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MegaBACE 1000 DNA Analysis System
Instrument QuickStart v2.1

This QuickStart card provides instructions for preparing to perform a run and two alternative workflows for running the MegaBACE™ system. You can enter a plate ID and set up a plate—

- Before starting the Inject Samples and Run protocol: **Workflow A**
- After starting the Inject Samples and Run protocol: **Workflow B**

This card also describes how you use the Instrument Control Manager software and provides shutdown and startup instructions, maintenance instructions, and assistance information. For detailed instructions, see the *MegaBACE 1000 Instrument Operator's Guide* or the Instrument Control Manager online Help.

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Preparing to perform a run

Checking the nitrogen pressure

The nitrogen pressure should be sufficient to complete one run (based on usage in your laboratory). See the instrument operator's guide for guidelines on regulating the nitrogen pressure.

Checking for free disk space

The workstation should have at least 150 MB of free disk space. If your system is set up for automatic base calling and export to other file formats, you should allow 50 MB of free disk space per hour of performing runs.

Opening the software

1. Double-click the **Host Scan Controller** icon.
2. Double-click the **Instrument Control Manager** icon.



(Optional) Changing the storage location for your data

Note: This procedure changes the storage location of the raw data files for future data collection. It does not change the location of files that are already on the hard drive.

1. Choose **File Storage** from the Options menu.
2. In the File Storage window, select the hard drive and folder you want to use and click **OK.**





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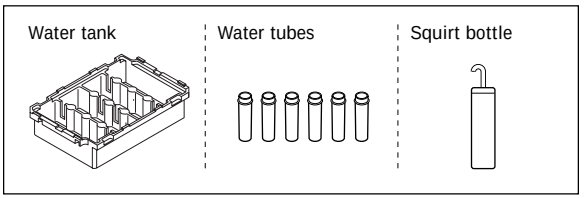
Performing a run

This section lists the materials you need for each run and provides alternative workflows for your interaction with the instrument and the Instrument Control Manager software.

Laboratory materials required for each run

Rinse Tips protocol

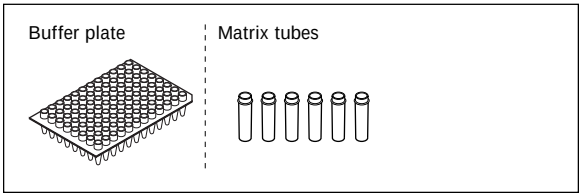
- A clean tank filled with deionized filtered water
- Six 2-ml tubes, each with 1.8 ml deionized water
- A squirt bottle filled with deionized filtered water



Matrix Fill and Prerun protocol

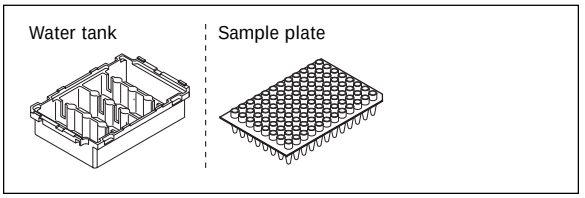
- A plate with run buffer* diluted to 1x (200 ml buffer per well)
- Six 2-ml tubes, each with 0.7 ml LPA matrix

Centrifuge the matrix and buffer using the parameters listed in the LPA package instructions.



Inject Samples and Run protocol

- A clean tank filled with deionized filtered water
- A plate with samples prepared according to the applicable reagent protocol (minimum 5 ml per well)



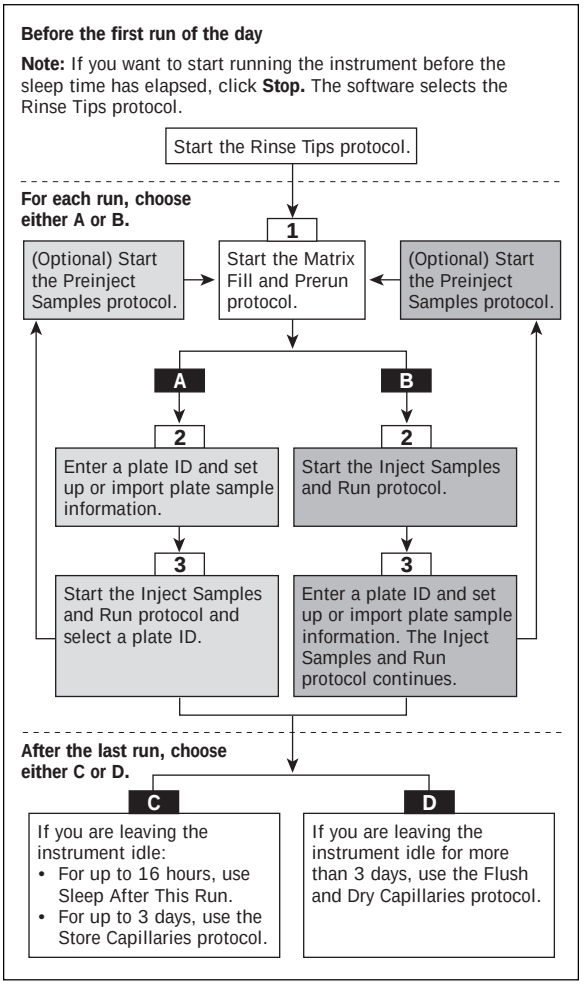
*(Genotyping only) You need two buffer plates for this protocol. Follow the instructions that appear on the instrument displays to insert the plates. Make sure the second plate contains fresh buffer.

