



Flo™ 1800 Series Mobile Workstation



Operations Manual

401504 Revision D

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Contact Information:

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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.

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.

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.

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.



Type B Applied Part

Attention, consult accompanying documents

Important Safety Instructions

This document contains important safety and operating instructions for the Flo 1800 Series Mobile Workstations. Please read all instructions and cautionary markings on the Mobile Workstation before putting it into service.



Caution:

User maintenance consists of cleaning, minor external adjustments, 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 a Flo 1800 Series Mobile Workstation if it has received a severe impact, been knocked over, fallen down stairs, or otherwise physically damaged. Please have a qualified service person inspect all components of the Mobile Workstation for any performance or safety hazard prior to putting it back into service.



Caution:

The Flo 1800 Series Mobile Workstation is not designed for use as a general purpose equipment cart. Please do not apply heavy loads to the cart top surface. The maximum design load (safe working load limit) for the Mobile Workstation is 5 lbs.



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 Flo 1800 Series Mobile 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 Flo 1800 Series Mobile 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 Flo 1800 Series Mobile Workstation 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 - DC voltage output power supply

The AC power cord is the only means to disconnect the Flo 1800 Series Mobile Workstation from the AC power grid (mains). The ON/Extended Storage Switch on the DC power supply does not disconnect from main power.

On the other side, the power supply employs a 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.

**Warning: Risk of Electric Shock - AC inverter power supply**

The AC power cord is the only means to disconnect the Flo 1800 Series Mobile Workstation from the AC power grid (mains). The ON/OFF switch on the Fuel Gauge controlling the AC power supply does not disconnect from main power.

On the other side, the power supply employs a battery to provide mobile AC output power. High voltage and current AC voltage (120 or 230 VAC nominal) power is available from the power supply, even when the AC cord is disconnected from an AC outlet. To remove AC power, press the ON/OFF switch on the Fuel Gauge for at least 2 seconds and ensure that all the LEDs turn off.

**DANGER: Risk of Explosion**

The Flo 1800 Series Mobile Workstation and the Power Supply are not for use in hazardous (classified) locations. Do not use the Flo 1800 Series Mobile 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:**

Use caution when moving the keyboard tray to avoid trapping fingers between the keyboard and the workstation base.

**Caution (USA 240 V):**

If a Flo 1800 Series Mobile Computing Workstation with an MPE-7800 series or MPS-4007 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."

**Caution (Tripplite AC Inverter Input):**

The Tripplite AC Inverter is configured for only one nominal voltage range of the two ranges available. The AC Inverter configured for the North American region can only operate on a nominal input voltage on 120 VAC, 60 Hz. The AC Inverter for the International region can only operate on a nominal input voltage of 230 VAC, 50 Hz.

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	5/11/07	Vance Bowman
B	Incorporate Review Comments	5/18/07	Karl Haiden
C	Add RoHS Compliance to Specification Section	1/7/08	Karl Haiden
D	Completely revised: 1. Changed Flo Healthcare to InterMetro Industries. 2. Updated specifications, procedures and pictures for new model 1860 release. 3. Removed power supply details to separate supplements. 4. Added Reference Documents table, including added power supplies.	6/16/10	Vance Bowman

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References

Document Number	Title
402545	Flo MPE-7800 Series NiMH Power Supply Operations Manual Supplement
402546	Flo MPS-4007 Li-Nano Power Supply Operations Manual Supplement
402547	Flo MPS-3111 SLA Power Supply Operations Manual Supplement
L01-450	Operations Manual Triplite AC Inverter Power Supply HC150 and HC350

