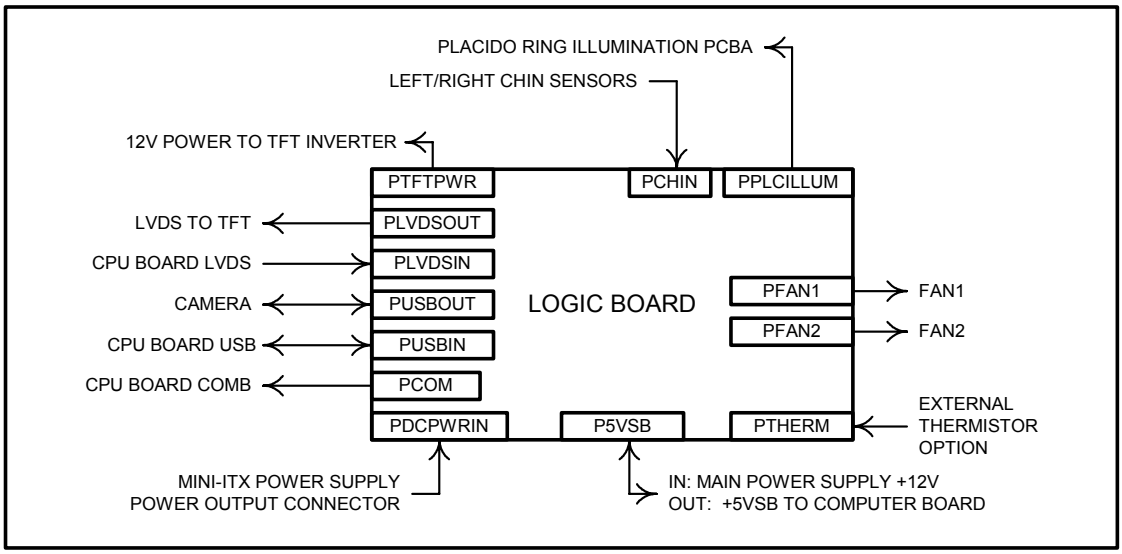


Figure 1.2

Hard Drive

All system software and patient data reside on the Internal Hard Disk Drive (by default). The ATLAS 9000 uses a laptop, SATA interface internal hard drive.

Optical Drive

The ATLAS 9000 contains a 5 ¼" Optical drive for Software Installation, and Data Archival purposes.

Power Supply

The universal input (90-264VAC, 47-63Hz) medical grade main power supply provides 12VDC to the mini-ITX power supply and Logic PCBA.

When the system is plugged in, the 12VDC is active. The main supply is rated at 200 Watts (12VDC, regulated to 2% at 16.7 Amps max) with forced air, and includes active power factor correction.

1.7.2 Tower Module

The tower module contains the Optics Head Assembly, TFT display/backlight inverter, and joystick. Please note that the Optics Head Assembly Components are detailed for functional description only. None of the internal components of this assembly are Field replaceable. If any are found to be defective, replace the entire Optics assembly as detailed in Section 3.

1.7.2.1 Optics Head Assembly

The optics head assembly consists of 4 major subsystems:

- **Camera**

The camera is a monochrome 1280x1024 CMOS camera with USB 2.0 interface. Frame rate is 15 FPS at 1280x1024 and 30 FPS at 640x480. Since the camera uses a USB interface, a frame grabber is not needed. The camera gets its power directly from the USB bus (500mA max).

The CMOS sensor is a ½" format, 6.6mm x 5.3mm array, with 5.2um square pixels.

- **Placido Ring Illumination PCBA**

Placido Illumination is the source. The Placido ring illumination uses 950nm high power IR LED's. The drive circuit controls 256 LEDs at 50mA max current. The LEDs are spaced for illumination uniformity. The LEDs are controlled by the Computer board through the Logic PCBA connection. The LEDs can be turned on and off by the Computer.

The Placido illumination PCBA also provides circuits to drive the iris illumination LED and the fixation LED.

- **Iris Illumination**

The iris (live eye) illumination uses one high power IR LED. The assembly is physically connected to the Placido illumination PCBA and controlled with the Logic PCBA. The Logic board can turn the LEDs on and off.

- **Fixation Illumination**

The patient fixates on the fixation illumination target during the examination. The system uses a 583nm (peak wavelength) LED with a 60 degree viewing angle. The assembly is physically connected to the Placido illumination PCBA. It is always on when the system is powered up.

1.7.2.2 TFT Assembly

The TFT display is a 12.1" LCD with XGA (1024x768) resolution. It is capable of displaying 18-bit color (RGB). A separate inverter module powers the backlight in the TFT, which produces 400 cd/m ^ 2 brightness. The Computer board provides the power and data signals for the TFT, and the inverter backlight enables signal through the Logic PCBA. The data interface standard, used between the Computer board and the TFT, is Open LDI (LVDS Display Interface) single pixel mode.

1.7.2.3 Joystick

The joystick is similar to the one used on ATLAS 991-995. The pushbutton is a normally closed button so when the button is pushed, the circuit opens. This is done so the software can detect when the cable is disconnected. If the cable is disconnected, it will be in the same state (open), as if the pushbutton were held down. The Computer monitors the button status through the serial port (COMB, CTS bit).

Section 2 – Preventive Maintenance & Checkout

Notes:

2.1 Preventive Maintenance

Scheduled preventative maintenance visits are not required for the ATLAS 9000. Any routine operator maintenance (if needed) is listed in the ATLAS 9000 User Manual. For preventative maintenance requirements on any of the optional peripheral equipment, please refer to the related manufacturer's owner/user manual.

Basic troubleshooting tasks the operator can perform are listed below:

- Check that all external cable and cord connections are secure.
- Check that the instrument is being powered from a properly grounded AC outlet.
- Observe the ambient conditions in which the instrument is operating. ***Make sure that the instrument is not used in direct sunlight !***
- Are the cooling vents on the instrument unobstructed?
- Are there any ambient conditions present that may case static generation (carpeted floors, excessively dry weather, or other causes)?
- Ensure that all instrument precautions (Section 1.4) are being observed.

2.2 System Checkout Procedure

The system checkout procedures are used to verify that the instrument is operating properly within specifications. System checkout must be performed at the completion of every installation and service call on the instrument. If an error is detected during system checkout, troubleshoot and repair the instrument; then start the system checkout again from the beginning. The entire system checkout should always be performed, from start to finish, without any problems occurring.

The checklist includes several checks that are essential following any service of the instrument.

The following special tools/equipment are required to successfully complete the System Checkout Checklist:

- ATLAS Test Eye Tool

Refer to Service Bulletin CT9K-003x for the latest copy of the ATLAS Model 9000 Field Service Checklist.

Section 3 – Parts Removal/Replacement

Notes:

3.1 General Instructions

CAUTION — *It is essential that you use proper ElectroStatic Discharge (ESD) precautions when disassembling or handling the instrument circuitry or circuit boards. Many components in the instrument are highly susceptible to static discharge damage. The Field Service Static Protection Kit, described in Appendix A, must be used for ESD protection during service of the instrument.*

- ***NOTICE — BEFORE*** *beginning disassembly of the ATLAS System, be sure that you have had the customer read and sign the ATLAS Disclaimer form regarding possible loss of stored data during servicing of the instrument.*

- Table 3-1 is the single source of reference for Removal / Adjustment requirements. Whenever a removal procedure is performed, refer to Table 3-1 to determine which follow-up checks/adjustments are required.

- System interconnect diagrams for the instrument are contained in Section 6.

- In addition to the drawings in this section, the parts drawings in Section 7 provide useful reference for parts identification and relative locations during removal/ replacement procedures.

- References from one procedure to another are shown in the form "(x.x)." EXAMPLE: In the Optics Head Controller PCB Removal procedure, one of the steps is to "Remove the Optics Head Breakout PCB (Section 3.3)." If you need further details for removing the Optics Head Breakout PCB, you can refer to Section 3.3, and then return to the Optics Head Controller PCB Removal procedure for the next step.

- Step-by-step procedures are provided when needed; but, when adequate, only essential replacement notes are given. Simple removals that are clearly obvious are not described in this manual.

- Unless noted otherwise, the steps for replacement (reassembly) are simply the reverse order of the steps for removal, and are not listed. Replacement (reassembly) notes are included as needed.

- All screws and nuts mentioned in the instructions are metric unless noted otherwise.

- In this manual, the terms left, right, front and rear of the instrument are as viewed from the patient position, unless noted otherwise.

- To facilitate later reassembly of the instrument, consider labeling each connector during disassembly.

- Proper cable and wire routing is important. Before disassembly, observe the cable routing and locations of the cable ties; then be sure to route the cables exactly the same during reassembly. Be sure to replace all cable ties removed during disassembly. Check that cables are positioned to avoid interference with moving parts.

- Be sure to reconnect all ground wires disconnected during disassembly. ***Failure to do so can cause the instrument to malfunction.***

- After replacement of parts or an assembly, perform a limited operational check of the associated functions before complete reassembly of the instrument. After complete reassembly, perform the full System Checkout (Section 2).

- **Special Tools / Equipment**

  Any special tools or equipment required for a procedure are listed at the beginning of the procedure.

- **Equipment Return Procedures**

  When equipment needs to be returned to Carl Zeiss Meditec for repair, it is important that it is properly packed for shipment, and that authorization for return is obtained before the equipment is shipped.

  When equipment is received, the original packing materials should be preserved for possible later use. ***Costs to repair equipment damage caused by improper packing for shipment to Carl Zeiss Meditec become the responsibility of the sender.***

3.1.1 Table 3-1

Adjustment / Calibration Requirements Following Replacements

This table identifies checks / adjustments that must be made following removal / replacement procedures. The numbers listed under ***Follow-ups Required*** are keyed to the ***Follow-up Actions*** listed in the second column. For each ***Assembly Replaced***, the follow-up numbers are listed in the order in which they should be performed, not necessarily in numerical sequence.

Assembly Replaced	Follow-ups Required
• Hard Disk Drive ……..……..1,2,3,20	
• Optics Head Assembly ……1,20	
• *All other removals and replacements……..20*	

Follow-up Actions
1 – Calibration File Installation (4.3)
2 – Acronis Installation (Appendix)
3 – System Backup (Appendix)
4 – Windows Activation (4.4)
20 – System Checkout (2.1)

3.2 Chin Rest Removal

1) Remove the rear cosmetic cover from the patient support.
2) Remove the two screws from the base of the chin rest assembly.
3) Grasp the assembly and lift.
4) Disconnect the sensor.

Figure 3.1 Patient Support Removal

3.3 Operator Panel Removal

1) Remove the two screws from under the operator side (near corners).
2) Grasp and slide the cover as pictured.

.

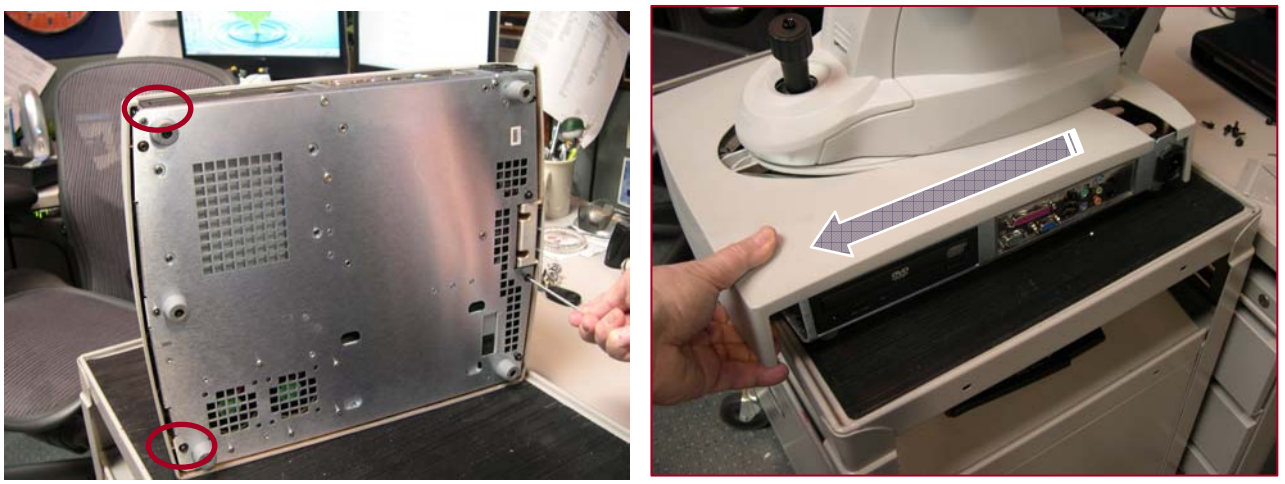


Figure 3.2 Operator Panel Removal

3.4 Tower Cover Removal

1) On the monitor face plate, insert a flathead screwdriver into the slot near the joystick and pry **down** to release the catch (Figure 3.3). Remove the face plate.

Figure 3.3 Tower Cover Removal

2) Remove the two screws at the base of the tower, near the joystick.
3) Remove the two halves by slightly raising both sides and separate.

Figure 3.4 Tower Cover Removal

3.5 Joystick Belt Removal

1) Remove the Operator and Tower Covers (Section 3.3 and 3.4).
2) Disconnect the joystick cable and feed it through the slots.
3) Using the joystick, raise the head to its highest position.
4) Loosen the right joystick mount screw. Move the mount so that the belt is loose.
5) Work the belt over the joystick. Lift the joystick assembly and work the belt under the lead screw tower.

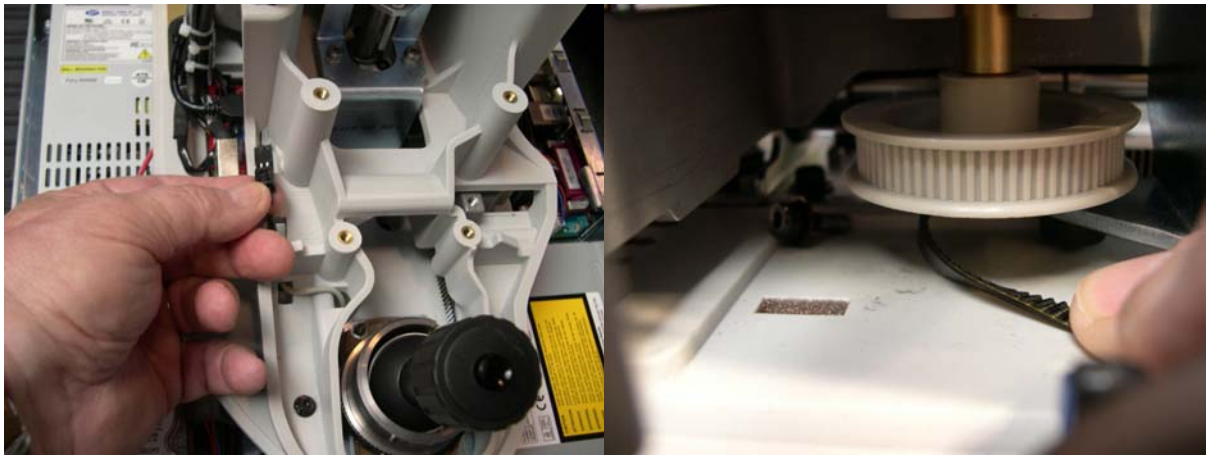


Figure 3.5 Belt Removal

3.6 Monitor Removal

1) Remove the Operator and Tower Covers (Section 3.3 and 3.4).

Important – When removing the cables, grasp the connector body – DO NOT PULL DIRECTLY ON THE WIRES!

2) Disconnect the two cables (LVDS and +12v) and one ground cable (Figure 3.6, 3.7).
3) Remove the two screws holding the monitor bracket (Figure 3.7).
4) Lift the bracket off of the Optics Head tower.

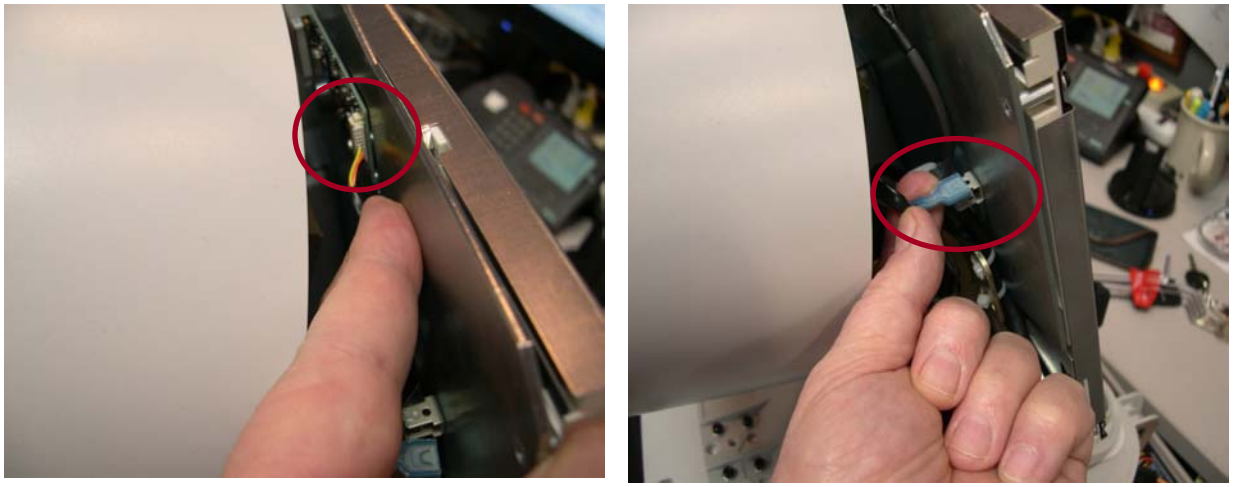


Figure 3.6 TFT Connections

Figure 3.7 TFT Removal

3.7 Optics Head Removal

1) Remove the Operator and Tower Covers (Section 3.3 and 3.4).
2) Remove the Monitor Assembly (Section 3.6).
3) Disconnect the cables from the Optics Head PCB locations: PJOY and PLOGIC.
4) Disconnect the USB cable from the ATLAS Logic PCB and feed it back to the optics head PCB assembly.
5) Remove/loosen the 2 screws (one not shown) from the Optics Head mounting bracket then lift Optics head assembly from the bracket.

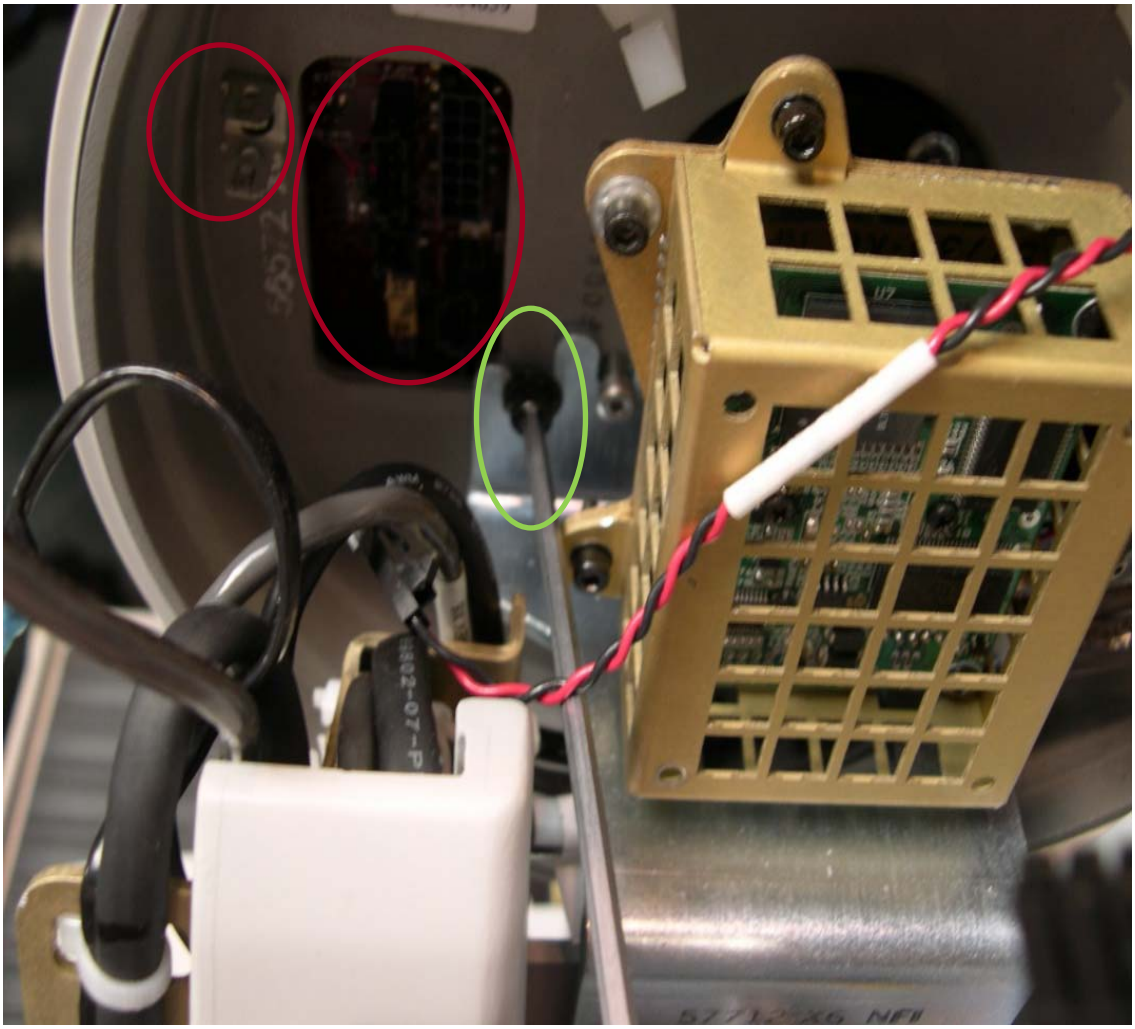


Figure 3.8 Optics Head Removal

3.8 Power Supply (P/S) Removal

1) Remove the Operator panel (Section 3.3).
2) Remove the power input cable (Patient side of P/S).
3) Disconnect the distribution harness (P/S to Motherboard).
4) Remove the 2 screws from the distribution harness side.
5) Slide the module toward the front of the instrument to release.

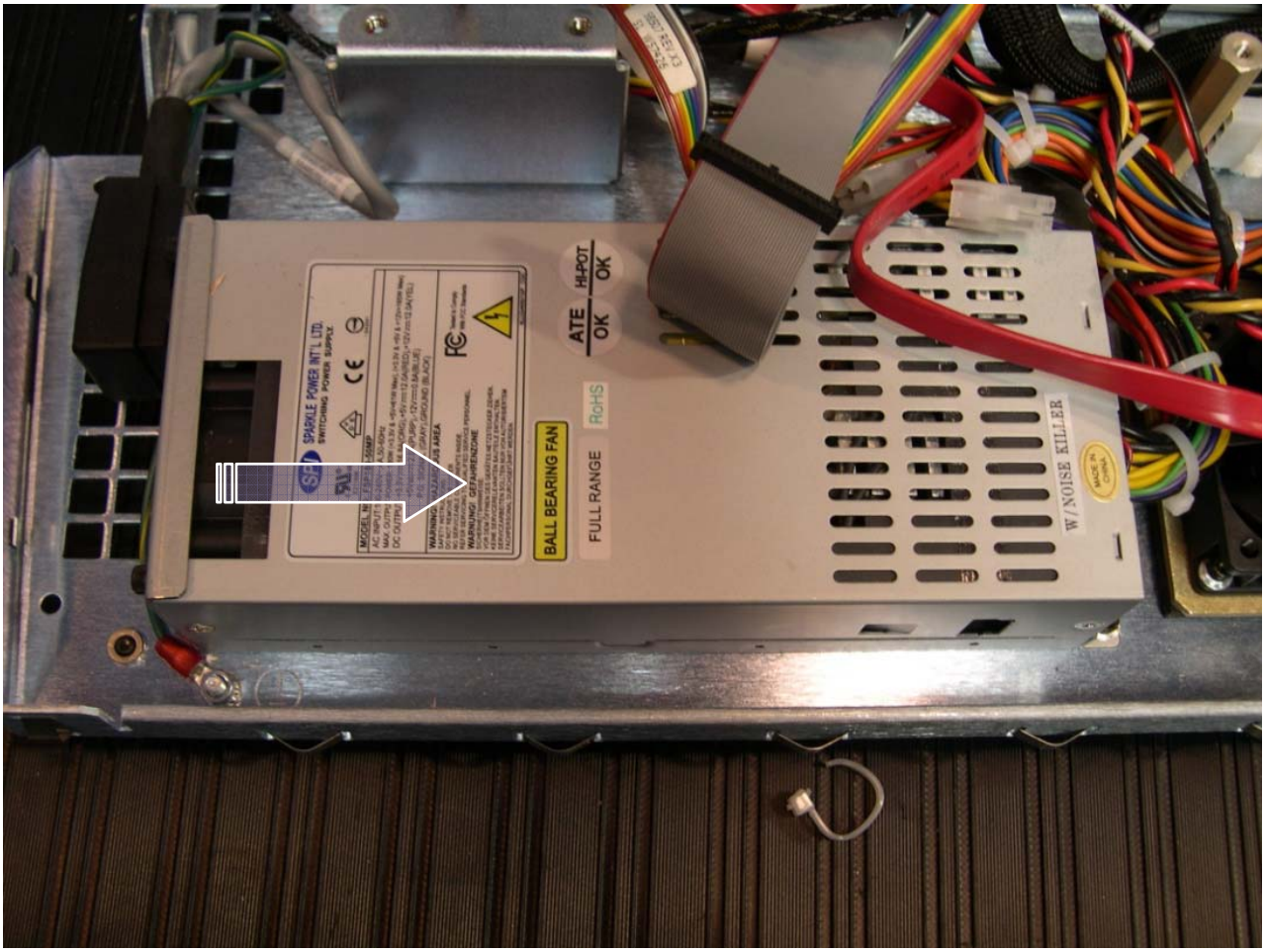


Figure 3.9 Power Supply

3.9 Motherboard/Optical Drive Removal

1) Remove the Operator Cover (Section 3.3).
2) Remove the cables from the interface side of the PCB.
3) Loosen the 2 spring screws located between the Motherboard and the DVD Drive.
4) Remove the two 3mm screws on the outside edge of the CPU module (interface side).
5) Lift the assembly module to clear it from the chassis and maneuver the module out.
6) When the cable connectors at the interior of the board are accessible, remove the cables.

