

Planar Clean Pole™

Installation and User's Guide



Model Number M4POLE-PS

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Revision Control

Date	Description
June 2000	Document number OM720-02 Part number: 020-0153-01 REV B

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INTRODUCTION

Thank you for purchasing Planar's mobile Clean Pole™. The Clean Pole is to be used to add mobility to the Clean Screen™. To recharge, plug the Clean Pole unit into a standard outlet. The battery system includes one six-cell twelve-volt battery and a recharger, packaged on the base of the Clean Pole. The user may choose either an audible or visual alert when the battery falls below a minimum charge. To choose, use the toggle switch on the top of the unit. With this innovative, mobile, battery-powered workstation, Planar continues its commitment to provide the best in bedside computing solutions.

In order to receive the full benefit of the Clean Pole, the user must understand how to properly use the battery system. It is recommended that the Clean Pole be plugged in whenever not in use to avoid system downtime.

WARRANTY INFORMATION

Planar Systems (Planar) warrants that the goods sold hereunder will be free of defects in materials and workmanship, and such goods will substantially conform to the specifications furnished by Planar, and to any drawings or specifications furnished to Planar by the Buyer if approved by Planar. This warranty shall be effective only if Planar receives notice of such defect or nonconformance during the period of the warranty. Planar's sole and exclusive liability for breach of warranty shall be, at Planar's option, to repair or replace the Planar product(s) with refurbished units or provide a credit to buyer in the amount of the purchase price.

Commencement and Duration of Warranty

The warranty period begins on the date of shipment.

The goods sold hereunder are warranted for a period of two years (**excluding battery**) from date of shipment unless otherwise agreed to by Buyer and Planar. No extension of the warranty will be given during the time the goods are in Planar's possession. Batteries are warranted for a period of ninety (90) days.

Place of Repair or Replacement

In order to obtain service under this warranty, Buyer must notify Planar of the defect before expiration of the warranty period, and request a "Return Material Authorization Number." If the configuration has been modified in any manner, the product must be returned to its original configuration before any warranty service will be performed by Planar. No goods are to be returned to Planar without prior authorization. Buyer will be responsible for packaging and shipping the defective goods to the Planar Service Facility located at Beaverton, Oregon, with shipping charges prepaid.

Limitation of Warranty

The foregoing warranty shall not apply to defects resulting from (a) improper or inadequate maintenance by Buyer; (b) unauthorized modification of the goods; (c) operation of the goods outside of the environmental specifications of the goods; (d) neglect, misuse or abuse of the goods; or (e) modification or integration with other goods not covered by Planar's warranty when such modification or integration increases the likelihood of damage to the goods.

THE WARRANTY IS GIVEN BY PLANAR IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. PLANAR DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. PLANAR'S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE SOLE AND EXCLUSIVE REMEDY PROVIDED TO THE BUYER FOR BREACH OF THIS WARRANTY. PLANAR WILL NOT BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER PLANAR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

TECHNICAL ASSISTANCE

The warranty set forth above shall not be enlarged, diminished or affected by, and no obligation or liability shall arise from Planar, any authorized dealer or any other person's rendering of technical advice, assistance or services in connection with the buyer's order of the goods furnished hereunder. The Buyer is not relying on Planar's skill or judgment to select or furnish suitable goods.

Installation

Planar makes no warranty with respect to any installation of Planar's product(s) by Planar, any authorized dealer, or any other person.

Customer Support

Please contact Planar Systems in Beaverton, Oregon.

OPERATOR'S SAFETY SUMMARY

Safety Summary

When using your Clean Pole Power System, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons, including the following:

Read Instructions

Read and follow all safety and operating instructions.

Use the Proper Power Source

Operate only from the type of power source indicated on the rating label. To disconnect from the power source, remove the power cord. This product is intended to run from a power source supplying not more than 120 VAC RMS between the supply conductors, or between supply conductor and ground. Refer to Service Safety Summary for battery replacement information.

Grounding

This unit is Class II (double insulated), and is provided with a 3-wire grounding type power cord.