Introduction

Flo 1800 Series Mobile Workstation

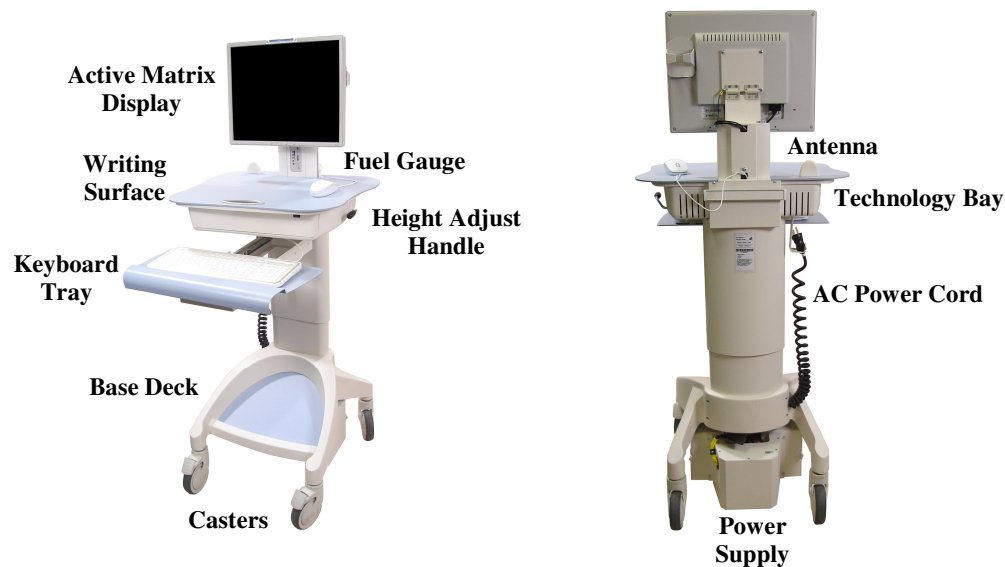
- **Point of Care Workstation**

The Flo 1800 Series Mobile Workstation eliminates patient data inaccuracies by allowing nurses and doctors to enter vital data into your hospital's computer systems while directly interacting with their patients. Because the Flo 1800 Series uses wireless technology, nurses and doctors no longer must leave a patient's room to access a computer hardwired to the hospital's computer network. In addition to being wireless, Flo 1800 Series contains its own power supply with rechargeable batteries, making it completely mobile and eliminating entangling power cords.
- **Portable Workstation**

The Flo 1800 Series Mobile Workstation can also act as a high power platform to give portability to heavy equipment in the hospital. It can be configured to be a portable teleconferencing station to move to the point of care, communicating across a wireless network. It can carry large equipment such as a Fetal Monitor to allow it to double as transport for the equipment and point of care data entry workstation.

Flo 1800 Series Mobile Workstation Overview

The rendered image below shows the major components that comprise a Flo 1800 Series Mobile Workstation.



Flo 1800 Series Mobile Workstation

Features

The Flo 1800 Series Mobile Workstation features:

- Rugged, steel/aluminum construction – built to last.
- Multiple DC and AC power supply options with remote fuel gauge at the user's eye level. Available power supply rechargeable battery technologies are Sealed Lead Acid (SLA), Nickel Metal Hydride (NiMH), and Lithium Ion Nano-Phosphate (Li-Nano). Higher power AC inverter available for supplying higher equipment loads.
- Several computer options:
 - Notebook computers
 - Low power thick client computers
 - Thin clients
- Fully integrated 2.4 GHz radio with antenna; optional dual band 2.4 and 5.0 GHz radio with antenna.
- Active LCD Display, typically single with high definition or dual display optional.
- Full size keyboard and mouse.
- Optional bar code scanner connected to USB or PS/2 ports.
- Large work surface and a full range, 13-inch pneumatic height adjustment.
- Storage options such as basket or locking storage cabinet.
- Provisions for optional auxiliary equipments: mount for video camera, shelving for codec's, separately powered fetal monitor etc.
- User manuals of workstation, power supply and employed equipment (Computer, display, etc.) included.

Equipment Classification

The Flo 1800 Series Mobile Workstation is CSA certified with respect to electric shock, fire and mechanical hazards only in accordance with UL 60601-1 and CAN/CSA 22.2 No. 601.1 as Type B Patient Care Medical Equipment suitable for use in patient vicinities.

The Mobile Workstation is Class I Equipment that is also internally powered.

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

According to the degree of protection against ingress of water, the Mobile Workstation is considered ordinary.



Warning: Risk of Explosion

The Flo 1800 Series Mobile Workstation and the Power Supply are not suitable for use in the presence of a flammable anesthetic mixture with air or with oxygen or nitrous oxide.

The Mobile Workstation is suitable for continuous operation.

Important Product Notices

The Flo 1800 Series Mobile Workstation is only CSA certified if the equipment is left in its original configuration as shipped from InterMetro Industries Corporation. If the user alters the Mobile Workstation by changing components on, adding components to, or deleting components from the workstation, this will void the CSA certification of the Mobile Workstation and is expressly prohibited by InterMetro Industries Corporation.

The Power Supply used with the Flo 1800 Series Mobile Workstation 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 used with the Flo 1800 Series Mobile Workstation 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

Aluminum and steel sections of the cart can be disposed of or recycled.

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

Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for details for disposal of the Power Supply and its batteries used with the Flo 1800 Series Mobile Workstation.



Sealed Lead Acid Battery:

The SLA Power Supply contains a sealed lead acid battery. This battery must be recycled. Disposal of this battery must be in accordance with local, state, and federal regulations. In Canada, disposal must be in compliance with Canadian environmental protection laws.

For further information call InterMetro Customer Service.

Getting Started

Unpacking

The Flo 1800 Series Mobile Workstation will arrive fully assembled and fully functional at the customer's site in a cardboard box. After cutting the strapping bands, lift the top of the box over the Mobile Workstation. In order to avoid any injury, two (2) people shall lift the Mobile Workstation from the padding blocks. The workstation may weigh between 115 and 150 lbs depending on the configuration.

Inspection

After the Flo 1800 Series Mobile Workstation has been unpacked, the user should inspect the unit for any shipping damage. If there is any damage, please contact InterMetro Customer Service immediately.

Power Supply Preparation

Before placing a Flo 1800 Series Mobile Workstation into service, the Power Supply battery may need to be connected and should be initially charged for a full 24 hours.

Important Notice:

Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for requirements and details on battery preparation and initial charging of the Power Supply.

