

**FLUKE®**

# Fluke Metrology Software

Version 7

MET/CAL

5500/CAL

Getting Started Guide

P/N 1275404

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## **Contact MET/SUPPORT™ if you Need Assistance**

See the Appendix for important details about the MET/SUPPORT program. Registered users of Fluke Metrology Software can obtain support by telephone, FAX, or E-Mail.

**Before calling, be sure to first check the manual and online help.**

### ***Have the Following Information Available:***

- Product name, applicable licenses, version and serial numbers
- Manual title, part number and version
- Operating system and version
- Network information if applicable
- List of steps necessary to recreate the problem
- Contents of `autoexec.bat` and `config.sys` files if applicable
- Version of *Crystal Reports*

***Dial Toll-Free in the USA: 1-800-825-7411***

***FAX: 1-425-446-5992***

***E-Mail: [metsupport@fluke.com](mailto:metsupport@fluke.com)***

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# Version 7 Software

## Introduction

Welcome to the *Getting Started Guide* for Version 7 of Fluke Metrology Software.

### ***NOTE for MET/TRACK License Holders:***

*Do not use this Guide if setting up a MET/TRACK-only site. If purchased without MET/CAL or 5500/CAL licenses, refer to the Users Manual. There are instructions in the Users Manual for the tasks that are of more interest for MET/TRACK installations, as follows:*

- *Adding Users*
- *Adding Assets to the Database*
- *Customizing Forms and Fields*

The exercises in this Guide give MET/CAL and 5500/CAL licensees a quick familiarity with the software, and demonstrate typical tasks for setting up calibration workstations.

This Guide does not contain installation information. Before proceeding, install the Fluke Metrology Software and configure the hardware as described in the *Installation and Upgrade Guide*

Throughout this Guide, the term “MET/CAL” refers to both MET/CAL and 5500/CAL workstations where calibrations are performed.

## **Safety Information**

Calibrating instruments may require dangerous voltages to be generated or measured by the calibration system. Both the operator and procedure writer must be aware of possible hazards. To avoid electrical shock and fire hazards, follow the instructions below.

### **⚠️⚠️ Warning**

**To avoid hiding the high voltage safety symbol:**

**Never use a screen saver when using the Run Time or Procedure Editor applications. The Run Time and Editor programs control test instruments and can cause them to output dangerous voltage levels. The high voltage symbol indicates when dangerous voltage is present.**

### **⚠️⚠️ Warning**

**To avoid electric shock:**

- **Use interconnect wiring and adapters rated for the highest voltage and current levels carried.**
- **Never touch exposed conductive portions of signal interconnect wiring, even after instruments have been turned off.**
- **Only touch the insulated portion of a connector. First disconnect the interconnect wiring at the source, then at the measurement side.**
- **Always use insulated adjustment tools.**
- **If the calibration program is abnormally terminated verify that the front panels of source instruments indicate standby mode.**
- **When writing procedures, make sure that procedures minimize the time during which dangerous voltages are applied.**

## A Getting Started Exercise

This Guide helps to set up a Fluke Metrology Software database and takes the user through a practical exercise using the database.

The calibration exercises are written for a variety of Fluke Calibrators, including the Fluke 5700A and 5720A Multi-Function Calibrator, Fluke 5500A and 5520A Multi-Product Calibrators, and the Fluke 5800A, and 5820A Oscilloscope Calibrators. The text of the Getting Started Guide is written assuming the Fluke Metrology Software has already been installed and tested as described in the *Installation and Upgrade Guide*.

### Standalone Versus Network Installations

Each step in the exercise reminds the user to start the Calibration Data Engine on the Server. If not running the software on a network, only the Engine must be running before starting any of the applications.

This exercise should take approximately 45 minutes (excluding installation time), during which time the following tasks are performed:

- Step 1.** Connect the calibrator to the PC.
- Step 2.** Add a new user to the database.
- Step 3.** Add to the database a calibration standard and an initial calibration record for it .
- Step 4.** Initialize the software for the specific calibrator at the workstation.
- Step 5.** Switch the Run Time application from its practice mode (Demo Mode) to the mode that actively controls the calibrator (Real Mode).
- Step 6.** Run the procedure to test communication with the calibrator.
- Step 7.** Load Calibration Procedures from disk.

Some of these steps may already be completed, but are presented here to ensure this exercise provides a complete set of instructions for running a calibration. If none of these steps have been performed, it is possible that Fluke Metrology Software will be unable to communicate with the calibrator.

## Step 1: Connecting the Calibrator to the PC

Connecting the Calibrator involves these activities:

- Installing IEEE-488 cards if necessary. (Refer to the instructions provided by National Instruments.)
- Connecting the Calibrator to the PC.
- Configuring the Calibrator. (Consult the *Users Manual* for your calibrator.)

Below are listed the front panel configuration steps for popular calibrators.

### *Note*

*This procedure assumes that the hardware and software have been properly installed as described in the Installation and Upgrade Guide, which contains the instructions for starting and logging on the SQL database server.*

## Connecting a 5700A or 5720A Calibrator to the IEEE-488 Bus

For the 5700A or 5720A Calibrator, an IEEE-488 port must be available. To connect the 5700A or 5720A to the IEEE-488 bus, do the following:

1. Connect an IEEE-488 cable between the port on IEEE-488 board 0 and the Calibrator.
2. Use the front panel controls on the Calibrator to configure the instrument as follows:
  - a. Press **SETUP**.
  - b. Press **INSTMT SETUP**.
  - c. Select **Remote Port Setup**.
  - d. Change **Remote Port** to read **GPIB**.
  - e. Select **GPIB Setup**.
  - f. Select a unique IEEE-488 address for the instrument. The default setting of 15 matches the default setting in MET/CAL. If a different value is desired, be sure to set MET/CAL to match the address.

Calibrator	Default Address
5700A	15
5720A	15

- g. Press **PREV MENU** until the screen indicating 220 mV and AUTO is shown.

## Connecting a 5500A, 5520A, 5800A, or 5820A Calibrator to the IEEE-488 Bus

The Calibrator can be connected to either the IEEE-488 Bus or to a Serial Port.