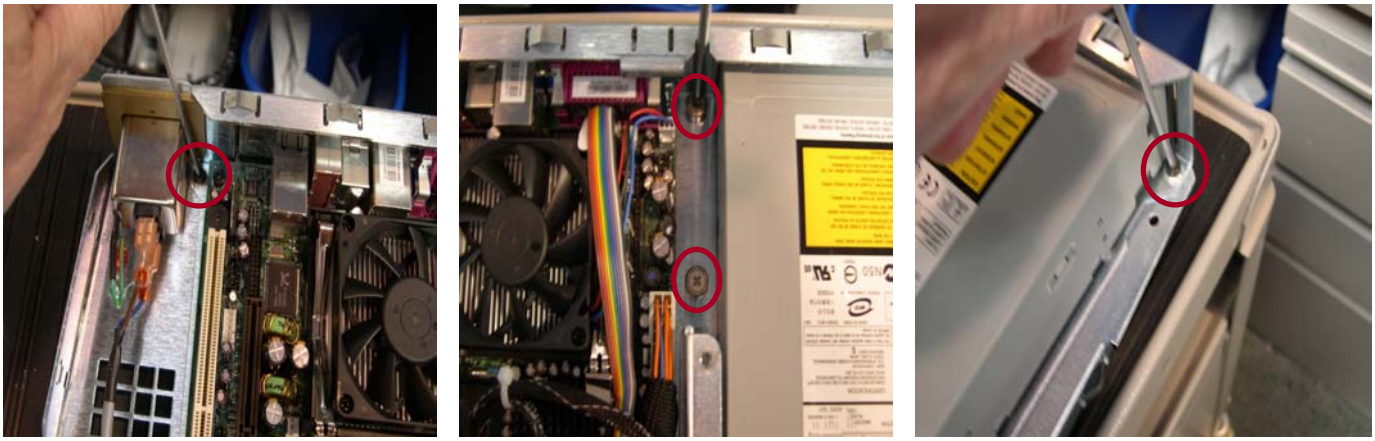


Figure 3.10 CPU Assembly Removal

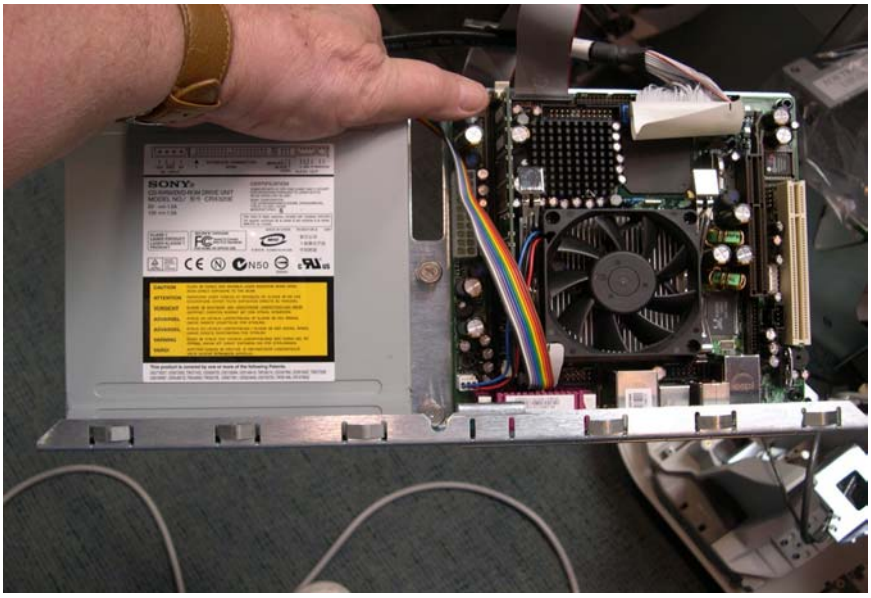


Figure 3.11 CPU Assembly Complete

3.10 Hard Disk Drive Removal

1) If possible, recover the customer data (Refer to User Manual for Export / Import procedures).
2) Remove the SATA and power cables.
3) Remove the three screws securing the drive mounting bracket to the chassis.
4) Remove the drive from the bracket

Note - *Use Zeiss FRU Hard Drives Only. Software Image is not available separately. Upon new installation, you will need to proceed through an OEM setup, including re-entering the Windows License Number. The Windows License Number is located on the bottom of the instrument. Customer data (D-partition) should always be recovered if possible. Refer to the ATLAS User Manual for Export/Import information.*

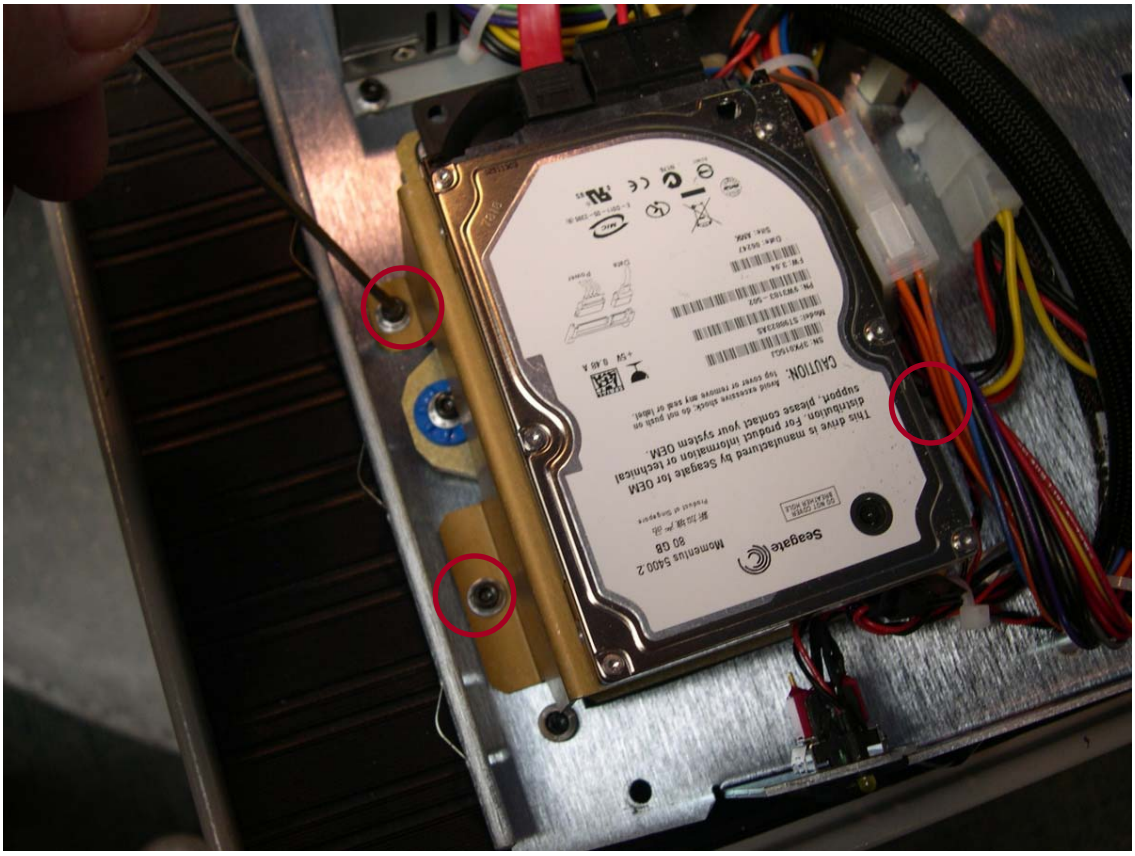


Figure 3.12 Hard Drive Location

Section 4 – Adjustment and Calibration

Notes:

4.1 Introduction

This section contains the procedures for adjustment and calibration of the ATLAS Model 9000. The calibration on the ATLAS 9000 is limited to verification. Hardware calibration is not possible in the field due to the complexity and sensitivity of the alignments.

The procedures in this section assume that the Field Support Engineer is familiar with the operation of the instrument. Complete operating instructions are contained in the ATLAS User Manual.

4.2 Calibration Verification Check

Purpose

To determine whether the ATLAS Model 9000 is in Calibration.

Special Tools / Equipment Required

- ATLAS Test Eye Tool

Procedure

1) Switch on the instrument and let it power up to the main menu.

2) Insert the ATLAS Test Eye Tool onto the Chinrest Assembly.

3) Click on **Tools > Calibration Check** from the toolbar.

4) Follow the instructions on-screen to complete the calibration. Once all test spheres have been read, a Results Calibration Check Screen (Figure 4.1) will be displayed indicating your status.

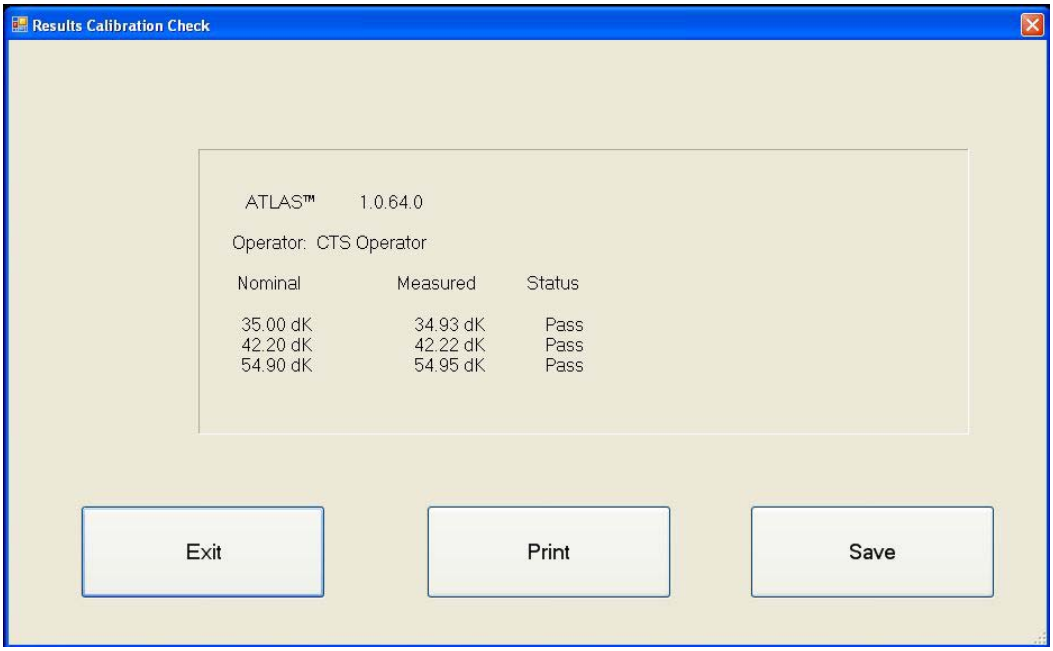


Figure 4.1 Results Calibration Check Screen

4.3 Calibration File Installation

Purpose

The Mastervue software requires fixed optics head data to acquire exams. This data is very precise; it will vary from head to head due to variances in source intensities, calibration placement, and manufacturing tolerance. Because of this, each optics head contains its own individual "XML" file.

Any time an optics head or hard drive is replaced, it may be necessary to reload the associated calibration file.

> ***Note -*** *The Mastervue software* ***Will Not*** *operate if it detects a mismatch between the calibration file and optics assembly.*

Special Tools / Equipment Required

- **Calibration file (Possible Sources)**
  - If replacing the optics head, you should receive a new calibration file on CDROM.
  - If reloading a suspected corrupt or damaged file on an existing instrument, you can find the original file on the data partition of the hard drive.

Procedure

1) Switch on the instrument and exit into Windows.

2) Open up **My Computer > C:\atlas** and locate the file named:

atlas_calibration.xml (Figure 4.2)

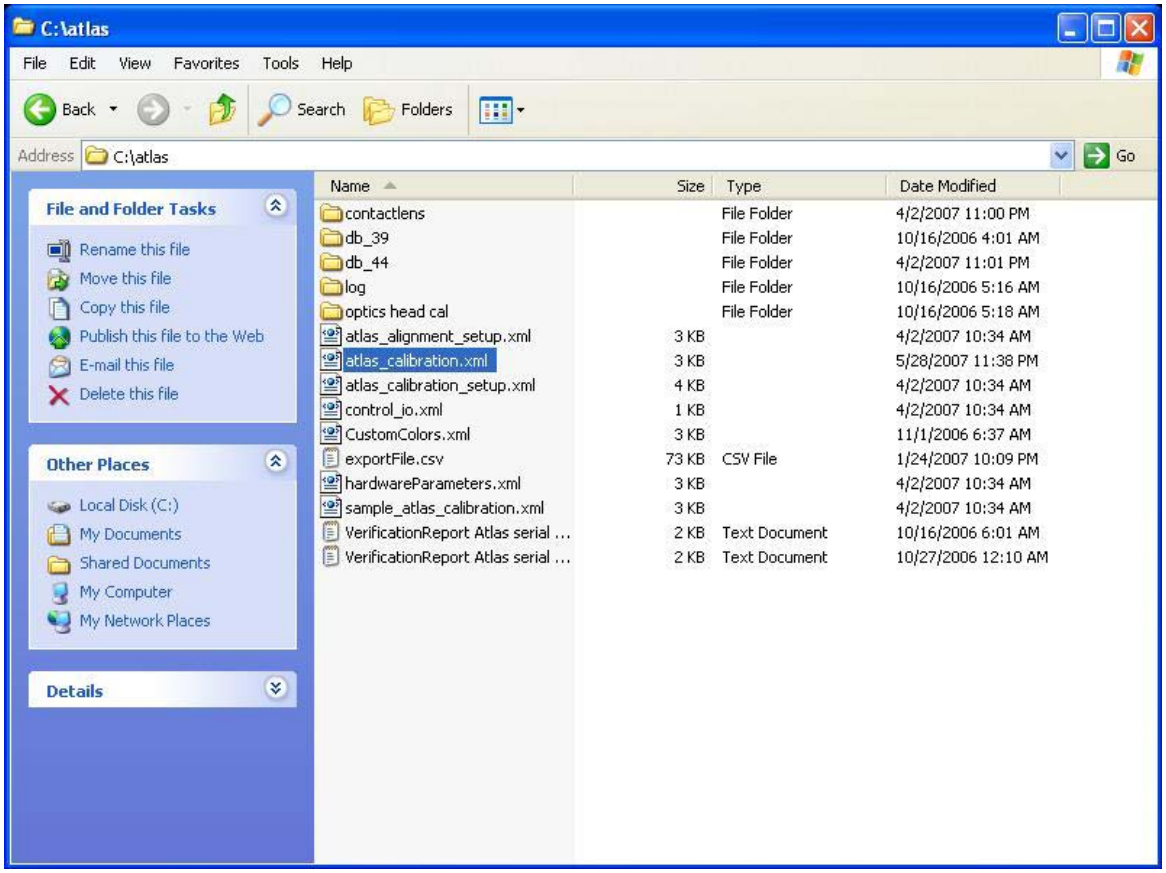


Figure 4.2 Optics Calibration File

3) Replace this file with your new copy of the file. You can either delete the file outright (move it to the recycle bin) or simply rename it.

Note - *Make sure the replacement file is named ATLAS_calibration.xml or the Mastervue software will not recognize it. In some cases, the file may be named some variant of the instrument or camera serial number to help differentiate the calibration files from each other when not on the instrument.*

4.4 Windows XP Activation

Windows XP must be activated after the hard disk replacement procedures. Windows XP activation can be accomplished by either connecting to the internet via the office network (LAN) or by calling Microsoft.

4.4.1 Windows XP Activation – LAN

1) Select **Start > All Programs > Activate Windows**. The *Let's Activate Windows* window appears.

2) Select the option to "**activate Windows over the internet**", and then select **Next**. The *Register with Microsoft* window appears.

3) Select the option for "**No, I don't want to register now; let's just activate Windows**", and then select **Next**. Windows will automatically be activated and a "Thank You!" window appears.

4) Select **OK**.

4.4.2 Windows XP Activation - Phone

1) Select **Start > All Programs > Activate Windows**. The "*Let's activate Windows*" window appears.

2) Select the option to **"telephone customer service representative"**, and then select **Next**. The "*Activate Windows by phone*" window appears.

3) Select the **"appropriate country"** for the location. The appropriate telephone numbers will be displayed.

4) Call the phone number provided to obtain a Confirmation ID.

   ***Note** – The Installation ID listed in Step 3 will be required to complete the phone call.*

5) Enter the Confirmation ID into the spaces provided.

6) Select **Next > Finish**.

Section 5 – Troubleshooting

Notes:

5.1 Introduction

The troubleshooting aids in this section will help you to diagnose operating difficulties and system malfunctions in the *Instrument* system. As Field and Repair Center experience identifies recurrent problems and appropriate diagnostic processes, this section will be expanded to include additional troubleshooting aids.

5.2 Troubleshooting Notes

If replacement of a subassembly fails to correct a problem, be sure to reinstall the original subassembly before resuming troubleshooting.

5.3 Diagnostic Software

Diagnostic Software may be accessed using the "Calibration.exe" link from the Windows Desktop. If the shortcut does not exist, the file can be found at the following path:

C:\Program Files\CZM\ATLAS Calibration\Calibration.exe

The initial screen will require a password to proceed (see Figure 5.1). The diagnostic access password is "**diag**".

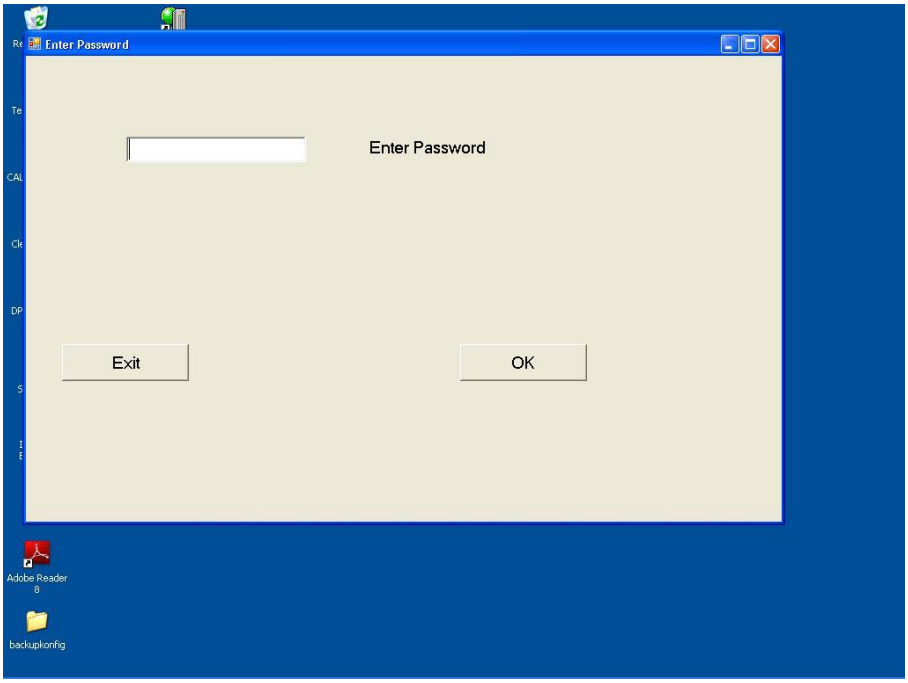


Figure 5.1 Diagnostic Software Password Screen

The Diagnostic Main Menu Screen (Figure 5.2) displays calibration information as read from the Instrument Calibration file. Selecting "Diagnostics" will bring up the main program used to monitor the instrument subsystems.

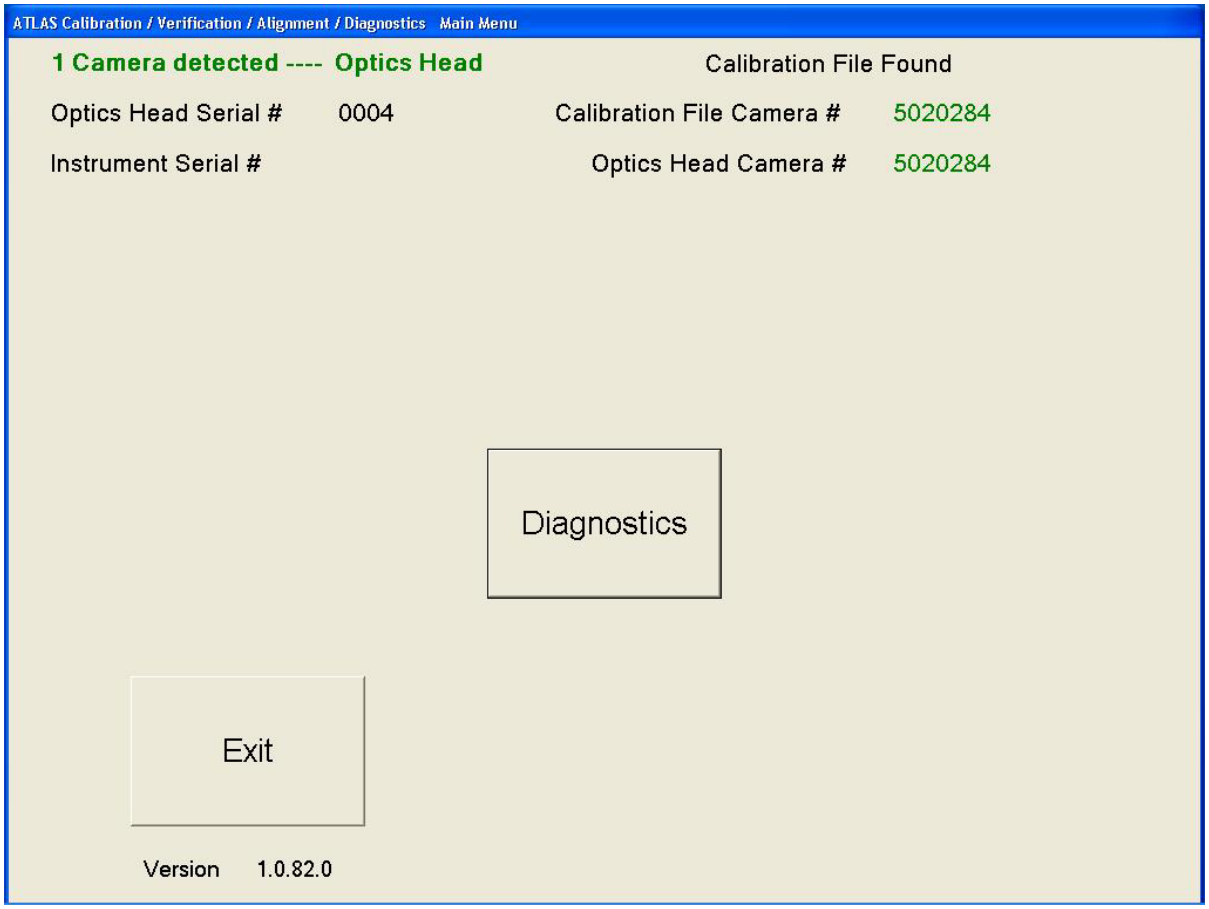


Figure 5.2 Diagnostic Software Main Menu

Figure 5.3 Diagnostic Software

Left Chinrest / Blue Arrow – This function will allow you to test the Left Chinrest Sensor. Covering the Blue Arrow should toggle this function.

Right Chinrest / White Arrow – This function will allow you to test the Right Chinrest Sensor. Covering the White Arrow should toggle this function.

