







User's Guide

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Please read all the information in booklet before using the instrument



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I. Getting Started

Thank you for purchasing this Bioneer product.

We will try our best to provide satisfactory results to our customers.

This guide contains practical guidelines and cautions to be taken regarding the instrument.

Please read this manual carefully and thoroughly before using the instrument.

About this product

 $MyGenie^{TM}$ 32 Thermal Block is a cost-effective, peltier-based thermal block for life science research, equipped with a temperature control system.

This system is light and compact size that it doesn't take too much space and easily movable. It has friendly user's interface that it is convenient for users to program for their own usage.

Website

Please visit us online at <u>http://www.bioneer.com</u> to obtain more information about $MyGenie^{TM}$ 32.

General information

- *MyGenie*TM 32 is a trademark of Bioneer Corporation.
- The information contained in this guide is under copyright protection. It is unlawful to reproduce part or all of the contents of this Guide without the expressed written consent of Bioneer Corporation.
- Bioneer Corporation reserves the right to alter, modify and otherwise make changes to the instrument and guide without prior notice.

Instrument marking description

Hot surface. Note that you hot surface temperature.



Do not work long hours at low temperature to Bath. We had a condensate can cause equipment malfunctions. Door attention behavior.

Open or close attention to when you crash and insertion.

Power Inlet Fuse 250V, 4A

II. Safety warnings

Before operating the instrument, read the information in this section concerning hazards and potential hazards.

Marnings

If not followed the serious damage and harm will occur even death.



If not followed, there will be danger to face serious damages and harms.

1. Set up



- 1) Before connecting the main power, check the voltage against the rating plate. This instrument is configured for use either at 100-240 VAC.
- 2) Use ground connected Power. If it is not grounded, the system may break down or there may have electric leakage to cause electric shock.
- 3) If the power plug is loose, DO NOT use it since there may be damage in plug. Damage in plug may cause electric shock and fire.
- 4) DO NOT use many instruments sharing the Power plug at the same time. It may heat up to cause fire.
- 5) While you plug in and plug out the power plug, MAKE SURE hands are dry.
- 6) DO NOT put hot objects on or near flammable objects. This may cause fire.
- 7) DO NOT place any liquid directly in your unit.
- 8) DO NOT install *MyGenie[™]* 32 in the place where inflammable, acid gas could be leaked nor close to such environment. If any gas is leaked, DO NOT turn on the power, but open the window immediately to ventilate, any case of fire sparkle, this may cause the explosion and fire.
- 9) DO NOT disassemble nor modify the product.

Caution

- 1) MAKE SURE there is no dust on the plug before plug the power in. Plug the power tightly that it is not loose.
- 2) Use the product in the room temperature between 20℃~30℃. If the temperature is too high, the product may not operate properly.
- 3) DO NOT PLACE any items on the sides of the product. It may disturb the ventilation, and so it may damage during operation.
- 4) DO NOT Drop the product. Any percussion may damage the product.
- 5) If the product is not used for long time, unplug the power to prevent possible heat up.

2. Operating and Managing

🛕 Warning

- 1) DO NOT use this product other than Thermal Block. Damage and accident may occur.
- 2) DO NOT place any paper, cardboard, cloth, etc under the product. This is to prevent any cause of fire.
- 3) DO NOT cover with any paper, cloth, or plastic on the product.
- 4) DO NOT open or touch right after the operation. This is to prevent burning.
- 5) In case of any modification is done or assemble during block change, this may not operate normally and if any damage occurs, BIONEER will charge for the repair.

III. System components and Specifications

This product has one (1) year warranty. There will be no warranty if the damages caused by user's mistake or mishandling. After the warranty period, one (1) year, repair will be charged.

