BioTek Gen5 Reader

# Device Driver Guide

Original Instructions

# Notices

## Manual Part Number

D0003471 Revision D

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## Safety Notices

# Contents

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# Preface

This preface contains the following topics:

**Agilent**

# About this guide

## Who should read this guide

This user guide is for people with the following job roles:

| Job role | Responsibilities |
|---|---|
| Installer | Unpacks, installs, and tests the device before it is used. |
| Integrator | Configures hardware and writes software. |
| Lab manager, administrator, or technician | • Manages the automation system that contains the device<br>• Develops the applications that are run on the system<br>• Develops training materials and standard operating procedures for operators |
| Operator | Performs the daily production work on the device and solves routine problems. |

## What this guide covers

This guide describes how to set up BioTek microplate readers in the VWorks software. The VWorks software supports the following models of BioTek readers:

• Cytation 1, 5, or 7 Imaging Multi-Mode Reader
• Cytation 5 Hybrid Multi-Mode Reader
• Epoch2 Microplate Spectrophotometer
• Synergy H1 Multi-Mode Reader
• Synergy Neo2 Hybrid Multi-Mode Reader

## What is new in this edition

This edition contains updates to the device and profile descriptions and procedures to reflect changes introduced in VWorks software 14.1.

## Software version

This guide is applicable for the following versions of VWorks software and BioTek Gen5 Reader Diagnostics:

• 13.1.8 – 13.1.x
• 14.1.0 and later

**CAUTION** **VWorks Plus 14.1 requires BioTek Gen5 Reader protocols and experiment files to be stored on local drive in visible Windows directories. Agilent recommends that you copy Gen5 protocols and experiment files to a more secure location after data acquisition and processing is complete.**

The VWorks software runs on the Microsoft Windows 10 64-bit operating system.

The VWorks BioTek Reader Device Driver is verified to be compatible with BioTek Gen5 software version 3.10.

## Related guides

Use this guide in conjunction with the relevant BioTek user documentation and the following guides for your version of the VWorks software:

- *VWorks Automation Control Setup Guide*. Explains how to define labware and labware classes, liquid classes, and pipetting techniques, and how to track and manage labware in storage.
- *VWorks Automation Control User Guide*. Explains how to create protocols, and set task parameters for each device in the system.

## Related topics

| For information about... | See... |
|---|---|
| Accessing the Agilent automation product user guides | "Accessing user guides" on page viii |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |
| Setting up a BioTek Reader device | "Setup workflow" on page 2 |

# Accessing user guides

## About this topic

This topic describes the different formats of user information and explains how to access it for the Agilent Automation Solutions products.

## Where to find user information

The user information is available in the following locations:

- *Knowledge base*. The help system for the Automation Solutions products is available from:
    - Help menu within the VWorks software: Select **Help** > **Knowledge Base** or press F1.
    - From the Windows desktop: Select **Start ( )** > **All Apps** > **Agilent Technologies** > **VWorks Knowledge Base.**

    For guidelines on using the VWorks context-sensitive help and knowledge base features, see *Using the knowledge base*, below.

- *PDF files*. The PDF files of the user guides are installed with the VWorks software (C:\Program Files (x86)\Agilent Technologies\VWorks\UserGuides) and are available in the VWorks Knowledge Base.

- *Website*. You can search the online VWorks Knowledge Base or download the latest version of any PDF file from the Agilent website at www.agilent.com/chem/askb.

## Accessing safety information

Safety information for the Agilent Automation Solutions devices appears in the *Automation Solutions Products General Safety Guide* and in the corresponding device safety guide or user guide.

You can also search the knowledge base or the PDF files for safety information.

## Using the knowledge base

Knowledge base topics are displayed using web browser software such as Microsoft Edge.

*Note:* If you want to use Microsoft Internet Explorer to display the topics, you might have to allow local files to run active content (scripts and ActiveX controls). For instructions, see the Microsoft user documentation.

**Opening the help topic for an area in the VWorks window**
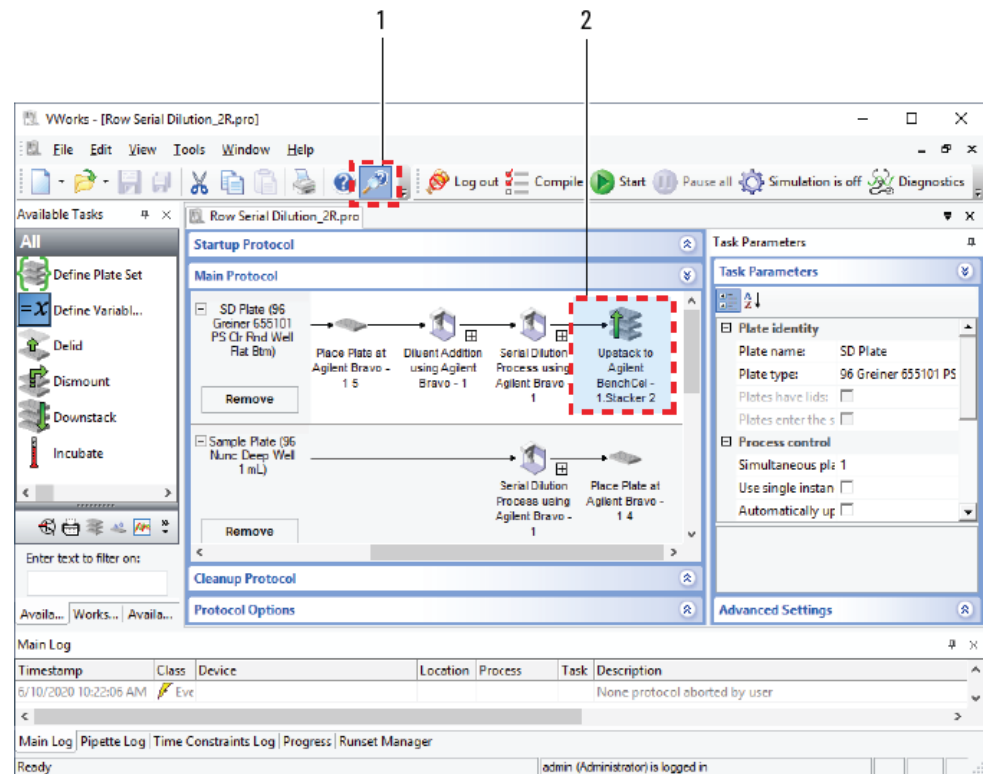


*To access the context-sensitive help feature:*

**1**  In the main window of the VWorks software, click the help button ![help button]. The pointer changes to ![question icon]. Notice that the different icons or areas are highlighted as you move the pointer over them.

