

# 1 PowerMaster Lite Overview

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## 1.1 General Overview

PowerMaster Lite is a 32 bit Windows based PC application companion application for the PowerMaster series of Power-VSWR meters. PowerMaster Lite is written in Visual basic 6.0 and requires the Visual Basic 6.0 runtime library which is included with the setup on CD-ROM. PowerMaster Lite is designed to function as a real time power and alarm status monitoring application. Many of the PowerMaster menu parameters can be conveniently programmed through either the PowerMaster Lite Meter Settings Dialog or the PowerMaster Lite program menu.

### 1.1.1 What's new in PowerMaster Lite 3.0

1. dBm / dBw digital display added to main view.
2. Return Loss digital display added to main view.
3. The selection of coupler trim groups has been expanded to include new couplers.
4. The appearance is now customizable with skins.
5. The VSWR and power alarms can now be reset in the compact view mode.

What's new in PowerMaster Lite 3.5.x

1. Single digit decimal display of power under 100 watts.
2. User selectable automatic reset of VSWR or power alarms.
3. Additional mode for long 5 second hold of digital displays.
4. User selectable data rate.
5. Displays meter hardware revision and serial number.

## 1.2 Program Installation

To install PowerMaster Lite run the program installation setup program file PMLiteSetup.exe included on the CD with your PowerMaster meter or downloaded from the Array Solutions website. Follow the installation instructions to install PowerMaster Lite to the default drive and directory.

After the PowerMaster Lite installation is complete it can be launched from the PowerMaster Lite shortcut in the Array Solutions program group in the program menu.

Note: Individual support for installing and configuring PowerMaster Lite is the responsibility of the end user. Due to the extensive variations between individual PC systems and their installed software configurations, Array Solutions can not support each end user in the correct installation and configuration process specific to their PC.

## 1.3 Overview of Operation

Please attach a straight through 9 pin serial cable between your PC and your PowerMaster meter. Attach a 12 volt power source to your PowerMaster meter and have it switched on before launching PowerMaster Lite. When PowerMaster Lite is launched for the first time it will attempt to synch with your PowerMaster meter however it will not know which COM port your PowerMaster meter is attached to. If PowerMaster Lite is unable to detect your PowerMaster meter the Program Settings Dialog will appear. Please select the COM port your PowerMaster meter is attached to from the COM port selection drop down list at the upper left of the PowerMaster window. Select OK after choosing a COM port. PowerMaster Lite will automatically detect the correct baud rate for you so baud rate selection is not required.

When PowerMaster Lite is first launched both TX and RX RS232 activity indicators located at the lower left corner of the PowerMaster Lite window will both be red. The TX indicator will change to green and flicker when PowerMaster Lite is transmitting data through the serial port. When the meter has been detected and the baud rate has synched the RX indicator will turn green and start flickering showing serial data reception activity. PowerMaster Lite will read a list of parameters from the meter then automatically start the flow of power and alarm status data from the meter.

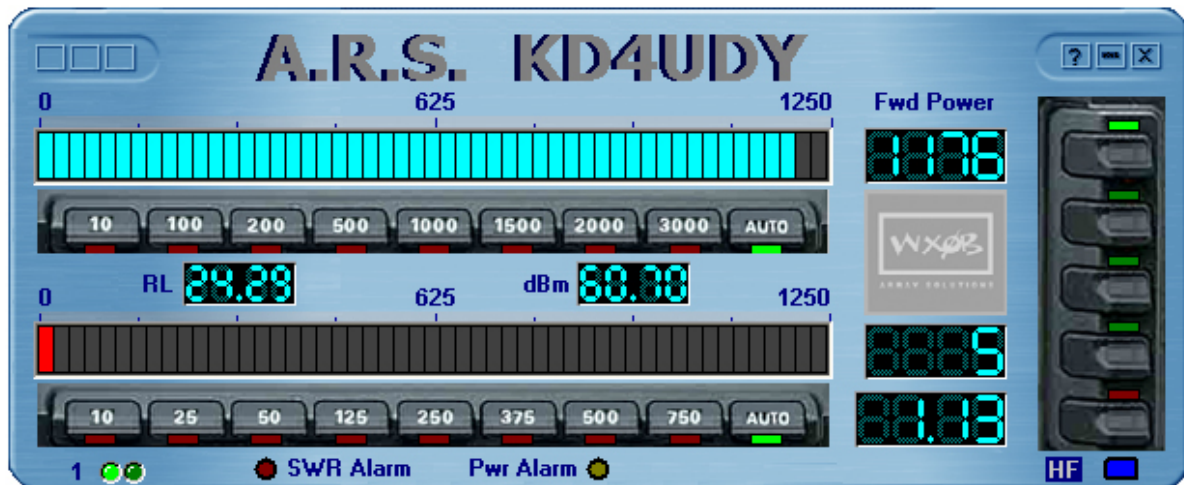
After PowerMaster Lite has loaded the meter parameters select the Auto button on both the forward power bargraph and the reflected power bargraph. This will allow PowerMaster Lite to automatically track bargraph range scale shifts as RF power is applied to your PowerMaster meter.

