

# WATCHMAN Services

As you kick off your WATCHMAN™ Service Program, this guide will help you accomplish the tasks you need to get going.

- Installing Sensor Attachment Pads**  
 Vibration measurement locations have been marked with a paint pen on each machine in your program. Follow the steps on **page 2** to install sensor attachment pads using Azima DLI best practices.
- Collecting & Synching Data with a TRIO**  
 When it's time to collect data, **pages 3-6** provide a quick reference on how to use your TRIO to capture vibration data and then send it securely over the Internet to Azima DLI for analysis.
- Accessing the WATCHMAN Reliability Portal**  
 Log in, adjust your user preferences, and access your reports using the instructions starting on **page 7**.

## Program Kick-Off Tasks

- Mount Pads
- Collect Data
- Sync TRIO Database
- Log In to Portal
- Set Up Notification
- Access Analyst Reports

## Additional Documentation

**TRIO:** The *TRIO User's Guide* and the *ALERT User's Guide* are both available at the Azima DLI Resource Center at <https://knowledge.azimadli.com>. You can also access the same information in online format by clicking the **Help** button in either Data Collector Mode (for TRIO™ information) or Analysis Mode (for ALERT™ information).

**WATCHMAN Reliability Portal:** Detailed information is available from any Portal page via the **Help** icon: 

## Questions?

### Contact your Azima DLI Analyst or Program Manager

See your WATCHMAN Services implementation document for milestones, program schedule, and contact information for your entire Azima DLI team.

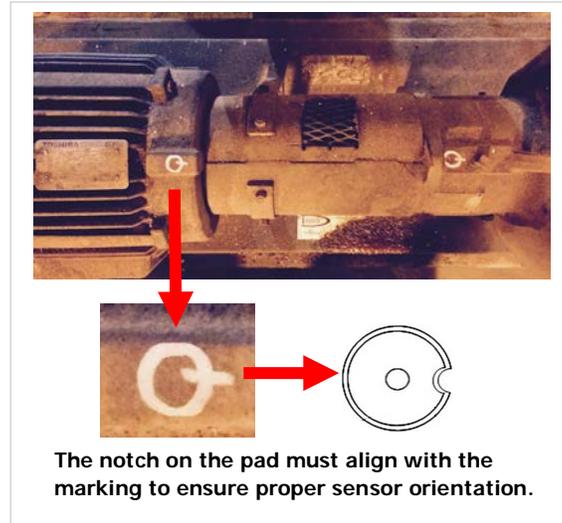
**HAZLOC TRIO Users:** TRIO HX10/HA10 data collectors are certified for use in hazardous environments (Class 1, Division 2). To ensure compliant use of the equipment, read all safety information and warnings associated with the Controller and Data Processor (DP) prior to use. This information can be found in the HAZLOC TRIO User's Guide and BARTEC User Manual. Operation of the TRIO in a manner not specified by the manufacturers may impair the protection provided by the equipment.

# Installing Sensor Attachment Pads

1. **Identify the locations marked with a paint pen.**  
The marks should be easily located and clearly show where the alignment notch on the pad should be oriented. The notch location will be marked with an arrow or line.

2. **Prepare the location on the machine.**

- a. Use a dry rag to clean the mounting area, removing oil, water, dirt, and other debris. If necessary, build a temporary dam to keep the area clean and dry if it is near a leaking gland or in a dusty environment.
- b. Use a portable grinder or hand file to remove paint and rust from the area where the pad will be attached. Best practice is to have metal-to-metal contact between the pad and machine surface.



- c. If the bearing housing is curved, use a grinder/spot facer tool to create a flat, 1-inch diameter surface.



3. **Clean the sensor attachment pad.** Use a dry rag to clean the surface of the pad that will mate with the bearing housing. Sometimes the pads have residual machine oil that is left over from the manufacturing process used to create the pad.

4. **Paint on Loctite® Accelerator 7380.** Paint the contact surfaces of the attachment pad and the machine liberally with the accelerator and let it dry for at least 20 seconds. Ensure you entirely coat the area on the machine where the pad will be attached.

**WARNING!**  
Use gloves and do not allow the accelerator or adhesive to make contact with your skin. Review the Material Safety Data Sheet (MSDS) that came with these products.

5. **Apply Loctite® Adhesive 325.** Apply a drop of adhesive to the surface of the pad and immediately press the pad onto the machine surface in the proper orientation (per the marking made by your Azima DLI Analyst). Hold the pad in place for about 30 seconds; longer if you are in an exceptionally cold or humid environment.

