
CE
1639



Barco NV
President Kennedypark 35
8500 Kortrijk
Belgium

User Guide - QAWeb Enterprise Agent

Release 2.6

K5902156 / 09

Mar 04, 2021

CONTENTS

1	Links to documentation	1
2	Agent System requirements	3
2.1	Operating System requirements	3
2.2	Agent operating mode	3
2.3	Workstation networking requirements	3
2.4	Supported external optical sensors	4
2.5	Supported displays	5
3	Installing the QAWeb agent	7
3.1	Installation overview	7
3.2	Downloading the agent installation software	7
3.3	Installing the agent using the graphical installation wizard	7
3.4	Installing the agent via the command-line	9
3.5	Post installation steps	9
3.6	Instructions for ‘ghosting’	9
3.7	Using barcoconfig.exe to modify the agent configuration	10
4	User interface overview	13
4.1	Icon in the Windows notification area	13
4.2	Status panel and workstation details	13
5	Using the Status panel	15
5.1	Current QA status	16
5.2	Due tasks requiring user intervention	16
5.3	Current ambient light indication	16
5.4	Unlocking the display menu	17
5.5	Refreshing the server policy	17
5.6	Displaying test patterns	17
6	Using the Workstation Details	19
6.1	Opening the Portal	19
6.2	Tasks	19
6.3	Components	20
7	Important information	21
7.1	Release notes	21
7.2	Indications for use	21
7.3	Intended usage environment	21
7.4	Contra-indications	21
7.5	Intended users	21
7.6	Report a Security Vulnerability / Incident	22
7.7	How to retrieve version and product label information	22
7.8	Disclaimer notice	22
7.9	Trademarks	22

7.10	Copyright notice	22
7.11	Explanation of symbols	22
7.12	Open source components used	23

LINKS TO DOCUMENTATION

User guides:

- [QAWeb Enterprise Portal user guide \(https://documentation-qaweb.healthcare.barco.com\)](https://documentation-qaweb.healthcare.barco.com)
- [QAWeb Enterprise Agent user guide \(this document\) \(https://documentation-qaweb-agent.healthcare.barco.com\)](https://documentation-qaweb-agent.healthcare.barco.com)
- [Supported Barco displays \(https://www.barco.com/en/support/docs/TDE10174\)](https://www.barco.com/en/support/docs/TDE10174)

Support:

- [QAWeb Enterprise Support page \(https://www.barco.com/en/support/qaweb-enterprise\)](https://www.barco.com/en/support/qaweb-enterprise)
- [Support page: documents and user guides \(PDF\) \(https://www.barco.com/en/support/qaweb-enterprise/docs\)](https://www.barco.com/en/support/qaweb-enterprise/docs)
- [Support page: Knowledge base \(https://www.barco.com/en/support/qaweb%20enterprise/knowledge-base\)](https://www.barco.com/en/support/qaweb%20enterprise/knowledge-base)

General Product information:

- [QAWeb Enterprise landing page \(https://www.barco.com/qaweb\)](https://www.barco.com/qaweb)
- [Release notes \(https://www.barco.com/en/support/docs/TDE10170\)](https://www.barco.com/en/support/docs/TDE10170)
- [QAWeb Enterprise Security and Connectivity FAQ \(https://www.barco.com/services/website/en/TdeFiles/Download?FileNumber\)](https://www.barco.com/services/website/en/TdeFiles/Download?FileNumber)
- [Product privacy statement \(https://www.barco.com/en/about-barco/legal/privacy-policy/product-privacy-statement#qawebe\)](https://www.barco.com/en/about-barco/legal/privacy-policy/product-privacy-statement#qawebe)

AGENT SYSTEM REQUIREMENTS

2.1 Operating System requirements

This only applies to workstations on which the agent is installed.

QAWeb Enterprise Agent is supported on the following operating systems:

- Microsoft Windows 7 64-bit
- Microsoft Windows 10 64-bit

To ensure correct calibration conditions for diagnostic images viewed on your displays, please make sure that the Night Light feature in Windows 10 is disabled.