Power Cord

Use only the power cord and connector that is specified for your product and that is in good condition. Refer cord and connector changes to qualified service personnel. When the cord is not in use, remove to avoid damage.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Do Not Remove Covers or Panels

Product covers and panels provide significant protection against electrical shock and heat sources that may cause burns. Do not operate the product with covers removed.

Dispose of Batteries Safely

Federal law requires that Lead Acid batteries be disposed of in a safe and ecologically sound fashion. If in doubt as to how to accomplish this please contact your state government or Planar Systems for assistance.

Ventilation

Avoid overheating by keeping slots and openings unblocked.

Damage Requiring Service



Unplug the unit from the wall outlet and call Planar Customer Service when any of the following conditions occur:

- A. When the power cord is damaged or frayed.
- B. If the unit does not operate normally by following the operating instructions.
- C. If the unit exhibits a distinct change in performance.




Terms and Symbols

Various terms and symbols are used in this manual and on the equipment. These terms and symbols alert you to possible hazards or other conditions of which you may need to be aware. These terms and conditions are shown in the following tables:

Terms and Symbols in the Manual

	CAUTION statements involve conditions or practices that could damage the equipment or other property.
	WARNING statements involve conditions or practices that could result in injury or loss of life.

Terms and Symbols on the Equipment

	CAUTION shows an injury hazard not immediately accessible as one reads the marking, or a hazard to property including the equipment itself.
WARNING DANGER	WARNING or DANGER shows an immediately accessible injury hazard.
	ATTENTION -- Refer to manual
	Class II Equipment

ASSEMBLY INSTRUCTIONS

Introduction

The Clean Pole is a product designed to be used with the Clean Screen computer workstation. Be aware of a compressed spring in the central column of the pole which balances the weight of the steel worksurface, the Clean Screen computer and its input devices. Without the weight of these items the spring can extend upward with formidable force. There is a pedal at the bottom of the pole that allows the spring to extend or be compressed.

These instructions apply to both models

M4POLE-PS: FOUR-WHEELED CLEAN POLE with Rechargeable Power

M4POLE-NPS: FOUR-WHEELED CLEAN POLE with the AC converter brick

Unpacking and Assembly Instructions

Disassembly is accomplished by reversing this sequence

Tools Needed

To assemble the Clean Pole, you will need a 9/16" (13mm) wrench to remove six bolts from the packing carton. You will then use 5/32" (4mm) allen wrench to insert four bolts holding the upper worksurface to the pole column. Then mount the computer with four Phillips head bolts.

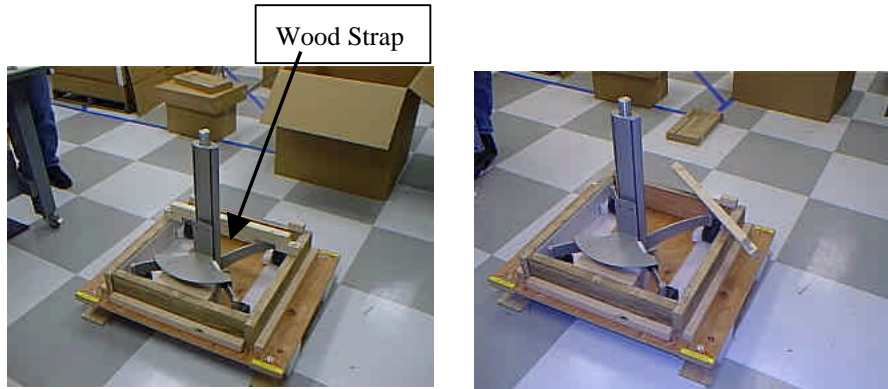
Unpack the Clean Pole

Step 1. Open the box.



