



# **Metro™ Series Mobile Computing Workstations MPE-7800 Series Nickel Metal Hydride Power Supply**



## **Operations Manual Supplement**

L01-504, RevA

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## Contact Information:

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North Washington Street  
Wilkes-Barre, PA 18705  
Phone: 1-800-992-1776  
<http://www.metro.com/support>

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## FCC Information:

This device complies with FCC Rules, part 15. Operation is subject to the following conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference that may be received, including interference that may cause undesired operation.

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

**Warning:** Changes or modifications to this device not expressly approved by InterMetro Industries Corporation could void the user's authority to operate this equipment.

*Shielded cables must be used with this unit to ensure compliance with the FCC Class A limits.*

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## Industry Canada:

This class A digital apparatus meets all requirements of the Canadian Interface Causing Equipment Regulations. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

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## Regulatory Compliance

This system was tested and complies with UL 60601-1, CAN/CSA C22.22 No.601.1 and IEC/EN 60601-1-1 medical safety standards.

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## Symbol Explanations



The product is CSA certified with respect to electrical shock, fire and mechanical hazards only in accordance with UL 60601-1, CAN/CSA C22.22 No.601.1 and IEC/EN 60601-1-1 as Type B Patient Care Medical Equipment suitable for use in patient vicinity.



Attention, consult accompanying documents

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## Important Safety Instructions

This document contains important safety and operating instructions for the MPE-7800 series Power Supply. Please read all instructions and cautionary markings before putting it into service on a Mobile Computing Workstation.



**Caution:**

User maintenance consists of cleaning, periodic tightening of fasteners and the like. For safety purposes, any and all servicing other than the procedures detailed in the Maintenance section of this manual must be performed by qualified service personnel only. For all service items, please contact InterMetro Customer Service.



**Caution:**

Do not operate an MPE-7800 series Power Supply or associated Metro™ Series Mobile Computing Workstation if either has received a severe impact, been knocked over, fallen down stairs, or otherwise been physically damaged. Please have a qualified service person inspect both the Mobile Computing Workstation and the Power Supply for any performance or safety hazard prior to putting it back into service.



**Caution:**

Ensure that the AC power supply cord is located and secured so that it will not be stepped on, tripped over, or otherwise subjected to damage or stress. Please secure the AC power cord plug in the retaining clips provided on the Mobile Computing Workstation when it is unplugged from the AC outlet in order to prevent accidental tripping and physical damage to the cord plug or electrical insulation.

To prevent damage to any cords or connectors when disconnecting, always grasp and pull by the connector and not the cord.

Do not operate the Power Supply or Mobile Computing Workstation with damaged cords or connectors. Please replace the damaged component immediately. Contact InterMetro Customer Service for replacement parts and service.



**Caution:**

To reduce the risk of electric shock, unplug the Power Supply AC cord from an AC outlet and switch the ON/Extended Storage Switch to the Extended Storage (OFF) position before attempting any maintenance or cleaning. Turning off computers or disconnecting the AC power cord alone will not reduce the risk of electric shock because the Power Supply is internally powered by a battery.



**Warning: Risk of Electric Shock**

The AC power cord is the only means to disconnect the Power Supply and Metro™ Series Mobile Computing Workstation from the AC power grid (mains). The ON/Extended Storage Switch on the Power Supply does not disconnect from main power.

On the other side, the Power Supply employs a Nickel Metal Hydride (NiMH) battery to provide mobile DC output power. Low voltage (10-16 VDC) DC power is available from the Power Supply even when the AC cord is disconnected from an AC outlet. To remove DC power, put the ON/Extended Storage Switch in the Extended Storage (OFF) position.



**DANGER: Risk of Explosion**

The Mobile Computing Workstation and the Power Supply are not for use in hazardous (classified) locations. Do not use the Mobile Computing Workstation, nor recharge the Power Supply battery, in oxygen enriched areas; areas where flammable anesthetics are used or stored; or any other hazardous, classified location.

**Caution (USA 240 V):**

If an MPE-7800 series Power Supply is connected to a 240 V supply system in the United States of America (USA), it shall be a center tapped single phase supply circuit.

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**Electromagnetic Interference (EMI) Recommendations**

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to other devices in the vicinity. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does not cause harmful interference to other devices, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving device.
- Increase the separation between the equipment.
- Connect the equipment to an outlet on a circuit different from that to which the other device(s) are connected.
- Consult the manufacturer or field service technician for help.

## Revision History

REV/ Issue	Revision Description	Date	Approved
A	Initial Release	11/30/2009	V. Bowman
B	1. Change in company contact information 2. Update in cart label graphic	11/17/2010	V. Bowman
L01-504, RevA	1) As per Metro Standards this Operations Manual is assigned with new Commodity Code <b>L01-504</b> with Initial Release as <b>RevA</b> with effective from 01/09/2013. 2) Previous nomenclature of this document is <b>402545 RevB MPE7800 NiMH PS Operations Manual</b> 3) Updated references in Page 9. 4) All above revisions remain valid in L01-504 RevA.	01/09/2013	Paul Prickett

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## References

<b>Document Number</b>	<b>Title</b>
L01-502	Metro™ 1700 Series Mobile Computing Workstation Operations Manual
L01-503	Metro™ 1800 Series Mobile Computing Workstation Operations Manual

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## Introduction

### *Mobile Rechargeable Power Supply*

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The Metro™ MPE-7800 Nickel Metal Hydride (NiMH) Power Supply is a rechargeable power source for the Metro™ Series Mobile Computing Workstations. The Metro™ NiMH Power Supply is a fully automatic power supply charger system with a nominal DC output voltage of 14.4 Volts (V) and a battery capacity of 500 Watt-hours (Wh). When it is plugged into an AC outlet, it supplies the Mobile Computing Workstation system equipment while also charging the NiMH cells. When unplugged from the outlet, the power supply switches automatically to supply the workstation equipment from the internal NiMH rechargeable battery cells. The power supply is designed for continuous operation and service is not interrupted by plugging in or unplugging the power supply.



**MPE-7800 with Fan Filter**



**MPE-7800 without Fan Filter**

## ***Power Supply Status***

---

The status of the MPE-7800 series Power Supply is displayed by a remote Fuel Gauge display and optionally on the workstation monitor by the Metro BatteryPro software.

### **Remote Fuel Gauge Display**

The remote Fuel Gauge is embedded in the Metro™ Series Mobile Computing Workstation monitor mount at eye level height and is connected to the power supply. It displays the battery charge level and state with a series of LED indicators.



**Remote Fuel Gauge Display**

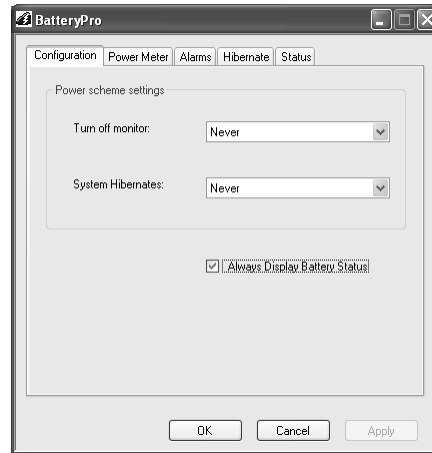
### **BatteryPro Mobile Computing Workstation Power Supply Management Software**

In a manner similar to notebook computer battery monitors, BatteryPro Mobile Computing Workstation Power Supply Management Software displays the MPE-7800 series Power Supply status, battery level as a percentage, and calculated remaining run time. The status is displayed on the Workstation display monitor using the Windows task bar and control panels. BatteryPro also alerts the user when the power supply batteries are reaching the end of the discharge cycle so that the user can perform any one of three actions:

1. Save any work and shut down the system.
2. Allow the computer to shut down in an orderly manner with all data quickly stored onto the hard drive for Hibernation.
3. Plug the power supply into a wall outlet to start charging the unit.

BatteryPro requires a USB connection from the USB port on the Power Supply to the Metro™ Series Mobile Computing Workstation computer.

The BatteryPro application features a status icon on the Windows taskbar and a status window. A BatteryPro dialog (see below) can be opened to configure the power scheme and notifications and view more detail status of the power supply system. A diagnostic tool can also be accessed through the BatteryPro dialog.



**Flo BatteryPro Dialog**

BatteryPro also provides the drivers needed for access across the network for Metro™ Dashboard.

### ***Features***

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The Metro™ MPE-7800 NiMH Power Supply features:

- Rugged, steel construction – built to last.
- Remote Fuel Gauge at the user's eye level.
- NiMH, 500 Wh capacity rechargeable batteries.
- Fits conveniently in the base of the Metro™ Series Mobile Computing Workstations.
- Software application Flo BatteryPro provides the power supply status on the Metro™ Series Mobile Computing Workstations monitor display.
  - Status icon on Windows taskbar
  - Desktop status window
  - BatteryPro dialog to configure settings and view diagnostic data.
  - Accessible across network by Metro™ Dashboard application.
- Compatible with Metro™ 1700 and 1800 series Mobile Computing Workstations.
- Standard USB connection between MPE-7800 Series Power Supply and workstation computer.
- User manual supplement included.

### ***Equipment Classification***

---

The Metro™ MPE-7800 Series NiMH Power Supply is CSA certified with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1, CAN/CSA 22.2 No. 601.1 and IEC/EN 60601-1-1 as Type B Patient Care Medical Equipment suitable for use in patient vicinities.

The MPE-7800 Series NiMH Power Supply is a Class I Equipment that is also internally powered.

According to the degree of protection against electric shock, it is a Type B applied part.

According to the degree of protection against ingress of water the MPE-7800 Series NiMH Power Supply is considered ordinary.



#### **Warning: Risk of Explosion**

The MPE-7800 Series NiMH Power Supply is not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

The MPE-7800 Series NiMH Power Supply is suitable for continuous operation.

### ***Important Product Notices***

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The MPE-7800 Series NiMH Power Supply is a subsystem component of the Metro™ 1700 and 1800 Series Mobile Computing Workstations. Please refer to the respective User Guide for the Mobile Computing Workstation to which the Power Supply is attached for additional information.

The Metro™ MPE-7800 Series NiMH Power Supply is only CSA certified if the equipment is left in its original configuration as shipped from InterMetro Industries Corporation. If the user alters the power supply by changing components on or adding components to the power supply, this will void the CSA certification of the power supply and the Mobile Computing Workstation and is expressly prohibited by InterMetro Industries Corporation.

The Power Supply used is provided with a “Hospital Grade” or “Hospital Only” attachment plug for connection to the AC supply circuit.

To ensure equipment grounding reliability, the Power Supply should only be connected to AC outlet receptacles which are marked “Hospital Grade” or “Hospital Only”. Where the integrity of the external protective earth connector arrangement is in doubt, equipment shall be operated from its internal electrical power source.

### ***Disposal***

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Steel sections of the power supply can be disposed of or recycled.

NiMH batteries shall be recycled through Rechargeable Battery Recycling Corporation ([www.call2recycle.org](http://www.call2recycle.org); 1-877-2-RECYCLE).

