This quick reference guide summarizes the procedures for installing and setting up the AriaDx Real-Time PCR system and running experiments on the system. The full-length Set Up and User Guide is available as a PDF on the Aria software CD.

**Intended Use**
The AriaDx Real-Time PCR Dx instrument is a fully integrated quantitative PCR amplification, detection, and data analysis system for nucleic acids samples.

The instrument is to be used only by operators trained in laboratory techniques and procedures.

The customer is responsible for validation of assays and compliance with regulatory requirements that pertain to their procedures and uses of the instrument.

**Notice**
Each laboratory must validate their own assays for use on the AriaDx Real-Time PCR System. Assays must include controls designed to detect inconsistencies in instrument performance due to, for example, changes in optical performance or thermal block uniformity.

**Materials Provided**

<table>
<thead>
<tr>
<th>Materials provided</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AriaDx instrument</td>
<td>1</td>
</tr>
<tr>
<td>Certificate of Conformance</td>
<td>1</td>
</tr>
<tr>
<td>AriaDx installation poster</td>
<td>1</td>
</tr>
<tr>
<td>Power cord</td>
<td>1</td>
</tr>
<tr>
<td>Optical modules</td>
<td>Up to 6 optical modules, as selected by the user</td>
</tr>
<tr>
<td>Aria software CD</td>
<td>1</td>
</tr>
</tbody>
</table>

The AriaDx instrument, the Certificate of Conformance, and the AriaDx installation poster are all shipped together in the same shipping container. The power cord, optical modules, and software CD are each shipped in their own packaging.
Safety precautions

This product is designed for convenient and reliable operation, and to accepted standards of safety. Its use does not entail any hazard if operated in accordance with the instructions given in this document. However, incorrect operation may cause damage to the equipment or cause a hazard to health. It is important that the following safety precautions are read and understood before using the instrument. All users must read and understand the Setup and User Guide and only operate the unit in accordance with the instructions given. Failure to follow instructions may cause the protection provided by the instrument to be impaired.

Electrical

Standard electrical safety precautions should be applied, including the following:

• Always put the instrument in a location where, if needed, the power supply can be immediately disconnected.
• Proper voltage (100–240 VAC) must be supplied before you turn on the instrument for the first time.
• The device must be connected to a grounded socket. Do not operate the instrument from a power outlet that has no ground connection.
• Do not touch any switches or outlets with wet hands.
• Turn off the instrument before you disconnect the power cord.
• Unplug the instrument before you clean any major liquid spills and before you service any of the electrical or internal components.
• Do not connect the instrument to the same power strip as other high power-draw appliances (e.g., refrigerators and centrifuges).
• Do not service the electrical components unless you are qualified to do so.

Fluids and Reagents

• Fill reaction vessels outside the instrument so that no fluids penetrate the instrument.
• Never cycle or incubate explosive, flammable and reactive substances in the instrument.
• You must observe the relevant safety regulations when handling pathogenic material, radioactive substances or other substances hazardous to health.
• Do not submerge the instrument in any liquid.

Danger of Burns

• Do not touch the thermal block, inner side of heated lid and reaction vessels. These areas quickly attain temperatures of greater than 50°C. Keep the heated lid closed until temperatures of 30°C or lower are reached.
• Do not use any materials (plates, sealings, foils, mats) which are not sufficiently temperature-stable (up to 120°C).

Operating Environment

• The ventilation slots of the device must remain free to vent at all times. Leave at least 10 cm of space around the instrument.
• Keep the ambient temperature between 20°C and 30°C with humidity levels between 20% and 80% non-condensing.
• Do not operate the instrument in a hazardous or potentially explosive environment.
• Do not attempt to open the instrument door when the instrument is running an experiment.

Equipment Ratings

• Pollution degree 2
• Installation category II
• Altitude 2000 m
• Humidity 20 to 80%, non-condensing
• Electrical supply 100-240 VAC, 50/60 Hz, 1100VA
• Temperature 20°C to 30°C
• For Indoor Use Only

Electrostatic Discharge

The instrument is static sensitive. Electrostatic discharges greater than 8000 volts may interfere with the normal operation of the USB ports on the instrument. Handling precautions are required when working in high static environments. Wear a grounded wrist strap and take other antistatic precautions prior to making contact with the device in high static environments. ESD STM5.1-1998 Class 3B.
The AriaDx Real-Time PCR System complies to IEC 61326-2-6 standards that governs Electromagnetic Compliance for IVD medical equipment. This equipment has been designed and tested to CISPR 11 Class A. In a domestic environment it may cause radio interference, in which case, you may need to take measures to mitigate the interference. It is therefore advisable to choose a suitable electromagnetic environment for the AriaDx instrument prior to use.

Safety Symbols
The electrical/safety symbols described below may be displayed on the instrument.

