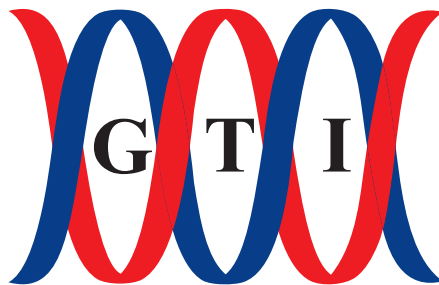

GTI-16 DNA Thermal Cycler

Instruction Manual



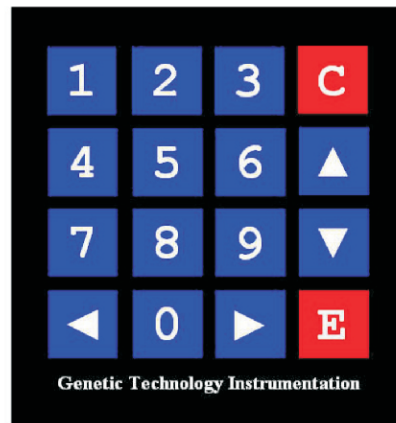
Genetic Technology Instrumentation

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Polymerase Chain Reaction (PCR) has made the analysis of genes simple and cheap. A large number of diseases with a genetic basis, for example inherited and neoplastic, can be diagnosed by PCR. The most remarkable application of PCR in inherited diseases is its use in prenatal diagnosis. The ease with which common inherited disorders like thalassaemia can be diagnosed in early pregnancy with pin point accuracy has almost completely changed the basic concept of its management. PCR can also be used to identify the causative agents of most infectious diseases. The hazardous procedure of viral culture is almost completely replaced by simple accurate and rapid PCR based assays.

PCR, in spite of being a useful diagnostic technique, has remained underutilized especially in countries with limited resources. An important reason for its underutilization is the high cost of the PCR machines. GTI-16 is a low cost Peltier based DNA thermal cycler that is highly efficient in running basic to complex PCR applications in diagnostic as well as research use.

Numeric Key Pad:



To move between menus use the “▲”, “▼”, “▶” and “◀” keys.

To enter press “E”.

To cancel any entry or to go back to previous menu use “C”

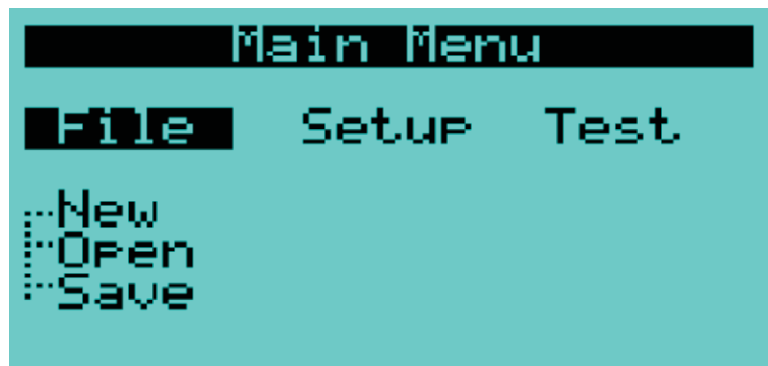
Main Menu

Main Menu (File):

New: To create new programme file (0 -99)

Open: To open existing programme file (0-99)

Save: To save new programme file (0-99)



Main Menu (Setup):

Prog: To view or edit programme of an already open file

Calib: To enter calibration parameters (pass word protected)

HLid: Heated lid control (on/off) for the already open file



Main Menu (Test):

Start: To start the currently open file

Tem: To view current block temperature



Programme:

Hold Setup

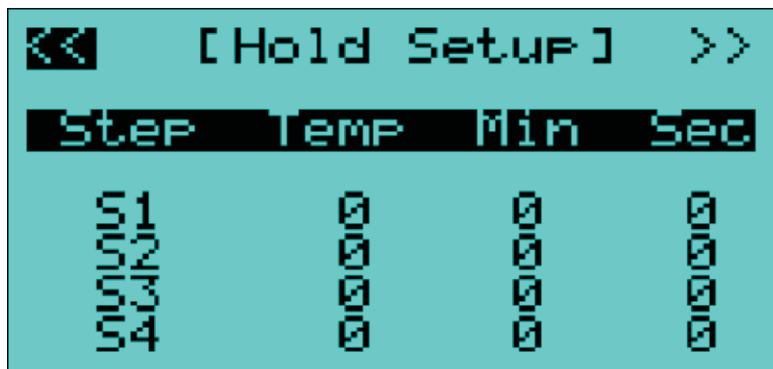
Used for initial hold step in PCR

S1-4: Steps 1-4

Temp: Enter target temperature (room temperature to 99°C)

Min: Time in minutes (1-99)

Sec: Time in seconds (1-60)



Segment-1-4 Setup

Used for Main components of PCR programme

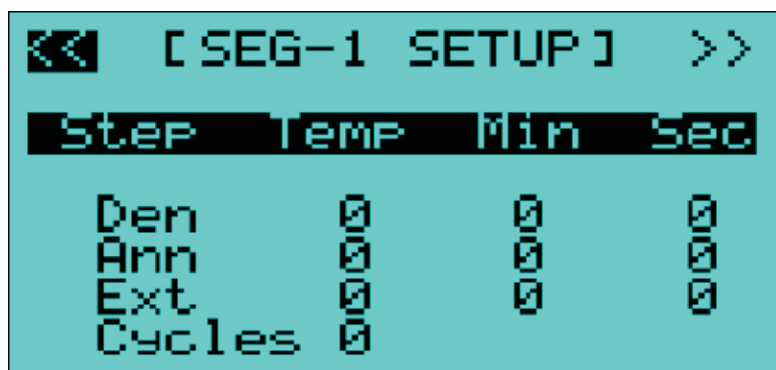
Steps: Den (denaturation), Ann (annealing), Ext (extension)