**2**  Click an icon or area of interest. The relevant topic or document opens.

**Features in the Knowledge Base window**
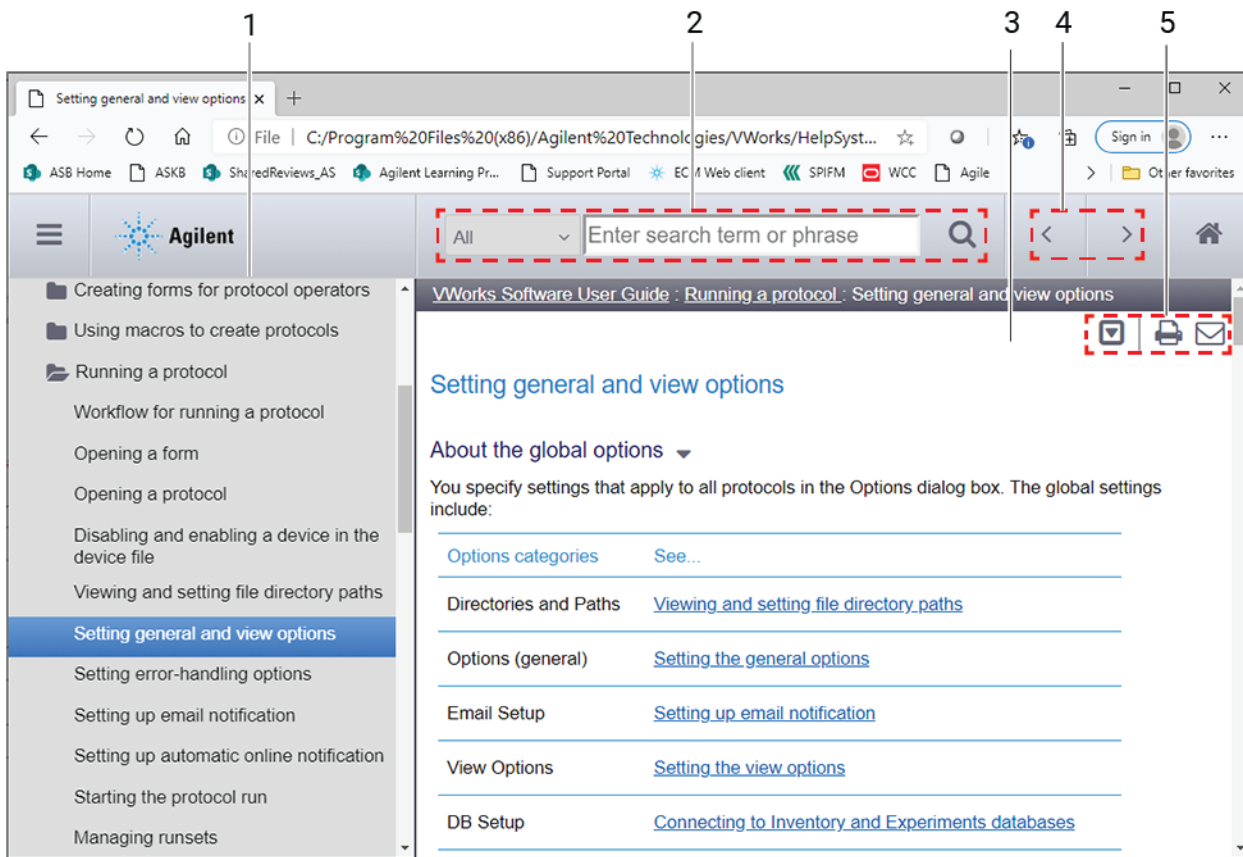


| Step | For this task... |
|---|---|
| **1** | *Contents pane*. Lists all the books and the table of contents of the books. |
| **2** | *Search*. Allows you to search the Knowledge Base (all products or selected products) using keywords. |
| **3** | *Topic area*. Displays the selected online help topic. |
| **4** | *Navigation buttons*. Enable you to navigate through the next or previous topics listed in the Contents tab. |
| **5** | *Toolbar buttons*: Enable you to:<br>• Expand or collapse all the sections in a topic that has drop-down headings.<br>• Print the topic.<br>• Send feedback by email for a given topic. |

# Setting up a BioTek Reader device

This chapter describes how to set up a BioTek Reader device in the VWorks software. You must have VWorks administrator or technician privileges to set up devices in the VWorks software.

The topics in this chapter are:

Agilent

# Setup workflow

The following table presents the workflow for setting up the BioTek Gen5 Reader devices.

| Step | For this task... | See... |
|------|------------------|--------|
| 1 | Ensure that the BioTek Gen5 software is installed on the computer that you are using to control the BioTek reader instrument. | BioTek documentation for the device |
| 2 | Configure the instrument. | BioTek documentation for the device |
| 3 | Add the device to the VWorks device file and set the device properties. | "Adding a BioTek Reader device and setting properties" on page 3 |
| 4 | Create a device profile and set the profile properties. | "Creating and initializing a profile" on page 8 |
| 5 | Verify the device control. | "Testing a BioTek Reader device" on page 12 |
| 6 | Create a VWorks protocol. | *VWorks Automation Control User Guide*<br>See "Accessing user guides" on page viii. |
| 7 | Set the task parameters for the device in a VWorks protocol. | • "Create Gen5 Experiment (BioTek Gen5 Reader)" on page 16<br>• "Set Temperature (BioTek Gen5 Reader) task" on page 22<br>• "Wait for Temperature (BioTek Gen5 Reader) task" on page 24<br>• "Run Experiment (BioTek Gen5 Reader) task" on page 19 |

## Related topics

| For more information about... | See... |
|-------------------------------|--------|
| BioTek user documentation | https://btresource.force.com/CRC/s/ |
| Using JavaScript to set task parameters | *VWorks Automation Control User Guide*<br>See "Accessing user guides" on page viii. |

# Adding a BioTek Reader device and setting properties

## About this topic

This topic describes how to add the BioTek Reader device (  BioTek Gen5 Reader ) in the VWorks software and set the device properties.

The device properties provides the VWorks software with information about an instrument's current configuration. The device property settings are stored in the device file. The VWorks software uses the information in a device file to communicate with and operate the device.

You must have VWorks administrator privileges to create and edit device files.

For detailed information about device files and associations with profiles, teachpoints, and labware definitions, see the *VWorks Automation Control User Guide*.

## Devices and device files defined

A device is an item in your lab automation system that has an entry in a VWorks software device file. A device can be a robot, an instrument, or a location in a lab automation system that can hold a piece of labware.

The device file (*.dev) stores information for all the devices in an integrated system, including:

- Type of device
- Device configuration information (for example, approach height, allowed or prohibited labware, and so on)
- Profile to use

## Creating a device file

If you are setting up a new device or workstation configuration, you need to create a VWorks device file.
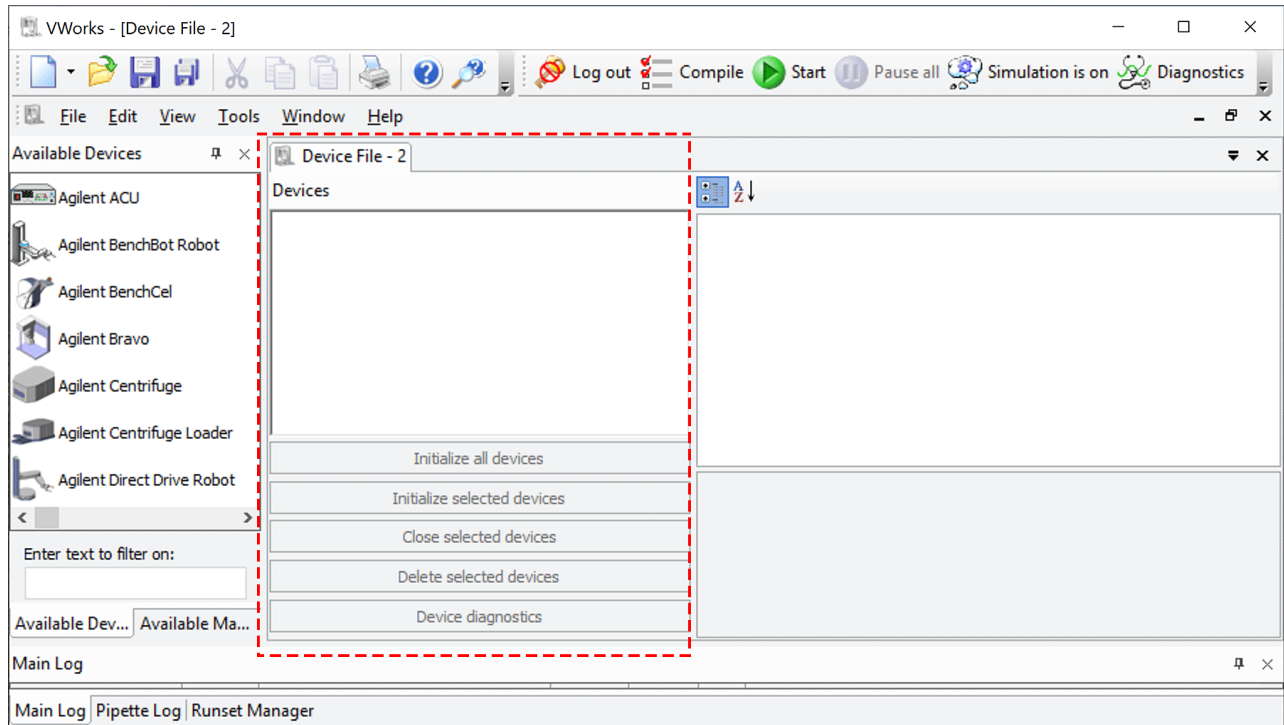
To add a new device to an existing device file, see "Adding a BioTek Reader device to a device file" on page 4.