To lock PowerMaster Lite to a manually selected forward or reflected power range scale just select the desired range scale. Range selection applies only to the bargraphs. The digital readouts will display the current forward power, reflected power, and VSWR values when RF power is applied.

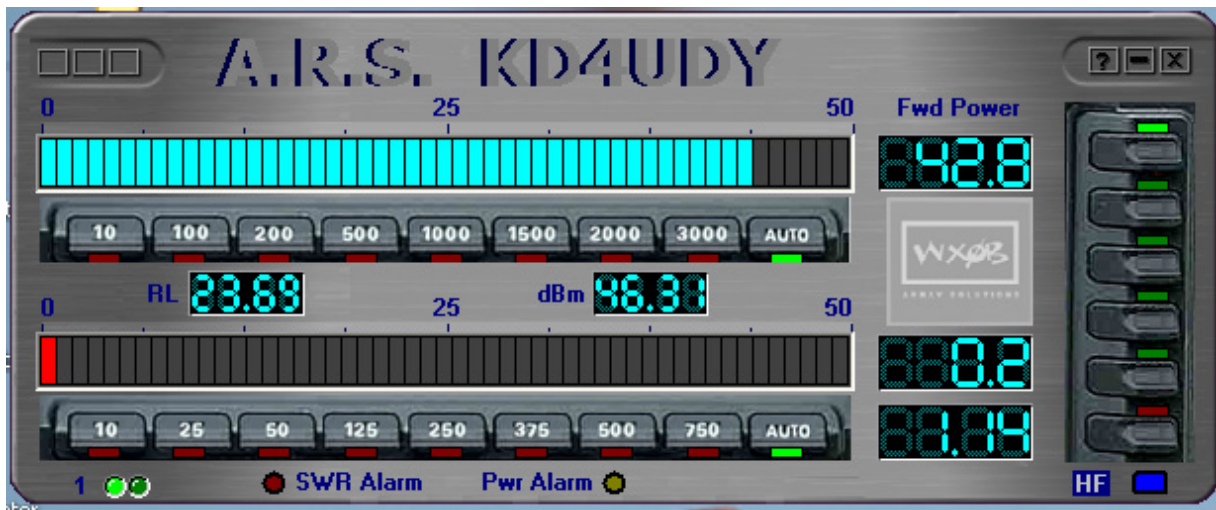
The PowerMaster meter has four modes of operation. Fast response, Medium response, Slow response, and VSWR dip mode. To select a mode of operation use the vertical mode command buttons located on the right side of the PowerMaster Lite window. The top four buttons will select the meter's mode of operation. Watch the top left of the PowerMaster meter display for indication of the current mode selection. F, M, S, or V will appear at the top left of the PowerMaster meter display.

Both the VSWR Alarm and the Low Power Alarm may be reset with the bottom command button located below the mode command buttons on the right side of the PowerMaster Lite window. The LED indicator below the alarm reset button will illuminate when either alarm condition occurs. The VSWR Alarm or Low Power Alarm LED located at the bottom center of the PowerMaster Lite window will illuminate when the respective alarm condition occurs. The Low Power Alarm will automatically reset when the RF power level exceeds the Low Power Alarm threshold or it can be reset manually as described above. The VSWR Alarm always requires a manual reset when it is active after being tripped.

#### 1.4 Overview of Features



Above: PowerMaster Lite as it appears with PM-01002.



Above: PowerMaster Lite as it appears with PM-01003a or higher.

#### 1.4.1 Forward Power Ranges

The command buttons located below the forward power bargraph control the range for the forward power bargraph. Select a manual range or select auto. When a manual range has been selected and the power exceeds the top of the range the bargraph will not rescale it will remain at full scale until the power is reduced or another higher range is selected. When the auto range has been selected the forward power bargraph will stay in synch with the PowerMaster meter range selection. When power is applied and it exceeds the selected range the PowerMaster will shift to the next higher range scale. PowerMaster Lite will stay in synch with the range shifts when in auto mode. To select a higher range just right click the range scale labels above the forward power bargraph and select the desired range group from the menu. The PowerMaster meter will change to the selected range automatically even when the range is changed as RF power is applied. The PowerMaster meter will reset to the lowest range when power RF is removed. Observe the PowerMaster Lite range scale labels to see the range shift back to the lowest range in the selected range group when you unkey.

#### 1.4.2 Reflected Power Ranges

The reflected power range scale works exactly the same as the forward power range scale. To select a reflected power range scale use the command buttons located below the lower bargraph. This is the reflected power bargraph. Select either a manual reflected power range if you want the scale to remain constant or select Auto for the reflected power bargraph scale to stay in synch with the scale selected in the PowerMaster meter.

#### 1.4.3 Operation Modes

There are four modes of operation. The PowerMaster will read peaks with a fast attack sampling as soon as the peak power levels are sensed. The digital display will hold this peak value for the time interval selected by the mode of operation. The digital display will reset to the current power level after the time interval has elapsed.

Mode 1 is the fast reset mode. The digital display will reset at 1/3 second intervals

Mode 2 is the medium reset mode. The digital display will reset at 1 second intervals.