To connect the Calibrator to the IEEE-488 bus, do the following:

1. Connect an IEEE-488 cable between the port on IEEE-488 board 0 and the Calibrator.

Use the front panel controls on the Calibrator to configure the instrument as follows:

- a. Press **SETUP**.
- b. Press **INSTMT SETUP**.
- c. Select **REMOTE SETUP**.
- d. Change **Host** to **GPIB**.
- e. Select **GPIB Setup**.
- f. Select a unique IEEE-488 address for the instrument. The following list shows the default addresses for the subject calibrators. If a different value is desired, be sure to set MET/CAL to match the address.

Calibrator	Default Address
5500A	4
5520A	4
5800A	8
5820A	8

- g. Press **PREV MENU** until given the option to **STORE CHANGES**.
- h. Store the changes.
- i. Press **PREV MENU** button to return to the initial menu.

## **Connecting the 5500A, 5520A, 5800A, and 5820A Calibrators to a Serial Port**

This procedure assumes that the available serial port is COM2. If connecting your Calibrator to a different port, substitute your port number for COM2.

1. Connect the correct serial cable between the serial port COM2 on the PC and the Calibrator.
2. Use the calibrator's front panel controls to configure the Calibrator to accept information on the serial port as follows:
  - a. Press **SETUP**.
  - b. Press **INSTMT SETUP**.
  - c. Select **REMOTE SETUP**.
  - d. Change **Host** to **Serial**.
  - e. Select **Host Setup**.
  - f. Set the following parameters:
    - Data Bits = 8
    - Stop Bits = 1
    - Stall = XON/XOFF
    - Parity = None
    - Baud Rate = 9600
  - g. Press the **PREV MENU** button until given the option to **STORE CHANGES**.
  - h. Store the changes.
  - i. Press the **PREV MENU** button to return to the initial menu.
3. In the Windows Control Panel, select the *Ports* icon. Configure the parameters for COM2 to match those specified above.

## **Step 2: Adding a User to the Database**

### *Explanation*

New users are added to the Fluke Metrology Software by starting the MET TRACK application. The MET TRACK application has two modes. The Configuration Mode allows the initial database configuration including Adding Users and Password. This mode requires a special login name and password, which is different from login names and passwords established for all other Fluke Metrology Software applications. The system is set up this way to allow only one person in your lab to be able to add new users to Fluke Metrology Software. This helps to establish security and control access to Fluke Metrology Software's applications. Think of this person as the Fluke Metrology Software administrator for your site.

The second mode is the MET TRACK mode. This mode requires login names and passwords different than the login name and password used to configure the system. As shipped, the default User Name is **fluke** and the password is **fluke** for the MET TRACK application.

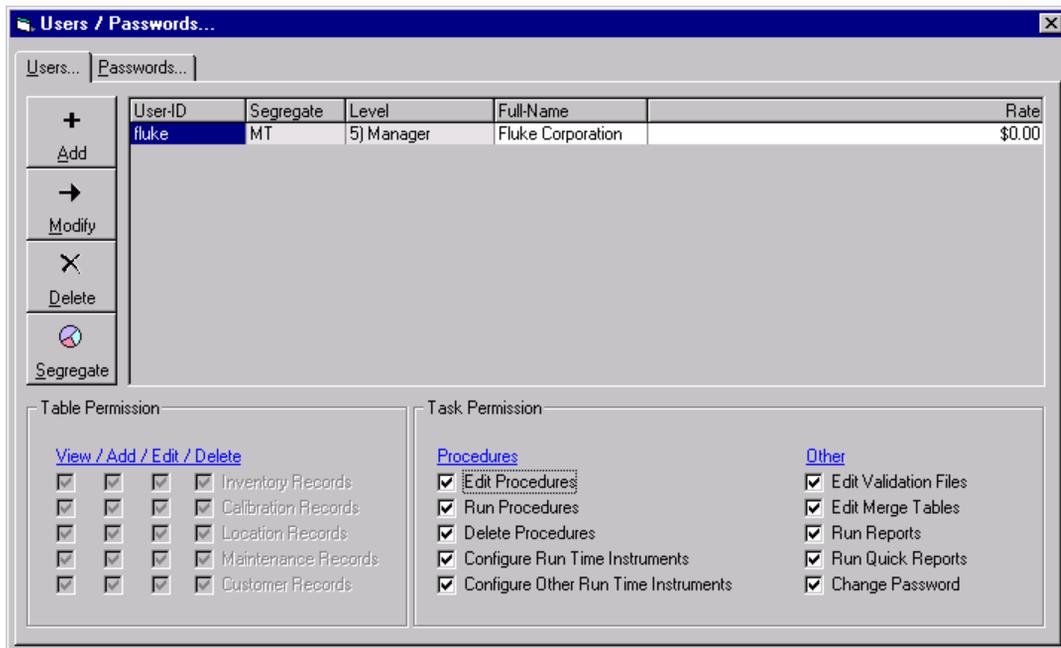
In this exercise, you start the MET TRACK application and add a new user name and password to the system. Later, this user name will be used to execute a calibration procedure. To do this, you need to know the administrator-level login name and password. As shipped, Fluke Metrology Software is pre-configured with an administrator user. The login name is **mt**, and the password is also **mt**. Whenever you are directed to "login as the mt user", this means to login to an application using the mt login name and password. Later, you can change the password, so access to MET TRACK will require a unique password for your site which only your Fluke Metrology Software administrator knows.

## Procedure

The following procedure describes how to set up additional users. After you have added the first user, you will find editing users simple and intuitive.

To add a user to the database, do the following:

1. Start the Calibration Data Engine on the server, if it is not already running.
2. Start the MET TRACK application and connect to the database as the MT user. This opens the MET TRACK application in the Configuration Mode.
3. On the Main Menu, select **Set-up, Users/Passwords**. The Add User dialog box appears.