***To create a device file:***

**1** Log in to the VWorks software as an administrator.

**2** In the **VWorks** window, click **File** > **New** > **Device.** A Device File tab appears in the **VWorks** window.

3    Click **File** > **Save**.

4    In the **Save As** or **Save File As** dialog box, select the storage location, type the file name, and then click **Save**.

## Adding a BioTek Reader device to a device file

*Before you start:*

- Ensure that any devices are physically networked to the computer.
- Turn on the devices.

*To add devices to a device file:*

1    In the **VWorks** window, verify that the correct device file is open.

2    In the **Available Devices** area, double-click the **BioTek 5 Reader** icon. Alternatively, you can drag the icon to the **Device File** tab.

*Note:* To show or hide the list of available devices, choose **View > Available Devices**.
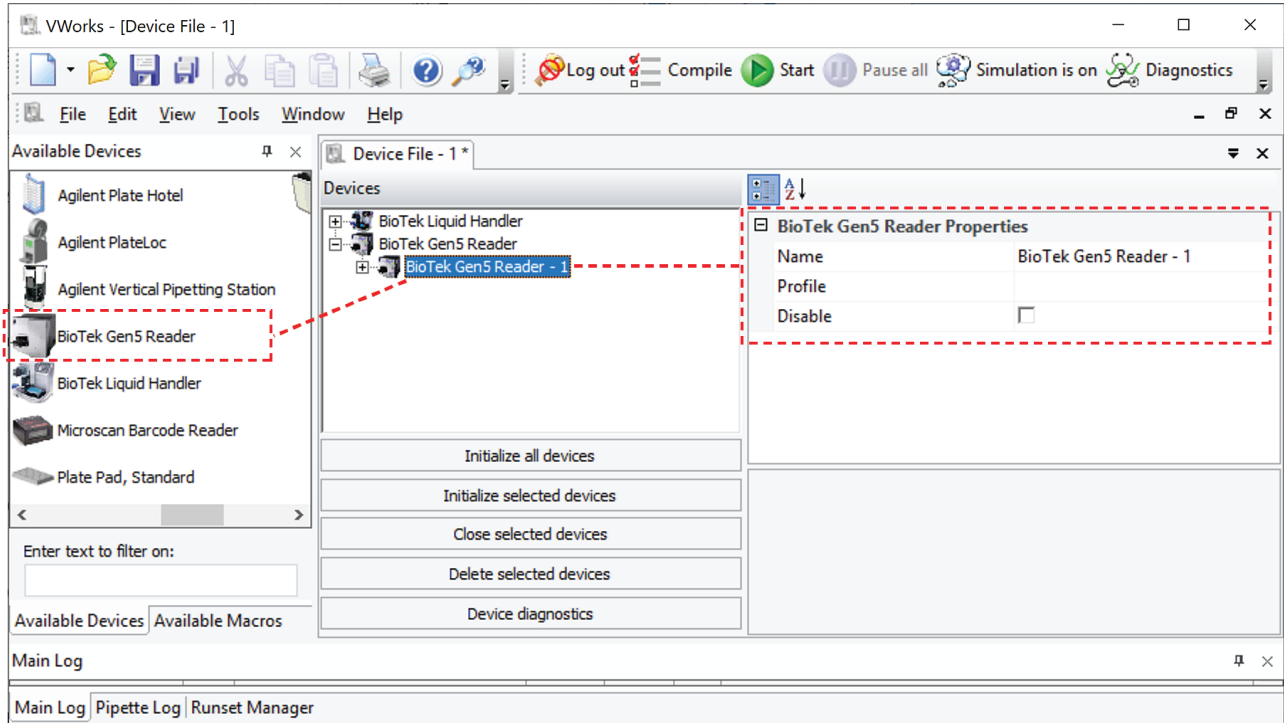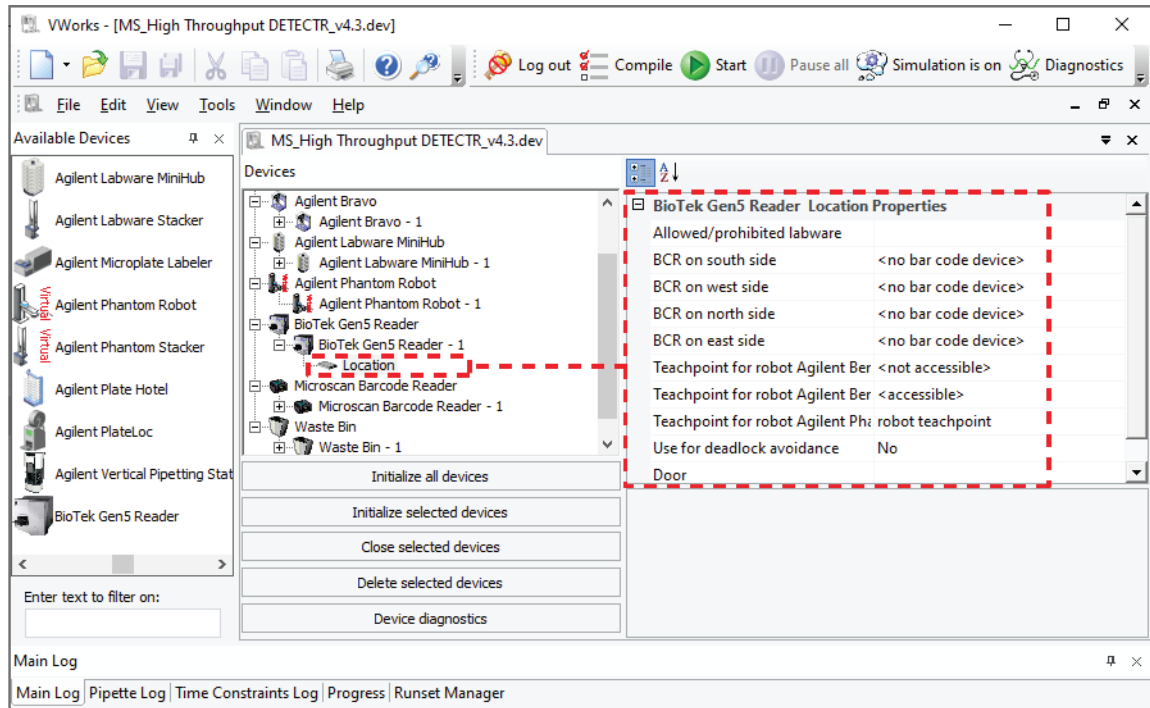
3    In the **Device File** tab, select the **BioTek Gen5 Reader-n** icon.

4    Under **BioTek Gen5 Reader Properties**, type a **Name** for the device. By default, the software assigns BioTek Gen5 Reader-*n*, and increments the number for each device that you add.

   To identify the specific device, you might want to include the device serial number in the device name.

5    In the **Profile** list, select a profile for the device.

   If the **Profile** list is empty:

   **a**    Create a profile. For instructions, see "Creating and initializing a profile" on page 8.

   **b**    Return to this step to select the new profile.

   A profile is required to establish communication with the device.

**6** On the Device File tab, expand the **BioTek Gen5 Reader** device icon, and then click **Location**. The corresponding location properties appear.



**7** Set the following properties.

| Property | Description |
|---|---|
| Allowed/prohibited labware | *Optional*. Click [...] if you want to specify labware restrictions for this location. The Allowed/prohibited labware dialog box appears. For details on the labware classes, see the *VWorks Automation Control Setup Guide*.<br><br>*Note:* If the [...] button is not visible, click the empty field. |
| BCR on south/west/ north/east side | The location of the barcode reader and the desired barcode reader device.<br><br>Use this field only if a barcode reader is installed on the device. |
| Teachpoint for robot *<robot name>* | Specify whether the robot can access this location. |
| Use for deadlock avoidance | Option to permit the location to be used for deadlock avoidance.<br><br>Select Yes (default) to permit labware to be moved to this location to avoid a deadlock in the system.<br><br>Select No if you do not want to move random labware to this location to avoid a deadlock. |

| Property | Description |
|---|---|
| Door | This property is not applicable for the BioTek Reader device. |

8   Click **File** > **Save** to save the changes.

If you are creating a new device file, the Save As or Save File As dialog box appears so that you can specify a name and location for your device file. Ensure the file type is **\*.dev**.