Mode 3 is the slow reset mode. The digital display will reset at 2 second intervals.

Mode 4 is the long reset mode. The digital display will reset at 5 second intervals. Available in PM-01003 or higher only.

Mode 5 is the VSWR dip mode. The digital display resets at 1/3 second intervals.

Use the mode command buttons on the right of the PowerMaster Lite window to select the mode.

#### 1.4.4 Keyboard Shortcuts

PowerMaster Lite features several keyboard shortcuts for user convenience.

##### Meter / Software Settings Dialogs

**Ctrl + M** For Meter Settings Dialog.

**Ctrl + S** For Software Settings Dialog.

##### Meter's Mode of Operation

**Alt + F** For Mode 1 Fast Reset

**Alt + M** For Mode 2 Medium Reset

**Alt + S** For Mode 3 Slow Reset

**Alt + V** For Mode 4 VSWR Dip Mode

**Alt + A** For Alarm Reset

##### Reflected Power Bargraph Range Selection

**Alt + F1** Static Reflected Power Bargraph Range of 10 Watts

**Alt + F2** Static Reflected Power Bargraph Range of 25 Watts

**Alt + F3** Static Reflected Power Bargraph Range of 50 Watts

**Alt + F4** Static Reflected Power Bargraph Range of 125 Watts

**Alt + F5** Static Reflected Power Bargraph Range of 250 Watts

**Alt + F6** Static Reflected Power Bargraph Range of 375 Watts

**Alt + F7** Static Reflected Power Bargraph Range of 500 Watts

**Alt + F8** Static Reflected Power Bargraph Range of 750 Watts

**Alt + F9** Automatic Reflected Power Bargraph Range Tracking

##### Forward Power Bargraph Range Selection

**F1** Static Forward Power Bargraph Range of 10 Watts

**F2** Static Forward Power Bargraph Range of 100 Watts

**F3** Static Forward Power Bargraph Range of 200 Watts

**F4** Static Forward Power Bargraph Range of 500 Watts

**F5** Static Forward Power Bargraph Range of 1000 Watts

**F6** Static Forward Power Bargraph Range of 1500 Watts

**F7** Static Forward Power Bargraph Range of 2000 Watts

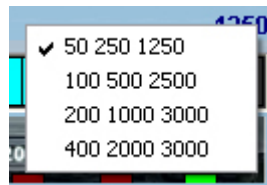
**F8** Static Forward Power Bargraph Range of 3000 Watts

**F9** Automatic Forward Power Bargraph Range Tracking

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### 1.5 Operation of Menus

#### Range Shift Menu 3KW model



##### 1.5.1 Range Shift Menu

To open the range shift menu just right click on top of the Forward or Reflected power bargraph range labels or the forward or reflected power bargraph scale indicators. Select a range group from the menu. This will send a command to the meter to change to the selected range group. The currently selected range group will be indicated by a checkmark to the left of the menu entry. The Range Shift Menu is also the first sub menu of the main program menu.

### 1.5.2 Program Menu

The main program menu can be opened by right clicking on most of the objects in the PowerMaster Lite window. Select the desired sub menu from the main program menu. The currently selected parameter will be indicated by a checkmark on next to the sub menu item.

#### Range Shift Menu 3KW model



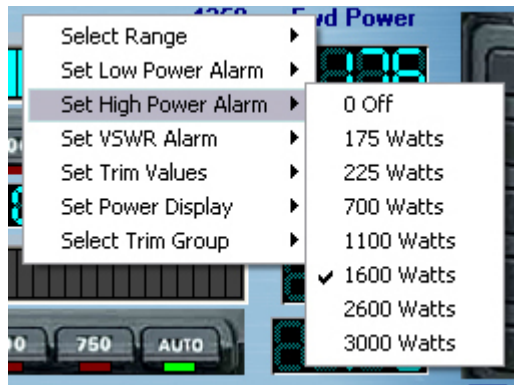
This menu allows selection of power display range.

#### Low Power Alarm Set Point Sub Menu



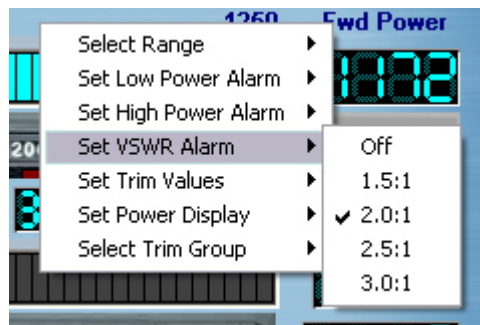
This menu allows selection of the Low Power Alarm set point. 0 will turn the alarm off.

### High Power Alarm Set Point Sub Menu



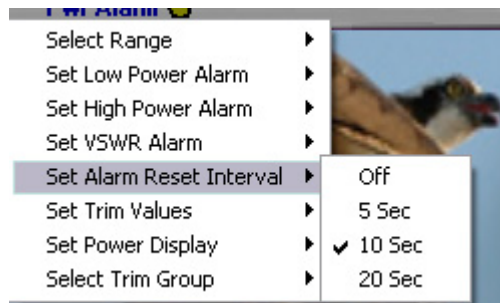
This menu allows selection of the High Power Alarm set point. 0 will turn the alarm off.