It is recommended to frequently apply security updates to the workstation and to use an up-to-date antivirus solution.

2.2 Agent operating mode

When deploying QAWeb Enterprise, consider the operating mode that matches your needs.

- **Online mode:** The agent uses a network connection to communicate to the QAWeb Enterprise online service, enabling a centralized overview and configuration. Calibration and QA tests are controlled by policies, and the results are stored in the online service, accessible by opening the QAWeb Enterprise portal with a supported web browser.
- **Stand-alone mode:** In the stand-alone operating mode, the agent does not use any network connection. Configuration, calibration and QA tests are limited at the level of workstation. Use this mode only when no network connection is available. **Important: This mode is currently not yet available and will be added in a next release.**

To fully benefit of all the advantages of QAWeb Enterprise, Barco recommends to use the agent in online mode.

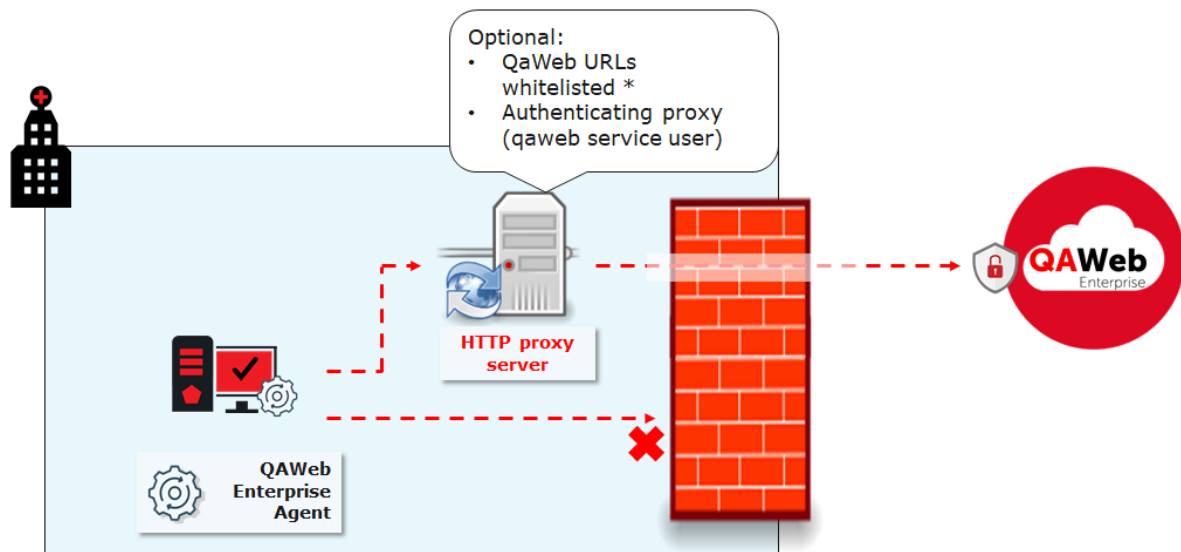
2.3 Workstation networking requirements

When using the agent in **online mode**, the workstation requires access to the following URLs hosted by the Barco QAWeb Enterprise online service:

