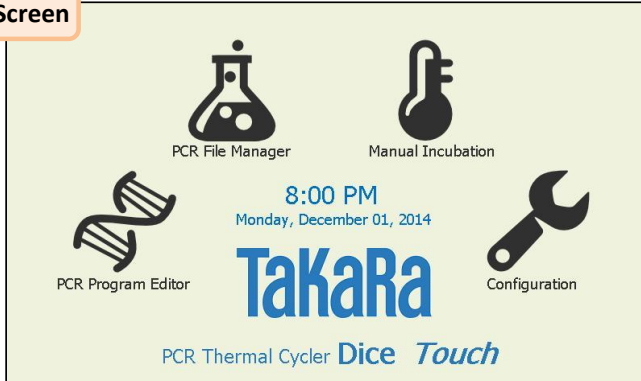




# TaKaRa PCR Thermal Cycler Dice™ Touch Quick Guide

Ver.2.0.1

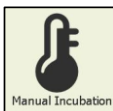
Home Screen



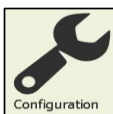
**PCR Program Editor:**  
Configure the PCR Program



**PCR File Manager:**  
For managing the PCR run files on the device



**Manual Incubation:**  
Use for incubator



**Configuration:**  
Optional settings of the unit

The Power Switch locates on the rear of the unit to put on or shut off the Power supply.

※Avoid to touch the screen and shut off the power supply until the screen appear the 'Home' screen. That is the cause of failure the unit and wrong movement.

1. Prepare new user account and folder . . . 2
2. Create new PCR program . . . 3
3. Edit the PCR program . . . 4
4. Load the configured PCR program . . . 7
5. Setting of specific measurement . . . 9
6. Manual Incubation . . . 11
7. Optional setting . . . 12

[Caution] • The beginning to use TaKaRa Thermal Cycler Dice™ Touch, you may read this Quick Guide and User's  
• Instructions and installations about TaKaRa Thermal Cycler Dice™ Touch is confirmed the content of User's Manual.  
• The stylus[touch pen] (that is optional of the unit) is used to operate the program on the Touch Panel.

# 1. Prepare new user account and folder

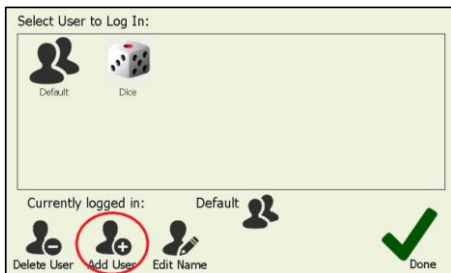
## Prepare new user account



Touch a 'Configuration' from the Home screen.



Touch an 'User Accounts' icon from Configuration.



Touch an 'Add User' on the operating icons under the user accounts screen.

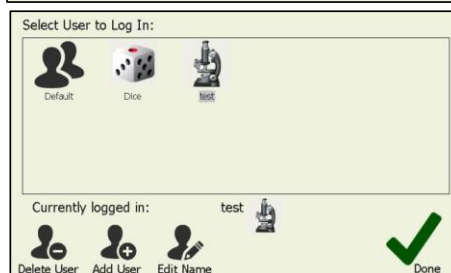


Enter an user name.

If you wish to set the password, you will check the checkbox for 'Password Protect User' and type your password of a four-digit integer



Choose an user profile image.



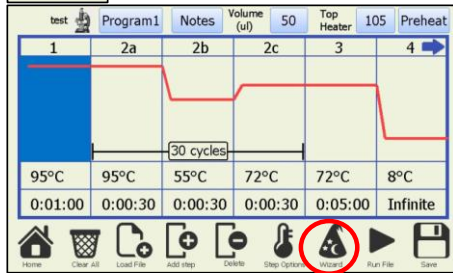
Identify to create a new user account.

Click to utilize the user icon in user accounts. Check to note the log in user account name on the 'Currently logged in :'.

## 2. Create new PCR Program



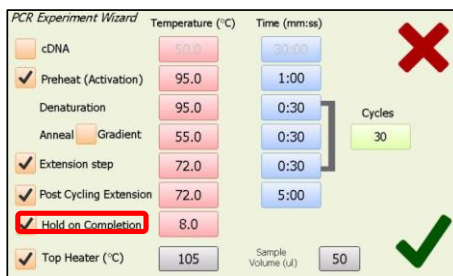
Touch the 'PCR Program Editor' from the Home screen.



Show a standard program(named Program1) on the screen.

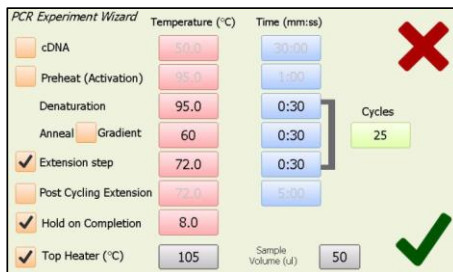


Touch the 'Wizard' icon of PCR Program Editor.