Joystick – This function checks the joystick switch. "Up" indicates normal status. "Down" should be displayed once the Joystick Button is pressed.

Rings – This function corresponds with the status of the Placedo Ring. The "Turn Rings On/Off" button should toggle this function.

Illum LED – Indicates the status of the Illumination LED. The "Turn LEDs On/Off" should toggle this function.

Port Status – The "Port Status" is the error bit indicator for the Optics Assembly. If this field is red, it indicates a problem with the Optics Assembly, or communications between the Optics Assembly and the Base.

Section 6 – Diagrams

Notes:

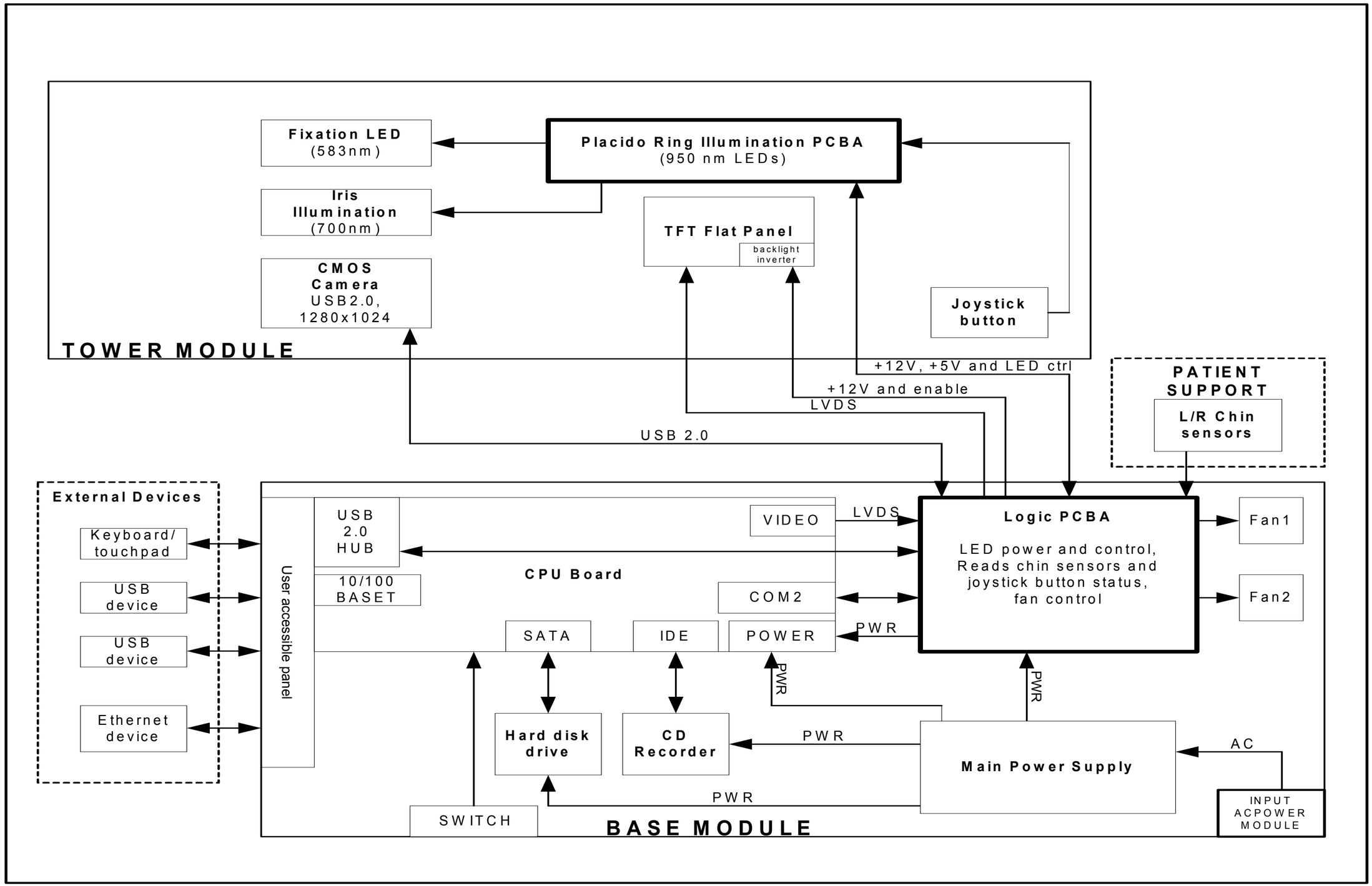


Figure 6-1 ATLAS Model 9000
System Interconnect Diagram

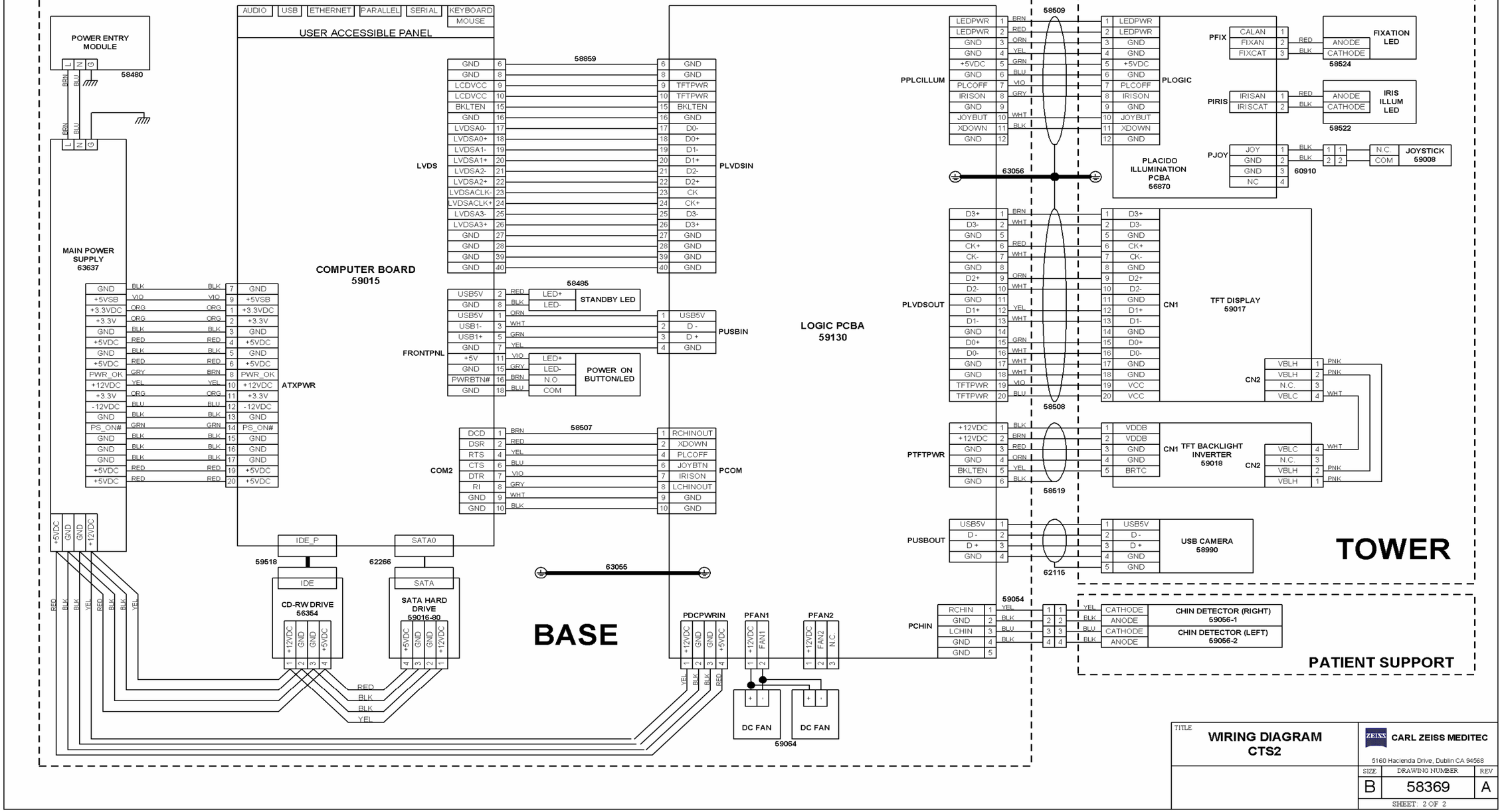


FIGURE 6-2 ATLAS Model 9000
System Wiring Diagram

Section 7 – Parts

Notes:

7.1 Introduction

This section contains Level 1 parts lists and associated information for the ATLAS Model 9000 system. It also contains instructions for ordering parts and returning defective parts.

> ***Note — International Operations:*** *The procedure for returning defective parts from International operations differs somewhat from that for U.S. domestic operations. These differences are noted in the instructions. Please follow the instructions carefully.*

7.2 Parts Orders – U.S. Domestic Service Operations

Spare parts may be ordered monthly or weekly by using the standard parts order form available from Service Parts Stores. Parts needed overnight can be ordered by phone from the Parts Department. The cost of shipping parts for next day delivery is very high and should be used only in emergencies.

The Parts Department phone number is:

- 1-925-557-4100 (Main #)
- 1-877-486-7473 (Main toll-free #)
- 1-800-341-6968 (domestic Customer Service/Parts)
- 1-925-557-4031 (domestic Parts Queue)
- 1-925-557-4862 (Customer Service/Parts fax)

Customers are billed for shipping charges. (Most items are shipped UPS.)

7.3 Parts Orders – International Service Operations

Customers are billed for shipping charges, including any customs fees required.

For International Service Operations, please use the ordering procedures that have been established for your area of operations, and which meet the requirements of the Carl Zeiss Meditec International Parts Department.

7.4 Returning Defective Parts / Subassemblies

When equipment needs to be returned to Carl Zeiss Meditec for repair, it is important that it is properly packed for shipment, and that authorization for return is obtained before the equipment is shipped.

> ***Note*** *— Costs to repair equipment damage caused by improper packing for shipment to Carl Zeiss Meditec become the responsibility of the sender.*

7.4.1 Equipment Return Authorization

Authorization must be obtained from Carl Zeiss Meditec before equipment is returned for repair. A *Return Material Authorization* (RMA) number is required on each return shipment to Carl Zeiss Meditec. The procedure for obtaining an RMA number varies, depending on your area of operation. Use the procedure that has been established by Carl Zeiss Meditec for your area of operations.

7.4.2 Packing for Shipment

Defective instrument subassemblies/parts should be packed in the shipping container received with the replacement subassembly or part. If necessary, contact the Carl Zeiss Meditec Parts Department for a replacement shipping container. Shipping containers are not available for assemblies that are supplied by a separate vendor (i.e., monitors, printer, keyboard, computer), so it is important to preserve those shipping containers when the instrument is first received by the customer.

7.4.3 Returning Defective Parts

The return of defective subassemblies is a very important part of our operation:

1. Evaluation of returned subassemblies assists in root cause analysis.
2. Subassemblies are rebuilt and returned to service stock, and are available as needed by our Field Support Engineers. Our inventory is kept low to keep operating costs down.

U.S. Domestic Field Support Engineers - when you return parts or assemblies to the Repair Center, attach a Service Inventory Transfer (SIT) tag or RMA tag to each assembly. On the tag, list the following information:

- the serial number of the instrument from which the part was removed;
- the date of removal;
- the problem (if you could not find the problem, describe what the customer reported, and add "CND" - Can Not Duplicate);
- the part number of the part/assembly being returned;
- your territory number (U.S. Domestic Engineers).

This information will enable the Repair Center to make repairs as efficiently as possible.

Note - International Operations: *Additional procedures are necessary for return of defective parts from international service operations. Instructions have been provided to each area of operation by Carl Zeiss Meditec International Parts Department. If you are unfamiliar with the required procedure for your area, or have any questions regarding the procedure, please contact the Carl Zeiss Meditec International Parts Department.*

When you receive spare parts from the Parts Department, save the packaging material for returning the defective part for repair. Many of the parts are delicate and expensive; extra attention to packaging will pay off in less damage to parts during shipment.

7.5 Recommended Spares

Parts that are recommended as spares for supporting field repairs on the *ATLAS 9000* system are not indicated in this manual. Instead, please refer to the *ATLAS 9000* Field Service Bulletin titled *Recommended Spare Parts.*

Note — *Parts that are recommended as spares for supporting field repairs (please refer to the ATLAS Model 9000 field service bulletin titled Recommend Spare Parts) are generally kept in stock and are available for shipment in quantities equal to your normal service usage. Larger, restocking quantities or parts that are not recommended spares may be subject to order processing and shipment lead times of two weeks or longer.*

7.6 Parts List

Note — *For part numbers of tools, test equipment, and service supplies, please refer to Appendix A.*

7.6.1 Accessories/Supplies/Consumables

Part No.	Description
64373	Accessory Kit, Complete
22511	Power Cord, Hospital Grade, Grey (100-120V)
22581	Power Cord, Euro CEE, 7/7 10A (220-240V)
33594	Fuse, Metric 3.15A/250V SB IEC Input (Instrument uses 2)
59019	Keyboard / Glide Pad Combo
62623-1	User Manual (English)
65458	Quick Reference Guide
62793	Dust Cover
63339	Keyboard Tray
43243-1	Test Eye

7.6.2 Cables

Note - Refer to the System Interconnect Diagrams in Section 6 of this manual for visual identification of these cables.

Part No.	Description
60909	Tower Bundle
58480	Power Entry
58485	Power Switch / USB Assembly
58507	COM Port
59054	Chinrest Cable
59518	Optical Drive Data Cable
64632	Hard Drive Data Cable (SATA)

7.6.3 Field Replaceable Units (FRU)

Part No.	Description
62560	Optics Head (Complete)
65343	Patient Support (Complete)

7.6.4 Shipping Materials

Part No.	Description
62946	Box, Shipping ATLAS 9000
63698	Box, Shipping ATLAS 9000 Accessory Kit

7.7 Illustrated Parts Breakdown

The drawings on the following pages provide illustrated parts breakdowns of the instrument. The parts drawings are keyed by item numbers to their associated parts lists.

Parts listed without a part number are not available separately and should not be removed or loosened — order the next higher assembly.

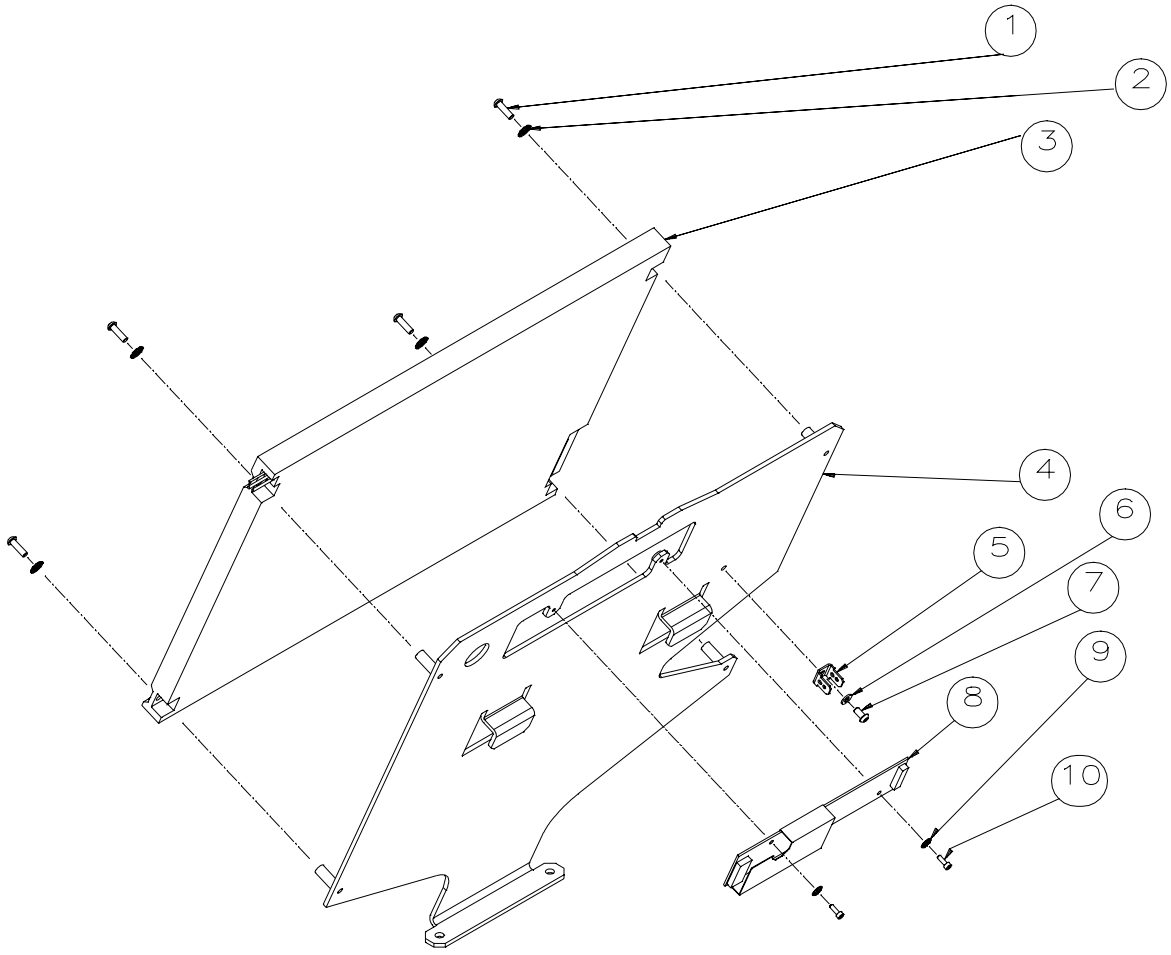
Caution — *Many parts on the optics head require critical factory alignment or adjustment. These parts are called out by description and no part numbers are listed. They are shown for identification purposes only.* ***DO NOT loosen or remove these parts;*** *doing so will require the optics head be shipped to the Repair Center for realignment.*

For part numbers of individual cables, first refer to the System Interconnect diagram in Section 6 (Figure 6-1). Cables that do not have a part number listed in Figure 6-1 are supplied only as part of an associated assembly shown in this parts section.

7.7.1 TFT Assembly

Item	Part No.	Description
1	28283-10	Screw M3X10
2	14446	Washer, Sq Cone
3	59017	LCD TFT 12.1" LVDS
4	58868	Plate, TFT Display
5	02069	Tab (Spade Grounding Tab)
6	04114	Washer, Flat
7	28283-6	Screw M3X6
8	59018	Inverter for 12.1” TFT
9	14447	Washer, Sq Cone
10	28291	Screw M3

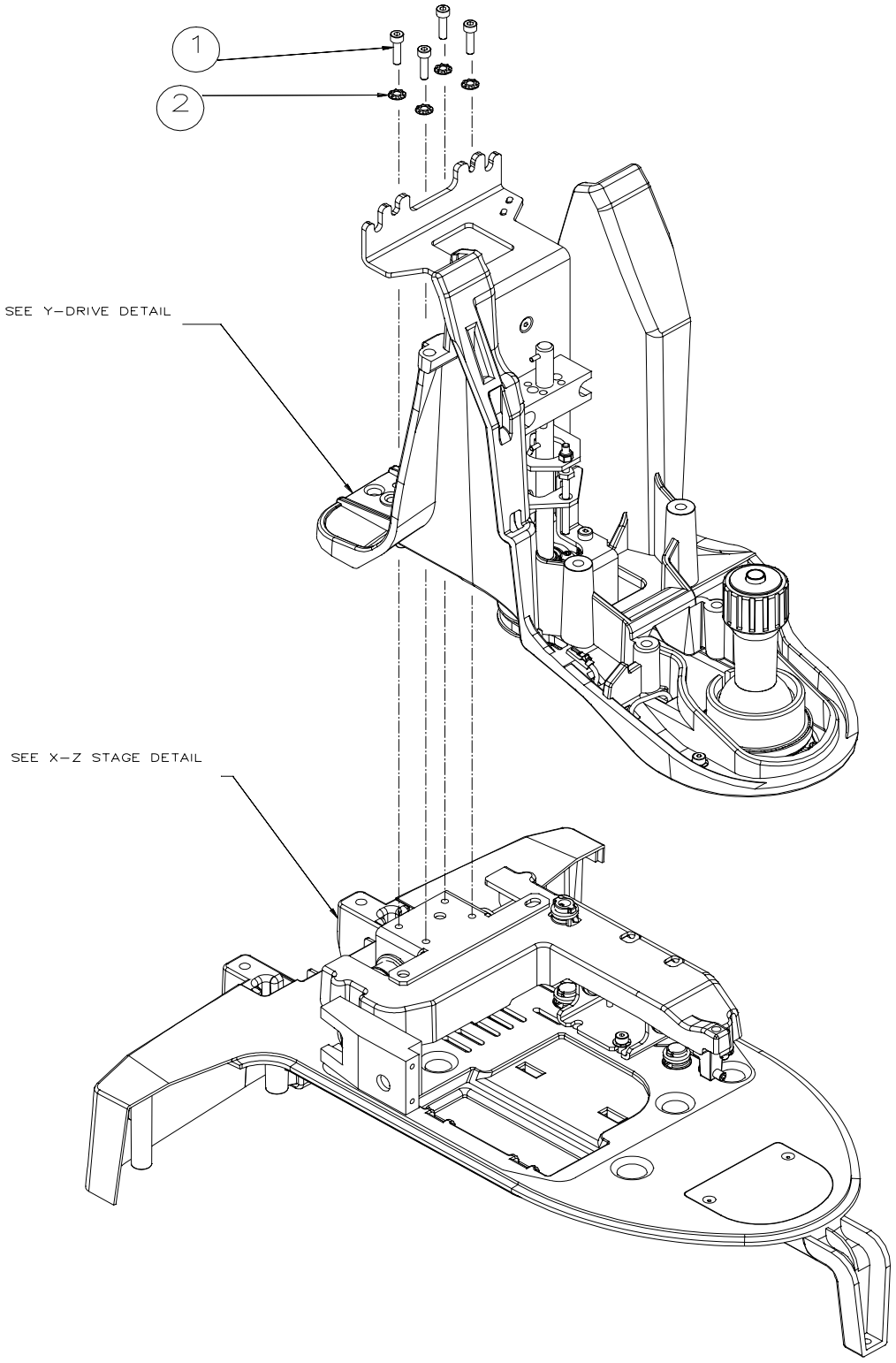
(7.7.1 TFT Assembly)



7.7.2 Tower Assembly

Item	Part No.	Description
1	28295-16	Screw M4X16
2	14445	Washer, Sq Cone

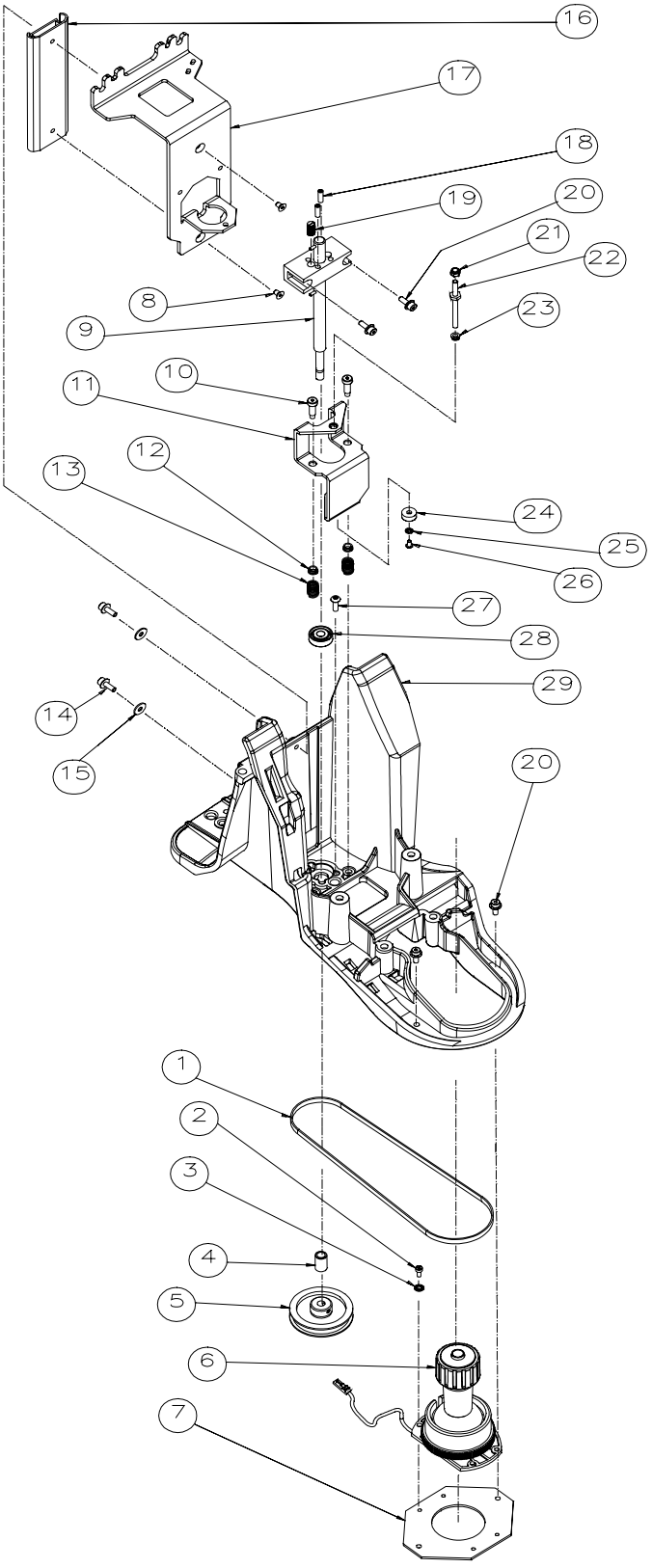
(7.7.2 Tower Assembly)