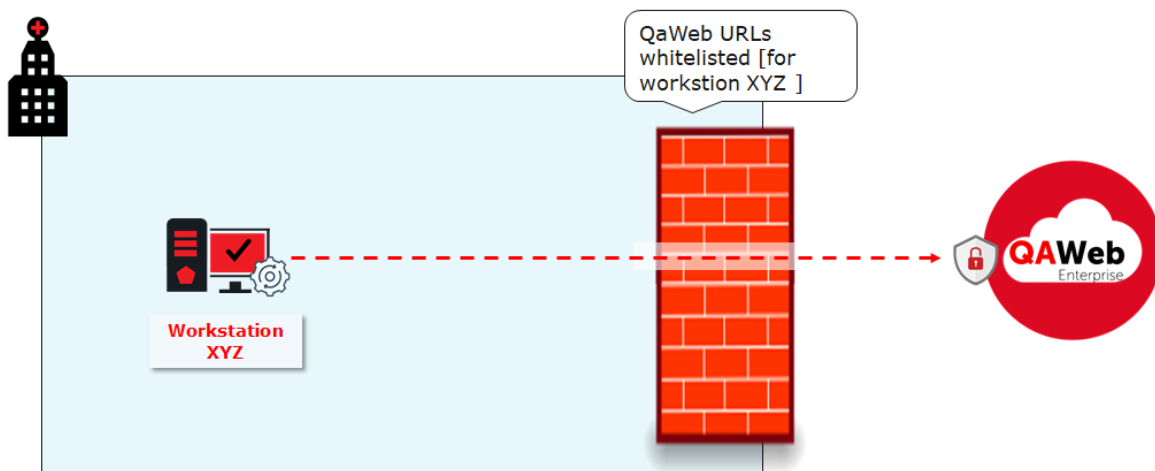
```
https://qaweb.healthcare.barco.com
https://qawebapi.healthcare.barco.com
https://documentation-qaweb.healthcare.barco.com
https://auth.healthcare.barco.com
https://qawebdata.healthcare.barco.com
https://a3n9amleodurj6-ats.iot.eu-west-1.amazonaws.com
```

For networks where HTTP traffic is only allowed through an HTTP proxy server, you will need to gather the proxy server information prior to installation of the agent. If the proxy server supports authentication, we recommended

creating one username/password that will be used for all QAWeb Enterprise agent installations. Note that the QAWeb agent must execute as a Windows Local System account - the agent cannot execute as a domain user and also perform proxy authentication.



If no proxy server is used, but firewall rules are limiting outbound internet communication, the whitelisting should be performed based on the workstation hostnames (and not using domain credentials, because the QAWeb Enterprise service should run as a Windows Local System account as described above)



2.4 Supported external optical sensors

The following optical sensors for display measurement and calibration are supported by QAWeb Enterprise:

- Barco LCD sensor MKII (P/N B4100035)
- LXCan sensor (USB)
- Raysafe X2

To use the Raysafe X2, make sure to install .NET framework 4.5 or higher and restart the computer. Also, a zero adjustment should be performed before measuring.

2.5 Supported displays

Note: It is strongly recommended to connect all displays to the workstation with a USB cable. This improves the stability of the communication between agent and display, and increases the execution speed of certain operations.

Note: The following displays always require a USB connection. MDNG-2120, MDNG-3220, MDNC-2221, MDRC-1219, MDRC-2122, MDRC-2221, MDRC-2222, MDRC-2224, MDRC-2321, MDRC-2324.

To view the list of supported Barco displays:

- Navigate to the Qaweb Enterprise support page (<https://www.barco.com/en/support/qaweb%20enterprise>) and download the technical note “QAWeb Enterprise supported Barco displays”
- Alternatively, download this document using a direct link: <https://www.barco.com/en/support/docs/TDE10174>

If a legacy Barco display is not supported, it will be treated as a third-party display and communication with the internal sensors isn't possible. An external sensor will be required for calibration and all QA tests.

INSTALLING THE QAWEB AGENT

3.1 Installation overview

Before installing the software on a workstation, refer to the system requirements (See *Agent System requirements* (page 3)). Additionally, note that installing the QAWeb agent requires administrative privileges on the workstation.

The installation can be performed in two ways:

- Using the graphical installation wizard.
- Using the command-line interface. This allows installing the QAWeb agent on a large number of workstations using automated software deployment tools.

If an older QAWeb Enterprise agent version is already installed, it will be automatically upgraded by the installation process. It is not required to first uninstall the older version.