Alternatively, you can select **File** > **Save All** to save the device file and the current protocol file at the same time.

## Related topics

| For more information about… | See… |
|---|---|
| Setting up a device | "Setup workflow" on page 2 |
| Creating a VWorks device profile for a BioTek Reader | "Creating and initializing a profile" on page 8 |
| Using Diagnostics to test the BioTek Reader device | "Testing a BioTek Reader device" on page 12 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| Configuring the BioTek Reader tasks in a VWorks protocol | <ul><li>"Create Gen5 Experiment (BioTek Gen5 Reader)" on page 16</li><li>"Run Experiment (BioTek Gen5 Reader) task" on page 19</li><li>"Set Temperature (BioTek Gen5 Reader) task" on page 22</li><li>"Wait for Temperature (BioTek Gen5 Reader) task" on page 24</li></ul> |

# Creating and initializing a profile

## Before you start

The profile is referenced by a VWorks device file. The device file must be open before you can create or modify a profile.

*VWorks Plus*. The software logs audit trails for device profiles, which are records of interest.

## Creating a profile

*Note:* VWorks software v14.1 and later versions store the profile in an XML file in Shared Services storage. VWorks software v13.1.x stores the profile in the Windows Registry.
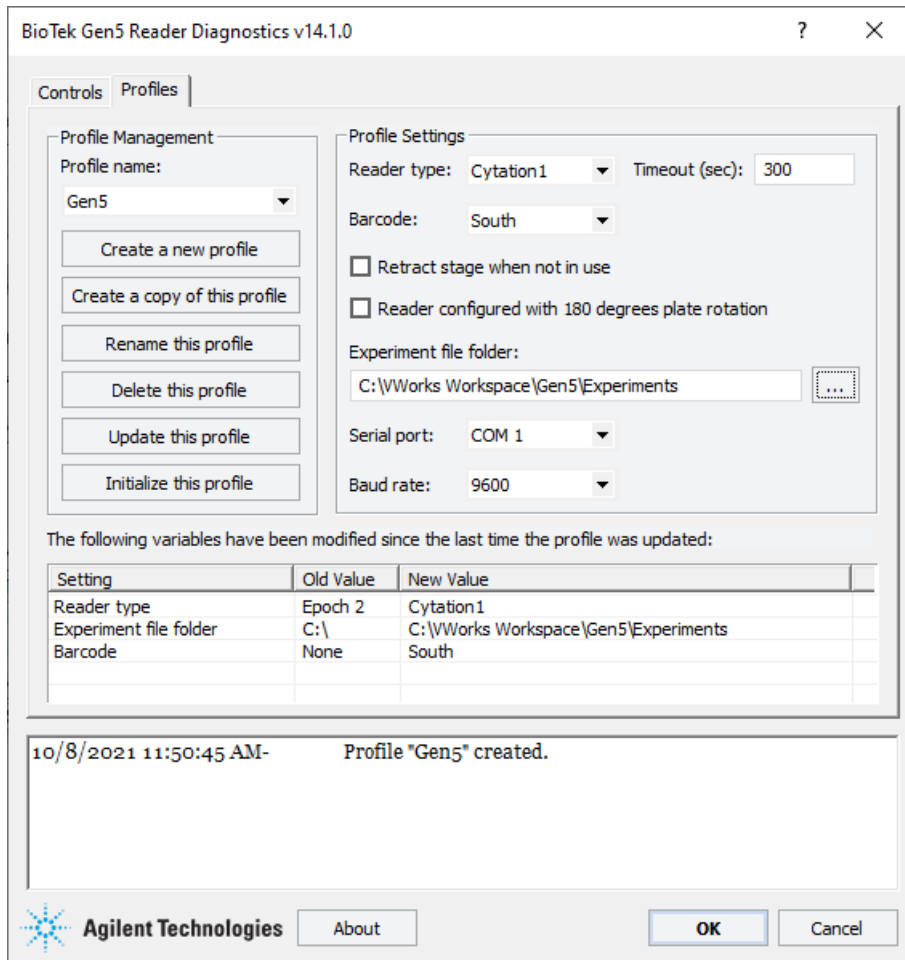
**To create a profile:**

1    In the VWorks software window, ensure the correct device file is open.

2    In the **Devices** area of the opened device file tab, highlight the **BioTek Gen5 Reader** icon, and then click **Device diagnostics**.
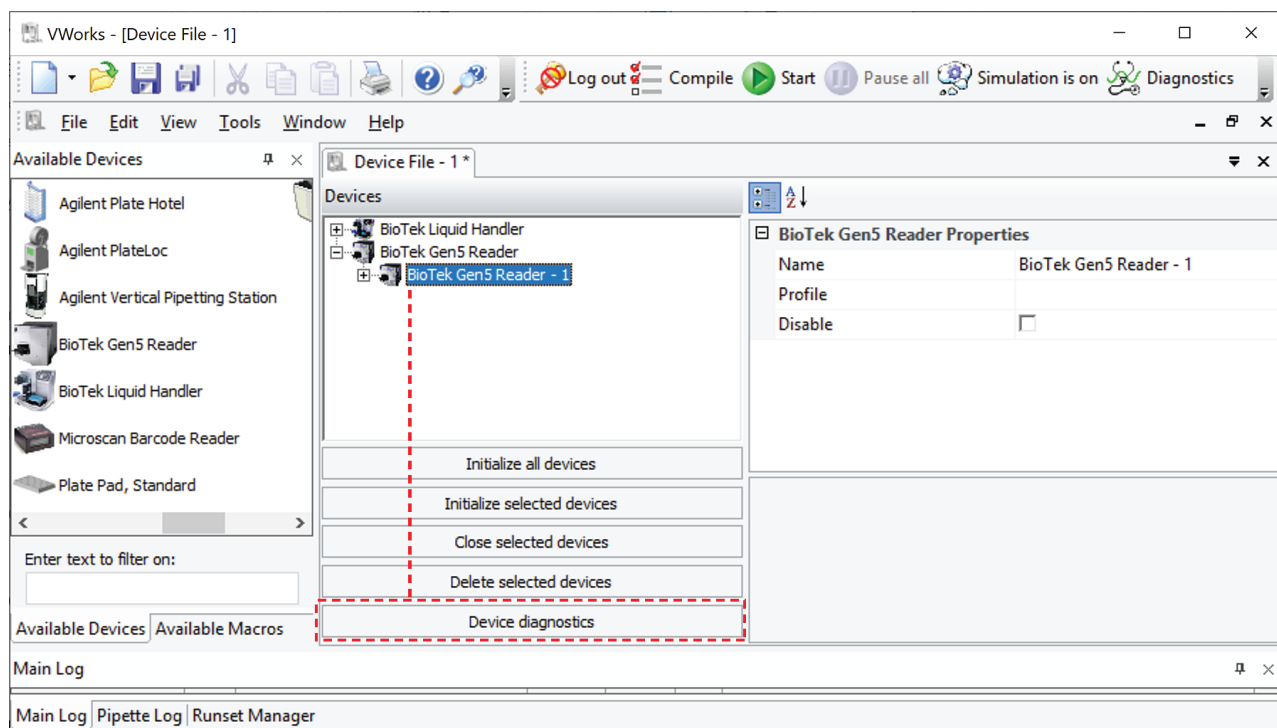
The BioTek Gen5 Reader Diagnostics dialog box opens. This dialog box is the same in VWorks 14.1 and 13.1.x, except that the 13.1.x versions do not include the log areas at the bottom of the window.

*Figure*    BioTek Gen5Reader Diagnostics dialog box in VWorks 14.1



*VWorks 14.1 only*. A log of profile activity appears in the box at the bottom of the window. The VWorks software records these events and stores the information in the Main log.

**3**    In the **Profiles** tab, under **Profile Management**, click **Create a new profile**. The Create Profile dialog box opens.