**Note:** Maximum strength occurs with a bond gap of 0.05mm, so try to squeeze out all excess. Machining grooves into the bottom surface of the pad is discouraged. Bond gap should not exceed 0.2mm.

6. **After 1 hour, wipe any excess adhesive that dripped around the pad.** The bond is at maximum strength after 24 hours.

7. **Place a plastic cap over the pad to keep paint and sediment from fouling the tapped hole.** The caps are provided with the pads.

# Collecting & Synching Data with a TRIO

TRIO Controllers have a touch screen. Use your finger or the provided stylus pen to perform screen actions.

## Task 1: Turn on TRIO and Log into Windows

1. **Turn on your TRIO.** Press and hold down the **Power** button until the Controller’s power LED lights up. Where the **Power** button is located and how long you need to press it depends on your TRIO model.

HAZLOC TRIOS (HX10, HA10)	C-Series TRIOS (CX10, CA10, CX7, CA6)
<p><b>Power</b> button is on the bottom right of the Controller. Hold it down for at least three seconds.</p> 	<p><b>Power</b> button is on the front of the Controller. Hold it down for at least five seconds</p> 

2. **Log on to the tablet’s Windows® operating system.** Click the **trio** icon to open the login screen, then enter `trio` in the **Password** box and click the enter button.

## Task 2: Sync TRIO Prior to Data Collection

“Replication” is a two-way process that syncs the database on the TRIO with the master database used by Azima DLI to perform diagnostics. When you replicate your TRIO, newly collected data is pushed to Azima DLI and any database changes made in the master database by your Analyst are copied down from the WATCHMAN Data Center to your unit.

We recommend you sync your TRIO data collector BOTH before and after you collect data. The former applies database changes waiting for you from your Analyst; the latter pushes your newly collected data to Azima DLI.

There are two replication methods available:

- WATCHMAN Sync Utility
- Traditional Replication

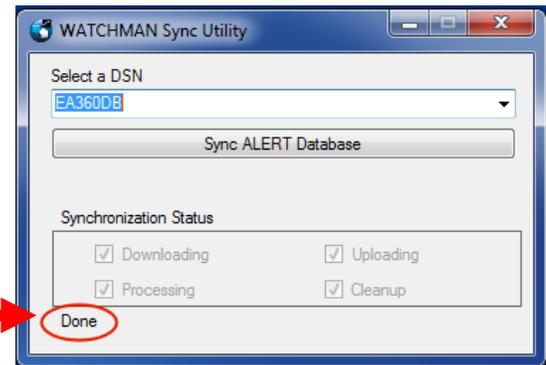
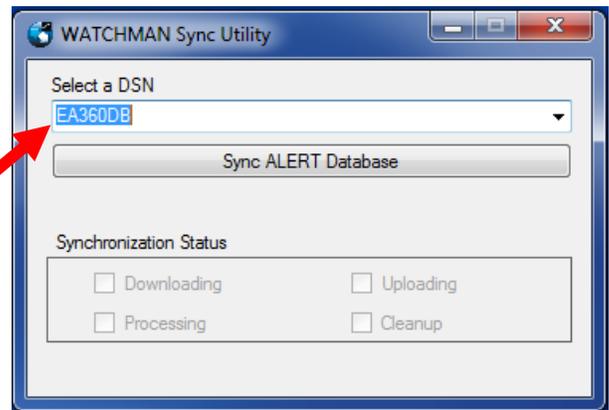
Your TRIO is pre-set to use one of these methods based on your plant’s IT policies. If you do not know which method to use, ask your Azima DLI Analyst or Program Manager.

### Requirements

- Both synchronization methods require the TRIO to be powered ON and connected to the Internet (either wirelessly or through a wired connection). If you are unsure of whether your TRIO is connected to the Internet, launch Microsoft’s Internet Explorer browser and see if you can access a website, such as [www.AzimaDLI.com](http://www.AzimaDLI.com). If you are in a location with “spotty” Internet connectivity, consider waiting until you are somewhere with a more stable connection before synchronizing to avoid an interruption of your data transfer.
- Both synchronization methods require that your firewall allow access to an external FTP server. If you experience any problems, check with your IT staff to ensure your firewall settings are set appropriately.

