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UPDATES TO YOUR NI 4050/4060 USER MANUAL

The NI-DMM soft front panel has undergone changes since the printing of your *NI 4050 User Manual* or *NI 4060 User Manual*. This note updates the *Introduction to the VirtualBench-DMM Soft Front Panel* section of these user manuals.

Introduction to the NI-DMM Soft Front Panel

The following section describes the features of the NI-DMM soft front panel shown in Figure 1.

To launch the soft front panel, select **Start»Programs» National Instruments»NI-DMM»NI-DMM Soft Front Panel**.

To access examples shipped with NI-DMM:

1. Launch LabVIEW.

2. In the right window, click **Search Examples**.

3. Go to **Other NI Products Examples**.

4. In the left window, scroll down to **Digital Multimeters** and click.

To access examples shipped with other software platforms go to `C:\VXIpnp\WINXX\NIDMM\Examples`.

For the most current versions of manuals and example programs, visit `ni.com/instruments` for free downloads.
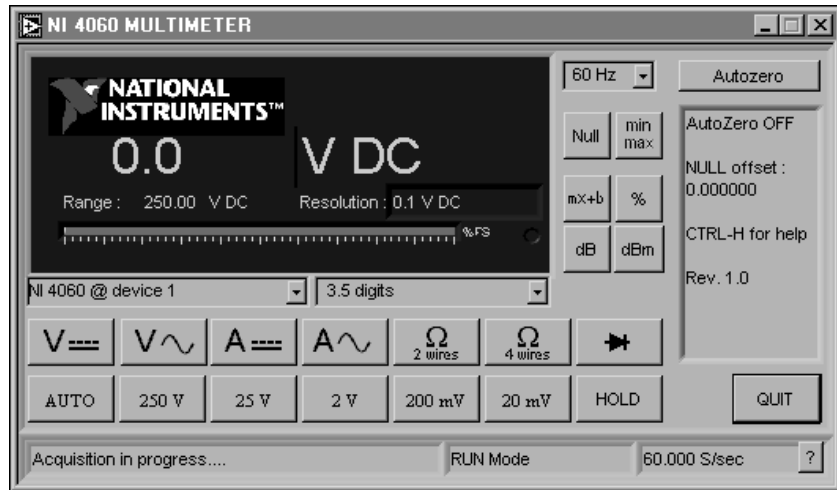
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Figure 1. NI-DMM Soft Front Panel

Using the Features

The following text describes the options available on the soft front panel. For more information on the Front Panel buttons, click the **Help** (?) button or press Ctrl-H and the button of interest to you.

Click on the **Help** button and pass your mouse over the buttons to see information about them.


The function selector allows you select a measurement mode.
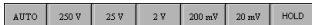
The range selector determines the range of measurements NI-DMM makes. The range differs for each measurement mode. If the measurement exceeds the range, +OVER or –OVER appears in the measurement display. **Auto** selects the range that best matches the input signal.

The unit indicator displays the measurement units of the value you are measuring. The units are expressed as VAC, VDC, mVAC, mVDC, Ω, kΩ, MΩ, mA, AC, or mA DC. The indicator also displays the resolution in absolute units.
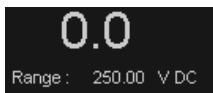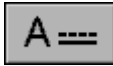

The value indicator displays the value measured by your NI-DMM (The value shown is an example only.) The value indicator also displays the selected range.

DC volts measures the DC component of a voltage signal.

V∿ AC volts measures the AC component of a voltage signal.

A=== DC current measures the DC component of a current source.

A∿ AC current measures the AC component of a current source.

Ω 2 wires 2-wire measures resistance using the 2-wire method.

Ω 4 wires 4-wire measures resistance using the 4-wire method.

▶▶ Diode measures the voltage drop across a diode. The maximum voltage NI-DMM measures is 2 V.

HOLD The **Hold** button freezes the last reading. Click it again to display new readings.

mX+b **mX+B** enables the mX+B calculation on all readings.

dB **dB** compresses a large range of measurements into a much smaller range by expressing DC or AC voltage in decibels.

dBm **dBm** calculates the power delivered to a resistance. You can define the value of the reference resistance.

% **%** selects the percentage calculation. NI-DMM expresses the displayed reading as a percent deviation from the reference value entered in the Math Settings.
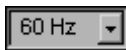
60 Hz ▾ The powerline frequency rejection selector allows you to select the frequency to be rejected during acquisition.
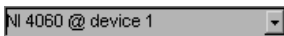
NI 4060 @ device 1 ▾ The device selector shows the installed devices on your system and allows you to select one of them.

3.5 digits ▾ Use the digits selector to select your digits of resolution. The lower the resolution, the faster the measurement; the higher the resolution, the slower the measurement.

Null **Null** starts relative mode. NI-DMM makes all subsequent measurements relative to the measurement it makes when you click on **Null**.

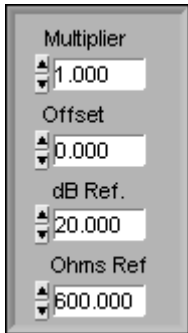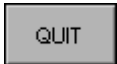|	
min max	**Min/Max** displays the maximum and minimum values during acquisition.
Autozero	**AutoZero** disconnects the external signals from the circuit and internally shorts the inputs.
RUN Mode	This window shows the instrument in Run mode or Hold mode.
Acquisition in progress....	The activity window displays the current activity of NI-DMM as Acquisition or Configuration.
60.000 S/sec	Acquisition speed window displays the number of samples your device will take according to your selected settings.
AutoZero OFF NULL offset : 0.000000 CTRL-H for help Rev. 1.0	The information panel gives specific details related to your settings.
Multiplier 1.000 Offset 0.000 dB Ref. 20.000 Ohms Ref 600.000	The information panel changes based on your selections and offer new options. Multiplier and Offset can be adjusted when you click **mx + b**. dB Ref appears when you click **dB**, and % Ref appears when you click **%**. Ohms ref can be adjusted when you click **dBm**.
QUIT	Closes the NI-DMM soft front panel.