BÜHLMANN

Quantum Blue[®] Reader QB Soft

User Manual

V02; 08/2013

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1 Introduction

Policy Statement

It is the policy of BÜHLMANN Laboratories AG to improve products as new techniques and components become available. BÜHLMANN Laboratories AG reserves the right to change specifications at any time. In an effort to produce useful and appropriate documentation, we appreciate your comments on this user manual. Please contact BÜHLMANN Laboratories AG.

Version Management

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2 General Product Description

Easy to use, comprehensive Software for the user of the BÜHLMANN Quantum Blue[®] Reader, offering:

- Control of the Quantum Blue[®] Reader via PC
- Multi-language user interface
- Status display of important Quantum Blue[®] Reader functions
- Printing a comprehensive test report
- Archiving of test data stored in the Quantum Blue[®] Reader or the QB Soft Software
- Management of test data stored in the Quantum Blue[®] Reader or the QB Soft Software
- Printing of all measured (and stored) test data
- Administration of Test Methods and Users in the Quantum Blue[®] Reader.

The QB Soft Software is designed for a typical workflow in a diagnostic laboratory, including maintenance, administration and archiving and printing of test data of the Quantum Blue[®] Reader. For example, a simple tabular structure presents all necessary functions and all kinds test data and conditions within one simple interface.

3 System Requirements

The installation of the software is very simple, straightforward and can be carried out on:

- Windows[®] XP ServicePack 1 or higher, Windows[®] Vista, Windows[®] 7
- Installed .NET Framework (V2.0) and current Windows[®] Installer (V3.1)
- Intel compatible PC with 1GHz processor and a minimum of 512MB RAM
- 100 MB available memory on the hard disc
- CD-ROM drive
- Monitor with a minimum resolution of 1024 x 768

4 Installing the QB Soft Software and connecting with the Quantum Blue[®] Reader

4.1 Installation of the QB Soft Software

Insert the CD-ROM.

Open the CD-ROM in the File Explorer.

Start "setup.exe" from the "Software\QB Soft" directory.

After successful installation of the software the QB Soft icon will appear on the desktop.

4.2 Connecting the Quantum Blue[®] Reader

Connect the Quantum Blue[®] Reader to the PC via USB cable (for USB driver installation, please refer to chapter 6 or to the User Manual of the Quantum Blue[®] Reader).

Press the ENTER button of Quantum $\mathsf{Blue}^{^{(\!\!\!\!\estymbol{B})}}$ Reader for three seconds to start the reader.

Wait for completion of automatic self-test and self-calibration.

4.3 Running the Quantum Blue[®] Reader with QB Soft

Start QB Soft Software by double-clicking the QB Soft icon.

Click on the menu item "File" and then on item "Connect".

5 Overview of QB Soft Software

5.1 Menu Bar

The menu bar contains three menu groups, "File", "Tools" and "Info".



5.1.1 File

Connect: Establish connection with the Quantum Blue[®] Reader. After starting the software connection is automatically established, if the Quantum Blue[®] Reader is connected to the PC and switched on.

Select Port: If the Quantum Blue[®] Reader is not connected automatically after starting the software, it may be necessary to select the relevant COM port for manual connection.

Disconnect: Close the connection between QB Soft Software and the Quantum Blue[®] Reader.

5.1.2 Tools

🖁 QB Soft										
File	Tools Info									
Measu	Language 🕨 🕨		De							
b		~	En							
ЮB	JHLMANN		Es							
			Fr							
			It							

B QB Soft File Tools

Measurement

BÜHLM

Language: This is used to select the language setting for the entire user interface of the QB Soft Software. Current offerings are German, English, Spanish, French and Italian. After having chosen the required language, the QB Soft software must be closed and re-started again.

5.1.3 Info

System Info: Displays information about the QB Soft Software and the Quantum Blue[®] Reader connected. Note that clicking on "Copy" copies the information to the Windows Clipboard.

About: Displays information about the QB Soft software ID, software version and manufacturer.

Info

System Info

About

5.2 Measurement

Click on "Measurement" to perform a test run using the QB Soft Software. This function allows the user to select a Test Method stored on the Quantum Blue[®] Reader and to scan a test cassette.

The user has to enter a Patient ID and to select a User ID before the scanning of the test cassette can be started. Additionally, the user can enter Expiry Date information of the test (cassette) and add some Comments.

