



TA Instruments *TRIOS Software* *Installation Instructions*

Installation Requirements

Your TRIOS Instrument Control software includes all the components necessary to install or update the TRIOS software, as well as the supporting instruction documentation. The version of TRIOS software contained in this kit may be newer than the version currently installed on your controller. It is highly recommended that you install or update your software.

Before installing the TA Instruments TRIOS software, you should ensure that the computer system meets the required specifications. Performance issues may be observed within the TRIOS software if installed on computers that do not meet the minimum required specifications.

Windows[®] Requirements for TRIOS Software

Description	Required
Operating System ¹	Supported Operating Systems: 32 & 64-bit versions (64-bit recommended ²) of Windows 7, Windows 8, and Windows 10 Ultimate, Enterprise & Professional ³
Processor	Intel [®] Core™ 2 Duo (2.93 GHz with 3 MB L2 cache) or better
Memory	≥ 4 GB RAM (≥ 8 GB RAM recommended)
Hard drive	≥ 80 GB free on hard drive
CD-ROM or DVD	≥ 48X CD-ROM or DVD
Screen resolution	1280 x 1024 (1920 x 1080 recommended) with ≥24-bit colors
Graphic memory	128 MB
Screen (LCD) size	19" or greater (24" wide screen recommended)

1. Install Microsoft Operating System Service Pack, Internet Explorer and/or Direct X (if required). If you don't have the required versions of these packages, they can be obtained through the Microsoft web site (at www.microsoft.com/downloads) or by using the Microsoft Windows Update mechanism (accessed through the Start menu or by accessing <http://update.microsoft.com>).
2. While TRIOS can run on a 32-bit 4 GB system, this is a minimum requirement for systems running **only** TRIOS. On systems where data files will be analyzed, graph overlays created, and/or TRIOS will be running with other applications, a 64-bit system with a minimum of 8 GB RAM is recommended.
3. Home version of Windows 7, Windows 8, and/or Windows 10 is not acceptable. Home version is missing certain functionality that is needed for optimized analyzer performance and efficiency.

Windows[®] 7, Windows 8, and Windows 10 operating systems are registered trademarks of the Microsoft Corporation.

Intel[®] is a registered trademark of Intel Corporation.



The Microsoft components .NET Framework and Visual C++ are automatically installed as part of TRIOS V2.0 or higher and Advantage V4.7 or higher. The specific versions of these components vary depending on the software package installed. These components support the latest software development tools used in TRIOS/Advantage, as a result, software installation may take longer than in previous versions.

Additional Requirements for ARES-G2 / RSA-G2

Description	Required
Network card	One Ethernet 10 Base T/100 Base TX network card required for communication with the instrument.
Additional Ethernet card	Another network card required for communication with a corporate LAN, if it's desirable that the instrument not be connected directly to corporate LAN (e.g., instrument connected to router).
Ethernet router	10 Base T/100BaseTX Ethernet router
Ethernet cabling	EIA-568B Category 5 UTP
Client-server protocol	DHCP
Additional networking components for ®	Networking services, as well as file and printer sharing for Microsoft Network and Internet Protocol (TCP/IP)
TCP/IP ports used	UDP: 5050, 5056, 4576
USB II port	Required for camera accessory for FCO

Additional Requirements for Discovery Series and AR Series Rheometers

Description	Requirements
USB II port	Required for DHR Series, AR-G2, and AR 2000ex with ETC and Peltier Camera Viewer options, Small Angle Light-Scattering (SALS) Accessory, Dielectric Accessory, and Automatic Asphalt Calibration kit.
Network card	Ethernet 10Base T/100 Base TX
Additional ethernet card	Only necessary if connecting instrument directly and need access to Corporate LAN.
Ethernet cabling	EIA-568B Category 5 UTP
Client-server protocol	DHCP
Additional networking components	Networking Services, as well as file and printer sharing for Microsoft Network and Internet Protocol (TCP/IP)
Image capture (camera option)	DirectX 9.0 or higher
Second monitor	Recommended for SALS Accessory image viewing
TCP/IP Ports Used	TCP: 20010, 20011 UDP: 5050, 5056

Additional Requirements for Discovery Thermal Series Instruments

Description	Required
Network card	One Ethernet 10 Base T/100 Base TX network card required for communication with the instrument.
Additional Ethernet card	Another network card required for communication with a corporate LAN, if it's desirable that the instrument not be connected directly to corporate LAN (e.g., instrument connected to router).
Ethernet router	10 Base T/100BaseTX Ethernet router
Ethernet cabling	EIA-568B Category 5 UTP
Client-server protocol	DHCP or static
Additional networking components for Windows®	Networking services, as well as file and printer sharing for Microsoft Network and Internet Protocol (TCP/IP)
TCP/IP ports used	TCP: 5432, 8080, 8081 UDP: 5050, 5056

Additional Requirements for Instrument Control

Description	Required
User log-in capability	While multiple users may still use the “Fast User Switching” function when running Windows, only one user at a time may use the TA Instruments TRIOS Instrument Control Software. This limit, which is applicable to most programs, is a result of hardware resources that are used by each of these programs.

Free Disk Space Required

The approximate amount of free disk space required for installation of the TRIOS software is at least 4.5 GB.



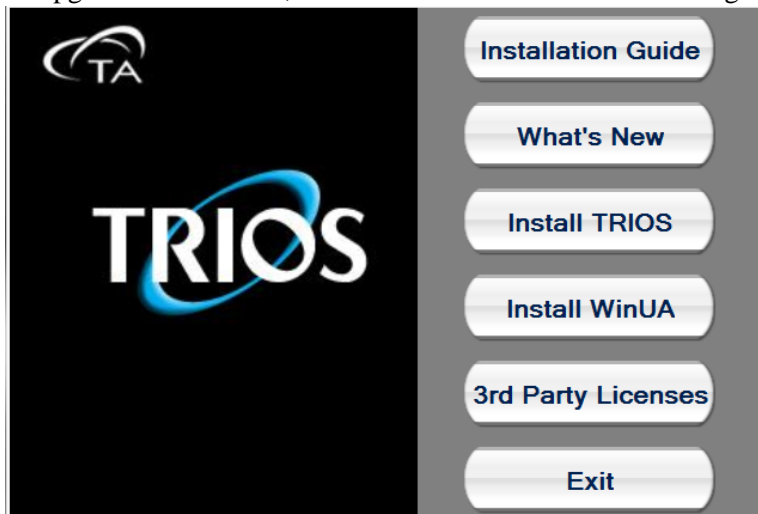
This amount is above that required for the operating system, plus the other software products supplied on the installation CD-ROM. In addition, an extra 15 MB of free disk space is required during the install process (for temporary install files.)

Installation Instructions

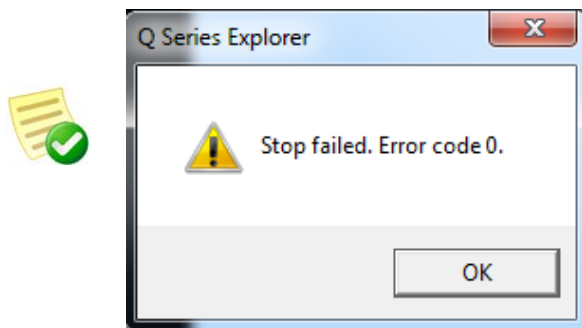
Upgrade Installation of an Existing TRIOS Controller

Follow the detailed instructions on the next several pages, if needed, to upgrade your software.

- 1 Log into Windows® with an account that has Administrator Rights.
- 2 Insert the TRIOS CD into the CD-ROM or DVD drive.
- 3 To upgrade the software, select **Install TRIOS** from the dialog box.



Users running Advantage may encounter a Q Series error during setup. Click **OK** on the error dialog and continue installation.



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- 4 The message “*This setup will perform an upgrade to TRIOS.*” will appear, otherwise click the file **Setup.exe** located on the CD.
 - 5 Select **Yes** to continue and select **Next** to begin the installation upgrade process.
 - 6 Once the installation is complete, select **Finish**.
 - 7 Install the instrument firmware as described in “[Update Instrument Software \(Firmware\) Instructions](#)” on page 26.

Detailed Installation Instructions for First Time Installations

Based on your computer and whether it meets the installation requirement details on the previous page, you may need to perform all or some of the following steps. These steps **MUST** be performed in the correct order as outlined below.

Follow the steps below to install your software and set up your system. Consult the individual section in this document for detailed information, if needed.

1. Log into Windows® with Administrator Rights

If you are already logged in with these rights, close any open applications.

2. Install TA Instruments TRIOS Software

See [“Install TA Instruments TRIOS Software From a CD”](#) on page 6 or [“Install TA Instruments TRIOS Software from the Web”](#) on page 10.

3. Establish Instrument Connection with TRIOS Software

See [“Establish an Instrument Connection \(Discovery Thermal Series, ARES-G2, RSA-G2 Only\)”](#) on page 14.

See [“Establish an Instrument Connection \(Discovery Hybrid Rheometer Series / AR Series Only\)”](#) on page 20.