**4**    Type a name, and click **OK**. The name appears in the Profile Management area.

**5**    In the **Profile Settings** area, set the following parameters:

| Profile parameter | Description |
|---|---|
| Reader type | The type of BioTek Reader associated with this profile. The options are<br><br>• Cytation 1<br>• Cytation 5<br>• Cytation 7<br>• Epoch 2<br>• Synergy H1<br>• Synergy Neo2 |
| Timeout (sec) | Maximum time (seconds) that the BioTek Reader can take to run the specified experiment.<br><br>*Note:* VWorks displays an error message if the actual duration of the run exceeds the specified timeout.<br><br>Default: 300 sec |
| Barcode | The location of the barcode on the plate when performing a read operation.<br><br>The options are None, South, West, East, or North.<br><br>*Note:* VWorks passes the barcode to the BioTek software for use when referencing the data from the run. |
| Retract stage when not in use | The option to retract the stage when not in use.<br><br>Select the check box if you want the plate stage to retract when not in use. Otherwise, clear the check box. |
| Reader configured with 180 degrees plate rotation | The option to specify that the reader is configured with 180° plate rotation.<br><br>Select this check box only if the reader is configured for this rotation. Otherwise, clear this check box. |
| Experiment file folder | The path of the folder that contains the BioTek experiment files.<br><br>Click ⋯ to open the Browse for Folder dialog box. Select the folder, and then click OK. |

**6** Click **Update this profile** to save the changes.

*VWorks 14.1 only*. In the Diagnostics dialog box, the Modified Variables area clears, and the update is logged in the box at the bottom of the window.

## Initializing the profile in diagnostics

**IMPORTANT**  Before initializing a Gen5 device in the VWorks software, ensure that the Gen5 software is not running in the background. If the Gen5 software is open in the background, it has control over the BioTek instrument and the VWorks software will not be able to establish communication with the BioTek instrument.

*To initialize the profile:*

**1** In the **Profiles** tab of BioTek Gen5 Reader Diagnostics, ensure that you have the correct profile name selected.

**2** Click **Initialize this profile** to establish communication with the device.

*Note:* If initialization fails, open Windows Task Manager and verify that no instances of the Gen5 software are running in the background.

## Related topics

| For more information about… | See… |
|---|---|
| Setting up a device | "Setup workflow" on page 2 |
| Using Diagnostics to test the BioTek Reader device | "Testing a BioTek Reader device" on page 12 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| Configuring the BioTek Reader task in a VWorks protocol | • "Create Gen5 Experiment (BioTek Gen5 Reader)" on page 16<br>• "Run Experiment (BioTek Gen5 Reader) task" on page 19<br>• "Set Temperature (BioTek Gen5 Reader) task" on page 22<br>• "Wait for Temperature (BioTek Gen5 Reader) task" on page 24 |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

# Testing a BioTek Reader device

## About this topic

This topic describes how to use BioTek Gen5 Diagnostics to test a BioTek Reader device.

## Before you start

Ensure the following:

- The BioTek instrument is turned on.
- The BioTek Gen5 software is not running in the background.
- You have a suitable Gen5 Experiment file to reference for the device that you are testing.
- You have labware that is suitable for the Gen5 Experiment file to be run.

*Note:* For more information on your BioTek instrument and software, refer to the BioTek user documentation for the specific instrument.

## Using Diagnostics to test a BioTek Reader device

### To test a BioTek Reader device:

**1**  Open BioTek Gen5 Reader Diagnostics.

To do this, in the **Devices** area of the opened device file tab, highlight the device icon, and then click **Device diagnostics**.

**2**  In the **BioTek Gen5 Reader Diagnostics** window, select the correct **Profile name**, and then click **Initialize this profile**.
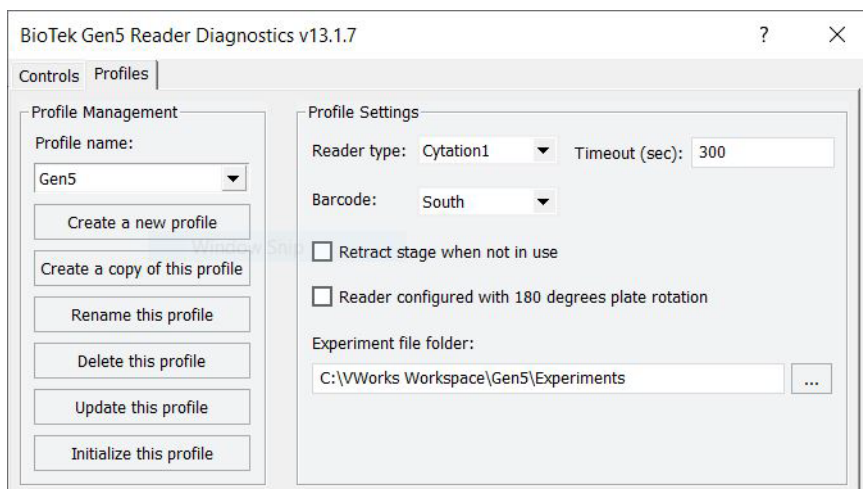


*Note:* The button label changes from Initialize this profile to Close this profile.
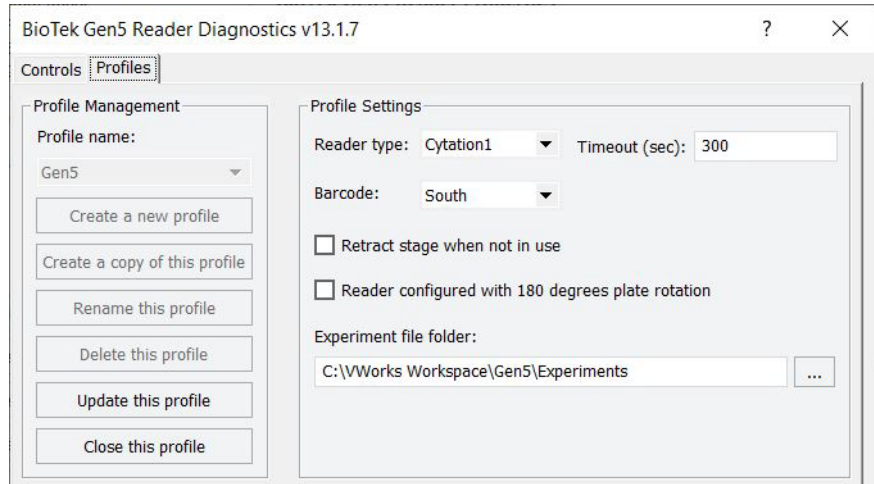
**3** Click the **Controls** tab, and ensure that the **Status** readout displays **IDLE**.
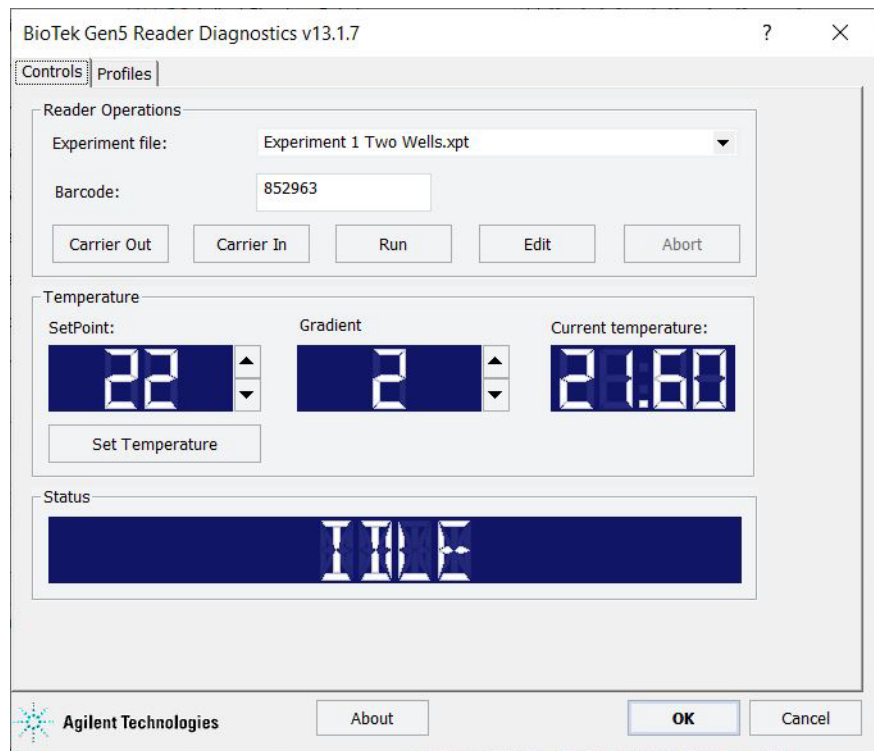


**4** In the **Reader Operations** area:

**a** Select the **Experiment file**.

The experiment files are located in the folder specified in the Profiles tab.