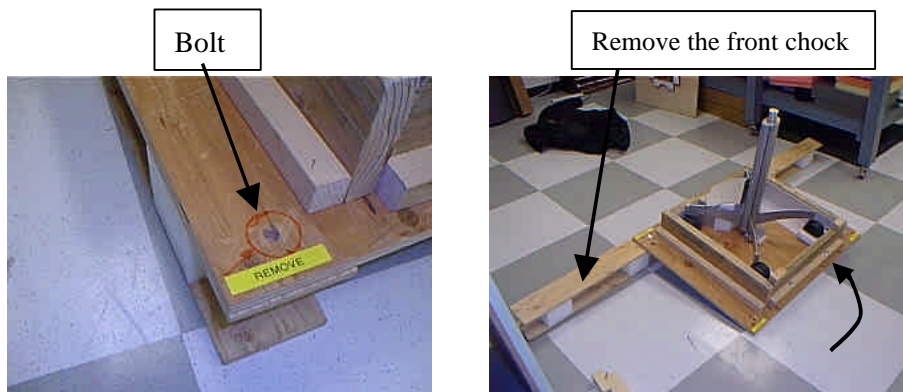
Open the top of the box and remove the Pad box and the Worksurface box. (The power supply has been removed in this picture for clarity.)

Step 2. Remove the wood strap.



Use the 7/16" wrench to remove the wood strap.

Step 3. Remove the runners.



Remove the holding the pallet runners. Swing the runners out to the side while supporting the front with a pallet truck. Don't pinch your fingers. Remove the front chock.

Step 4. Remove the Clean Pole.



Wheel Clean Pole down ramp. Be careful – this Clean Pole System is heavy. To prevent mishap, we suggest two people assist with removing the base from the shipping carton.

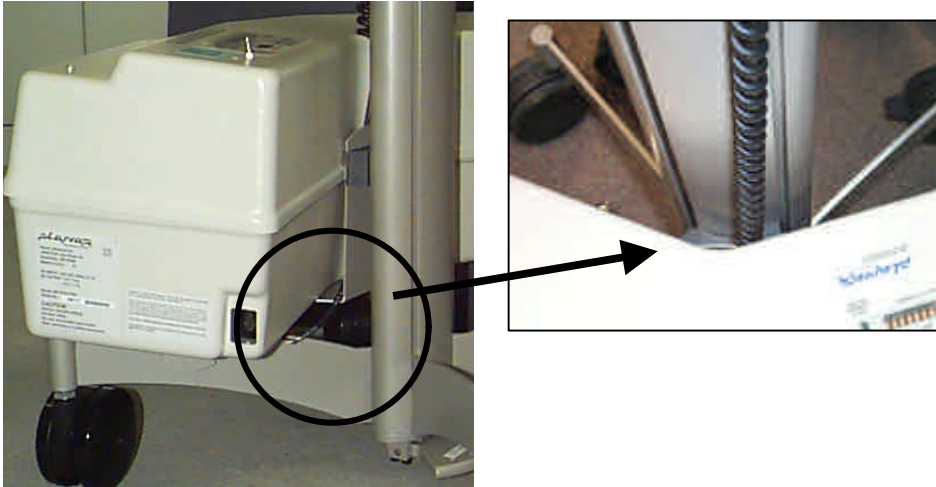
Check the power Supply

These instructions apply to both models:

