



REAL-TIME PCR

CFX Opus 96 Real-Time PCR System

Integrated Workflow for the Modern Lab



The CFX Opus 96 Real-Time PCR System puts you on the road to an efficient workflow. Quickly set up runs and easily monitor run progress and analyze data using the comprehensive data management and analysis tools of CFX Maestro Software.

From your BR.io account, set up a run and access your results any time and anywhere you have internet access.

Benefits

Flexible connectivity and data management options for access and transfer of runs and experiment protocols.

- Operate in stand-alone mode through flexible connectivity options of wireless network (WiFi), Ethernet, and USB
- Access BR.io cloud platform for experimental setup and data management at any convenient location with internet access
- Enjoy continued support for and control of up to 4 CFX instruments with CFX Maestro Software for Windows 7 (64-bit), Windows 10 (64-bit), and Security Edition
- Email your completed run
- Save protocols and completed runs in a network folder

Intuitive touch-screen user interface for both experienced and new real-time PCR users.

- Create new real-time PCR protocols or easily modify existing protocols
- Set up unique User Names, with optional passwords, to easily organize and find your protocols and experiments

Specifications

System

Licensed for real-time PCR	Yes
Sample capacity	96 wells
Sample size	1–50 µl (10–50 µl recommended)
Dimensions (W x D x H)	33 x 56 x 36 cm (13 x 22 x 14 in.)
Weight	22 kg (48 lb)
Touch-screen user interface	Adjustable, with angle of rotation 12–55°
Communications	USB 2.0 or above, Ethernet, WiFi
Electrical approvals	IEC, CE
Operating system	Windows 10 IoT

Optical Detection System

Excitation	6 filtered LEDs
Detection	6 filtered photodiodes
Range of excitation/emission wavelengths	450–730 nm
Scan time	
All channels	12 sec
Single channel	3 sec
Dynamic range	10 orders of magnitude
Sensitivity	Detects 1 copy of target sequence in human genomic DNA
Multiplex analysis	Up to 5 targets per well

96-Well Reaction Block

Sample block type	Fixed 96-well sample block
Heating and cooling method	Peltier
Lid heating	30–110°C
Temperature range	4–100°C
Maximum ramp rate	5°C/sec
Average ramp rate	3.3°C/sec
Thermal accuracy	±0.2°C
Thermal uniformity	±0.3°C (max–min) 0.6°C, measured 10 sec after the block reaches the target temperature

Gradient

Operational range	30–100°C
Programmable span	1–24°C

continues

BIO-RAD

Specifications

CFX Maestro Data Management and Analysis Software

Operating system	Windows 7 (64-bit), Windows 10 (64-bit), macOS (10.14, for analysis only)
Memory	Minimum of 1 GB
Data analysis modes	PCR quantification with standard curve Melt curve analysis Gene expression analysis by relative quantity (ΔC_q) or normalized expression ($\Delta\Delta C_q$) Multiple-file gene expression analysis for comparison of an unlimited number of C_q values Allelic discrimination End-point analysis Data analysis options include bar charts, box-and-whisker plots, dot plots, clustergrams, scatter plots, and volcano plots Statistics include t -test and analysis of variance (ANOVA)
Data export	Save, copy, and print all graphs and spreadsheets from right-click menu Export specified data in multiple formats Copy and paste into a Microsoft Excel, Word, or PowerPoint file Print directly or save as PDFs customizable reports containing run settings, data graphs, and spreadsheets Export to RDML
Image export	Export images at any pixel size and at a resolution up to 600 dpi Save images as .bmp, .jpg, or .png files

Ordering Information

All software for Windows unless otherwise noted.

Catalog #	Description
12011319	CFX Opus 96 Real-Time PCR System , includes power cord, USB cable, and Ethernet cable; does not include CFX Maestro Software 2.0 or WiFi adaptor
17005940	CFX Opus 96 Real-Time PCR System with Starter Pack , includes CFX Opus 96 System, CFX Maestro Software 2.0, license for qbase+ Software, power cable, USB cable, Ethernet cable, reagents, consumables
12013758	CFX Maestro Software 2.0
12004128	CFX Maestro Software for Mac
12012832	CFX Maestro Software 2.0, Security Edition , 1 license
12013028	CFX Maestro Software 2.0, Security Edition , 5 licenses
12012833	CFX Maestro Software 2.0, Russian Edition
12012834	CFX Maestro Software 2.0, Chinese Edition
1845025	Precision Melt Analysis Software , includes 2 user licenses, installation CD, 2 HASP HL keys, melt calibration kit