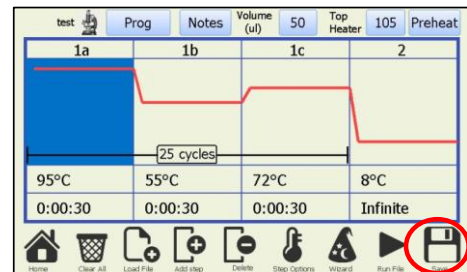


Edit the 'PCR Experiment Wizard' screen. Create new program that note the temperature, the reaction time and number of cycles etc.

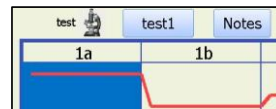
※ If you keep on cool the reacted solution after PCR reaction, you would check 'Hold on completion' .



Regulate the content of Wizard and touch the '✓' button.



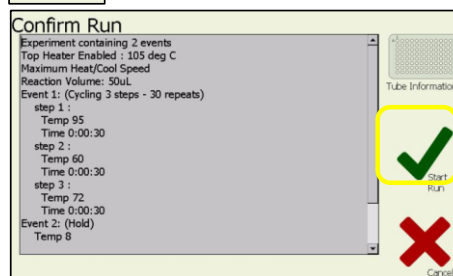
When you select the 'Save ' icon, you are assigned the User Accounts that save the program method and enter the program name .



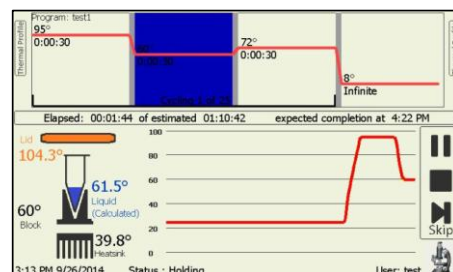
Note the User Accounts and saved program name at the upper left of PCR program.



Touch the 'Run File' icon of PCR Program Editor.



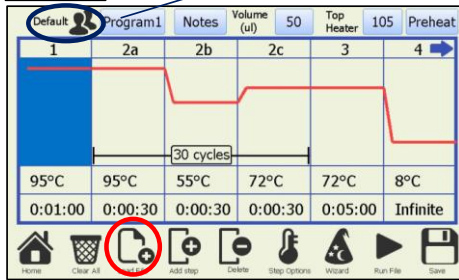
Confirm the content of program method on the 'Confirm Run' screen and select the '✓ Start Run' button.



### 3. Edit the PCR program

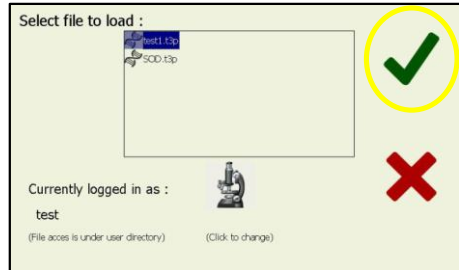


Touch a 'PCR Program Editor' from Home screen.  
 Change the User Accounts to click this part.

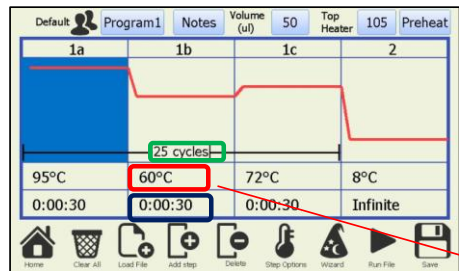


Show a standard program on the screen.

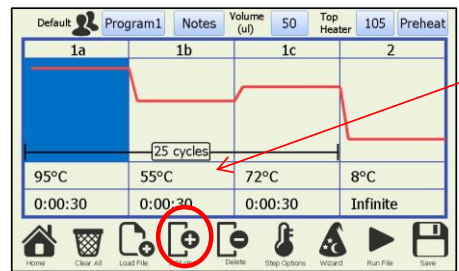
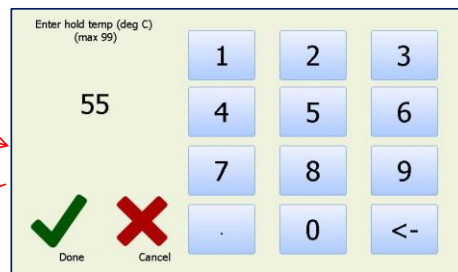
Touch an 'Load File' icon on the bottom shelf.



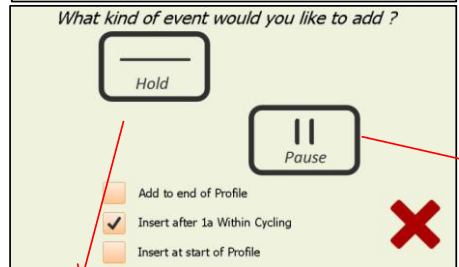
Select a objective program file to load and click '✓' button.



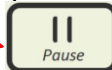
Touch a column of temperature, reaction time and number of cycles. Appear the numeric keypad screen to enter numeral of each column.



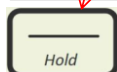
Touch an 'Add Step' icon, Add new event after positive blue column or the end of profile or start of profile that you select.