4. Start TRIOS Software

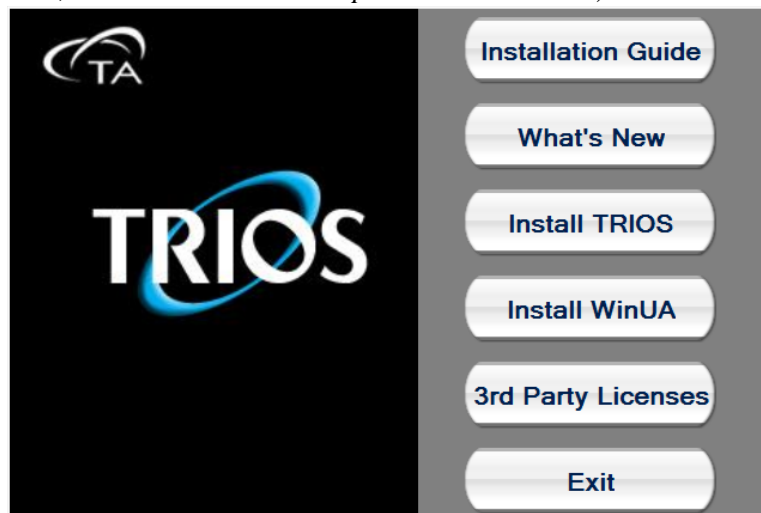
See [“Start TRIOS Software”](#) on page 23.

5. Update Instrument Software (Firmware)

See [“Update Instrument Software \(Firmware\) Instructions”](#) on page 26.

Install TA Instruments TRIOS Software From a CD

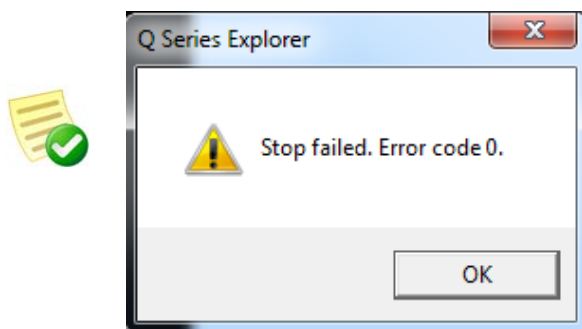
The installation package allows you to install TRIOS software. Insert the TA Instruments TRIOS CD into your CD-ROM or DVD drive. The screen below will automatically appear. (If the set-up program doesn't start, double click on the *Setup.exe* file on the CD.)



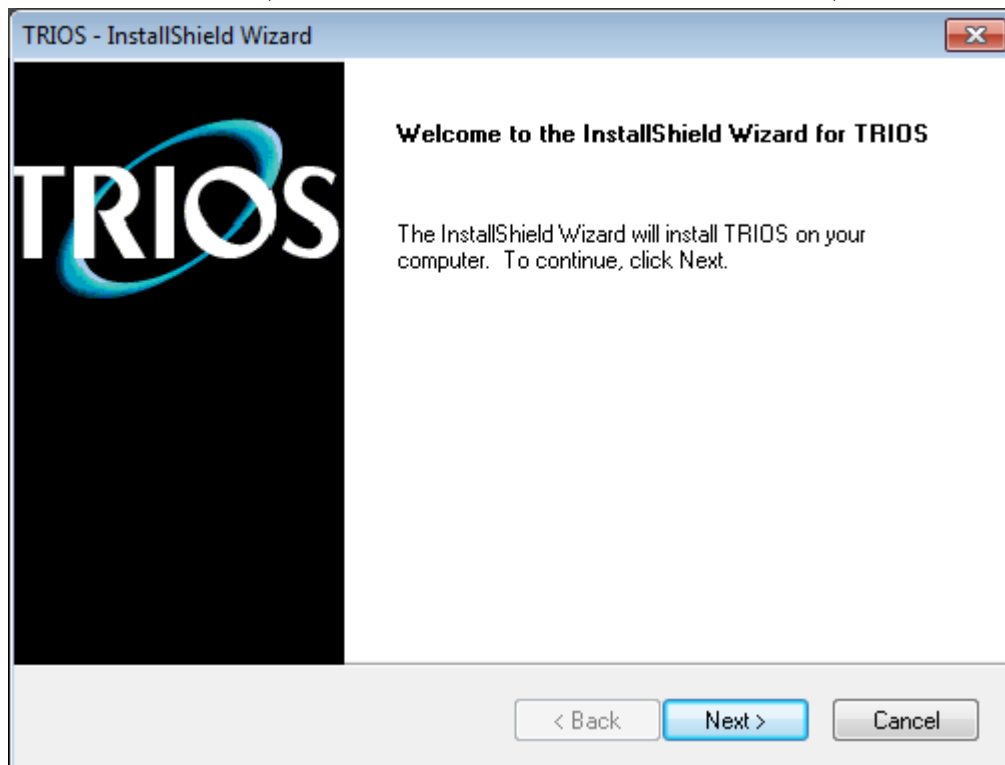
1 Select between the following options:

- **Installation Guide** – Accesses this document.
- **What's New** – Accesses a document listing the new features in this TRIOS software release.
- **Install TRIOS** – Begins installation of TRIOS software.
- **Install WinUA** – Begins installation of WinUA (Advantage) software.
- **3rd Party Licenses** – Accesses a document with all 3rd party license agreements.
- **Exit** – Exits the set-up program.

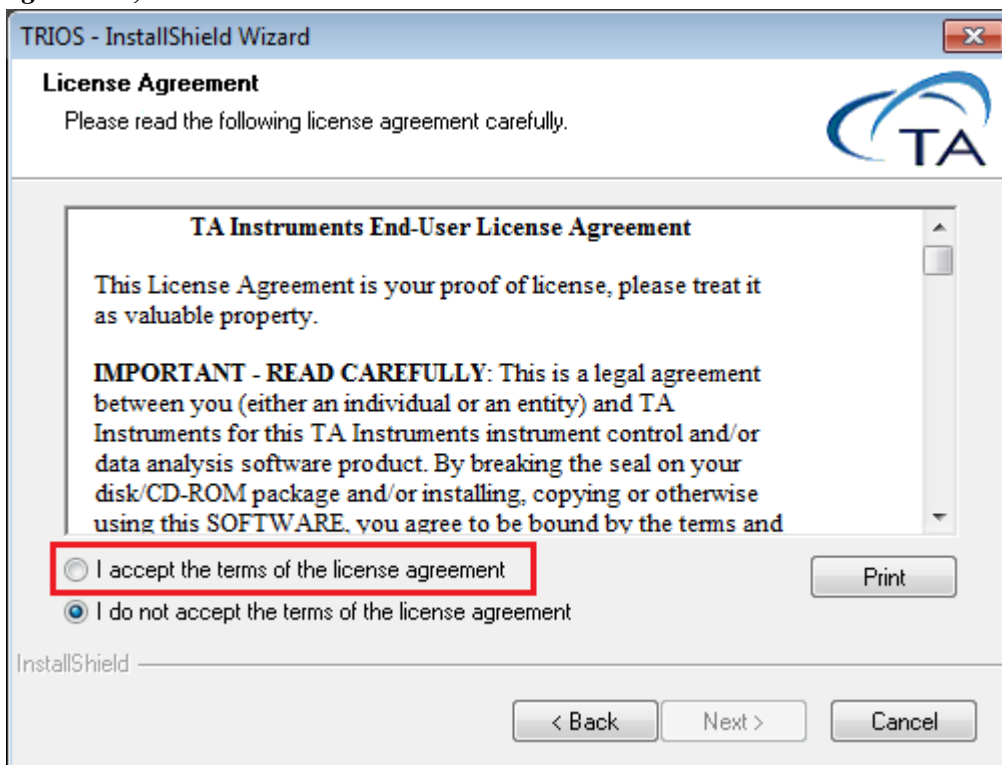
Users running Advantage may encounter a Q Series error during setup. Click **OK** on the error dialog and continue installation.