### VSWR Alarm Set Point Sub Menu



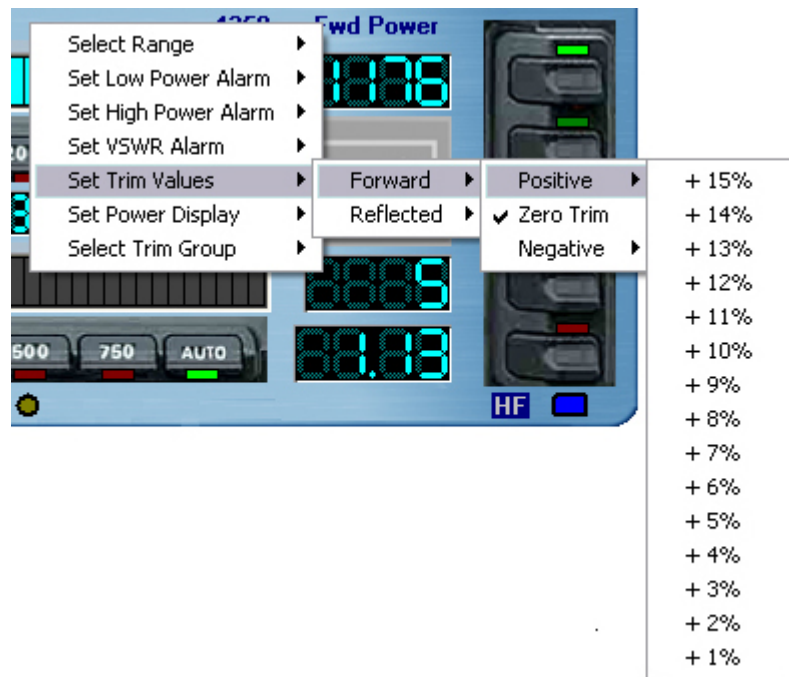
This menu allows selection of the VSWR Alarm set point.



**Alarm Reset Interval Sub Menu**

This menu allows selection of the Alarm Reset Interval set point.

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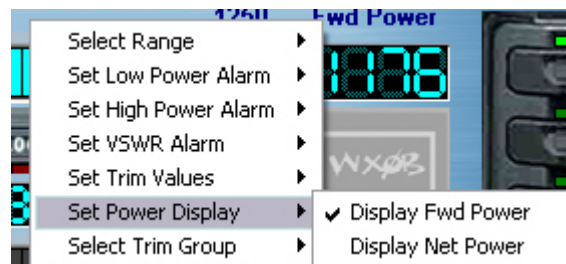
**Forward and Reflected Power Trim Set Point Sub Menus**

This menu allows selection of the forward or reflected power trim values.

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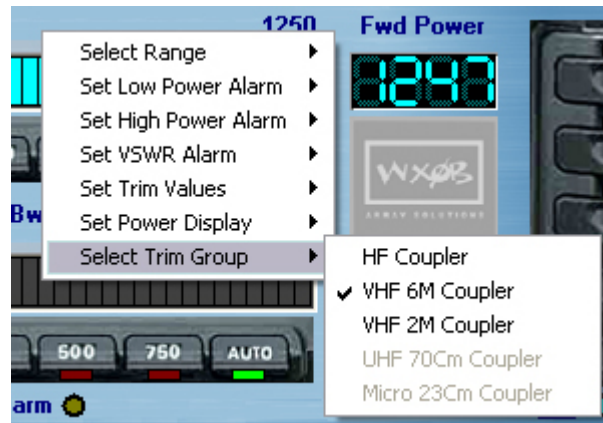
**Forward Power Display (Net - Foward) Sub Menu**





This menu allows selection of either Net power or Forward power for the forward power digital display and bargraph. When choosing Net power the displayed value is forward minus reflected power, forward power displays forward power without subtracting reflected power.

### Select Trim Group Sub Menu



This menu allows selection of the coupler trim groups for attached and configured RF couplers.

**Note:** before using the Select Trim Group sub menu it is necessary to enter the trim settings for the attached coupler in the Meter Settings dialog as outlined below.

To configure trim settings for the HF coupler open the Meter Settings dialog and select the HF coupler from the coupler drop down list. Adjust the forward and reflected trim settings to the values indicated on the trim setting table located on the RF coupler then click Apply. Now select 6M from the coupler drop down list then adjust the forward and reflected trim values to the values indicated on the coupler for 6M then click Apply. As each coupler trim group is configured the associated coupler will appear enabled in the Select Trim Group menu and switchign between coupler trim group settings will be possible with a simple menu selection.

After entering the trim settings for each coupler that is attached to the PowerMaster display head use this menu to switch between trim setting groups. For example with the HF coupler attached there are two trim groups one for HF and one for 6 Meters.