**b** *Optional.* Enter the **Barcode** for the plate that you want to read.

**5** *If applicable*. Set the following parameters in the **Temperature** area, and click **Set Temperature**.

| Parameter | Description |
|---|---|
| SetPoint | The target temperature (ºC) of the reader's incubator. |
| Gradient | The temperature offset for the top of the read chamber to mitigate condensation. |
| | Range: 0–2 ºC |
| Current temperature | The current temperature (ºC) of the reader's incubator. |

*Note:* The temperature setpoint is only required if the Gen5 Experiment procedure includes the Set Temperature command before the Read command. If the reader is not preheated before executing a Gen5 Experiment that includes a Set Temperature command, the reader will remain idle until it reaches temperature and potentially time-out.

**6** Place an appropriate labware on the BioTek Reader carrier.

If necessary, click **Carrier Out** to access the carrier. The Status readout displays EXTENDING CARRIER.
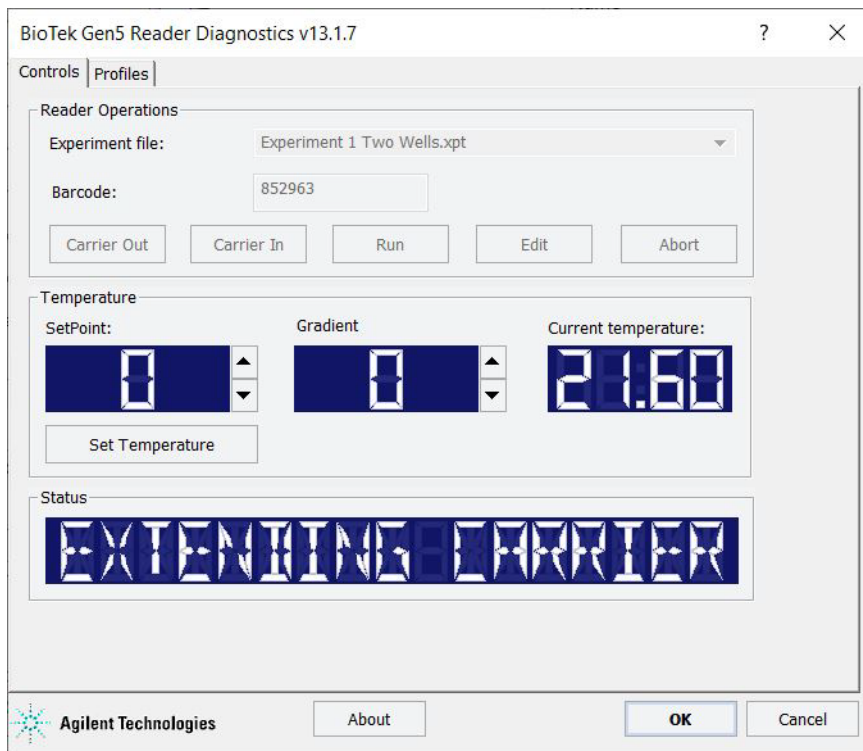
**7** Click **Run** to move the carrier into the instrument and run the specified experiment.
The Status readout displays READ IN PROGRESS.
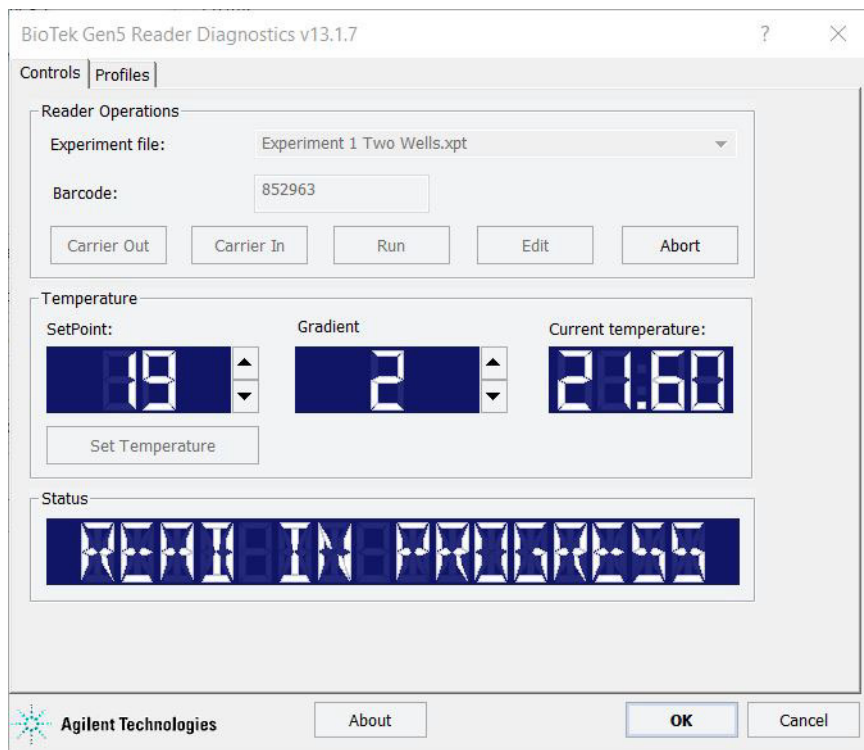


## Aborting a read in progress

***To abort a read in progress in diagnostics:***
In the **Controls** tab, click **Abort**.

## Editing the selected experiment file

You can edit the selected experiment file if a read is not currently in progress.

**IMPORTANT**  If data has already been collected for an experiment, making changes to the Read procedure, such as adding a Set Temperature will prompt the Gen5 software to erase the existing read.

***To edit the experiment file selected in the Controls tab:***
In the **Controls** tab, click **Edit**. The selected file opens in the BioTek Reader software. For details, see the BioTek software user documentation.

**Related topics**

| For more information about... | See... |
|---|---|
| Setting up a device | "Setup workflow" on page 2 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| Configuring the BioTek Reader task in a VWorks protocol | • "Create Gen5 Experiment (BioTek Gen5 Reader)" on page 16<br>• "Run Experiment (BioTek Gen5 Reader) task" on page 19<br>• "Set Temperature (BioTek Gen5 Reader) task" on page 22<br>• "Wait for Temperature (BioTek Gen5 Reader) task" on page 24 |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

# Create Gen5 Experiment (BioTek Gen5 Reader)

## Task description

This topic describes how to set the parameters for the Create Gen5 Experiment (BioTek Gen5 Reader) task (  ) task in a VWorks protocol.

For instructions on how to create a VWorks protocol, see the *VWorks Automation Control User Guide*.