When the QAWeb agent will be installed for use in *online mode*:

- Using the QAWeb Enterprise Portal, retrieve the **organization ID** and **registration key** of your QAWeb Enterprise organization. This will be used to register the workstation with your organization during the installation process.
- If an HTTP proxy server needs be used for accessing the online service, have the configuration details available (server hostname or address, port, user and password).

3.2 Downloading the agent installation software

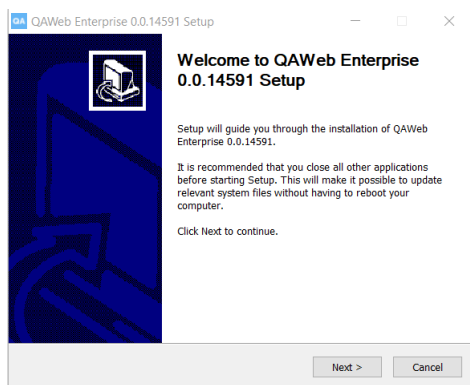
The latest version of the QAWeb agent software can be downloaded from the QAWeb Enterprise Portal:

1. Login into to the portal (<https://qaweb.healthcare.barco.com>).
2. Click **Administration** in the header menu.
3. Click **My organization** in the side menu.
4. Click the **Download** button to download the QAWeb Enterprise Agent installer.

3.3 Installing the agent using the graphical installation wizard

Launch the graphical installation wizard by executing **qaweb-agent-installer.exe**.

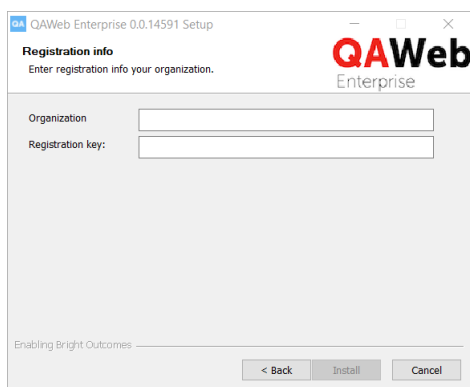
1. On the first page, click the *Next* button.



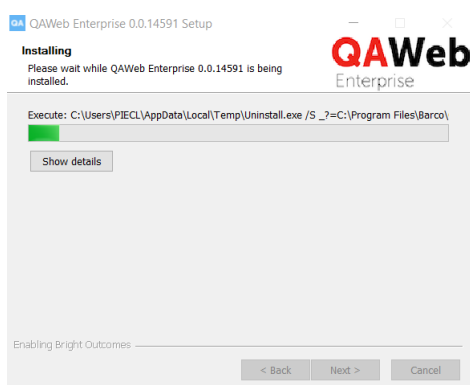
2. Configure the HTTP proxy server settings.



3. Enter the organization ID and registration key.



4. Wait until the software installation is completed.



5. At the end of the installation procedure. Optionally, check the 'connectivity test' checkbox to test the access to the online service.

3.4 Installing the agent via the command-line

Command-line installation requires the following arguments:

```
qaweb-agent-installer.exe /S /ORG <organization ID> /REGKEY <registrationkey>
```

Note: Please note that all options are case sensitive.

Additionally, the following command line parameters can be used:

- /PROXY_NAME to specify the hostname of the proxy server
- /PROXY_PORT to specify the port number of the proxy server
- /PROXY_USR to specify the username needed for proxy authentication (if required)
- /PROXY_PWD to specify the password needed for proxy authentication (if required)
- /WORKSTATION_DETAIL_SHORTCUT to add a shortcut to the desktop to open the workstation detail window of the agent

To uninstall the agent via command-line, use the following command:

```
qaweb-agent-installer.exe /S /X
```

3.5 Post installation steps

When the installation and registration procedure has been successful, the QAWeb Enterprise agent icon will appear in the Windows notification area. **It is recommended to configure Windows to always show this icon in the notification area.**

Immediately after successful installation and registration, the agent may start several QA tests and apply display settings. The agent will evaluate which tasks to perform based on the following default values:

- The displays connected to the workstation are given a default use (based on the Barco display model).
- A default ambient light value of 35 lux will be used to calculate the reflected ambient light during calibration and QA tests.