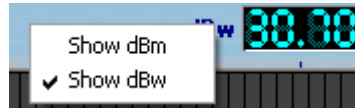
#### 1.5.3 Coupler Selection Menu

To bring up the coupler selection menu right click on the coupler indicator label near the lower right of the PowerMaster Lite window. The coupler indicator label will show HF/6M2M/70Cm or N/C depending on which coupler is currently selected. **Note:** before using the coupler selection menu it is necessary to enter the trim settings for the attached coupler in the Meter Settings dialog as outlined in Select Trim Group sub menu section above.



### 1.5.4 dBm / dBw Selection Menu

To display either dBm or dBw in the right hand small digital display right click the dBm or dBw indicator label and choose dBm or dBw from the menu. Alternatively click on the dBm or dBw label to toggle between dBm / dBw displays.



## 2.0 Connection and Port Settings

Connection of your PowerMaster meter's RS232 port to your PC is made with a standard DB9 9 pin straight through serial cable. Do not use a null modem or crossover cable with your PowerMaster meter or the companion software will not function. The use of a USB to serial adapter that configures virtual COM ports should work provided that the COM port number is COM 16 or below. This ability allows computer systems that do not have a serial port to work with the PowerMaster meter and companion software. Refer to your USB to serial adapter documentation for help configuring the virtual COM port number.

### 2.0.1 COM Port Selection

COM port selection is required when first starting PowerMaster Lite and any time your PowerMaster meter is attached to a different COM port. The Program Settings Dialog will appear if the default port or port last used is not valid when PowerMaster Lite is launched. To open the Program Settings dialog manually click the center box at the top left of the PowerMaster Lite window then select Program Settings from the menu.

When the program settings dialog appears select the COM port that your PowerMaster meter is attached to from the COM port list located on the left of the dialog. The COM port list will be limited to ports that are physically present on your system. If a COM port is already in use by another program it will be flagged as unavailable on the list. After selecting the COM port your PowerMaster meter is attached to click OK to close the Program Settings dialog.

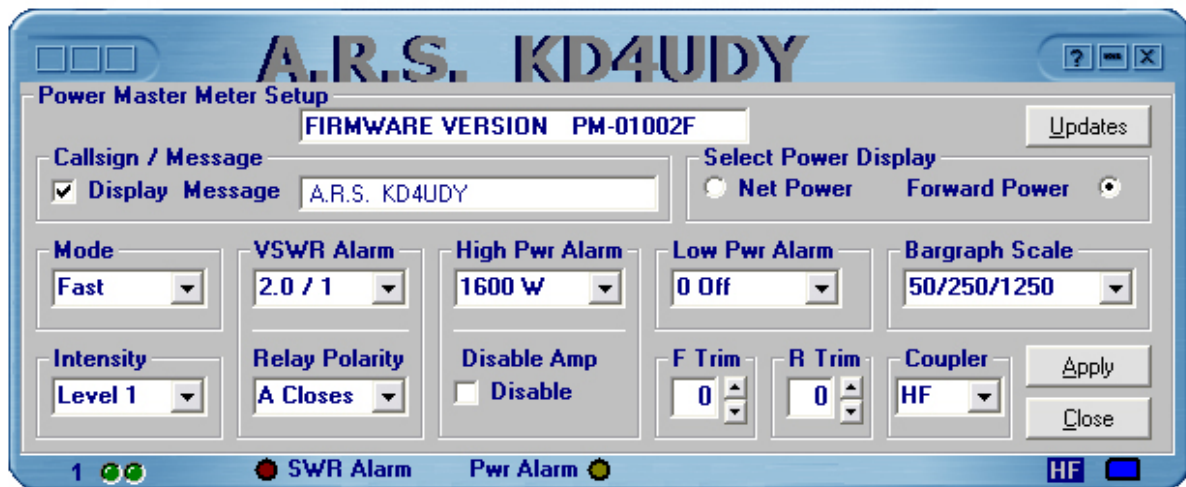
If your PC is not equipped with a serial port but has a USB port it may still be possible to use PowerMaster Lite through a virtual COM port configured through a USB to serial adapter. PowerMaster Lite can be configured to function on COM ports from COM 1 to COM 16. The virtual COM port need not be assigned an IRQ or memory base address by the USB to serial adapter for PowerMaster Lite to communicate through it.