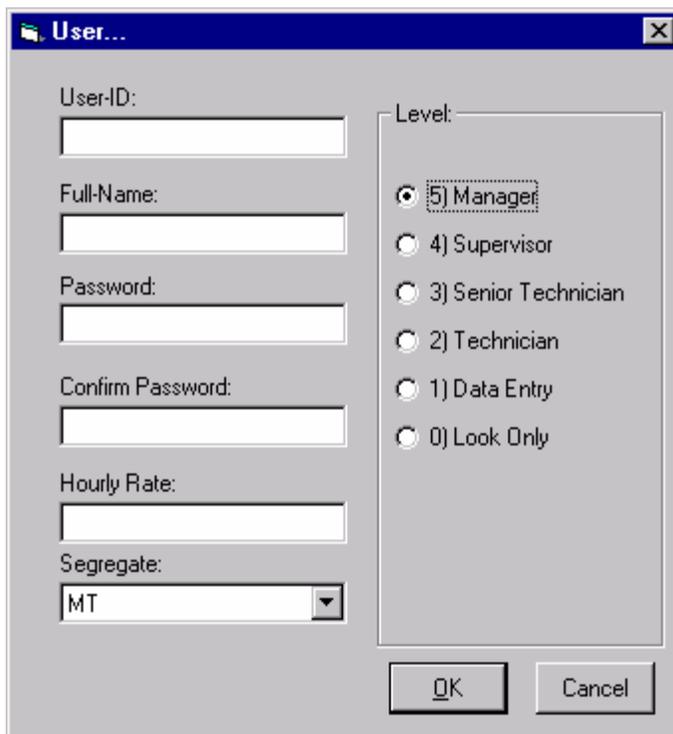


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**Figure 1. Users/Passwords dialog box**

4. Select **Add**.

The Add User dialog box opens.



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Figure 2. Add User dialog box

5. Fill in the **User Name** and **Real Name**. Note that the real name is used in the MET/CAL reports and should not be fictitious.
6. Confirm the password by typing it again in the **Confirm Password** box.
7. Enter a labor rate for this user in the **Rate** box.
8. Select the access level.
  - A level 0 user has read-only access to the database.
  - Level 1, 2, and 3 users have access that can be defined by the MT user using the MET TRACK configuration mode application.
  - A level 4 user has access to all calibration functions and administrative functions that deal with the administration of procedures.
  - A level 5 user has access to all Fluke Metrology Software functions (except those reserved for the MT user).

For this exercise, level 4 might be appropriate.

9. Users in the MT segregate can access assets in all segregates. If you are not using customized segregates, it is best to assign all users to the MT segregate. Refer to Users Manual for more information on segregates.
10. Select **OK** to complete the addition of a user to the database.

### **Step 3: Adding a Standard to the Database**

#### *Explanation*

When you receive Fluke Metrology Software, the calibration database contains a number of sample assets for demonstration purposes. Later in this Guide, you will run a MET/CAL procedure using a 5700A, 5720A, 5500A, 5520A, 5800A, or 5820A Calibrator. If the calibrator is not identified as a standard in the database, the MET/CAL procedure will not execute.

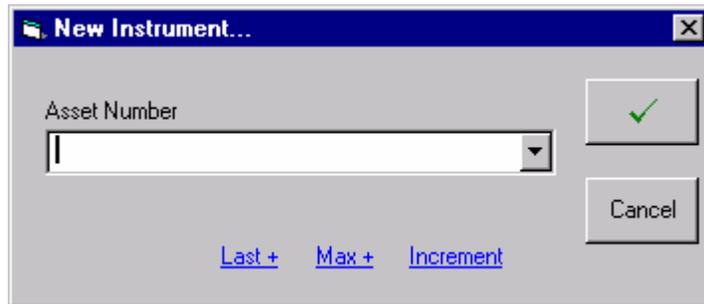
In addition, the calibrator you add must be in calibration so that the traceability hierarchy has a valid starting point. Therefore, any time you add a new standard to the database, you must also add at least one calibration history record indicating the standard to be currently in calibration.

#### *Procedure*

To add a standard to the database, do the following:

1. Start the Calibration Data Engine on the server, if it is not already running.
2. To start the MET TRACK application, select **File, Login as New User**, and log into the database as the user you created in “Step 2: Adding a User to the Database.”

- From the main menu select **Add, Inventory Record**.  
The Enter New Asset Number dialog box is displayed.



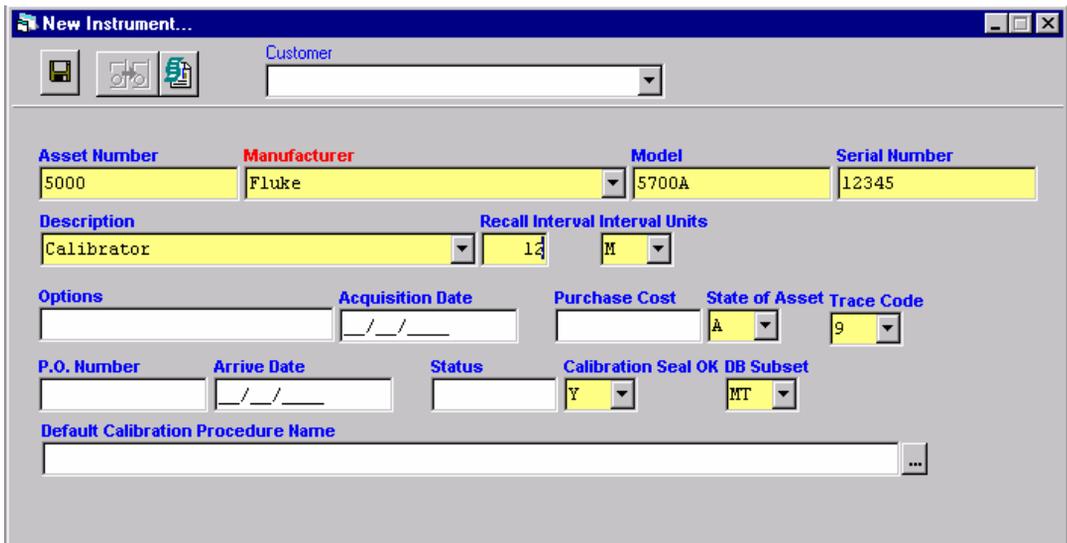
zu03.bmp

Figure 3. New Instrument Asset Number box

- Enter the **Asset Number** for your Calibrator, then click the green check button.

At this point, the MET TRACK application checks the Inventory records to see if the asset already exists in the database. If not, the Inventory form is displayed with your new asset number filled in. All of the fields that require data will be displayed in yellow, the default required fields color.