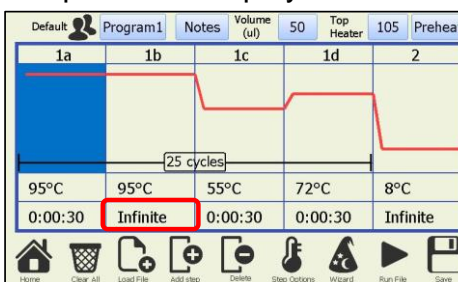
Check 'Insert after xx Within Cycling', Insert to select a 'Hold' or 'Pause' step after positive blue column within cycling



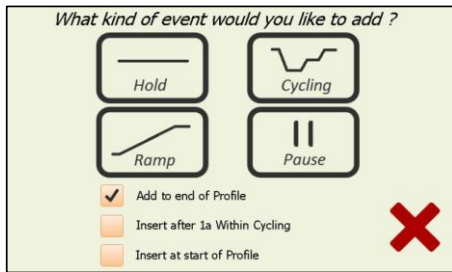
Pause event hold the temperature at the last set point and display time is 'Infinite'.



Hold event is a simple hold at given temperature for a set time.

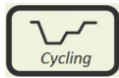


Regulate the time rates reaching the set temperature to check 'Use Custom Setting' on 'Limit the Ramp Rate to the Temperature'.

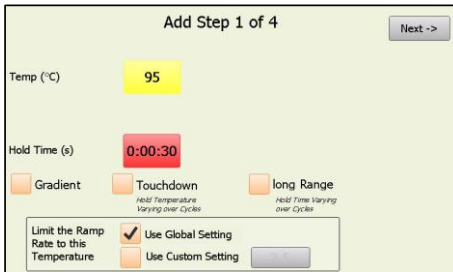
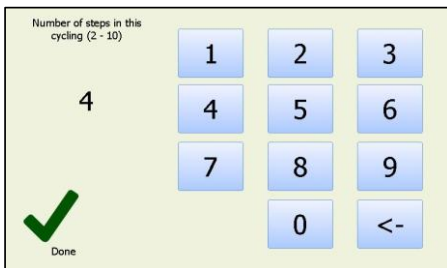


Check 'Add to end of Profile' or 'Insert at start of Profile' or 'Insert after xx without cycling'.  
The first screen of the Add Event Wizard:

- Cycling (2~10 Step)
- Hold
- Ramp ( $\leq 2.5^{\circ}\text{C}/\text{sec}$ )
- Pause

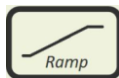
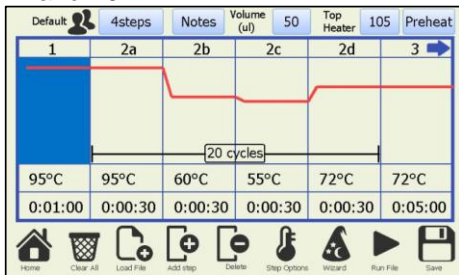


Cycling x Step will proceed to generate a multi-step cycling event.  
Change the number of steps for the cycling event.

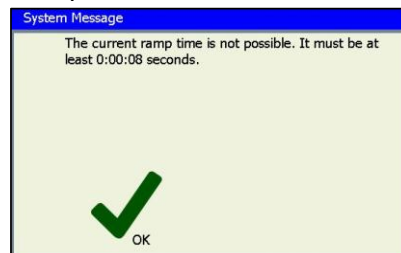


Input the number of steps between 2 and 10.

Within the cycling configuration screen there are numerous options that input temperature, hold time and so on.



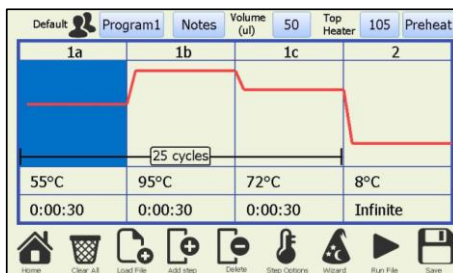
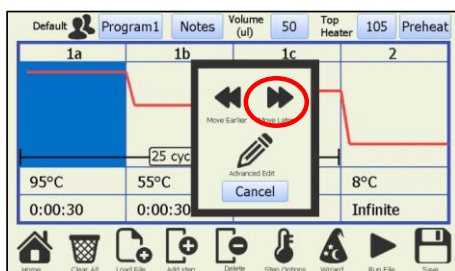
Ramp event allows the block temperature to be ramped either up or down between two set temperatures over a preset length of time at temperature change less than or equal to  $2.5^{\circ}\text{C}/\text{sec}$ .



If the Ramp rate is more than  $2.5^{\circ}\text{C}/\text{sec}$ , the system message that refer to the picture on the right is appeared.

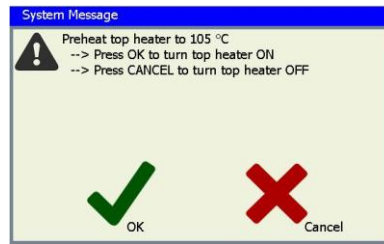
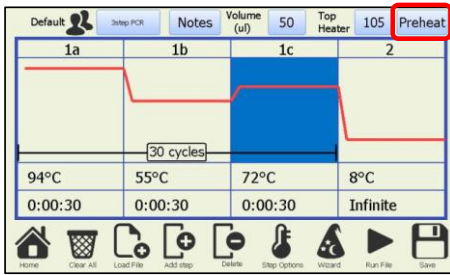


Step Options is supported for specific measurement (p.9) and moves the positive blue step for left or right place.