### 2.0.2 Baud Rate Selection

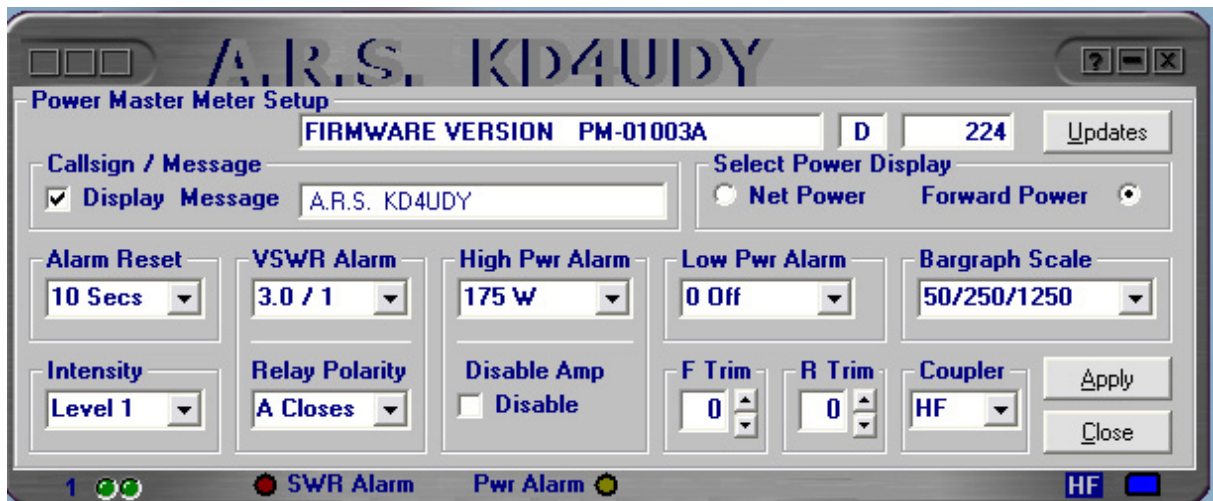
Your PowerMaster meter defaults to a baud rate of 38400. There are three available baud rates: 38400, 19200, and 9600. It is recommended that you select the highest baud rate that your system's COM port will allow. PowerMaster Lite is designed to automatically detect the baud rate of your PowerMaster meter. This will allow PowerMaster Lite to recover from baud rate selection changes while the program is running and when it is launched during the meter detection and synchronization process and detect the currently selected baud rate of your PowerMaster meter.

The baud rate of the PowerMaster meter's RS232 port is not adjustable through the RS232 port commands. This means that it must be set with the controls on the PowerMaster meter's front panel and the PowerMaster's meter's internal menu system. Unless you are experiencing difficulties with the software synching with the meter it is recommended that the baud rate remains set to 38400.

## 3.0 Meter Settings Dialog



Above: Meter Settings Dialog as it appears with PM-01002



Above: Meter Settings Dialog as it appears with PM-01003

### 3.0.0 Display Message Checkbox

The Display Message Checkbox allows you to suppress or display your custom 16 character callsign message on the PowerMaster meter display. Check the box to show the message uncheck the box to suppress the message. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.1 Callsign Message

The callsign message entry textbox allows you to input your 16 character custom message. When editing the message press enter to update the message in your PowerMaster meter. This allows for easier editing of the message. A message sample might be \_A.R.S.\_KD4UDY\_ where the underscores "\_" indicate spaces in the message. This format fills the display with a 2x3 callsign.

### 3.0.2 VSWR Alarm

The VSWR Alarm allows for un-keying an amplifier when a high VSWR condition is encountered. The VSWR Alarm relay action can be set to open or close the relay when the alarm has been triggered. Setting the VSWR Alarm to 0 will turn the feature off. The VSWR

Alarm trip point can be set to 1.5:1, 2.0:1, 2.5:1, or 3.0:1. Whenever the VSWR Alarm trip point is set to a non 0 value it will be triggered when the measured VSWR exceeds the selected trip point and the forward RF power exceeds 10 watts in the normal modes or 50 watts in the VSWR dip mode. The VSWR Alarm must be manually reset when it has been triggered. This allows the user to check and correct the condition that triggered the VSWR Alarm. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.3 Low Power Alarm

The Low Power Alarm allows the user to be notified when an amplifier or exciter has experienced a low power condition. The Low Power Alarm will automatically reset when the forward RF power level exceeds the Low Power Alarm trip point or it can be reset manually with the bottom right alarm reset button. For example if you are using an amplifier that requires 40 watts of drive and produces 1KW of output when it is in use the Low Power Alarm will alert you that the amplifier is in standby, or overload circuit has been tripped taking the amplifier offline. This feature can be beneficial when contesting to alert you to the condition allowing you to correct the condition. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.4 Operation Mode

The Operation Mode list allows selection of the meter's mode of operation. Select fast for updates every 1/3 second, select medium for updates every second, and select slow for updates every 2 seconds. This setting affects the digital display only not the bargraph. The digital display will rapidly show RF power increases and will reset the display at the selected interval when RF power is reduced or removed. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

**Note:** With PM-01003 firmware or higher the Operating Mode list will be replaced with the Alarm Reset Interval list

#### Alarm Reset Interval

The alarm reset interval list allows the selection of the time interval for VSWR, High Power, or Low Power alarms to automatically reset.

### 3.0.5 Bargraph Range Scale

The PowerMaster meter features four user selectable range groups with three range scales each. The 3KW model has the following four range groups.

50, 250, 1250  
100, 500, 2500  
200, 1000, 3000  
400, 2000, 3000

Selecting the first range group 50, 250, 1250 will scale the bargraph to 50 watts full scale when no RF is applied. As RF is applied if the forward power exceeds 50 watts the range will automatically shift to 250 and the bargraph will rescale to show 250 watts full scale. If the RF power exceeds 250 watts the range will shift again to 1250 and the bargraph will rescale to show 1250 full scale. The range scale will remain at 1250 as long as RF power is applied. When RF power is removed the range will shift back to 50.