M4POLE-PS: FOUR-WHEELED CLEAN POLE with Rechargeable Power

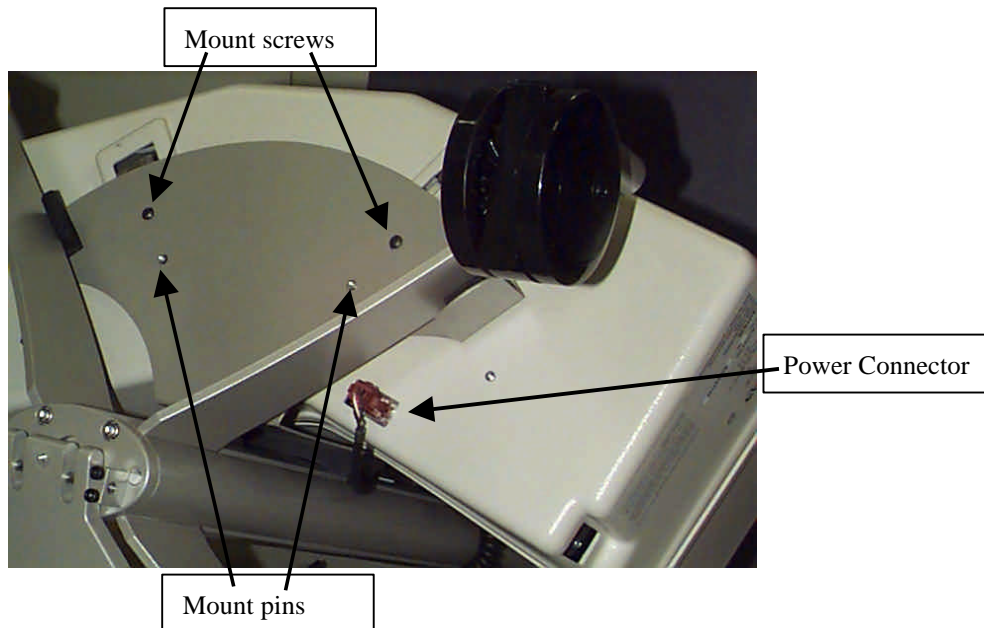
M4POLE-NPS: FOUR-WHEELED CLEAN POLE with the AC converter brick

Step 1. Check cable position.



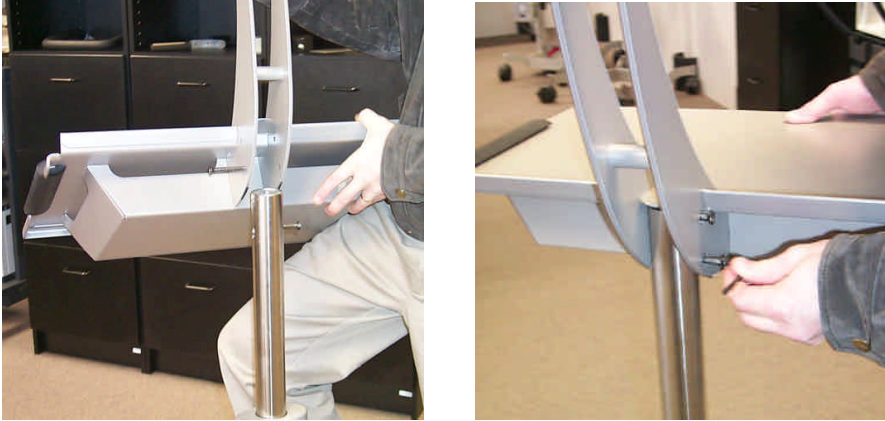
Check to see that the low-voltage cable is routed into the center of the “V” formed by the power supply and is secure in the rubber strain-relief and cable guide. The cable will run up the back of the center column.

Step 2. Check that cable is plugged in.



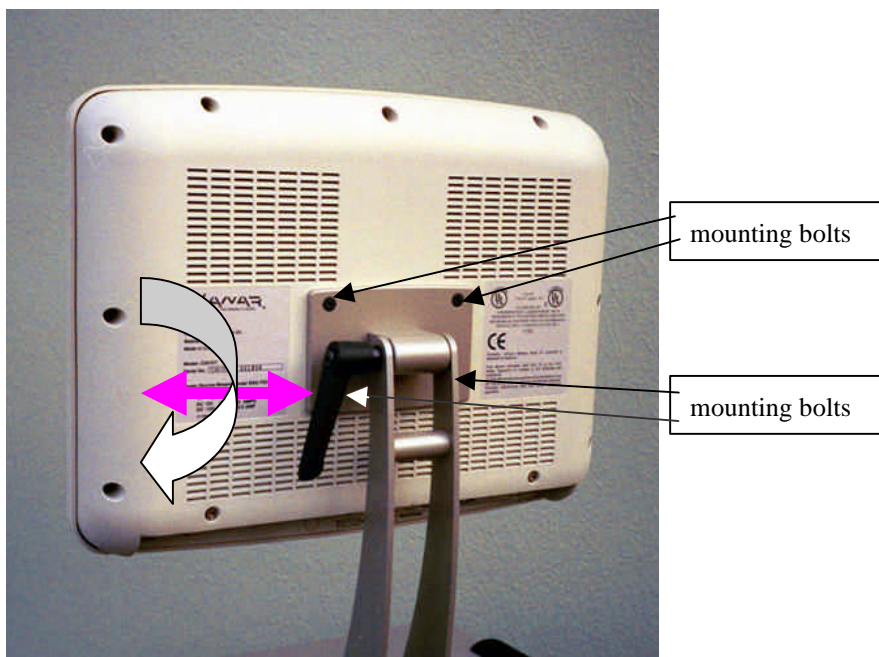
Check to see that the low voltage cable is plugged in. This picture shows the underside of the power supply so you DO NOT need to invert it to satisfy your curiosity. The low voltage power cord is keyed and slips on easily if oriented properly. Squeezing the levers on both side of the connector will release it if needed. The mounting screws and pins are just shown for reference.