7.7.3 Y-Drive Assembly

Item	Part No.	Description
1	43042	Belt
2	28293-8	Screw M3X8
3	14446	Washer, Sq Cone
4	58953	Y-Axis Pulley Spacer
5	58890	Pulley 70 TTH
6	59008	Joystick
7	58789	Joystick Bracket
8	36235-6	Screw M4X6
9	58956	Leadscrew Nut (Y-Axis)
10	29513-14	Shoulder Screw
11	58958	Brake Bracket
12	43116-5	Nylon Liner 5MM ID
13	43141	Compression Spring
14	58893-12	Screw M4X12
15	57386	Washer, Flat
16	43087	Drawer Slide (Y Axis)
17	57712	Bracket (Optics Head)
18	43160	Screw M4X14
19	43161	Ball Plunger
20	58893	Screw M4X.07
21	32755	Lock Nut M10
22	58957	Break Pin Guide
23	43116-4	Nylon Liner 4MM ID
24	43176	Rubber Bumper
25	14447	Washer, Sq Cone
26	28283-6	Screw M3X6
27	28435-4	Screw M4X4
28	43037	Ball Bearing
29	58854	Tower Structure
30	58893-12	Screw M4X12

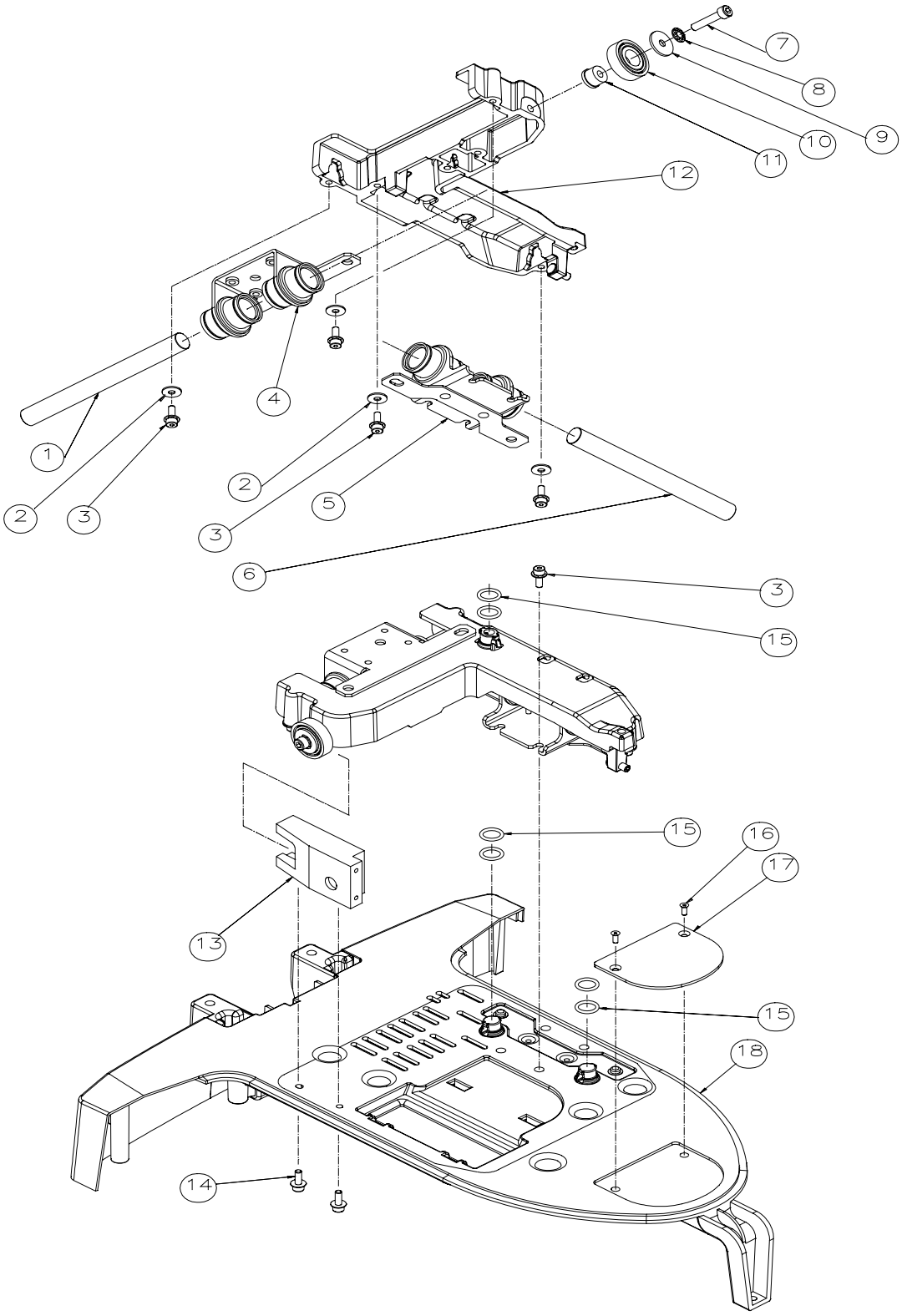
(7.7.3 Y-Drive Assembly)



7.7.4 X-Z Stage Assembly

Item	Part No.	Description
1	58955	Shaft
2	57386	Washer, Flat
3	58893	Screw M4X0.7X12
4	58785	X-Axis Bracket
5	58784	Z-Axis Bracket
6	58955	X-Z Shaft
7	32336	Screw, M5
8	22101	Washer, Sq Cone
9	51177	Washer, Flat
10	38244	Ball Bearing
11	58788	Idler Bearing Spacer
12	58574	Housing XZ Stage
13	59426	Catch Tower Housing
14	58893-12	Screw M4X12
15	58895	O-Ring
16	28418-8	Screw M3X8
17	58783	Joystick Pad
18	58847	Base Front Cover (Ironing Board)

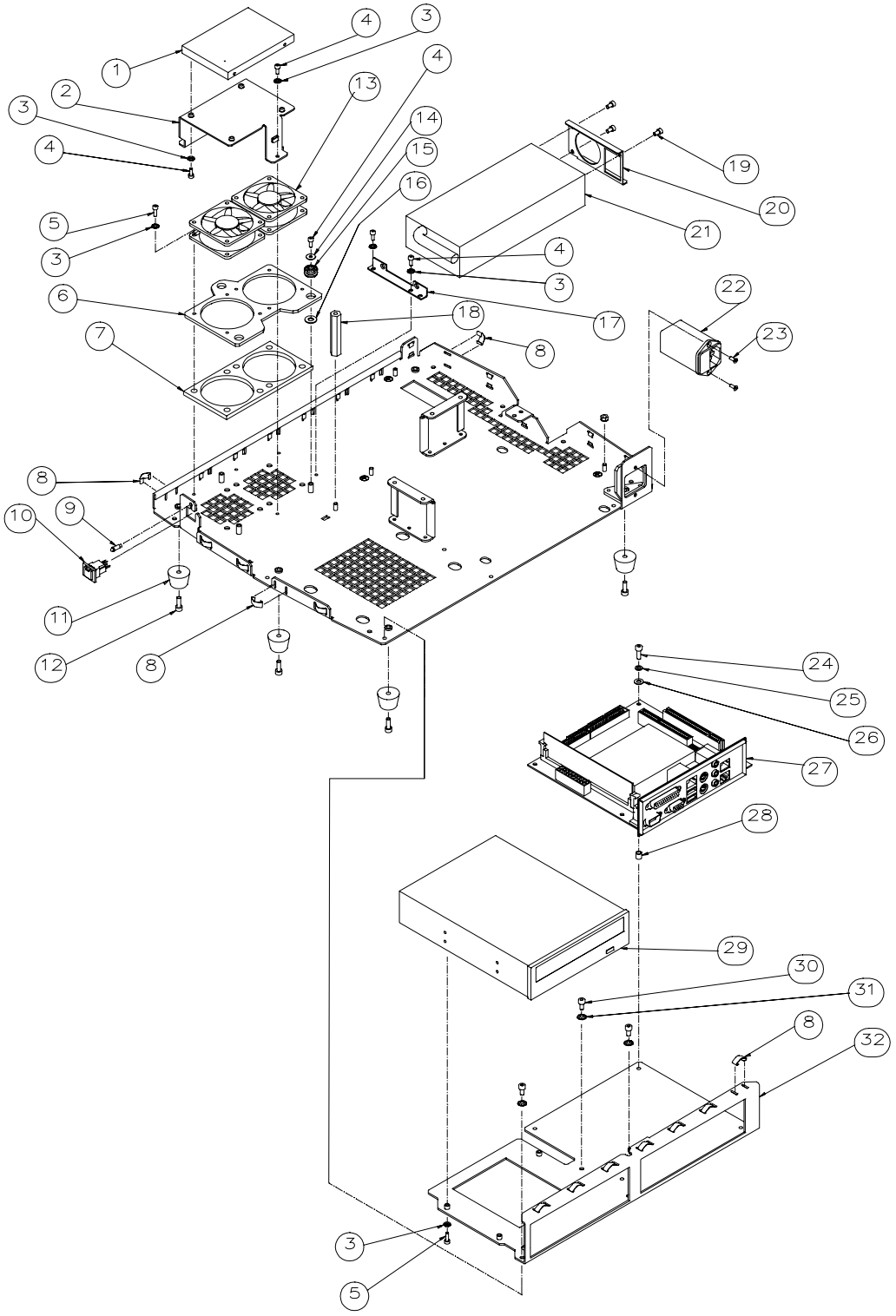
(7.7.4 X-Z Stage Assembly)



7.7.5 Base Assembly

Item	Part No.	Description
1	65253	Hard Drive SATA 2”
2	58872	Hard Drive Bracket
3	14446	Washer, Sq Cone
4	28293-8	Screw M3X8
5	28293-10	Screw M3X10
6	59370	Fan Plate
7	59492	Fan Gasket
8	50892	EMI Shielding
9	61718	LED Standby Cable Assembly
10	58485	Power Switch Cable Assembly
11	14823	Bumper #8 Screw
12	28295-12	Screw M4X12
13	58984	Fan, 12V 22CFM
14	28350	Washer M3/10
15	38803	Rubber Grommet
16	57371	Flat Washer
17	62797	Flange (PS Rear)
18	58962	Standoff M4X52
19	00305	Screw 6-32
20	62774	Power Supply Bracket
21	63637	Power Supply Mini ITX 180W
22	56378	Power Entry Module 2 Fuse
23	28418-8	Screw M3X8
24	28295-12	Screw M4X12
25	681040	Washer Split Lock M4
26	00719	Flat Washer
27	59015	Computer Board M/ITX
28	01593	Spacer .171
29	64791	DVDRW Optical Drive
30	28295-8	Screw m4X8
31	14445	Washer, Sq Cone
32	58884	Baseplate Tray

(7.7.5 Base Assembly)

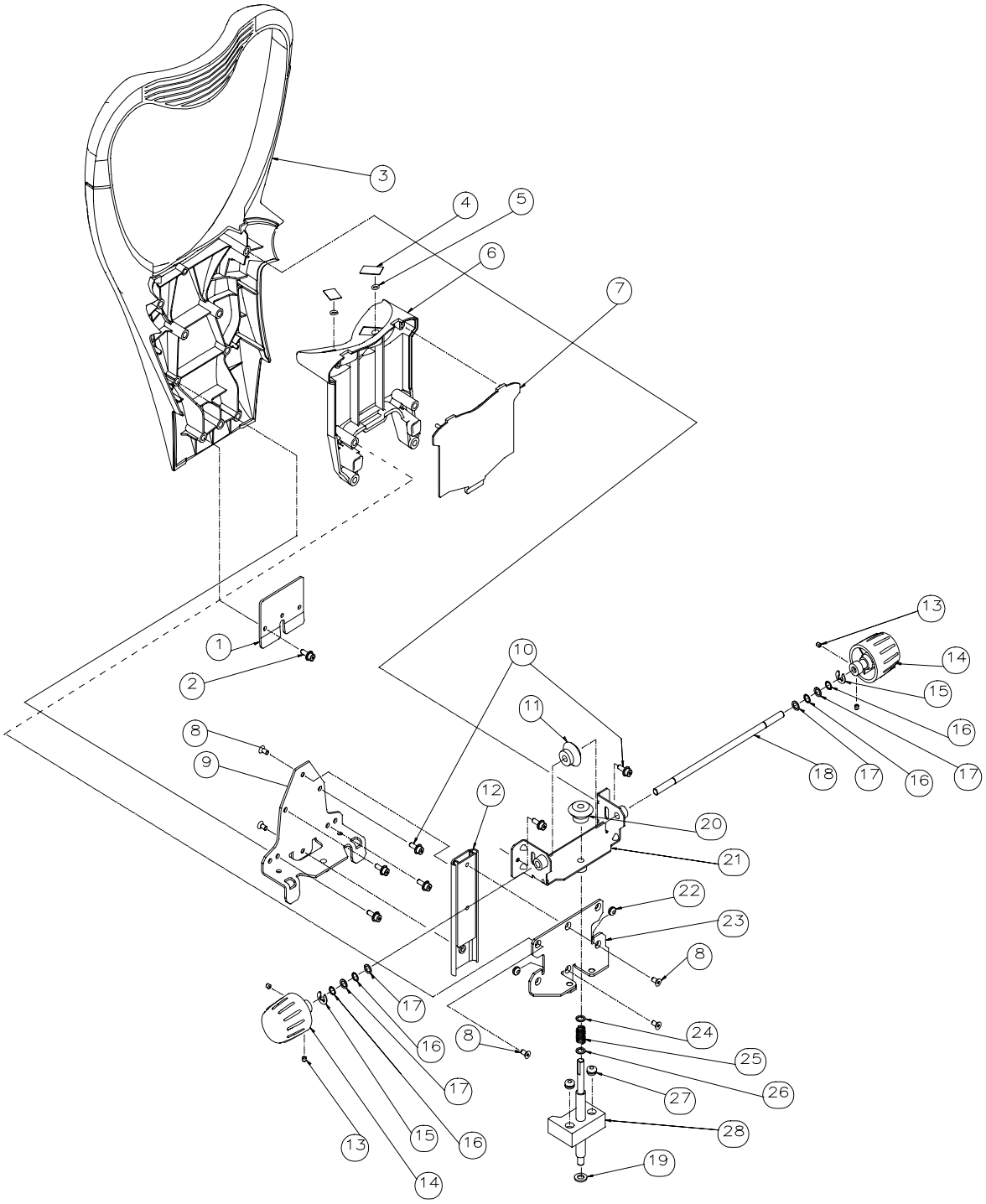


7.7.6 Patient Support Assembly

Complete Assembly FRU – P/N 65343

Item	Part No.	Description
1	60937	Plate, Patient Support
2	58893	Screw M4X0.7X12
3	58849	Front Cover
4	43386	Chinrest Arrow (stickers)
5	04496	O-Ring
6	43449	Chinrest
7	45135	Chinrest Cover
8	36235-8	Screw M4X8
9	58857	Bracket ATLAS 9000 Chinrest Main
10	58893-12	Screw M4X0.7X12
11	36178	Miter Gear
12	48990	Chinrest Slide
13	28375	Screw, Set M4X4
14	36109	Chinrest Adjustment Knob
15	00557	Retaining Ring
16	06711	Washer, Wavy
17	01273	Washer, Flat
18	58858	Shaft
19	00567	Washer, Flat
20	36178	Miter Gear
21	36107	Bearing Block Bracket
22	06543	Grommet
23	45142	Actuator Bracket
24	01273	Washer, Flat
25	48619	Compression Spring
26	01273	Washer, Flat
27	29874	Grommet, Ribbed
28	36177	Access Cover
	59056-1	Assy Cable Chinrest Detector - Right
	59056-2	Assy Cable Chinrest Detector - Left

(7.7.6 Patient Support Assembly)



Appendices

Notes:

Appendix A Tools

A.1 List of Tools, Test Equipment, and Service Supplies

The tools and test equipment required to service the ATLAS Model 9000 are listed below. Additional detail regarding the special tools and test equipment is provided in Section A.2.

Description	Part No.
Acronis Backup Software	64861
Atlas 9000 Test Eye Tool	43243-1
Data Transfer Cross-over Cable	62007
Data Transfer Hard Drive Enclosure	65928
Digital Multimeter (Fluke 8060A or equivalent)	21566
Static Protection Kit	20928
Field Service Standard Tool Kit	(Acquire Locally)

A.2 The Special Tools – What They Are / What They Do

A.2.1 Acronis Backup Software

This tool restores the Acronis Backup Software. It will not be present on FRU hard drives, so this software must be re-installed anytime the Hard Drive has been replaced. Upon installation, it will make a backup of the C: partition, so this should always be done last.

A.2.2 ATLAS 9000 Test Eye Tool

The ATLAS Test Eye Tool is used during the Calibration Verification Check procedure. The tool is equipped with three spheres (35.0 D, 42.2 D and 54.9 D), which are used to verify calibration of the system.

A.2.3 External Hard Drive

The external Hard Drive is used as a tool to backup and restore customer data when replacing the internal Hard Drive. The external drive will either connect via the USB, or Network port.

A.2.4 Static Protection Kit – P/N 20928

The Static Protection Kit is essential for protection of the ATLAS Model 9000 against electrostatic discharge, whenever you are disassembling or handling ATLAS circuitry. The kit contains the following items:

- a bench mat with permanently attached alligator clip ground lead;
- a banana plug lead with snap connector;
- an adjustable wrist cuff.

The static protection kit must be properly grounded, and you must be wearing the wrist cuff whenever working on the ATLAS Model 9000 with any of the covers removed.

To use the static protection kit:

1) Connect the bench mat alligator clip to a known good electrical ground point. Any unpainted screw or chassis surface on the ATLAS Model 9000 is an acceptable ground point provided that the ATLAS has its power cord connected and is plugged into a grounded power receptacle.

   In situations where work is to be performed on the ATLAS Model 9000 and it is undesirable to have the unit plugged into a power receptacle, an alternate grounding point is necessary. Usually, an acceptable ground point can be found at the cover screw for the AC power outlet. It is useless to use the static mat without it being properly grounded.

2) After properly grounding the bench mat, connect the banana plug lead into the bench mat connector.

3) Connect the wrist cuff to the snap clip on the banana plug lead.

4) Adjust the wrist cuff to fit snugly around your wrist. The wrist cuff should always be worn when working on the ATLAS Model 9000 when any of the covers are removed.

Appendix B. Data Management

Overview

This Appendix provides instructions to use (Third Party) Acronis True Image software, as installed on the Atlas Model 9000, to create and/or restore an image of the instrument hard drive. This tool enables you to recover from most system errors, restoring your instrument hard drive to a known good state, or to its original factory image. This can be accomplished without altering or losing any saved patient data, provided you use the tool correctly as described herein.

WARNING – *Use only the Factory-Installed Acronis True Image software with the Atlas Model 9000 instrument. Carl Zeiss Meditec partitions the hard drive to separate the patient database on the system software, and thereby prevents the permanent deletion of patient data that would otherwise occur when restoring the hard drive with Acronis or other image software. Failure to observe this warning could result in permanent loss of all patient data.*

WARNING – *Do not attempt to install and use Acronis or other hard drive image and restore software without consulting Carl Zeiss Meditec Technical Support. Failure to observe this warning could result in permanent loss of all patient data.*

B.1 Acronis Software Installation

> ***Note*** *– These instructions are only for the Zeiss Acronis Tool.* ***DO NOT*** *use commercial versions of the Acronis software on this instrument.*

When installing a FRU hard drive, as a final step, you will need to install the Zeiss Acronis Tool. The tool does not come pre-installed on the FRU hard drives. It MUST be re-installed anytime a Hard Drive is replaced. It is important to leave this as a last step in the repair process, as it will create a new image of the C partition. If this is done before re-installing the Calibration or Configuration files, they will not be captured in the image.

1) Once the repairs have been complete and the calibration/configuration has been restored, execute the "Cleanup.bat" shortcut from the desktop (skip this step if the file is not present).

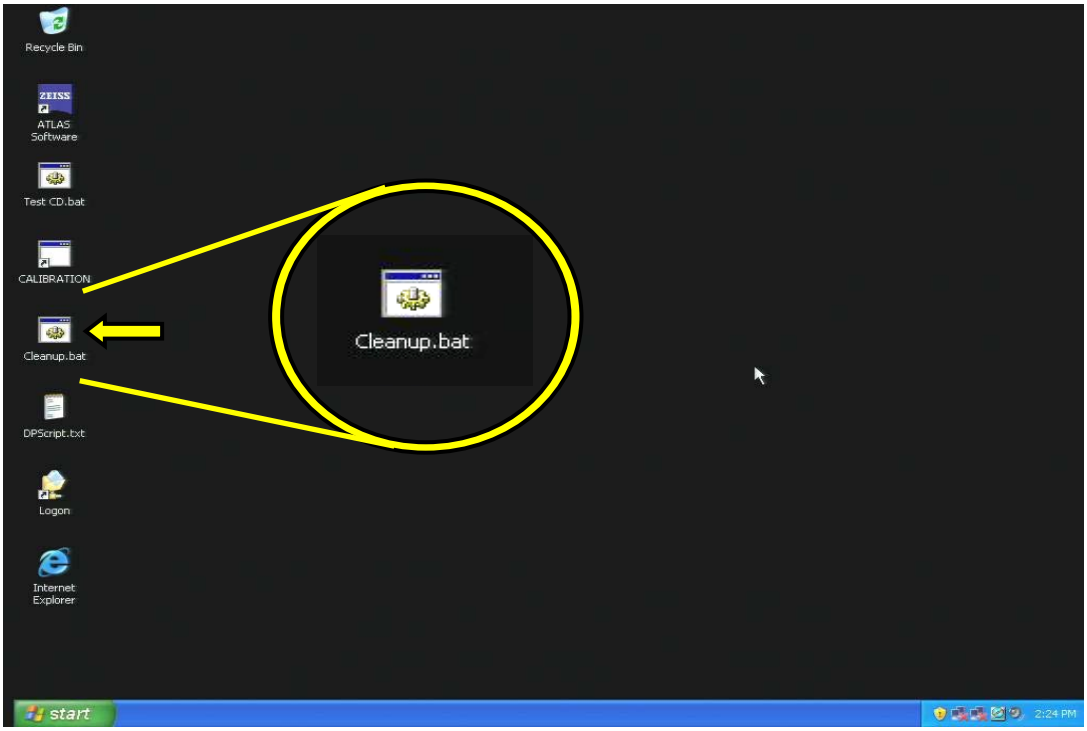


Figure B-1 FRU Hard Drive Desktop (Before Cleanup.bat)

C:\WINDOWS\system32\cmd.exe status box is briefly displayed, then Test CD.bat, Calibration, Cleanup.bat, DPScript.txt, Logon Shortcuts are deleted from desktop.

2) Verify the following desktop icons are removed:

Test CD.bat	Calibration
Cleanup.bat	DPScript.txt
Logon	

3) Install the Acronis Tool CD into the optical drive, and browse its contents.

4) Locate and execute the file “Install.bat”.

