

# Real-time PCR System RT-96

Your ideal choice for qPCR



CE

IVD

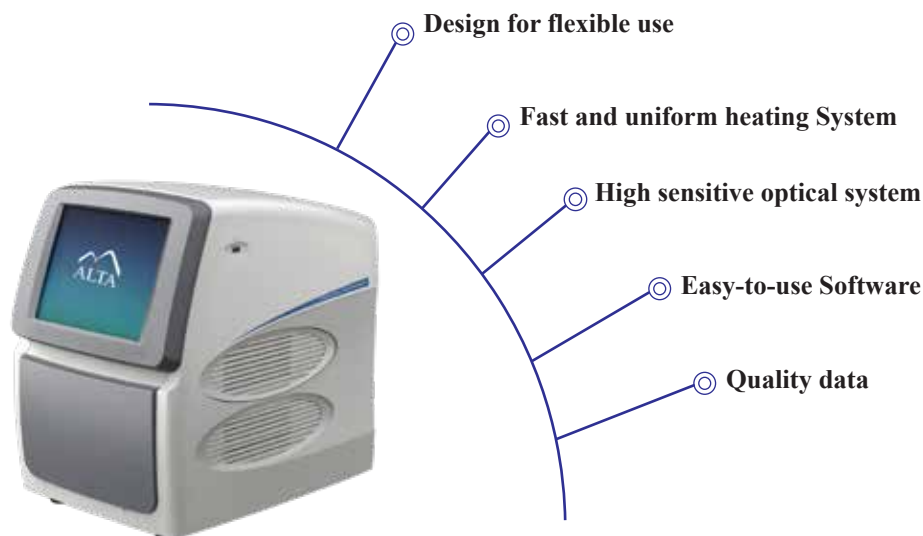


 **ATH**  **NESE-Dx**  
Early diagnosis for better life



- > 10 inch touch screen, all commands in one touch
- > Easy-to-use Software
- > Advantage Temperature Control
- > LED-excitation and PD-detection, 7 seconds top optical scanning
- > Outstanding and powerful data analysis functions

The ALTA RT-96 is a Quantitative, real-time PCR system which combined with easy to use software and optimized design features like highly sensitive optical system and uniform heating system provides precise and accurate results to your diagnostics and research demands.



### Fast and Uniform Heating System

The system adopts independent temperature control technology using Peltier heat module and high repeatability temperature zone for 96 well sample block, truly realize the optimization of PCR.

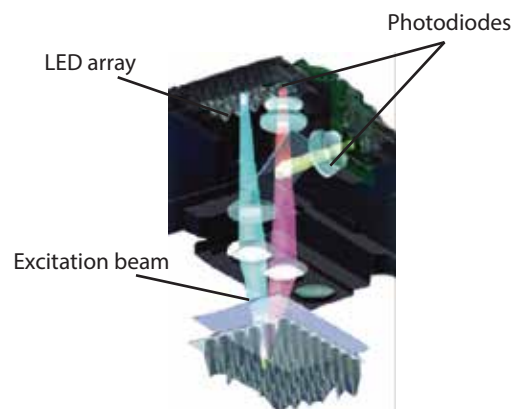
- Temperature Accuracy :**  $\leq 0.1^{\circ}\text{C}$ ;
- Temperature Uniformity :**  $\pm 0.1^{\circ}\text{C}$ ;
- Temperature Precision :**  $\leq 0.1^{\circ}\text{C}$
- Max Heating and Cooling Ramp :**  $6.1^{\circ}\text{C/s}$



### Highly sensitive and precise optical system

- Long life LED light resources and photodiodes provides high-sensitivity and wide dynamic range of fluorescence detection system, sample dynamic range could be from  $10^1$  to  $10^{10}$  copies.
- Fast and precise mechanical scanning structure ensures the illumination uniformity of 96 wells, Eliminate edge effects, no needs for ROX calibration.