Mount the work surface to the wheeled base.



Four bolts go in from two sides and must be tightened as tight as you can with a 4 inch allen wrench.

Mount the Clean Screen computer



Attach the Clean Screen head to the tilting plate on the worksurface with four 10-32" x 1/2 Phillips pan head screws. Adjust the tilting plate by pulling out on the tightening lever and turning it until it is positioned so you can rotate it clockwise to tighten. Release the pull force and turn the lever like a wrench

Attach the Power Supply

Step 1. Remove allen screws and bracket



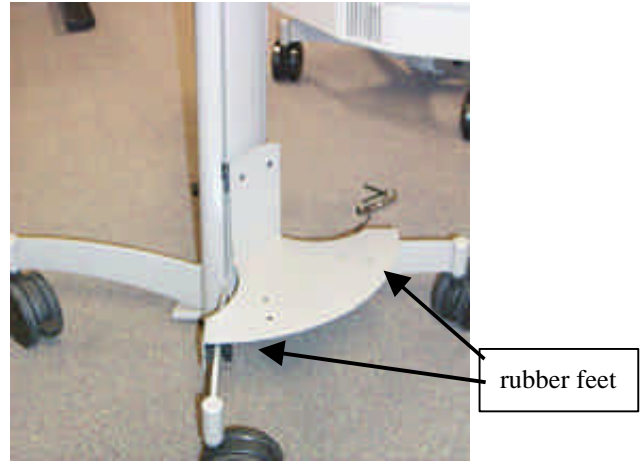
Remove the 4 allen screws that secure the upper plate. Turn plate 90 degrees and then allow it to rest atop the piston housing. Remove the standard power supply mounting bracket from the uppermost channel clamp.

Step 2. Remove upper clamps.



Remove uppermost channel clamp set screws. Slide uppermost channel clamp upwards and remove it from the piston housing.

Step 3. Position upper clamps.



Loosen the set screws of the lower channel clamp and then position the lower channel clamp 12" above the floor. Temporarily tighten the set screws. Position the (PS) power supply bracket on the pole. Be sure to align the two holes on the mounting bracket with the holes on the channel clamp. Ensure that the two rubber feet rest securely atop the legs of the cart. Adjust the channel clamp if need be, and then tighten securely. Attach the PS bracket now.

Step 4. Position power supply.



Place the PS-2 supply atop the previously mounted PS-2 bracket. Positioned properly, two pins will project from the bottom of the PS-2 supply through the PS-2 bracket. Attach the PS-2 supply with two screws. Connect the power cable to the bottom of the PS-2 supply. Route the cable upwards along the piston housing.

Disassembly Process

Disassembly is accomplished by reversing the assembly sequence.