Select a Location
Locate a solid, flat clean surface for the instrument. Make sure that:
- The instrument can stand completely stable.
- The rear air slots must not be covered.
- The instrument has at least 10 cm (approximately 4 inches) to the next wall or neighboring instrument.
- The instrument is not located near anything that could be a source of vibrations.
- The temperature (normal ambient) is between 20°C and 30°C with humidity levels between 20% and 80% non-condensing.
- The atmosphere is not explosive.

Unpack the Shipping Containers
The AriaDx instrument is shipped in two separate containers. The small container holds the power cord. The large container holds the instrument and accessory tray. Any optical modules that you ordered with the instrument are each packed and shipped separately in their own box. The software CD is also packed and shipped separately.

1. Open the small shipping container that holds the power cord. Remove the power cord and set it aside for now.
2. Make sure that the large shipping container is in the upright position, then cut the four plastic straps that hold the container together.
3. Open the top flaps of the large container. Inside the container is an accessory tray, which contains the Certificate of Conformance and the installation poster.
4. Remove the accessory tray. Unpack the installation poster from the accessory tray and use it to guide you through the remainder of the unpacking process.
5. Remove the foam support that sits on top of the instrument in the shipping container.
6. Grip a handle on each side of the shipping container and lift up to remove the box sleeve that surrounds the instrument. The instrument sits on the base of the shipping container.
7. Remove the plastic wrapping from the instrument.
8. Lift the instrument off of the shipping container base and set it down on its selected location. Agilent recommends that two people lift the instrument together.

Install Optical Modules
1. Open the instrument door by lifting up on the handle on the top of the instrument. Lift the door all the way up and back.
2. Remove the piece of foam and then remove the strip of cardboard from around the thermal block assembly. The optical module housing carrier is positioned to the left of the thermal block assembly.
3. Slide the optical module housing carrier to the right until it is centered in the opening of the instrument door. Use the indentation on the top of the carrier to help slide it.
4 Open the lid on the optical module housing carrier.
   a With your thumb and index finger, pinch together the two pieces of plastic in the indentation on the top 
      of the carrier.
   b Lift the lid all the way back to reveal the six slots for the optical modules.
5 Open the boxes containing the optical modules. Remove the top piece of foam from each box then remove 
   the plastic bag containing the optical module.
6 Install the optical modules.
   a Open the plastic bag and remove the optical module.
   b Peel off the plastic film from the edge of the optical module. Once the film is removed, do not to touch 
      the exposed edge.
   c Put the optical module into an available slot in the optical module housing. The correct orientation for 
      the optical module is label side up with the Agilent spark closer to the front of the instrument.
      **NOTE:** If you are installing fewer than six optical modules, make sure that the empty slots are on the 
      right-most side of the housing.
7 Lower the lid on the optical module housing until it clicks shut. When you turn on the instrument for the 
   first time, it will prompt you to calibrate the background for the optical modules.

**Clean the Thermal Block**
With the instrument door still open, clean the outside and inside surfaces of the thermal block.
1 Lift the lid of the thermal block by pulling forward on the handle of the lid and then lifting the lid up and 
   away from the thermal block.
2 Using an aerosol can of compressed air, clean out the wells of the thermal block. Hold the can 8–10 cm 
   away from the thermal block as you press the trigger.
3 Moisten a lint-free cleansing tissue with deionized H2O, and gently wipe down the thermal block and the 
   underside of the lid. Then, close the lid of the thermal block and wipe down the top of the lid.
4 Close the instrument door.

**Connect Power Cord and USB Devices**
1 Plug the power cord into the power connector at the rear of the instrument. Connect the cable plug to a 
   grounded AC outlet. See “Safety precautions” on page 2 for information on electrical safety requirements.
2 Plug the USB cable of a keyboard and/or mouse into a USB port on the front or back of the instrument.

**Connect to a PC or Network**
Connect the instrument to a PC, either directly or though a network. If you do not connect your instrument to 
   a PC, you must transfer post-run experiment data by copying it from the instrument to a USB drive (FAT 
   format), and then from the USB drive to your PC.

**To connect the instrument to a network:**
1 Plug one end of an ethernet cable into the ethernet port on the back of the instrument. Use a standard Cat 
   6 straight/crossover ethernet cable.
2 Plug the other end of the cable into a network port.