3.6 Instructions for 'ghosting'

The term 'ghosting' refers to the practice of making an image of the entire operating system and installed software, which subsequently is applied / restored to different workstations in order to provide the end-users a reliable and controlled environment.

When making a ghost image of a workstation with QAWeb Enterprise agent, it is important to **make sure the agent is in an unregistered state** and to **perform the registration process after restoring the image.**

The executable **RegisterAgent.exe** (located in the QAWeb Enterprise installation directory) can be used to execute agent registration after the actual installation has been performed.

It can be launched in two ways:

- Using a graphical interface: By double-clicking RegisterAgent.exe or launching it without arguments
- Using command-line arguments:

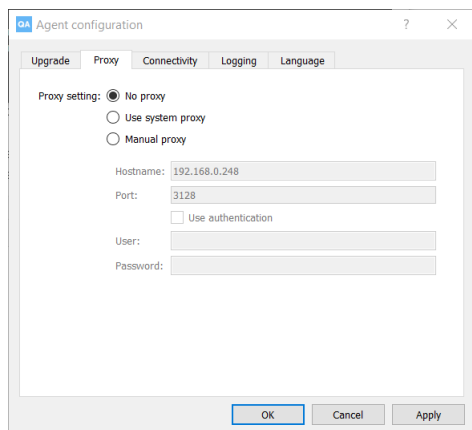
```
RegisterAgent.exe --key <registration key> --organization <organization ID>
```

3.7 Using barcoconfig.exe to modify the agent configuration

A number settings can be modified after registration using the executable **barcoconfig.exe**, located in the installation directory (C:\Program Files\Barco\QAWeb)

3.7.1 Configuring the HTTP proxy server

Open the tab 'Proxy' to modify the HTTP proxy settings.

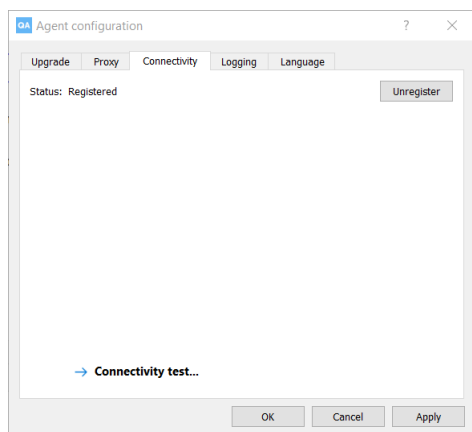


3.7.2 Modifying agent registration after installation

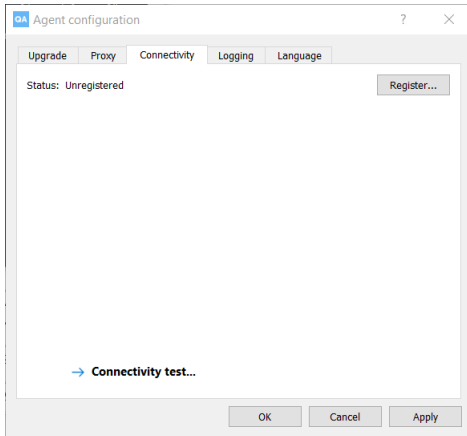
Registration to the online service can be performed after installation using barcoconfig.exe. This may be required when registration was skipped during the installation process, or when the agent was registered to a different organization than required, or for troubleshooting reasons.

Open the tab **Connectivity** to view the current registration status.

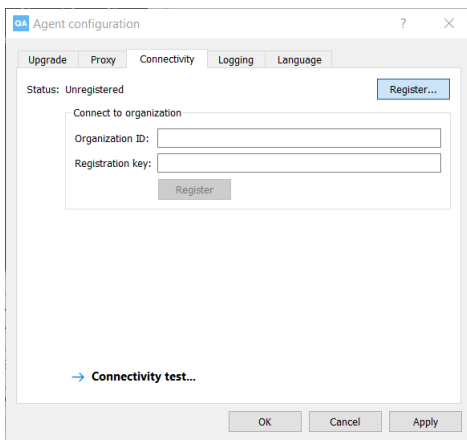
If the agent currently is registered, the button **Unregister** is available.