Alternative workflows for performing runs

Workflow A: Use if you want to enter plate IDs and set up multiple plates before the Inject Samples and Run protocol.

Workflow B: Use if you want to enter plate IDs and set up plates one at a time after you start the Inject Samples and Run protocol.

For each protocol, be sure to follow the instructions in the right and left displays on the instrument. The displays provide step-by-step instructions for your interactions with the instrument.

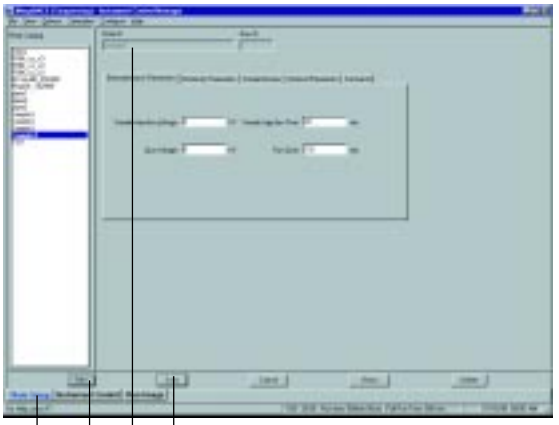


Important: After storing the capillaries dry, you must use the Prepare Capillaries protocol to rehydrate the capillaries. For details, see the instrument operator's guide.

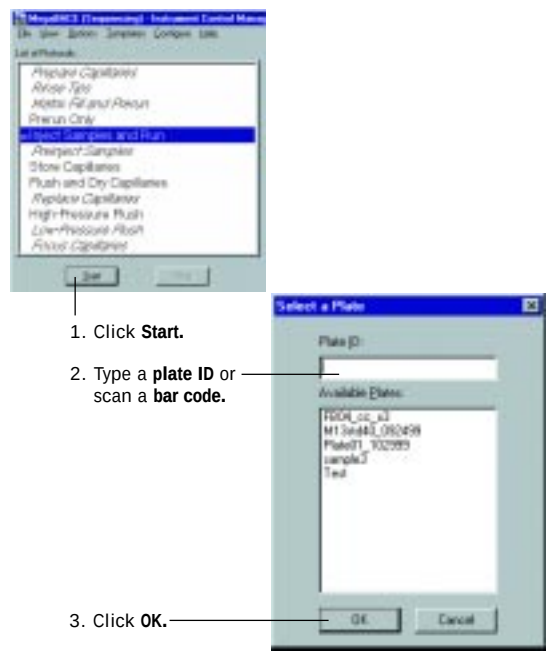
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Using the Instrument Control Manager software

Performing plate setup before starting the Inject Samples and Run protocol



Performing plate setup at the start of the Inject Samples and Run protocol



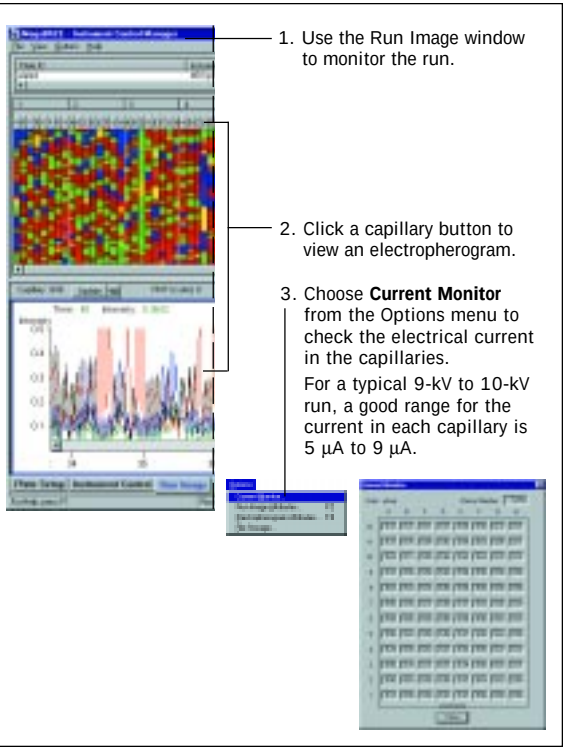
(Sequencing only) Performing automatic base calling and file export

If your lab administrator has set up automatic base calling, the automated Base Calling Progress window appears showing the status of the base calling for each sample.