Electronic components, printed circuit boards, etc., shall be disposed of in accordance with local, state and federal regulations.

For further information call InterMetro Customer Service.

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## Getting Started

### *Installation*

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In general, the Metro™ MPE-7800 Series NiMH Power Supply is provided already installed on a Metro™ Mobile Computing Workstation and is ready for use after fully charging the batteries.

The MPE-7800 Series NiMH Power Supply System can be retrofitted or installed new on a Metro™ Mobile Computing Workstation. The power supply is self-contained and is attached using the correct mounts on the bottom of the Metro™ Mobile Computing Workstation base. BatteryPro is ready to install on the workstation computer. Instructions for installing an MPE-7800 Series Power Supply and BatteryPro are provided in “MPE-7800 Power Supply System Installation” below.

Unpacking	If ordered separately, the MPE-7800 Series NiMH Power Supply will arrive fully assembled and fully functional at the customer's site in a cardboard box. After cutting open the box, lift the MPE-7800 out of the box.
Inspection	After the MPE-7800 Series NiMH Power Supply has been unpacked, the user should inspect the unit for any shipping damage. If there is any damage, please contact InterMetro Customer Service immediately.

### *Charging the Power Supply Battery*

---

Before placing a Metro™ Series Mobile Computing Workstation into service for the first time with the MPE-7800 Series NiMH Power Supply, the power supply battery should be initially charged for a full 24 hours. To charge the battery, plug the coiled AC power cord into an AC outlet and put the ON/Extended Storage Switch into the “ON” position (see “Powering Up the MPE-7800 NiMH Power Supply” below). For further information on the charge indicator lights of the Remote Fuel Gauge, please refer to the “Remote Fuel Gauge” section below.

After the initial charge, a completely discharged battery can fast charge in 3 to 3.5 hours to 95% of battery capacity, and then top off the batteries within 3 more hours.

The MPE-7800 NiMH Power Supply must undergo a break-in period in order to realize the full battery capacity. The break-in period is usually the first 5 charge/discharge cycles. During the break-in period, the user may experience shorter runtimes than expected.

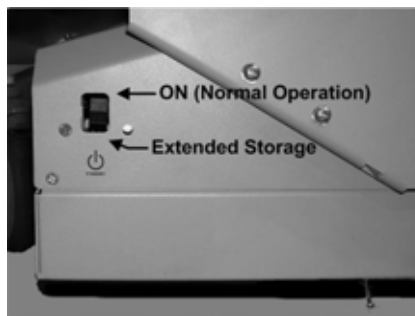
## *Powering Up the MPE-7800 NiMH Power Supply*

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The MPE-7800 Series NiMH Power Supply is controlled by the “ON/Extended Storage” Switch located on the side of the unit.

### ON/Extended Storage Switch

In the “ON” position, the power supply provides power to the Metro™ Series Mobile Computing Workstation systems. If the workstation is not used for an extended period of time, the ON/Extended Storage Switch should be put in the “Extended Storage” (OFF) position. The switch position disconnects the battery from any internal or external equipment and avoids deep discharges of the battery, which can cause damage to the battery.



**ON/Extended Storage Switch**



### **Warning: Risk of Electric Shock**

The Power Supply employs a Nickel Metal Hydride (NiMH) battery to provide mobile DC output power. Low voltage (11-16 VDC) DC power is available from the Power Supply even when the AC cord is disconnected from an AC outlet. To remove DC power, put the ON/Extended Storage Switch in the “Extended Storage” position.

## ***Starting BatteryPro***

---

BatteryPro Mobile Computing Workstation Power Supply Management Software is an optional application for monitoring the status of the MPE-7800 Series NiMH Power Supply. When installed, BatteryPro is typically configured to start automatically when the host computer starts up. No additional user action is required.

**Notice:** BatteryPro requires the workstation computer to be connected via USB to the MPE-7800 USB-B port. The connection is already made if the workstation is delivered with the MPE-7800 and BatteryPro installed.

If BatteryPro is not running as indicated by the status tray icon shown below, it can be started by double-clicking on the BatteryPro icon shortcut provided on the desktop by the software installation.



Red ball with lightening bolt indicates BatteryPro is running and power supply batteries are charging.



Battery shape indicates BatteryPro is running and power supply is running on batteries (example shown is fully charged state).



If BatteryPro is not running, double-click on the desktop shortcut to start BatteryPro.

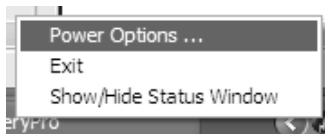
**Notice:** BatteryPro shortcut is also available from the Windows Start All Programs menu.

**Notice:** The first time BatteryPro is launched, the Windows Firewall may ask you if you want to continue to block BatteryPro. If this happens, click the “Unblock” button.

## ***BatteryPro Settings***

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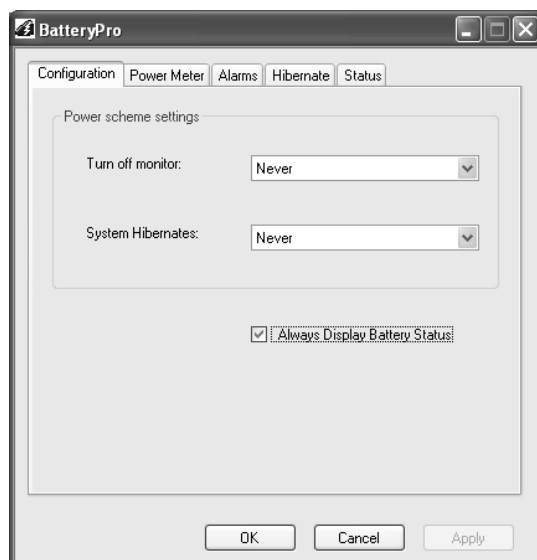
BatteryPro settings are configured through the BatteryPro dialog. The BatteryPro dialog is entered by right-clicking on the BatteryPro status tray icon, highlighting (with the mouse pointer) and selecting “Power Options ...” with a left click.



Right click on BatteryPro status Tray icon and select “Power Options ...” to enter BatteryPro configuration dialog.



The tabs in the BatteryPro dialog shown below may be selected to view and configure the BatteryPro settings. See the section “BatteryPro Configuration and Status” below.

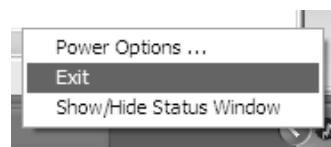


**Flo BatteryPro Dialog**

### ***Terminating BatteryPro***

---

BatteryPro can be stopped by right-clicking on the BatteryPro400 status tray icon, highlighting (with the mouse pointer) and selecting “Exit” with a left click.



Right click on BatteryPro status tray icon and select and left click on “Exit” to stop BatteryPro.

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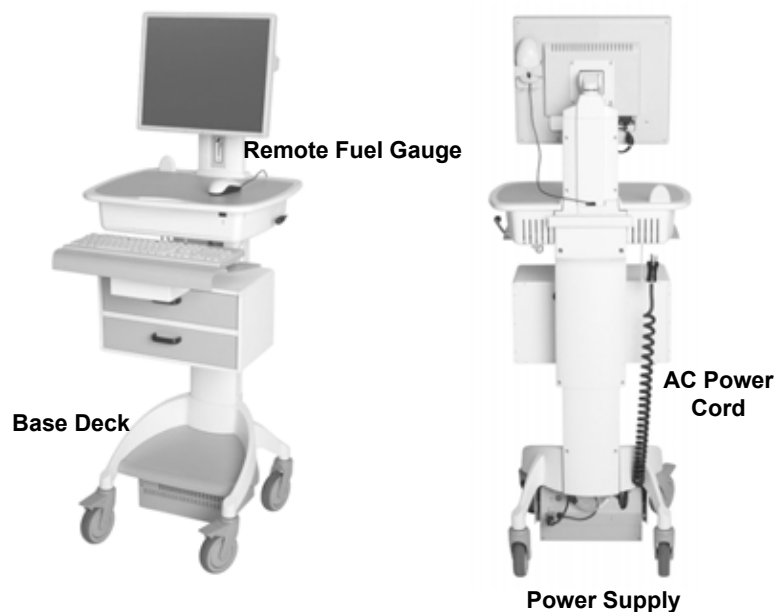
## Operation

The following section describes the basic function and operation of the MPE-7800 Series Nickel Metal Hydride (NiMH) Power Supply System.

### *Power Supply Location on the Metro™ Series Mobile Computing Workstation*

---

The MPE-7800 Series NiMH Power Supply is located in the bottom of the Metro™ Series Mobile Computing Workstation under the Base Deck. The Remote Fuel Gauge located on the monitor stalk and the AC Power Cord associated with the Power Supply are also indicated.

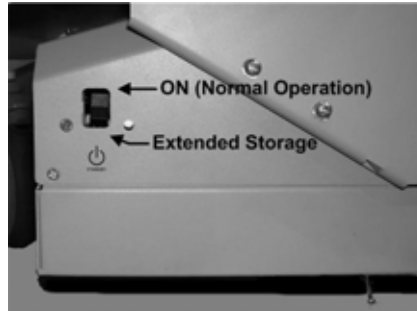


**Metro™ 1700 Series Base Showing Location of Power Supply**

## *Powering Up the MPE-7800 NiMH Power Supply*

---

To turn on the Power Supply, flip the ON (Normal Operation)/Extended Storage switch located on the side of the power supply to the “ON” (up) position.



**Metro™ MPE-7800 NiMH Power Supply “ON/Extended Storage” Switch**

## *Remote Fuel Gauge*

---

To display the charge level of the NiMH cells when operating on DC power, a Remote Fuel Gauge is connected to the power supply. The embedded Remote Fuel Gauge is located just below the monitor in the stalk and gives the user the current battery status at eye level height.



**Remote Fuel Gauge**

If the battery is fully charged, all five (5) amber LEDs are illuminated. The LEDs always display the battery charge level whether the computer is operating or not. As the battery loses charge, the LEDs gradually turn off, one at a time. Once the top four LEDs are off and only the amber LED marked “LOW” is illuminated and flashing, it is recommended to plug the AC cord into an AC outlet as soon as possible to charge the battery.







**Notice:**

Once the amber LED marked “LOW” starts to flash, plug the power supply into an AC outlet to avoid loss of system power, which may cause loss of data.

**Notice:**

Once the NiMH Power Supply has been plugged into an AC outlet, the Remote Fuel Gauge two green LEDs marked “AC” and “CH” turn on.

**Charge Status** Seven (7) multi color LEDs (green, amber) located on the Remote Fuel Gauge display the charging status of the NiMH power supply.

Fuel Gauge	Status
	<p>Battery is discharging under normal, mobile operation. Example shown is down to about 50% charge remaining.</p>
	<p>Low battery LED flashing: plug power supply into AC immediately.</p>
	<p>AC indicates the power supply is plugged into the wall AC. CH indicates the battery is charging. The amber LEDs will turn on in sequence to indicate the charging status. Example shown is up to about 50% charged.</p>
	<p>AC indicates the power supply is plugged into the wall AC. The Amber LEDs indicate the battery is fully charged. Note that the CH LED is not lit because the battery is not being charged since the cycle is complete.</p>

## Charge Time

### Initial Charge:

Before you use the power supply for the first time, the NiMH cells should receive a full charge of at least 8 hours.