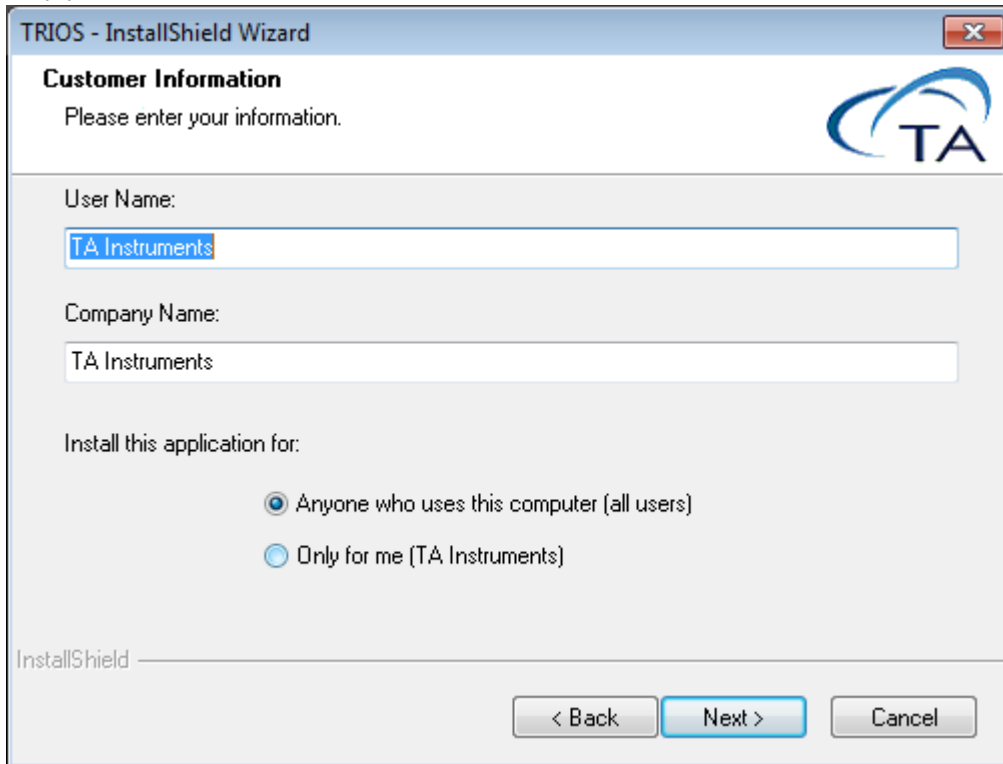
- 2 To install the software, click **Install TRIOS**. Once the file is extracted, click **Next**.



- 3 Review the license agreement. If you wish to continue, select ***“I accept the terms of the license agreement,”*** then click **Next** to continue with the installation.

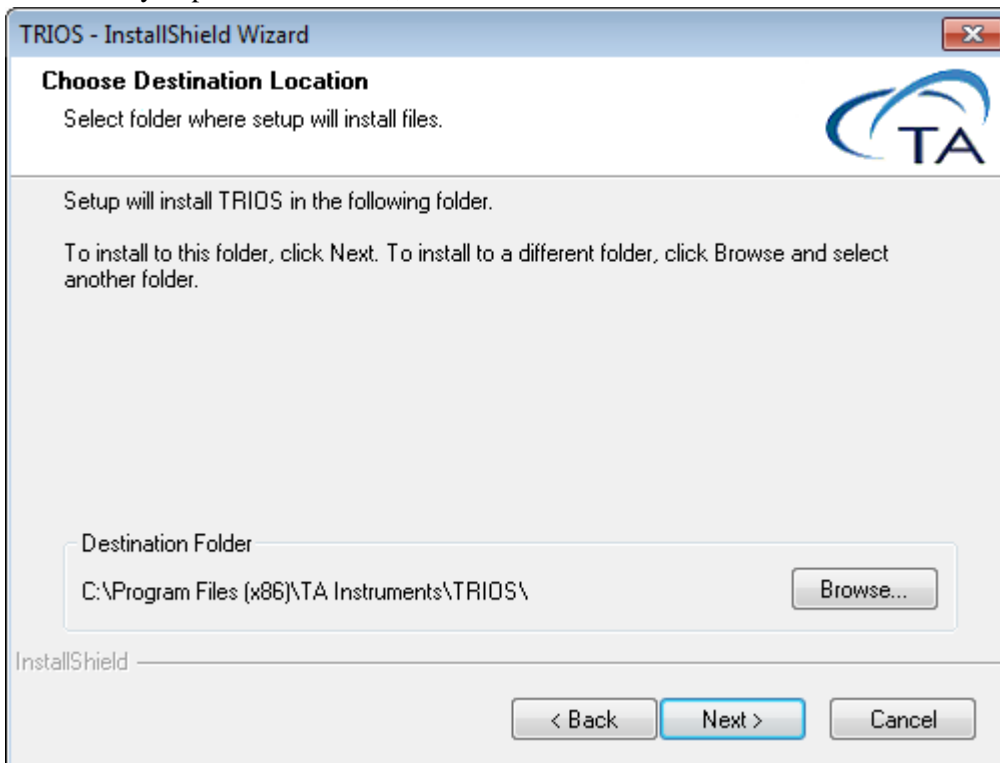


- 4 Enter your name and company, and select whether you are installing the application for all users or only yourself. Then click **Next**.



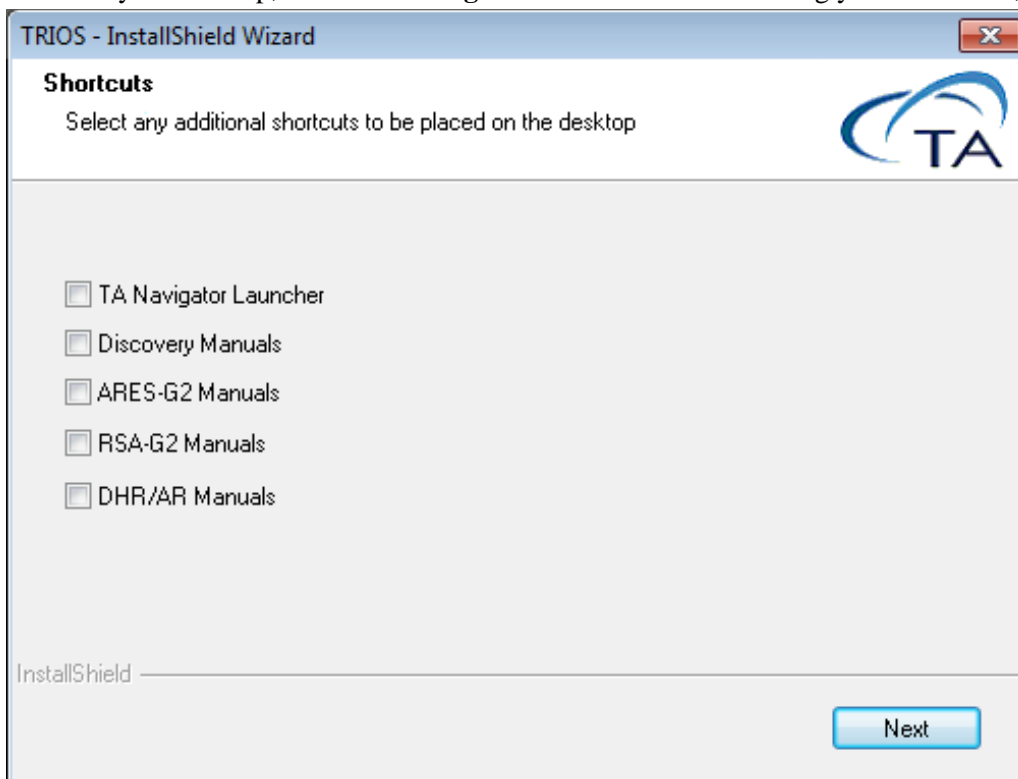
The screenshot shows the 'Customer Information' window of the TRIOS - InstallShield Wizard. The window has a title bar with the text 'TRIOS - InstallShield Wizard' and a close button. The main area is titled 'Customer Information' with the instruction 'Please enter your information.' and the TA Instruments logo. There are three input fields: 'User Name:' with 'TA Instruments' entered, 'Company Name:' with 'TA Instruments' entered, and 'Install this application for:' with two radio button options: 'Anyone who uses this computer (all users)' (selected) and 'Only for me (TA Instruments)'. At the bottom, there is an 'InstallShield' progress bar and three buttons: '< Back', 'Next >', and 'Cancel'.

- 5 If you would like TRIOS installed in a location other than the current Destination folder, browse to the folder that you prefer. Otherwise, click **Next**.



The screenshot shows the 'Choose Destination Location' window of the TRIOS - InstallShield Wizard. The window has a title bar with the text 'TRIOS - InstallShield Wizard' and a close button. The main area is titled 'Choose Destination Location' with the instruction 'Select folder where setup will install files.' and the TA Instruments logo. Below the title, it says 'Setup will install TRIOS in the following folder.' and 'To install to this folder, click Next. To install to a different folder, click Browse and select another folder.' There is a 'Destination Folder' input field containing 'C:\Program Files (x86)\TA Instruments\TRIOS\' and a 'Browse...' button. At the bottom, there is an 'InstallShield' progress bar and three buttons: '< Back', 'Next >', and 'Cancel'.

- 6 When the Start Copying Files dialog box displays, click **Next** to begin copying the files.
- 7 Once the files are copied, TRIOS is extracted and then the Shortcuts dialog box displays. Select the desired manuals that you wish to create shortcut icons for on your desktop. If you'd like a TA Navigator Launcher shortcut (used to launch Rheology Navigator for AR and DHR instruments) added to your desktop, select **TA Navigator Launcher**. After making your selections, click **Next**.