To charge the battery:

- For DC output power supplies, plug the coiled AC power cord into an AC outlet and put the "ON/Extended Storage Switch" into the "ON" position (see "Turning on the Power Supply" below).
- For AC Inverter power supplies, plug the coiled AC power cord into an AC outlet only. It is not necessary to turn on the supply.

Notice: For further information on power supply charge times and on the charge indicator lights of the Remote Fuel Gauge, please refer to the respective Power Supply supplement.

Turning on the Power Supply

Turning on the DC Output Power Supply

If so equipped, the DC Output Power Supply of the Flo 1800 Series Mobile Computing Workstation must be turned on to power all the workstation equipment. The Power Supply is controlled by the “ON/Extended Storage” Switch located on the Power Supply that is typically mounted on the bottom of the workstation.

ON/Extended
Storage Switch

In the “ON” position, the power supply provides power to the Flo 1800 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.



Important Notice:

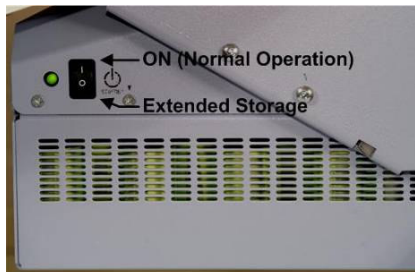
Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the Power Supply installed for further details of the “ON/Extended Storage” Switch and the requirements for long term (more than one week) storage.



NiMH MPE-7800



SLA MPS-3111



Li-Nano MPS-4007/NiMH MPS-4008

Example Locations of ON/Extended Storage Switch



Warning: Risk of Electric Shock

The power supply employs a 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. Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the Power Supply installed for the proper way to completely remove DC power.

Turning on the AC Inverter Power Supply

If so equipped, the AC Inverter Power Supply of the Flo 1800 Series Mobile Computing Workstation must be turned on to power all the workstation equipment. The Power Supply is controlled by the "ON/OFF" Switch located on the Remote Fuel Gauge that is located on the display stalk of the workstation.

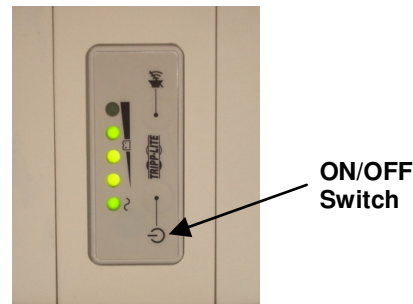
AC Inverter Power
Supply ON/OFF Switch

Press and hold the ON/OFF switch on Remote Fuel Gauge for 2 seconds to toggle the power supply AC Output ON. The LEDs will come on to indicate the AC Output is on as well as charge level of the battery.



Important Notice:

Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the Power Supply installed for further details of the "ON/OFF" Switch and the requirements for long term (more than one week) storage.



Location of ON/OFF Switch



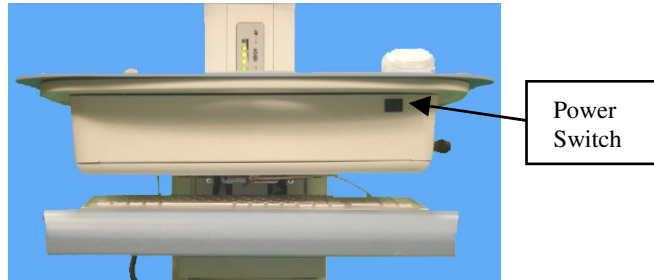
Warning: Risk of Electric Shock

The power supply employs a battery to provide mobile AC output power. High voltage and current AC voltage (120 or 230 VAC nominal) power is available from the power supply, even AC cord is disconnected from an AC outlet. Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the Power Supply installed for the proper way to completely remove inverted AC power.

Powering up the Computer Equipment

Powering up the computer equipment

You can power up the Mobile Workstation during the initial charge. The equipment has been designed to operate while mobile or when plugged into an AC outlet.



Example Location of Computer Power Switch

The ON/OFF switch for the computer is located in the front underneath the writing surface. Depending on your computer configuration, the switch may be on the left, middle or right side.

Powering up the display

Depress the power switch on the display to turn on the display. The display can be left on at all times, because a power saving mode shuts down the display when no video signal is present.

Starting Windows and Wireless Network

The computer starts with a Windows operating system preinstalled. Depending on the configuration, you may have a standard installation or a custom installation for your location that may require you to enter Windows authorization codes. All codes along with a Windows installation CD are shipped with the Mobile Workstation. For setting-up the wireless LAN and connecting to the hospital network, consult your IT department.