1. System components

Cat. No. A-2030-4		
Main body 1 unit		
User's manual	1 сору	
Power Cord	1 ea	

2. Specifications

Physical Specifications		
Dimension (mm)	241(W) x 220(H) x 296(D)	
Weight	7.0 kg	
Sample Capacity/ Size	32 well / 0.2 ml microtube	
Display	20 x 4 Character LCD	
Keypad	20 Key	
Power Consumption	100 – 240 VAC, 50/60 Hz, 520 VA	
Operating Temperature	20 – 30 °C	
Operating Humidity	20~80 %, no condensation	
Operating Specifications		
Method of Heating / Cooling	Peltier	
Temperature Range	4.0 °C ~ 99.9 °C	
Max Ramp Rate	2.5 °C/sec	
Temperature Accuracy	± 0.3 °C	
Temperature Uniformity	± 0.5 °C	
Lid Temperature	90 ~ 120 °C	
Temperature Increment Range	0.1 °C ~ 9.9 °C	
Time Increment Range	1 sec ~ 60 sec	
Ramp Rate Control	0.1 °C/s	

Software Specifications		
Number of Program	100	
Number of Repeated Cycles	99	
Number of Step/Program	15	

- 3. System views
 - (1) Front view





(4) Top view



(5) Soft keys



IV. Operation

1. Using the keys

The keys on the control panel have the following functions:

- 1) ENTER/RUN: Enters information typed into a field and advances the cursor to the next field on a screen; Start a Program you selected.
- 2) MENU: Returns to the Main menu.
- 3) ENG/NUM: Switch between English letter and number while entering a Program name.
- 4) ESC/STOP: Moves to one step upper level of menu; Clears an entry; Stops a Program while it is running.
- 5) INS: Insert a letter or a number into a word or number; Insert a step into a Program.
- 6) DEL: Deletes the information from a field.
- 7) Numeric key: Enters numbers from left to right into a field you highlight.
- 8) Arrow key: Moves the cursor to different fields on the display screen in the direction of the arrow.

2. Main Menu

- 1) RUN: Displays a Program last used, which can be run directly by pressing the ENTER/RUN key.
- 2) SELECT & RUN: Displays the stored Programs. After reviewing all the parameters of a Program, you can start the selected Program.
- 3) PROGRAM: A Program can be created, modified, copied, or deleted.
- 4) OPTION: Shows system version information, A/S request information.

3. Instrument Self-Test

After turning on the instrument, *MyGenie*TM 32 Thermal Block will perform self-test routine. Make sure that the Main menu appears after the self-test. If any error occurs, call a BIONEER service representative for service.

- 1) Turn on the instrument.
- 2) The Display Widow will be like either (a) or (b)

(a) If everything is OK

: After 3~10 seconds of self-test, the Main menu appears.



(b) If there is a problem with the instrument

: The system will show an error message where the problem occurs.



If you have an error message, turn off the instrument and call a BIONEER service representative.

V. Using the User's Interface

1. Using the RUN

From the RUN menu, you can start a Program by selecting the ENTER/RUN key. The Program last used appears on the Main menu, and you can start the Program by either pressing the soft key '1', or moving the cursor to '1. RUN' and then pressing the ENTER/RUN key.



Use ESC/STOP key to stop the system. If ESC/STOP Key is pressed, the dialog will confirm to stop again. Select ESC key to continue or select Enter key to stop.



If the system does not shot down normally, such as sudden blackout or by user's mistake, it will go through self-testing so that it could execute again from the time where the system has shot down or it could stop operating. The diagram below shows as you press ENTER key, the system can execute again or press ESC key to stop to go to main menu.



2. Using the SELECT & RUN

From the SELECT & RUN menu, you can select and run a stored Program. After reviewing Program parameters by selecting a stored Program, you can run the Program by pressing the ENTER/RUN key.

- 1) From the Main menu, select the SELECT & RUN by either pressing the numeric key '2', or moving the cursor to '2. SELECT & RUN', and then pressing the ENTER/RUN key.
 - 1 RUN: TEST
 - 2 >SELECT& RUN
 - 3 PROGRAM
 - 4 OPTION
- 2) This displays a stored list of Programs. Use the up and down arrow keys to move to a Program you want, and then press ENTER/RUN key.

SELECT&RUN	012/100
01 <u>T</u> EST	
02 BIONEER	
03 SYSTEM	

3) After reviewing the Program parameters, press the ENTER/RUN. Use the up and down arrow keys to select YES or NO. The system can execute again or press ESC key to stop to go to main menu.