- Press **Enter** or **Tab** to move to the next field.



zu04.bmp

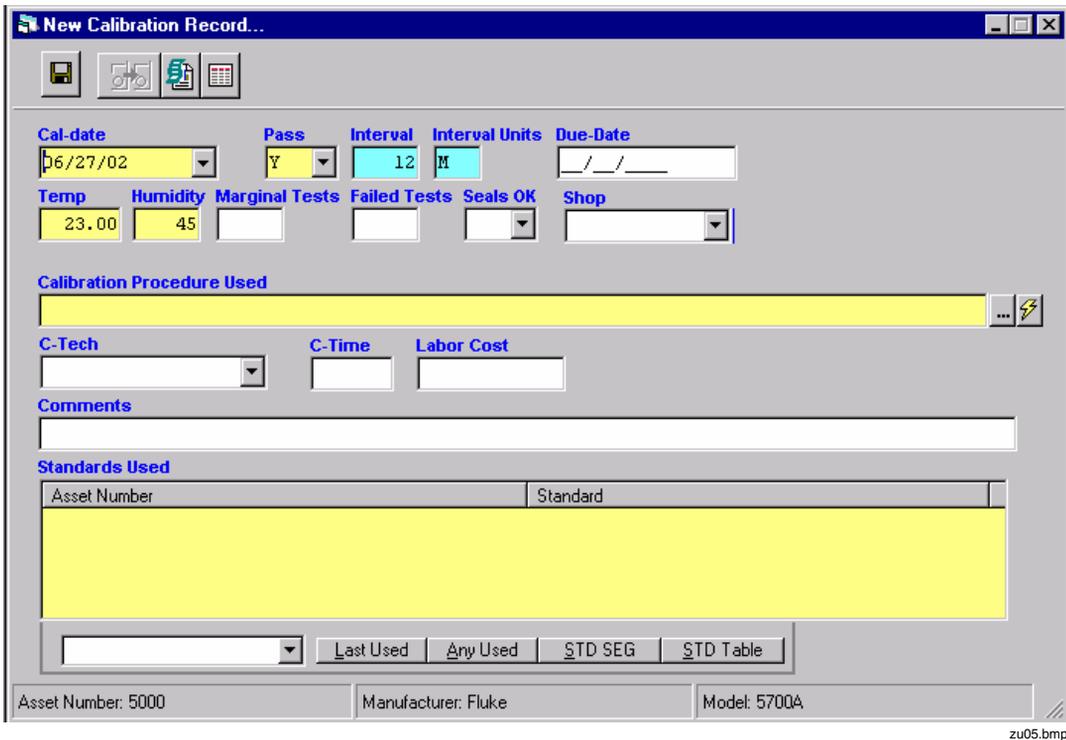
Figure 4. New Instrument Inventory Form

6. Enter the model name in the **Model** field. Press **Enter** or **Tab** to advance to the next field.

Enter the remaining required instrument data. If a field is not applicable, leave it blank. You must fill in certain fields (called required fields) before you can exit the form. The administrator can change the required fields by customizing the database. See the *Fluke Metrology Software Users Manual* for details.

7. These fields require some explanation:
  - **Interval Units** defines the units in which the calibration interval is measured; for example, days (**D**), weeks (**W**), months (**M**), (**U**) uses, or (**N**) never requires calibration. **Master Recall Interval** is the maximum number of **Interval Units** between required calibration events. For example, 90 days, 12 weeks, or 12 months.
  - **Trace Code** determines the standards hierarchy. Each asset is assigned a particular value reflecting whether one instrument is capable of acting as a standard for another. The default specifies “0” through “9” with “0” being the most accurate standard. The trace codes are completely user configurable alphanumeric values. It is recommended to set the trace code to 1 for a calibrated standard.
8. When you have entered data, select save button to save the record.  
If you left a required field blank, you are prompted to enter the data.
9. Next, enter the initial calibration for the standard. (Assume the calibration standards are calibrated by an outside vendor.) From the main menu select Add, **Calibration Record** or press **F3**.

The Calibration form is displayed.



The screenshot shows a software window titled "New Calibration Record...". The window contains several input fields and sections. At the top, there are icons for Save, Print, and Help. Below these are fields for "Cal-date" (06/27/02), "Pass" (Y), "Interval" (12), "Interval Units" (M), and "Due-Date". Below these are fields for "Temp" (23.00), "Humidity" (45), "Marginal Tests", "Failed Tests", "Seals OK", and "Shop". There is a section for "Calibration Procedure Used" with a text box and a lightning bolt icon. Below that are fields for "C-Tech", "C-Time", and "Labor Cost". There is a "Comments" section with a text box. Below that is a "Standards Used" section with a table. The table has two columns: "Asset Number" and "Standard". Below the table are buttons for "Last Used", "Any Used", "STD SEG", and "STD Table". At the bottom of the window, there are fields for "Asset Number: 5000", "Manufacturer: Fluke", and "Model: 5700A".

Figure 5. New Calibration Record Form

10. Enter the calibration date (**Cal-date**) for your calibrator or, for this exercise, simply accept the default date.
11. Under the **Pass** field drop-down menu, select **Y**.  
As you tab through the remaining fields, the **Due Date** automatically updates based on the calibration interval you entered on the Inventory form.
12. Click the select procedure button to select the **Calibration Procedure Used**.
13. To enter **Standards Used**, go to the menu. Select the **STD Table** button and select "FLUKE CORPORATION" as the standard from this table.
14. The standard will now appear in the standards used window and on the calibration record.

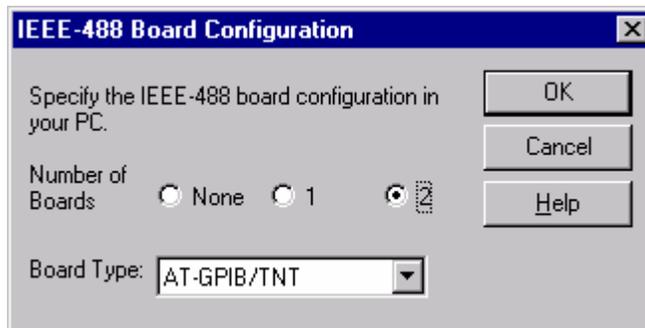
*Note*

*To represent outside vendor calibrations, an asset with the Asset Number of “FLUKE CORPORATION” is loaded in the Fluke Metrology Software database when it is shipped.*

15. Save data and then close the MET TRACK application.

### **Step 4: Specifying the IEEE-488 Port Settings**

1. If your calibrator is connected to the IEEE-488 interface, open the MET/CAL Run Time application. Select **Configure** and **IEEE-488 Boards**. You will see a display similar to the following:



**Figure 6. IEEE Board Configuration Window**

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2. In this dialog box, you must specify ALL of the following:
  - How many IEEE-488 Boards are in the computer.
  - What type of IEEE-488 boards they are by manufacturer’s model names. Note that if your computer contains two boards, they must be the same manufacturer and model type.
3. Once you have specified the required information, press **OK**.