## Create Gen5 Experiment task defined

You use the Create Gen5 Experiment (BioTek Gen5 Reader) task to set up an experiment to run on the BioTek Reader.

| Task is available for... | Task is available in... |
|---|---|
| BioTek Gen5 Reader (various models) | Startup Protocol<br>Main Protocol |

## Setting the task parameters

*To set the task parameters:*

1 Add a **Create Gen5 Experiment (BioTek Gen5 Reader)** task to a protocol.

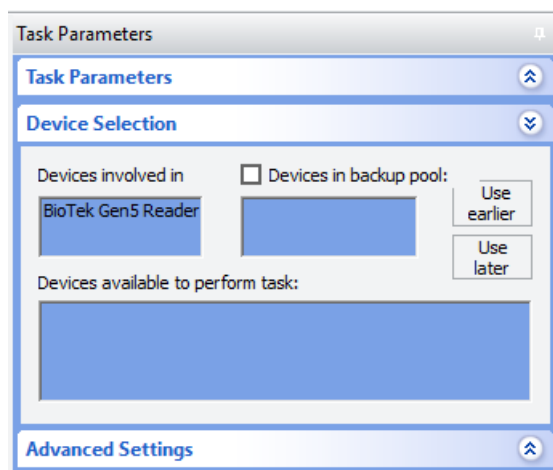2 Select the task icon in the protocol, and then set the following task parameters.
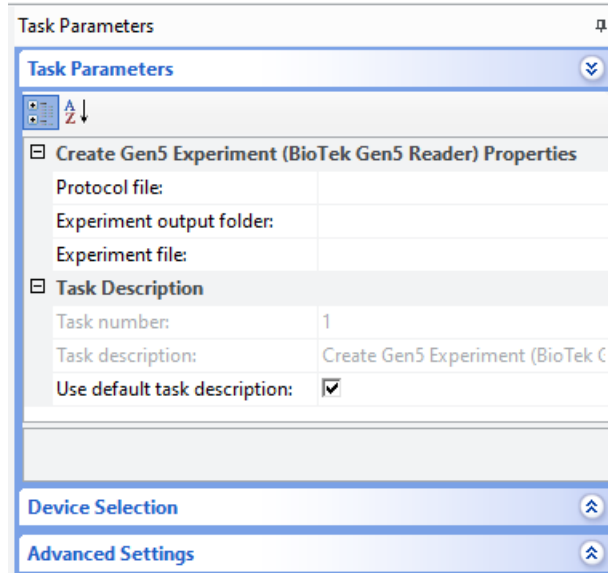


| Parameter | Description |
|---|---|
| Protocol file | The Gen5 protocol upon which the experiment is based.<br><br>Click the blank field, and then click ![...]. In the Open dialog box, locate the Gen5 protocol file (.prt), and then click OK. |
| Experiment output folder | The folder in which the experiments file will be created.<br><br>Click the blank field, and then click ![...]. In the Browse for Folder dialog box, locate the folder and then click OK. |
| Experiment file | The file name of the experiment file.<br><br>If you do not provide a name, the software uses the file name of the specified protocol appended with the datetime stamp: *<protocolfile>_<timestamp>*.xpt |

3 Click **File > Save**.

## About the device selection

The VWorks software automatically assigns the Device Selection to the BioTek Gen5 Reader device.



## Related topics

| For more information about… | See… |
| --- | --- |
| Setting up a device | "Setup workflow" on page 2 |
| Creating a VWorks device profile for a BioTek Reader | "Creating and initializing a profile" on page 8 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

# Run Experiment (BioTek Gen5 Reader) task

## About this topic

This topic describes how to set the parameters for the Run Experiment (BioTek Gen5 Reader) task ( ▨ Run Experiment (BioTek Gen5 Read... ).
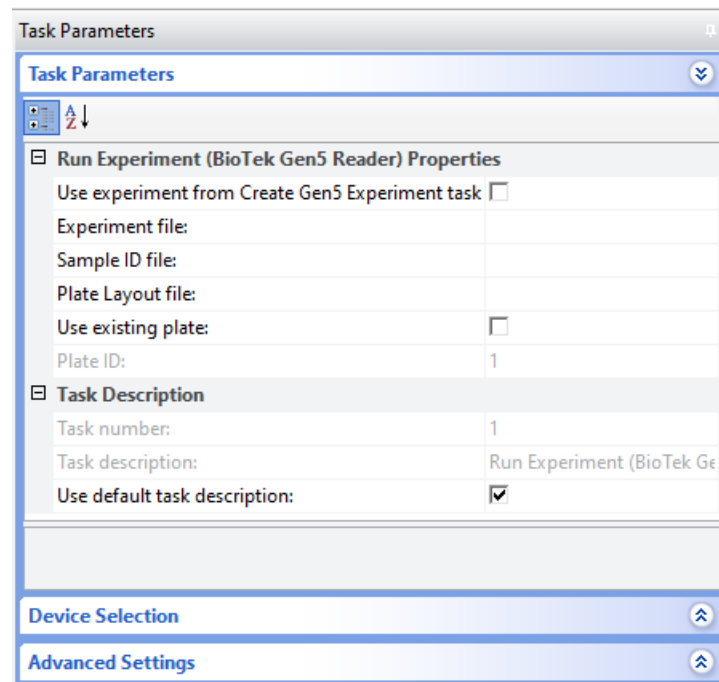
For instructions on how to create a VWorks protocol, see the *VWorks Automation Control User Guide*.

## Run Experiment (BioTek Gen5 Reader) task defined

The Run Experiment (BioTek Gen5 Reader) task runs the specified experiment on the BioTek Reader.

| Task is available for... | Task is available in... |
|---|---|
| BioTek Gen5 Reader (various models) | Main Protocol |

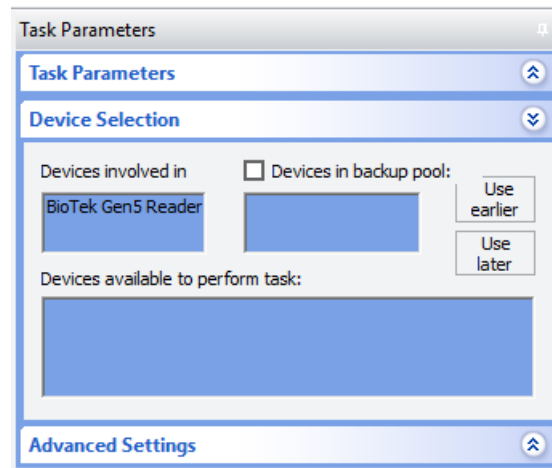## Setting the task parameters



*To set the task parameters:*

**1** Add a **Run Experiment (BioTek Gen5 Reader)** task to a protocol.

**2** Select the task icon in the protocol, and then set the following task parameters.

| Parameter | Description |
|---|---|
| Use experiment from Create Gen5 Experiment task | The option to use the experiment file created by the Create Gen5 Experiment (BioTek Gen5 Reader) task in this protocol. |
| | If you select this check box, the Experiment file parameter is unavailable. |
| Experiment file | The option to specify a previously created Gen5 Experiment file (*.xpt) that you want the VWorks protocol to run. |
| | Select the file from the list. Ensure that the file is suitable for the model of BioTek reader and consumables. Refer to the BioTek Gen5 user documentation for details. |
| | *Note:* Alternatively, you can use a JavaScript variable to specify the file. For details, see the *VWorks Automation Control User Guide*. |
| | *Note:* The folder for storing the experiment files is specified in the device profile. Only the files in this folder are available for selection. |
| | For details on creating an experiment file, refer to the BioTek reader user documentation for the specific instrument model. |
| Sample ID file | The option to import the sample IDs from a file into the Gen5 experiment plate before reading the plate. |
| | Click the Sample ID file field, and then click ⋯ . In the Open dialog box, locate the file and click Open. |
| | Refer to the BioTek reader user documentation for use cases that require a sample ID file and the format requirements of sample ID files. |
| Plate Layout file | The option to import the plate layout from a file into the Gen5 experiment plate before reading the plate. |
| | Click the Plate Layout file field, and then click ⋯ . In the Open dialog box, locate the XML file and click Open. |
| | Refer to the BioTek Gen5 software user documentation for instructions on how to create a plate layout file. |
| Use existing plate | The option to use an existing plate or create a new plate specified in the experiment file: |
| | • If the Use existing plate check box is cleared (default), a new plate is added to the specified experiment file and the run operation is performed on this new plate. |
| | • If the check box is selected, a valid Plate ID must be specified. In this case, the read operation is performed on the specified plate. |
| | If the Plate ID does not match a plate in the experiment file, an error occurs and the read is aborted. |
| Plate ID | *Enabled if Use existing plate is selected.* |
| | The ID of the plate in the specified experiment file to which the software will attach the data for this plate run. |

**3** Click **File > Save**.

## About the device selection

The VWorks software automatically assigns the Device Selection to the BioTek Gen5 Reader device.



## Related topics

| For more information about… | See… |
| --- | --- |
| Setting up a device | "Setup workflow" on page 2 |
| Creating a VWorks device profile for a BioTek Reader | "Creating and initializing a profile" on page 8 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

# Set Temperature (BioTek Gen5 Reader) task

## Task description

The Set Temperature (BioTek Gen5 Reader) task (  Set Temperature (BioTek Gen5 Read...)) preheats the BioTek Gen5 Reader for incubated reads where the Gen5 Experiment contains a Set Temperature command in the acquisition procedure.

| Task is available for... | Task is available in... |
| --- | --- |
| BioTek Gen5 Reader (various models) | Main Protocol |

For instructions on how to create a VWorks protocol, see the *VWorks Automation Control User Guide*.