	TEST 0 <u>1</u> TEMP 02 TEMP 03 TEMP	LID: 100°C 94°C 00:30 53°C 00:30 72°C 00:30		
ENTER/RUN key				
	PROGRAM RUN PROC NAME : TES	SELECTED GRAM ? <u>Y</u> ES ST		

① YES & ENTER	② NO & ENTER or ESC
RUNNING TEST	SELECT&RUN 012/100
PRECOOLING	01 <u>T</u> EST
BLOCK TEMP : 41.9 °C	02 BIONEER
ESTI. TIME: 01 : 32 : 02	03 SYSTEM

3. Using the PROGRAM

1) Command usage

You can choose up to 7 commands to use the machine. Make sure to understand each command and usage before creating the program.

 TEMP: Temperature and time setting. (Temp. range: 4℃~99℃ / Time range: 00:01~99:59)

01	TEMP	94 <i>°</i> C	00:30
02	TEMP	53℃	00:30
03	TEMP	72℃	00:30
04	GOTO	01 30	OTIMES

2) GOTO: Repeat from step previous step and input step and repeating times you had programmed. The following is the example. It will repeat step 2 and step 4 for 30 times.

01	TEMP	94°	C	05:00
02	TEMP	94°	С	00:30
03	TEMP	53°	C	00:30
04	TEMP	72°	C	00:30
05	GOTO	02	30	TIMES
05	GOTO	02	30	times

Repeating range (02 step ~ 04 step)

 TEMP± (Temperature increment) : Insert the temperature increment. The temperature could be programmed up to ±9.9℃. The temperature will be changed per cycle as you programmed.



 TIME± (Time increment): Insert the time increment. The time could be programmed up to ±60 sec. The time will be changed per cycle as you programmed.



5) RAMP (Ramp rate control): It is to control Ramp rate. The step before and right after the changes of the temperature and the time will be set in the Ramp rate control. In case of the following as an example, the temperature from 01 step, (94°C) to 03 step (53°C) will change at the speed of 0.5°C/sec.

01	TEMP	94℃ 05:00
02	RAMP	0.5 °/sec
03	TEMP	53℃ 00:30
04	TEMP	72℃ 00:30

- 6) STORE : The temperature (8℃) will remain at what you had stored.
- 7) END: It is command to finish the Program. END command must be inserted to finish the program. Otherwise, the program will be inserted automatically saved.



2) NEW

In NEW function, you can give various commands such as Temperature increment, time increment control. It is possible to input up to 15 steps and even any complicated and long programs can be created conveniently. You can save up to 100 programs that many users are able to use the same machine.

- 1) From the Main menu, select Program by either pressing the numeric key '3', or moving the cursor to '3. PROGRAM' and then pressing the ENTER/RUN key.
 - 1 RUN: TEST
 - 2 SELECT&RUN
 - 3 >PROGRAM
 - 4 OPTION
- 2) On the below screen, you can select NEW by either pressing the numeric key '1', or moving the cursor to '1. NEW' and then pressing the ENTER/RUN key.
 - 1 >NEW
 - 2 EDIT
 - 3 COPY
 - 4 DELETE
- 3) From the below screen, enter the way you want to appear. In the PROGRAM NO field, a number will be automatically given. In the NAME field, enter alphanumeric name up to ten characters in length. Press ENTER/RUN key.



4) In the LID HEATING field, use the direction keys (↑↓) to select ON or OFF. If you select LID ON mode, the default lid temperature is 100°C. But, you can set lid temperature ranges from 90~120°C.

NOTE : If you select LID OFF mode, lid is not heated.

NEW	ENG
PROGRAM NO: 02	
NAME : BIONEER	
<u>L</u> ID ON∶100 ℃	

5) Next, from the below screen, move the cursor to ① by pressing the direction keys.

BIONEER	LID :
100℃	
0 <u>1</u> ①	
0 2	
03	

6) TEMP is the only command for 01 step. The other commands are begun at 02 step, however, you can use the direction keys (↑↓) to select one of the eight commands.

* The direction of command usage will be described in 5.3.1.



7) On the below screen, you can enter temperature and time control parameters. Storing a method completes the creation of it. Pressing the ENTER/RUN key displays the SAVE PROGRAM screen. Press ENTER/RUN or ESC/STOP as you wish.



3) EDIT

After you create a Program, you can edit the parameters in it and store it by the same name. Name of a Program cannot be modified.