Operation

Description of Major Components

Depending on your order, your Flo 1800 Series Mobile Workstation will be delivered in a specific configuration. The configuration will employ each of the following components:

- The Flo 1800 Base is common among all the different configurations. It is made of steel and aluminum with a pneumatic lift and employs a large work surface.
- Power Supplies
 - AC to DC power supply with charger and one of the following types of battery technologies:
 - Sealed Lead Acid (SLA)
 - Nickel Metal Hydride (NiMH)
 - Lithium Iron Nano Phosphate (Li-Nano)
 - AC Output Inverter power supply with charger and Sealed Lead Acid batteries, primarily for higher power requirements and portable applications.
 - Remote Fuel Gauge
 - Optional Mobile Workstation Power Supply Management Software
- Computers
 - Notebooks
 - Low power thick clients
 - Thin clients
- Wireless PC Card
- Display
 - Active LCD Display, typically single with high definition or dual displays optional.
 - Optional adjustable up/down mount
- Mouse
 - Any UL certified optical or ball, PS/2 or USB mouse
- Keyboard
 - Any UL certified PS/2 or USB keyboard
 - Optional tilting keyboard tray
- Optional Barcode Scanner
 - CCD USB Scanner
 - Approved laser scanner
- Optional Storage
 - Basket - Front or rear mounting
 - Storage cabinet with optional mechanical or electronic locking.
- Provisions for optional auxiliary equipment
 - Video camera with mount
 - Shelving for codec's, separately powered fetal monitor, etc.

Flo 1800 Base

The Flo 1800 Base is the backbone of every Flo 1800 Series Mobile Workstation.



Flo 1800 Series Base (Shown with Single Display)

The Base features casters to wheel it around easily, provides mounting hardware to mount the power supply, and offers a foot rest to the user, storage space in different options, a large writing/working surface, technology tray for the computer equipment, keyboard tray and mounting stalk for the display as well as a pneumatic 13-inch lift to adjust the height. These features are explained in detail in the following pages.

Writing Surface

The Flo 1800 Base has a large writing surface. In addition to using it as a writing surface, it allows you to easily navigate Windows and your applications using the attached mouse.



Writing Surface

The writing surface is designed so that it may be easily gripped on the edge all the way around. The edge grip is used when you need to raise or lower the workstation. The easy to grip edge and a handle at the front of the writing surface allow you to easily grip and maneuver the Flo 1800 Series Mobile Workstation in and around a patient's room or through hospital corridors.



Caution

Only use the edge gripping when raising or lowering the writing surface and rolling the Mobile Workstation around. Never attempt to physically lift the Flo 1800 Series Mobile Workstation off the ground by pulling on the edge grip or any other part of the writing surface. If you need to lift a Flo 1800 Series Mobile Workstation off the ground, pick it up at the wheelbase. Generally, this task requires two (2) people.

Height Adjustment

The height adjustment handle is used to adjust the height of the Flo 1800 Series Mobile Workstation. The writing surface height can be set within a 13-inch dynamic range of adjustment, making it easier to type and read the display from either a standing or sitting position.



Height Adjustment Handle

Raising the Flo 1800 Series Mobile Workstation's Writing Surface

Perform the following steps to raise the writing/work surface of the Flo 1800 Series Mobile Workstation using the height adjustment handle:

- Stand in front of the workstation and grasp the height adjustment handle with your right hand.
- Grab the left side of the writing surface with your left hand.
- Pull the height adjustment handle up.
- While holding the height adjustment handle up, lift the writing surface to the desired height and then release the height adjustment handle.



Flo 1800 Cart at the Highest Position

Lowering the
Flo 1800 Series Mobile
Workstation's Writing
Surface

Perform the following steps to lower the writing/work surface of the Flo 1800 Series Mobile Workstation using the height adjustment handle:

- Stand in front of the workstation and grasp the height adjustment handle with your right hand.
- Grab the left side of the writing surface with your left hand.
- Pull the height adjustment handle up.
- While holding the height adjustment handle up, push the writing surface down to the desired height and then release the height adjustment handle.



Flo 1800 Cart in the Lowest Position

Keyboard Tray

The keyboard tray is located directly underneath the technology bay. It is designed to lock into place when it is fully extended (an extra tug may be required to lock it into place) and to lock into place when it is recessed all the way back in under the technology bay (an extra push may be required to lock it into place). This prevents the keyboard tray from moving around while the user is typing or moving the Mobile Workstation.



Keyboard Tray

The keyboard is securely attached to the tray using Velcro. The keyboard is typically covered by a clear, non-latex, rubberized membrane that protects the keyboard from liquid spills and splatters. It can be easily cleaned using a hospital-safe disinfectant. It can also be removed and replaced with a new membrane. New membranes can be ordered from InterMetro Customer Service.



Caution:

Use caution when moving the keyboard tray to avoid trapping fingers between the keyboard and the workstation base.

Tilting Keyboard Tray Option

The Flo 1800 Series Mobile Workstation can be deployed with an optional tilting keyboard tray for ergonomic comfort.



Tilting Keyboard Tray

When the tray is fully extended, it can be adjusted by lifting the front edge until a click is heard, indicating the first and lowest tilt position, and then releasing it. The tray can be adjusted to one of three tilt positions.

To lower the tray to the original bottom horizontal (untilted) position, lift the tray all the way up and drop it back to the bottom position while holding the front edge of the tray.



Lifting Tilting Keyboard Tray to Adjust Position



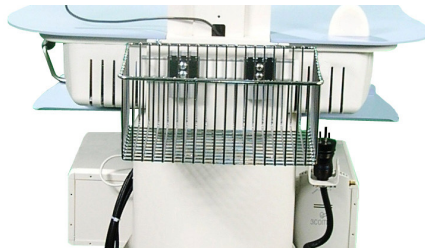
Caution:

Do not push the keyboard tray in while it is in a tilted position. Lift the tray all the way up and drop it back to the bottom position while holding the front edge of the tray before pushing it in.