### Method #1: Using the WATCHMAN Sync Utility

1. Log on to the TRIO Controller and ensure it is connected to the Internet.
2. From the desktop, double-click the **WATCHMAN Sync Utility** icon. 
3. On the WATCHMAN Sync Utility dialog box, select your database from the **Select a DSN** drop-down list.
4. Click the **Sync ALERT Database** button.
5. Wait while the selected subscription database on the TRIO synchronizes with its master database at the WATCHMAN Data Center. Note the following:
  - The time it takes depends on many factors, including the amount of data being transferred, the size of the database, and the quality and speed of your Internet connection.
  - As the process happens, you can track its progress by watching the Synchronization Status area. The **Downloading**, **Processing**, **Uploading**, and **Cleanup** check boxes are selected as those tasks are completed.
  - Once the synchronization is complete, the word “Done” appears on the bottom of the dialog box and all four Synchronization Status check boxes are selected.



6. Close the WATCHMAN Sync Utility. The database on your TRIO and its master database at the WATCHMAN Data Center are now synchronized.

### Method #2: Using Traditional Replication

1. Log on to the TRIO Controller and ensure it is connected to the Internet.
2. Double-click the **Send Data to Azima DLI** icon on the desktop of your TRIO. A black command prompt opens and remains open while data is transmitted. You will see messages about receiving and sending data in the window.



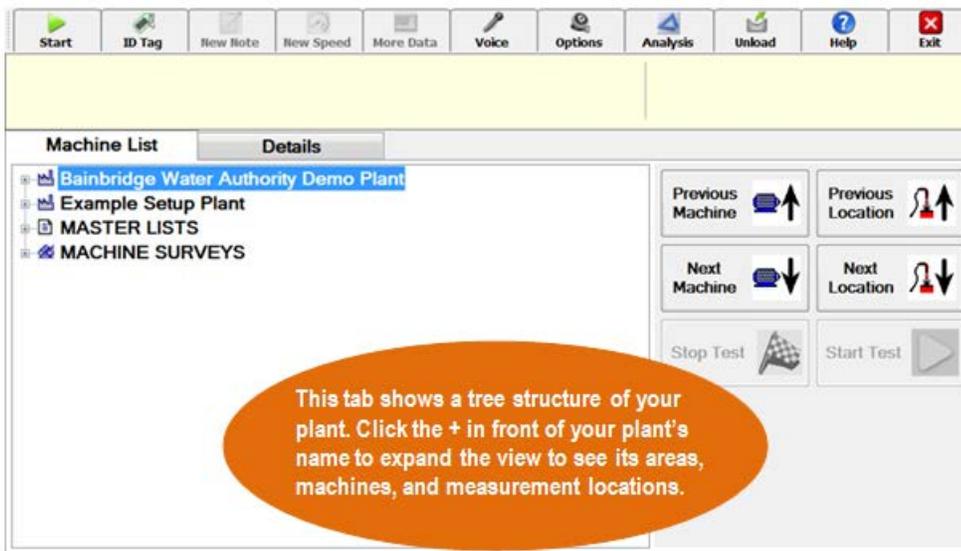
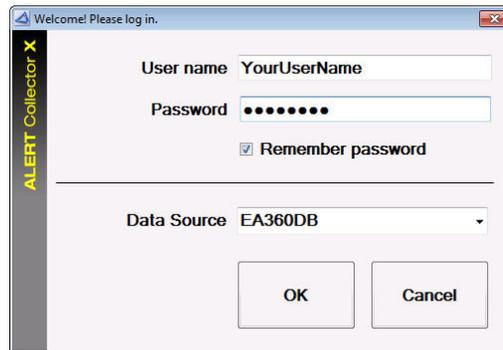
**Tip!** If you do not see a **Send Data to Azima DLI** icon, look for one that says **DBRemote on...** and use that instead.

If the command prompt opens and closes quickly, contact Azima DLI Technical Support as this means there was most likely a problem with the transfer.

### Task 3: Launch the Data Collection Software

1. On the desktop, double-click the **CollectorX 3.60** icon (for TRIO X-Series) or the **Collector 3.60** icon (for TRIO A-Series).
2. On the Welcome dialog box, select the name of your database from the **Data Source** drop-down and click **OK**.

Once logged in, you will be in Data Collection Mode with the **Machine List** tab selected by default.



### Task 4: Power on the Data Processor (DP)



1. Press the power button on the top of the Data Processor (DP).
2. Wait while the DP searches for a Bluetooth connection to the Controller. The Bluetooth light blinks blue while it searches for the Controller and becomes steady blue when connected.