**To connect the instrument directly to a PC:**
1 Plug one end of an ethernet cable into the ethernet port on the back of the instrument. Use a standard Cat 
   6 straight/crossover ethernet cable.
2 Plug the other end of the cable into the PC.
3 After you turn on the AriaDx instrument, set a static IP address, subnet mask, and default gateway on the 
   instrument using the instructions below.
   **NOTE:** The first time you turn on the instrument, you are prompted to calibrate the background for the 
   optical modules. Refer to the *AriaDx Real-Time PCR System Set Up and User Guide* for information on 
   this calibration. Once the calibration is complete, you can continue with the instructions below.
   a On the Home screen of the AriaDx touchscreen, press **Settings**.
   b Press **Connection Settings**. If you see an error message that no network connection is detected, press 
      **OK** to close the error message.
   c On the Connection Settings screen, select **Use Manual Configuration**.
d  In the IP Address, Subnet Mask, and Default Gateway fields, enter the values shown in the screen shot below. Press OK.

4  On the PC, set a static IP address, subnet mask, and default gateway using the instructions below.
   a  Open the Control Panel to the Network and Sharing Center.
   b  Under **View your active networks**, click **Local Area Connection**. The Local Area Connection Status dialog box opens.
   c  In the Local Area Connection Status dialog box, click **Properties**. The Local Area Connection Properties dialog box opens.
   d  In the list of items under **This connection uses the following items**, double-click **Internet Protocol Version 4 (TCP/IPv4)**. The Internet Protocol Version 4 (TCP/IPv4) Properties dialog box opens.
   e  On the General tab of the dialog box, select **Use the following IP address** and set the IP address, subnet mask, and default gateway to the values shown in the screen shot below. Click **OK** to close the dialog box.

### Minimum Requirements

Before installing the Aria software, see the table below for the minimum PC requirements needed to run the software.

<table>
<thead>
<tr>
<th>Operating system</th>
<th>Windows 7 (Professional and Ultimate editions) or Windows 10 (Home and Professional editions)</th>
</tr>
</thead>
</table>
| Supported architectures           | x86 (32 bit) supported on Windows 7  
                                    | x64 (64 bit) supported on Windows 7 and Windows 10                                           |
| Programs*                         | Microsoft .NET Framework 4.0  
                                    | Runtime components of Microsoft Visual C++ 2010 Libraries  
                                    | Microsoft SQL Server 2012 (required only for Electronic Tracking version of the software) |
| Processor                         | 2 GHz Dual Core Processor                                                   |
| Working memory (RAM)              | 2 GB (more is recommended)                                                    |
| Hard disk space                   | 40 GB                                                                            |
| Display resolution                | 1024 × 768 (1280 × 1024 is recommended)                                        |

* Installers for Microsoft .NET Framework 4.0 and Microsoft SQL Server 2012 are provided on the Aria software CD. See the *AriaDx Real-Time PCR System Set Up and User Guide* for installation instructions for those applications. If you do not have the needed Microsoft Visual C++ 2010 components, then the Aria installer will automatically install them to your PC when you initiate installation of the Aria software.

### Install the Standard Aria software

The instructions provided here are for the installation of the standard Aria software. If you purchased the Aria Electronic Tracking (ET) software option with 21 CFR Part 11-compatible features, use the installation instructions in the *AriaDx Real-Time PCR System Set Up and User Guide*.

Before you install the software using the provided CD, check www.agilent.com/genomics/AriaDx to see if a newer version is available for download.

1  Insert the provided CD into the CD drive of your PC.
   **NOTE:** If you connected your instrument directly to a PC, install the software on that PC. If you connected
your instrument to a network, install the software on a network PC. You can install the standard Aria software on an unlimited number of PCs.

2 In Windows Explorer, open the contents of the CD.

3 Open the Aria PC Software Installer subfolder. In this subfolder, double-click the file called *Agilent Aria Software Setup X.X.exe* (where X.X is the software version). The software installation wizard starts.

   Following the file extraction process, the wizard opens to the Welcome window.

   **NOTE:** If you receive an error message stating that Microsoft .NET Framework 4.0 needs to be installed, cancel the installation of the Aria software and install Microsoft .NET Framework 4.0 first. An installer for Microsoft .NET Framework 4.0 is provided on the CD.

4 On the Welcome window, click **Next** to continue with the installation. The License Agreement window opens.

5 If you accept the terms of this agreement, select **I agree to the terms in the license agreement** and click **Next**.

6 In the Application Mode window, select **AriaDx** and click **Next**.

   **NOTE:** The AriaDx mode of the software is only compatible with the AriaDx instrument. The AriaMx mode of the software is only compatible with the AriaMx instrument.

7 In the Setup Type window, select **Standard** and click **Next**.

8 Designate a folder for the software files. The default folder is `C:\Program Files (x86)\Agilent\Agilent Aria`. 

   • If you want to install the software to the default folder, click **Next** to continue.

   • If you want to designate a different folder, click **Change** in the Destination Folder window. In the dialog box that opens, browse to the desired folder, select the folder, and click **Open**. Then, in the Destination Folder window, click **Next** to continue.

   The Ready to Install window opens.