### **Specifying a Serial Port on Your Computer**

1. To specify a port on your computer, go to the Windows Start menu. Select **Settings**. Go to **Control Panel** and select **Ports**. You will see a list of ports available for your computer. Select the proper port, then select **Settings** from the list on the right-hand side.
2. A dialog box that lists settings for your selected port appears. Make sure the information in this box agrees with the parameters you set in *Step 1*:

*Connecting the 5500A, 5520A, 5800A, and 5820A Calibrators to a Serial Port.*

### **Step 5: Configuring the Standard You Have Just Added**

#### *Explanation*

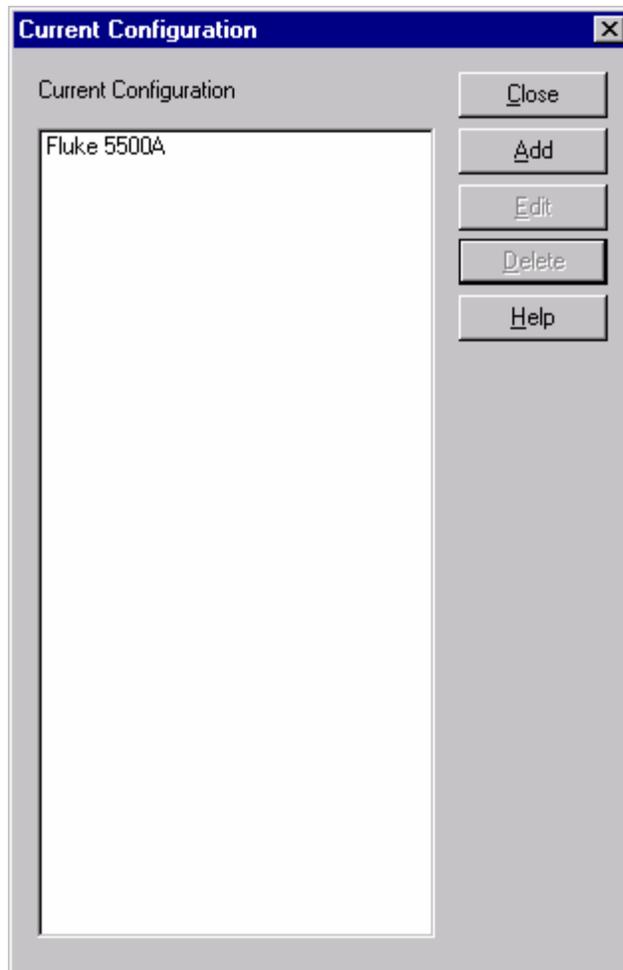
1. The record for the calibration standard that you entered in the previous step of this exercise placed traceability information for the Calibrator in the database.
2. Now, you must configure the individual workstation to tell Fluke Metrology Software that the calibration instrument at a specific workstation corresponds to a standard in the database.
3. To understand why this is necessary, consider a network that includes two or more workstations, each with a Fluke 5500A performing calibrations. The procedure that follows would inform MET/CAL which 5500A was connected to which workstation.

#### *Procedure*

To establish the communication bus on which the calibrator will be connected and configure a calibration instrument, do the following:

1. Start the Calibration Data Engine on the server if it is not already running.
2. Start the MET/CAL Run Time application and login as the user created in “Step 2, Adding a User to the Database.”
3. From the **Configure** menu, select **Instruments** or press **F12**.

Your current configuration displays in a dialog box.



zu07.bmp

**Figure 7. Current Configuration Window**

This dialog box displays the currently configured instruments for the workstation, and provides the opportunity to edit the configuration, add a new instrument, delete an instrument, and to specify the I/O location where the instrument is connected to the computer.

4. To configure a specific calibrator, do either **a** or **b**:
  - a. If the Current Configuration window *contains* the calibrator attached to your system, use the mouse (or Up or Down arrow key) to select your calibrator and then click **Edit** or double-click the mouse.

A System Instrument dialog box for your calibrator is displayed.

**OR**

- b. If the Current Configuration window *does not contain* the calibrator attached to your system, click **Add**. A new instrument list is displayed.

Use the mouse (or Up or Down arrow key) to select your calibrator and click **OK** or double-click the mouse.

The System Instrument dialog box appears:

System Instrument: Fluke 5520A

Asset Number:

Remote Interface:  IEEE-488  Serial

IEEE-488 Address:

Serial Port:  COM1  COM2  COM3  COM4

Alias 1:

Alias 2:

Scope Option:  5500A-SC300  5500A-SC600  5520A-SC1100  None

Auxiliary Device:  5500A/COIL

Asset Number:

FSC: 5520, M5520, IEEE

OK Cancel Help

zu08.bmp

Figure 8. System Instrument Configuration Window

5. Enter data that corresponds to the calibrator you have selected.
6. Close the System Instrument dialog box. The instrument is now configured in MET/CAL for this workstation. Close the application.

The next step is to establish the communication bus (i.e. IEEE-488 or Serial Port).

## **Step 6: Changing the Run Time Application to Real Mode**

### *Explanation*

Fluke Metrology Software is shipped so the Run Time application will start up in Demo Mode, a practice mode in which calibration procedures will execute, but the software does not actually control the calibrator. This permits you to explore the various features and test run procedures even though you do not yet have any hardware configured or connected.

For this exercise however, it is best to work with the actual equipment and database that you will be using. Therefore, you will have to switch the Run Time application out of the Demo Mode and into Real Mode.

### *Procedure*

To switch MET/CAL Run Time from Demo Mode to Real Mode, do the following:

1. Start the Calibration Data Engine on the server if it is not already running.
2. Start the Run Time application and login as FLUKE or the user created in “Step 2: Adding a User to the Database.”
3. Select the **Options** menu.
4. Click the check in the **Demo Mode** box to switch to Real Mode. The **Options** menu will close.

The system is now in Real Mode. Close the Run Time application or leave it open to start the next step.

## Step 7: Run A Procedure to Test Communication with the Calibrator

### Explanation

Several simple calibration procedures have been pre-installed to test system operation. If you are using a 5700A, 5720A, 5500A, 5520A, 5800A or 5820A with MET/CAL, you can proceed with this example. If you do not have one of these instruments connected to the system, you can still proceed with this test, but you must put the Run Time application back into Demo mode. The supplied test procedures are:

- Simple Test of 5700A Operation
- Simple Test of 5720A Operation
- Simple Test of 5500A Operation
- Simple Test of 5520A Operation
- Simple Test of 5800A Operation
- Simple Test of 5820A Operation

In the following test, select the appropriate procedure, depending on your choice of calibrators.

