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Document Number:	**SASoM/EQUIP/041.v2**
Title:	**Use and maintenance of the BioRad S1000 dual block Thermal Cycler**
Version:	**v2**
Author:	**Paul Reynolds**

Effective from:	26/09/2018
Valid to:	25/09/2023

SOP History		
Number	Date	Reason for Change
v1	26/09/2013	Original
v2	26/09/2018	Update

1.0 Purpose –
The purpose of this SOP is to outline the principles of the routine use of the Biorad S1000 dual block Thermal Cycler in Laboratory 248 at the St Andrews School of Medicine (SASoM).

2.0 Scope –
This SOP applies to routine use and maintenance of the Biorad S1000 dual block Thermal Cycler within the SASoM.

3.0 Responsibilities –
It is the responsibility of all users of the Biorad S1000 dual block Thermal Cycler within the SASoM to comply with this SOP.

4.0 Procedure –

Always wear gloves when handling PCR tubes and putting them into the machine.

The machine has two 48-tube heat blocks that can be programmed independently – use the "Screen" button on the left hand side at the front of the machine to move between options. Keys on right hand side at front of machine allow entry of thermal cycling details. There is the ability to save entries in the list of programs.

NEVER keep the machine on hold at 4^0C. The end of each program should be a stop command that brings the block back to room temperature.

Opening and Closing the Heated Lid

Opening the Lid
1. Turn the knob counterclockwise to raise the inner lid.

2. Raise the handle up to the vertical position.

Closing the Lid
1. Using the handle, push the lid down.

2. Lower the handle to the horizontal position until the lid latches securely (see inset).

3. Turn the knob clockwise until the inner lid contacts the vessels, then add one-half turn for sealing tape or one-quarter turn for caps.
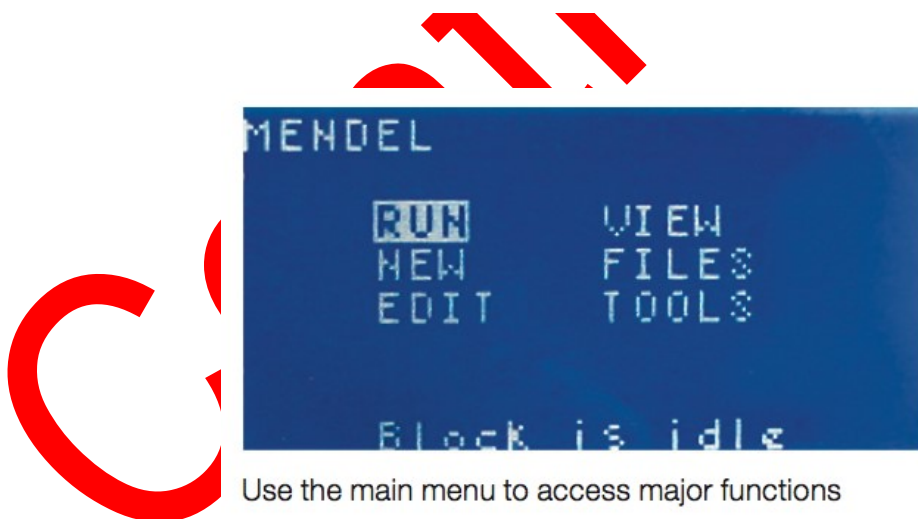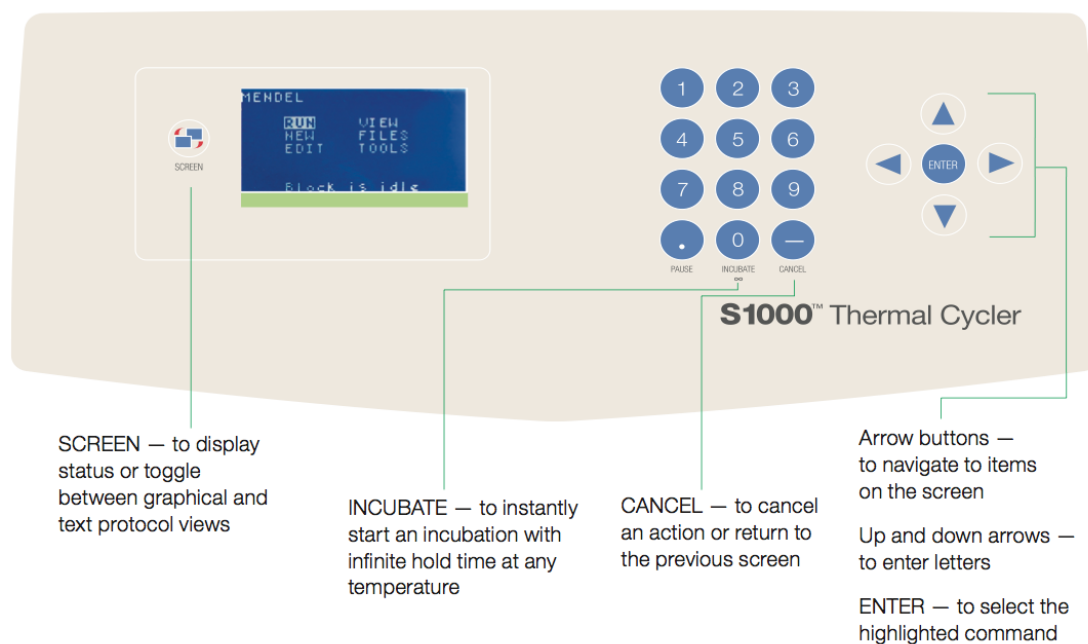
Main Menu and Controls