Temp: Enter target temperature (room temperature to 99^oC)

Min: Time in minutes (1-99)

Sec: Time in seconds (1-60)

Cycles: Number of PCR cycles (1-99)



Step	Temp	Min	Sec
Den	0	0	0
Ann	0	0	0
Ext	0	0	0
Cycles	0		

Termination Setup

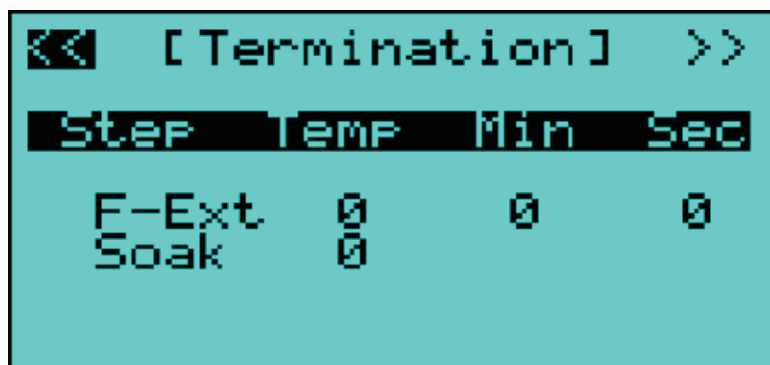
Used for final hold step in PCR

Steps: F-Ext (final extension), Soak (temperature to be maintained indefinitely)

Temp: Enter target temperature (room temperature to 99^oC)

Min: Time in minutes (1-99)

Sec: Time in seconds (1-60)



Step	Temp	Min	Sec
F-Ext	0	0	0
Soak	0		

Creating a new programme:

From the main menu select file, new

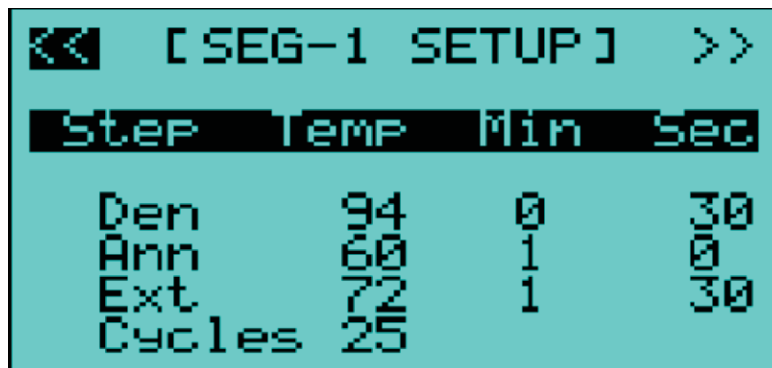
Enter desired temperature and time in the hold setup

To move to the Segment 1-4 use ">>" or "<<"

Enter desired temperature and time and number of cycles

Go back to main menu by using ">>" or "<<"

From the main menu select file, save (0-99)



Step	Temp	Min	Sec
Den	94	0	30
Ann	60	1	0
Ext	72	1	30
Cycles	25		

Editing a saved programme:

From the main menu select file, open (0-99)

Go to Setup, prog

Edit the desired temperature and time in the hold setup

To move to the Segment 1-4 use ">>" or "<<"

Edit the desired temperature and time and number of cycles

Go back to main menu by using ">>" or "<<"

From the main menu select file, save (0-99)

The file may be saved with the same file number (over-write)

The file may be saved as a new file (0-99)

Running a programme:

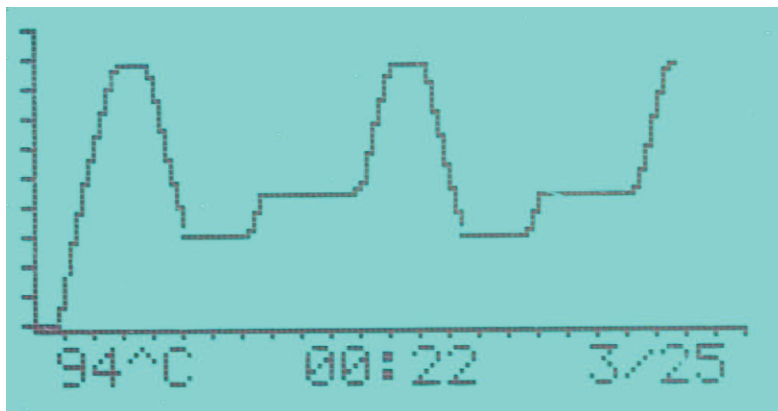
Go to Main Menu

Select File, Open (0-99)

Select Test, Start

Running of the programme may be viewed as real time graphic or digital formats

You may toggle between views by pressing ▲ ▼ keys



```

[segment-1]
C-Temp: 56^C
T-Temp: 94^C
E-Time: 00:02:31
S-Time:
Cycle : 1 of 25
Step  : Se91.Den.R-Up

```

Specifications

Number of wells 16

64 X 128 Real time graphic LCD display

Fully programmable with 100 program storage capacity

Ramping rate 1.5⁰C per second

Reaction volume 5 - 30 µl

Operating voltage 220 Volts

Power consumption 2.5 A

Best operating temperature 20 - 30⁰C

Restart capability after program interruption by continuous power failure for at least 10 seconds

Works on any household UPS (sine/square wave)

Heated lid

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