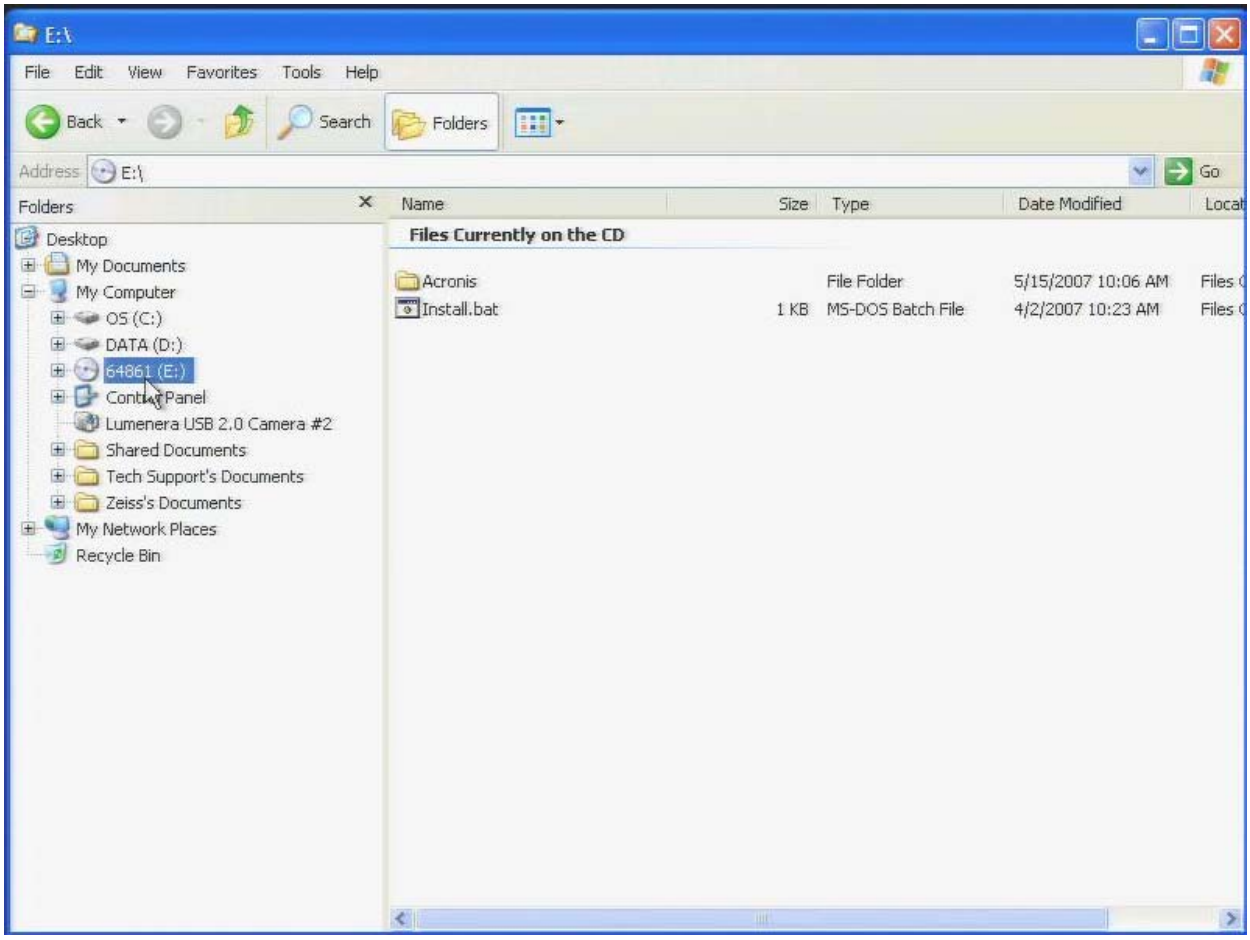


Figure B-2 Install.bat

5) The Recovery image process starts, indicated by the following displays:

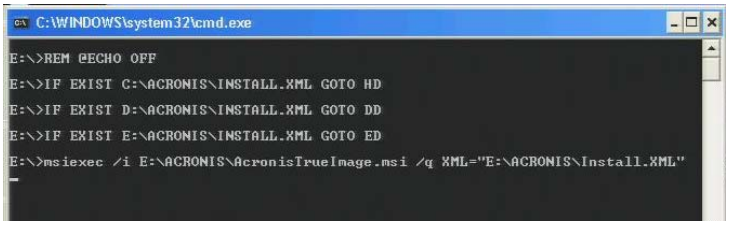


Figure B-3 Command Box

Figure B-4 Acronis Loading

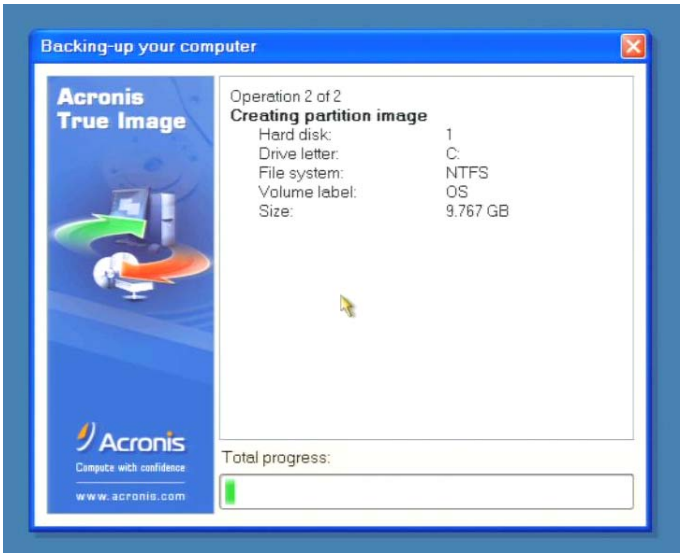


Figure B-5 Acronis – Imaging the C Partition

When the recovery image process is complete, the system reboots to the Atlas application logon screen.

6) Exit the application and verify Acronis has been installed on the instrument.

B.2 ATLAS Model 9000 System Recovery

This function restores the hard drive partition, containing the system software, to its original factory image or to a known good state.

You can access the Acronis application in two ways:

- **Access from Windows OS**

Either by double-clicking on the Acronis desktop icon (or through the program menu: click Start > Programs, and find / launch Acronis). This is the recommended method, but will not be possible if the instrument cannot boot the Windows operating system.

- **During the Boot Process**

During the boot process, press the F10 key when you see the DOS screen (a text-only screen, usually with white letters on a black background), and gives you options for launching Windows in alternate modes. When launched in this way, Acronis runs using a Linux operating system kernel. This method is necessary only when the system will not boot up to the regular Windows operating system. This can be the case when there has been a serious system failure, which Acronis is designed to recover.

This document presents all the available options that are likely to be encountered during a normal backup or recovery. Some screens and options may not be presented in all situations. Some screens may not appear if you are restoring an OEM Zone archive from Linux.

When running Acronis via pre-boot access (using the Linux kernel), the appearance of the screens is slightly different, and the available options are limited in comparison to running Acronis through Windows. These instructions contain screenshots from Acronis running on Windows, but highlights those places where the instructions vary when running on Linux.

- **System Recovery**

Follow these steps to use Acronis for system recovery:

1) Launch Acronis via the OS as explained above.

2) Click **Recovery.** The Restore Data Wizard opens (Figure B-7).

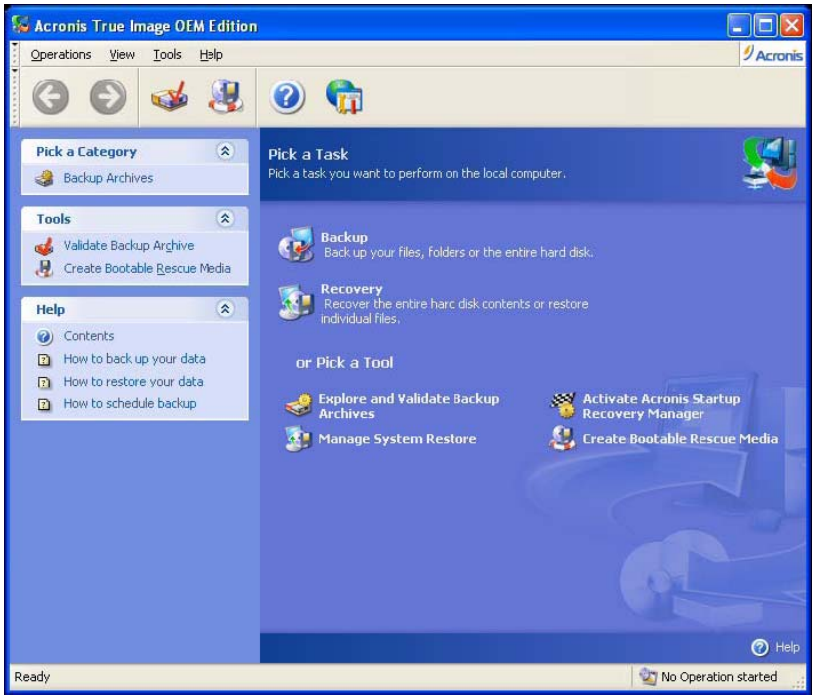


Figure B-6 Acronis Upon Launch (windows)

Figure B-7 Restore Data Wizard

3) Click Next>. The wizard prompts you to select an archive to restore.

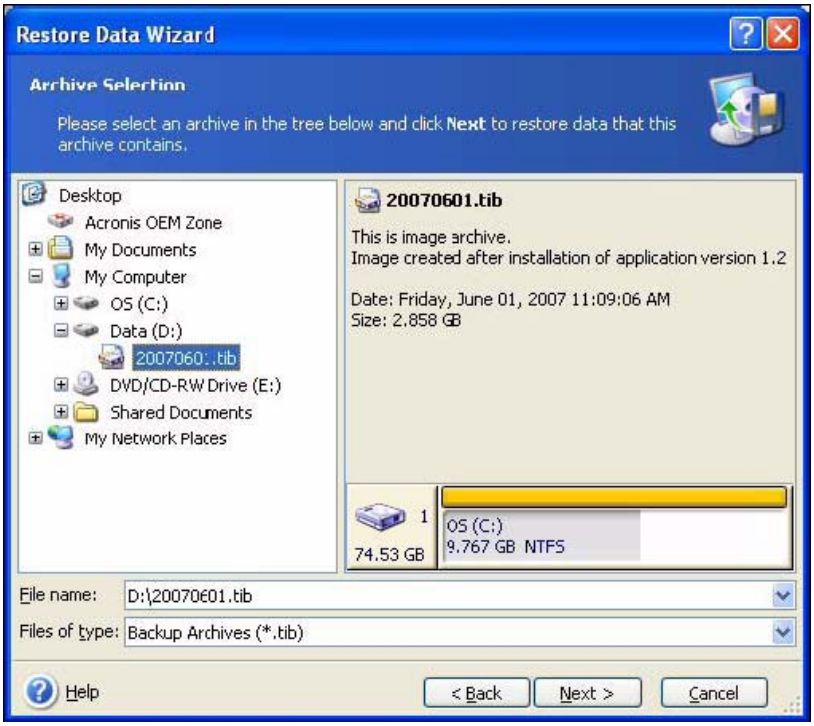


Figure B-8 Archive Selection Dialog

When used with CZM instruments, according to the recommendations, an "archive" in Acronis means a hard drive image, which includes the computer operating system and the instrument software, but not the patient database.

> ***Note –*** *When you restore the system hard drive as instructed, you will restore all adjustable settings for the computer, network, and instrument software to the point in time when the archive was created (either at the factory or later). Any custom settings created since that time will be overwritten.*

4) At this point, depending on the circumstance as explained below, select one of two archives in the left pane on the left under Desktop.

   a. If the instrument has never had a software upgrade, there should be no other archive except the original factory image. Therefore, you must select the original factory hard drive image, which is named Acronis OEM Zone. It is found immediately under Desktop, in the left pane.

   b. If the instrument has ever had its system software upgraded since it was shipped from the factory, a new archive should have been created after each successful software upgrade. User-created archives like these are found under the Data (D:) drive (These files have a .tib extension). You should select the most recently created archive. The creation date should be represented in the archive name, but in any case, the creation date will appear in the right pane when you click on an archive.

Note – *To view available archives in the D: drive, you must click on the textual "Data (D:)" portion of the name. It is not sufficient to click the "+" sign to expand the tree.*

5) Once the correct archive has been selected for your circumstance as explained in Step 4, click Next>. The wizard prompts you to select the source partition or disk to restore from the archive.

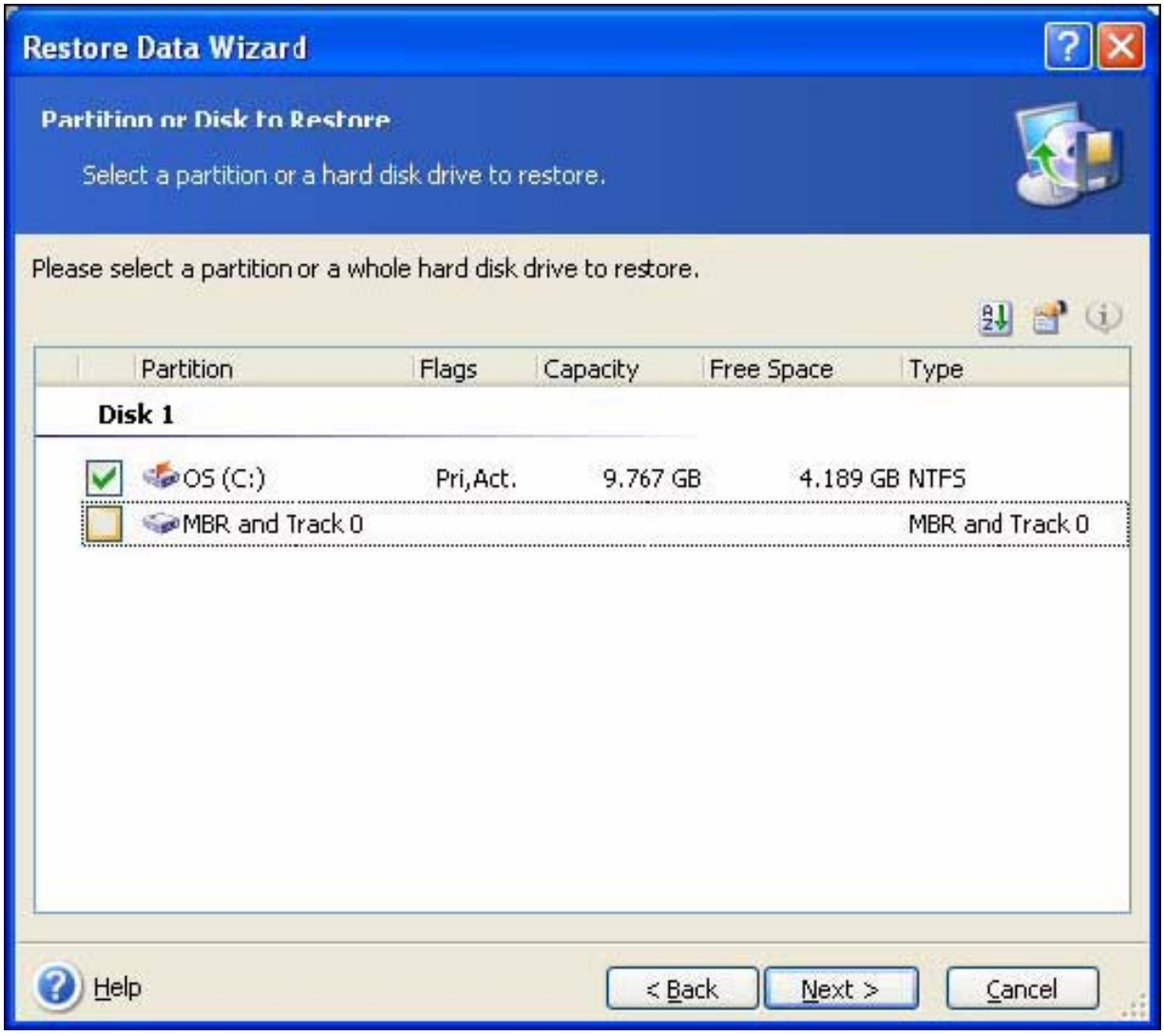


Figure B-9 Select Source Partition to Restore from the Archive

6) The correct source for the system software partition is OS (C:). Only select the checkbox for OS (C:). If necessary, clear the MBR and Track 0 checkbox (and any other). Click Next>. The wizard prompts you to select the target partition to which the system software partition will be restored.

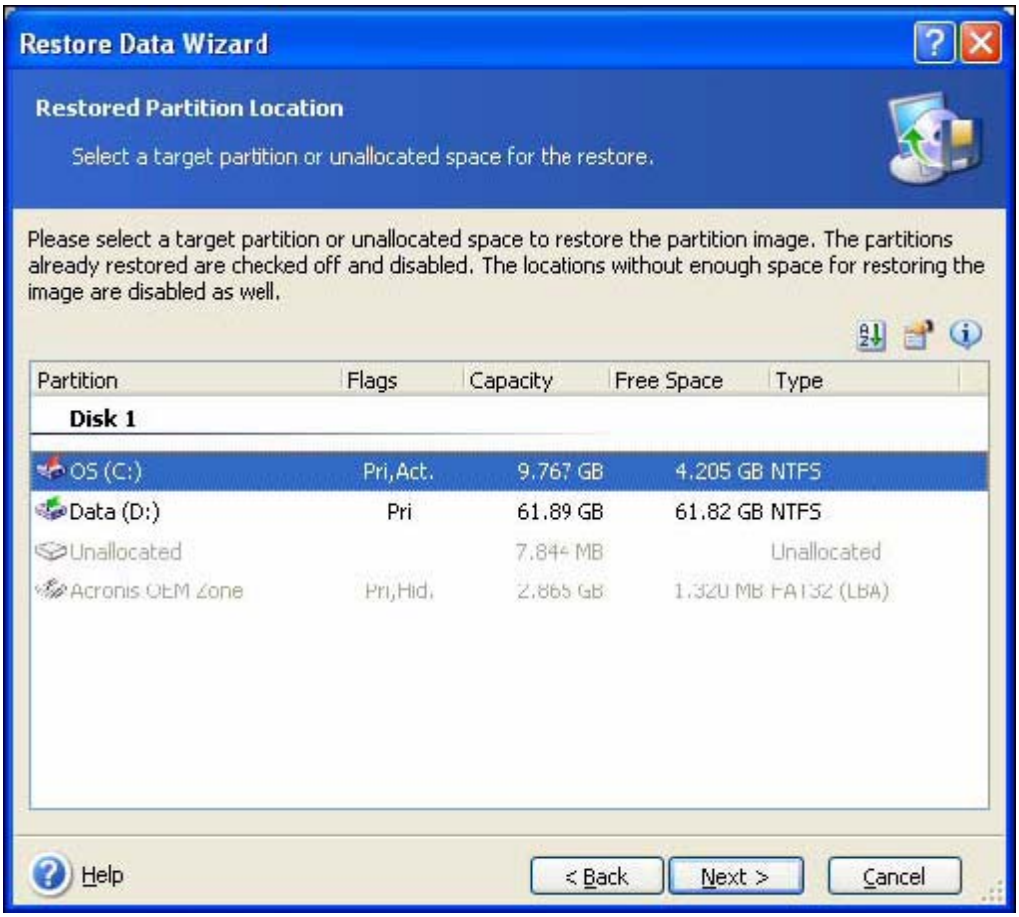


Figure B-10 Select Target Partition

WARNING – *Only select OS (C:). If you select Data (D:) you will permanently delete the patient database and all patient data!*

7) Only select OS (C:). Observe the warning immediately above. Click Next>. The wizard prompts you to indicate the restored partition type.

Figure B-11 Select Restored Partition Type

8) By default, the Active radio button is selected. Do not change this selection. Select the Active radio button if it is not selected. Click Next>. The wizard prompts you to specify the size of the restored partition.

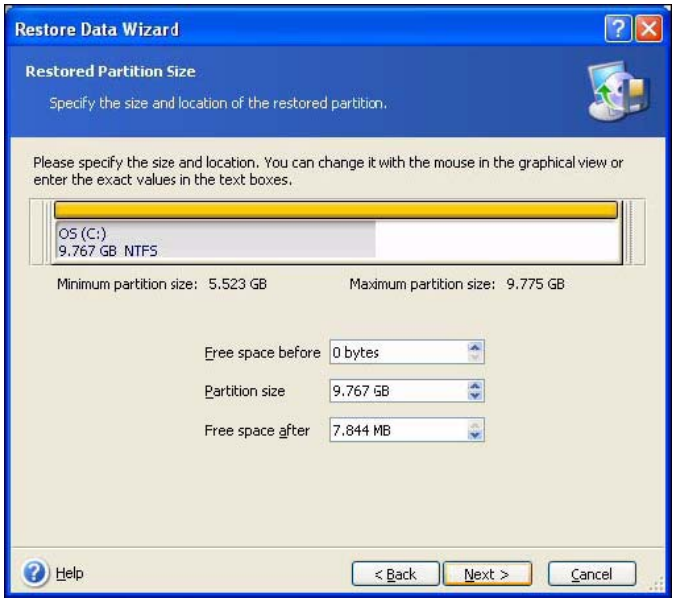


Figure B-12 Specify Restored Partition Size

9) Do not change any of the default sizes indicated. Click Next>. The wizard prompts you to specify a drive letter for the restored partition.

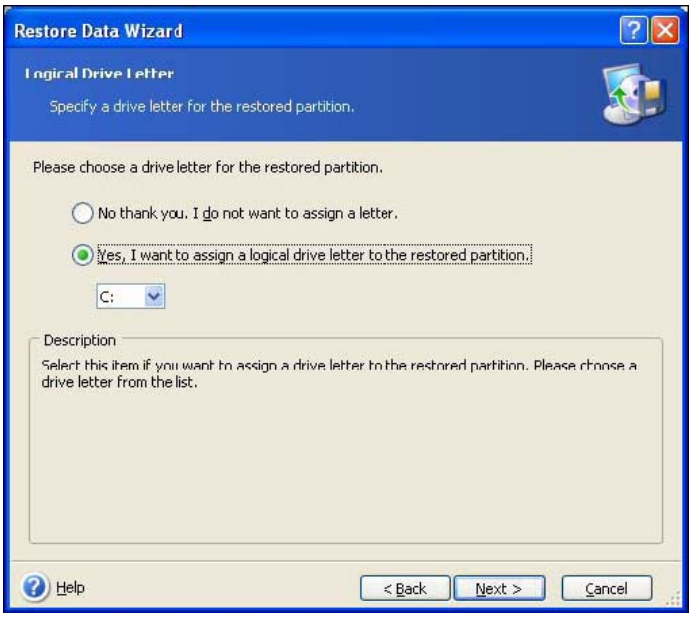


Figure B-13 Specify a Logical Drive Letter for Restored Partition

10) Select the radio button that says, "Yes, I want to assign a logical drive letter to the restored partition."

11) In the drop list below the "Yes..." radio button, select C: if it is not already selected. Click Next>. The wizard asks if you would like to choose another partition or hard disk drive to restore from the backup archive.

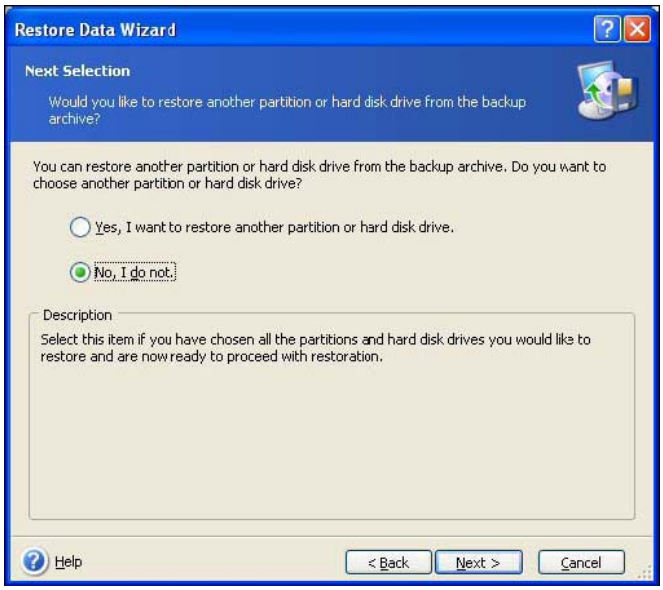


Figure B-14 Restore Another Partition

12) Click the radio button that says, "No, I do not". Click Next>. The wizard prompts you to choose restore options.