N					
B QB Soft					<u>_ ×</u>
File Tools Info					
Measurement Result	ts Manage				
) BÜHLMANI	N	BÜHLMAN Schöne	IN Laboratories AG nbuch / Switzerland		Info
		www.buhlmann	labs.ch/core/guantum-blue		
Patient ID					
Method Product ID		Exp. Date Lot ID			
Date Run No.		Time			
User				Method	
Comment				Mediou	
				Patient ID	John Example, 01.01.2001
Device ID		Device SN		User	Annemarie 🔹
Device Name		Calibration		Exp. Date	31.12.2013
Firmware		Sonware		Comment	Day 1 post-op 09 00
Result					
				•	Start
	-	Print			
E Connected	Drawer closed Read	у			Memory 79/100:

The system is ready for measurement, if the status bar at the bottom of the screen shows "Connected", "Drawer Closed" and "Ready". Also displayed in the status bar is the memory status of the Quantum Blue[®] Reader. This example shows that 79 test results are currently stored in the memory of the reader (80 sets of test results can be stored in total, although a memory capacity of 100 is indicated).

Please note that a test measurement performed with the QB Soft will not be saved to the Quantum Blue[®] Reader, but will automatically be saved into the PC Backup (see also chapter 5.3.2).

The user-accessible and/or –editable functions are:



Start

This drop-down list box displays the Test Methods which are stored on the Quantum Blue[®] Reader. Select the Test Method to be run.

This is a user-editable text box which is used to add a Patient ID to the results.

This drop-down list box displays the Users who are registered on the Quantum Blue[®] Reader. Select the corresponding User ID.

This is a user-editable text box which is used to add the Expiration Date of the test reagent(s) to the results.

This is a user-editable text box which is used to add Comments to the results.

Start the test measurement (scanning process) on Quantum Blue[®] Reader with the QB Soft Software. During the measurement the function of the "Start' button changes to a "Stop" function, so that the scanning (and incubation) process can be interrupted at any time. Note that the "Start" button is enabled only when all of the user entry items (at least the Method, Patient ID and User ID) are selected.



The grey "Info" box describes the current status of the Quantum Blue[®] Reader while a test run (measurement) is performed.

5.2.1 Result Display

After completion of the measurement detailed results, the instrument settings, the operator (user), etc are displayed in a printable test report as shown:

B QB Soft	t										<u> </u>
File To	iols Info										
Measurem	ent Resul	ts Mana	ge								
				BÜHLN Schö	MANN L	aboratorie ch / Switze ch/core/quant	es AG erland	Measurement			
Patient	ID	John E	xample							finished	
Method Product	t ID	CAL_0 LF-CA	L	Exp. Lot I	Date D	3 0(1.12.2013 001			inionou	
Date Run No		23.04.2 658	2013	Time	B	13	3:47:36				
User		Annem	narie						Method	CAL_0	•
Comme	nt	Day 1 po	ost-op 09 00						Patient ID	, _	
Device Device Firmwa	ID Name re	ESLF3 Quantu V 2.2.1	5-MB-450 ım Blue® 7	1 Devi Calil Soft	ice SN bration ware	10 0 1.	D11 K 0.13.0		User Exp. Date	Annemarie 31.12.2013	•
Result		39 µg/	9						Comment	Day I post-op 09 00	
Test Parameter	Test Validation	Unit	Raw Data	Threshold	Peak Start [mm]	Peak End [mm]	Peak Maximum [mm]				
Control	VALID	mV	1432.31	800.00	41.96	45.16	43.60				
Test Line	VALID	mV	604.15	1800.00	50.44	53.64	52.08			▶ Start	
T/C Ratio	VALID		0.42	1.80	50.44	53.64	52.08	-			
			4	P rint							
E Conne	cted 📕	Drawer c	losed Rea	dy						Memor	y 79/100 🔡

Clicking the "Print" button allows the printing of the detailed results on the default Windows $^{\ensuremath{\mathbb{B}}}$ printer.

5.3 Results

The detailed test results are listed in result tables as shown below. These result tables are used to view, store, up/download, print and manage test results saved either on the Quantum Blue[®] Reader or in the PC Backup.

5.3.1 Results on Device (Quantum Blue[®] Reader)

This table displays the results which are stored on the Quantum Blue[®] Reader. By choosing the item "On Device" and clicking the button "Load Results from Device" the results are displayed in the table as shown:

