CFX96 Touch and CFX96 Touch Deep Well Real-Time PCR Detection Systems Installation
Quick Guide

Unpacking the Instruments

The CFX96 or CFX96 Deep Well Optical Reaction Module and the C1000 Touch Thermal Cycler Chassis are shipped separately. Unpack each item carefully. The included power cable, USB cable, and CFX Maestro Software are required for installation. The CFX96 or CFX96 Deep Well Module may also be placed on a previously purchased C1000 Touch Chassis for a quick upgrade to a real-time PCR detection system.

Important: Carefully read the safety information and instrument operating specifications provided in the CFX96 Touch, CFX96 Touch Deep Well, CFX Connect, and CFX384 Touch Real-Time PCR Detection Systems Instruction Manual (#10021337) before using the system.

Setting Up the CFX96 Touch or CFX96 Touch Deep Well Real-Time PCR Detection System

Install the CFX96 Touch or CFX96 Touch Deep Well System on a clean, dry, level surface with sufficient cool airflow to run properly.

To insert the CFX96 or CFX96 Deep Well Optical Reaction Module into the reaction module bay of the C1000 Touch Chassis:

1. Place the C1000 Touch Chassis in a suitable location with the locking bar down.

2. Remove the instructions overlay from the C1000 Touch Chassis. Lift the reaction module using the handle indents above the side air vents (Figure 1).

3. Position the reaction module in the reaction module bay of the C1000 Touch Chassis, leaving about 2 cm of space in the front.

4. Reach around the thermal cycler and pull up the locking bar (Figure 2) until it is flush with the sides of the module bay. This action moves the reaction module forward, locking it into place (Figure 3).

5. Use the supplied power cord to plug the chassis into an appropriate electrical outlet.

6. Turn on the CFX96 Touch or CFX96 Touch Deep Well System using the power switch on the back of the chassis.

Removing the Red Shipping Screw

The CFX96 and CFX96 Deep Well Modules are shipped with a red shipping screw in place in the inner lid in the hole corresponding to well A1 (Figure 4). Follow the instructions on the touch screen of the C1000 Touch Chassis to remove this shipping screw before beginning operation.
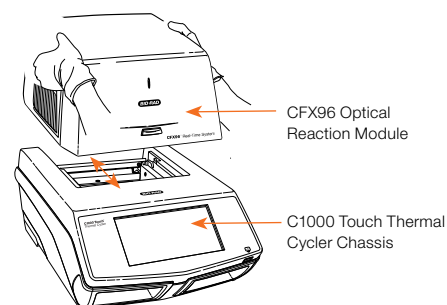

CFX96 Optical Reaction Module

C1000 Touch Thermal Cycler Chassis

Fig. 1. Lifting the CFX96 Module onto the C1000 Touch Thermal Cycler Chassis.
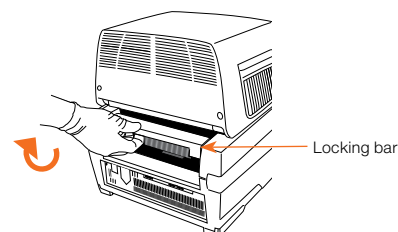

Locking bar
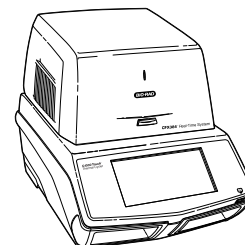
Fig. 2. Locking the CFX96 Module into place.

Fig. 3. The CFX96 Module positioned on the C1000 Touch Chassis.
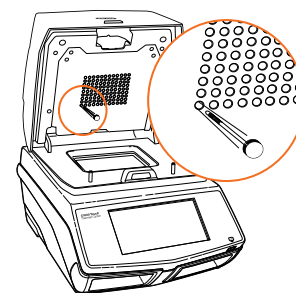

Fig. 4. Red shipping screw included with the CFX96 Module.

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Operating under Software Control

Installing CFX Maestro Software

A computer with the Windows 7 or Windows 10 Operating System is required to run the software. Minimum computer specifications are listed in the system instruction manual (#10021337). The software must be installed on the computer by a user with administrative privileges. To install the CFX Maestro Software:

1. Disconnect any real-time instruments from the computer.

2. Insert the CFX Maestro Software USB drive into the computer's USB port.

3. In Windows Explorer or File Explorer, navigate to and open the CFX Maestro USB drive for your version of the software.

4. Open the CFX folder and double-click the setup file (for example, **CFXMaestroSetup1.1**). Follow the on-screen installation instructions.

5. When the installation completes, safely remove the software USB drive from the computer's USB port.

After installation, to open the CFX Maestro Software, double-click the shortcut icon located on the Windows desktop.