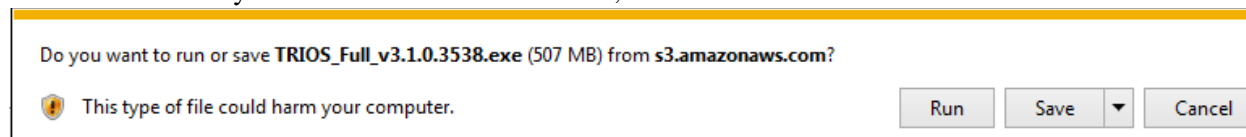


The manuals will still be available from within TRIOS software as well as the **Start > Programs** menu in your Windows operating system.

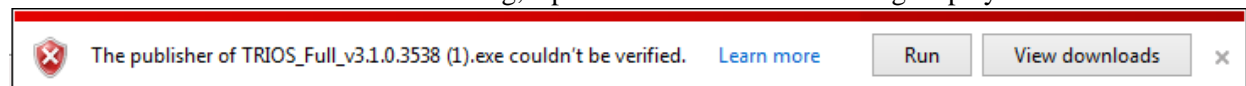
- 8 When complete, click **Finish** to close the installation window. Wait at least one minute before trying to establish communications with the instrument.

Install TA Instruments TRIOS Software from the Web

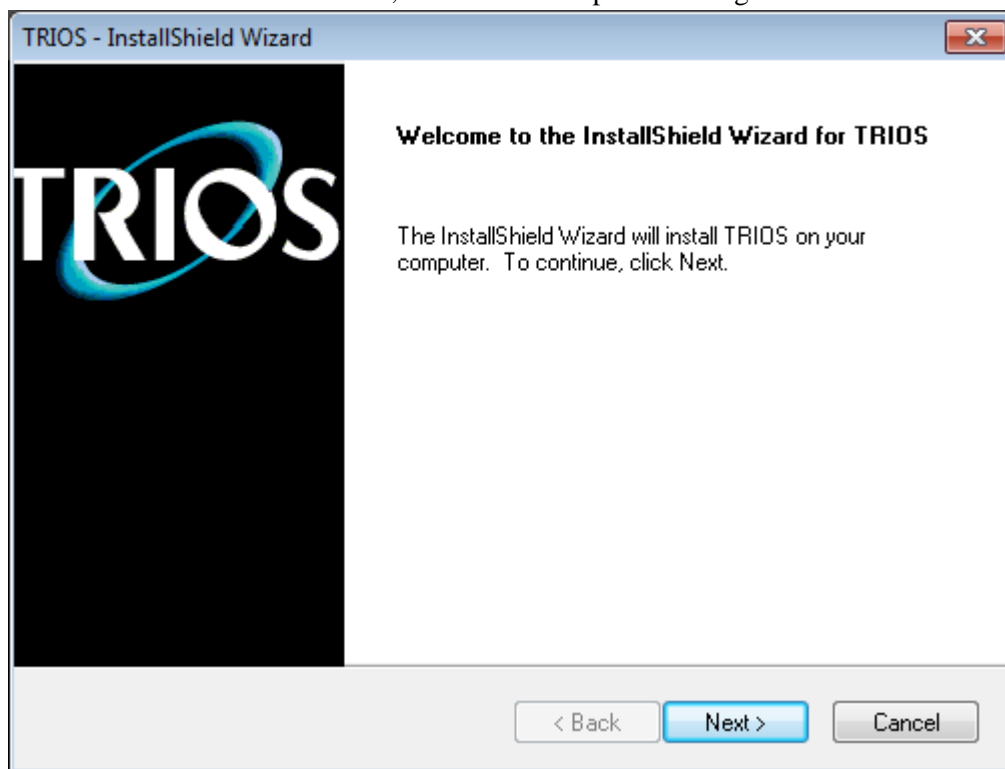
- 1 Go to www.tainstruments.com > **Support** > **Software Downloads & Support**.
- 2 Click **TRIOS Download Page**.
- 3 Click the **Download** button.
- 4 When asked if you want to Run or Save the file, click **Save**.



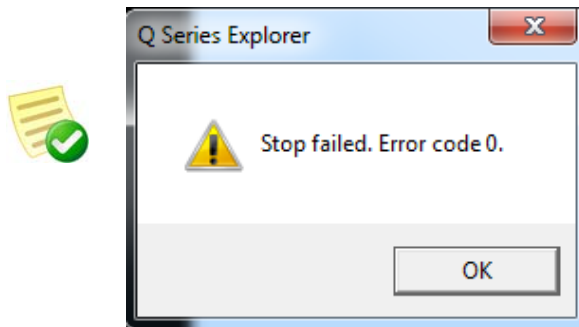
- 5 Once the file has finished downloading, a publisher verification warning displays. Click **Run**.



- 6 Once the TRIOS file is extracted, the TRIOS Setup Wizard begins. Click **Next**.



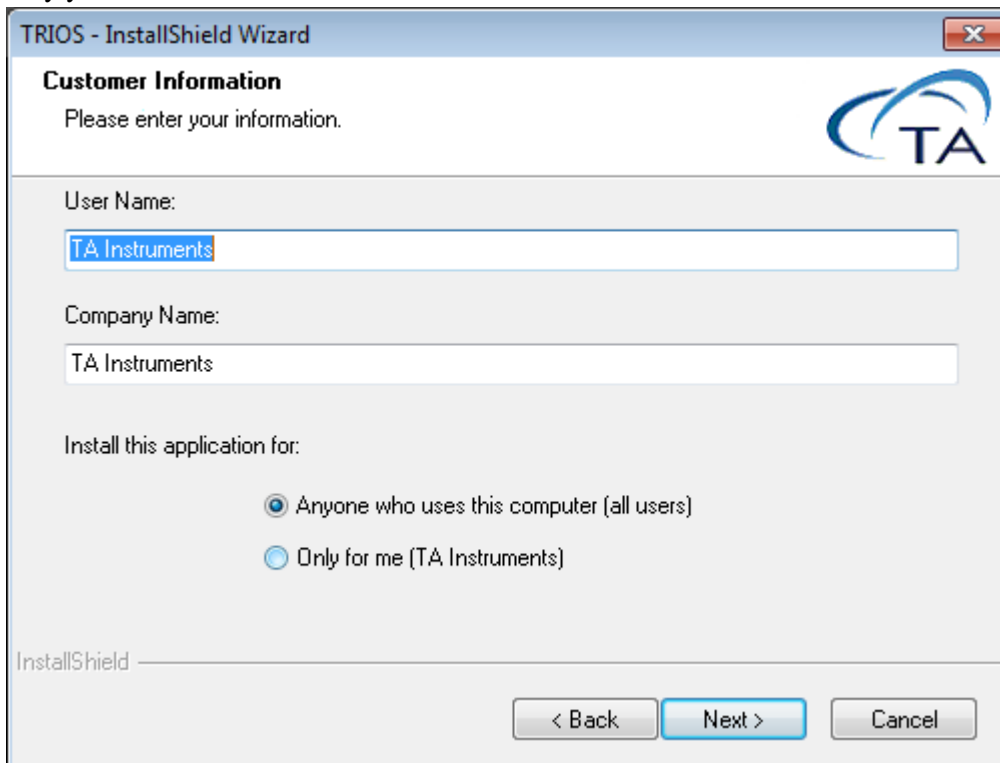
Users running Advantage may encounter a Q Series error during setup. Click **OK** on the error dialog and continue installation.



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- 7 Review the license agreement. If you wish to continue, select ***"I accept the terms of the license agreement,"*** then click **Next** to continue with the installation.

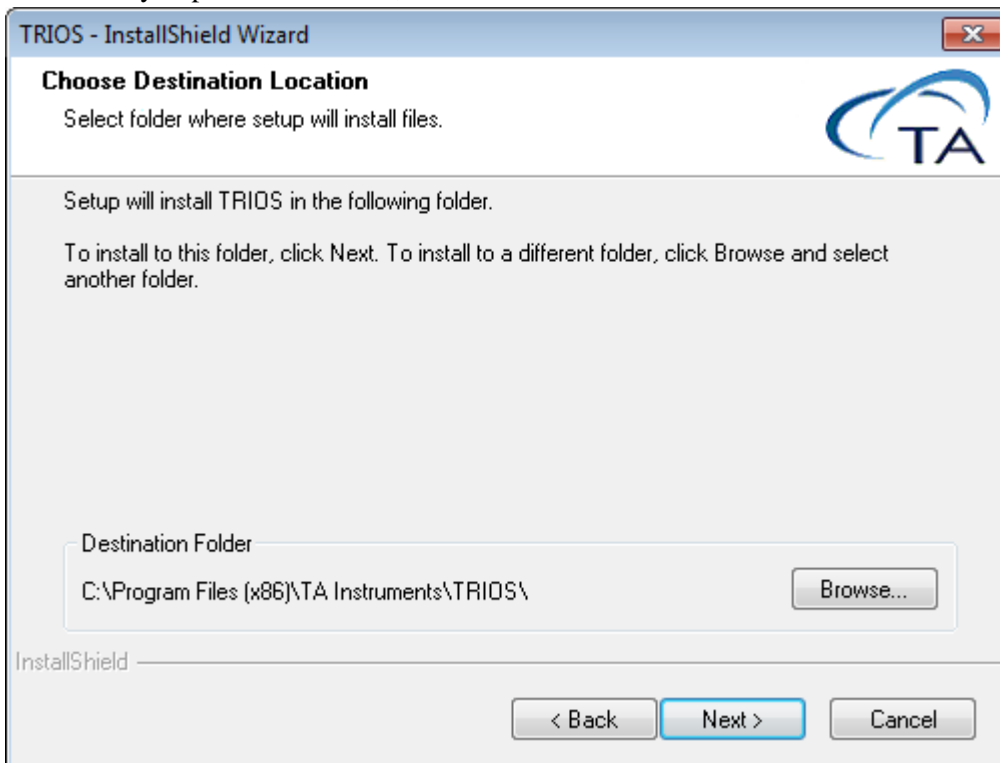


- 8 Enter your name and company, and select whether you are installing the application for all users or only yourself. Then click **Next**.