Use the main menu to access the thermal cycler's major functions: RUN a protocol, create a NEW protocol, EDIT a protocol, VIEW a protocol, select FILES, or access TOOLS to change the thermal cycler settings. Use the keys on the instrument's control panel for the functions shown below.

SCREEN — to display status or toggle between graphical and text protocol views

INCUBATE — to instantly start an incubation with infinite hold time at any temperature

CANCEL — to cancel an action or return to the previous screen

Arrow buttons — to navigate to items on the screen

Up and down arrows — to enter letters

ENTER — to select the highlighted command

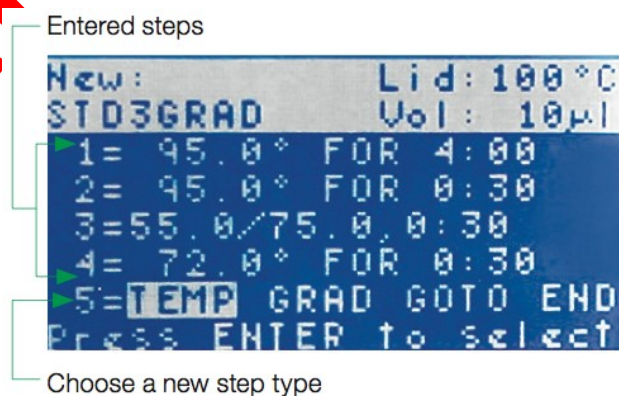

Use the main menu to access major functions

Running a Protocol

1. Select RUN in the main menu; press ENTER.

2. Select a protocol; press ENTER.

3. Edit the volume, if desired; press ENTER.

4. Select RUN; press ENTER.

Creating a Protocol

1. Select NEW in the main menu; press ENTER.

2. Enter a name and sample volume; press ENTER.

3. For the initial step, select TEMP for a temperature step or GRAD for a gradient step and enter values; press ENTER.

4. For additional steps, select TEMP, GRAD, or GOTO and enter values; press ENTER.

5. To complete the protocol, select END; press ENTER.
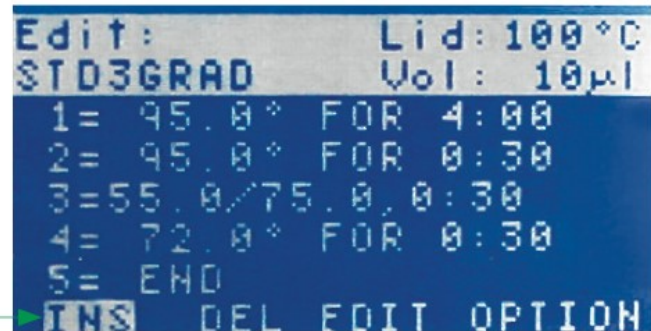
6. Select a folder and save the protocol.

Entered steps

Choose a new step type

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Editing a Protocol

1. Select EDIT in the main menu; press ENTER.

2. Select a protocol; press ENTER.

3. Edit the sample volume and/or lid temperature, if desired.

4. Use the arrows to highlight and change a value.

5. To insert or delete a step, highlight the step number and select INS or DEL.

6. Select END; press ENTER to finish; changes are saved to the file you selected.

Edit: Lid:100°C
STD3GRAD   Vol: 10µl
1= 95.0°   FOR   4:00
2= 95.0°   FOR   0:30
3=55.0/75.0, 0:30
4= 72.0°   FOR   0:30
5= END
INS   DEL EDIT OPTION

Choose an action

5.0 Personal protection –
Tissue culture room lab coat must be worn at all times when in 248K.

6.0 Training –
All users have to be trained before using the Instrument by a designated person.

7.0 Related documents –

7.1   Manufacturer's operation manual.

7.2   Risk Assessments – RA/COSHH/012
                                    RA/GEN/003
                                    RA/GEN/008

8.0 Approval and sign off –

Author:

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Signature: Date:

Management Approval:

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Position: Laboratory Manager

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