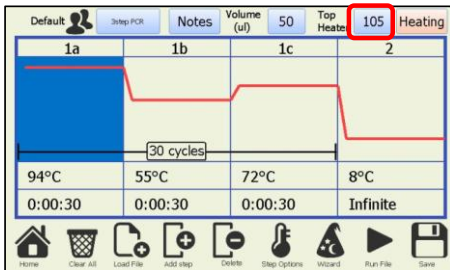


Touch a button of 'Preheat' to preheat top heater.

Press OK ✓ to turn top heater ON, CANCEL ✗ to turn top heater OFF on System Message.

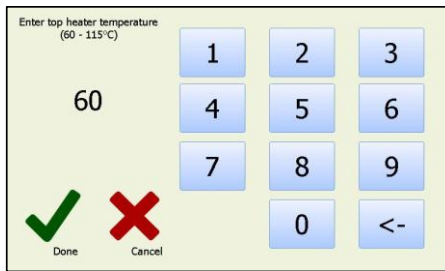


Change the 'Preheat' to red button of 'Heating' with top heater heating.



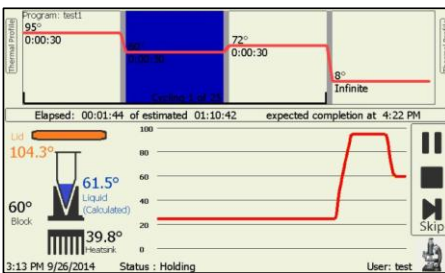
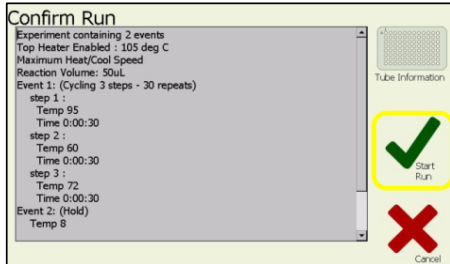
Change temperature of top heater to touch a button of [105].

Set top heater temperature from 60° to 115°.



Touch a icon of 'Run File' to run the setting program.

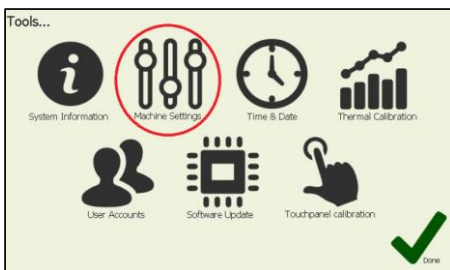
Confirm the content of running program and touch the 'Start Run' ✓ button then start it.



✂If you want to turn the temperature off top heater on running program,

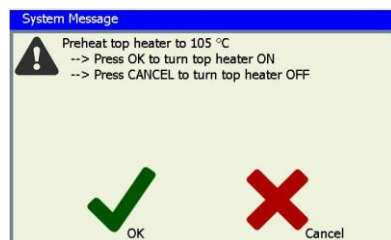


you have to touch a Configuration on the Menu and select a machine settings.



Uncheck the 'Use Top Heater' check box and Done.

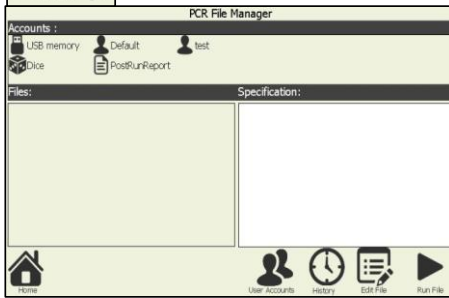
Appear the system message to select CANCEL ✗ that turn top heater OFF running program.



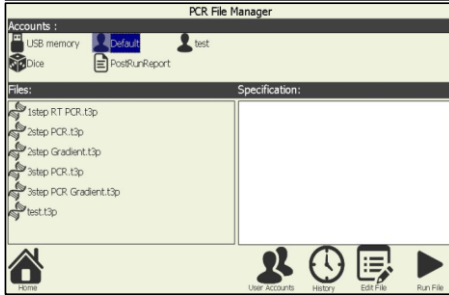
## 4. Load the configured PCR program



Touch a 'PCR File Manager' from Home screen.

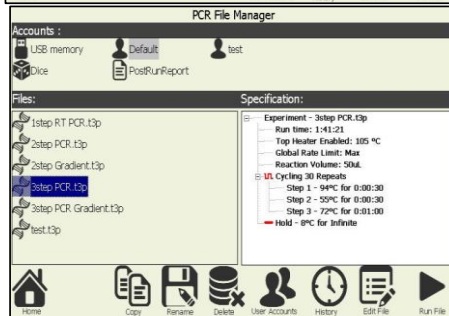


Select an User Account for use or an USB drive from Accounts on the PCR File Manager.



Appear some program files(.t3p) at the User Account for use.