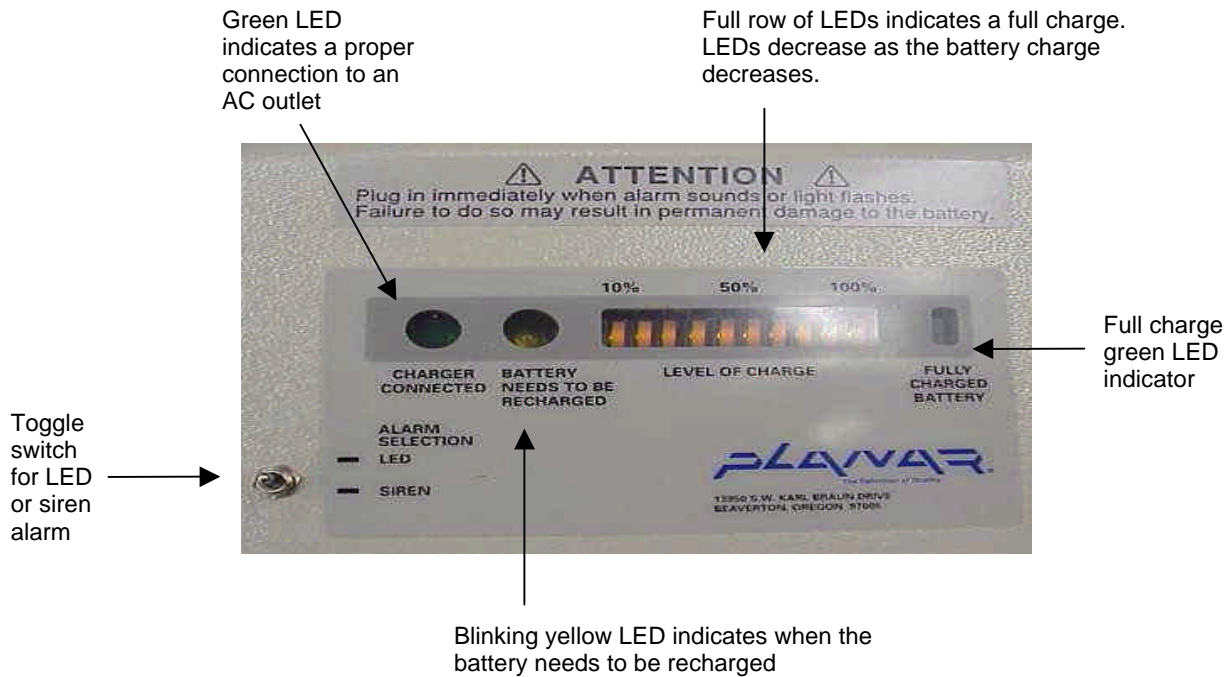
Connecting the Clean Pole Charger

The Clean Pole Charger only requires connection to an AC line.

Charging a Battery

To charge the Clean Pole, plug the unit into a standard outlet. The Clean Pole may be used while the battery is recharging, however this will increase the recharge time by 30% since the battery is being reduced while it is being charged.

Charger Control Panel



Note: If a Clean Pole has been charging for more than 12 hours and the indicator on the charger control panel is still not registering a full charge, the battery may need replacement or refurbishment. Please call Planar Systems Customer Service at if you have any questions.

Batteries must be disposed of in a responsible fashion. If in doubt regarding proper battery disposal methods, please contact Planar Systems.

OPERATING INSTRUCTIONS

The Clean Pole Power System is intended to provide power to the Clean Screen Computer Workstation in a mobile environment.

The battery in the Clean Pole Power System will power the Clean Screen up to 12 hours before needing a recharge. Maximize battery life by recharging the battery when the low charge alarm activates.

CAUTION

Failure to recharge when the alarm activates may result in battery damage. Plug in the Clean Pole Power System within 30 minutes to avoid losing power to the Clean Screen and losing information.

Plug in the Clean Pole Power System when working near a wall outlet or during idle times to keep the battery charged and ready for use. When using your Clean Pole Power System near a wall outlet you should always keep it plugged in to keep the battery charged and ready for mobile use.

CAUTION

ATTENTION: Plug the Clean Pole Power System in immediately when alarm sounds or light flashes. Failure to do so may result in permanent damage to the battery.

Battery Life

If the Clean Pole Power System is not recharged within 24 hours of the low charge indicator light flashing or the alarm sounding, the battery may become damaged, significantly reducing battery life.