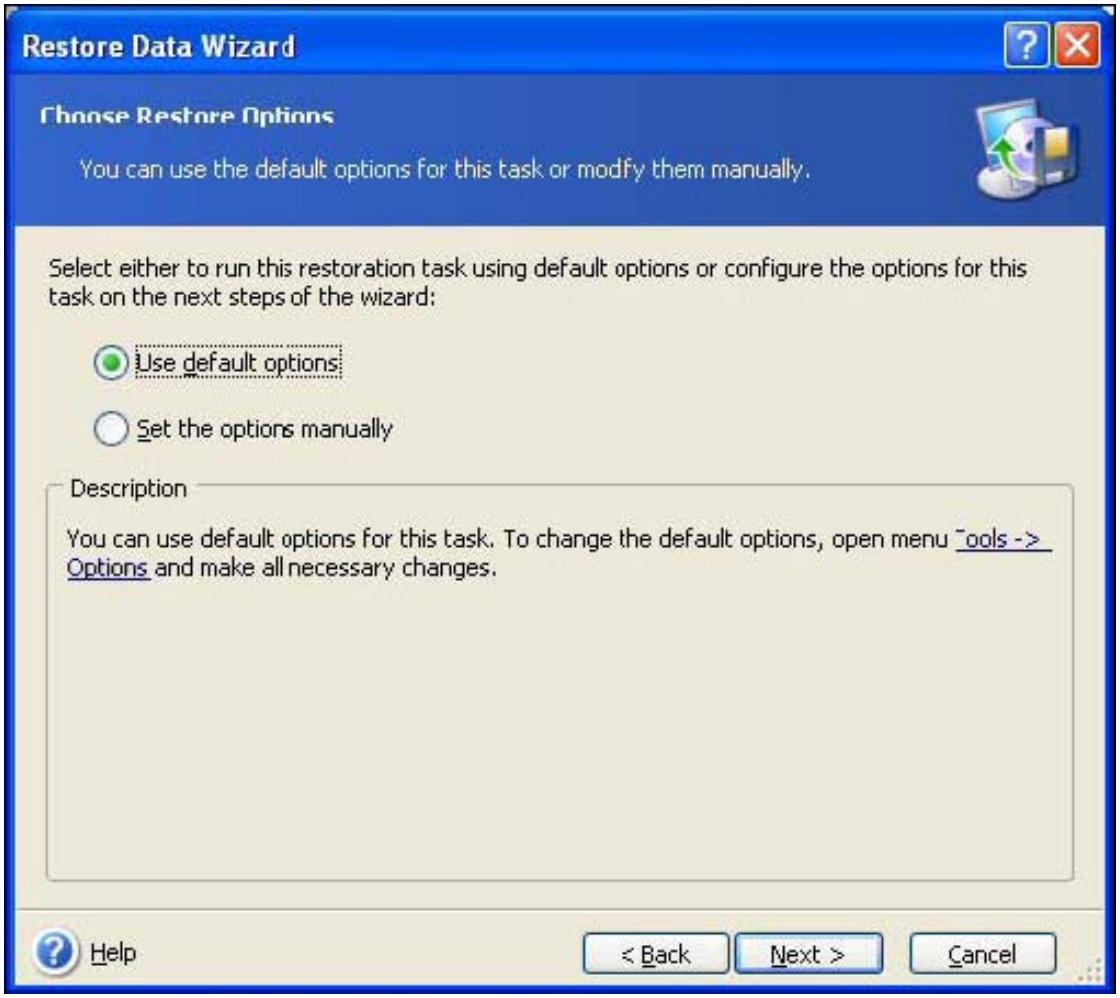


Figure B-15 Choose Restore Options

13) Select the "Use default options" radio button. Click Next>. The wizard displays a summary of all recovery options you have selected.

14) Examine the summary presented, particularly to confirm that under *Deleting partition*, Drive letter: indicates C: and not D:. If it says D:, click **<Back** repeatedly until the dialog box as seen in Figure B-10 appears. Select C: in Step 7, and continue.

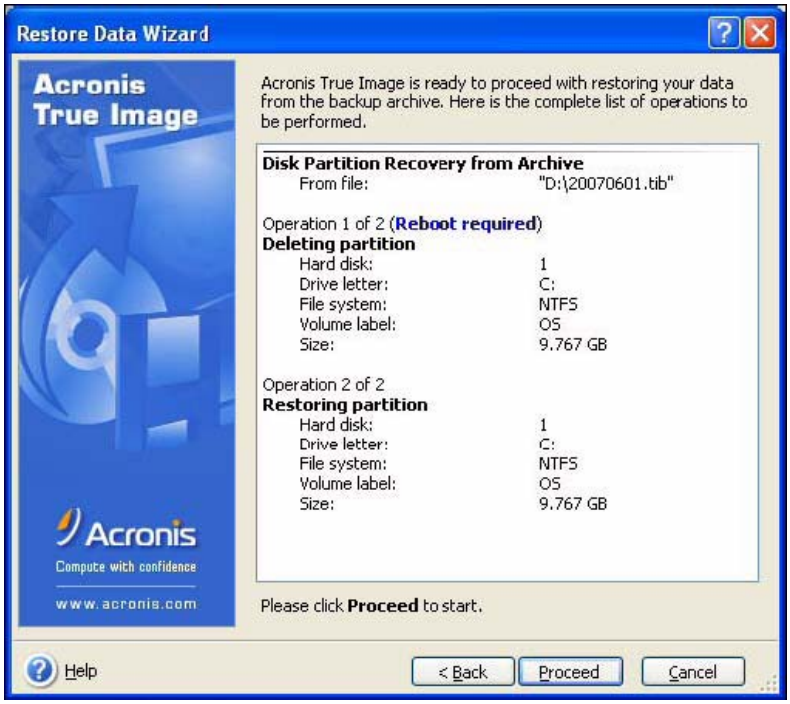


Figure B-16 Examine the Recovery Options Summary

15) When satisfied that the recovery summary is correct, click Proceed to start the recovery. If you are running Acronis through Windows, you will be prompted to reboot the system.

Figure B-17 Click Reboot if Prompted

Note – Recovery normally takes about 15 to 25 minutes, depending on the size of the partition you are restoring. You cannot use the system during recovery.

16) When recovery is complete, Acronis provides notification. Close the Acronis application to return to Windows. If necessary, double-click the desktop icon for the instrument software to restart.

B.3 System Backup: Create a New Hard Drive Image

Carl Zeiss Meditec strongly recommends using Acronis to create a new hard drive image (called a new "archive" in Acronis) after completing each successful upgrade of the system software, so later recovery may be to the most recent software version.

> ***Note*** *– Each Acronis archive uses approximately 3.5 to 4.0 GB of hard disk space. Therefore, we recommend that you do not make archives except after system software upgrades. If desired, you may delete archives older than the most recent, to make more room for exam data.*

System Backup

1) Launch Acronis as explained in Section B.2, System Recovery.

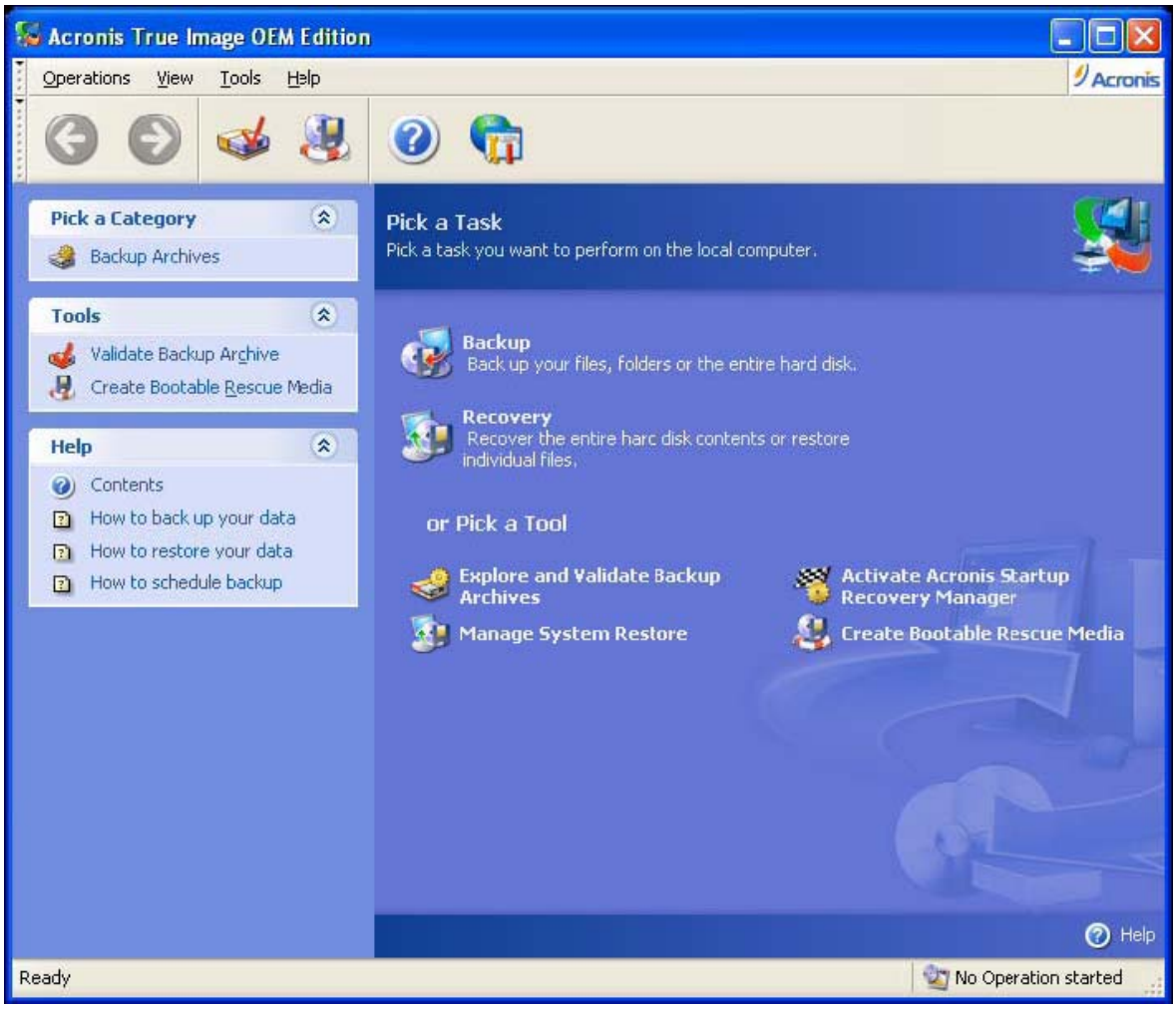


Figure B-18 Acronis Upon Launch (through Windows)

2) Click Backup. The "Create Backup Wizard" opens.

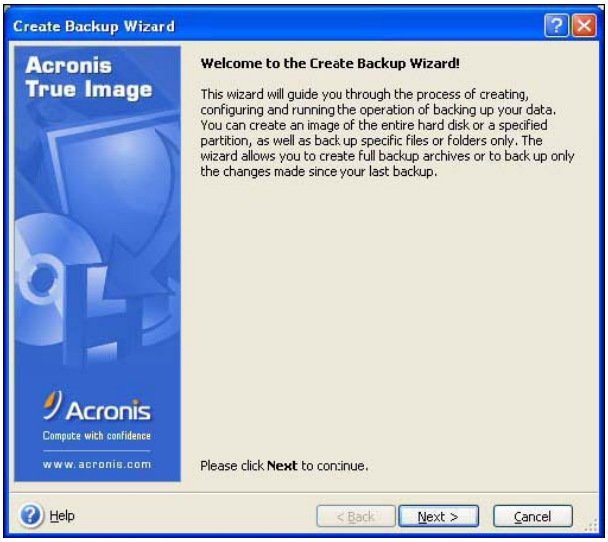


Figure B-19 Create Backup Wizard

3) Click Next>. The wizard prompts you to select a partition for backup.

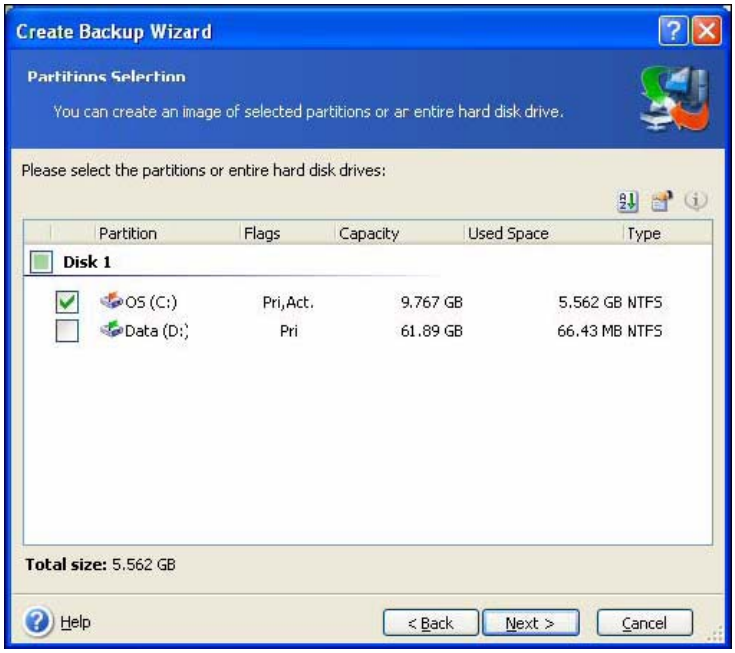


Figure B-20 Select a Partition to Back Up.

4) **Only select OS (C:)**. Click Next>. The wizard prompts you to select a location to store the new archive.

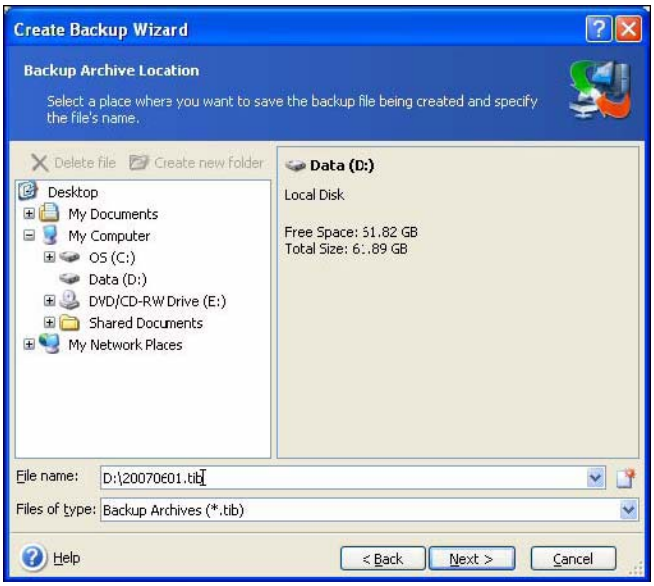


Figure B-21 Select a Location to Store the New Archive.

5) Select Data (D:) and type in a name for the new archive. It is recommended that the current date is used as the name, in YYYYMMDD (year-month-day) format. This will aid in identifying the most recent archive if you need to restore the hard drive later. Click Next>. The wizard prompts you to choose backup options.

6) It is recommended that the radio button selected is "Set the options manually". Click Next> to proceed and set the options as recommended in either A, B, C, or D on the following pages.

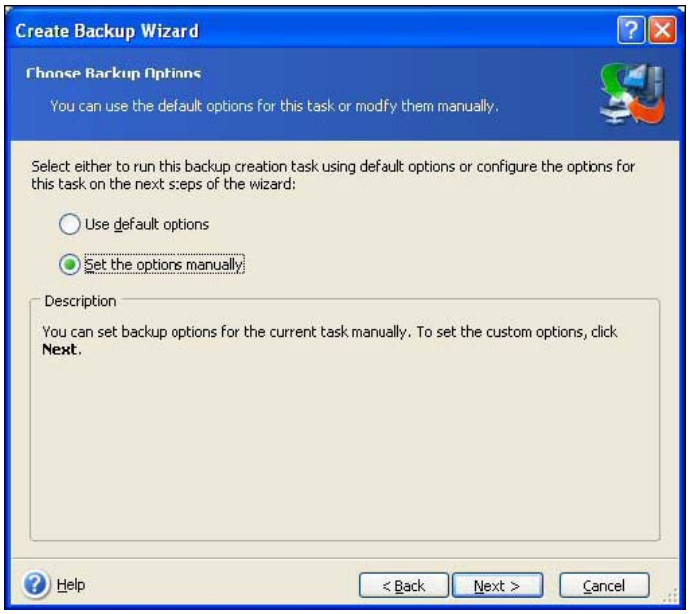


Figure B-22 Choose Backup Options

Figure B-23 Compression Level – Select Maximum

A. First, set the compression level to Maximum. This saves space on the instrument hard drive. Then, in the left pane, click Backup priority to set this option.

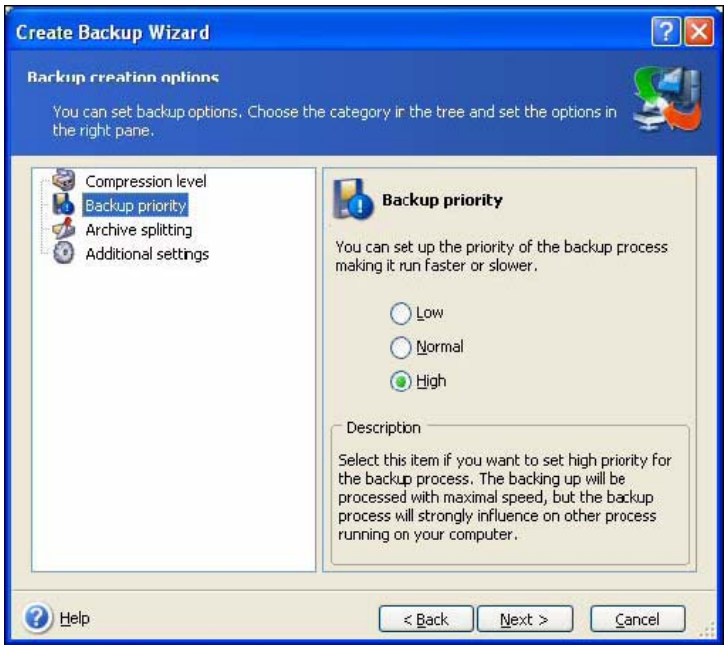


Figure B-24 Backup Priority – Select High

B. Select High, which makes the backup operation run as fast as it can. It is not recommended that you attempt to run the instrument software during backup. In the left pane, click Archive splitting to set this option.

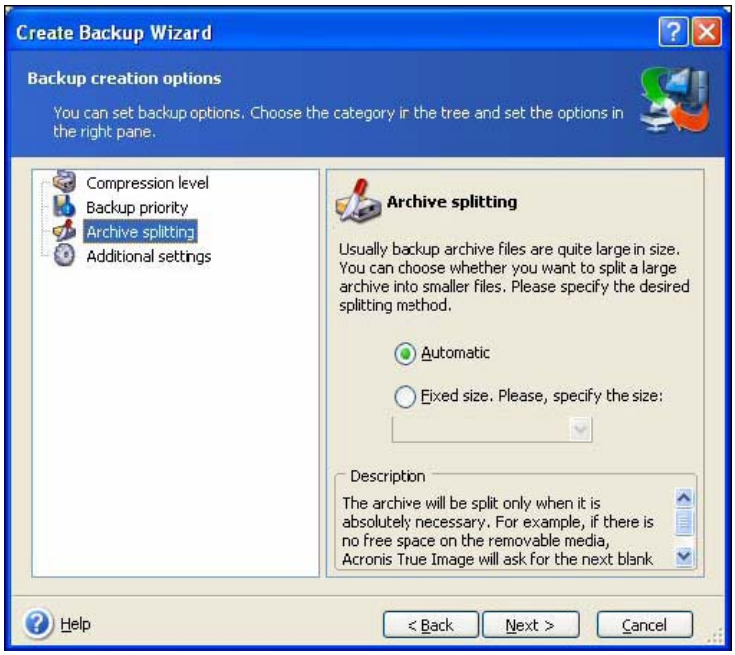


Figure B-25 Archive Splitting – Select Automatic

C. Select Automatic. In the left pane, click Additional settings to set these options.

Figure B-26 Additional Settings – Select Checkbox

D. Select the checkbox to "Validate backup archive upon its creation completion". Click Next>. The wizard provides the opportunity to add comments for the archive

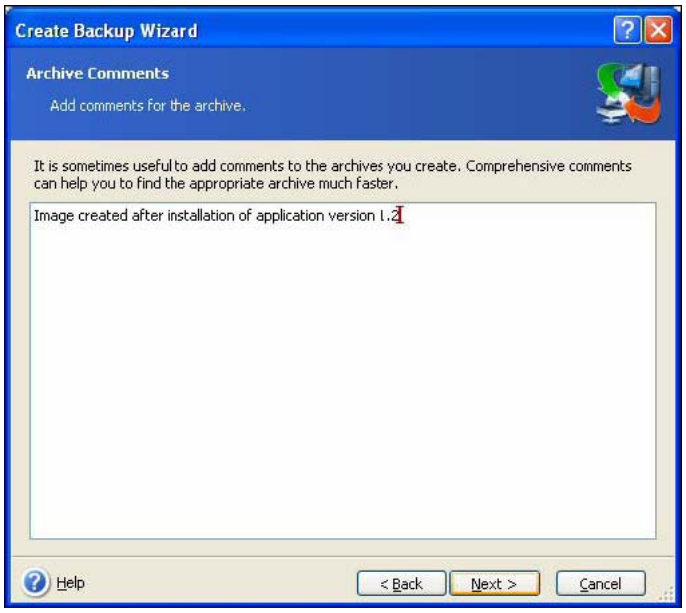


Figure B-26 Add Comments - Identify Archive

7) It is recommend that you add comments that will help identify the archive specifically in relation to the system software version after which it was created. For example, "Image created after installation of application version 1.2." Click Next>. The wizard displays a summary of all backup options selected.

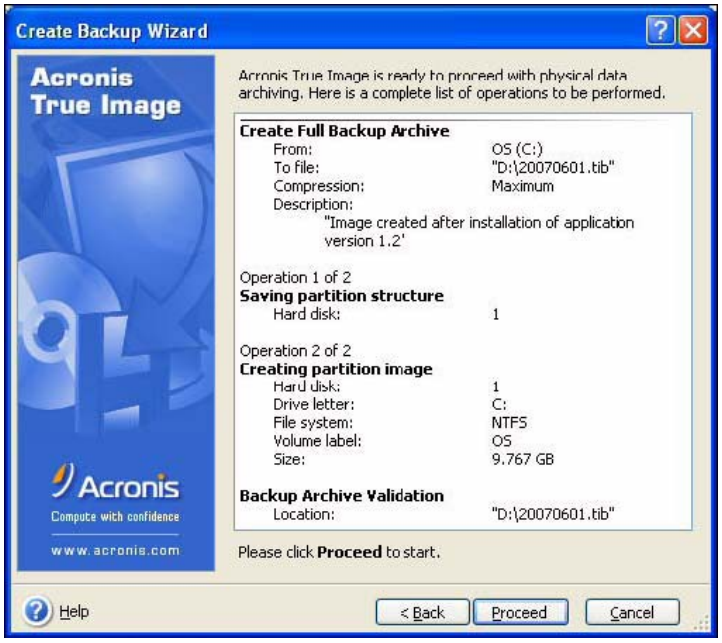


Figure B-27 Examine the Recovery Options Summary

8) Examine the summary presented. If you want to change any options, click <Back, until you reach the applicable screen, make the change and continue. When satisfied that the backup summary is correct, click Proceed to start the backup. Acronis reports backup progress, including time remaining.

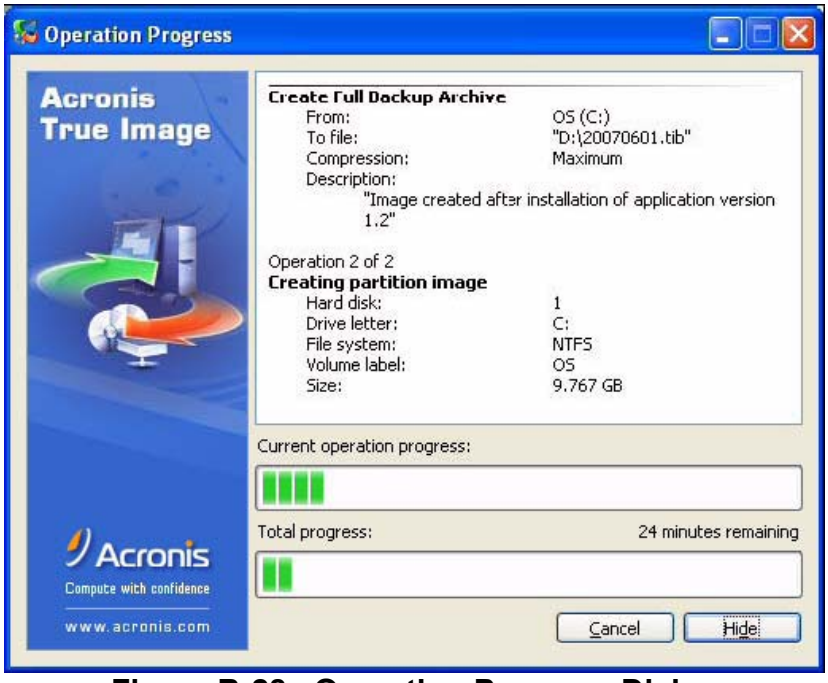


Figure B-28 Operation Progress Dialog

Only backup the system software partition, as recommended. This requires approximately 20 to 30 minutes, depending on the instrument. A dialog reports when the operation is complete.

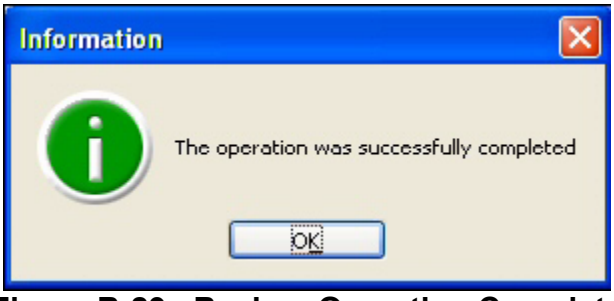


Figure B-29 Backup Operation Complete

9) Double-click the desktop icon to restart the instrument software.