Installing CFX Documentation

The CFX Maestro Software USB drive contains the CFX documentation installer, **CFX_Documentation**. This installs the CFX Maestro Software User Guide as a PDF, which can be accessed through **Help** on the main window menu bar. The CFX Real-Time PCR System instrument guides will also be installed. To install CFX documentation:

1. Insert the CFX Maestro Software USB drive in the CFX Maestro computer's USB port.

2. In Windows Explorer or File Explorer, navigate to and open the USB drive for your version of the CFX Maestro Software.

3. Open the CFX folder and double-click the setup file for **CFX_Documentation**. Follow the on-screen installation instructions.

4. When the installation completes, safely remove the software USB drive from the computer's USB port.

Updating the Software and Instrument

With the instrument powered off, plug the supplied USB cable into the USB B port (Figure 5) located on the back of the C1000 Touch Chassis and into a USB 2.0 A port in the computer. Make sure that the computer is connected to the Internet.
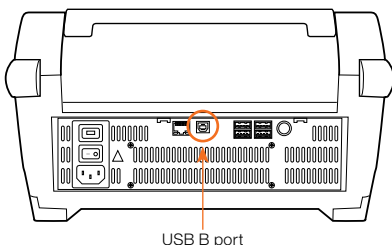

Fig. 5. USB B port on the back of the C1000 Touch Chassis.

To update the software and instrument:

1. Open the computer, start CFX Maestro Software. CFX Maestro automatically connects to the last instrument it was connected to before the software update.

2. If an update is available, a dialog box will prompt you to update the software and instrument. Click Update (Figure 6).
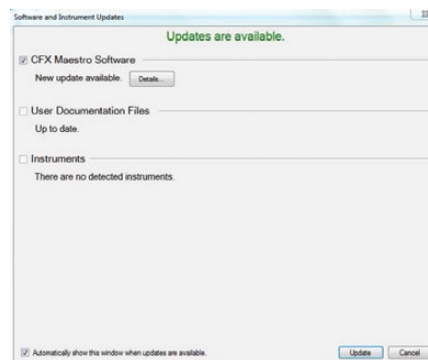

Fig. 6. Update dialog box.

Note: The update process can take 20 minutes. Do not shut down the computer and the connected instrument during the update.

Creating, Starting, and Analyzing a Run

The Run Setup window provides quick access to the files and settings needed to set up and start a run. To open the Run Setup window, follow one of these options:

- In the Startup Wizard window under the Run Setup tab, click **User-defined** or **PrimePCR**

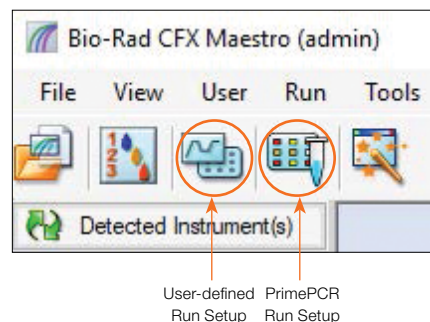- On the main window toolbar, click **User-defined Run Setup** or **PrimePCR Run Setup** (Figure 7)

Fig. 7. Main window toolbar.

- On the main window menu bar, click **File** > **New** > **User-defined Run** or **PrimePCR Run**

The Run Setup window (Figure 8) includes three tabs:

- Click **Protocol** to select an existing protocol to run or edit, or to create a new protocol in the Protocol Editor window

- Click **Plate** to select an existing plate to run or edit or to create a new plate in the Plate Editor window

- Click **Start Run** to check run settings, select one or more instrument blocks, and begin a run
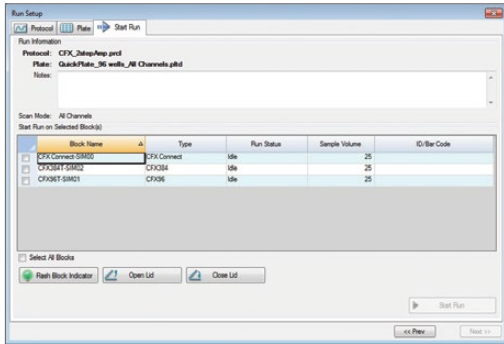

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Fig. 8. Run Setup window, including the Protocol, Plate, and Start Run tabs.

Note: For PrimePCR runs, the PrimePCR protocol and a default plate layout will be selected based on the instrument selected in the Run Setup screen. The PrimePCR protocol includes a melt step by default. To reduce total run time, select **Protocol** and uncheck the melt step box.

CFX Maestro Software automatically processes real-time PCR data at the end of each run and opens the Data Analysis window. The data file can be analyzed or saved to the folder of your choice, and it can be emailed from the software. Refer to the system instruction manual (#10021337) for detailed information about run setup and data analysis.