Storage Options

The Flo 1800 Series Mobile Workstation can be deployed with storage designed to carry documents, accessories or supplies needed by a nurse or doctor.

The basket is very sturdy and can hold virtually anything up to a maximum weight of 10 lbs. The additional weight will, however, make adjusting the workstation height more difficult. A variety of baskets can be mounted at the front or rear of Flo 1800 cart.



Flo 1800 Basket Option Mounted on Back of Cart

The storage bin can be deployed in one, two or three drawer versions. The storage bin can be configured to be locked with a TouchPoint™ pin cipher lock or with an ELC 100 Electric Latching Cabinet system. The ELC 100 storage bin can be unlocked through the workstation computer or optional stand alone credentialing device, such as a keypad. The storage bin can hold anything up to a maximum total weight of 10 lbs. The additional weight will, however, make adjusting the Mobile Workstation height more difficult.



Flo 1800 Two-Drawer Storage Bin with Pin Cipher Lock option

Auxiliary Equipment Support

The Flo 1800 Series Mobile Workstation has provisions and optional high capacity Power Supply to support additional options and auxiliary equipment:

- Video camera:

A mount and cabling can be provided for a camera for video conferencing and telemedicine. The camera is usually mounted above the monitor(s) in an operational system.



Video Camera Mounted above Display

- Shelf for heavy equipment for portable operation:

An optional auxiliary shelf is available to hold heavy equipment such as a codec (used for video conferencing and telemedicine) or to transport separately powered heavy equipment such as a Fetal Monitor.



Codec in Auxiliary Shelf



Flo 1800 Series showing "Fetal Monitor"

Notice: The Fetal Monitor is a separate piece of equipment transported by the properly equipped 1800 Series Mobile Workstation and shall not be connected to or powered by the Workstation Power Supply. The Fetal Monitor shall be plugged into a separate properly rated wall outlet by its own AC cord.

Foot Rest Base

The base deck of the Flo 1800 Series Mobile Workstation is designed to be used as a footrest while either standing or sitting. Placing your feet on the deck will not cause any problems with the power supply.

Casters

The Flo 1800 Series Mobile Workstation is configured with two locking and two non-locking casters. The two locking casters are on the front of the workstation.

Lock To lock a caster in the front, press its locking tab down.

Unlock To unlock a caster, lift its locking tab up.



Flo 1800 Base Casters

Flat Panel Display

The Flo 1800 Series Mobile Workstation comes typically with an LCD display. The standard display is capable of displaying screen resolutions of up to 1280x1024 pixels. Optionally, the Flo 1800 may come with a larger display or in a dual display configuration in either landscape or portrait.

In order to avoid damaging the display's screen, do not press the screen with your fingers. A soft, clean, lint-free cloth or a lens brush of camel hair should be used to clean the screen. Never pour or spray any type of liquid onto the display.

Additional information about the operation of the display can be found in the operating manual from the original manufacturer provided with the Mobile Workstation. For additional information, please contact InterMetro Customer Service.

Powering Up the Display The Flo 1800 Series Mobile Workstation power supply must be turned ON first before turning ON the display. The ON/OFF switch for the display is located on the display and may be turned ON/OFF as required.

Adjusting Display Parameters To adjust different parameters on the display like brightness, contrast, color, etc., please refer to the display's user manual, which is shipped with the Mobile Workstation.

Notice: In order to increase the run-time of your Flo 1800 Series Mobile Workstation with one charge of the power supply battery, the display's brightness should not be set higher than 15%. Depending on the make of display, it is factory set from 0 to 15%. If, for any reason, the brightness is set to a higher value, set it back to less than 15% for an increased run-time.



Flat Panel Display

Adjusting the Display
Position

To adjust the display position to tilt up or down, grab the top and bottom in each hand and move the top forward or back to the position desired.



Display Tilted Up

Computer

The Flo 1800 Series Mobile Workstation currently employs the following array of computers:

- Notebooks
- Low power thick clients
- Thin clients

The computer comes either with a Windows operating system preinstalled, or bears a custom image for your location. On some configurations, it may be necessary to enter the Windows licensing keys. The keys and a Windows installation CD are shipped with the cart. The thin clients feature Windows XP Embedded.

For additional information about the operation of the computer and operating system, see the operating manuals from the original manufacturers provided with the Mobile Workstation.

The computer is installed in the technology bay of your Flo 1800 Series Mobile Workstation. In addition to the computer, the technology bay houses all the necessary cabling for display, mouse, keyboard, power conditioning to power the computer hardware and optional equipment, like barcode scanners or ELC-100 Electric Latching Cabinet.