In this step, you will run an actual procedure that demonstrates MET/CAL's Run Time application and also verifies that your Calibrator is set up properly to work with Fluke Metrology Software.

### Procedure

To run a calibration procedure, do the following:

1. Turn on the Calibrator and allow it to warm up and stabilize.
2. Start the Calibration Data Requester on the client, if it is not already running.
3. Start the Run Time application and login as the user created in “Step 2, Adding a User to the Database.”
4. Select **Calibrate** on the menu bar.

The Procedure Selection dialog box is displayed.

5. Use the mouse (or Up or Down arrow key) to select the appropriate test procedure for your calibrator. Then click **OK**.
6. You are prompted for the Asset Number of the UUT.  
Enter **SAMPLE-87** and press Enter.

Additional screens will prompt you for other required data, such as environmental data that should be available in your lab.

7. **Tab** through the fields, entering data as appropriate. When you are finished, click **OK** or press **Enter**.

A series of screens display as the system establishes communication with the calibrator.

8. If the calibrator is not found you might get an error message, e.g., “COM2 Timeout” or “IEEE-488: Bus timeout error.” If this should occur, click **Terminate** to stop the procedure.

Solve the communication problem before proceeding.

#### *Troubleshooting Note*

*The cause of the communication problem is likely to be one of the following:*

*The calibrator is not set to the proper address (Step 1).*

**OR**

*The calibration instrument is not correctly entered in the system configuration file (Step 4).*

*Check these two items first. If the problem persists, it is possible there is an internal address conflict with the COM port or IEEE card. Consult the hardware documentation to correct the problem.*

9. After communication is established with the calibrator, the procedure runs to completion. Follow the prompts and input data as required.
10. When the procedure is complete, remove all connections to the UUT as you are prompted to do so. You will then receive prompts for your calibration comments and other pertinent data. (Later, you may wish to customize what information is prompted.) Finally, the Post Run Results dialog box is displayed.

You can set up a number of formatted reports using the radio buttons on the left. The control buttons on the right allow you to view, save or print the reports.

Two items are noteworthy:

- Notice the *Discard Data on Close* checkbox at the bottom of the screen. This option is disabled when Fluke Metrology Software is shipped. When enabled, this option allows you to not save the just completed calibration event to the database.

- Notice the *Test Results* icon in the Run Time screen. Double-click it to view the test result listed in text form. This data is stored in the Results table of the SQL database and can also be viewed using the MET TRACK application.
11. Click **Close** on the Post Run Results dialog box.  
The calibration procedure is complete and the results can be viewed, printed or edited using the MET TRACK application.
  12. Close the Run Time application.

## **Step 8: Loading Procedures**

### *Explanation*

Nearly 2,000 procedures are supplied with the Fluke Metrology Software. Because of their great number and the amount of space they can potentially take up on your hard drive, installing them is a separate task from the main installation. In addition, those who purchase only MET/TRACK licenses require no procedures at all, and others may want to install only a few of the many that are available.

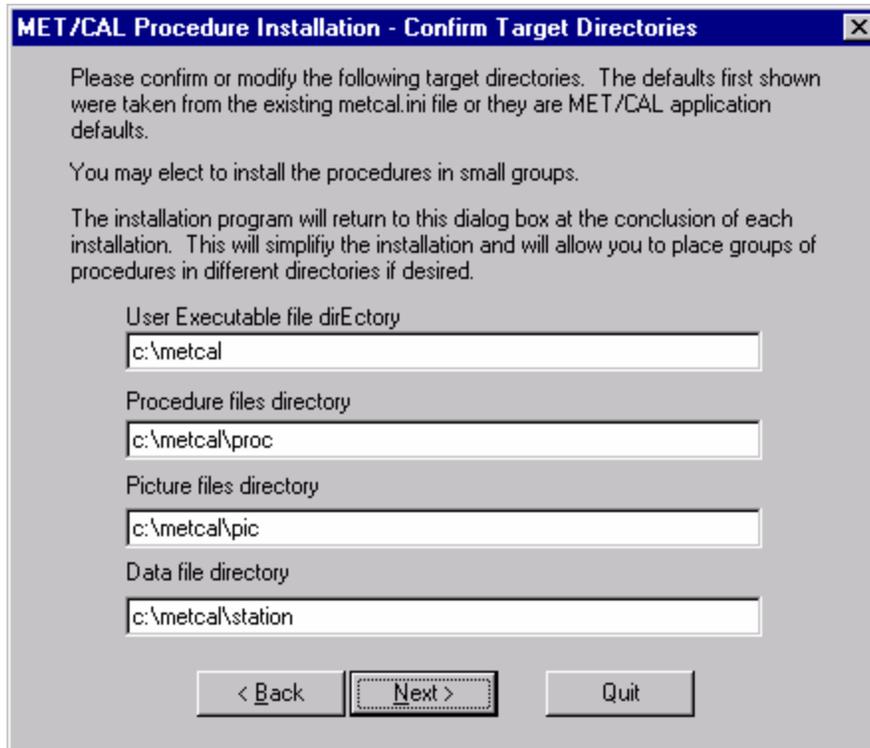
The Procedure Installation program greatly simplifies the process, because it automatically detects and includes all files needed for each procedure it installs.

The final step in this getting started exercise is to install a procedure set from the CD into the shared folder on your Server.

### *Procedure*

To load MET/CAL procedures, proceed as follows:

1. Insert the Fluke Metrology Software CD into the CD-ROM drive.
2. Run **SETUP.EXE** from either the PROCINST\METCAL or PROCINST\5500CAL directory as applicable. When the SETUP program starts, it displays a short welcome screen, then a screen asking to which directory you'd like to install the first group of procedures.