If the agent currently is not registered, the button **Register** is available.



When prompted, enter the **organization ID** and **registration key**.






3.7.3 Connectivity test

A connectivity test can be launched to assist in diagnosing network connectivity problems. To launch this test, open the tab **Connectivity**, and click the **Connectivity Test** button.

USER INTERFACE OVERVIEW


4.1 Icon in the Windows notification area

The icon in the notification area of the operating system reflects the current QA status of the workstation.

-  **Compliant:** All QA tests have a *compliant* QA status. There currently are no QA tests due for execution.
-  **Awaiting Results:** At least one task is due for execution.
-  **Not compliant:** At least one QA test has a *Not compliant* QA status because it failed to pass the test criteria.

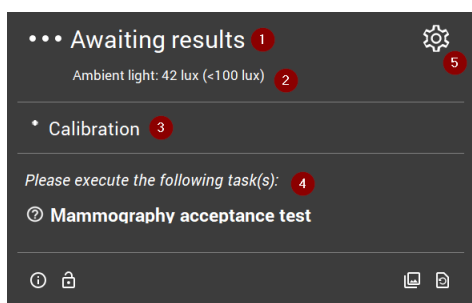
4.2 Status panel and workstation details


The QAWeb interface user interface consists of the following elements:

- The QAWeb agent **status panel** displays summarized information to the user of the workstation. Open the status panel by left-clicking the QAweb agent icon in the Windows notification area. See *Using the Status panel* (page 15).
- The **Workstation detail window** is primarily intended for users that need more detailed information on calibration, QA tests or system configuration. It can be opened from the status panel by clicking on the  icon. See *Using the Workstation Details* (page 19).





USING THE STATUS PANEL

The QAWeb status panel is accessible by left-clicking the QAweb agent icon in the Windows notification area.







- **1** Indicates the current QA Status. See *Current QA status* (page 16)
- **2** Indicates the current measured ambient light (illuminance). See *Current ambient light indication* (page 16)
- **3** If a task is current currently being executed, it is shown in this area.
- **4** This area shows due tasks that require intervention by a user. See *Due tasks requiring user intervention* (page 16)
- **5** Click  to open the workstation details.

The bottom area of the status panel contains a number of buttons:

-  See *Unlocking the display menu* (page 17)
-  See *Refreshing the server policy* (page 17)
-  See *Displaying test patterns* (page 17)
-  See *How to retrieve version and product label information* (page 22)

5.1 Current QA status

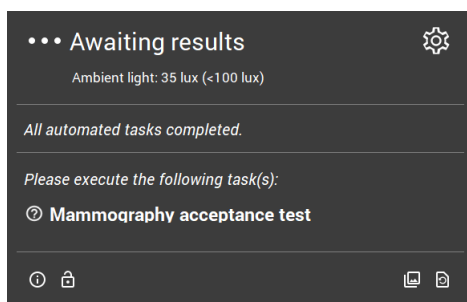
The combined status of calibration and QA tests is summarized into a single QA status indicator. It can have the following values:

-  **Compliant:** All QA tests have a *compliant* QA status. There currently are no QA tests due for execution.
-  **Awaiting Results:** At least one task is due for execution.
-  **Not compliant:** At least one QA test has a *Not compliant* QA status because it failed to pass the test criteria.
-  **Warning:** There is a technical issue that needs to be resolved.

5.2 Due tasks requiring user intervention

The QAWeb agent will automatically execute automated tasks in the background. Some tasks, however, require user intervention. Typical examples of tasks requiring user intervention are tasks involving a visual test pattern, or tasks using measurements with an external optical sensor.