Appendix C. Service Forms

The following forms are required for servicing the ATLAS 9000 instrument. The forms should be used as masters for making additional copies. Refer to the following service bulletin for the latest revision.

- Disclaimer Form (Service Bulletin GEN-010x)
- System Checkout Checklist (Service Bulletin CT9K-003x)

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-ID01**
Subject:	**Service Bulletin Index**	Date:	**13 Apr 07**
Status:	**Informational**	Pages:	**2**

This bulletin indexes all General (GEN) service bulletins issued to date. The bulletins are indexed by bulletin number.

The index will be updated periodically. Meanwhile, we recommend that you manually write into the index each new GEN bulletin you receive.

Note - *Bulletins that have been issued since the last revision of this index are marked by an asterisk (*).*

INDEX BY NUMBER

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-001B**
Subject:	**Format for Service Bulletins**	Date:	**11 Jul 05**
Status:	**Informational**	Pages:	**2**

This bulletin replaces Service Bulletin GEN-001A

The following is the standardized format of a typical Carl Zeiss Meditec Service Bulletin.

Each bulletin will have the following information in the heading on page 1:

Instrument:

Describes what instrument type the bulletin applies to. Some of the valid instrument types include: Optical Coherence Tomography, Lens Analyzer, Atlas/CT, and so on. A special instrument type called ***General*** is used for bulletins that apply to all instruments; for example, this bulletin. If a bulletin applies to more than one instrument type, but not to all instruments, multiple bulletins will be issued.

Number:

Each bulletin will be assigned a unique bulletin number. It will start with a 2, 3, or 4 letter and/or number designation followed by a dash (-) and a 3-digit number. The letters correspond to the instrument type and the numbers are assigned chronologically. Examples are OCT3-001, LA-021, GEN-013. A revised bulletin will have a letter designation after the numbers such as GEN-001**A**.

Subject:

A short summary of the subject matter covered is provided.

Date:

This shows the date when the bulletin was issued.

Status:

Gives the status of each bulletin. Valid statuses are:

Informational - The bulletin provides information for the Field Support Engineer regarding an instrument. It does NOT contain any directives regarding changes to any instrument assemblies.

Retrofit on Failure (Implement on Failure) - The bulletin provides instructions on how to perform required changes to specific instrument assemblies. The changes must be performed the next time the affected assemblies fail. This has a low level of urgency among the retrofit bulletins. Typically, the changes may involve cost reduction or availability issues.

Retrofit on Next Field Visit (Mandatory, Implement on Next Call) - The bulletin provides instructions on how to perform required changes to specific instrument assemblies. The changes must be performed the next time the Field Support Engineer visits the office where the instrument is installed, even if there is no failure in the instrument. This has a medium level of urgency. Typically, these retrofits may involve reliability issues.

Retrofit When in the Area (Mandatory, Implement When in the Area) - The bulletin provides instructions on how to perform required changes to specific instrument assemblies. Arrangements must be made by the Field Support Engineer to perform the changes on as many instruments in the area as possible. These retrofits have a high level of urgency. They may involve reliability and clinical issues.

Retrofit as Soon as Possible (Mandatory, Implement Immediately) - The bulletin provides instructions on how to perform required changes to specific instrument assemblies. Arrangements must be made by the Field Support Engineer to perform the changes on all the instruments in the shortest time possible. Typically, the scheduling of these retrofits must be coordinated by the Regional Service Managers because of the very high level of urgency involved.

Retrofit, as Required (Implement, as Required) - This bulletin provides instruction on how to perform changes to specific situations. An example would be upgrading to a specific software revision only if certain hardware is being used. The changes are usually performed the next time the Field Support Engineer visits the office where the instrument is installed, even if there is no failure in the instrument. This usually has a medium level of urgency (unless otherwise specified). Typically, these retrofits may involve reliability issues.

Pages:

The total number of pages in the service bulletin.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-002F**
Subject:	**Test Equipment Calibration and Repair Charges**	Date:	**19 Jun 06**
Status:	**Informational**	Pages:	**1**

This bulletin replaces Service Bulletin GEN-002E

The list below shows the standard charges to calibrate and make ***minor*** adjustments, if needed, to the associated test equipment. Coordination of this service is performed by Carl Zeiss Meditec in Dublin, California. Actual calibration is performed by an approved calibration laboratory.

Additional charges for parts and labor will apply if the equipment is damaged or requires major repair before calibration can be performed. Repair labor is charged at the rate of $165/hour. If the test equipment is unrepairable, you will be notified and the defective test equipment will be returned to you. You will then need to order new test equipment.

Calibration is required **ANNUALLY (YEARLY)** for all of the items listed below, except where designated.

Calibration Charges (Flat Rate)

Part No.	Description	Charge (U.S. $)
28393	LA Test Lens Set (Calibration every 3 Years)	$350.00
59161	Visante Tool Kit	$250.00
14905	Soligor Meter	$250.00
N/A	Oscilloscopes	$325.00
N/A	Multimeters (DVM / DMM)	$175.00
36676	HARK Kits	$350.00
38874	Newport Power Meter w/818-SL/CM Sensor (38873)	$500.00
T15942	FDT Calibration Kit	$100.00
47520	Acuitus Carousel Calibration Tool	$175.00
N/A	FieldMaster Power Meter w/3 Sensors	$635.00

Note - *The calibration of test equipment does not include the cost for a calibration certificate. Certification of test equipment requires an additional cost of $75.00 per kit or item (including any sensors, loads, or elements). Refer to GEN-007(x) for additional information.*

Shipping charges are not included in the above prices. User is responsible for shipping charges to and from Carl Zeiss Meditec.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-003X**
Subject:	**Technical Support Product Responsibilities**	Date:	**13 Apr 07**
Status:	**Informational**	Pages:	**3**

This bulletin replaces Service Bulletin GEN-003W

The following tables indicate the current Primary (1), Secondary (2), Backup (3), and Instrument Training (4) product responsibilities for the Carl Zeiss Meditec Technical Support Department.

Names in **RED** indicates a Technical Support Manager:

- **Ralf Homberg** – Senior Manager, Technical Support
- **Jurgen Billhofer** – Manager, Technical Support: Hardware / Software
- **Carl Gagnon** – Manager, Technical Support: Training / Documentation

Documentation: For inquiries pertaining to distribution of service documentation (service bulletins, service manuals, etc.), contact **Gina Giuliano** @ ex 4287. For other service documentation matters, contact the appropriate Technical Support Engineer for the associated product.

Phone: U.S.: 1-877-486-7473 International: 001-925-557-4100

Fax: 925-557-4652

Training: For inquiries pertaining to Service training, contact **Marg Southern** @ extension 4497 or **Steven Braman** @ extension 4489.

TECHNICAL SUPPORT PRODUCT RESPONSIBILITIES — EYE CARE

Product	Jurgen Billhofer	Marty Rohman	Wayne Fisher	David Allen	Yukari Marie Kawaguchi	Allen McGee	Manny DeGuzman	Ricky Ragacho	Mark Acebedo	James Mintsioulis	Brandon Morgan	Ralf Homberg	John Franke	Michael Hoch	Ray Giron	Michael Elrod	Carl Gagnon	Mark Kesler	Jason Ellis	Steven Braman	Denny DuGal
HFA II / HFA IIi			1	2			2		1	2				3			3		2	4	4
FDT / MATRIX			3	1													3		1	4	4
PHP			1			2	2	2	2								3	3		4	4
HARK Series		1				2		2												4	4
ACUITUS		1																	2	4	4
LA 350 / 360		3				2		2		2									2	4	4
ATLAS / CT Products		3	1		1	2		2		2									1	4	4
IOL MASTER				1		2													1		4
OCT 2010																	3	1		4	
OCT3 / STRATUS		3		2	2		2	2	1	2				3				3	2	4	4
VISANTE OCT		1					2		2	2	3					3				4	4
CIRRUS HD-OCT		3								2	1							3		4	4
GDx/ACCESS/LEGACY	3					1	1	1	2									3		4	4
POWER TABLES			1	2													3				
YAG 2		1		2																	4
YAG 2+		1		2																	4
YAG 3		1		2	1		2														4
532		1		2	1		2														4
PDT		1		2																	4
SLIT LAMPS													2				3				4
VIDEO DOC SYSTEM													1								
ZEISS FF450 / 450+												3	3 / 4	3	1	2					
VISUCAM Lite												3	1 / 4	3	2	3					4
VISUCAM PRO NM													1 / 4								
ZEISS VISUPAC												3	3 / 4	3	2	1					
GEN NETWORKING								3			3	3	3	2	3	1 / 4					

TECHNICAL SUPPORT PRODUCT RESPONSIBILITIES — SURGICAL

Product	Ralf Homberg	Gary Jefferson	Joseph Beaulieu	Lutz Heinrich	Michael Kersten	Jimmy Chau
PENTERO MICROSCOPE		1 / 4	2 *	2 *	2 *	1
OPMI MICROSCOPE		2 *	1	1 / 4	1 / 4	2 *

* Limited to part lookups only

Loupes Technical Support – Carol Michalec
c.michalec@meditec.zeiss.com
Phone: (914) 681-7825

OR

Tiffany Williams
t.williams@meditec.zeiss.com
Phone: (877) 486-7473 – ext. 4214
(925) 557-4214

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-004B**
Subject:	**General Guidelines for Assembly Level Troubleshooting**	Date:	**11 Jul 05**
Status:	**Informational**	Pages:	**4**

This bulletin replaces Service Bulletin GEN-004A

The following pages contain General Guidelines for Assembly Level Troubleshooting. This procedure is designed to be followed on any service call. It is not specific to any one instrument.

Introduction

Field experience has proven that a structured approach to problem solving is the key to effective service. This bulletin is intended to provide this structured approach for solving problems on any instrument. The troubleshooting aids in this section will help you to diagnose operating difficulties and system malfunctions.

General Guidelines for Assembly Level Troubleshooting

On-site assembly level troubleshooting poses unique and complex challenges to the Field Support Engineer. In addition to identifying and replacing the faulty assembly, the Field Support Engineer must often travel great distances to the customer location, resolve operator errors, and identify power and environmental causes of problems while satisfying the customer's perception of quality service.

A structured approach to resolving field problems can greatly increase customer satisfaction and the Field Support Engineer's effectiveness. There are seven major tasks in resolving field equipment problems:

Prior to Going On-Site

1. Obtain a Service History for the Instrument
2. Query the Operator of the Instrument
3. Check for Service Bulletins that Address the Problem

While On-Site

4. Have the Operator Demonstrate the Problem
5. Resolve the Obvious
6. Substitute the Failing Assembly
7. Confirm the Repair

Each of these tasks is explained on the following pages.

Prior to Going On-Site:

1) Obtain a Service History for the Instrument

Knowledge of previous problems will assist your troubleshooting efforts. Find out when the last Preventive Maintenance (PM) service call was performed (if applicable). If a PM is due, or will be due shortly, be prepared to perform this task in addition to the repair.

2) Query the Operator of the Instrument

Get a description of the problem and inform the operator that you will need him/her to demonstrate the problem to you when you arrive. A description of the problem should include the symptoms displayed and also the type of problem. Determining the type of problem helps you establish your approach to solving the problem and confirming the repair. All problems can be broadly categorized into one of three types:

- **Solid Failure** - the problem presents itself continuously.
- **Intermittent Duplicable** - the problem is intermittent in nature. Usually a specific sequence of events reproduces the intermittent symptom, although occasionally these problems may be random in nature. By performing the proper sequence of events, the problem can usually be reproduced. If a sequence of events readily reproduces the problem, examination of this sequence of events may help identify the faulty assembly.
- **Intermittent Non-Duplicable** - the problem is intermittent, and all reasonable attempts at recreating the symptoms fail. These are the most difficult problems to resolve.

3) Check for Service Bulletins that Address the Problem

If a service bulletin addresses a resolution, be sure to take the necessary equipment to perform the changes.

While On-Site:

4) Have the Operator Demonstrate the Problem

This is very important. Before doing anything, always have the operator attempt to demonstrate the problem to you. (Of course, good judgment needs to be applied here in the case of intrusive surgical instruments.) By having the operator demonstrate the problem, you may solve the problem immediately, or avoid some incorrect assumptions. Having the operator demonstrate the problem will *ALWAYS* result in one of the following:

- ***Reveal Operator Error -*** You may immediately see that the cause of the problem is operator error. You then have the opportunity to train the customer in the proper use of the instrument, instead of spending time troubleshooting a nonexistent instrument problem.
- ***Demonstrate specific problem sequence -*** The operator will show you the specific sequence of events needed to reproduce the problem, reducing your diagnostic time.
- ***Help Form Ideas -*** The operator may not be able to duplicate the problem. However, the sequence of steps used to demonstrate the problem will give you ideas on how to pursue the problem in other ways. In this case you have the opportunity to explain to the customer the difficulty in resolving a non-duplicable problem.

5) Resolve the Obvious

Obvious mechanical or physical defects should be resolved when discovered. Often, resolving the obvious will lead you to the real problem.

6) Substitute the Failing Assembly

Once you have deduced which assembly is at fault, or is suspected to be at fault, it should be substituted with a known good assembly.

7) Confirm the Repair

After an assembly is replaced, confirmation should be made by reinstalling the failing assembly to witness the original symptom. You are then assured of the effectiveness of the repair, and of the need to utilize your spare assembly. Also, the number of "No Problem Found" PCB's returned to the Carl Zeiss Meditec Repair Center is greatly reduced.

Confirming the repair to the customer often helps to bolster confidence in your abilities. To avoid repeat service calls it is especially important to confirm intermittent problems. Time spent confirming a repair is time well spent.

If the problem still exists, *reinstall the original assembly that you removed*, then continue troubleshooting.

Solving Solid Failures

It is usually straightforward deductive logic or electrical checks that will lead you to replace the faulty assembly. After replacement of the assembly in question resolves the symptom, it is imperative that you *CONFIRM THE REPAIR* by reinstalling the original assembly and witnessing the original symptoms again. For many assemblies this is the only means of positively verifying that the replacement circuitry has resolved the problem.

Solving Intermittent Duplicable Failures

These failures are resolved in the same manner as solid failures but always require more time to resolve and confirm.

The frequency of the problem helps you determine how long it will take to verify a repair. A good rule of thumb when troubleshooting intermittent problems is: 2 times the frequency of the symptom gives an 80% confidence level of the repair.

EXAMPLE:

Problem

The problem appears only about once an hour. The sequence of events needed to reproduce the problem leads you to believe a circuit board is the likely cause.

Solution

The suspected circuit board is replaced. To provide an 80% confidence level that the circuit board resolved the problem, the instrument will need to be tested for 2 hours without failing.

Solving Intermittent Non-Duplicable Failures

These failures present the greatest difficulty to the Field Support Engineer. The most effective means for resolving these types of problems requires careful thought and the utilization of all available resources that the Field Support Engineer possesses. It is important that before replacing an assembly, good solid rationale for its replacement be developed and a backup plan devised in case replacement of the assembly does not affect the symptom. It is best NOT to replace any hardware until solid rationale for replacement is clearly evident. Once an assembly is replaced by a Field Support Engineer, the customer's expectations are set for a hardware resolution to the problem. This can prove to be a handicap. A good sequence to follow for resolving intermittent non-duplicable problems is:

1) Analyze the service history in detail. Look for trends or the possibility of a previous repair inducing the problem.

2) Query the operator(s) at length for any other clues such as:
   - Times of failures;
   - More failures with certain operators.

3) Watch the operators set up, use, and store the instrument.

4) Check all Service Bulletins.

5) Contact other Field Support Engineers involved in previous repairs.

6) Look at the operating environment - static, power, grounding, temperature or rate of temperature change, humidity, etc.

7) Contact your Technical Support Specialists.

8) Keep a record of everything you've done to solve the problem.

9) Document the customer service report. Record what you feel should happen if the problem returns. This will help a different Field Support Engineer in the resolution of the problem.

10) Give the customer a thorough update on the situation.

11) Educate the customer on logging pertinent information that may benefit a Field Support Engineer should the problem return. Often, engaging the customer in the pursuit of a solution emphasizes the difficulty of the situation. In some instances, the customer may welcome the feeling of being involved in resolution of the problem.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-005A**
Subject:	**Use of Static Protection Kit**	Date:	**17 Aug 98**
Status:	**Mandatory**	Pages:	**1**

This bulletin replaces Service Bulletin GEN-005

Static Protection Kit, P/N 20928

The Static Protection Kit is essential for protection of electronic components against electrostatic discharge whenever you are disassembling or handling any PCBs or electronic components. The kit contains the following items:

- a bench mat with permanently attached alligator-clip ground lead;
- a banana plug lead with snap connector;
- an adjustable wrist cuff.

The static protection kit must be properly grounded, and you must be wearing the wrist cuff whenever working on any instrument with the cover removed.

To use the static protection kit:

1) Connect the bench mat alligator clip to a known good electrical ground point. Any unpainted screw, chassis surface, or metal component on the instrument is generally an acceptable ground point, *PROVIDED THAT THE INSTRUMENT HAS ITS POWER CORD CONNECTED AND IS PLUGGED INTO A GROUNDED POWER RECEPTACLE.* An acceptable ground point may be confirmed by using an ohmmeter to ensure that a resistance of less than 1 ohm is obtained between the instrument's power cord ground prong and the ground point in question.

   In situations where work is to be performed on an instrument and it is undesirable to have the instrument plugged into a power receptacle, an alternate grounding point is necessary. Usually, an acceptable ground point can be found at the cover screw for the AC power outlet.

   ***Note** – It is useless to use the static mat without it being properly grounded.*

2) After properly grounding the bench mat, connect the banana plug lead into the bench mat connector.

3) Connect the wrist cuff to the snap clip on the banana plug lead.

4) Adjust the wrist cuff to fit snugly around your wrist. The wrist cuff should always be worn when working on an instrument with the cover removed.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-006B**
Subject:	**Improved Antistatic Bags**	Date:	**20 Nov 03**
Status:	**Informational**	Pages:	**1**

This bulletin replaces Service Bulletin GEN-006A

In our continuing effort to reduce potential ESD damage to assemblies shipped to and from the field, antistatic bags *MUST* be used when returning parts that are susceptible to ESD. These bags are available in the various sizes shown below:

	Part Number	Size (inches)
	24195	4 x 6
	24197	5 x 8
	24202	8 x 12
	24203	10 x 12
*	24207	12 x 18
	25155	18 x 18

* = Added

Order only the bag sizes you need for returning circuit boards and items that are susceptible to static damage.

REMINDER: It only takes a static charge of 30 volts to destroy some components.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-007C**
Subject:	**Calibration Certificate for Test Equipment**	Date:	**11 Jul 05**
Status:	**Informational**	Pages:	**1**

This bulletin replaces Service Bulletin GEN-007B

In order for the test equipment to be properly certified, the accuracy of test equipment used to adjust or check Carl Zeiss Meditec instruments is based on periodic calibration. Our Quality Assurance department certifies the calibration of test equipment ordered from Carl Zeiss Meditec, and of test equipment sent back to Carl Zeiss Meditec for calibration and re-certification.

A calibration sticker, attached to the test equipment, indicates the date of certification and its expiration date. Unless otherwise specified, certification is required ***every 12 months***.

It is the user's responsibility to ensure that periodic calibration certification is performed before the specified expiration date to comply with ISO regulations. For domestic Field Support Engineers, the annual Calibration Cycle Kit fulfills this requirement.

Calibration may be performed by any facility that has been qualified by the manufacturer of the test equipment to service their product. Carl Zeiss Meditec can also provide this service for a nominal fee. Refer to General Service Bulletin GEN-002x or contact your normal parts ordering channels to inquire about the current rates.

Note *– The calibration of test equipment does not include the cost for a calibration certificate. Certification of test equipment requires an additional cost of $75.00 per kit or item (including any sensors, loads, or elements).*

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-008A**
Subject:	**Bloodborne Pathogens**	Date:	**17 Aug 98**
Status:	**Informational**	Pages:	**1**

Note – *This bulletin replaces Service Bulletin GEN-008.*

Bloodborne Pathogens - Pathogenic microorganisms that are present in human blood can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B virus (HBV) and Human Immunodeficiency Virus (HIV). The Center for Disease Control (CDC) states that the Hepatitis B virus (HBV) can survive for several weeks (or months) in dried blood on environmental surfaces or contaminated needles and instruments.

Pathogenic microorganisms require a direct route into the body for them to cause disease in humans. A direct route can be considered a break in the skin, such as a cut, a burn, a rash, or through acne. Certain openings in the body, such as the eyes, can also be considered a direct route.

Precautions - Employees should take an approach that assumes all blood and body fluids encountered in the workplace are potentially infected with Human Immunodeficiency Virus (HIV) or Hepatitis B Virus (HBV), or other bloodborne pathogens.

Personal Protective Equipment - Disposable **LATEX** gloves are available to all employees who anticipate having hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; and when handling or touching contaminated or potentially contaminated items, materials, or equipment. The disposable gloves shall not be washed or decontaminated for re-use.

Disposable LATEX Glove	Quantity 1	P/N 34121

The part number reflects a quantity of one glove, so be sure to order in pairs.

If you wish to order one box containing 100 gloves, order a quantity of 100 using the above part number.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-009I**
Subject:	**List of Manuals**	Date:	**19 Jul 06**
Status:	**Informational**	Pages:	**7**

This bulletin replaces Service Bulletin GEN-009H

The attached List of Manuals is to be used as a reference to ensure that manuals in your possession are at the latest revision or latest release date.

This list will be updated periodically to include new manuals and manual revision changes. Meanwhile, we recommend that you manually indicate in the list each new manual that you receive.