Catalog #	Description
1845098	CFX Qualification Plate , 96-well
1814000	PX1 PCR Plate Sealer , includes heat sealing instrument
1814030	PCR Plate Heat Seal , pkg of 100, optically clear seals for use with the PX1 PCR Plate Sealer
MSB1001	Microseal 'B' PCR Plate Sealing Film , pkg of 100, optically clear seals for PCR plates
HSP9655	Hard-Shell 96-Well PCR Plates , pkg of 50, low profile, thin wall, skirted, white shell/white wells
HSP9955	Hard-Shell 96-Well PCR Plates , pkg of 50, low profile, thin wall, skirted, white shell/white wells, barcoded
1708840	iScript Reverse Transcription Supermix for RT-qPCR , 25 x 20 μ l reactions
1725037	iScript Advanced cDNA Synthesis Kit for RT-qPCR , 25 x 20 μ l reactions
1725270	SsoAdvanced Universal SYBR[®] Green Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725280	SsoAdvanced Universal Probes Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725120	iTaq Universal SYBR[®] Green Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725130	iTaq Universal Probes Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725200	SsoFast EvaGreen[®] Supermix , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
1725210	SsoFast EvaGreen[®] Supermix with Low ROX , 2 ml (2 x 1 ml), 200 x 20 μ l reactions
12010176	Reliance One-Step Multiplex RT-qPCR Supermix , 1 ml (1 x 1 ml), 200 x 20 μ l reactions
1725150	iTaq Universal SYBR[®] Green One-Step Kit , 100 x 20 μ l reactions
1725140	iTaq Universal Probes One-Step Kit , 100 x 20 μ l reactions
1725848	iQ Multiplex Powermix , 50 x 50 μ l reactions
1725095	SingleShot SYBR[®] Green One-Step Kit for Cell Lysis and RT-qPCR , 100 x 50 μ l reactions
1725160	SsoAdvanced PreAmp Supermix , 1.25 ml (1 x 1.25 ml), 50 x 50 μ l reactions
17005726	SEQuoia Complete Stranded RNA Library Prep Kit , 24 reactions
17005710	SEQuoia Complete Stranded RNA Library Prep Kit , 96 reactions
12011928	SEQuoia Dual Indexed Primers Set , 12 vials of unique dual indexes, 96 reactions
12011930	SEQuoia Dual Indexed Primers Plate

Visit bio-rad.com/CFXOpus for more information.

BIO-RAD, HARD-SHELL, and MICROSEAL are trademarks of Bio-Rad Laboratories, Inc. in certain jurisdictions.

SYBR is a trademark of Thermo Fisher Scientific Inc. Bio-Rad Laboratories, Inc. is licensed by Thermo Fisher Scientific Inc to sell reagents containing SYBR Green I for use in real-time PCR, for research purposes only.

EvaGreen is a trademark of Biotium, Inc. Bio-Rad Laboratories, Inc. is licensed by Biotium, Inc. to sell reagents containing EvaGreen Dye for use in real-time PCR, for research purposes only.

Hard-Shell Plates are covered by one or more of the following U.S. patents or their foreign counterparts owned by Eppendorf AG: U.S. Patent Numbers 7,347,977; 6,340,589; and 6,528,302.

All trademarks used herein are the property of their respective owner.

BIO-RAD

**Bio-Rad
Laboratories, Inc.**

Life Science
Group

Website bio-rad.com **USA** 1 800 424 6723 **Australia** 61 2 9914 2800 **Austria** 00 800 00 24 67 23 **Belgium** 00 800 00 24 67 23 **Brazil** 4003 0399 **Canada** 1 905 364 3435 **China** 86 21 6169 8500 **Czech Republic** 00 800 00 24 67 23 **Denmark** 00 800 00 24 67 23 **Finland** 00 800 00 24 67 23 **France** 00 800 00 24 67 23 **Germany** 00 800 00 24 67 23 **Hong Kong** 852 2789 3300 **Hungary** 00 800 00 24 67 23 **India** 91 124 4029300 **Israel** 0 3 9636050 **Italy** 00 800 00 24 67 23 **Japan** 81 3 6361 7000 **Korea** 82 2 3473 4460 **Luxembourg** 00 800 00 24 67 23 **Mexico** 52 555 488 7670 **The Netherlands** 00 800 00 24 67 23 **New Zealand** 64 9 415 2280 **Norway** 00 800 00 24 67 23 **Poland** 00 800 00 24 67 23 **Portugal** 00 800 00 24 67 23 **Russian Federation** 00 800 00 24 67 23 **Singapore** 65 6415 3188 **South Africa** 00 800 00 24 67 23 **Spain** 00 800 00 24 67 23 **Sweden** 00 800 00 24 67 23 **Switzerland** 00 800 00 24 67 23 **Taiwan** 886 2 2578 7189 **Thailand** 66 2 651 8311 **United Arab Emirates** 36 1 459 6150 **United Kingdom** 00 800 00 24 67 23