Due tasks requiring user intervention are listed in the status panel.



Left-click a due task in the status panel to start its execution. When the task has been completed, it will be removed from the status panel until the next time it becomes due.

For more information on viewing the details of calibration and QA tasks, see [Tasks](#) (page 19).

5.3 Current ambient light indication

Note: Ambient light indication requires a Barco display with integrated ambient light sensor.

The QAWeb agent will periodically measure ambient light (a measurement is made every minute and the last 3 measurements are combined to eliminate temporary fluctuations). This value is displayed on the status panel. If multiple displays with a supported sensor are present, the average of the measurements between multiple displays is calculated.


Optionally, an ambient light policy can be configured to notify the end-user when the ambient light exceeds a configurable limit. When this ambient light policy is active for the agent, a pop-up window will appear on the workstation when the limit is exceeded, reminding the user to reduce ambient light. The user has the option to disable these pop-up warnings for the rest of the day (for example, if no more diagnostic readings will be done for this day).

For more information on the configuration of ambient light policies, refer to the QAWeb Enterprise Portal user guide.

5.4 Unlocking the display menu


The QAWeb agent automatically locks the display menu (OSD menu, On-Screen-Display menu) to prevent that users accidentally modify the calibration settings. The display menu can be temporarily unlocked, for example for service reasons or performing a factory reset.

To unlock the display menu:

1. Open the panel by clicking on the QAweb agent icon in the Windows notification area.
2. Click the  icon.
3. Click the 'Unlock' button to confirm.


The display menu is now unlocked for the duration of one hour, or until the QAWeb agent is restarted, after which the display menu is automatically locked again.

5.5 Refreshing the server policy

When the agent is used in the online mode, the calibration and QA policy are configured using the QAWeb Enterprise Web Portal. When changes are made to a policy using the portal, it may take up to one hour for the agent to adopt these changes. As this delay may be inconvenient during testing or troubleshooting, the reloading of the policies can be forced by clicking the  icon.


5.6 Displaying test patterns

Test patterns can be used to evaluate the display characteristics through visual inspection or using an external luminance sensor.

After clicking the  icon, a window containing the available test patterns will appear. Select the pattern to be displayed.

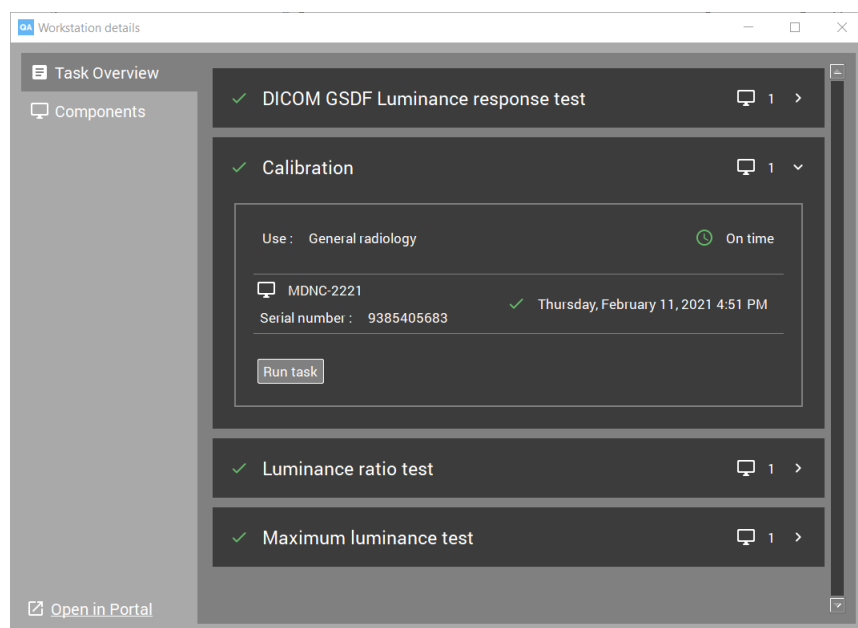
USING THE WORKSTATION DETAILS


6.1 Opening the Portal

Click on the  icon (Open in Portal) to open the workstation details page in the QAWeb Enterprise Portal using the default internet browser application (requires Portal user authentication).