Channel	Dyes	Instrument Models			
		96E	96S	96R	96C
1	FAM, SYBR Green I ,etc.	✓	✓	✓	✓
2	VIC, HEX, TET, JOE, etc.	✓	✓	✓	✓
3	ROX, Texas Red, etc.	✓	✓	✓	✓
4	Cy5, etc.	✓	✓	✓	✓
5	Alexa Fluor 680, etc.	✓	✓	✗	✗
6	FRET Probe	✓	✓	✗	✗



## Detective Parameters

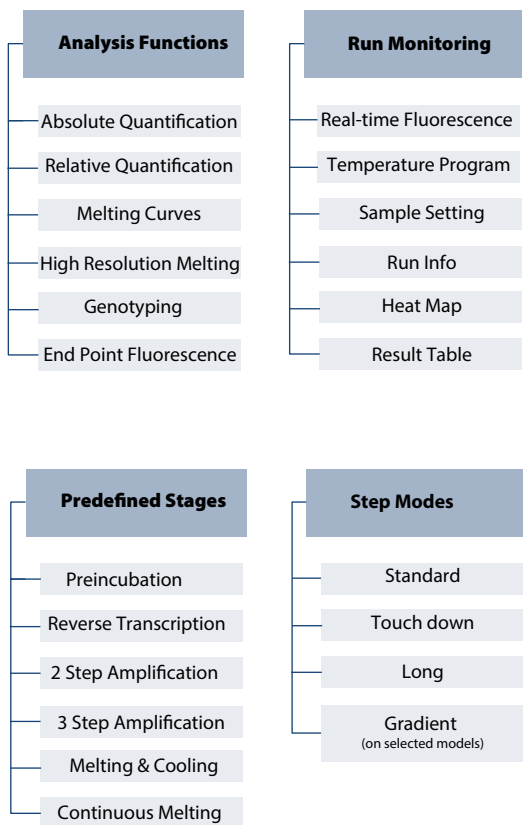
**Throughputs:** simultaneously detect 96 samples;

**Repeatability:**  $CV \leq 0.5\%$ ;

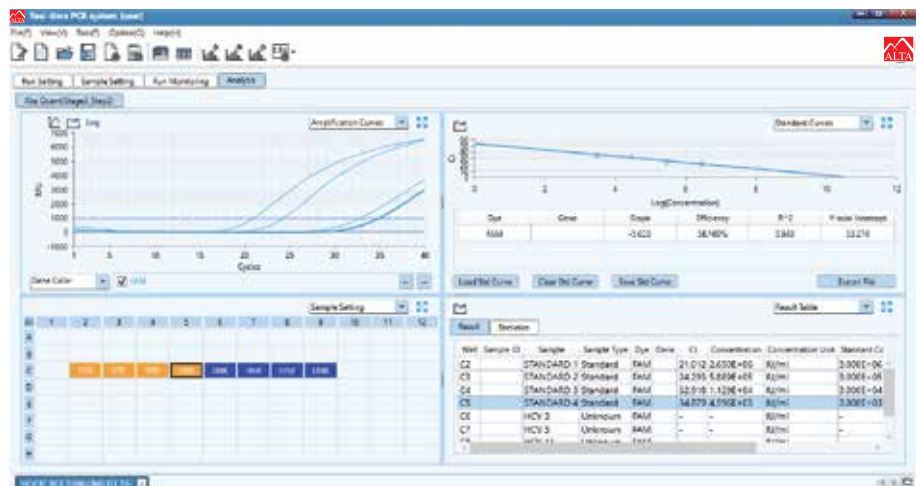
**Linear Correlation:**  $|r| \geq 0.999$ , within the scope of no less than five magnitudes concentration gradients.

## Remarkable Software

The Alta RT-96 software supports almost all the real-time analysis procedures which covers medical diagnostics and research parameters. The wizard-style interface, intuitive layout and program setting makes it user friendly.



- **Program Setting** : each stage can contain 99 steps, and the maximum cycle number is 99.
- **Report Template Design** : for users to customize their own report form, more suitable for the personal needs of all users.
- **Data Storage** : store over 1000 experiment setting / experiment data files.