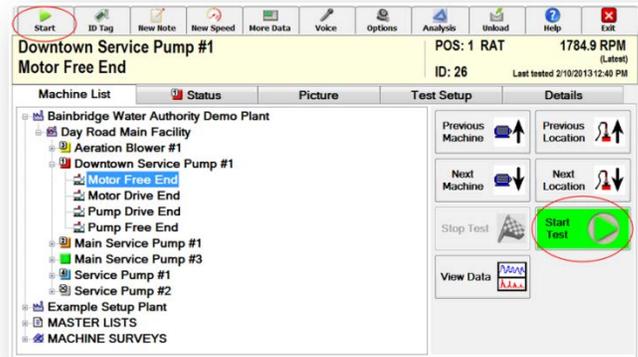
**Tip!** If Bluetooth is not an option, you can tether the Data Processor and Controller via the USB cable provided with your TRIO. If you use this option, be sure to connect the USB cable before turning on the DP unit.

*Note:* HAZLOC TRIOS will have a tethered locking tachometer plug and locking collar in place that is required for use while inside hazardous locations.

## Task 5: Collect Data

This section assumes sensor pads are already attached to the machine, the appropriate sensor and cable are connected to the Data Processor, and the Controller and Data Processor are connected via a Bluetooth or wired USB connection.

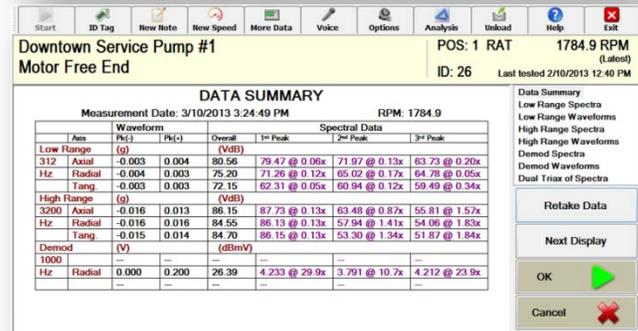
1. Connect the accelerometer to the location from which you want to collect data.
2. On the **Machine List** tab, select the corresponding location in the tree structure. You can expand the tree by clicking on it or by clicking the navigation buttons on the right side of the screen.
3. Click the green **Start Test** button to start the collection. (You can also click the **Start** button in the top toolbar.)



**C-Series TRIOs:** You can use the up/down/left/right membrane buttons on the front of the TRIO Controller to navigate the tree; use the center **OK** button to start the test.



4. Wait while data is collected. When complete, a summary screen appears. Click **OK** to save the collected data. If you need to retake the data (for example, machine conditions changed during the test), click the **Retake Data** button *instead* of the **OK** button to start collection again. If you retake data, the initial data is not saved; click **OK** when the new data summary appears to save the retaken data.



**Tip!** If you do not want to see the summary information after each test, you can turn it off via your Data Collection Options. Click the **Options** button in the main toolbar and clear the **Pause after measurement...** check box. If you like seeing the information, but want it in a different format, you can specify a different display for the default view.

## Task 6: Send Data to Azima DLI via the Internet

Once collected, data must be sent to Azima DLI for analysis. This is done using the same synchronization process as prior to collection. Follow the steps in "Task 2: Sync TRIO Prior to Data Collection" to sync the database on your data collector with the WATCHMAN Data Center.

Because synchronizing is a two-way process, your Analyst may require you to synchronize TWICE after collection to confirm that data is sent and database changes are received. You may also be asked to send an email identifying the number of machines from which data was sent.

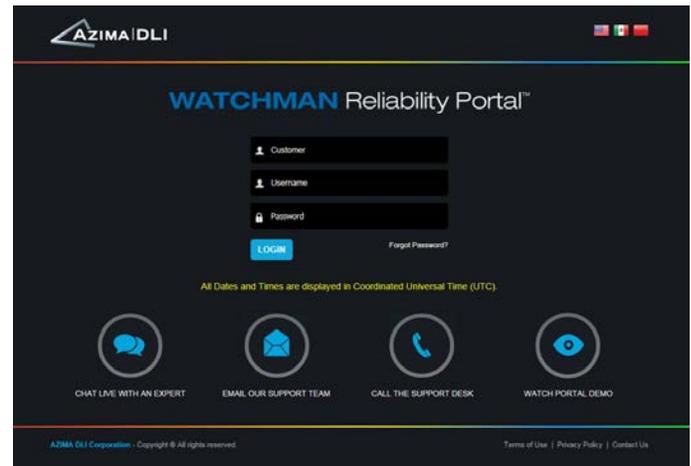
# Accessing the WATCHMAN Reliability Portal

This section will help new WATCHMAN Service customers get started with the WATCHMAN Reliability Portal by highlighting some of its key features. Full documentation can be found by clicking the Help icon  on any WATCHMAN Reliability Portal page.

## Logging In

The WATCHMAN Reliability Portal can be accessed from any computer with an Internet connection and Internet Explorer 9 or later. We suggest you bookmark its URL for future use.