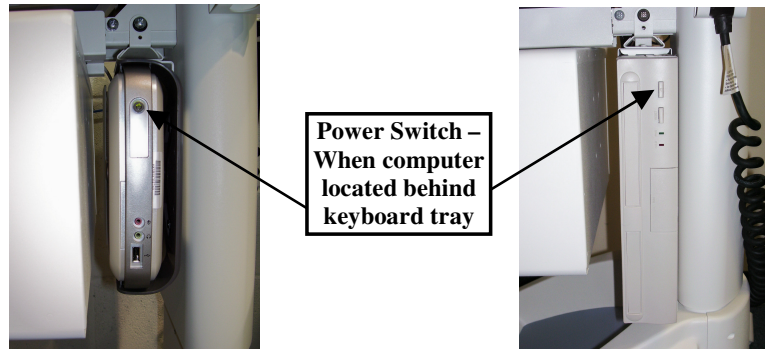
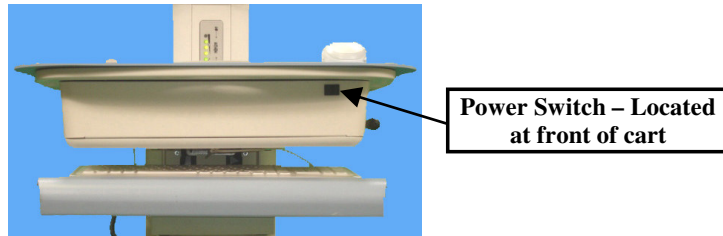


Computer in Technology Bay

Powering up the computer

The power button of the computer is normally located in the front of the Mobile Workstation on the technology bay level under the work surface.

In older models of the Flo 1800 Series Mobile Workstation, the technology bay is located behind the keyboard tray and vertically against the column. Power switch is on the right side next to the column on the side of the technology bay.



Example Locations of Power Button

In order to power up the computer, press the power button for less than one second and the computer will boot up. If the display stays black, make sure that the display has been turned ON (see “Powering Up the Display” under the “Flat Panel Display” section above).

Turning off the computer

The computer is typically shut down with the Windows’ shutdown feature. To perform a hardware shut down of the computer, depress the power button for at least 4 seconds.

Troubleshooting computer problems

If the computer equipment does not function properly, please refer first to the computer manufacturer’s user manual, which is shipped with the Mobile Workstation.

If your problem is not addressed in the computer’s user manual, please consult your IT department. If the IT department determines a hardware defect, please contact InterMetro Customer Service.

Power Supply

Your Flo 1800 Series Mobile Workstation may be equipped with a DC Power Supply providing a DC voltage output with one of the following battery technologies: Nickel Metal Hydride (NiMH), Lithium Ion Nano Phosphate (Li-Nano or LiFePO₄) or Sealed Lead Acid (SLA). Alternately the Flo 1800 may be equipped with an AC Inverter with SLA batteries, especially to supply portable AC power to a high power equipment load.

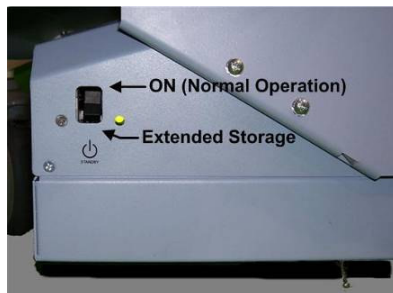
Notice: The preparation and operation of the Power Supply are detailed in the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed.

The Power Supply is designed for continuous operation and service is not interrupted by plugging in or unplugging the Power Supply.

Powering Up the DC Power Supply

The DC Power Supply is controlled by the “ON/Extended Storage” Switch located on the Power Supply that is typically mounted on the bottom of the Mobile Computing Workstation.

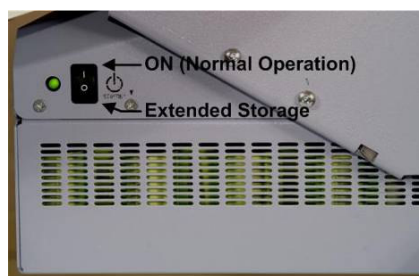
- In the “ON” position, the power supply provides DC voltage power to the Flo 1800 Series Mobile Computing Workstation systems. In the “Extended Storage” position, power is removed from the workstation equipment.



NiMH MPE-7800



SLA MPS-3111



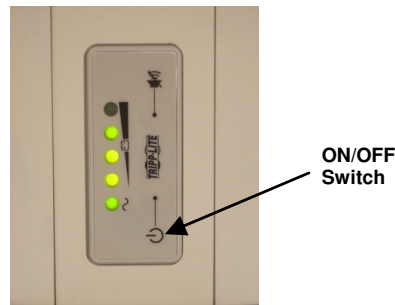
Li-Nano MPS-4007/ NiMH MPS-4008

Example Locations of ON/Extended Storage Switch

Powering Up the AC Inverter Power Supply

The AC Inverter Power Supply is controlled by the “ON/OFF” Switch located on the Remote Fuel Gauge that is located on the display stalk of the workstation.

- In the “ON” position, the power supply provides AC voltage power to the Flo 1800 Series Mobile Computing Workstation systems. In the “OFF” position, power is removed from the workstation equipment.
- Press and hold the ON/OFF switch on Remote Fuel Gauge for at least 2 seconds to toggle the power supply AC Output from “OFF” to “ON”, or from “ON” to “OFF”. The LEDs will come on to indicate that the AC Output is on as well as show the charge level of the battery.