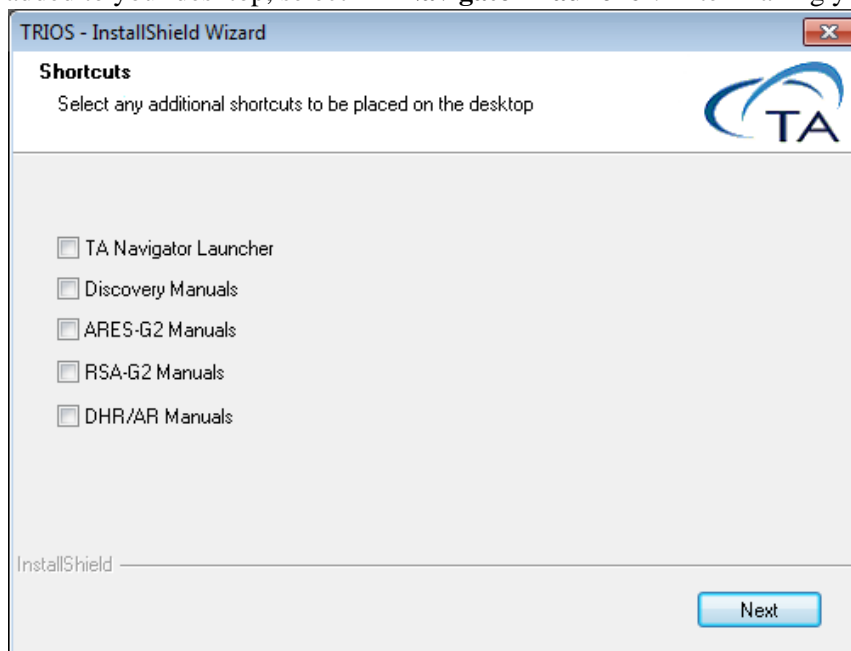
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- 9 If you would like TRIOS installed in a location other than the current Destination folder, browse to the folder that you prefer. Otherwise, click **Next**.



The screenshot shows the 'Choose Destination Location' window of the TRIOS - InstallShield Wizard. The window has a title bar with the text 'TRIOS - InstallShield Wizard' and a close button. The main area is titled 'Choose Destination Location' with the instruction 'Select folder where setup will install files.' and the TA Instruments logo. Below the title, it says 'Setup will install TRIOS in the following folder.' and 'To install to this folder, click Next. To install to a different folder, click Browse and select another folder.' There is a text box labeled 'Destination Folder' containing the path 'C:\Program Files (x86)\TA Instruments\TRIOS\'. To the right of the text box is a 'Browse...' button. At the bottom, there is a progress bar labeled 'InstallShield' and three buttons: '< Back', 'Next >', and 'Cancel'.

- 10** When the Start Copying Files dialog box displays, click **Next** to begin copying the files.
- 11** Once the files are copied, TRIOS is extracted and then the Shortcuts dialog box displays. Select the desired manuals that you wish to create shortcut icons for on your desktop. If you'd like a TA Navigator Launcher shortcut (used to launch Rheology Navigator for AR and DHR instruments) added to your desktop, select **TA Navigator Launcher**. After making your selections, click **Next**.



The manuals will still be available from within TRIOS software as well as the **Start > Programs** menu in your Windows operating system.

- 12** When complete, click **Finish** to close the installation window. Wait at least one minute before trying to establish communications with the instrument.

Establish an Instrument Connection (Discovery Thermal Series, ARES-G2, RSA-G2 Only)

To establish connection for the first time, configure the instrument and network connection. This process is different based on the instrument type. Select between the following options:

- Discovery Thermal Series, ARES-G2, RSA-G2 (continue with this section)
- ARES-G2 and RSA-G2 Ethernet Direct Connect (refer to page 14)
- Discovery Hybrid Rheometer (DHR) Series, AR Series (refer to page 20)

Once you have established connection, you can start the TRIOS software (refer to [“Start TRIOS Software”](#) on page 23).

Option 1: Connection of Instrument(s) to Standalone Router

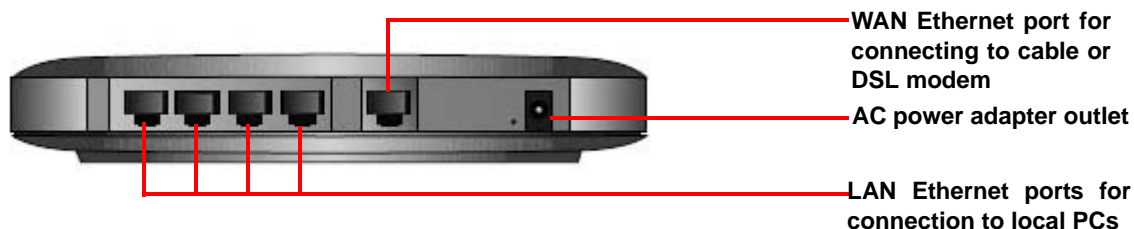
In this configuration, instruments are connected to a standalone router. This option requires that a dedicated 10 Base T /100 Base TX Ethernet card be installed in the controller to communicate with the instrument.

Connecting the Instrument to the Router

- 1 DO NOT install the CD included with the router, this is not applicable for our use.
- 2 Plug one end of the power cord into the power connector and the other end into the AC outlet (100-240 Vac 50/60 Hz).
- 3 Power off the instrument.
- 4 Locate the Network port on the rear of the instrument (shown in the figure below).



- 5 Connect one end of the Ethernet cable into the instrument's Network port.
- 6 Connect the other end of the Ethernet cable to one of the LAN ports on the router.



- 7 Power on the router and allow it to initialize.
- 8 Power on the instrument.

- 9 Check the Network port on the rear of the instrument. If communication between the instrument and the router has been properly established, a solid green light and flashing yellow light will appear at the port.
- 10 Follow the directions in the next section to connect the controller computer to the router.

Configuring the Ethernet Card for DHCP

To configure the Ethernet card for DHCP:

- 1 Click the Windows start button on the taskbar, then select **Control Panel > Network and Internet > View network status and tasks**.
- 2 Highlight the **Local Area Connection** link for the Ethernet card that will communicate with the instrument. Then right-click and select **Properties**.
- 3 From the **General** tab, highlight the **Internet Protocol Version4 (TCP/IPv4)** and then select **Properties**.
- 4 Enable the radio button selection **Obtain an IP address automatically** and click **OK**.

Connecting the Computer to the Router

- 1 Locate the Ethernet port on the back of the computer.
- 2 Plug one end of the Ethernet cable into the computer's Ethernet port (shown in the figure to the right).
- 3 Connect the other end of the cable to one of the network ports on the router.
- 4 Check the Ethernet port on the rear of the computer. If communication between the computer and the router has been properly established, a solid green light and flashing yellow light will appear at the port.
- 5 Follow the directions in the next section to connect the controller computer to a LAN for networking capabilities.



Connecting the Computer to a LAN (optional)

Before you can connect the controller computer to a LAN, you will need to have already installed an additional Ethernet card in the computer.

Only use this option if you do not wish to use the router to connect into the corporate network. Typically, you can simply connect into the corporate LAN from the Internet port on the router.

- 1 Locate the second Ethernet port on the back of the computer.
- 2 Plug one end of the Ethernet cable into the computer's Ethernet port.
- 3 Plug the other end into the corporate LAN.
- 4 Check the Ethernet port on the rear of the computer. If communication between the computer and the LAN has been properly established, a solid green light and flashing yellow light will appear at the port.

Option 2: Connection of Instrument(s) Directly to Corporate LAN

In this configuration, instruments are plugged directly into corporate LAN. This option requires that a single 10 Base T /100 Base TX Ethernet card (configured with corporate LAN settings) be installed in the controller to communicate with the instrument.