*Note:* The Set Temperature (BioTek Gen5 Reader) task does not replace the Set Temperature command within the Gen5 Experiment procedure.

## Setting Set Temperature task parameters

***To set the task parameters:***

1   Add a **Set Temperature (BioTek Gen5 Reader)** task to a protocol.

2   Select the task icon in the protocol, and then set the following task parameters.
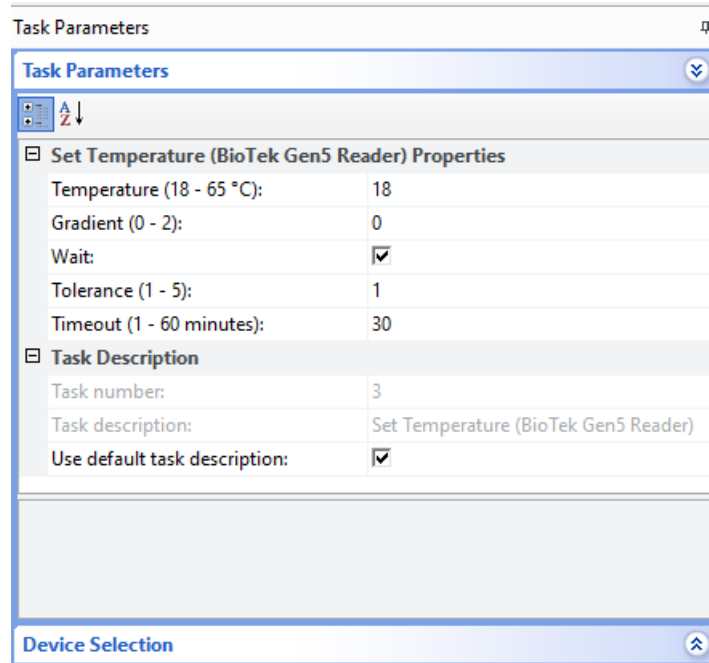


| Parameter | Description |
| --- | --- |
| Temperature (18 - 65 ºC) | The target temperature (ºC) of the reader's incubator. |

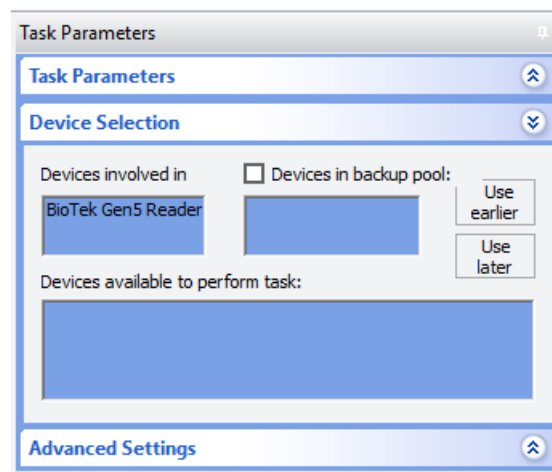| Parameter | Description |
|---|---|
| Gradient (0 - 2) | The temperature offset for the top of the read chamber to mitigate condensation.<br>Range: 0–2 ºC |
| Wait | The option to pause the protocol for a specified wait time to allow the reader's incubator to reach the target temperature.<br>If you want the protocol to continue before the set temperature is reached, you can set a wait timeout and tolerance later in the protocol using the Wait for Temperature (BioTek Gen5 Reader) task. |
| Tolerance (1 - 5) | The acceptable tolerance (± minutes) for the timeout duration. |
| Timeout (1 - 60 minutes) | The amount of time to pause the protocol while waiting for the reader's incubator to reach the target temperature. |

**3**   Click **File > Save**.

## About the device selection

The VWorks software automatically assigns the Device Selection to the BioTek Gen5 Reader device.



## Related topics

| For more information about… | See… |
|---|---|
| Setting up a device | "Setup workflow" on page 2 |
| Creating a VWorks device profile for a BioTek Reader | "Creating and initializing a profile" on page 8 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

# Wait for Temperature (BioTek Gen5 Reader) task

## Task description

You use the Wait for Temperature (BioTek Gen5 Reader) task
(  ) coupled with the Set Temperature (BioTek Gen5
Reader) task in a VWorks protocol. The Wait for Temperature (BioTek Gen5 Reader)
task pauses the VWorks protocol until the specified BioTek Reader's incubator reaches
target temperature.

| Task is available for... | Task is available in... |
| --- | --- |
| BioTek Gen5 Reader (various models) | Main Protocol |

For instructions on how to create a VWorks protocol, see the *VWorks Automation
Control User Guide*.

## Wait for Temperature task requirements

A Set Temperature (BioTek Gen5 Reader) task must proceed the Wait for Temperature
task (BioTek Gen5 Reader) in the VWorks protocol.

## Setting the task parameters

*To set the task parameters:*

1   Add a **Wait for Temperature (BioTek Gen5 Reader)** task to a protocol.

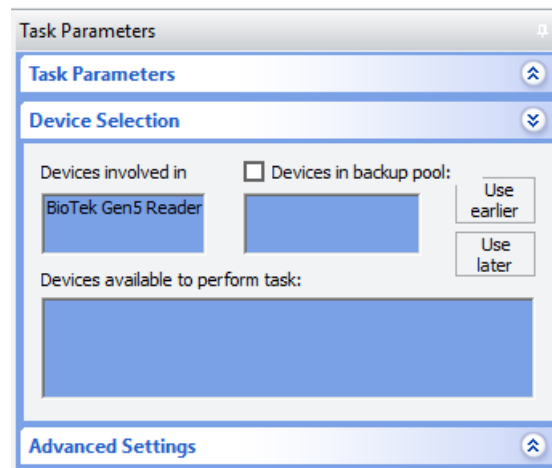2   Select the task icon in the protocol, and then set the following task parameters.
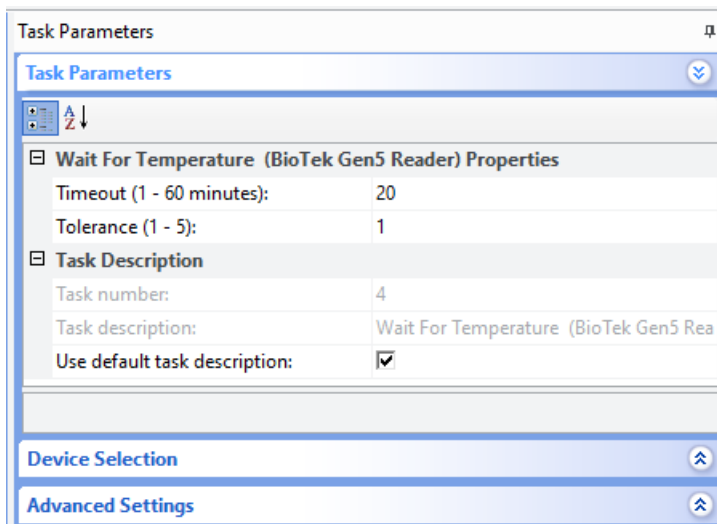
| Parameter | Description |
|---|---|
| Timeout (1 - 60 minutes) | The amount of time to pause the protocol while waiting for the Reader's incubator to reach the target temperature. |
| Tolerance (1 - 5) | The acceptable tolerance (± minutes) for the timeout duration. |

**3** Click **File > Save**.

## About the device selection

The VWorks software automatically assigns the Device Selection to the BioTek Gen5 Reader device.



## Related topics

| For more information about… | See… |
|---|---|
| Setting up a device | "Setup workflow" on page 2 |
| Creating a VWorks device profile for a BioTek Reader | "Creating and initializing a profile" on page 8 |
| Create a VWorks protocol. | *VWorks Automation Control User Guide* |
| BioTek user documentation | https://btresource.force.com/CRC/s/ |

## In This Guide

This guide describes how to configure the VWorks software to control a BioTek Gen5 Reader.

**Agilent**