## Safety & Protection

- **Loading Platform** can be ejected, very convenient for sample loading and reduce the experiment environment contamination.
- **Concealed Hot Lid** could avoid the possible contact between users and the hot lid, therefore ensure the operation safety.
- **Power-off Protection** function which can protect all configuration settings in case of power off and the interrupted experiment can continue after power on.



# Specification

Parameters	RT 96E	RT 96S	RT 96R	RT 96C
<b>Thermal Block</b>				
Sample capacity(wells)	96			
Reaction Volume	0-100 µl			
Consumables	0.2 ml 96-well Plates (unskirt); 0.2 ml 8-strip tubes, 0.2 ml PCR single tube(Optical flat cap,clear,frosted,white tube)			
Temperature range	0 °C-100 °C			
Heating/cooling method	Peltier			
Max heating rate	6.1 °C/sec			
Average heating rate	4.5 °C/sec			
Max cooling rate	5.0 °C/sec			
Average cooling rate	2.8 °C/sec			
Temperature accuracy	±0.1 °C			
Temperature uniformity	±0.1 °C			
Gradient Range	1 °C-40 °C	N/A	1 °C-40 °C	N/A
Gradient block	12 row		12 row	
Special temperature protocol	Gradient PCR,Long PCR,Touch Down PCR	Long PCR,Touch Down PCR	Gradient PCR,Long PCR,Touch Down PCR	Long PCR,Touch Down PCR
<b>Heat Lid</b>				
Temperature range	Room Temperature-110 °C			
<b>Optical System</b>				
Excitation Source	6LEDs		4LEDs	
Detector	Photodiode			
Detection Position	Excitation and scan at top			
Detection method	6 channels scanning at the same time, no edge effect.			
Detection time	7 seconds for 96 wells for all channels			
Range of excitation/ emission wavelengths(nm)	1.465 /510 (FAM,SYBR Green I,SYT09,EvaGreen,LC Green) 2.527/ 563 (HEX,VIC,TET,JOE) 3.580 /616 (ROX,Texas Red) 4.632/ 664 (Cy5) 5.680 /730 (Alexa Fluor680) 6.465 /616 (FRET)		1.465 /510 (FAM,SYBR Green I,SYT09,EvaGreen,LC Green) 2.527/ 563 (HEX,VIC,TET,JOE) 3.580 /616 (ROX,Texas Red) 4.632/ 664 (Cy5)	
Probe	Taqman Probe,Molecular beacons probe,Scorpion probe ,FRET		Taqman Probe,Molecular beacons probe,Scorpion probe	
Multiplexing	Up to 6 targets		Up to 4 targets	
Fluorescence Linearity	$r \geq 0.999$			
Fluorescence Dynamic Range	Adjustable			
<b>Performance</b>				
Sample Linearity	$/r/ \geq 0.999$			
Sample repeatability	Ct value CV ≤ 0.5%			
Detection Limit	1-10 <sup>10</sup> copies			
<b>Software Functions</b>				
Data Analysis modes	Qualitative analysis,Absolute quantification, Relative quantification,Genotyping analysis,Endpoint analysis,Melt curve analysis, High Resolution Melting			
Control modes	1.10.4' touch screen 2.PC direct control 3.WLAN control(One PC can control max10 units, and device can be controlled by any PC in the WLAN)			
Sample Drawer	Touch screen commend			
Data Storage	Upload and download through USB disk,1000 results can be stored in machine			
Power failure protection	Automatically start running experiments after power supply, no need wait PC software			
Customize Report	Templates reserved ,report can customized			
Administration Management	Administrator can set functions limits for users			
Transport Locker	Automatically detect transport locker			
Fault Management	Fault report and analysis, solution instruction			
LIS connection	CSV,Excel,TXT format data output,open port for LIS connection			
<b>Others</b>				
PC operating system	Win 7, Win 10			
Communication Port	1 ethernet and 3 USB			
Footprint(WxDxH)	355mm X 480mm X 485mm			
Weight	30 kg			
Power usage	AC 100 to 125 V / 200 to 240 V (50/60 Hz)			
Power consumption	900VA			
Work environment	Temperature:10 °C-30 °C Humidity:20%-85%			