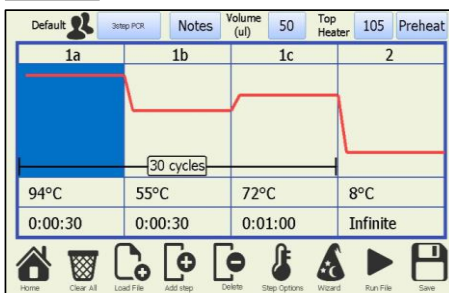
※ This software is available for .s3p filename extension until version 1.1.2. But new .t3p extension is not available for old software.



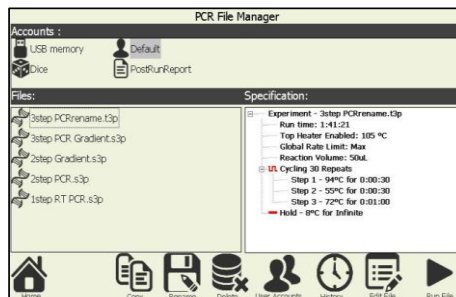
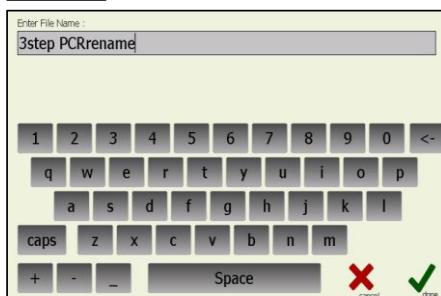
Touch a file name in some program files, appear the specification of this file.



Edit File: Edit the contents of the program file.



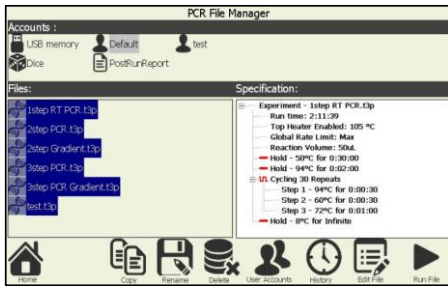
Rename: Change the name of a program file.



Put a cursor position on the rename program file, click 'Rename' icon. Input new file name using keyboard. Caution: Disappear the original file name.



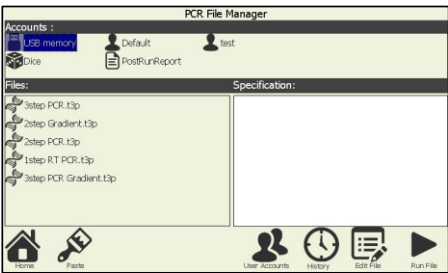
Copy: Copy the program files.



Copy plural program files surrounding them with a drag.



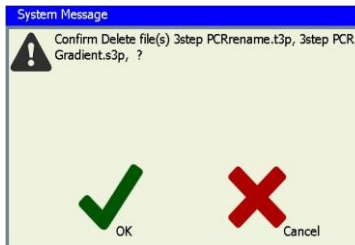
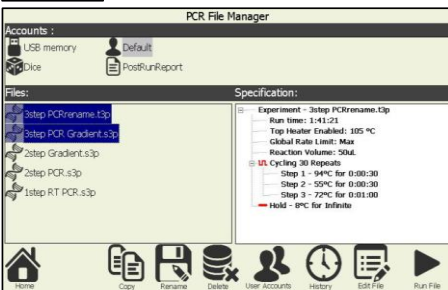
Paste: Paste the copied program files.



Select an account that want to make copied files.



Delete: Delete the program files.



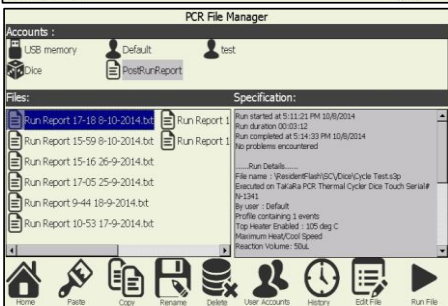
Confirm plural delete files and click OK.



History: Note the Name, Date run and Result of recently run program on an User account.



Click the program name and select 'Run program Again' then restart a chosen program.



Remain 10 post records on a PostRunReport folder.  
Click a PostRunReport file, Appear the content of post record. ⇒ Enable move for USB drive.

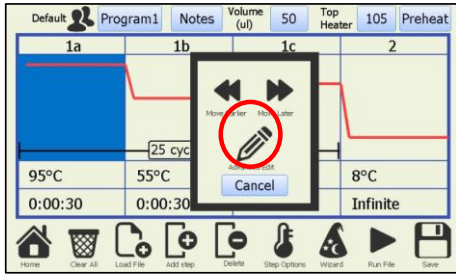
※ Not available for rename of PostRunReport file.  
The PostRunReport file change the text file to .t3p file.  
This file is not able to open and show the error message.



Run Files: Run the program file.



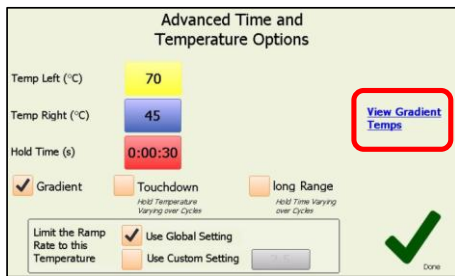
## 5. Setting of specific measurement



Touch a Step Options/Advanced Edit.