### Break-in:

The MPE-7800 NiMH Power Supply must undergo a break-in period in order to realize the full battery capacity. The break-in period is usually the first 5 charge/discharge cycles. During the break-in period, the user may experience shorter runtimes than expected.

### Charge cycle:

After the initial charge, a completely discharged battery will quick charge in 3 to 3.5 hours to 95% of battery capacity. At the end of quick charge, all 5 amber LEDs will be illuminated and the green CH (Charge) LED will turn off. At this point, the batteries of the power supply are essentially charged and over the next 3 hours the power supply will slowly top off the batteries.

### **Notice:** Extended Storage

If the Mobile Computing Workstation will not be used for an extended period of time, ensure the ON/Extended Storage Switch is set to the "Extended Storage" (OFF) position. If the power supply is left in the "ON" position, the workstation equipment will continue to draw power and deep discharge the battery.

### **Notice:** Long Term Storage (Longer than one week)

If the Mobile Computing Workstation is to be placed in long term storage (longer than one week), the Power Supply should be fully charged before placing the "ON/Extended Storage" switch in the "Extended Storage" (OFF) position.



### **Warning: Risk of Electric Shock**

The Power Supply employs a NiMH battery to provide mobile DC output power. Low voltage (10-16 VDC) DC power is available from the Power Supply even when the AC cord is disconnected from an AC outlet. To remove DC power, put the ON/Extended Storage Switch in the "Extended Storage" (OFF) position.

## *Starting BatteryPro Application*

---

When installed, BatteryPro is typically configured to start automatically when the host computer starts up. No additional user action is required.

**Notice:** BatteryPro requires the workstation computer to be connected via USB to the MPE-7800 USB-B port. The connection is already made if the workstation is delivered with the MPE-7800 and BatteryPro installed.

If BatteryPro is not running as indicated by the status tray icon shown below, it can be started by double-clicking on the BatteryPro icon shortcut provided on the desktop by the software installation.



Red ball with lightening bolt indicates BatteryPro is running and power supply batteries are charging.



Battery shape indicates BatteryPro is running and power supply is running on batteries (example shown is fully charged state).



If BatteryPro is not running, double-click on the desktop shortcut to start BatteryPro.

**Notice:** BatteryPro shortcut is also available from the Windows Start All Programs menu.

**Notice:** The first time BatteryPro is launched, the Windows Firewall may ask you if you want to continue to block BatteryPro. If this happens, click the “Unblock” button.



If Windows Firewall pops up the Security Alert shown the first time BatteryPro is launched, click the “Unblock” button.

## *BatteryPro Status Indications*

---

BatteryPro has two ways of showing the status of the workstation power supply. Both are shown in the lower right-hand side of the computer display, in and above the status tray.

1. An icon in the status tray shows the state of the power supply batteries.
2. The Desktop Status Window, that can be hidden or moved anywhere on the workstation monitor display, provides brief information of the state of the power supply batteries.

### Status Icon

The Status Icon in the status tray shows the charge status of the workstation power supply batteries.

**Notice:** Placing the mouse pointer over the icon will reveal the charging status: the percentage of charge in the batteries and remaining charge time to full charge.



**Charging.** Power supply is plugged into AC power source and is charging the batteries.

**Notice:** If message “Communications: Standby” is displayed, the power supply is not talking to the workstation computer. See “Troubleshooting” below.



**Discharging, Full Level.** Power supply is not plugged into AC power and is running on batteries: batteries near full charge. Battery fill level is green.



**Discharging, Half Level.** Power supply is not plugged into AC power and is running on batteries: batteries near half charge. Battery fill level is green.



**Discharging, ¼ Level.** Power supply is not plugged into AC power and is running on batteries: batteries near ¼ charge. Battery fill level is yellow.

**Notice:** A “Low Battery Alert” message may be displayed if battery charge has dropped below threshold set for “Low Battery Alert” (see “Alarms” below).



**Discharging, Low Level.** Power supply is not plugged into AC power and is running on batteries: batteries nearly discharged. Battery fill level is red.

**Notice:** A “Critical Battery Alert” message may be displayed if battery charge has dropped below threshold set for “Critical Battery Alert” (see “Alarms” below).

## Desktop Status Window

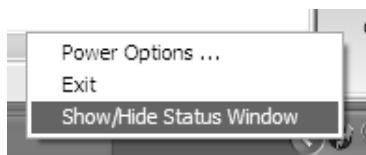
The BatteryPro Desktop Status Window normally appears above the status tray icon. It provides descriptive information of the charge status of the workstation power supply batteries, including estimated times to complete charging or until fully discharged. The Status Window will appear when BatteryPro is started if the “Always Display Battery Status” box is checked in the Configuration tab of the BatteryPro dialog (see “Configuration” under “BatteryPro Configuration and Status” below).

### Displaying the Desktop Status Window

The Desktop Status Window is enabled for display in two ways:

1. Open the BatteryPro dialog, select the “Configuration” tab and left click on (to check) the “Always Display Battery Status” box (see “Configuration” under “BatteryPro Configuration and Status” below).
2. If the Desktop Status Window is not displayed, right click on BatteryPro status tray icon and select and left click on “Show/Hide Status Window” to display it.

**Notice:** Using this method to display the Desktop Status Window will not change the “Always Display Battery Status” setting in the Configuration.



If the Desktop Status Window is not displayed, right click on BatteryPro status tray icon and select and left click on “Show/Hide Status Window” to display it.

### Moving the Desktop Status Window

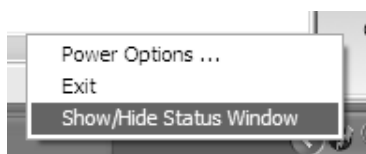
You may move the Desktop Status Window by clicking on it and holding down the left mouse button, and then dragging it to any part of the monitor display.

### Hiding the Desktop Status Window

The Desktop Status Window is hidden (disabled from display) in two ways:

1. Open the BatteryPro dialog, select the “Configuration” tab and left click on (to uncheck) the “Always Display Battery Status” box (see “Configuration” under “BatteryPro Configuration and Status” below).
2. If the Desktop Status Window is displayed, right click on BatteryPro status tray icon and select and left click on “Show/Hide Status Window” to hide it.

**Notice:** Using this method to hide the Desktop Status Window will not change the “Always Display Battery Status” setting in the Configuration.



If the Desktop Status Window is displayed, right click on BatteryPro status tray icon and select and left click on “Show/Hide Status Window” to hide it.



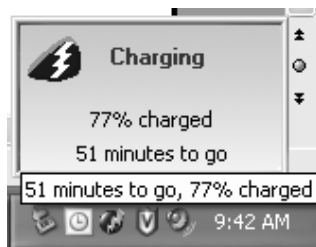
## Desktop Status Window Indications

Following are the indications and meanings of the Desktop Status Window.



**Communications: Standby.** Power supply and workstation computer communications interrupted.

When BatteryPro starts, the power supply and computer establish USB communications and BatteryPro performs a charge test for status of the power supply batteries. The status should change to one of the states below: if it does not, the USB connection between the computer and power supply has a problem. See "Troubleshooting" below.



**Charging.** Power supply is plugged into AC power source and is charging the batteries.

Displays battery charge level as a percentage and calculated remaining charge time.

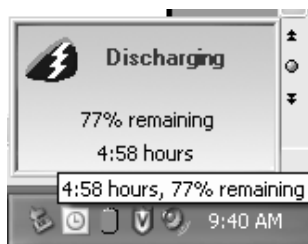


**Charged.** Power supply is plugged into AC power source and the batteries are fully charged.



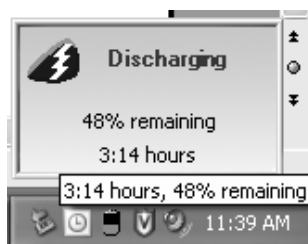
**Discharging, Full Level.** Power supply is not plugged into AC power and is running on batteries.

Battery charge level is displayed as a percentage and calculated remaining run time based on the current equipment load.



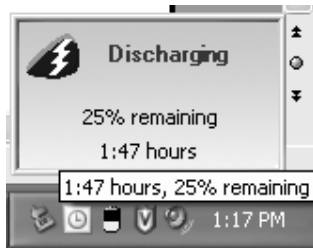
**Discharging.** Power supply is not plugged into AC power and is running on batteries.

Battery charge level is displayed as a percentage and calculated remaining run time based on the current equipment load.



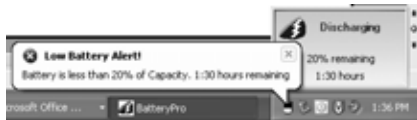
**Discharging, Half Level.** Power supply is not plugged into AC power and is running on batteries: batteries near half charge.

Battery charge level is displayed as a percentage and calculated remaining run time based on the current equipment load.



**Discharging, ¼ Level.** Power supply is not plugged into AC power and is running on batteries: batteries near ¼ charge.

Battery charge level is displayed as a percentage and calculated remaining run time based on the current equipment load.



**Discharging, Low Level.** Power supply is not plugged into AC power and is running on batteries.

Battery charge has dropped below threshold set for “Low Battery Alarm” (see “Alarms” below).

**Notice:** A “Low Battery Alert!” message may be displayed if “Display Message” box is checked for the Notification action. See “Alarm Notification and Action Settings” in “Alarms” below.



#### Low Alarm Mute Button.

If the “Sound Alarm” and “Continuous” boxes have been checked for the Notification action (see “Alarm Notification and Action Settings” in “Alarms” below), the “Low Alarm Mute” button will appear above the Status Window when the “Low Battery Alarm” activates.

Click on the “Low Alarm Mute” button to stop the alarm sound.



**Discharging, Critical Level.** Power supply is not plugged into AC power and is running on nearly discharged batteries.

Battery charge has dropped below threshold set for “Critical Battery Alarm” (see “Alarms” below).

**Notice:** It is recommended that the power supply be plugged into AC power immediately, especially if the “Shutdown Pending” status is displayed.

**Notice:** A “Critical Alert!” message may be displayed if “Display Message” box is checked for the Notification action. See “Alarm Notification and Action Settings” in “Alarms” below.



#### Critical Alarm Mute Button.

If the “Sound Alarm” and “Continuous” boxes have been checked for the Notification action (see “Alarm Notification and Action Settings” in “Alarms” below), the “Critical Alarm Mute” button will appear above the Status Window when the “Critical Battery Alarm” activates.

Click on the “Critical Alarm Mute” button to stop the alarm sound.