6.2 Tasks

The **tasks** window indicates which calibration tasks and QA tests are applicable to the workstation. This is determined by the applicable calibration policy, the applicable QA policy, and the configured use of the displays connected to the workstation.



Click on the  icon to display more information of each task.

To manually start a calibration or QA test:

1. Expand the details of the task.
2. Click the the **Run task** button.

In the current version, viewing the detailed task results on the agent is not yet available. Use the QAWeb Enterprise Web Portal to view the detailed results.

6.3 Components

The **components** window shows which displays are currently connected to the workstation. For each display, the configured use is indicated.



To verify the physical location positioning of the displays, click the **Identify** button. A display number indication will be temporarily shown on each display.

IMPORTANT INFORMATION

7.1 Release notes

Navigate to the Qaweb Enterprise support page (<https://www.barco.com/en/support/qaweb%20enterprise>) and download the release notes document: “QAWeb Enterprise Release Notes”

Alternatively, download the release notes using a direct link: <https://www.barco.com/en/support/docs/TDE10170>

7.2 Indications for use

QAWeb Enterprise software is intended to be used as a quality assurance tool for medical imaging display systems individually and across an enterprise. It helps achieve consistent conformity to medical display settings, standards and guidelines for digital images being reviewed by trained medical practitioners.

7.3 Intended usage environment

There are no intended conditions for use applicable.

7.4 Contra-indications

There are no contra-indications.

7.5 Intended users

QAWeb Enterprise is intended to be used by following user profiles:

- PACS / IT technicians and administrators
- Medical physicists
- Medically trained practitioners
- Trained service providers

7.6 Report a Security Vulnerability / Incident

If you discover a vulnerability, we would like to know about it so we can take steps to address it as quickly as possible:
<https://www.barco.com/en/about-barco/legal/responsible-disclosure>

7.7 How to retrieve version and product label information

To access the current version, product label, legal manufacturer and manufacturing date:

1. Open the status panel by left-clicking the QAWeb Enterprise icon in the Windows notification area.
2. Click the 'About' icon .

7.8 Disclaimer notice

Although every attempt has been made to achieve technical accuracy in this document, we assume no responsibility for errors that may be found. Our goal is to provide you with the most accurate and usable documentation possible; if you discover errors, please let us know.

Barco software products are the property of Barco. They are distributed under copyright by Barco NV or Barco Inc., for use only under the specific terms of a software license agreement between Barco NV or Barco Inc. and the licensee. No other use, duplication, or disclosure of a Barco software product, in any form, is authorized.

The specifications of Barco products are subject to change without notice.

7.9 Trademarks

All trademarks and registered trademarks are property of their respective owners.





7.10 Copyright notice

This document is copyrighted. All rights are reserved. Neither this document, nor any part of it, may be reproduced or copied in any form or by any means - graphical, electronic, or mechanical including photocopying, taping or information storage and retrieval systems - without written permission of Barco.

© 2018 Barco NV all rights reserved.

7.11 Explanation of symbols

In QAWeb Enterprise (Agent and Web Client), you may find the following symbols (non-exhaustive list):

-  Legal manufacturer
-  Manufacturing date
-  **Rx** ONLY Caution: Federal law (United States of America) restricts this device to sale by or on the order of a licensed healthcare practitioner
-  Consult the electronic operating instructions



- **1639** Indicates the device meets the requirements of the applicable EC directives / regulations

7.12 Open source components used

- LibUSB (GNU LGPL 2.1)
- Qt5 (<http://doc.qt.io/qt-5/licenses-used-in-qt.html> (only chapters Qt Core, Qt D-Bus, Qt Gui are applicable))
- LittleCMS (MIT)