For the longest battery life, plug the Clean Pole Power System into a wall outlet as soon as the low charge alarm sounds or light flashes. Whenever not in use, plug into a wall outlet to keep the battery fully charged.

SERVICE SAFETY SUMMARY

Note: This section is intended for qualified service personnel only. Refer to the preceding Operator's Safety Summary.

Do not service the Clean Pole with the power on.

WARNING

Dangerous voltages exist at several points in this product. To avoid personal injury, do not touch exposed connections and components while power is on.

WARNING

Electrical energy hazard: When disconnecting or installing battery terminal wires, use care to avoid shorting out the "negative" and "positive" terminals. Failure to do so may cause battery damage and/or personal injury.

Battery Replacement

Disconnect power before replacing the battery. Replace with a C&D Technology (Dynasty Division) UPS12-270 battery or equivalent. When selecting batteries, consider the flame rating and sealed nature of the original battery. Also consider the amount of mechanical abuse the battery must be able to sustain. The Clean Screen consumes 3 Amps at 12 Volts regulated $\pm 8\%$.

Tools Required

To replace the battery on the Clean Pole, you will need a Phillips head screwdriver, a 7/16" wrench, and a 5/16" wrench.

Battery Removal

CAUTION

Make sure that the Clean Pole is unplugged from the power before proceeding.

1. Disconnect the AC power cord from the Clean Pole.
2. Remove the 4 Phillips pan head screws from the top of the battery/charger casing.
3. Remove the top. Be careful not to damage or disconnect the wires connected to the LED/Siren switch.
4. Using a 7/16" wrench, disconnect the two white wires from the positive battery terminal.
5. Using a 7/16" wrench, disconnect the two black wires from the negative battery terminal.

6. Using a 5/16" wrench, remove the #6 kepnut from the aluminum retaining strap across the top of the battery. Remove the strap.
7. Use the yellow band to lift the battery from the chassis.

CAUTION

The battery is heavy and contains dangerous electrical energy.

Battery Reinstallation

1. Place the yellow band around the new battery, and reinstall in the chassis, using the yellow band to lift into place. Be sure that the battery terminals are placed on the side of the black vertical pole.
2. Reinstall the aluminum retaining band over the top of the battery, using the 5/16" wrench to replace the #6 kepnut.
3. Using the 7/16" wrench, reconnect the two black leads to the negative battery terminal.
4. Using the 7/16" wrench, reconnect the two white leads to the positive battery terminal.
5. Reassemble the top of the battery/charger case.

CAUTION

Be careful not to pinch the three wires from the LED/Siren switch between the case top and the mounting brackets.

6. Reinstall the four Phillips pan head screws into the top of the battery/charger case.
7. Charge the battery if necessary.

The Clean Pole is now ready for use.

Internal Fan Cleaning

Periodic cleaning of the internal fan is required. Perform servicing during each battery replacement.

Tools Required

To clean the internal fan you will need a Phillips head screwdriver, a small vacuum cleaner, and a soft-bristle brush.



Make sure the Clean pole is disconnected from the power before proceeding.

1. Disconnect the AC power cord from the Clean Pole.
 2. Remove the 4 Phillips pan head screws from the top of the battery/charger casing.
 3. Remove the top. Be careful not to damage or disconnect the wires connected to the LED/Siren switch.
 4. Using a vacuum and a soft brush, remove the dust and lint from the fan located between the battery and charger.
 5. Remove the dust or lint buildup around the external casing vent.
 6. Reassemble the top of the battery/charger case.
-



Be careful not to pinch the three wires from the LED/Siren switch between the case top and the mounting brackets.

7. Reinstall the four Phillips pan head screws into the top of the battery/charger case.
8. Charge the battery if necessary.

The Clean Pole is now ready for use.

SPECIFICATIONS

The Clean Pole is a battery-operated mobile mounting system for the Planar Clean Screen products. The roll-stand includes a wheeled base with adjustable height pole for use in supporting the Clean Screen computer with keyboard cabinet at an adjustable height, and a battery with dedicated charger at a fixed height.