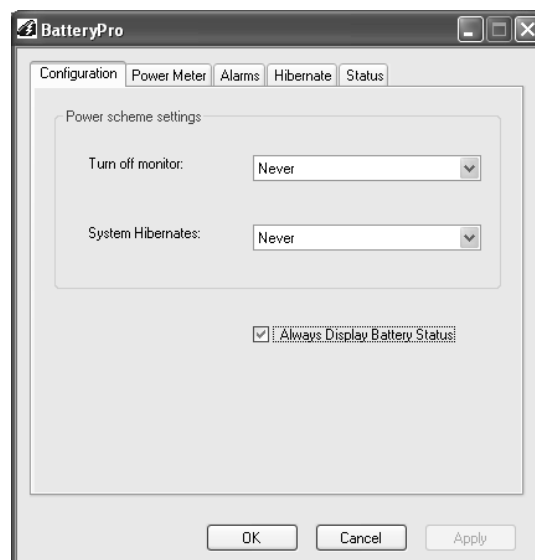
## *BatteryPro Configuration and Status*

---

BatteryPro settings are configured through the BatteryPro dialog window. The BatteryPro dialog also displays more detailed status and diagnostic information. The tabs in the BatteryPro dialog may be selected to configure and view the various BatteryPro settings and status:

- **Configuration:** Displays and allows authorized users to change the BatteryPro Power Scheme settings and to reveal or hide the display of the Desktop Status Window.
- **Power Meter:** Displays the current summary information about the power source and batteries.
- **Alarms:** Displays and allows authorized users to change the low and critical battery alert levels and actions settings.
- **Hibernate:** Displays workstation computer disk requirements for hibernation, allows forcing the computer into hibernation before a low battery shutdown condition occurs and contains the feature to reveal the hidden Diagnostics tab.
- **Status:** Displays power supply battery history summary and BatteryPro version.
- **Diagnosis:** Hidden tab: when revealed, displays power supply firmware version and power supply and individual battery data for troubleshooting purposes.

The following sections detail the functions of the tabs in the BatteryPro dialog.



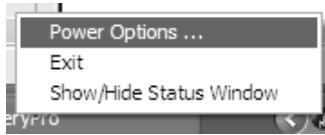
**Default Metro BatteryPro Dialog**

## Opening the BatteryPro Dialog Window

The BatteryPro dialog is entered by right-clicking on the BatteryPro status tray icon, highlighting (with the mouse pointer) and selecting “Power Options ...” with a left click.

The dialog may also be entered if BatteryPro is already running through one of the following methods:

1. Double-click on the status tray icon.
2. Double-click on the BatteryPro shortcut on the desktop.
3. Select BatteryPro from the Windows Start All Programs menu.



Right click on BatteryPro status Tray icon and select “Power Options ...” to enter BatteryPro configuration dialog.

## Configuration

The “Configuration” tab is the default display when the BatteryPro dialog is first displayed. The “Configuration” tab allows setting of the BatteryPro Power Scheme and to set whether the Desktop Status Window will always be displayed (see “Desktop Status Window” above).

**Notice:** Power Scheme settings are grayed out and not available when a user has been restricted. See “( )” below.



### **Default Configuration Tab Display**

Select “Configuration” tab in BatteryPro dialog (appears first when BatteryPro dialog is first opened).

Set the following:

1. Power Scheme Settings.
2. Always Display Battery Status

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.



### Configuration Tab Display When User Access Is Restricted

Select “Configuration” tab in BatteryPro dialog.

Power Scheme settings are grayed out and not available to be changed.

Set the “Always Display Battery Status” only.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

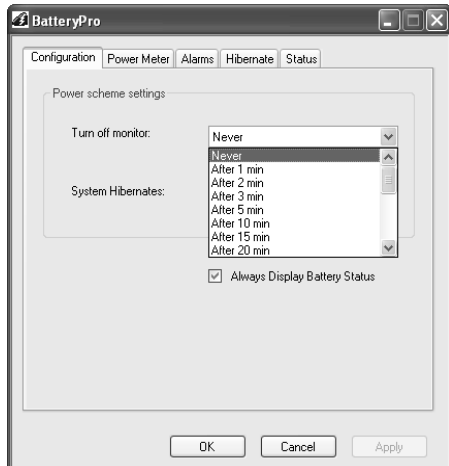
Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

### Power Scheme Setting:

The Power Scheme Setting sets two delays for when the workstation is not actively being used:

1. “Turn off monitor”: delay until the system turns off the workstation display monitor.
2. “System Hibernates”: delay until the computer enters hibernation.



### Power Scheme Setting:

Click on down arrow at right of setting to open drop down list.

Click on desired time delay value – use right side bar to scroll down for more values.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

### Always Display Battery Status checkbox:

The “Always Display Battery Status” checkbox controls the display of the Desktop Status Window:

- The Desktop Status Window is enabled to view immediately by left clicking on to check the box on the Scheme tab. This performs the same function as the procedure in “Displaying the Desktop Status Window” above.

- The Desktop Status Window is disabled and hidden from view immediately by left clicking on to un-check or clear the box on the Scheme tab. This performs the same function as the procedure in “Hiding the Desktop Status Window” above.

## **Power Meter**

Click on the “Power Meter” tab to view the current summary information about the power source and batteries.



### **Power Meter Tab Display: On Batteries**

Select “Power Meter” tab in BatteryPro dialog.

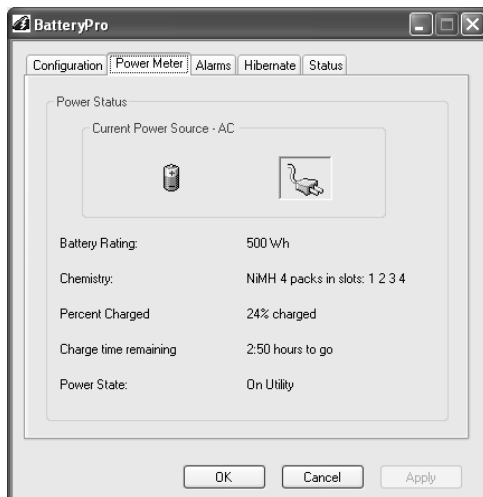
Shown at left is indication of running off battery.

Display includes battery specifications, calculated run time and percent capacity of charge remaining.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.



### **Power Meter Tab Display: On AC**

Select “Power Meter” tab in BatteryPro dialog.

Shown at left is indication of plugged in and running off AC and charging.

Display includes battery specifications, percent of capacity charged and time remaining until fully charged.

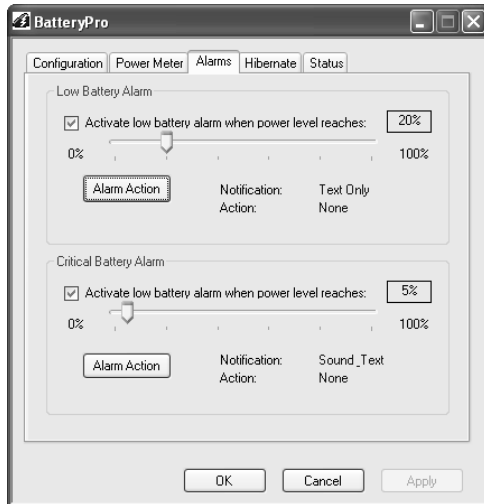
Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

## Alarms

Click on the “Alarms” tab to view or allow authorized users to change low and critical battery alert levels and actions settings. Clicking on the “Alarm Action” buttons displays additional options for setting the messages and actions to be taken by BatteryPro when the alarms occur.



### **Default Alarms Tab Display**

Select “Alarms” tab in BatteryPro dialog.

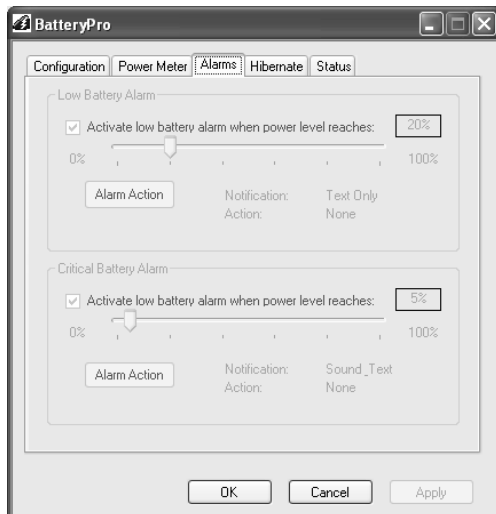
Set Low Battery and Critical Battery Alarm threshold levels by:

1. Click check box to activate alarm.
2. Click on and while holding down mouse button, drag pointer on threshold slide bar. Percentage is battery discharge level when the alarm will activate Notification and perform the Action shown.
3. Click on “Alarm Action” button to set Alarm actions. New dialog will pop up (see below).

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.



### **Alarms Tab Display When User Access Is Restricted**

Alarms settings are grayed out and not available to be changed when a user has been restricted.

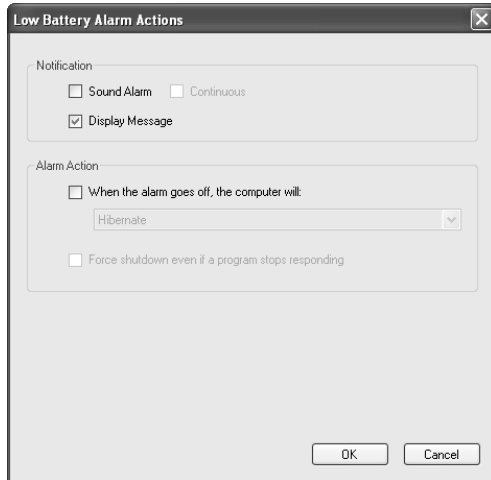
Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

## Alarm Notification and Action Settings:

Click on “Alarm Action” button to set Alarm actions. There are separate settings for the Low Battery and Critical Battery Alarms.



### Notification settings:

Click check boxes to set type of Notification desired. Two types are available in any combination:

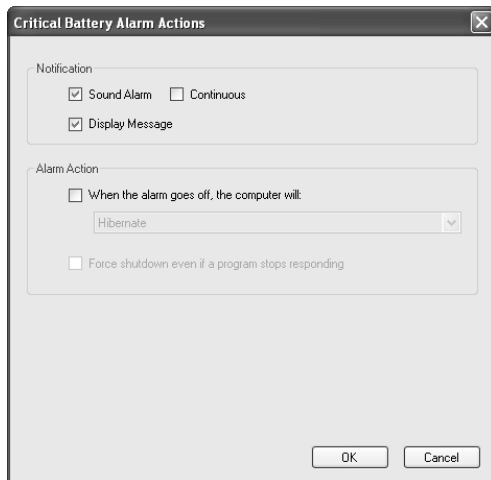
1. Sound Alarm: a Windows Default Critical Error Program Error sound that runs one time only or continuously if the “Continuous” checkbox is selected.

The “Continuous” checkbox becomes available only when Sound Alarm is checked.

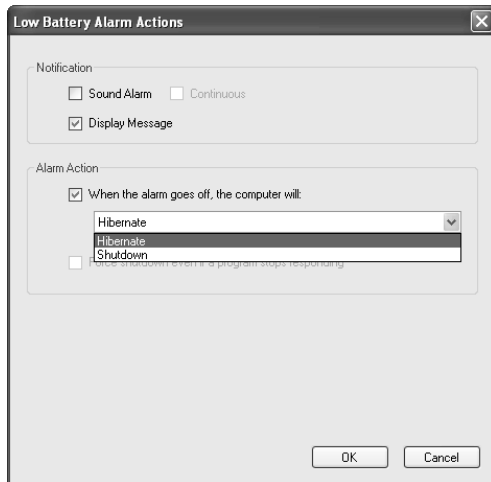
2. Display Message: a pop-up warning message will appear on the screen. See “Desktop Status Window” above.