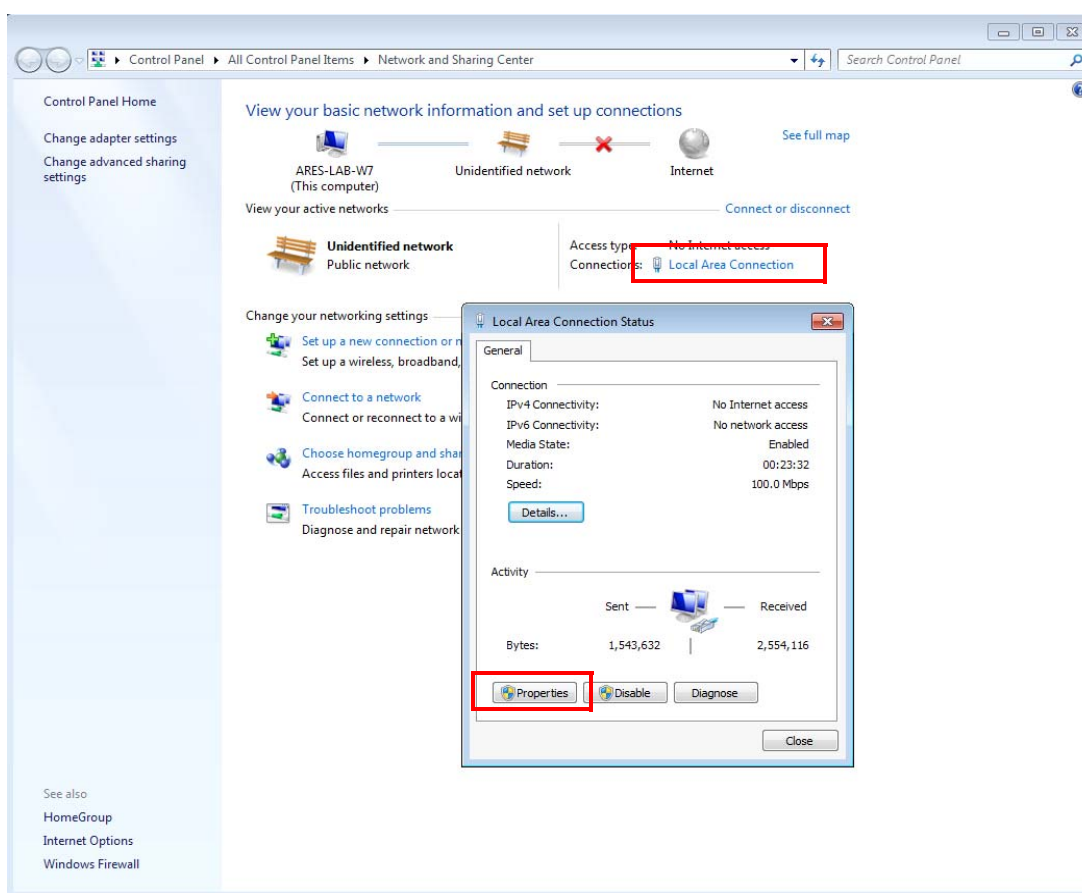
Discovery thermal instruments can be configured as DHCP or Static IP. If you are using Static IP addressing, you'll need to ensure the IP, Gateway, and Subnet Mask are compatible with your company network.

- 1 Power off the instrument.
- 2 Locate the Network port on the rear of the instrument.
- 3 Connect one end of the Ethernet cable into the instrument's Network port.
- 4 Connect the other end of the Ethernet cable to the corporate LAN.
- 5 Power on the instrument.
- 6 Locate the Ethernet port on the back of the computer.
- 7 Plug one end of the Ethernet cable into the computer's Ethernet port. Plug the other end into the corporate LAN.

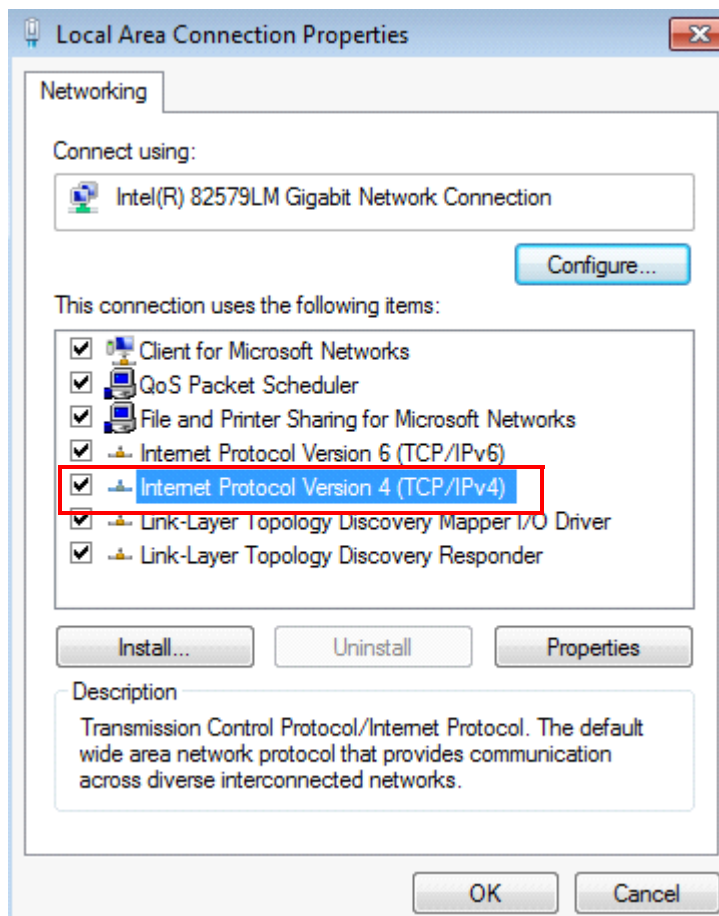
Ethernet: ARES-G2/RSA-G2 Direct Connect

For connecting the rheometer directly to the PC, follow these instructions:

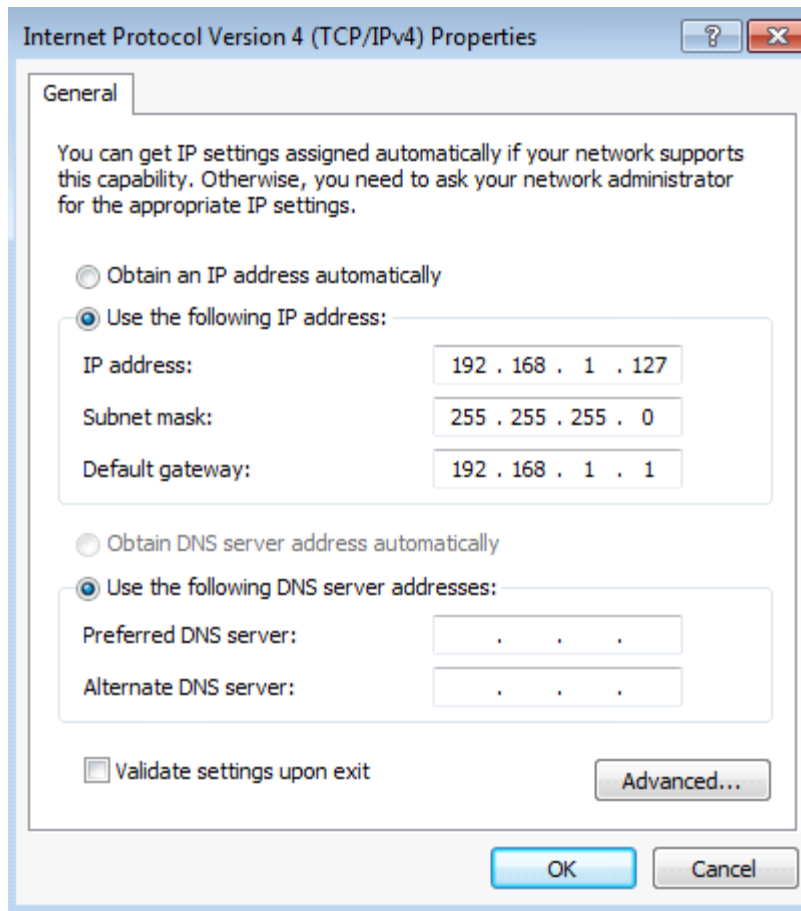
- 1 Connect an Ethernet cable from the instrument Ethernet port to the host computer Ethernet port.
- 2 Power up the instrument and then press the **Settings** tab on the touch screen.
- 3 Verify that the Network Address knob is set to **Static**. The following default values display:
 - IP Address: 192.168.1.128
 - Subnet Mask: 255.255.255.0
 - Default Gateway: 192.168.1.1
- 4 Select **Save Network Setting**.
- 5 Reboot the instrument to save network settings. Once the instrument is running again, on the host computer go to **Control Panel > Network and Sharing Center > Local Area Connection**. In the Local Area Connection Status dialog box, click **Properties**.



- 6 Verify that **Internet Protocol Version 4 (TCP/IPv4)** is selected, then click **Properties**.



- 7 Configure the PC network card as shown below and then click **OK**. Close all windows related to the local area connection.