File Tools Inf leasurement Res	o ults Manage	6									
On Device	In PC	Backup									
Test Results s	tored on D	evice Device Result Me	mony					79/	100		(Amount: 7
Run	Patient	Method	Lot	Result	Date		Time	Product	User	Calibration	Device IC-
594	0	CHR_0	AAA	725 µg	/g 28.03	.2	11:59:48	LF-CHR	User01	ОК	ESLF35-N
596	0	Calpr. Exten.	BBBr	105 µg	/9 28.03	.2	12:10:22	LF-CALE	User01	ОК	ESLF35-N
599	0	CHR_0	AAA	725 µg	/g 28.03	.2	12:19:46	LF-CHR	User01	OK	ESLF35-N
619	0	CHR_0	AAA	527 µg	/g 04.04	.2	09:34:58	LF-CHR	User01	OK	ESLF35-N
F 🕧 621	0	Calpr. Exten.	BBB	69 µg/g	04.04	20	4.04.2013	LF-CALE	User01	OK	ESLF35-N
622	0	Calpr. Exten.	BBB	69 µg/g	04.04	.2	10:35:00	LF-CALE	User01	ок	ESLF35-N
623	0	Calpr. Exten.	BBB	69 µg/g	04.04	.2	15:23:43	LF-CALE	User01	OK	ESLF35-N
🗸 🚺 624	0	Calpr. Exten.	BBB	68 µg/g	10.04	.2	16:45:43	LF-CALE	User01	ОК	ESLF35-M
627	0	Calpr. Exten.	BBB	68 µg/g	17.04	.2	12:53:35	LF-CALE	User01	OK	ESLF35-N
☐ 100 628	0	Calpr. Exten.	BBB	68 µq/a	17.04	.2	12:56:28	LF-CALE	User01	ок	ESLF35-N
ast selected	est Run						(Amount:	4) Comm	nent		
Test Parameter	Te: Val	st idation	Unit	F	Raw Data	Th	reshold	-			
Control Line	VAL	JD	mV	1	432.90	T		1			
Test Line	VAL	JD	mV	6	04.14	-	5	-			
4						Wi -	•				
from Devi	uits ce					-	Save sel	ected Results PC Backup		Print select	ed Results
Delete selec	ted Results evice					-	Save sel	ected Results Folder		Save select as a CS	ted Results V Table
Connected	Drawer clos	ad Pendu									amon: 79/100



Unselect all results in the table

Select all results in the table



Load all results from the Quantum Blue[®] Reader Delete selected results from the Quantum Blue[®] Reader

Save selected Results in the PC Backup Save selected Results in a Folder	Save selected results in the PC backup* Save selected results into a folder of choice
Print selected Results Save selected Results as a CSV Table	Print selected results with the default Windows® printer Save selected results as a CSV file

* Selected results will be saved into "C:\Dokuments and Settings\All Users\Application Data\LFSuite\ Backup" or "C:\ProgramData\ LFSuite\Backup" or into "C:\...\LFSuite\ Backup" (the exact location depends on the Windows[®] operating system version and your personal computer settings).

5.3.2 Results in the PC Backup

		1	Method						1	1		(Amoun	t:
	Run No.	Patient ID	(Test Name)	Lot ID	Resul	t Date	в	Time	Product ID	User	Calibration	RFID	
- 🕡	638	Jacky	Calpr. Exten	BBB	68 µg/	/g 18.0	4.2	14:21:10	LF-CALE	MU	OK		
□ 🕡	639	Jacky	Calpr. Exten	BBB	69 µg/	/g 18.0	4.2	15:03:59	LF-CALE	MS	OK		
	655	John Exam	npl CAL_0	0001	39 µg,	/g 23.0	4.2	09:59:53	LF-CAL	Annem	ОК		
□ 🕡	658	John Exam	ple CAL_0	0001	39 µg/	⁄g 23.0	4.2	13:47:36	LF-CAL	Annem	OK		
□ 🕡	635	rt	Calpr. Exten	BBB	69 µg/	′g 18.0	4.2	13:37:35	LF-CALE	SK	OK		
□ 🕡	653	rt	CAL_0	0001	39 µg/	/g 22.0	4.2	16:36:22	LF-CAL	MP	OK		
□ 🕡	640	tz	Calpr. Exten	BBB	69 µg/	⁄g 18.0	4.2	15:05:08	LF-CALE	MS	OK		
☑ 🕖	651	we	CAL_0	0001	39 µg/	/g 22.0	4.2	10:38:14	LF-CAL	MP	OK		
- 🕡	637	zu	Calpr. Exten	BBB	69 µg/	/g 18.0	4.2	13:40:08	LF-CALE	SK	OK		
ast se	elected T	est Run		1			_	(Amount:	4) Comme	ent st-op 09 00		-	-
Test Par	rameter	T V	est /alidation	Unit		Raw Data	Th	reshold		a. op 33 00			
Control L	ine	V	ALID	mV		1431.66	800	0.00					
Fest Line	•	V.	ALID	mV		603.97	180	.00.00	-				
								•					

The table shown displays the results which are stored in the PC Backup

folder.