Location of ON/OFF Switch

Extended Storage

If the Mobile Workstation is not used for an extended period of time, the power to the workstation equipment should be removed to disconnect the battery from any internal or external equipment and to avoid deep discharges of and possible damage to the battery that would occur if the Power Supply is left on.

- For the DC Power Supply: The ON/Extended Storage Switch should be put in the “Extended Storage” (OFF) position.
- For the AC Inverter Power Supply: Press and hold the ON/OFF switch on Remote Fuel Gauge for at least 2 seconds to toggle the power supply AC Output from “ON” to “OFF” and ensure all the LEDs turn off.

Notice: Long Term Storage (Longer than one week)

If the Mobile Workstation is to be placed in long term storage (longer than one week), the Power Supply should be fully charged before removing workstation equipment power per the procedure above for Extended Storage.



Important Notice: DC Power Supply

Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the DC Power Supply installed for further details of the “ON/Extended Storage” Switch and the requirements for long term (more than one week) storage.



Important Notice: AC Inverter Power Supply

Please refer to the respective supplemental operations manual included with the Mobile Computing Workstation for the AC Inverter Power Supply installed for further details of the Fuel Gauge “ON/OFF” Switch and the requirements for long term (more than one week) storage.

Remote Fuel Gauge

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



Remote Fuel Gauge

The LED's of the Remote Fuel Gauge will always display the battery's charge level whether the computer is operating or not.

Notice: The functions of the Remote Fuel Gauge are detailed in the respective supplemental operations manual included with the workstation for the Power Supply installed.

Maintenance

Cleaning

Use Flo Cleaner (foaming aerosol available from InterMetro Industries Corporation), or an equivalent mild hospital disinfectant, to clean the exposed surfaces of the workstation on a regular basis. Flo Cleaner is compatible with all of the components of the Flo 1800 Series Mobile Workstation.

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

Adjustments and Tightening

Periodic checks should be performed for tightness of fasteners and screws. For additional details, please contact InterMetro Customer Service.

Power Supply Batteries

Power Supply Batteries have a charge cycle lifetime based on technology and may need periodic replacement. Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for details of battery replacement for the Power Supply or contact InterMetro Customer Service.

Power Supplies using Lithium-Ion type batteries are subject to special shipping conditions and are not connected during shipment due to USDOT and IATA regulations. Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for requirements and details on battery preparation for the Power Supply.

Power Supply Air Filter

Power supplies equipped with an air filter require periodic maintenance. Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for requirements and details of periodic air filter cleaning and replacement.

Power Supply Fuse Replacement

Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for requirements and details of Power Supply fuse replacement.



Caution:

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

Storage and Transport Conditions

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.

Special shipping conditions for Lithium-Ion Batteries:



Caution:

The following applies to Power Supplies using Lithium-Ion type batteries only:

In accordance with USDOT and IATA regulations, the Lithium-Ion cells shall not be shipped or transported in another vehicle on public roads with the Lithium-Ion cells or battery packs connected. Please refer to the respective supplemental operations manual included with the Mobile Workstation for the Power Supply installed for requirements and details on battery preparation for the Power Supply.

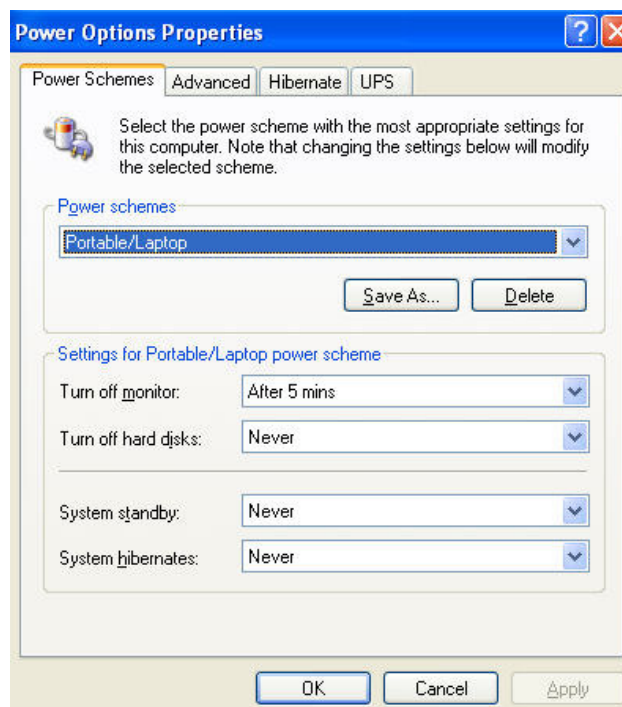
Power Savings

In order to conserve power and enjoy a long run-time with a single battery charge, several parameters need to be set on the workstation computer and display.

Computer Settings

Two parameters need to be set on the workstation computer:

1. Turn OFF any computer screen saver. Some screen savers require a high amount of computational power and cause high power consumption.
2. Through the Windows Control Panel, open the Power Options Properties and set it to the following:



Power Options Properties Control Panel



Caution:

Under no circumstances should the computer “Power schemes” be set to “Always On”: the setting significantly reduces power supply run time on batteries and may cause the computer equipment to overheat.