The power system provides a regulated plus and minus 12 V. A labeled light panel displays the state of charge and flashes or audibly alerts the user if charging is required. The unit will shut itself down if the last LED “warning” is ignored, and the unit is not plugged in for recharge. The battery and charger combination allows for an average of 16 hours of use without AC power. The Clean Pole will recharge in approximately 12 hours from a complete battery drain; recharge time will depend on how deeply discharged the battery is when plugged into the wall.

The Clean Pole Power System is capable of door thresholds, elevator discontinuities and navigating handicap ramps without endangering the user or the equipment.

Accessories

With the exception of this manual, there are no standard accessories to the Clean Pole (excluding the Clean Screen and Keyboard cabinet).

Performance Conditions

The electrical characteristics of the Clean Pole Charger are valid only if the unit has been operated between 0 °C and 40 °C unless otherwise noted.

Environmental Characteristics

Temperature	
Operating	0 °C to 40 °C
Storage	0 °C to 40 °C
Humidity	Non-Condensing
Altitude	
Operating	Not restricted for air transport
Non-operating	Not restricted for air transport
EMI Compatibility	FCC Class A

Electrical Characteristics

Power Requirements	
Voltage	120 VAC RMS
Current	2.1A
Power	300 W max.
Frequency	60 Hz
Battery Pack Voltage	12 V nominal ($\pm 4\%$), 6 cell Lead Acid battery

Mechanical Characteristics

Dimensions		
Stand Diameter	24" diameter	Wheel centers from central axis
Minimum Height	25"	Home row of keys
Maximum Height	44"	Home row of keys
Weight		
Clean Pole	48 lbs.	
Power supply	75 lbs.	
Clean Screen	16 lbs.	
Shipping Weight	175 lbs.	
Enclosure	ABS	Flammability rated UL 94V-0
Tip Over Angle	15°	With all ancillary equipment installed and height at maximum
Threshold Traverse	0.75" height	
Height Adj. Force	12 lb. f	With full load, locking, neutral acceleration, no shearing action
Gap Traverse	1" width	
Locking Wheels	2	
Certifications	UL2601-1 and CSA C22.2 No. 601.1	Certified by Underwriters Laboratories

MAINTENANCE

Calibration

The Clean Pole Charger does not have any adjustments, and requires no regular calibration.

Maintenance Requirements

All exterior surfaces of the Clean Pole Power System are cleanable using the following solutions:

- Isopropanol (70% isopropyl alcohol)
- 5% bleach solution (5% aqueous sodium hypochlorite)
- 1.6% aqueous ammonia
- 0.5% phenolic compounds
- 0.5% chlorhexidine in 70% isopropyl alcohol
- Commercial or industrial grade glass cleaners

The Clean Pole and its components meet the IPX-1 rating per IEC529 to allow washing with a saturated sponge. Though water or solution may enter the unit, it will not get into unprotected electronics.

Care must be taken to recycle batteries in compliance with local regulations. They contain lead, which is considered a hazardous substance.

Service Information

If your Clean Pole needs service, call Planar Customer Service at (503) 690-6960 between 8:00 AM and 5:00 PM Pacific Time, Monday through Friday.

You will need the unit's serial number and a brief description of the problem to receive a RMA number.

If a repair is required please return the product for service using the original shipping container with the RMA number clearly marked on the outside of the box. If you need a shipping container please call Planar Customer Service.

In order to protect Planar employees from potential health hazards, Planar requires that the RMA product be **disinfected before returning to Planar for service**. Any product not cleaned prior to shipment **will be returned to the customer**. Refer to the maintenance section of this manual for list of approved cleaning agents.

Returns will not be accepted without an assigned RMA number.

In-transit damage is not covered by the warranty. We suggest you always insure your shipment. Planar will only pay for the return shipment by surface transportation. It is the responsibility of the sender to prepay transportation charges.

Order Information

M4POLE	Clean Pole	996-0442-01
M4POLE-PS	Clean Pole with power supply	996-0442-02

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