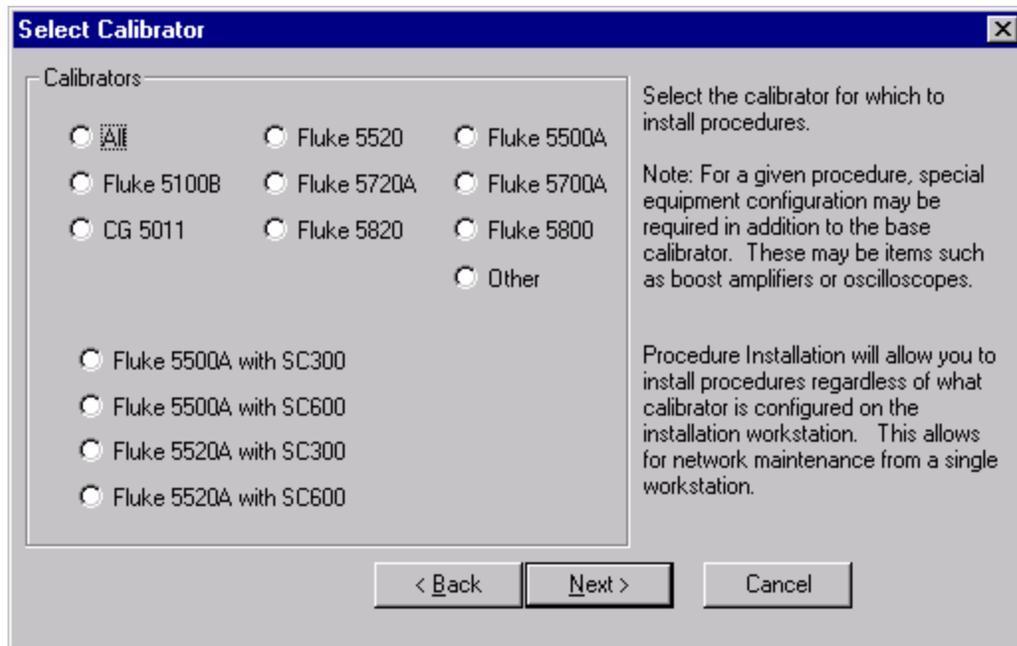


zu09.bmp

**Figure 9. Target Directories for Procedures**

After each group has been installed, the installation program returns you to this directory selection screen to permit installing different types of procedures in different locations.

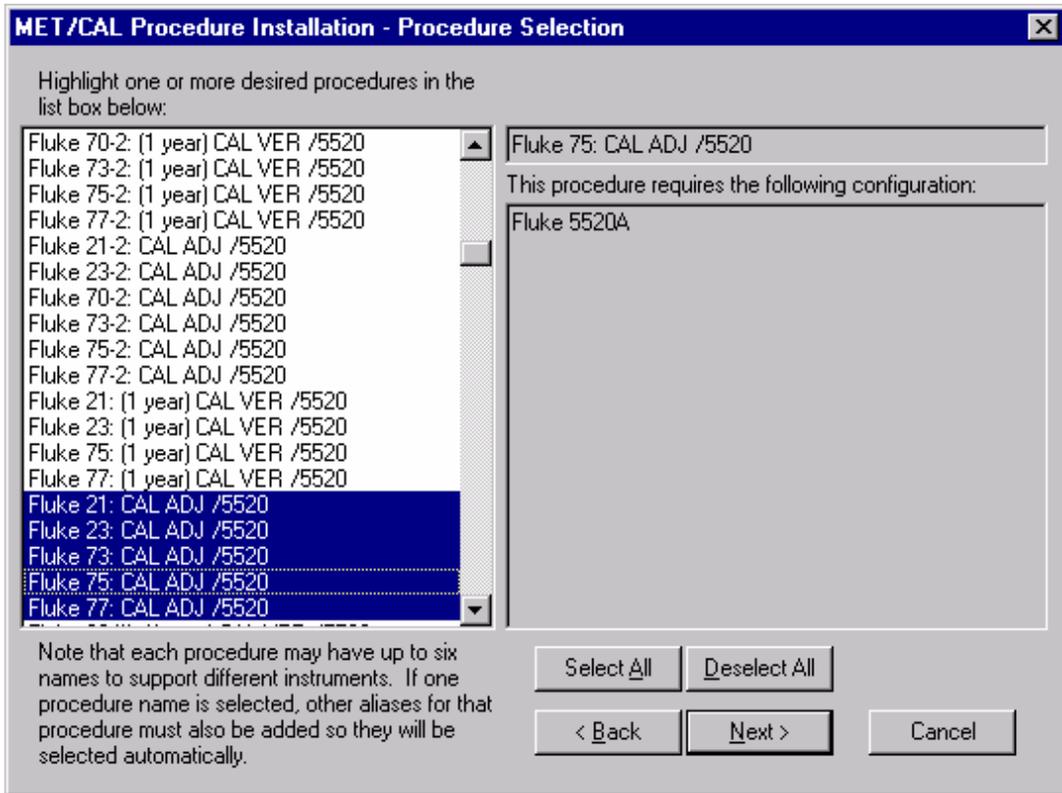
3. Press the **Next** button when you are ready to proceed. You will see a display similar to the following:



zu10.bmp

Figure 10. Select Calibrator Dialog Box

4. Follow the instructions. You can select one or more calibrators, or you can install procedures for all calibrators.
5. After making your selection, again press **Next** to proceed. The installation program now presents a screen similar to the following:



zu11.bmp

Figure 11. Select Procedures Dialog Box

In this display, the operator has clicked on the Fluke 75 Adjustment procedure. This procedure is one of 5 in the same procedure file. All the procedures in that file are highlighted when any one of them is selected.

6. Click the procedure list to select the procedures you wish to install.
7. When you have selected the procedures you wish to install, press **Next**. The procedures will be uncompressed from the CD and copied into the folder you specified earlier. The installation program gives you the opportunity to install other procedures in other folders.
8. When you have finished installing the procedures for this workstation, quit the program and remove the CD from the drive.

### **Specifying the Default Port for Remote Control of Serial UUTs**

1. Many UUTs have a serial interface. A calibration procedure can utilize this serial interface to setup, read responses from, or download calibration data to the UUT. This type of procedure is considered “closed-loop” and greatly

reduces operator intervention during calibration. If you intend to run serial closed-loop procedures, you must configure the software for the particular serial port you intend to use. Proceed as follows:

2. From within the Editor, select **Configure** and then **Default Serial Port**.
3. Select the COM port you wish to use to control UUTs with serial interfaces. Press the **Help** button for more information.