9 Click **Install**. The wizard installs the Aria software to the folder designated in step 8. When installation is complete, the InstallShield Wizard Completed window opens.

10 Click **Finish** to close the software installation wizard.

After installation is complete, the software is ready to launch. To launch the Aria software from the Start menu, click **All Programs > Agilent > Agilent Aria > Agilent Aria X.X** (where X.X is the software version). The software opens to the Getting Started screen.

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### Preparing and Running Experiments

#### Prepare Samples

When preparing the PCR reactions, follow the guidelines below for optimal results. The instrument can be loaded with individual PCR tubes or strip tubes or one 96-well PCR plate.

• Use only temperature-stable PCR tubes and plates. See “Recommended plasticware” on page 10 of the full-length AriaDx Set Up and User Guide for a list of recommended tubes and plates.

• Place caps on tubes before loading samples into the thermal block.

• Spin samples briefly in a centrifuge immediately before loading them into the thermal block.

#### Set Up and Run Experiment

You can set up the plate and thermal profile for an experiment on either the instrument touchscreen software or on the Aria software on your PC. The instructions below provide the basic steps required to set up an experiment and start running the experiment using the instrument touchscreen software. For more detailed information about setting up and running experiments, see the help system in the AriaDx PC software.

1 (Optional) Log in the instrument. Logging in to your personal account allows you to save the experiment to your user folder. If you are logged in as Guest, you must save the experiment to the Guest folder.

2 On the Home screen, press **New Experiment**.

   The Experiment Types screen opens.

3 Create the experiment using one of the following approaches.

   • Press the desired experiment type.

   • Press **Open Template**. The Template screen opens. Press a template file to select it then press **Open**.

4 On the Plate Setup screen, set up the wells of the plate. Press the help icon for help with working on the Plate Setup screen.

5 Press the Thermal Profile tab.

   The Thermal Profile screen opens.

6 Set up the thermal profile for the experiment. Press the help icon for help with working on the Thermal Profile screen.
7 Load the samples onto the thermal block.
   a Open the instrument door that covers the thermal block assembly by lifting up on the handle on the top of the instrument. Lift the door all the way up and back.
   b Lift the heated lid by pulling forward on the handle of the lid and then lifting the lid up and away from the thermal block.
   c Put your plate or tubes on the block and check that they are correctly positioned.
   d Close the heated lid and push it backwards so that it latches into place.
   e Close the instrument door so that it latches into place.

Danger of Burns: The thermal block, sample tubes and plates may reach temperatures as high as 100°C. Keep hands away until temperature is 30°C or less.

8 Press Run Experiment on the Thermal Profile screen. A message box opens asking you to save the experiment. Click OK to open the Save Experiment screen.

9 Select a folder for the experiment file and press Save.
   The Raw Data Plots screen opens, allowing you to monitor the progress of the run.

View Results View the results of the experiment in the Aria software on your PC. See the software's help system for detailed information on viewing results.
## Technical Support

<table>
<thead>
<tr>
<th>Country</th>
<th>Telephone (Local toll-free)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>01 25125 6800</td>
</tr>
<tr>
<td>Belgium</td>
<td>02 404 92 22</td>
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<tr>
<td>Denmark</td>
<td>45 70 13 00 30</td>
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<tr>
<td>Finland</td>
<td>010 802 220</td>
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<tr>
<td>France</td>
<td>0810 446 446</td>
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<tr>
<td>Germany</td>
<td>0800 603 1000</td>
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<tr>
<td>Italy</td>
<td>800 012575</td>
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<tr>
<td>Netherlands</td>
<td>020 547 2600</td>
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<tr>
<td>Spain</td>
<td>901 11 68 90</td>
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<tr>
<td>Sweden</td>
<td>08 506 4 8960</td>
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<tr>
<td>Switzerland</td>
<td>0848 8035 60</td>
</tr>
<tr>
<td>UK/Ireland</td>
<td>0845 712 5292</td>
</tr>
</tbody>
</table>

All other countries Visit [http://www.agilent.com/genomics/contactus](http://www.agilent.com/genomics/contactus)

### Email support

dPCRdx@agilent.com

## Symbol Table

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
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</thead>
<tbody>
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<td><img src="symbol/ce.png" alt="CE" /></td>
<td>European Conformity</td>
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<tr>
<td><img src="symbol/exclamation.png" alt="Exclamation" /></td>
<td>Caution</td>
</tr>
<tr>
<td><img src="symbol/ivd.png" alt="IVD" /></td>
<td>In Vitro Diagnostic Medical Device</td>
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<td>Consult Instructions for Use</td>
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<td>Authorized representative in the European Community</td>
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<tr>
<td><img src="symbol/temperature.png" alt="Temperature Limitation" /></td>
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</table>

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For In Vitro Diagnostic Use

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