Click on “OK” button to apply new value and exit the dialog.

Click on “Cancel” button or “X” to exit dialog without saving change to settings.







### Alarm Action setting:

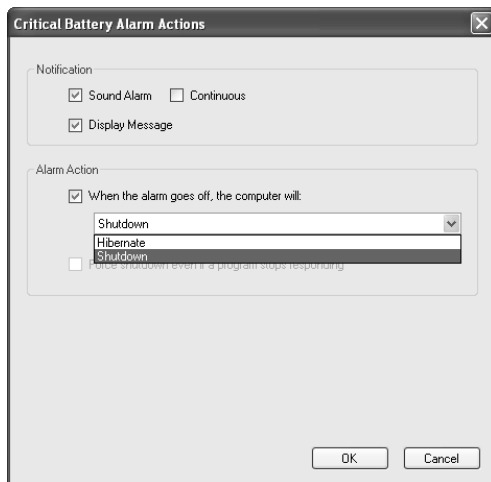
Click check box to enable an Alarm action to be performed when the alarm occurs.

Click on down arrow at right of setting to open drop down list.

Click on desired action: Hibernate or Shutdown. If enabled by the checkbox, the workstation computer will perform the selected action when the alarm level is reached.

Click on "OK" button to apply new value and exit the dialog.

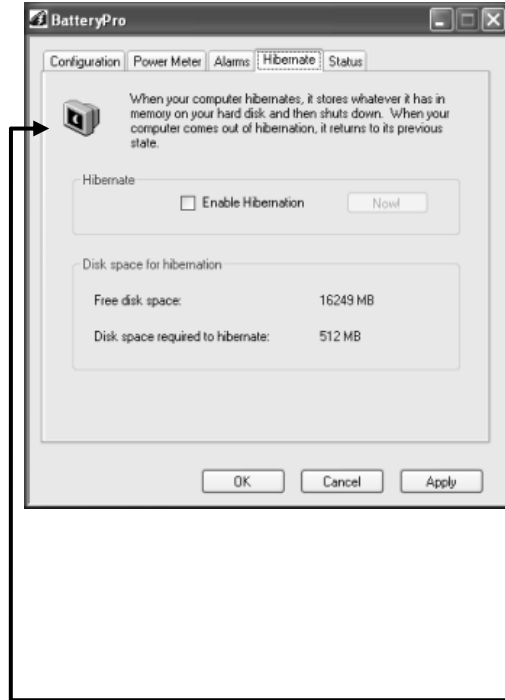
Click on "Cancel" button or "X" to exit dialog without saving change to settings.



## Hibernate

Click on the “Hibernate” tab to display disk space requirements and availability for workstation computer hibernation and to enable immediate computer hibernation.

The hidden “Diagnostics” tab is revealed through the “Hibernate” tab by holding down the “Ctrl” key and clicking on the Monitor icon: see “Diagnostics” below.



### **Hibernate Tab Display**

Select “Hibernate” tab in BatteryPro dialog.

Display includes:

1. Force hibernate: click check box to enable computer to enter hibernation mode.
2. Available disk space and required disk space for hibernation.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

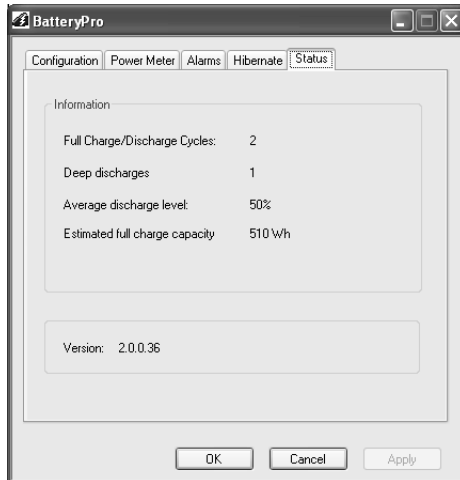
Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

**Notice:** While holding down “Ctrl” key, click on Monitor icon in upper left of dialog to reveal hidden “Diagnostics” tab.

## Status

Click on the “Status” tab to view a quick glance summary of the power supply battery history and the BatteryPro version.



### Status Tab Display

Select “Status” tab in BatteryPro dialog.

Display includes power supply battery information:

1. Charge cycle history
2. Estimated capacity

Display also includes current BatteryPro software version.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray icon without applying changes.

Click on another tab to view or edit other settings.

## Diagnostics

When revealed, clicking on the “Diagnostics” tab provides a running list of power supply and battery data for troubleshooting purposes. The “Diagnostics” tab is advanced functionality not meant for the general user.

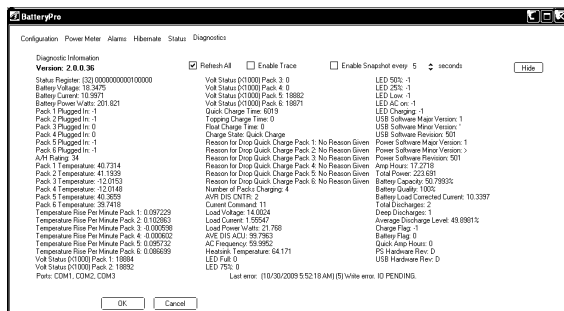
**Notice:** The hidden BatteryPro “Diagnostics” tab is revealed by holding down the “Ctrl” key and clicking on the Monitor icon in the “Hibernate” tab display: see “Hibernate” above.



### Reveal Diagnostics Tab

Select “Hibernate” tab in BatteryPro dialog.

While holding down “Ctrl” key, click on Monitor icon in upper left of dialog to reveal hidden “Diagnostics” tab.



## Diagnostics Tab Display

When revealed, select “Diagnostics” tab in BatteryPro dialog.

In this display each battery pack may be individually monitored for detailed diagnostic purposes.

The “Hide” button hides the “Diagnostics” tab again.

Click on “Apply” or “OK” button to apply new values. “OK” also minimizes the dialog back to the status tray.

Click on “Cancel” button or “X” to minimize the dialog back to the status tray without applying changes.

Click on another tab to view or edit other settings.

## Hide Diagnostics Tab:

Click the “Hide” button to hide the “Diagnostics” tab again.

## Refresh All Checkbox:

Click the “Refresh All” checkbox is an advanced function to enable continuous refresh of the “Diagnostics” tab data display. The data will refresh every approximately 15 seconds.

## Enable Trace and Enable Snapshot Checkboxes:

The “Enable Trace” and “Enable Snapshot” checkboxes are advanced functions for test purposes only and not for general user.

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## MPE-7800 Power Supply System Installation

In general, the Metro™ MPE-7800 Series NiMH Power Supply is provided already installed on a Metro™ Mobile Computing Workstation and is ready for use.

The MPE-7800 Series NiMH Power Supply can be retrofitted, replaced or installed new on a Metro™ Mobile Computing Workstation. The power supply is self-contained and is attached using the correct mounting hardware and cables on the bottom of the Metro™ Mobile Computing Workstation base.

For additional help, contact InterMetro Customer Service.

### *Hardware Installation*

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**Notice:** The following mounting and removal procedures apply to the most recent version of the MPE-7800 Series Power Supply for the Metro™ Mobile Computing Workstations. Older versions employ stud mounting slots on the top of the unit instead of the bracket system described below. For additional information and help, please contact InterMetro Customer Service.

#### Mounting the MPE-7800 Power Supply



**Caution:**

For safety, only qualified service personnel should perform the following procedure to mount the MPE-7800 Series Power Supply on the Metro™ Mobile Computing Workstations.

To mount the MPE-7800 Series Power Supply to the workstation base as a new or replacement to an existing power supply, perform the following steps:

**Notice:** All handle brackets, screws and other hardware used in this procedure are usually taken from a previous power supply mounted on the workstation. If replacement hardware is needed, please contact InterMetro Customer Service.

1. Attach two handle brackets, one on each side of the power supply using three 8-32 pan head screws. Be sure to put the right-hand bracket on the right side and left-hand on the left side (the ramp tabs should be at the low end of the slant and to the outside).
2. Facing the back of the workstation, align the handle brackets inside the power supply mounts on the bottom of the workstation base. Lift the power supply up and move toward the front of the workstation, sliding the handle brackets up the ramp of the mounts, until the tabs on lower ends of the brackets drop and catch in the slots on the mounts.
3. Secure each side with two 8-32 pan head screws.
4. Connect all cables: DC Power connector, RJ45 cable to the Gauge port, USB to the USB-B port (If provided. **Notice:** USB connection is required for use with BatteryPro) and AC cable. Secure the AC cable with the clamp to the ground stud on the back of the power supply.

## Removing the MPE-7800 Power Supply



### **Caution:**

For safety, only qualified service personnel should perform the following procedure to remove the MPE-7800 Series Power Supply from the Metro™ Mobile Computing Workstations.

To remove the MPE-7800 Series Power Supply from the workstation base for replacement, perform the following steps:

**Notice:** Save all handle brackets, screws and other hardware that are removed by this procedure for the replacement power supply to be mounted on the workstation. If replacement hardware is needed, please contact InterMetro Customer Service.

1. Disconnect all cables: DC Power connector, RJ45 cable from the Gauge port, USB from the USB-B port and AC cable. Remove the AC cable clamp from the ground stud on the back of the power supply.
2. Remove the two 8-32 pan head screws from the workstation power supply mounts on each side.
3. Facing the back of the workstation, lift the power supply up to free the tabs from the slots on the mounts on the bottom of the workstation base. Slide the handle brackets down the ramp of the mounts and lift out the power supply.
4. Remove the three 8-32 pan head screws from each of the two handle brackets on each side of the power supply.

**Notice:** The handle bracket hardware must be removed and the batteries must be disconnected before returning the power supply to InterMetro Industries Corporation.

## *Software Installation*

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The BatteryPro software application installation file contains all drivers and applications for BatteryPro operation.

**Notice:** Typically, the BatteryPro Mobile Computing Workstation Power Supply Management software and drivers are installed at the factory and no additional installation is required.

**Notice:** The software package should already be installed on the workstation computer before plugging in the USB cable.

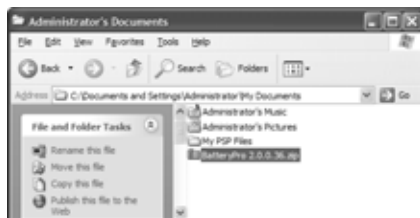
**Notice:** All procedure steps contained in this section for installation and setup of the software application and drivers must be performed by a user logged in as Administrator.

**Notice:** Microsoft® .NET Framework 2.0 or higher must be installed on the workstation computer before installing BatteryPro software and its drivers. See “Installing .NET Framework” below.

For any problems with application installation or settings, please first consult your IT department before contacting InterMetro Customer Service.