1. Open Internet Explorer 9 or later and navigate to: <https://www.WatchmanPortal.com>.
2. Enter the following information:
  - a. In the **Customer** box, enter the customer name provided to you by Azima DLI.
  - b. In the **Username** box, enter the login name provided to you by Azima DLI.
  - c. In the **Password** box, enter the password provided to you by Azima DLI.
3. Click the **LOGIN** button.

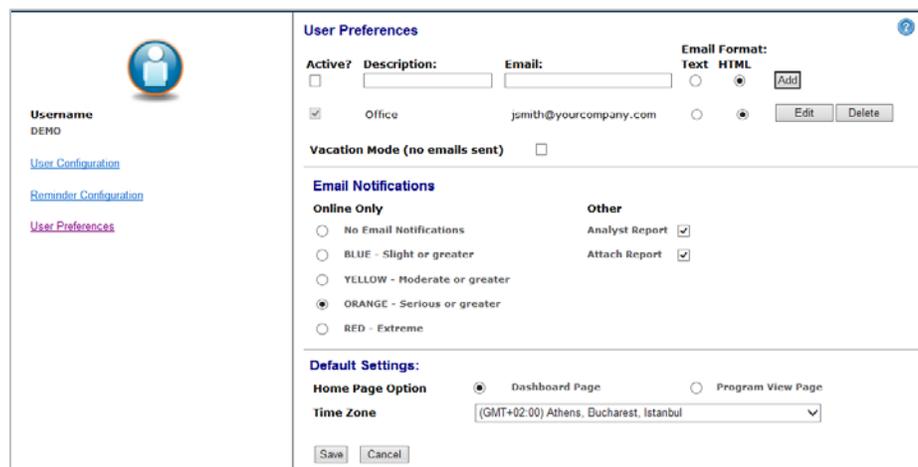


**Tip!** If you forget your login, click the “**Forgot your password?**” link to open your email client and send a message to Azima DLI. Should your email client not open automatically, open it, and send an email to [support@AzimaDLI.com](mailto:support@AzimaDLI.com) with “WATCHMAN Portal Login Help” in the **Subject** line.

## Setting Up Email Notifications

The WATCHMAN Reliability Portal can notify you of events you are interested in, such as when an online-monitored machine’s health changes or when an analyst posts a new diagnostic report.

To receive these notifications, enter the email to which you want them sent and identify the notifications you are interested in.



To do this, choose **Preferences>User Preferences** from the main toolbar to open the User Preferences page.

## Accessing Reports

Whenever your analyst posts a diagnostic report, it will be accessible from the WATCHMAN Reliability Portal. There are multiple ways to access analyst reports. The most direct way is from the Dashboard, explained next.

1. Log in to the WATCHMAN Reliability Portal.
2. On the Dashboard, ensure the plant for which you want to view analyst reports is selected from the drop-down list on the upper right of the page. If it is not, select it. (If you have access to more than one plant and want to see reports from all of the plants to which your login has permission, select **All Plants**.)

3. Click the **Recent Analysis Results** button to see the 20 most recent reports posted about the selected plant.
4. Review the analyst reports listed and then click the **Report Description** for the report you want to see.

The list includes a description of the report and the date/time it was uploaded to the Portal (using the time zone specified in your preferences) so you can easily identify the report you want.

The **Report Description** is color-coded based on the importance assigned to it by your analyst when uploading it to the Portal.

**Tip!** If you want to see all reports for this plant and not just the last 20, click the **View All Reports** button.

Point Name	Report Description	Date Added	Plant/Area/Machine/Survey Name
Oil Report	Oil Report March	3/20/2016 3:15:12 PM	Industry Vertical - Chemicals
Vibration Analysis	Vibration Report February	2/2/2016 2:55:07 PM	Industry Vertical - Oil and Gas Machine: SUR-0161-P-6103 B Emulsion Pump
Vibration Analysis	Vibration Report January	1/8/2016 9:24:06 AM	Industry Vertical - Chemicals Area: Phenol 1
Vibration Analysis	Vibration Report Dec		
Vibration Analysis	Vibration Report Nov		
Vibration Analysis	Vibration Report Oct		

**AZIMA | DLI**

**PERIODIC MACHINE VIBRATION ANALYSIS REPORT**

**PREPARED FOR:**  
ABC Power Plant  
Area B  
February 2, 2016

Prepared by: Analyst David Harmon  
Program Manager: Tim Kelley

5. The report opens in a new window. Print or save it to your local computer (if needed).