- 1) From the Main menu, select Program by either pressing the numeric key '3', or moving the cursor to '3. PROGRAM' and then pressing the ENTER/RUN key.
 - 1 RUN : TEST 2 SELECT&RUN
 - 3 >PROGRAM
 - 4 OPTION
- 2) On the below screen, you can select EDIT by either pressing the numeric key '2', or moving the cursor to '2. EDIT' and then pressing the ENTER/RUN key.
 - 1 NEW
 - 2 >EDIT
 - 3 COPY
 - 4 DELETE
- 3) This displays a list of stored Programs. Use the arrow keys to move to a Program you want to edit, and then press ENTER/RUN key.

EDIT	012/100
01 TEST	
02 <u>B</u> IONEER	
03 SYSTEM	

4) View the parameters of a Program before making a selection. Edit control parameters as necessary.

NOTE : Use the INS or DEL keys to insert or delete a particular

step after locating the cursor in place.



5) Press the ENTER/RUN key and store the Program. Pressing the ENTER/RUN key or ESC/STOP key.



4) COPY

In the COPY menu, you can copy and save a Program by a different name. You may want to edit the copied Program and save the Program with a different Program name.

- 1) From the Main menu, select Program by either pressing the numeric key '3', or moving the cursor to '3. PROGRAM' and then pressing the ENTER/RUN key.
 - 1 RUN : TEST
 - 2 SELECT&RUN
 - 3 >PROGRAM
 - 4 OPTION
- 2) On the below screen, you can select COPY by either pressing the numeric key '3', or moving the cursor to '3. COPY' and then pressing the ENTER/RUN key.
 - 1 NEW
 - 2 EDIT
 - 3 >COPY
 - 4 DELETE
- 3) This displays a list of stored Programs. Use the arrow keys to move to a Program you want to copy, and then press ENTER/RUN key.

COPY	012/100
01 <u>T</u> EST	
02 BIONEER	
03 SYSTEM	

4) In the COPY screen, enter a new name for the Program, and press the ENTER/RUN key. Next, choose whether or not to use the lid heating option by pressing the up and down arrow keys.

5) From the below screen, edit parameters of the copied Program as necessary. Press the ENTER/RUN key.

TES	T-1	LID	:100℃
0 <u>1</u>	TEMP	94℃	00:30
02	TEMP	53℃	00:30
03	TEMP	72℃	00:30

You may want to edit parameters in the copied Program.

6) Selecting ENTER/RUN key allows to store the Program and to run the Program right away. Press the ESC to abort what you have done and return to the PROGRAM screen.



5) DELETE

You can delete Programs from the DELETE screen.

1) From the Main menu, select Program by either pressing the numeric key '3', or moving the cursor to '3. PROGRAM' and then pressing the ENTER/RUN key.

1	RUN: TEST
2	SELECT&RUN
3	>PROGRAM
4	OPTION

2) On the below screen, you can select DELETE by either pressing the numeric key '4', or moving the cursor to '4. DELETE' and then press the ENTER/RUN key.

1	NEW	
2	EDIT	
3	COPY	
4	>DELETE	

3) This displays a list of stored Programs. Use the arrow keys to move to a Program you want to delete, and then press ENTER/RUN key.

DELETE	12/100
01 TEST	
02 BIONEER	
03 <u>S</u> YSTEM	

4) This displays the Delete Confirmation screen. Use the up and down arrow key to select YES confirm the deletion, then press the ENTER/RUN key. This deletes the Program and returns you to the select folder menu.



4. Using the OPTION.

From the OPTION, you can access the version of the system and how to contact for a service. System setting is to be used only for service.

1) SYSTEM VERSION

From the SYSTEM VERSION screen, you can get information about the version of the software and the hardware system.

- 1) From the Main menu, select Program by either pressing the numeric key '4', or moving the cursor to '4. OPTION' and then pressing the ENTER/RUN key.
 - 1 RUN : TEST
 - 2 SELECT&RUN
 - 3 PROGRAM
 - 4 >OPTION
- 2) On the below screen, you can select SYSTEM VERSION by either pressing the numeric key '1', or moving the cursor to '1. SYSTEM VERSION' and then pressing the ENTER/RUN key.

OPTION. 1 >SYSTEM VERSION 2 SYSTEM SETTING 3 A/S REQUEST

3) After reviewing the system information, press the ENTER/RUN again to return to the Main menu.