### Extracting the BatteryPro Package Files

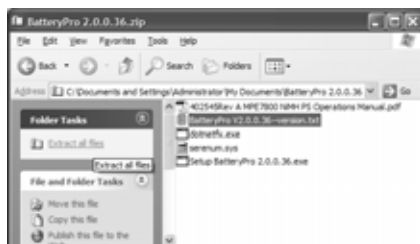
The BatteryPro software, .NET Framework 2.0 and the electronic version of this manual are packaged in the file “BatteryPro 2.0.0.xx.zip”, where “xx” is the latest released version, which is supplied on an installation disk or can be downloaded from the [www.metro.com](http://www.metro.com). Contact InterMetro Customer Service for additional details.



#### **Save BatteryPro Software Package**

Copy the downloaded file or file from supplied disk “BatteryPro 2.0.0.xx.zip” to a directory location on local hard disk (Administrator documents location recommended) or to a flash drive.

Double-click on the file.



#### **Extract BatteryPro Files**

Click on “Extract all Files” under “Folder Tasks”



#### **Extraction Wizard Automatically Starts**

Click “Next” button or type “n” to continue.

Click “Cancel” or red “X” button to stop extraction.



## Select Destination for Files

Click “Browse” button or type “r” to set a different location to save the files.

Click “Next” button or type “n” to continue.

Click “Back” button or type “b” to return to previous screen.

Click “Cancel” or red “X” button to stop extraction.



## Extraction Activity

This screen will appear showing extraction progress.

Click “Cancel” or red “X” button to stop extraction.



## Extraction Complete

Click on check box “Show extracted files” to set whether you want to launch the window showing the extracted files when you click the “Finish” button.

Click “Finish” button to close window.

**Notice:** If there are problems in the install process, the “Back” and “Cancel” buttons may become available. In that case:

Click “Back” button or type “b” to return to previous screen.

Click “Cancel” or red “X” button to stop extraction.



## Extracted BatteryPro Files

Note the BatteryPro files and their location.



## Application Installation

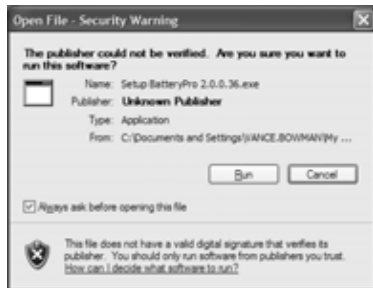
Run setup executable from the installation disk supplied or from the downloaded file from [www.metro.com](http://www.metro.com) (see “Extracting the BatteryPro Package Files” above). The setup executable is named “Setup\_BatteryPro 2.0.0.xx.exe” where “xx” is the latest released version and will install the BatteryPro application.



### **Application Installation: Run the Setup File**

From the folder of the extracted BatteryPro installation files (see “Extracting the BatteryPro Package Files” above):

Double-click on the “Setup BatteryPro 2.0.0.xx.exe” (where “xx” is latest released version).



### **Application Installation: Open File**

Windows may give a warning.

Click “Run” button or type “r” to continue.

Click “Cancel” or red “X” button to stop installation.



### **Welcome to Setup Wizard**

Click “Next” button or type “n” to continue.



### **Copyright Notice**

Click “Next” button or type “n” to continue.



## Users Options Setup: Restrictions Selection

Click on “Yes” to allow all users to be able to configure all BatteryPro settings (default setting: Recommended).



Or, click on “No, this should only be done by an Administrator” to restrict certain changes to BatteryPro settings to Administrator privilege only.

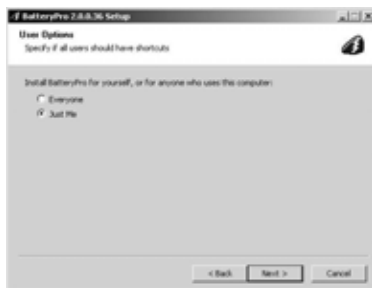
See “BatteryPro Configuration and Status” sections on “Configuration” and “Alarms” above.

Click “Next” button or type “n” to continue.



## Users Options Setup: Shortcut Availability Selection

Click on “Everyone” to allow shortcut to be setup for all users on their desktop and in the Windows Start All Programs menu (default setting: Recommended).



Click on “Just Me” to place shortcut only on the desktop and in the Windows Start All Programs menu of the Administrator user performing the installation.

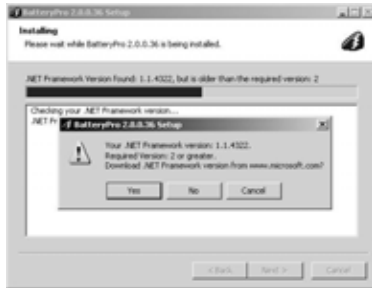
Click “Next” button or type “n” to continue.



## Choose Install Location

Set Destination Folder for program installation. Type in folder path in field and press Enter or click on “Browse...” or type “r” and navigate to the desired location.

Click “Next” button or type “n” to continue. Program installation will begin, showing a window of activity until the “Installation Complete” screen below appears.



### Notification: .NET Framework version not 2.0 or higher

If this notification appears during the installation activity:

Click the “No” button and then the “Cancel” button in the Setup dialog to stop installation. Perform the procedure “Installing .NET Framework” below and then retry installing the BatteryPro application beginning at the start of this procedure above.

**Notice:** Clicking the “Yes” button is not recommended: the installation program will attempt to access the internet to download “dotnetfx.exe” from the Microsoft website.



### Installation Complete

Click “Finish” button or type “f” to close window.

**Notice:** If there are problems in the install process, the “Back” and “Cancel” buttons may become available. In that case:

Click “Back” button or type “b” to return to previous screen.

Click “Cancel” or red “X” button to stop installation.

### Installing .NET Framework

Run setup executable from the installation disk supplied or from the downloaded file from [www.metro.com](http://www.metro.com) (see “Extracting the BatteryPro Package Files” above). The setup executable is named “dotnetfx.exe”.



### .NET Framework Installation: Run the Setup File

From the folder of the extracted BatteryPro installation files (see “Extracting the BatteryPro Package Files” above):

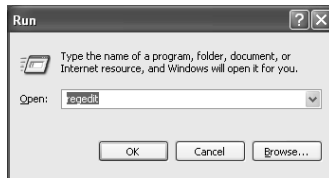
Double-click on the “dotnetfx.exe”.

After starting the install process above, the .NET Framework installation will begin. Follow all instructions given. The installation of .NET will take substantial time.

**Notice:** For .NET Framework to run properly on the Wyse V90 series thin client computer, it may be necessary to increase the RAMdisk size. See “Increasing RAMdisk Size” under “Completing for the Wyse V90 Series or Similar Thin-Client Computer” below.

## Permissions Setup for Standard or Restricted Windows User

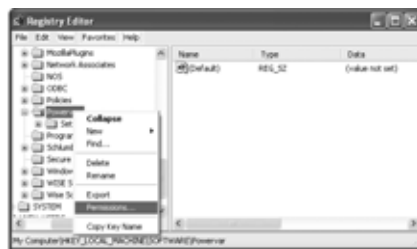
The default Windows settings for a user with standard privileges or the settings for an otherwise restricted user will not allow proper permissions for BatteryPro to run for those accounts. The registry permissions must be changed for the BatteryPro registry location through the following procedure.



### **Run “regedit”**

From Windows Start menu, select “Run...” and enter “regedit”.

Click “OK” button to continue.

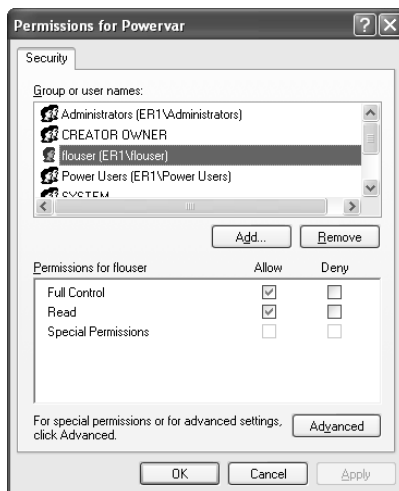


### **Open Permissions for Powervar**

Navigate to the folder:

“My Computer\HKEY\_LOCAL\_MACHINE\SOFTWARE\Powervar”

Right click on the folder and select and click on “Permissions...” in the pop-up menu.



### **Set Permissions for Powervar**

Select name of standard, limited or restricted user.

Click the check box under “Allow” for both “Full Control” and “Read”.

Repeat for each affected user.

Click “OK” button to accept.

Click “Cancel” or red “X” button to exit without changing permissions.

## USB Driver Installation

Plug in the USB cable to complete the installation of the required USB drivers. Windows will detect the new device on the USB port and automatically perform the “Found New Hardware” utility as shown below. Perform the following steps as shown. For additional details, contact InterMetro Customer Service.

**Notice:** Additional driver files and procedure steps will be required to complete the USB driver installation for the Wyse V90 series or similar computer. The installation of the Serial Port will require additional steps shown in the procedure below. Please see also details below in “Settings for the Wyse V90 Series or Similar Thin-Client Computer”.



### Found New Hardware Wizard

Windows will detect a new device on the USB port and automatically open the “Found New Hardware Wizard” utility.

Click on “No, not this time.”

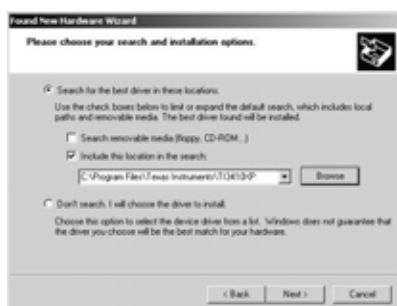
Click “Next” button or type “n” to continue.



### Install TUSB3410 Boot Device

Click on “Install from a list or specific location (Advanced).”

Click “Next” button or type “n” to continue.



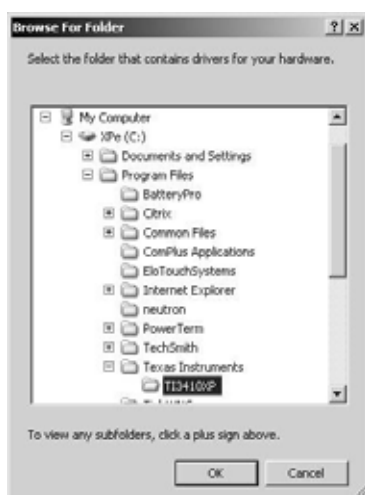
### Choose Location of Driver

Click on “Search for the best driver in these locations.”

Click on “Include this location in the search.”

If necessary, click on the “Browse” button to find the location shown below.

Click “Next” button or type “n” to continue.



Navigate to and select with a left click (as shown):

“x:\Program Files\Texas Instruments\TI3410XP”, where “x:” is the main drive (usually “C:” drive).

Click “OK” button to return to the dialog above.



## Hardware Installation Warning

If you receive this warning:

Click “Continue Anyway” button or type “c” to continue.



## Installation Process Activity

You will briefly see a dialog as the driver is installed.



## Completing Installation of TUSB3410 Device

After the brief activity screen, the completion screen will appear.