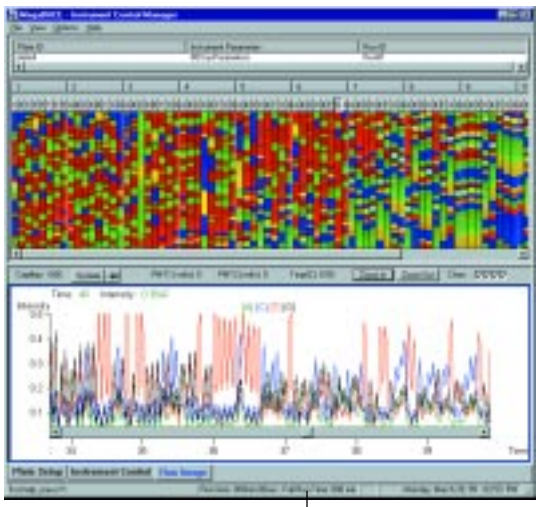
If your lab administrator has set up file export after base calling, the Instrument Control Manager creates files in the selected format(s) and stores the files in specified subfolders within the corresponding raw and analyzed folders.

Monitoring a Run



(Optional) Changing the run time

After you start a run, you can change the run time that you set in the Plate Setup window.



1. Click the **Full Run Time** button. The Run Length window appears.
2. To increase the time, type a positive value in the **minutes** box. To decrease the time, type a negative value in the **minutes** box. Type a hyphen (-) before the value to indicate it is negative.
3. Click **OK.** The left display on the instrument changes to the new run time and continues to count up the elapsed time.

Interpreting messages

The following are explanations for some of the most common messages you might encounter.

User input time expired.

You did not perform the action requested by the display on the instrument within the time limit you set in the Instrument Control window, User Input Time (default 240 sec). The user input time is the amount of time you need to carry out the display instruction to load the plate, tank, or tubes in either the cathode or anode side of the instrument. Click **Retry** and complete the action.

The Post-Prerun time expired.

You allowed more than 15 minutes to elapse after using the Matrix Fill and Prerun protocol. Click **Retry.** The software highlights the Prerun Only protocol as the next protocol to use.

Do you want to delete the .RSD files for this plate from your hard drive?

You receive this message after you select a plate ID in the Plate Catalog and click Delete in the Plate Setup window. To delete the plate from the Plate Catalog but retain the .rsd files on the hard drive, click **No.** To delete the plate from the Plate Catalog and the .rsd files from the hard drive, click **Yes.**

A plate with the name and empty Run ID already exists in the Plate Catalog. Do you want to overwrite it?

You have entered a plate ID for a plate that exists in the Plate Catalog but has not yet been run. Click **OK** to overwrite the existing plate ID or click **Cancel** to leave the plate ID in the Plate Catalog.

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Shutting down the instrument

Short-term capillary storage

Up to 16 hours: Use Sleep After This Run.

To use Sleep After This Run—

1. In the Instrument Parameters area of the Instrument Control window, select the Sleep After This Run check box.
2. Type a **Sleep Temperature** and a **Sleep Time** in the appropriate box.

Note: You can select the Sleep After This Run check box at any time until the Inject Samples and Run protocol has finished.

Up to 3 days: Use the Store Capillaries protocol.

To use the Store Capillaries protocol—

1. In the Instrument Parameters area of the Instrument Control window, type a **Sleep Temperature** and a **Sleep Time** in the appropriate box.
2. In the List of Protocols, click **Store Capillaries,** and then click **Start.**
3. Follow the instructions on the instrument displays until the protocol finishes.

Important: Do not close the software. Leave the instrument and computer running and the nitrogen on.

Long-term capillary storage

More than 3 days: Use the Flush and Dry Capillaries protocol.

To use the Flush and Dry Capillaries protocol—

1. In the List of Protocols in the Instrument Control window, click **Flush and Dry Capillaries,** and then click **Start.**
2. Follow the instructions on the instrument displays to complete the Flush and Dry Capillaries protocol.
3. Close the Instrument Control Manager.
4. Close the Host Scan Controller by typing **bye**.
5. Turn off the computer.
6. Turn off the instrument.
7. (Optional) Turn off the nitrogen.

Important: After storing the capillaries dry and shutting down the computer and the instrument, you must use the **Prepare Capillaries** protocol before you start a run.

Starting the instrument after a complete shutdown

1. Turn on the nitrogen, if necessary.
2. Turn on the instrument. Wait for the **MegaBACE 1000** message to appear on the instrument displays.
3. Turn on the computer.
4. Open the Host Scan Controller software.
5. Open the Instrument Control Manager.

Maintaining the instrument

Daily maintenance

- Clean the water tank each time you use it.
- Use the **Rinse Tips** protocol to rinse the capillary tips before the first run of the day. See chapter 4 in the instrument operator's guide.
- Use the water tank and new 2-ml tubes every time you use the **Store Capillaries** protocol. For details, see the instrument operator's guide.

Weekly maintenance

- Clean the surface of the anode reservoir with a wet paper towel.
- To free up disk space, move data files to another disk drive, or change the storage location for the raw data files to another disk drive.

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Getting information and help

- The *MegaBACE 1000 Instrument Operator's Guide* and v2.1 addendum provide step-by-step procedures for running the instrument and using the software. The instrument operator's guide and addendum are also included on the installation CD in Adobe™ Acrobat™ Reader (.pdf) format.
- The application online Help provides procedures for using the Instrument Control Manager software.
- Web site: http://www.megabace.com
- MegaBACE System Technical Support provides assistance by phone or fax.

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