By choosing the item "In PC Backup" the results stored in the backup folder are automatically displayed. As long as the result files are not deleted from the PC backup, they remain stored and will be displayed each time the item "In PC Backup" is selected.



* Selected results will be saved into "C:\Dokuments and Settings\All Users\Application Data\LFSuite\ Backup" or "C:\ProgramData\ LFSuite\Backup" or into "C:\...\LFSuite\ Backup" (the exact location depends on the Windows[®] operating system version and your personal computer settings)

5.4 Manage

This function is used for the administration of the Test Methods and User IDs. These can be transferred to and uploaded from the Quantum ${\sf Blue}^{\circledast}$ Reader.

	Methods* Users				
	Method (Test Name)	Product ID	Lot ID	🛉 Move up	
1	CAL_0	LF-CAL	0001		
2	CAL_720	LF-CAL	2905	Move down	
3				X Delete Method	
4					
5				🕂 Add Method	
6				Save Method	
/					
8				_	
9				-	
10				-	
12				Save Methods	
13				To Device	
14				1	
15	Calpr. Extended	LF-CALE	BBB	from Device	

5.4.1 Manage Test Methods



Move the selected Method upwards in the list

Move the selected Method downwards in the list

Delete the selected Method from the list

Add a Method file to the list from a PC folder

Save a Method from the list as a file in a folder on the PC

Attention: All currently stored Methods will be overwritten while saving a fresh list of methods!! If you want to add just ONE new method to the existing Methods on the Quantum Blue[®] Reader, first load all Methods from the Device, the Quantum Blue[®] Reader, then add the new method to a free space (line) in the method list, and finally save the Method list containing all Methods to the Device, the Quantum Blue[®] Reader, again.

5.4.2 Manage User IDs





Editable User ID table. Each User ID can hold up to 10 characters.

Move the selected User ID upwards in the list

Move the selected User ID downwards in the list

Delete the selected User ID from the list

Save the entire list of all User IDs to the Device, the Quantum Blue® Reader. Load the entire list of all User IDs from the Device, the Quantum Blue® Reader.

Attention: All currently stored User IDs will be overwritten while saving a fresh list of user IDs!! If you want to add just ONE new User ID to the existing Users on the Quantum Blue[®] Reader, first load all User IDs from the Device, the Quantum Blue[®] Reader, then add the new User ID to a free space (line) in the users list, and finally save the users list containing all User IDs to the Device, the Quantum Blue[®] Reader, again.

6 USB Device Driver Installation

The exact sequence and appearance of the installation procedure depends on the version of Microsoft Windows $^{\tiny (\! 8\!)}$.

The operating system must provide full USB support.

Ensure that you have sufficient rights for the installation of the drivers (e.g. administrator rights).

If problems should arise during installation, you can de-install the current USB device driver using the Windows[®] control panel.

Installation can be re-started by re-connecting the USB connector.

6.1 USB Device Driver installation for Windows[®] XP

6.1.1 First Steps

Insert the CD-ROM into the CD-ROM drive.

Copy the folder 'Driver' to the computer's desktop

Connect the Quantum Blue[®] Reader with the USB cable.

 $\mathsf{Windows}^{\texttt{®}}$ automatically detects the new USB device. The "New Hardware" assistant appears.

6.1.2 Installation of the USB device driver



Select the last button "No, not this time" to ignore a connection with Windows Update and press "Next".





 Found New Hardware Wizard

 Please choose your search and installation options.

 Image: Search for the best driver in these locations.

 Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.

 Search removable media. The best driver found will be installed.

 Search removable media (floppy, CD-ROM...)

 Image: Include this location in the search:

 C:\Documents and Settings\Desktop\USB Driver

 Don't search. I will choose the driver to install.

 Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.

Select the option "Install from a list or specific location" and press "Next".

Select the option "Don't search, I will choose the driver to install" and press "Next".

Press the "Browse" button to locate the USB Driver folder on the desktopo or on the CD-ROM provided and press "Next".

6.1.3 Installation of the USB virtual COM Port



Please choose your search and installation options.

Please choose your search and installation options.

Search for the best driver in these locations.
Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed.
Search removable media (floppy, CD-ROM...)

Chockude this location in the search:
Chockuments and Settings/Desktop/USB Driver
Browse

Don't search. I will choose the driver to install.
Choose this option bester the driver to install.
Choose this option search the driver to install.
Choose this option to select the driver driver form fait. Windows does not guarantee that the driver you choose will be the best match for your hardware.