Each of the four range groups behaves in the same manner. Select the appropriate range group for your operating conditions. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.6 Forward Power Trim

The PowerMaster meter system features internal calibration tables that are generated from NIST traceable lab equipment. If there is a need to adjust the forward power reading up or down the Forward Power Trim allows for doing so in 1% increments. The forward power trim value can be set from -10% to +10%. Setting the trim to 0 disables the trim feature. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.7 Reflected Power Trim

The PowerMaster meter system features internal calibration tables that are generated from NIST traceable lab equipment. If there is a need to adjust the reflected power reading up or down the Reflected Power Trim allows for doing so in 1% increments. The Reflected Power trim value can be set from -10% to +10%. Setting the trim to 0 disables the trim feature. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

### 3.0.8 Display Intensity

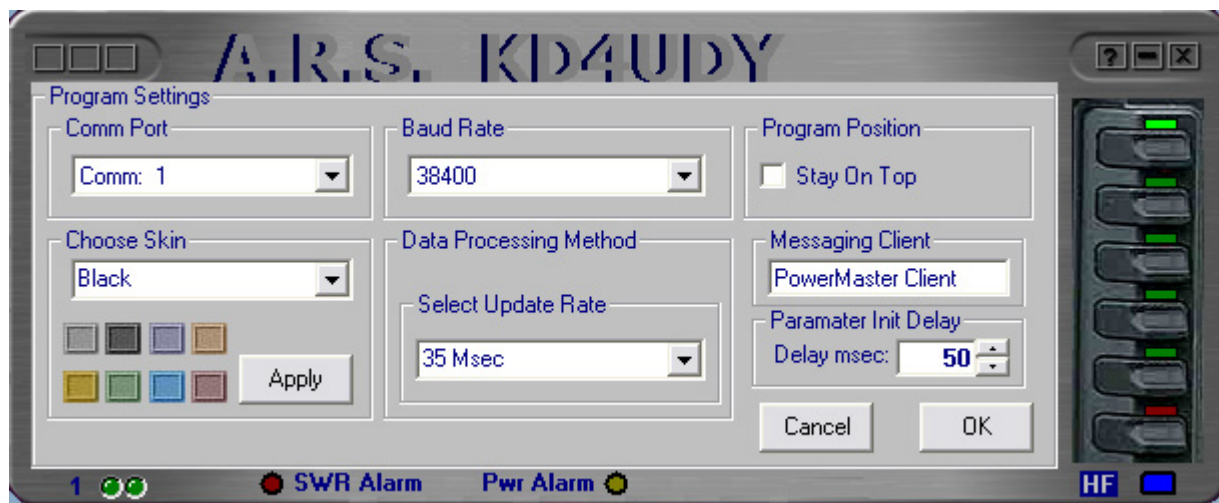
The Display Intensity setting allows the PowerMaster meter's VFD display to be set to one of four levels. Set the display intensity to a level that allows for comfortable viewing. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.



### 3.0.9 Relay polarity

The relay polarity setting allows for the VSWR Alarm relay to be set to open its contacts or close its contacts when the VSWR Alarm has been triggered. Set the relay polarity setting appropriate for your stations configuration. The meter parameter will be updated when apply is selected. Any changes will be discarded when close is selected before selecting the apply button.

## 3.1 Program Settings Dialog



### 3.1.0 COM Port Selection

COM port selection is required when first starting PowerMaster Lite and any time your PowerMaster meter is attached to a different COM port. The Program Settings Dialog will appear if the default port or port last used is not valid when PowerMaster Lite is launched. To open the Program Settings dialog manually click the center box at the top left of the PowerMaster Lite window then select Program Settings from the menu.

When the program settings dialog appears select the COM port that your PowerMaster meter is attached to from the COM port list located on the left of the dialog. The COM port list will be limited to ports that are physically present on your system. If a COM port is already in use by another program it will be flagged as unavailable on the list. After selecting the COM port your



PowerMaster meter is attached to click OK to close the Program Settings dialog.

### **3.1.1 Baud Rate Selection**

Your PowerMaster meter defaults to a baud rate of 38400. There are three available baud rates: 38400, 19200, and 9600. It is recommended that you select the highest baud rate that your system's COM port will allow. PowerMaster Lite is designed to automatically detect the baud rate of your PowerMaster meter. This will allow PowerMaster Lite to recover from baud rate selection changes while the program is running and when it is launched during the meter detection and synchronization process and detect the currently selected baud rate of your PowerMaster meter.

The baud rate of the PowerMaster meter's RS232 port is not adjustable through the RS232 port commands. This means that it must be set with the controls on the PowerMaster meter's front panel and the meter's internal menu system. Unless you are experiencing difficulties with the software synching with the meter it is recommended that the baud rate be set to 38400.

### **3.1.2 Program Position**

The Program Position checkbox allows selection of the program position behavior of the PowerMaster Lite window. Select the checkbox to have PowerMaster Lite float on top of other windows allowing it to stay in view when other programs are running even when they are full screen. Un-select the program position checkbox for PowerMaster Lite to behave conventionally and go out of scope behind other windows when other windows are in focus on top.