**1. Setting of Gradient** Set different temperatures that is programmable 0~25°C across block width (12wells) for both the left and right sides of the block.

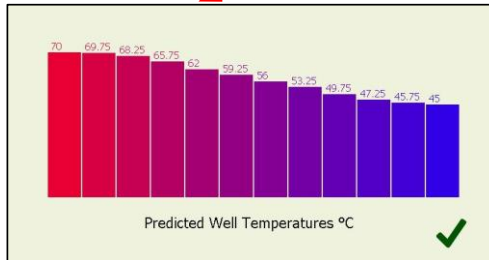
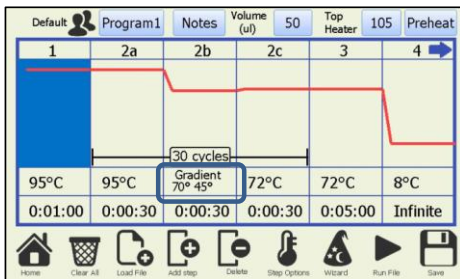
From PCR Experiment Editor



Check a checkbox of Gradient, Enter a temperature on the 'Temp Left' and 'Temp Right' each other.

The predicted well temperature can be shown by clicking the [View Gradient Temps](#) link.

Done

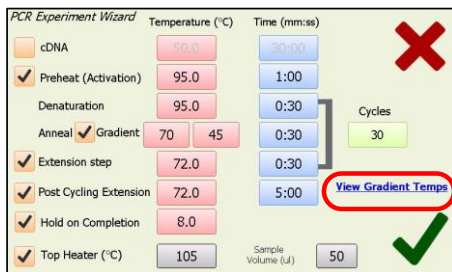


Appear the left temp.-right temp. of Gradient mode on the temperature box.

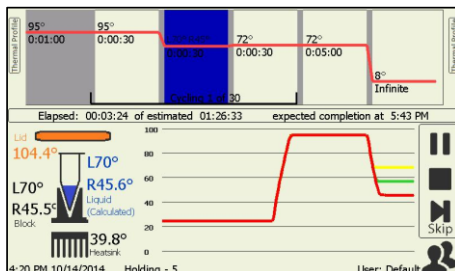
Predicted Well Temperature is refer from the left to right zone when looking at the machine.

Check

From the Wizard



Check a Gradient checkbox, Enter a temperature on the 'Temp Left' and 'Temp Right' each other.



Appear the left and right terminal of gradient temperature like L70°R45° on the measuring monitor.

## 2. Setting of Touchdown

Advanced Time and Temperature Options

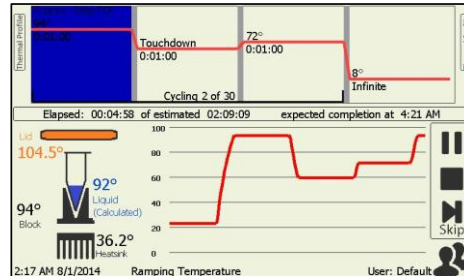
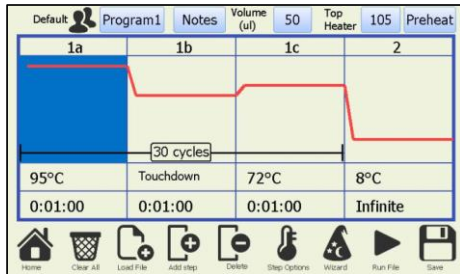
Temp Initial (°C) **60** Temp Final (°C) **55** Steps **5**

Hold Time (s) **0:01:00**

Gradient  Touchdown  long Range

Limit the Ramp Rate to this Temperature  Use Global Setting  Use Custom Setting

Done



The means of prevent non-specific amplification from PCR reaction. Check the 'Touchdown' checkbox. Given step within a cycling event to be progressively decreased or (increased) from an initial value to a final value over a defined number of steps.

## 3. Setting of Long Range

Advanced Time and Temperature Options

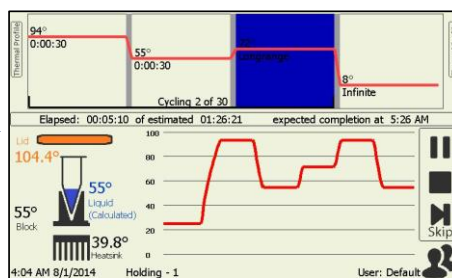
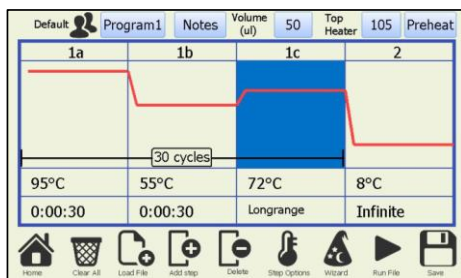
Temp (°C) **72**