 (Back Next) Cancel

Immediately after the installation of the USB device driver the installation of the virtual COM Port will be initiated. Select the last button "No, not this time" and press "Next".

Select the option "Install from a list or specific location" and press "Next".

Click the "Browse" button to locate the USB Driver folder on the desktop or on the CD-ROM provided and press "Next".

Found New	Hardware Wizard	Confirm the next screen by
	Completing the Found New Hardware Wizard The wicard has finished installing the software for: USB to Serial Click Finish to close the wizard.	pressing the button "Continue Anyway".
Hardware	e Installation The software you are installing for this hardware: USB to Serial has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing. Continue Anyway	After completion of the installation process, press "Finish".

6.2 USB Device Driver installation for Windows[®]7

In some cases, the USB Device Drivers for the Quantum Blue[®] Reader may have been incorrectly installed by the automatic installation procedure of the operating system during the first connection of the device to the PC.

Please follow the steps described on the following pages in order to remove the previously installed drivers and to install the correct USB drivers provided with the CD-ROM. Connect the Quantum Blue[®] Reader to the PC Open the "Control Panel" from the start menu



Open: "System"



Open: "Device Manager"

		1410			x
C	🔾 🤜 🖳 🕨 Control Panel 🕨	All Control Panel Items	n	✓ 4y Search Control Panel	Q
	Control Panel Home	View basic information	about your computer		• •
9	Device Manager	Windows edition			- 11
9	Remote settings	Windows 7 Enterprise			
9	System protection	Copyright © 2009 Microso	ft Corporation. All rights reserved.		
•	Advanced system settings				E
		System			
		, Manufacturer:	Hewlett-Packard		
		Rating:	4,9 Windows Experience Index		
		Processor:	Intel(R) Core(TM) i7-2620M CPU @ 2.70GHz 2.70 GHz	QIAGEN	
		Installed memory (RAM):	4,00 GB (2,98 GB usable)		
		System type:	32-bit Operating System		
		Pen and Touch:	No Pen or Touch Input is available for this Display		
	See also	Hewlett-Packard support			- 11
	Action Center	Phone number:	5000 or 00800 2244 5000		
	Windows Update	Website:	Online support		
	Performance Information and Tools	Computer name, domain, and	workgroup settings	· · · ·	

Open "Ports", then open the item called "USB to Serial" (please note that this name might be different in other operating system versions)



First press "Disable"

Then press "Update Driver..."

USB to Serial (COM15) Properties
General Port Settings Driver Details
USB to Serial (COM15)
Driver Provider: FTDI
Driver Date: 22.10.2009
Driver Version: 2.6.0.0
Digital Signer: Not digitally signed
Driver Details To view details about the driver files.
Update Driver To update the driver software for this device.
Roll Back Driver If the device fails after updating the driver, roll back to the previously installed driver.
Disable Disables the selected device.
Uninstall To uninstall the driver (Advanced).
OK Cancel

Select: "Browse my computer for driver software"



Choose the driver location either from your PC or from the CD-ROM using the button "Browse..." and then press "Next"

The second state of the se	X
G Update Driver Software - USB to Serial (COM15)	
Browse for driver software on your computer	
Search for driver software in this location:	
C:\ESAL90-SO-0010 USB Driver	Browse
 Include subfolders Let me pick from a list of device drivers on my compute This list will show installed driver software compatible with the device, an software in the same category as the device. 	er nd all driver
	Next Cancel

On the driver installation confirmation window press: "Close"

Then open the Device Manager under "Universal Serial Bus controllers" the item called "USB to Serial" (please note that this name might be different in other operating system versions).



First press "Disable", then press "Update Driver..."

USB to Serial (COM15) Properties			
General Port Settings Driver Details			
USB to Serial (COM15)			
Driver Provider: FTDI			
Driver Date: 22.10.2009			
Driver Version: 2.6.0.0			
Digital Signer: Not digitally signed			
Driver Details To view details about the driver files.			
Update Driver To update the driver software for this device.			
Roll Back Driver If the device fails after updating the driver, roll back to the previously installed driver.			
Disable Disables the selected device.			
Uninstall To uninstall the driver (Advanced).			
OK Cancel			

Select: "Browse my computer for driver software"

	E re-adhana	×
	Update Driver Software - USB to Serial	
1	low do you want to search for driver software?	
	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
	Browse my computer for driver software Locate and install driver software manually.	
		Cancel

Choose the driver location either from your PC or from the CD-ROM using the button "Browse..." and then press "Next"



On the driver installation confirmation window press: "Close"

The Quantum Blue[®] Reader should now be ready to be controlled by the QB Soft Software.

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CE