Stand-Alone Operation

The CFX96 Touch and CFX96 Touch Deep Well Systems can also be operated as stand-alone touch-screen instruments that can run a real-time PCR protocol without a computer attached. However, data analysis requires the use of the CFX Maestro Software installed on a computer.

Creating a Protocol
- To create a new run, touch **New Protocol** in the home screen to open a New Protocol template (Figure 9). Touch the **Name** field, and type a protocol name to save
- To edit an existing protocol, touch **Saved Files** to open the file library and touch a protocol to edit
- For more information about creating, editing, and running protocols, refer to the system instruction manual (#10021337)
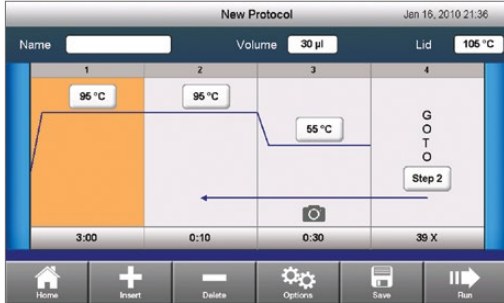

Fig. 9. Default real-time PCR protocol.

Exporting Data

When a run is finished, the fluorescence data need to be transferred to a computer running CFX Maestro Software for analysis. At the end of a run, the data file is automatically saved to the Real-Time Data folder located in the Real-Time Data directory (Figure 10). Up to 100 real-time PCR runs can be stored in this folder.

Fig. 10. Real-Time Data folder stores real-time PCR runs.

Exporting Data Using a USB Flash Drive
If a USB flash drive is inserted in the C1000 Touch Chassis by the end of run, then the data file (.zpcr) will automatically be saved to the Real-Time Data folder, which will be created on the USB flash drive.

If a USB flash drive is not present, insert one into the USB 2.0 A port and follow these steps to transfer a data file to the flash drive:

1. To access the Files folders, touch **Saved Files** on the home screen.
2. In the Locations window, touch **Real-Time Data**.
3. Touch the file to export from the Files window. Information about the selected file will be displayed in the Preview window.
4. To export the file, touch **File Options**.
5. To save the file to the USB flash drive, touch **OK**.

Exporting Data Using Email
Data from the C1000 Touch Chassis can be emailed after configuring your email settings (see Setting Up Email in this quick guide).

Prior to the run start, type an email address in the Additional Settings window to send an email with an attached data file (.zpcr) from the C1000 Touch Chassis at the end of a run (Figure 11).

Note: A user who is logged in can specify that an attachment be emailed to a particular address at the end of each run.

Fig. 11. Selecting email notification.

Analyzing a Data File

A stand-alone run data file (.zpcr) must be converted into a data analysis file (.pcrd) in the CFX Maestro Software in order to be analyzed. Create a data analysis file from a stand-alone run using one of the following options:

- Click and drag the .zpcr file to the main software window
- On the main window menu bar, select **File** > **Open** > **Stand-alone Run**

Note: The software will select a default plate that matches the scan mode and plate size and apply it to the stand-alone run data file to create a CFX Maestro Software data file (.pcrd). The file will open in the Data Analysis window. To edit any plate layout, select **Plate Setup** in the toolbar.

Setting Up Email

To configure the outgoing email from the C1000 Touch Chassis:

1. In the home screen, touch **Tools**, and then touch **Admin** to log in as the administrator. If no password has been set, the Admin Tools screen will appear without a log-in prompt.

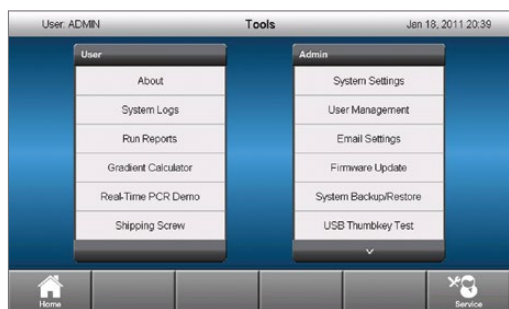2. In the Admin menu, touch **Email Settings** (Figure 12).

Fig. 12. Tools screen following Admin log-in.

3. In the Outgoing Mail (SMTP) Server Settings window, select a mail server from the dropdown menu or add a new mail server by touching **New Server** (Figure 13). To make the mail server the default, touch the **Set As Default** box (Figure 13).

Fig. 13. Outgoing Mail (SMTP) Server Settings window.

4. To create a new mail server, type the mail server address and mail server port in the appropriate fields. A network administrator may need to be contacted for this information.

5. Type the user name and password for the selected mail server.

6. To verify that the Outgoing Mail (SMTP) Server Settings are correct, send a test email by touching **Test Email**.

7. Type the email address and the attachment size, and then touch **Send Email** (Figure 14).

Fig. 14. Test Email window.

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