- 8 Use the TA Instruments Explorer or TRIOS icon to connect to the instrument. The instrument should be recognized by the IP address (192.168.1.128). See **Using the TA Instrument Explorer** in TRIOS Help for additional information.

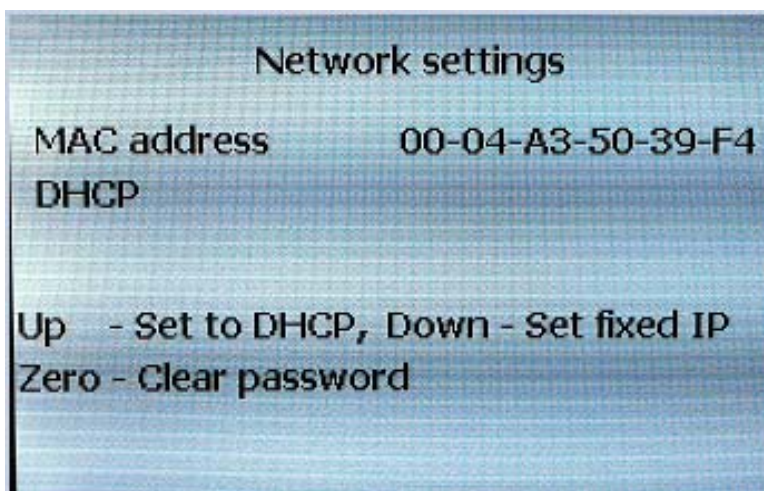
Establish an Instrument Connection (Discovery Hybrid Rheometer Series / AR Series Only)

Ethernet: DHCP Network

If your network is DHCP, follow these instructions for your applicable instrument.

DHR Series Instructions

- 1 Connect your controller computer to a Network port and configure it as necessary.
- 2 Connect the electronics module to a Network port using the cable provided and turn the power on.
- 3 Press the **Cycle Display** keypad button  to display network setup.
- 4 Use the **Up** keypad button  to select **DHCP**.



- 5 Press the **START** keypad button to reboot the system. The system will acquire a network address upon restarting.

AR Series Instructions



- 1 Connect your control computer to a Network port and configure it as necessary.
- 2 Connect the electronics module to a Network port using the cable provided and turn the power on.
- 3 Use TA Instrument Explorer (TAIE) to connect to your rheometer.

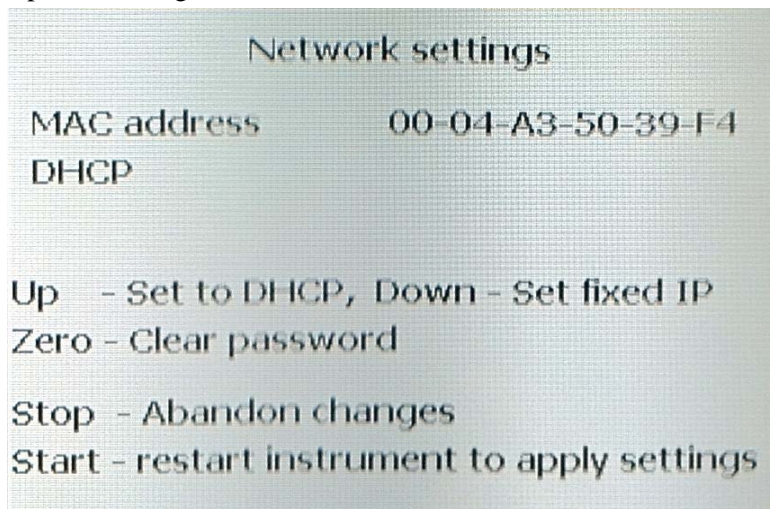
Ethernet: Direct Connect

For connecting the rheometer directly to the PC, follow these instructions:

- 1 Connect the electronics module to the PC using the cable provided and turn the power on.
- 2 Configure the system for a fixed IP address.

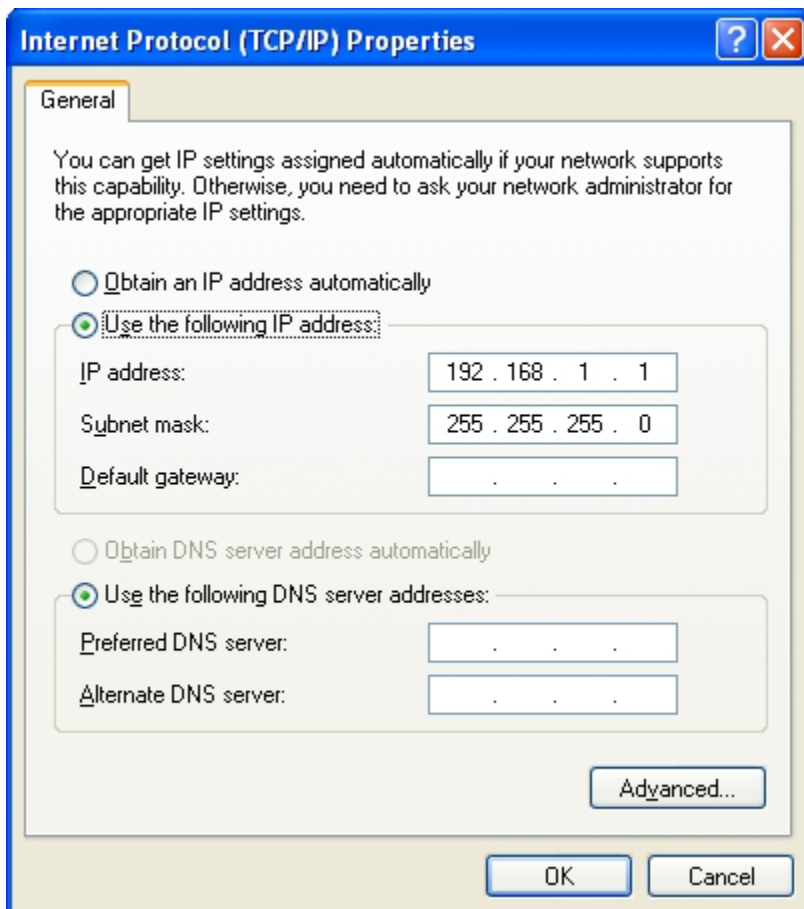
For DHR Series instruments:

- a Press the **Cycle Display** keypad button  to display network setup.
- b Use the **Down** keypad button  to select **fixed IP**.
- c Press the **START** keypad button to reboot the system. The system will acquire a network address upon restarting.



For AR Series instruments:

- a It will be necessary to wait 2 minutes while the electronics attempts to find a DHCP server. Once this has timed out, the system will default to a fixed IP address (192.168.1.2).
- 3 Configure the PC network card as shown below.



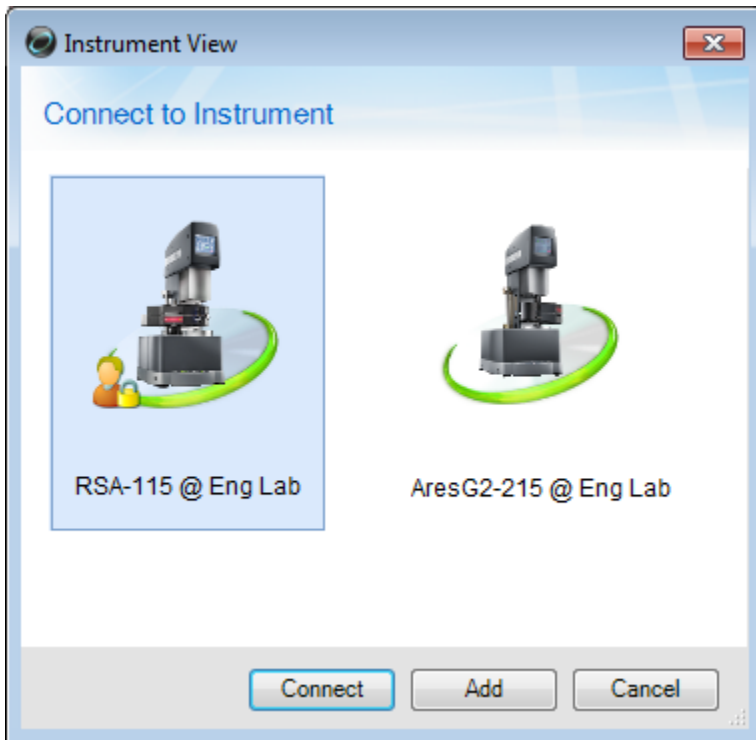
- 4 Use TA Instrument Explorer to connect to your rheometer. See **Using the TA Instrument Explorer** in TRIOS Help for additional information.

Start TRIOS Software

TRIOS can be started by doubling-clicking the TRIOS desktop shortcut.

- 1 Double-click the TRIOS shortcut.
- 2 An Instrument View dialog box displays and is auto-populated with your connected instruments.

NOTE: Click **Add** to add an instrument manually. Refer to the section [“Adding an Instrument Manually”](#) for more information.