Hold Time Initial (s) **0:00:30** Hold Time Final (s) **0:02:30** Steps **5**

Gradient  Touchdown  long Range

Limit the Ramp Rate to this Temperature  Use Global Setting  Use Custom Setting

Done

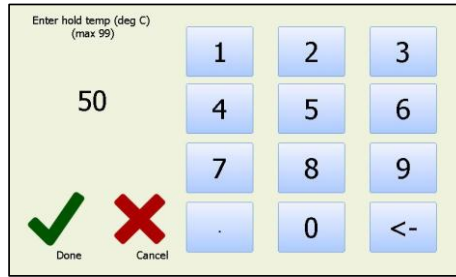
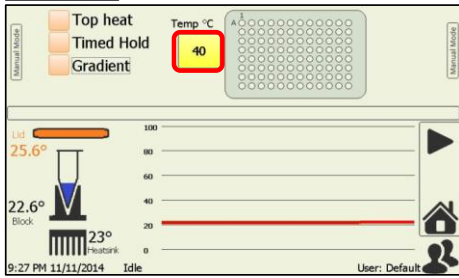


The use of long chain length amplification for PCR reaction. Check the 'Long Range' checkbox. Given step within a cycling event to be progressively increased or (decreased) from an initial value to a final value over a defined number of steps.

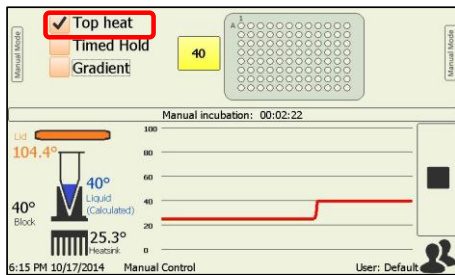
## 6. Manual Incubation



Touch a 'Manual Incubation' from Home screen.



Touch a column of Temp, Enter target incubate temperature then click run. ▶



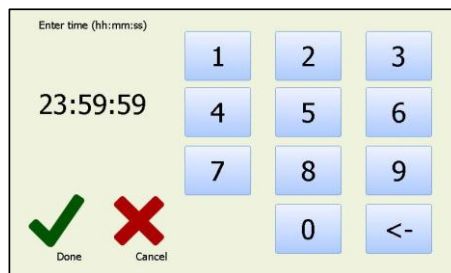
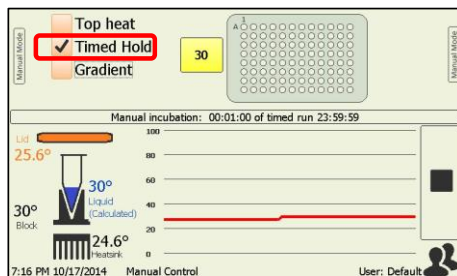
### Top heat :

Check a checkbox of Top heat on the Run control.

Top heater is warm up (105°C) with regulated block temperature.

### Time hold:

Show the Enter time screen that enter time(maximum 23:59:59) holding target temperature.

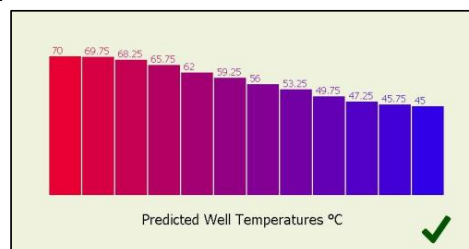
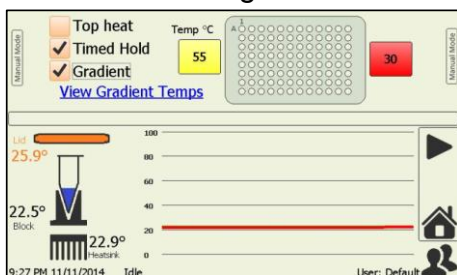


It appear the message when pass the setting hold time.



### Gradient:

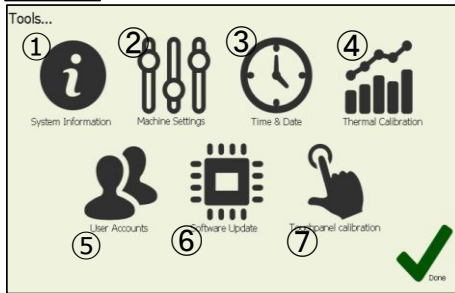
Set different temperatures hat is programmable 0~25°C across block width (12wells) for the left and right sides of the block.



## 7. Optional setting

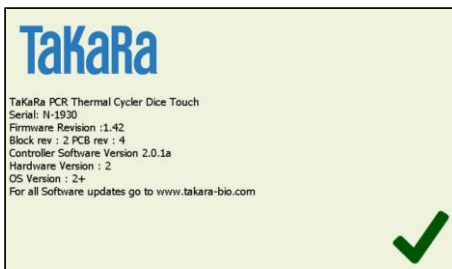
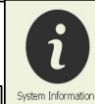


Touch a 'Configuration' from Home screen.



1. System Information
2. Machine Settings
3. Time & Date
4. Thermal Calibration
5. User Accounts
6. Software Upgrade
7. Touchpanel Calibration

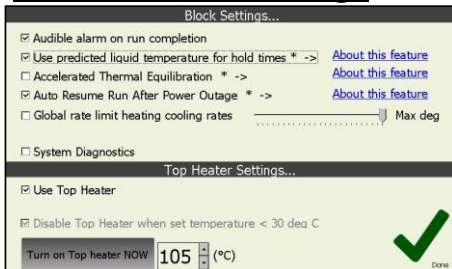
### 1. System Information



Confirm the situation of the unit.