Flat Panel Display Settings

The Flat Panel Display brightness should not be set higher than 15%. To adjust the brightness parameter of the display, please refer to the display’s user manual, which is shipped with the Mobile Workstation. See “Adjusting Display Parameters” in “Flat Panel Display” section above.

Troubleshooting

Use the tips in this section as a guide. They include solutions to the simplest problems as well as things to observe when trying to diagnose problems.

Consider the following:

- 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 computer and any optional devices are doing as well as what actions you took immediately before the problem occurred.
- Is the computer running? Are the cables properly attached to the back of the power supply?
- Which part of the system is operating erratically? Keyboard? Disk/Flash Drive? Radio? Display? Power Supply? Each produces different symptoms.
- What program and/or optional devices are you using?
- What appears on the screen? Do you see any messages or random characters? Look up any messages in the documentation for your software.
- Are any LEDs illuminated? Which ones on which devices?
- Do you hear any beeps? How many? Are they long or short?
- Is the computer making any unusual noises?
- Are the locking wheels locked or unlocked?
- Are the fuses in the power supply intact?
- 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.

Additional troubleshooting details are also provided in the Power Supply Operations Manual Supplement for the Power Supply and may be included in other manuals for equipment and software applications included with the workstation.

Technical Specifications

Flo 1800 Series Cart - Model 1800 Overall Cart

Work Surface Height	Adjustable from 32" to 45"
Overall Height	51" to 61" (depending on adjustment)
Work Surface Dimensions	21" x 21"
Maximum Work Surface Load	5 lbs.
Weight	115 to 130 lbs. (depending on configuration)
Base Dimensions	19" x 22"
Construction	Steel/Aluminum
Finish	Industrial powder coat
Wheels	4 swivel (2 locking, 2 non-locking)
Input Voltage	100-240 VAC, 50/60 Hz, 5.0 A max
Battery Technology	NiMH or Li-Ion Nano Phosphate or Sealed Lead Acid (please see applicable Power Supply supplement)
Computer	Various types of thin client, thick client and notebook computers
Communication	Wireless LAN, IEEE802.11 a/b/g/n
Display	Various types of flat panel display
Approvals	FCC Part 15 Subpart B, Class A, Industry Canada Class A UL60601-1 and CSA C22.2 No. 601.1 Select models carry the following additional approvals: IEC/EN 60601-1-1 (Safety, Medical Equipment) IEC/EN 60601-1-2 (EMC, Medical Equipment) RoHS compliant (RoHS Directive 2002/95/EC)

Flo 1800 Series Cart – Model 1860 Overall Cart

Work Surface Height	Adjustable from 35" to 48"
Overall Height	54" to 67" (depending on adjustment)
Work Surface Dimensions	22" x 18"
Maximum Work Surface Load	5 lbs.
Weight	120 to 150 lbs. (depending on configuration)
Base Dimensions	19" x 22"
Construction	Steel/Aluminum
Finish	Industrial powder coat
Wheels	4 swivel (2 locking, 2 non-locking)
Input Voltage	100-240 VAC, 50/60 Hz, 5.1 A max
Battery Technology	NiMH or Li-Ion Nano Phosphate or Sealed Lead Acid (please see applicable Power Supply supplement)
Computer	Various types of thin client, thick client and notebook computers
Communication	Wireless LAN, IEEE802.11a/b/g/n
Display	Various types of flat panel display
Approvals	FCC Part 15 Subpart B, Class A, Industry Canada Class A UL60601-1 and CSA C22.2 No. 601.1 Select models carry the following additional approvals: IEC/EN 60601-1-1 (Safety, Medical Equipment) IEC/EN 60601-1-2 (EMC, Medical Equipment) RoHS compliant (RoHS Directive 2002/95/EC)

Power Supply

For Power Supply, please refer to the Power Supply Operations Manual Supplement that is supplied with your Flo 1800 Series Mobile Workstation.

Computer Equipment

For computer equipment, like computer, display, mouse, keyboard, etc. please refer to the equipments' user manuals, which are supplied with your Flo 1800 Series Mobile Workstation.

Contacting InterMetro Industries Corporation

InterMetro Industries Corporation Contact Information

InterMetro Industries Corporation

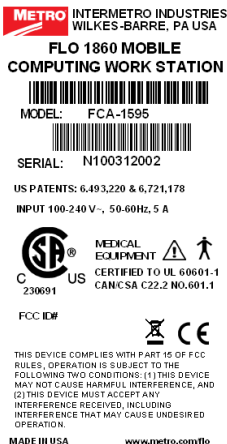
651 North Washington Street
Wilkes-Barre, PA 18705
Phone: 1-800-992-1776
<http://www.metro.com/flo>

InterMetro Customer Service

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

1-800-992-1776

Repair



To return equipment for repair:

- Have model and serial numbers ready
- Contact InterMetro Customer Service at 1-800-992-1776 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
5801 Goshen Springs Road, Suite A
Norcross, GA 30071