Click on “Finish” button or press “Enter” key.



## Found New Hardware Wizard

Windows will detect another new device on the USB port and automatically open the “Found New Hardware Wizard” utility.

Click on “No, not this time.”

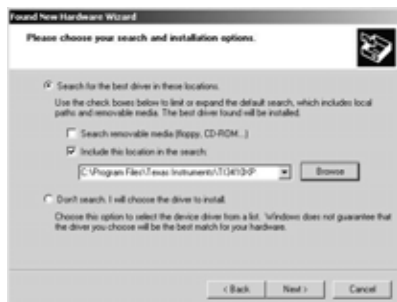
Click “Next” button or type “n” to continue.



## Install Texas Instruments UMP Serial Port

Click on “Install from a list or specific location (Advanced).”

Click “Next” button or type “n” to continue.



## Choose Location of Driver

Click on “Search for the best driver in these locations.”

Click on “Include this location in the search:”

If necessary, click on the “Browse” button and navigate to and select:

“x:\Program Files\Texas Instruments\TI3410XP”, where “x:” is the main drive (usually “C:” drive).

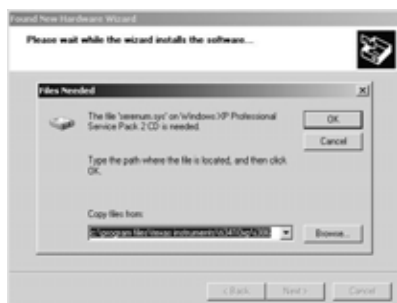
Click “Next” button or type “n” to continue.



## Hardware Installation Warning

If you receive this warning:

Click “Continue Anyway” button or type “c” to continue.



## Files Needed (Wyse V90 or similar only)

During the installation process activity, it may stop with the “Files Needed” warning shown. The additional file “serenum.sys” is required.

Click the “Browse” button.

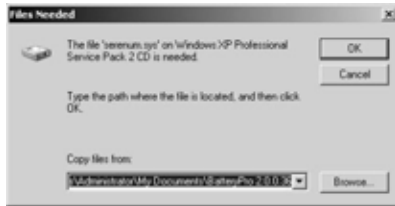


Navigate to the folder of the extracted BatteryPro installation files (see “Extracting the BatteryPro Package Files” above).



Click on the “serenum.sys” (extension “.sys” may not appear – that is the type of file Windows is looking for).

Click “Open” button to continue.



Click “OK” button to continue.



### Completing Installation of USB - Serial Port

After the brief activity screen, the completion screen will appear.

Click on “Finish” button or press “Enter” key.

### Settings for the Wyse V90 Series or Similar Thin-Client Computer

After completing the procedure above for “USB Driver Installation”, perform the following steps as shown for the Wyse V90 series or similar thin client computer only. For additional details, contact InterMetro Customer Service.

### Disable SNMP Services

Perform the following procedure to disable the SNMP Services on the Wyse V90 series or similar thin client computer only. Failure to complete this procedure may result in an SNMP error when you attempt to run BatteryPro.



### Select “Administrative Tools” from Control Panel

From Windows Start menu, select “Settings” -> “Control Panel”.

Double click on “Administrative Tools” icon.



### Open “Services” in Administrative Tools

In “Administrative Tools”, double click on “Services” icon.





## Select SNMP Service

Using side scroll, find “SNMP Service”.

Right click on the “SNMP Service” and select and click on “Permissions...” in the pop-up menu.



## Stop SNMP Service

Click “Stop” button to stop SNMP service.

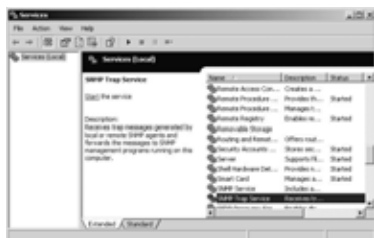
Click “Cancel” or red “X” button to exit without changing “SNMP Service” properties.



## Disable SNMP Service

Click on down arrow button next to “Startup Type” and from the drop down list select and click on “Disabled”.

Click “OK” button to accept.



## Select SNMP Trap Service

Using side scroll, find “SNMP Trap Service”.

Right click on the “SNMP Trap Service” and select and click on “Permissions...” in the pop-up menu.



## Disable SNMP Trap Service

Click on down arrow button next to “Startup Type” and from the drop down list select and click on “Disabled”.

Click “OK” button to accept.

Close the “Services” and “Administrative Tools” windows.

## Increasing RAMdisk Size

Perform the following procedure to increase the RAMdisk size on the Wyse V90 series or similar thin client computer only to allow proper operation of .NET Framework.



### **Open “Ramdisk” from Control Panel**

From Windows Start menu, select “Settings” -> “Control Panel”.

Double click on “Ramdisk” icon.



### **Set RamDisk size**

Enter new value or click on up arrow to increase size of RAMdisk. It is recommended to maximize RAMdisk size.

Click on “Apply” or “OK” button to apply new values. “OK” also closes the dialog.

Click on “Cancel” button or “X” to close the dialog without applying changes

Close the “Control Panel” window.

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## Maintenance and Storage

### *Cleaning*

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Use Metro Cleaner (foaming aerosol available from InterMetro Customer Service), or an equivalent mild hospital disinfectant, to clean the exposed surfaces of the workstation on a regular basis. Metro Cleaner is compatible with all of the components of the Metro™ Series Mobile Computing Workstation.

- Dampen a soft cloth with Metro Cleaner or equivalent cleaner
- Wipe surfaces until clean
- Do not spray Metro Cleaner into any openings (like air vents or fan on power supply, etc.) of the Power Supply.
- Do not use Metro Cleaner for medical devices used for patient contact (EKG contacts, etc.).

### *Power Supply Air Filter*

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#### **Notice:**

The MPE-7800 Series Power Supply, Revision F4 and later, has no external fan filter and is indicated by the label shown.



The vents around the outside of the power supply should be checked for lint or dust buildup periodically and cleaned periodically by brushing off the vents with a soft cloth or brush.

#### **Notice:**

The following procedure for the Power Supply Air Filter applies only to and is required for the MPE-7800 Series Power Supply that has an external fan filter, Revision F3 or earlier, which may also be indicated by the label shown.

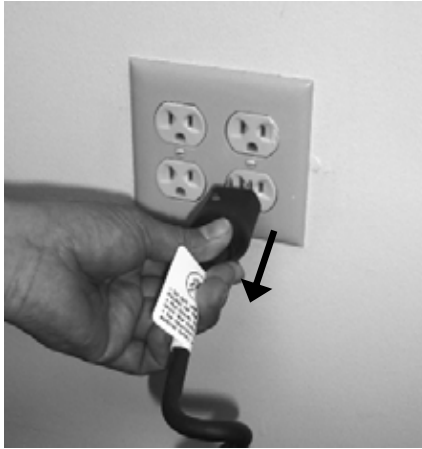


#### **Notice:**

In order to ensure proper cooling airflow, the Power Supply air filter for the MPE-7800 Series NiMH Power Supply must be checked and cleaned or replaced every 2 months. You will have one of two types of filters: a flexible filter or an Easy-Clean metal screen filter. Perform the following procedure to access and clean or replace the filter.

Ensure Power Supply is off

- Disconnect the AC cable from the wall outlet.



- Put the ON/Extended Storage switch of the Power Supply to the "Extended Storage" (OFF) position.



**Notice:**

Power Supply  
Cover Door

On some models of Metro™ Series Mobile Computing Workstation it may be necessary to access the Power Supply on the back by opening a cover door at the bottom of the cart.

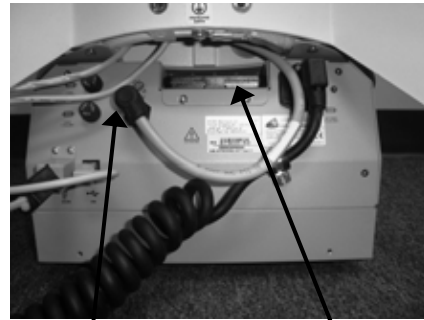


**Open Power Supply Cover Door As Required**

## Flexible Filter Cleaning / Replacement

Perform the following procedure to access and clean or replace the flexible filter.

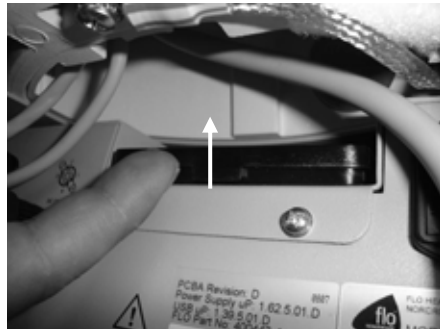
- Clear the cables away from the Power Supply fan area to reach the fan filter cover. In some cases the DC power cable may need to be disconnected.



**DC Power Connector    Fan Filter Assembly**

### Power Supply Back View

- Open the fan filter assembly by pressing up the top filter cover with the index finger of your right hand.



**Press up the filter cover**



**Filter cover open**

- Remove filter from the assembly.

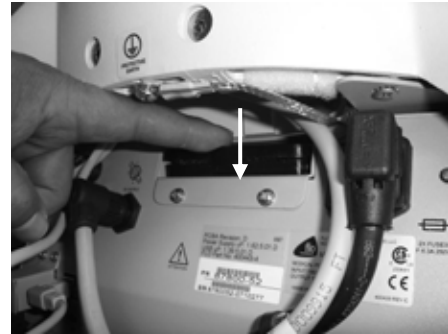


**Fan Filter**

- Clean the filter by rinsing in running water or replace as required.
- Insert clean or new filter and press the top filter cover back down.



**Insert filter**



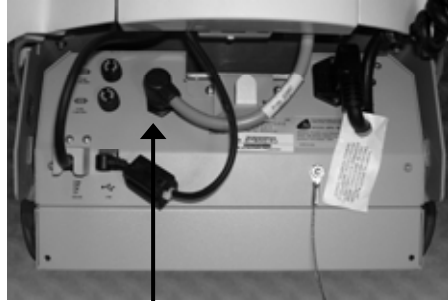
**Press down to close filter cover**

Replacement filters may be obtained by calling InterMetro Customer Service.

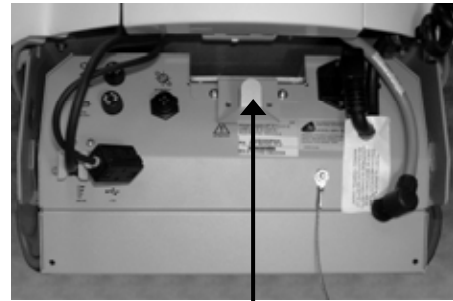
## Easy-Clean Metal Screen Filter Cleaning

Perform the following procedure to access and clean the Easy-Clean metal screen filter.

- Clear the cables away from the Power Supply fan area to reach the fan filter cover. In some cases the DC power cable may need to be disconnected.



**DC Power  
Connector**



**Fan Filter Assembly**

### Power Supply Back View

- To remove the fan filter assembly, grip the assembly handle between the thumb and index finger of your right hand and lift up to release the magnetic latching.