S/W version 4.0 H/W version 4.0 BIONEER Corporation

2) A/S REQUEST

From the A/S REQUEST screen, you get BIONEER contact information for an emergency call.

- 1) From the Main menu, select Program by either pressing the numeric key '4', or moving the cursor to '4. OPTION' and then pressing the ENTER/RUN key.
 - 1 RUN : TEST
 - 2 SELECT&RUN
 - 3 PROGRAM
 - 4 >OPTION
- 2) On the below screen, you can select A/S REQUEST by either pressing the numeric key '3', or moving the cursor to '3. A/S REQUEST' and then pressing the ENTER/RUN key.
 - OPTION. 1 SYSTEM VERSION 2 SYSTEM SETTING 3 >A/S REQUEST
- 3) After viewing the contact information, press the ENTER/RUN key to return to the Main menu.



VI. Troubleshooting

Problem	Solution
Power is not on	Check if it is plugged and turn on the switch.
Delay in operating or temperature control is not accurate.	Check the temperature of the outside of the system and the humidity.
Error message	Solution
RESET STM. REQ . A / S	Please contact <u>sales@bioneer.com</u> for the support.
No Program Press any key!!	Program that executed right before had been deleted. Please select other program to execute.
Memory full Press any key	There are 100 programs stored in the system. If you need to create or copy, please delete some of the programs.
Save Error No Steps Press any key!	While program is being created, there is no information of operating condition. Input operating conditions.
Save Error Step overflow Press any key!	Use all 15 steps to program but did not input END command. Input END command.
Same name was used! Enter other name.	While inserting the Program name, you have used the same name with existing program. Insert the new name.
Operating Temp. Overflow at cycle	In case of executing inserted Temp. Increment, operating temperature range will exceed in designated cycle. Check the program and reduce the temperature or adjust the number of the cycle.
Operating Temp. Underflow at cycle	In case of executing inserted Temp. Increment, designated cycle will be 0°C. Check the program and reduce the temperature or adjust the number of the cycle. Temp.
Operating Time Overflow at cycle	In case of executing inserted Time Increment, operating time range will exceed in designated cycle. Check the program and reduce the temperature or adjust the number of the cycle.

Operating Time Underflow at cycle	In case of executing inserted Time. Increment, designated cycle will be 0 sec. Check the program and reduce the temperature or adjust the number of the cycle.
No Program To Edit Press any key	There is no program in a stored list. Create the new program.
No Program To Copy Press any key	There is no program in a stored list. Create the new program.
No Program To Delete Press any key	There is no program in a stored list. Create the new program.
No Program.	There is no program in 'SELECT & RUN' menu.
Loop Option Error! Press any key!!!	In case of creating or editing the program, entered protocol will not save normally. Check the program and correct the invalid GOTO step.
Ramp Option Error! Press any key!!!	In case of creating or editing the program, entered protocol will not save normally. Check the program and correct the invalid RAMP step.
Temp Option Error! Press any key!!!	In case of creating or editing the program, entered protocol will not save normally. Check the program and correct the invalid Temp. \pm step.
Time Option Error! Press any key!!!	In case of creating or editing the program, entered protocol will not save normally. Check the program and correct the invalid Time \pm step.

VII. Ordering information

Product	Cat. No.
<i>MyGenie</i> [™] 32 Thermal Block	A-2030-4

VIII. Warranty

This system and constituent equipment is warranted by Bioneer against manufacturing defects in materials and workmanship for a limited warranty period of one (1) year from the date you received your product. Bioneer will either (1) repair the product at no charge if a hardware defect is found or (2) exchange the product if the same hardware defect arises more than three times during the limited warranty period. Any other accessories other than the instrument itself are considered as consumables and warranted for three months. Spare parts for the instrument will be available for five years from the initial instrument release date. If a defect arises after the limited warranty period, shipping and handling charges may apply to any repairs or exchanges of the product undertaken by Bioneer.

Exclusions and limitations

This warranty does not apply: (a) to cosmetic damage, including but not limited to scratches, dents, and broken plastic on ports: (b) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes: (c) to a product or part that has been modified in any way without explicit written consent of Bioneer; or (d) to damage cause by any services performed by unauthorized engineers or service providers.

Obtaining Warranty Service

Please review this user guide and access the online support referred to in the manual accompanying this product before requesting warranty service.

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