AMPLIFICATION
T100™ Thermal Cycler
Quick Guide

Starting the Instrument

Remove the T100 thermal cycler from the box and plug it in. Turn on the power switch on the back of the instrument. The T100 cycler will perform a quick self-test and then display the Home screen (Figure 1).

Setting the Date and Time

First make sure the system clock is correct for your time zone so that all runs are accurately recorded in the run log.

1. In the Home screen, touch **Tools** and then **Settings** to display the instrument settings menu (Figure 2).

2. Touch the fields for Month, Day, Year, Hours, and Minutes and edit the values using the pop-up keypad.

3. Touch **Save** to save the changes.

4. Touch **Home** to return to the Home screen.

Creating a New Protocol

1. To create a new protocol, touch **New Protocol** in the Home screen.

2. The New Protocol screen displays a graphical view of the protocol (Figure 3). Edit the value of any of the following parameters by touching the corresponding field:

   - Temperature
   - Hold time
   - Number of repeats in the GOTO loop
   - Starting step for the GOTO loop
   - Sample volume
   - Lid temperature

3. To select a step, touch anywhere outside the temperature box. The step becomes highlighted to indicate that it is selected. Once a step is selected, you can insert a new step after the selected step, delete the selected step, or configure the options for the step.
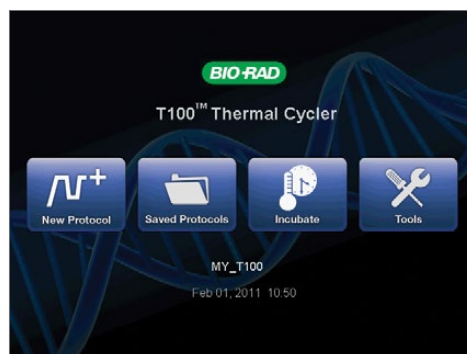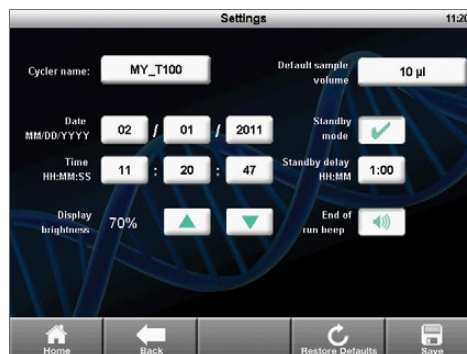

Fig. 1. T100 thermal cycler Home screen.
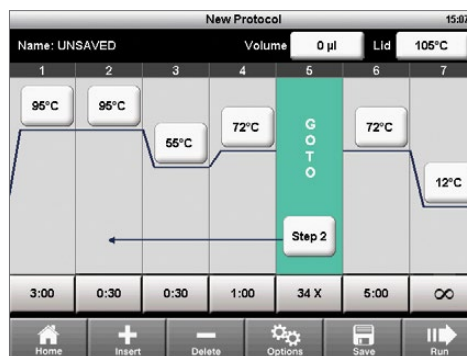

Fig. 2. Settings screen.

Fig. 3. New Protocol screen showing graphical view of a protocol.

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4. To insert a step, touch **Insert**. The screen will display the type of steps to insert (Figure 4). Select **Temperature** for a temperature hold step, **Gradient** for a thermal gradient for protocol optimization, or **GOTO** to insert a GOTO step that will loop back to repeat the specified steps in your protocol (typically denaturation, annealing, and extension).

5. To delete a step, select the step and touch **Delete**.

6. To configure advanced parameters for a step, such as Temperature, Increment, Time, Extend, Gradient, and Ramp rate, select a step and touch **Options** (Figure 5). Program the required parameters as needed.

7. Touch **Save** to select a folder location and save the protocol.

8. Touch **Run** to start the protocol. You can also run a protocol without saving it by touching **Run** at any time while editing.

Running and Editing a Saved Protocol

1. In the Home screen, touch **Saved Protocols**. The T100 cycler organizes all the protocols into folders. A preinstalled library of standard protocols is in the MAIN folder (Figure 6).

2. Select a folder from the Folders column, then select a protocol file from the Files column.

3. Review the selected protocol using the Preview column on the right.

4. Touch **Run** to start the run or touch **Edit** to edit the protocol.
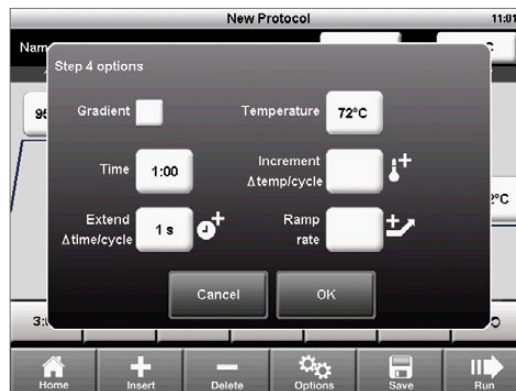

Fig. 4. Insert step window.

Fig. 5. Options window showing advanced parameters.

Fig. 6. Saved Protocols screen showing the preinstalled library of standard protocols in the MAIN folder.