**Grip filter assembly handle**



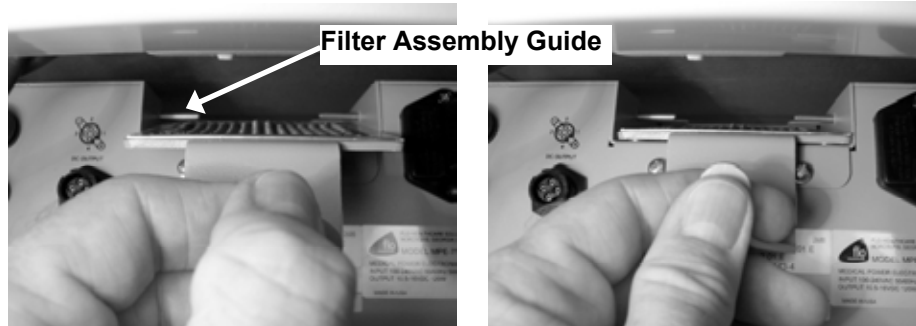
**Lift handle up**

- Pull out the filter assembly.



**Fan Filter**

- Clean the metal screen filter by rinsing in running water.
- Slip the filter assembly back in, ensuring that the assembly slips under the two guides. After the assembly is inserted fully, pull down to ensure that it is flat on the power supply.



**Insert filter under guides**

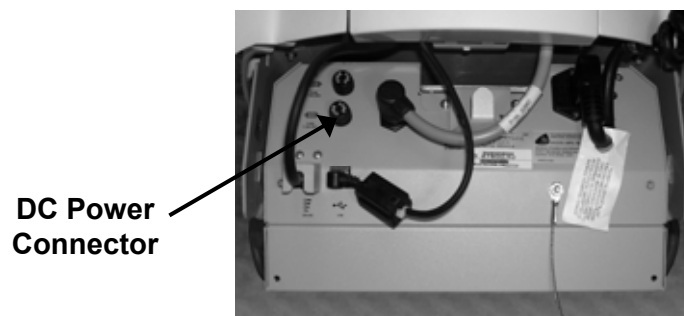
**Pull handle down when fully in**

- Ensure the assembly is under the guides, fully inserted and flat down as shown below.



**Notice:**

Ensure DC cable is properly reconnected and cables restored to position as shown.



**Power Supply Back View**



## *Fuse Replacement*

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### **Caution:**

For continued protection against risk of fire, replace only with the same type and rating of fuse

AC input: 2x F 6.3 A 250 V (Fast acting 6.3 A 250 V fuse 5 x 20 mm)

DC output: F 10 A 250 V (Fast acting 10 A 250 V fuse ¼ x 1¼ in)

Battery input: F 20 A 250 V (Fast acting 20 A 250 V fuse ¼ x 1¼ in)

## *Storage and Transport Conditions*

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Environmental conditions for shipping and storage are:

- Ambient temperature range of -40°C to +70°C (-40°F to 160°F).
- Relative humidity range of 10% to 100%.
- Atmospheric pressure range of 14.76 in. Hg to 31.29 in. Hg.

## *Troubleshooting*

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### **General Tips**

- If a problem occurs while you're working, stop immediately. If you continue, you may lose data and destroy problem-related information.
- Observe what is happening. Write down what the power supply, workstation computer and other devices are doing as well as what actions you took immediately before the problem occurred.
- What appears on the workstation monitor? Record or capture a screen image of any messages that occur.
- Carefully read popup messages, especially if you are also using BatteryPro: they generally contain information that gives a solution to the problem that occurs.
- What programs and/or optional devices are you using on the workstation?
- See if you can cause the problem to occur again. This may help you understand the source of the problem and will help you describe the problem if you must call InterMetro Customer Service for technical assistance.
- What LEDs on the Fuel Gauge are illuminated or flashing? See also the "Fuel Gauge Warnings" below.
- Do you hear any beeps? How many? Are they long or short?
- Check the power supply fuses. Are they intact?

### **Run Time Errors**

The following are meanings and suggested solutions for various Run Time Errors. For more information call InterMetro Customer Service.



#### **Unhandled Exception: System Error: only one usage ...**

SNMP service is running: primarily a thin-client computer XP error.

See "Disable SNMP Services" under "Settings for the Wyse V90 Series or Similar Thin-Client Computer" above.

May also be caused by the conflict of multiple SNMP devices attempting to use the same computer resources.

#### **Notification: .NET Framework not installed.**

Install .NET Framework 2.0 or higher. See "Installing .NET Framework" above.

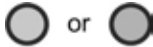
#### **.NET Framework will not install or run on Wyse V90 series or similar thin-client computer.**

Increase RAMdisk size. See "Increasing RAMdisk Size" under "Settings for the Wyse V90 Series or Similar Thin-Client Computer" above.

## Fuel Gauge Warnings

The Power Supply Fuel Gauge flashes LEDs to indicate a detected problem.

Fuel Gauge warning LED indication legend:



Yellow or Green: flashing LED



Grey: LED off



White: On or Off: the state does not matter: ignore the LED



LOW LED flashing: Battery nearing end of charge

- Plug power supply into AC immediately.

## Revision F



The following Fuel Gauge warnings apply to the revision Fn (where “n” is revision extension, for example: “F3”) of the MPE-7800 Series NiMH Power Supply only. The revision label as shown is found on the main panel of the power supply.



AC LED flashing: Fault detected

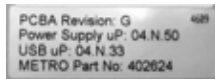
- Refer to and record the message and action shown in BatteryPro fault popup window.
- **Notice:** If the battery fuse has blown, the power supply will shut down within 2 minutes after the fault has been detected.
- Turn off computer equipment and then the power supply.
- Replace the Battery Input fuse if that is the fault reported (see “Fuse Replacement” above) – typically most of the failures are this fault.
- Check that the fan filter or outside vents are not clogged with lint or dust buildup. See “Power Supply Air Filter” section above.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



All LEDs flashing: NiMH Batteries Overheating

- Turn off computer equipment and then the power supply.
- Check that the fan filter or outside vents are not clogged with lint or dust buildup. See “Power Supply Air Filter” section above.
- Let cool for 2 hours.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.

## Revision G



The following Fuel Gauge warnings apply to the revision G of the MPE-7800 Series NiMH Power Supply only. The revision label as shown is found on the main panel of the power supply.



### Warning 1: NiMH Batteries Overheating

- Air flow in the power supply may be restricted due to cooling fan not working properly, fan blocked, or clogged ventilation slots around the power supply case.
- Turn off computer equipment and then the power supply.
- Check that the fan is not blocked. Check the ventilation slots around the power supply case for dust build-up and clean.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



### Warning 2: SLA Overvoltage

- Not applicable to NiMH power supply.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



### Warning 3: Both NiMH and SLA Batteries Detected

- Should not occur in normal operation.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



### Warning 4: Battery Fuse Blown

- The power supply will shut down 2 minutes after the battery fuse has been detected as blown.
- Turn off computer equipment and then the power supply.
- Replace the Battery Input fuse (see "Fuse Replacement" above).
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



### Warning 5: Failed Charge Test

- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 7: SLA OVP Charge Test / Quick Charge**

- Not applicable to NiMH power supply.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 9: Battery "0" detected**

- Power supply shuts off DC output.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 10: System Cannot Control Charging Current**

- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 11: Battery FET Failure**

- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 12: No Batteries Connected**

- Power supply shuts off DC output.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



**Warning 13: SLA Quick Charge Timeout**

- Not applicable to NiMH power supply.
- Turn off computer equipment and then the power supply.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.



#### Warning 14: Heat sink Over Temperature

- Power supply turns off charger.
- Air flow in the power supply may be restricted due to cooling fan not working properly, fan blocked, or clogged ventilation slots around the power supply case.
- Turn off computer equipment and then the power supply.
- Check that the fan is not blocked. Check the ventilation slots around the power supply case for dust build-up and clean.
- Turn on the power supply and restart the computer equipment.
- If this problem continues, contact InterMetro Customer Service.

### BatteryPro Diagnostics

The following are the ways diagnostic information is provided by BatteryPro when it is installed and running:

#### Popups

BatteryPro will generate a popup message when a fault is detected. The error may correspond to a Fuel Gauge warning shown above. Carefully read the popup messages, since they generally contain information giving a solution to the problem that occurs. For additional information, contact InterMetro Customer Service.

#### Diagnostics

A Diagnostic tab is available in the BatteryPro dialog window. Please see "Diagnostics" under "BatteryPro Configuration and Status" above.

#### History Log

BatteryPro generates a log stored at:

"x:\Documents and Settings\All Users\Application Data\BatteryPro\Historylog.txt",  
where "x" is your main computer drive (typically the "C" drive).

A fault code shows up in the log as:

"Fault Code (CMD=70):nn",

where "nn" is fault code number from 1 to 14. Notes on the fault may follow the fault number.

Examples:

Fault Code (CMD=70):4 = Battery Fuse Blown

Fault Code (CMD=70):14 = Heatsink Overtemperature

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## Technical Specifications

Input Voltage	100 - 240 VAC, 50/60 Hz, 5 A (max)
Output Voltage	11 – 16 V (14.4 VDC nominal)
Maximum Output Power	120 W
Battery Type	Nickel Metal Hydride (NiMH)
Short Circuit Protection	10 A fuse at the output, 6.3 A fuse at the input
Battery Capacity	500 Wh
Charging Time	3.5 hours
Operating Temperature	10 °C to 30 °C (50 °F to 86 °F)
Charge Status Indicator	LED on remote fuel gauge
Outlet rating	Charge 6 carts per 20 A circuit
Weight	32 lbs.
Approvals	FCC Part 15 Subpart B, Class A, Industry Canada Class A UL60601-1 and CSA C22.2 No. 601.1 IEC/EN 60601-1-1 (Safety, Medical Equipment) IEC/EN 60601-1-2 (EMC, Medical Equipment) RoHS compliant (RoHS Directive 2002/95/EC)

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## Contacting InterMetro Industries Corporation

### *InterMetro Industries Corporation Contact Information*

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#### **InterMetro Industries Corporation**

651 North Washington Street

Wilkes-Barre, PA 18705

Phone: 1-800-992-1776

<http://www.metro.com/support>

### *InterMetro Customer Service*

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For all customer service related issues, or if you need technical assistance, please call our customer service department at:

<b>1-800-992-1776</b>	<b>Americas</b>
<b>905 676 9890</b>	<b>Canada</b>
<b>+31 76 58 77550</b>	<b>Europe</b>
<b>+9714 811 8286</b>	<b>Middle East</b>
<b>+65 6550 1291</b>	<b>Asia-Pacific</b>

### *Repair*

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#### **Power Supply:**



#### **Workstation:**



To return equipment for repair:

- Have model and serial numbers ready: obtain either the Power Supply information from its label or the Workstation information from its label as shown at left.
- Contact InterMetro Customer Service at the contact number given above to obtain a RMA number.
- Please write the RMA number on the air bill in the reference section on the outside of the package.
- Return the equipment to:

#### **InterMetro Industries Corporation**

3263 Elam Farms Pkwy

Murfreesboro, TN 37127