### 3.1.3 Messaging Client

PowerMaster Lite includes a feature that allows it to send forward power readings to other applications through the windows messaging system sometimes referred to as hooks. In order for this feature to work properly it is necessary to know the title of the program that is supposed to receive the messages. Enter the name of the receiving messaging client program as it appears on the programs title bar when the program is running.

By default the messaging client entry is PowerMaster Client. This is the title of the sample messaging client application.

When PowerMaster Lite is running if it can detect the application specified by the Messaging Client entry it will send message to the messaging client as a string including the current forward power value. This process will repeat near real time as long as the client application is running.

### 3.1.4 Skin Selector

The skins for customizing PowerMaster Lite may be selected with the drop down list of with the skin sample squares below the drop down list. Just choose a skin color from the list then select Apply to change the appearance of PowerMaster Lite to that color. Alternately select a skin sample square to select and apply the skin in one step.

### 3.1.5 Data Processing Method

The data processing method allows a user selectable rate for data updates to be sent from the meter. The default setting is 35msec but it may be necessary to choose a slower rate. The choices are 35msec, 70msec, 140msec, and 280msec. If PowerMaster Lite exits abnormally it will automatically roll back the data rate 1 step the next time it is started. This may become necessary when running several applications concurrently.

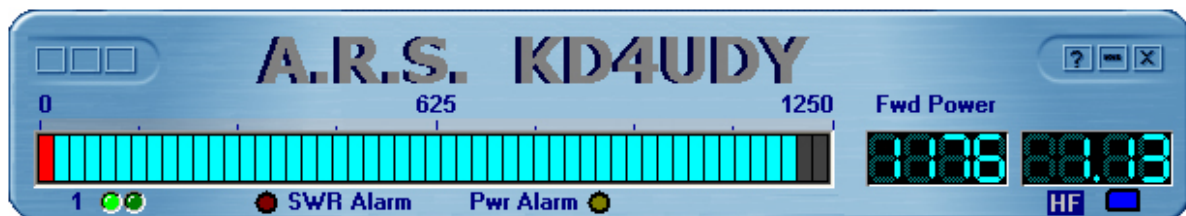
### 3.1.6 Paramater Init Delay

A user selectable delay has been added for PowerMaster Lite to utilize when loading the paramaters from the meter. Th edefault setting is 50msec, however if you suspect that some of the paramaters are not initialized properly simply increase the delay interval and restart PowerMaster Lite.

## 4.0 Program View Styles

PowerMaster Lite includes two view styles. The expanded view style has been illustrated in this user guide. There is also a compact view style. To switch between view styles just double click the PowerMaster window on the silver area. This will switch between view styles. There is not a compact view style for mode 4 the VSWR dip mode. Attempting to change view styles while in mode 4 VSWR dip mode will have no affect.

Compact View Style



Note: If the VSWR alarm or either power alarm is triggered while in compact view mode it is possible to click either the SWR Alarm or Pwr Alarm labels to reset the alarm after the condition that triggered the alarm has been corrected.

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## 5.0 System Requirements

PowerMaster Lite requires a PC with a Pentium 166 or faster processor, Pentium II 400 or faster is recommended, running Windows 95 OSR2, Windows 98, Windows NT 4.0, Windows 2000, or Windows XP with approximately 6 megabytes of free disk space.

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## 6.0 Troubleshooting

### 6.1 PowerMaster Lite Does Not Detect The Meter.

1. Make sure the meter is connected to a power source and the PowerMaster's RS 232 COM port is connected to the PC's RS232 COM port with a straight through serial cable. A null modem cable or a crossover file transfer cable will not allow the software to detect the meter.
2. Make sure that no other applications have captured the COM port that the PowerMaster meter is attached to. Having another application like ActiveSynch or HotSynch Manager PDA synchronization utilities running may cause the COM port to be unavailable when PowerMaster Lite is launched while they are running.
3. Make sure the PowerMaster meter is not in menu mode. Press the menu button several times until the power VSWR display is visible. This will occur after pressing the menu button when the baud rate selection is displayed. The PowerMaster meter does not respond to commands sent from the PC while it is in menu mode.
4. PowerMaster Lite is designed to allow only COM ports that are physically available and not in use to be selected in the Program Setup Dialog. If PowerMaster Lite does not detect the meter select an alternate COM port then select OK to accept the new setting. PowerMaster Lite will attempt to detect and synch with the PowerMaster meter when a COM port selection is made. There is no need to set the baud rate in PowerMaster Lite it will synch to the proper baud rate automatically when the meter has been detected.

### 6.2 PowerMaster Lite does not appear correctly on my screen.

PowerMaster Lite is designed to work with PC's running screen resolutions of 96 or 120 DPI. If the DPI setting is higher or lower than these values PowerMaster Lite may not appear properly on the screen. In this case there will be a traditional style version of PowerMaster Lite available upon request. Please contact [davek@arraysolutions.com](mailto:davek@arraysolutions.com) for the traditional style version.

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## 7.0 Support & Contact Information

Please refer to the supplied documentation and online resources for assistance with using PowerMaster Lite.

If you have a question or suggestion about PowerMaster Lite please contact [davek@arraysolutions.com](mailto:davek@arraysolutions.com) by e-mail.

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