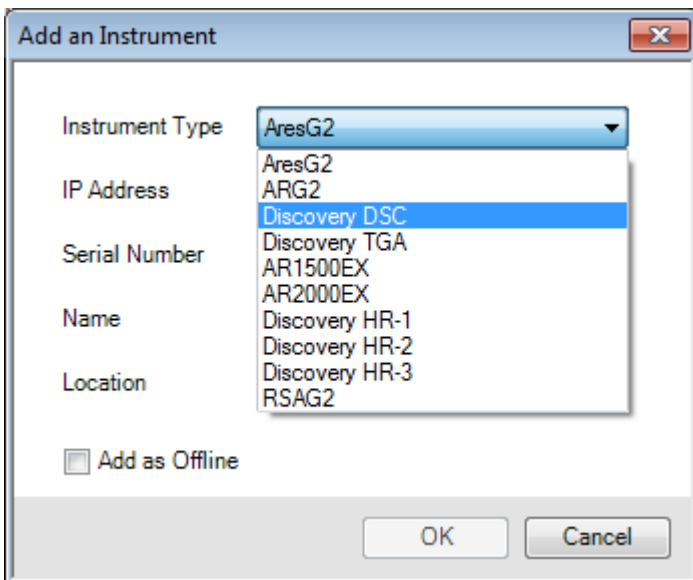


- 3 Double-click an instrument icon or click **Connect** to connect to an instrument.

Adding an Instrument Manually

- 1 In the Instrument View dialog box, click **Add**.

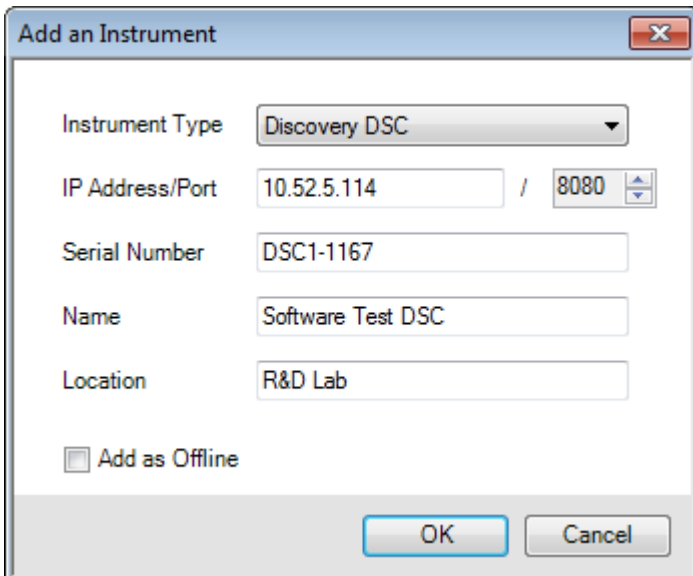
- 2 The Add an Instrument dialog box displays. Select the instrument type from the drop-down list and then click **OK**.



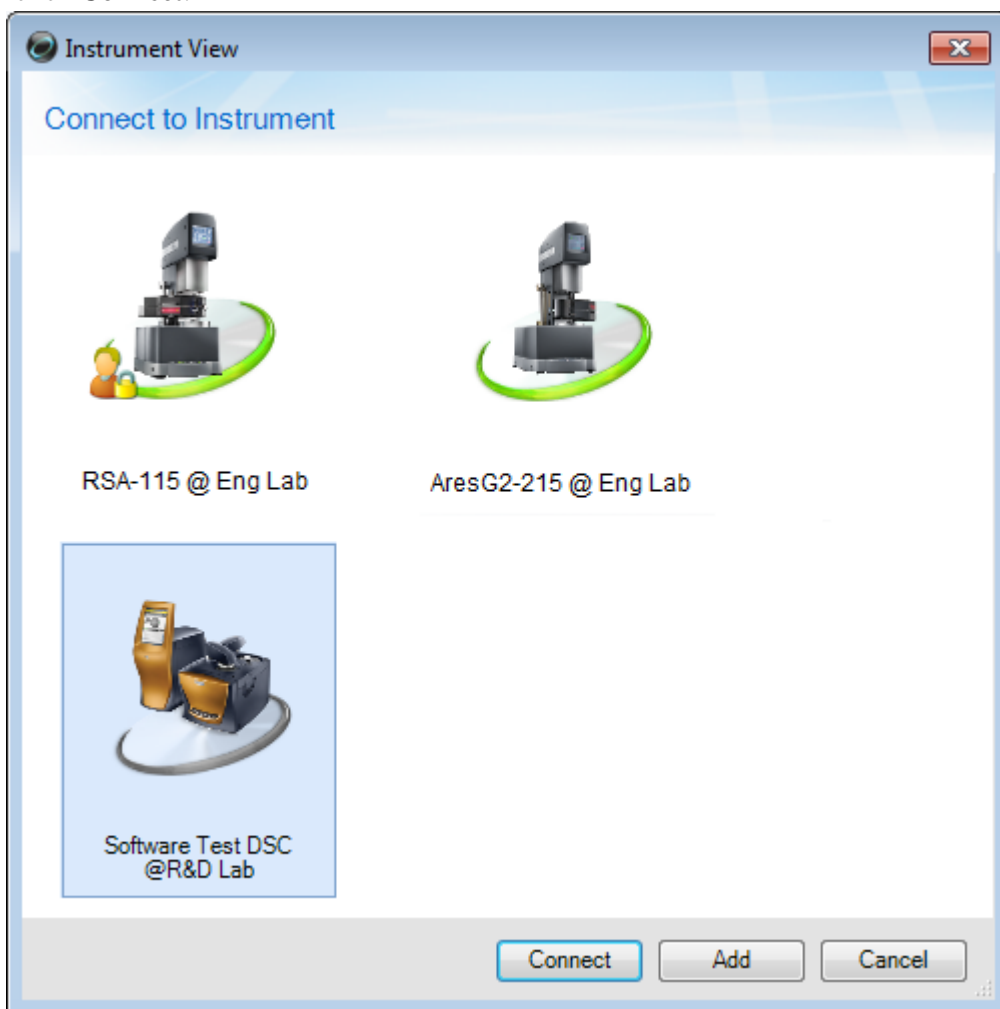
- 3 Enter the IP Address and Port, Serial Number, Name of the instrument, and Location of the instrument. If you only intend to view and analyze data, click **Add as Offline** to connect to the instrument offline. Click **OK** when all of the information has been entered.



The IP Address and Serial Number of the instrument can be obtained from the **Settings** tab on the instrument touch screen.



- 4 The instrument now displays in the Connect to Instrument dialog box. Select the instrument and then click **Connect**.



For more information regarding the connection dialog, refer to the topic “Connecting to an Instrument” in online help.

Update Instrument Software (Firmware) Instructions

Each instrument operating with the TRIOS Software requires a specific version of instrument firmware to properly communicate with the instrument control software. It's important that you update the firmware, if required. For instructions on how to update your instrument firmware using TRIOS Software, follow the instructions below.



NOTE: Instruments that do not have the proper version of the firmware installed will not communicate properly with the instrument control software.


Refer to your specific instrument's firmware update instructions located in TRIOS Help:

- Updating ARES-G2 Instrument Firmware using TRIOS
- Updating RSA-G2 Instrument Firmware using TRIOS
- Updating DHR/AR Instrument Firmware using TRIOS
- Updating Discovery Thermal Series Instrument Firmware using TRIOS

Ways to get assistance while you work

Everything that you need to know about using TRIOS software is online. This online information should be your primary source of information to help you use the program.

Online Help

The TRIOS software has an online help supplement. The Help provides access to extensive information on the instrument control and data analysis software and the instruments themselves. To access Help within the TRIOS software, click on the  located on the top right of the program.

Click **Table of Contents** to access a table of contents for the Help file.

Click **Search** for topics by using an index of subjects.

Click on the **Find** or **Search** to use full-text search and look for specific words or phrases.

Internet Explorer Security Options

The security options installed with Windows 7, Windows 8, and Windows 10 can prevent the Help from displaying properly. If this occurs, follow these instructions to allow Help to display properly:

- 1 Open Internet Explorer.
- 2 Select **Tools/Internet Options** from the menu and click on the **Advanced** tab.
- 3 Scroll down to the Security section and check the option to “**Allow active contents to run in files on My Computer.**”
- 4 Click **OK**.
- 5 Reboot the computer.

Changing this setting allows “active content” such as the ActiveX control to execute code in Internet Explorer. For more information on this topic, and its implication on computer security, please see <http://msdn.microsoft.com/security/productinfo/xpsp2/securebrowsing/locallockdown.aspx> for a discussion on Local Machine Zone Lockdown.

If you have any third-party software toolbars installed (such as Google or Yahoo), ensure that the pop-up blockers included with these toolbars are disabled so that Online Help will open. The built-in pop-up blocker that comes with Internet Explorer has no effect on the display of Online Help.

TA Instruments Mobile Application

The TA Instruments free mobile application for iOS and Windows can be downloaded from the Microsoft store. The app provides easy access to application notes, training videos, webinars, and also allows you to register for upcoming training courses and request service for your instrument or application.