- Serial Number
- Controller Software Version
- Firmware Version

### 2. Machine Settings



Allows changes to be made to the instrument settings.

Audible alarm on run completion : [Default:

Alert an operator that run has completed.

Use predicted liquid temperature for hold times :

Using predicted temperature effectively increase

the hold times and total run time. [Default:✓]

(Based on a liquid volume is 10~50μl)

Accelerated Thermal Equilibration : [Default : None]

Selecting this option will use block overshoot and undershoot control to accelerate thermal equilibration (Optimized for reaction volumes 20~30μl)

Auto Resume Run After Power Outage : [Default:✓]

Cause the instrument to automatically resume a run from the point where a power interruption occurs.

Rate limit heating cooling rates : [Default : None]

Set rate limit for a run. This has a limit of 0.1~2.5[Max]°C. (Only available in runs not manual mode)

Use Top Heater : [Default:✓]

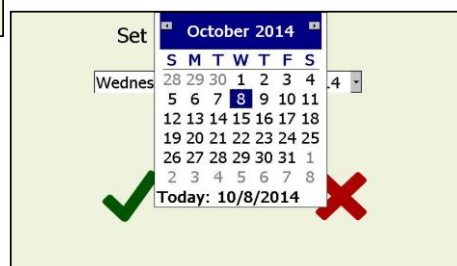
Cause the top heater to be used during a run if it is checked. Entry box for top heater temperature.

Temperature between 30°C~115°C (Default 105°C). 'Turn on Top heater NOW' button for manually enabling the top heater to preheat it if required. (Enable top heater when set temperature >30°C)

### 3. Time & Date

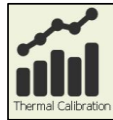


Used to set the time for this instrument's internal clock.



Set the day and time using a calendar that appears to click small arrow near the year and month.

## 4. Thermal Calibration



Used to adjust the machine calibration.  
This machine is factory calibrated and should not require user recalibration of the machine.



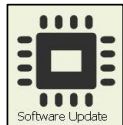
Click a 'Ramp Rates' button on the below column of the Calibration Wizard. Appear the ramp rates of the temperature curve just before the reaction.

## 5. User Accounts

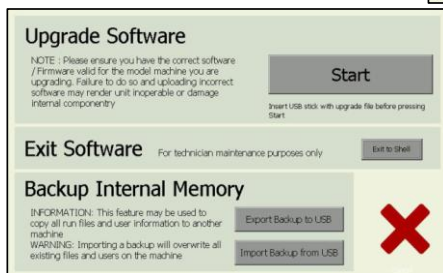


Administer the User accounts. (Refer to p.2)  
In the user area you are able to select a existing user or create or delete a user profile.

## 6. Software Update



Allows upgrading of the operating software.  
Backup the program files on internal drive



### **Update Software :**

More information with a download file and reference is available at the homepage.

### **Exit Software :**

Transfer WindowsCE to touch a button of 'Exit to shell' and input password.

### **Backup Internal Memory**

Set the USB memory stick on the device

Export Backup to USB Files on internal drive ⇒ USB memory

Import Backup to USB Files on USB memory ⇒ Internal drive

Show the folder named 'Backup-Nxxxx(Serial Number)' that exist the backup files.

## 7. Touchpanel calibration



Perform a calibration of the touch-screen interface using the calibration wizard.



If the calibration has varied click on this button and follow the instructions to re-calibrate the screen.

**List of supplies (Tubes and Plates)**

Code	Product Name	Size
<b>0.2 ml Single Tube</b>		
NJ200	0.2ml Hi-Tube Dome Cap	1,000
NJ201	0.2ml Hi-Tube Dome Cap Recovery ※	1,000
NJ202	0.2ml Hi-Tube Flat Cap	1,000
NJ203	0.2ml Hi-Tube Flat Cap Recovery ※	1,000
<b>0.2 ml 8-Tube&amp;8-Cap</b>		
NJ300	0.2ml Hi-8-Tube (8-Tube)	125
NJ301	0.2ml Hi-8-Dome Cap	125
NJ302	0.2ml Hi-8-Flat Cap (8-Cap)	125
NJ600	0.2ml 8-strip tube, individual Flat Caps	120
<b>0.2 ml Plate &amp; Cap</b>		
NJ710	96 well snap plate (12×8, 96well Plate)	10
NJ720	Flat cap for snap plate (8-Cap for Plate)	120

※High recovery that the sample is not hard to remain on the tube

**【Attention】**Please be aware that recommended caps must be used for each tube and plate.  
Use of other caps or seal might decrease reaction volume by vaporization.

**NOTICE**

L18 Gradient Thermocycler

This product is licensed under U.S. Patent Nos. 5,525,300; 5,779,981; 6,054,263; 6,962,821, and corresponding foreign counterparts thereto.

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**TAKARA BIO INC.**

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