## Cables and Adapters Required for MET/CAL and 5500/CAL Serial Connections

**Table 1. Serial Cable Configuration**

Device	COM1, COM2, COM3, COM4	COM5500 COM5520	COM5800 COM5820
Fluke 2620A, 2625A, 2635A Hydra	(1)	(2)	(2)
Fluke 2645A, 2646A NetDAQ	(1)	(2)	(2)
Fluke 2640A 2641A NetDAQ	(1)	(2)	(2)
Fluke 39, 40, 41	no closed loop procedure available		
Fluke 43	(5)	(5,6)	(5,6)
Fluke 45	(1)	(2)	(2)
Fluke 5500A, 5520A	(1)	na	(2)
Fluke 5800A , 5820A	(1)	na	na
Fluke 93,95,97,97/AUTO	(5)	(5,6)	(5,6)
Fluke 91,92,96,99	(5)	(5,6)	(5,6)
Fluke 105	(5)	(5,6)	(5,6)
Fluke 701	(7)	not supported	
Fluke 702	(2)	not supported	
Fluke 725	(7)	(7,6)	na
Fluke 744	(7)	not supported	
Fluke 787	(10)	not supported	
Fluke 863,865,867	(3)	(5,6)	na
Fluke 87, 89 Series IV	(11,12)	(11,12,6)	na
Fluke PM 3082, PM 3084	(1)	(2)	(2)
Fluke PM 3092, PM 3094	(1)	(2)	(2)
Fluke PM 3335, PM 3337	(1)	(2)	(2)
Fluke PM 3350A, PM 3352A	(1)	(2)	(2)
Fluke PM 3355, PM 3357	(1)	(2)	(2)
Fluke PM 3365A, PM 3367A	(1)	(2)	(2)
Fluke PM 3375, PM 3377	(1)	(2)	(2)
Fluke PM 3370A	(1)	(2)	(2)
Fluke PM 3380A	(1)	(2)	(2)
Fluke PM 3382,PM 3384,PM 3384E	(1)	(2)	(2)
Fluke PM 3382A,PM 3384A	(1)	(2)	(2)
Fluke PM 3390A	(1)	(2)	(2)
Fluke PM 3392,PM 3394	(1)	(2)	(2)
Fluke PM 3392A,PM 3394A	(1)	(2)	(2)
HP 3325B	(3)	(4)	(4)
HP 34401A	(1)	not supported	
HP 34420A	(1)	not supported	
Keithley 2000	(2)	(8)	(8)
Marconi 2024	(3)	(4)	(4)
Tektronix 710, 720 TEKSCOPE	(9)	(9,6)	(9,6)
Tektronix TDS Series Scopes	(1)	(2)	(2)

**Notes Regarding Cables and Adapters Required for MET/CAL and 5500/CAL Serial Connections**

1. DB-9 female to DB-9 female null modem cable  
Fluke PM 8914/001 CombiScope Serial Interface Cable or equivalent.
2. DB-9 female to DB-9 male straight cable  
Fluke Part #943738 or equivalent.
3. DB-9 female to DB-25 female null modem cable  
Fluke RS40 RS-232C Terminal Cable or equivalent.
4. DB-9 female to DB-25 male straight cable  
Fluke RS41 Modem Cable or equivalent.
5. Fluke PM 9080 Optical Interface Cable.
6. DB-9 female to DB-9 female null modem adapter and DB-9 male to DB-9 male gender changer  
Fluke Adapter Kit #689486 or equivalent.
7. Fluke Service Cable, part #949446, or equivalent.
8. DB-9 male to DB-9 male cable with the following configuration:  
pin 2 <--> pin 3  
pin 3 <--> pin 2  
pin 5 <--> pin 5  
Pins 7 and 8 must not be connected.
9. Use RS-232C Interface Adapter cable supplied with unit.
10. See instructions in Fluke 787 Service Manual.
11. PC IR Adapter, Fluke Part #690518 or 1590638  
DB9 IR Cable Adapter Connector, Fluke Part #804549.  
DB9F to DB9M Null Modem Cable  
DB9M to DB9M Gender Changer

## What to Do Next

After you have completed this exercise using the supplied sample data, you will most likely want to begin setting up the database. The remainder of this Guide suggests follow-up activities and refers you to the *Fluke Metrology Software Users Manual*.

## Running a Calibration Procedure

You may want to begin immediately to calibrate instruments. If this is your desired course, all you must do is open the Run Time application and select the procedure you wish to use from the **Calibrate** menu. If you have installed a procedure for an instrument you wish to calibrate, it appears on the Run Time list.

**Fluke strongly advises that you put in place a backup plan before adding new information to the database.** The *Users Guide* describes a practical, robust plan.

Before attempting a calibration, perform the following preliminary steps:

- Ensure that the Calibration Data Engine is running.
- Log in to Run Time application.

## Adding the Remaining Users

In the Getting Started exercise, you added one user to the database. Before the rest of your users will be able to use the Fluke Metrology Software applications, you must also add them into the database. Follow the same steps as you did to add the user in this Getting Started exercise.

## Adding Your Company Information

Besides adding users, the Database Setup application has a selection for adding in your company information. This information can be automatically substituted into the reports and certificates you develop.

## Configuring the System or the Workstation(s)

It is possible to set a number of operating parameters that control the way Fluke Metrology Software operates at both the system level and at each workstation.

System-level settings are done using the MET TRACK configuration mode application. Individual workstations are set up using the Run Time application. Both topics are covered in the *Fluke Metrology Software Users Manual*.

## **Advanced Topics**

After you have been using Fluke Metrology Software for a while, you may want to investigate the features provided for doing the following tasks.

### **Customizing a Provided Report**

Frequently, one of the first things that a new site wants to customize is the appearance or content of a report.

The report formats provided with Fluke Metrology Software are an excellent starting place for creating reports tailored specifically to your needs. See the *Fluke Metrology Users Manual*, the *Crystal Reports Users Manual*, or refer to the Fluke Metrology Software on-line help.

After you have customized a report, it must be added to Fluke Metrology Software. This is done using the Fluke Metrology Software Manual Entry application. See the *Users Manual* for more information.

### **Customizing Database Fields and Forms**

Some sites use all of Fluke Metrology Software forms as they are, while others need to customize some of the forms or fields.

You may never use a particular field, for example, so including it on the forms could be a cause of confusion. Or, you may want to expand the information in your the database by using one of the many fields specifically included for that purpose.

If you have customized very many fields, you will probably will want to include some of the new fields in your reports. Once you have the forms and fields customized to your site's requirements, you can further customize the reports, or create entirely new ones.

Customizing database fields and forms is covered in detail in the *Fluke Metrology Software Users Manual*.