Notes -

1. *Manuals issued or amended since the last revision of this list are marked by an asterisk (*).*

2. *Manuals that are no longer available to order have a line through the part number (~~02209~~).*

OWNER'S / USER'S MANUALS:

	Title	P/N	Revision / Date
	Vision Analyzer	~~02209~~	July 17, 1980
	Lens Analyzer 310	~~04570~~	1978
	Lens Analyzer 316	~~05850~~	Rev C
	Lens Analyzer 305, 322	~~05775~~	May 10, 1985
	Lens Analyzer 306, 330, 340	03290	May, 1990
	Lens Analyzer 350, 360, 370, 380	28929	Rev B
	Lens Analyzer 355	46508	Rev B
	Auto Refractor 510	~~07490~~	March, 1983
	Auto Refractor 520	~~07871~~	April, 1984
	Auto Refractor 500, 515, 530	14540	May, 1986
	Auto Refractor 525, 540	~~14800~~	December, 1987
	Auto Refractor 550, 560, 570	~~23090~~	October, 1988
	Auto Refractor 580, 585, 595	23330	Rev C - April, 1993
	Auto Refractor 597, 597K, 598, 599	35265-1	Rev E - April, 1996
	Auto Refractor 5000 / 5010 / 5015	50648	Rev A
*	Visante	60899-1	Rev A – January, 2006
*	Acuitus	50648	Rev A – June, 2001
	Auto Keratometer 410	~~06615~~	Rev D - June, 1986
	Auto Keratometer 420	19003	Rev B - May, 1990
	Autofit	~~06672~~	Rev D
	Autofit	~~19028~~	Rev A - April, 1987
	FDT Visual Field Instrument	112098-1	Rev D - 2000
	FDT Primer	112100	Rev B - December, 1998
	Matrix Visual Field Instrument User's Guide	112738	Rev A - April, 2003
	Matrix Clinical Examples	112739	Rev A
	Field Analyzer	14240	Rev H - 1993
	Field Analyzer - HFA II	47653-1	Rev A - October, 1998
	Field Analyzer - HFA II - i	51680-1	Rev A - March, 2001
	Field Analyzer - HFA II - i	57558-1	Rev A - July, 2005
	Glaucoma Progression Analysis (GPA) Addendum	56167-1	Rev A - October, 2003
	Statpac for Windows	~~46698~~	Rev A - September, 1997
*	HFA II 14.0 & HFA II-i 4.0 Manual Addendum GPA and SITA Swap	58484-1	Rev B – 9/2005
	Ultrasonic Biometer 810	~~03679~~	August, 1985
	Ultrasonic Biometer 820	~~16180~~	Rev H - October, 1996
	Ultrasonic Pachometer 850	03680	Rev B - January, 1991
	Ultrasonic Pachometer 855	~~16783~~	Rev A - July, 1994
	AB Scan 835	~~20850~~	Rev C - July, 1992
	AB Scan 837	33709	Rev A - February, 1996
	UBM 840	33501	Rev A - August, 1993
	GDxVCC	58655-1	Rev 5.5 – May, 2005
*	VISUCAM lite	Z0000001334310	N/A
*	VISUCAM C	~~Z0000001253546~~	7/2003
*	VISUPAC	Z0000001355474	N/A

Title	P/N	Date
OCT1 (Windows 3.11 Platform)	~~38904~~	Rev B - February, 1998
OCT1 Revision A.5 Supplement	~~48489~~	Rev A - April, 1999
OCT1 (Windows 98 Platform)	~~53822-1~~	Rev A - July, 2002
OCT2 Model 2010 User Manual	51390-2	Rev A - May, 2001
Stratus OCT Model 3000 User Manual	56641-1	Rev A - April, 2004
Corneal Topographer 991, 992, 993, 995	48113-1	Rev C
Corneal Topographer 990	40602	Rev C
PreView PHP User Guide	DN600D001	Rev A2 – Oct, 2005

SERVICE MANUALS:

	Title	P/N	Revision / Date
	Vision Analyzer	~~02561~~	Rev C
	Lens Analyzer 322, 324, 316	~~04890~~	Rev C
	Lens Analyzer 306, 330, 340, 344	15075	Rev C - September, 1993
	Lens Analyzer 350, 360, 370, 380	28394	Rev B – May, 1997
	Auto Refractor 510, 520	~~07648~~	Rev C
	Auto Refractor 525, 540, 550, 560, 570	~~23150~~	Rev B - July, 1991
	Auto Refractor - HARK Series	36307	Rev C - February, 1998
	Auto Refractor - Acuitus	47881	Rev C - April, 2000
	Auto Keratometer 410, 420	~~19050~~	Rev A - March, 1992
	Corneal Topography System - ATLAS 990	43130	Rev A - June, 1996
*	Corneal Topography Systems - 991/992/993/995	47333	Rev B - January, 2006
	FDT Visual Field Instrument	112120	Rev B - October, 1997
	Humphrey Matrix Visual Field Instrument	112761	Rev B - December, 2003
	Field Analyzer - HFA I - Book I	~~08006~~	Rev A - April, 1995
	Field Analyzer - HFA I - Book II	~~08006~~	Rev A - April, 1995
	Field Analyzer - HFA II (only available on CD)	30122-CD	Rev B - December, 2001
	Field Analyzer - HFA II i	52235	Rev B - December, 2001
	Ultrasonic Biometer 810	~~16424~~	Rev A - July, 1986
	Ultrasonic Biometer 820	16444	Rev D - December, 1995
	Ultrasonic Pachometer 850	16425	Rev A - July, 1986
	AB Scan 835	20836	Rev C - January, 1992
	AB Scan 837	25189	Rev A - February, 1996
	UBM 840	33531	Rev C - October, 1993
	GDxVCC / Access	59563	Rev A – June, 2005
*	Visante OCT	56962	Rev A – October, 2005

Title	P/N	Date
Optical Coherence Tomography Scanner - OCT 2000	38898	Rev B - August, 1998
Optical Coherence Tomography Scanner - OCT 2010	51233	Rev C - October, 2001
Optical Coherence Tomography Scanner - OCT 3000	52785	Rev C - November 2003
PreView PHP	DN600D006	Rev A01 - 2003

ZEISS SERVICE MANUALS:

	Title	P/N	Date
	SLIT LAMP 10SL	ZSM301731	9/76
	SLIT LAMP 10SL/O	~~ZSM304002~~	9/80
	SLIT LAMP 20SL	~~ZSM304003~~	6/91
	SLIT LAMP 30SL/M	ZSM304004	12/91
	SLIT LAMP PHOTO 40SL/P	~~ZSM304005~~	6/90
	SLIT LAMP 75SL SUBSEQUENT VERSION	~~ZSM304006~~	6/83
	SLIT LAMP 100/16	~~ZSM304100~~	11/71
	SLIT LAMP 120	ZSM304027	5/98
	SLIT LAMP 125/16	~~ZSM304125~~	7/89
	SLIT LAMP 130	ZSM304031	6/96
	SLIT LAMP PHOTO	~~ZSM304016~~	3/87
	HAND SLIT LAMP HSO-10	ZSM304000	12/91
	INDIRECT OPHTHALMOSCOPE	ZSM304026A1	8/93
	OPHTHALMOMETER W/BULB	~~ZSM304126~~	12/77
	POWER SUPPLIES - 309673/392575/309605	~~ZSM304128~~	12/79
	SLIT FLASH ATTACHMENT SP30	~~ZSM304017~~	1/88
	SLIT LAMP 115 CLASSIC	ZSM304038	10/99
	FUNDUS CAMERA FK30	~~ZSM304018~~	1/84
	FUNDUS CAMERA FF4	~~ZSM304020~~	7/86
	FUNDUS CAMERA FF5	~~ZSM304021~~	1/91
*	FUNDUS CAMERA FF450	ZSM304028	3/01
*	FUNDUS CAMERA FF450+	ZM304042	9/2003
	FUNDUS FLASH3-C\RTS	~~ZSG309033/79~~	3/79
	POWER SUPPLIES - MED	~~ZSM304127~~	6/80
	SBG 720-2 FLASH GENERATOR	~~ZSM304023~~	2/86
	SBG 720	~~ZSM304720~~	5/77
	LASER YAG (USE ~~ZSM306009~~)	~~ZSM306000~~	N/A
	LASER YAG E (USE ~~ZSM306009~~)	~~ZSM306002~~	N/A
	LASER YAG II	ZSM306012	5/93
	LASER YAG FL (USE ~~ZSM306009~~)	~~ZSM3068529901~~	N/A
	LASER ARGON (USE ~~ZSM306009~~)	~~ZSM306001~~	N/A
	LASER ARGON II	ZSM306008	3/93
	LASER YAG E/FL & ARGON I	~~ZSM306009~~	1/92
	LASER YAG II DESCRIPTION OF SERVICE PROGRAM	~~ZSM306012A6~~	4/6/94
	LASER VISULAS DIODE	~~ZSM306010~~	1/93
	LASER VISULAS DIODE II	~~ZSM306015~~	1/93
	LASER DIODE II DESCRIPTION OF SERVICE PROGRAM	~~ZSM306015A3~~	5/6/94
*	LASER VISULAS YAG II PLUS	ZSM306016E	8/98
*	LASER VISULAS YAG III	ZSM306022	6/04

	Title	P/N	Date
*	LASER PDT 690s	ZSM306018	4/99
*	LASER PDT/U 690s	ZSM306020	11/02
*	LASER VISULAS 532	ZSM306017E	9/02
*	LASER VISULAS 532s	ZSM306021	7/02
	ACCESSORIES #1	~~ZSM308000~~	6/93
	ACCESSORIES #2	~~ZSM308001~~	11/89
	INSTRUMENT BASE	~~ZSM304009~~	2/92
	INSTRUMENT MOUNTING (TABLES)	~~ZSM304011~~	12/84
	LA 110 LENS ANALYZER	~~ZSM264002~~	4/93
	MECHANICAL, ELECTRICAL P/N'S	~~ZSM308004~~	8/92
	MEDILIVE VIDEO CAMERA	~~ZSM308007~~	12/93
	MICROSCOPE ATTACHMENTS	~~ZSM304008~~	9/89
	POLAROID CB71	~~ZSM304022~~	5/84
*	IOL MASTER (1-3)	Z0000001075939	8/01
*	IOL MASTER XP (4)	ZSM304047	May, 2005
	POWER SUPPLY UNITS	~~ZSM308002~~	10/88
	RCL	~~ZSM304012~~	7/82
	RCL2 - SYSTEM	~~ZSM304013~~	3/85
	REFRACTOMETER 140	~~ZSM304014~~	10/83
	VISUCAM lite	ZSM304044	10/03
*	VISUCAM C	~~ZSM304045~~	9/03
*	VISUPAC 120/130	~~ZSM304040~~	N/A
*	VISUCAM PRO NM	ZSM304048	11/2005

ZEISS ALIGNMENT PROCEDURES:

Title	P/N	Date
ALIGNMENT PROCEDURE 10SL	~~ZSM301731JA~~	2/92
ALIGNMENT PROCEDURE 20SL	~~ZSM304003JA~~	4/92
ALIGNMENT PROCEDURE 30SL/M	~~ZSM304004JA~~	4/92
ALIGNMENT PROCEDURE 40SL/P	~~ZSM304005JA~~	4/92
ALIGNMENT PROCEDURE PHOTO SL, 100/16, 125/16	~~ZSM304016JA~~	4/92
ALIGNMENT PROCEDURE FK30	~~ZSM304018JA~~	2/92
ALIGNMENT PROCEDURE FF4	~~ZSM304020JA~~	4/92
ALIGNMENT PROCEDURE FF5	~~ZSM304021JA~~	4/92

ZEISS OPERATING INSTRUCTIONS:

	Title	P/N	Date
	SLIT LAMP 10SL	~~ZG30112~~	N/A
	SLIT LAMP 20SL	ZG301105	9/89
	SLIT LAMP 30SL/M	~~ZG30114~~	N/A
	SLIT LAMP PHOTO 40SL/P	ZG301072	1/88
	SLIT LAMP 100/16 & 125/16	~~ZG301111~~	N/A
*	SLIT LAMP 120	Z0000001158278	N/A
*	SLIT LAMP 130	Z0000001158280	N/A
	HAND SLIT LAMP HSO-10	~~Z3010617044201~~	11/98
	INDIRECT OPHTHALMOSCOPE	~~ZG301030~~	N/A
	SLIT LAMP PHOTO 40SL/P SUPPLEMENT	~~ZGE1072~~	5/89
*	SLIT LAMP 115 CLASSIC	Z0000001159538	N/A
	APPLANATION TONOMETER FOR 10SL–30SL/M	ZG30163	N/A

	Title	P/N	Date
	CORNEAL PACHYMETER & ANTERIOR CHAMBER DEPTH MEASURING DEVICE FOR 30SL/M	~~ZG301023~~	N/A
	CORNEAL PACHYMETER FOR 100/16	~~ZG301000~~	N/A
	DIAGNOSTIC SET H	~~ZG301008~~	1/83
	HAND SLIT LAMP HSO-10 SUPPLEMENT	~~ZGE30138~~	N/A
	INDIRECT OPHTHALMOSCOPE SUPPLEMENT	~~ZGE301030~~	1/88
	KERATOMETER	~~ZG30191~~	1/82
	KERATOMETER 10SL/O	ZG30165	8/80
	KERATOMETER ATTACHMENT FOR SLIT LAMP 30SL/M	~~ZG30192~~	4/82
	KERATOMETER ON TABLE STAND	~~ZG30169~~	1/82
	POWER SUPPLY UNIT Z309673-9901	~~ZG301016~~	11/27/91
	MECHANICAL MICROMANIPULATOR 20SL	~~ZG301167~~	11/16/92
	MICROSCOPE ATTACHMENT 8X FOR SL	~~ZG30117~~	4/81
	OPHTHALMOMETER	~~ZG30162~~	10/82
	SAFETY NOTES 30SL/M	~~ZG301164E~~	1/9/92
	SLIT FLASH ATTACHMENT SP30 FOR SLIT LAMP 30SL/M	~~ZG301062~~	N/A
	SPECIAL EYEPIECE FOR LENGTH & ANGLE MEASUREMENT W/ SL	~~ZG3011303~~	N/A
	8X MICROSCOPE ATTACHMENT FOR PHOTO 40SL/P	~~ZG301082~~	8/88
	FUNDUS CAMERA FK30	~~ZG301009~~	N/A
	FUNDUS CAMERA FF4 BRIEF INSTRUCTIONS	~~ZG301056~~	N/A
	FUNDUS CAMERA FF5	~~ZG301116~~	10/90
	FUNDUS CAMERA FF5 SUPPLEMENT	~~ZGE301116~~	6/16/92
	FUNDUS CAMERA	~~ZG30245~~	8/85
*	FUNDUS CAMERA, FF450Plus USER'S MANUAL	Z0000001363321	N/A
	AUTO CONTROL EQUIPMENT FOR FUNDUS CAMERA	~~ZG30246~~	6/85
	DATAPHOT II	~~ZG301087~~	4/91
	SBG 720-2 FLASH GENERATOR	~~ZG301051~~	N/A
	35MM PHOTOGRAPHY W/ OPERATION MICROSCOPE - BRIEF INSTRUCTIONS	~~ZGK301079~~	N/A
	LASER VISULAS YAG	~~ZG301040~~	N/A
	LASER VISULAS YAG E	~~ZG301097~~	N/A
	LASER VISUALS YAG E	~~ZG301058~~	N/A
	LASER VISULAS YAG FL	~~ZG301093~~	4/89
	LASER VISULAS YAG II	ZG301170E	01/13/94
	LASER VISULAS ARGON	~~ZG301067~~	N/A
	LASER VISULAS YAG II PLUS	Z0000001159543	9/98
	LASER VISULAS 532	Z0000001159980	6/98
	LASER VISULAS 532 Combi	Z0000001159971	N/A
	LIO 532 Laser Indirect Opthalmoscope	Z0000001159980	6/98
	LASER VISULAS 532s	Z0000001159546	12/02
	LASER VISULAS 532s Combi	Z0000001183331	3/02
	LASER PDT 690S	Z0000001024247	7/00
	PDT/U	Z0000001126624	12/00

	Title	P/N	Date
	LASER VISULAS ARGON II	~~ZG301132~~	12/1/93
	LASER VISULAS ARGON INDIRECT OPHTHALMOSCOPE	~~ZG301159E~~	12/3/93
	LASER VISULAS ARGON/YAG	~~ZG301070~~	8/88
	LASER VISULAS COMBI II	ZG301191	9/4/93
	VISULAS DIODE II	~~ZG301200~~	N/A
	LASER OPMILAS YAG M	~~ZG301106~~	10/31/91
	LASER VISULAS YAG SAFETY USER CHECKLIST	~~ZGE301040~~	N/A
	LASER VISULAS YAG E SAFETY USER CHECKLIST	~~ZGE301058~~	N/A
	LASER VISULAS YAG FL SUPPLEMENT	~~ZGE301093~~	9/89
	ASYMMETRIC INSTRUMENT TABLE	~~ZG301198~~	9/30/93
	DIAGNOSTIC SET	~~ZG30131~~	N/A
	GOLDMAN APPLANATION TONOMETER MOUNTING INSTRUCTIONS	~~ZM30111016~~	N/A
	INSTRUMENT SAFETY DETACHABLE CONNECTIONS - SUPPLEMENT TO THE OPERATING MANUALS	~~ZGE301108~~	12/93
	IT 300 M INSTRUMENT TABLE	~~ZG60820400223~~	3/93
	LAMP PART NUMBERS	~~ZG308100~~	8/89
	LA 110 LENS ANALYZER	~~ZG2660505500223~~	4/13/93
	STEREO PHOTO ADAPTER	~~ZG309021/76~~	N/A
	IOL Master	Z0000001150839	10/2002
*	IOL Master XP 4.01 (Zeiss)	Z0000001371524	8/24/2005
*	Visucam Pro NM (Zeiss)	Z0000001354856	9/9/2005

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-010D**
Subject:	**General Disclaimer Form**	Date:	**13 Apr 07**
Status:	**Informational**	Pages:	**2**

This bulletin replaces Service Bulletin GEN-010C

The General Disclaimer Form is to be used on instruments that currently require that a disclaimer form be filled out (refer to SOG-006x). This General Disclaimer form will replace existing disclaimer forms that were tailored to the individual instruments.

The General Disclaimer form must be signed by the customer prior to any service actions performed. Upon completion of service activity, this form must be sent in (via Prevail) along with the completed System Operation Validation form and the Field Service Report (FSR).

CARL ZEISS MEDITEC SERVICE DISCLAIMER

OWNER: _____ DATE: _____

LOCATION: _____ SOFTWARE REV.: _____

INSTRUMENT MODEL: _____ INSTRUMENT SERIAL NO.: _____

At your request, Carl Zeiss Meditec has agreed to service the instrument described above. The possibility exists that during the course of servicing, customer data that has previously been entered onto a hard disk (or onto another media whether internal of external) may be erased or otherwise adversely affected. Carl Zeiss Meditec cannot guarantee that the customer data will not be lost or altered and has no obligation or responsibility to reconstruct the customer data which may have to be restored back onto a hard disk (or onto another media whether internal or external) for any reason.
If a hard disk (or another media whether internal or external) that was purchased through Carl Zeiss Meditec, Inc. or came with your instrument has to be replaced or erased / reformatted, it will be restored to its original factory configuration. Customer data will need to be restored back onto the hard disk (or onto another media whether internal or external) by the customer.

WARNING:

1. ***For Hard Disks - It is the customer's responsibility to archive / backup their database files before service is performed on their equipment.***
2. ***For Networked Instruments / Modalities – As a result of the requested service, Customer acknowledges that there is potential risk of damage to computer hardware, network devices, peripherals, accessories, data storage servers, data storage media, or other hardware not cited. Customer also acknowledges potential risk of damage to, and corruption or loss of computer software, applications, and data.***
3. ***For other media whether internal or external - It is the customer's responsibility to maintain a copy of their programmed settings in case the programmed settings become corrupted and irretrievable.***

Note *– Carl Zeiss Meditec, Inc. is obligated to strictly follow the regulations under the Health Insurance Portability and Accountability Act (HIPAA).*

Please sign below to indicate that you have read this disclaimer, agree to be bound by it, and have authorized the Carl Zeiss Meditec Field Support Engineer to provide the requested service.

ACCEPTED AND AGREED TO:

_____
Signature

_____
Name (printed)

_____
Date

_____
Title (Officer or authorized representative)

CARL ZEISS MEDITEC
FIELD SUPPORT ENGINEER:

_____
Signature

_____
Name (printed)

_____
Date

_____
Service Call Number

ZEISS CARL ZEISS MEDITEC

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**General**	No.:	**GEN-011D**
Subject:	**Release of Service Manuals / Field Service Guides on CD**	Date:	**13 Jun 06**
Status:	**Informational**	Pages:	**1**

This bulletin replaces Service Bulletin GEN-011C

The following Carl Zeiss Meditec Service Manuals / Field Service Guides are available on individual CDs.

Service Manual	Part Number	Revision
Auto Refractor – HARK Series	36307-CD	Rev C
Auto Refractor – Acuitus	47881-CD	Rev C
Corneal Topography Systems (991-995)	47333-CD	Rev B
Field Analyzer – HFA II	30122-CD	Rev B
Field Analyzer – HFA II – *i*	52235-CD	Rev C
Lens Analyzer (350 – 380)	28394-CD	Rev B
Stratus / OCT3	52785-CD	Rev C
GDxVCC / Access	59563-CD	Rev A
Preview PHP	DN600D006-CD	Rev A
Visante OCT	56962-CD	Rev A

Each CD will include the entire Service Manual / Field Service Guide, and all Service Bulletins released at the time of the CD duplication.

The Service Manual / Field Service Guide CD's are available from Carl Zeiss Meditec through your normal parts order process, at a price of $195.00 per CD (Domestic).

Distribution of New or Revised Service Manuals / Field Service Guides

Distribution of ***New or Revised*** Service Manuals / Field Service Guides will be done selectively, as follows:

U.S. Domestic Field Service

All Domestic Field Support Engineers can access Service Manuals / Field Service Guides through Lotus Notes.

International Service

All International Support personnel can access Service Manuals / Field Service Guides through the Extranet.

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**Atlas Corneal Topographer Model 9000**	No.:	**CT9K-ID01**
Subject:	**Service Bulletin Index**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**2**

This bulletin indexes all Atlas Corneal Topographer Model 9000 (CT9K) and General (GEN) service bulletins issued to date. The bulletins are indexed in two ways - by bulletin number and by instrument subassembly.

The index will be updated periodically. Meanwhile, we recommend that you manually write into the index each new CT9K and GEN service bulletin you receive.

Note - *Bulletins that have been issued since the last revision of this index are marked by an asterisk (*).*

INDEX BY NUMBER

INDEX BY SUBASSEMBLY

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**ATLAS Corneal Topographer Model 9000**	No.:	**CT9K-001**
Subject:	**Service Manual, Revision A Release**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**1**

Revision A of the ATLAS Model 9000 Service Manual is now available.

Each Service Manual will include the entire Service Manual text plus two service bulletin packets, one containing all ATLAS 9000 service bulletins and the other containing all General Service Bulletins released at the time of the Service Manual duplication.

Distribution of the ATLAS Model 9000 Service Manual

Distribution of the ATLAS Model 9000 Service Manual will be done selectively, as follows:

U.S. Domestic Service

All Domestic Field Support Engineers can access Service Manuals / Field Service Guides through Lotus Notes.

International Service

All International Support personnel can access Service Manuals / Field Service Guides through the Extranet.

Additional copies of the ATLAS Model 9000 Service Manual are available in hard copy (paper) through standard parts order.

Item:..... ATLAS Model 9000 Service Manual, Revision A
paper manual

P/N:..... 63041

U.S. Domestic List Price:..... $ 195.00

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**ATLAS Corneal Topographer Model 9000**	No. :	**CT9K-002**
Subject:	**Recommended Spare Parts**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**1**

This bulletin lists the recommended spare parts needed to support field service activity on the ATLAS Model 9000 Instrument. The list is based on U.S. Domestic service requirements, wherein each Field Support Engineer covers a specific territory and maintains a separate spares inventory.

For International service operations, the items recommended here for spare parts inventory should be adjusted locally after consideration of several relevant factors, including:

- Size of service territory covered
- Total instrument population
- Local electrical power requirements
- Number of Field Support Engineers working out of one location
- Amount of training received by the local Field Support Engineers
- Service proficiency of the local Field Support Engineers

In all cases, the following list should be considered only a recommended starting point. Final determination of the appropriate spares inventory must be done locally.

> ***Note:*** *This list* ***does not*** *include service tools for the ATLAS Model 9000. For tools, refer to Appendix A of the ATLAS Model 9000 Service Manual. Also, where indicated, check for any ATLAS service bulletins that may relate to tools or system parts.*

ATLAS Model 9000 Recommended Parts Inventory

Part	Description
59017	LCD TFT 12.1"
59018	Power Inverter for TFT
53653	Optical Drive
58845	Power Supply MINI-ITX 200W
59015	CPU Assembly
CT9K-004x	2” SATA Hard Drive (fully S/W loaded HDD)
59130	Logic PCB
43042-235	Timing Belt
43176	Rubber Bumper (Tower Break)
59008	Joystick
58984	Cooling Fan (x2)
65343	Patient Support (Complete)
59518	Optical Drive Cable
62266	Hard Drive Data Cable (SATA)
33594	Fuse, input (Instrument uses 2)
59019	Keyboard / Glide pad Combo

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**ATLAS Corneal Topographer Model 9000**	No.:	**CT9K-003**
Subject:	**Field Service Checklist**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**2**

This bulletin provides System Checkout Procedure and Checklist for the ATLAS Model 9000. The results of the System Checkout procedure must be recorded in the Service Checklist form.

Service representatives in the United States must perform the System Checkout procedure and complete the Service Checklist form on each service call. International Service representatives should forward their completed checklists to the local Zeiss affiliate or distributor.

ATLAS 9000 FIELD SERVICE CHECKLIST

FSE Name: _____

ATLAS 9000 S/N: _____

Date: _____

This checklist assumes that all required service has been performed on the ATLAS Model 9000. Completion of this checklist is required on all ATLAS Model 9000 service calls.

Place a checkmark next to each item if okay.

- ○ **Switch ON power to the unit and verify that the instrument powers up to the Main Menu.**
- ○ **Check that the TFT display is stable and free of graphical defects.**
- ○ **Verify that the fixation LED is working.**
- ○ **Check that the optics head can be moved to all of its maximum travel limits, without any significant resistance.**
- ○ **Verify that the optics head can be locked in place when moved to its lowest vertical position.**
- ○ **Check that the patient chinrest moves smoothly and completely up and down.**
- ○ **Perform the Calibration Verification Check (Section 4.2).**
- ○ **Use the ATLAS Test Eye Tool to capture and save an exam. Use your name as the patient name.**
- ○ **Recall and print your exam. Verify that the exam is recalled and printed correctly.**
- ○ **Delete your exam and patient name from the system.**

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**ATLAS Corneal Topographer Model 9000**	No.:	**CT9K-004**
Subject:	**Replacement Hard Drive Information/Timeline**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**1**

This bulletin lists the current and previous versions of the field replaceable ATLAS Model 9000 hard disk drive. Unless otherwise specified, the current drives will be the only drives available as a replacement. Information for previous versions is retained for historical purposes only.

Current Versions

► P/N 65253 (Aug/2007) Pre-loaded Hard Drive – ATLAS Model 9000

Changes: Initial Release

CARL ZEISS MEDITEC

SERVICE BULLETIN

Instrument:	**ATLAS Corneal Topographer Model 9000**	No.:	**CT9K-005**
Subject:	**Software / Software Tools**	Date:	**5 Oct 07**
Status:	**Informational**	Pages:	**1**

The following is a list of available ATLAS Model 9000 software / software upgrades.

List of ATLAS Model 9000 System Software

DESCRIPTION	PART NUMBER
Revision A	N/A (Preloaded)