

# EDAT

## Eclipse/Equinox Data Acquisition Tool



# Introduction

- Computer to Concentrator Interface
- Compatible with Eclipse 2, Eclipse 2 Plus, Eclipse 3, Eclipse 5, and eQuinox
- Assists with:
  - Real Time Diagnostics
  - Preventative Maintenance
  - Power Cartridge Management
  - Functional Reports for Record Keeping
- Part Number: 5535-SEQ
- Parts Included:
  - T-9671-SEQ Eclipse Communications Cable
  - 5414-SEQ Dual Port USB to Serial Converter & Cable
  - 5419-SEQ EDAT User's Manual
  - 5416-SEQ EDAT Installation CD
- System Requirements: Windows Vista Basic, Windows 7, Windows 8.1

# EDAT Features

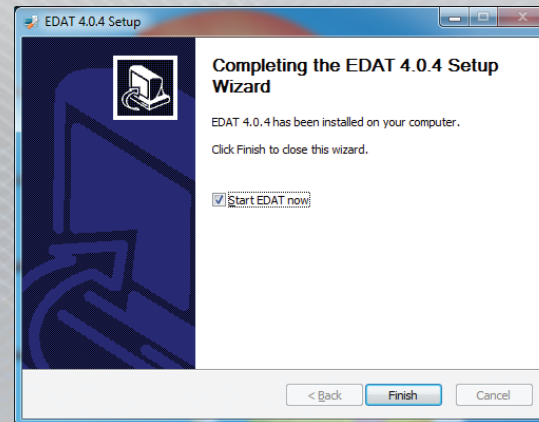
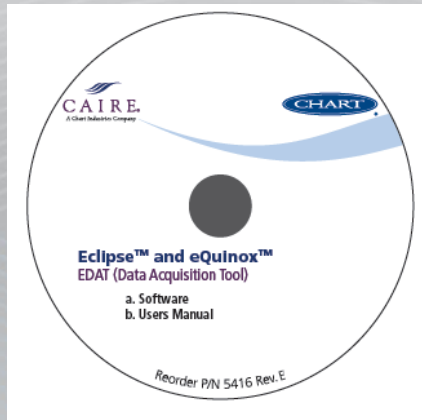
- **Real Time Event Log**
  - Alarms, Power Sources, Etc.
- **Monitors Performance Specifications**
  - Compressor, Flow, O2 Concentration
- **Monitors Temperatures and Pressures**
- **Monitors Battery/Power Operating Specifications**
- **Allows for firmware upgrades of the Eclipse**
  - Often necessary when replacing circuit boards
- **Displays hours of operation and software versions**
- **Allows for pulse flow testing**





# Installation Overview

1. Insert the EDAT Installation CD, or download EDAT from the [CAIRE website](#)
  - Username and Password is needed to access the online download
2. Double-click **EDAT Setup** to start the installation
3. Follow the prompts for installation
4. Installation confirmation box should be shown after completion of setup



**NOTE:** Older versions of EDAT must be removed before a new version can be installed. Search through your computers Control Panel to remove the older program from the hard-drive.

# Connecting EDAT

1. Connect USB cable to USB-Serial converter box



2. Connect communications cables to USB-Serial converter box



3. Connect USB cable to computer



4. Connect communications cable to the unit and then start EDAT



\*It is highly recommended that the user let EDAT assign COM ports.

# Monitoring the Compressor, Flow, Pressure, and Temperature

## Compressor and Flow

O2 Concentration: 79.5 %  
 Actual Compressor Speed: 2950 RPM  
 Target Compressor Speed: 2963 RPM  
 Measured Flow: 2.46 LPM  
 Target Flow: 2.44 LPM

- The difference between the Actual Compressor Speed and the Target Compressor Speed should not exceed +/-300 RPM
- The difference between the Abs Product Pressure and the Target Product Pressure should not exceed +/-3 PSI

## Pressure and Temperature

Ambient Pressure: 14.3 psia  
 Rel Product Pressure: 7.3 psig  
**Abs Product Pressure: 21.6 psia**  
**Target Product Pressure: 20.6 psia**  
 Product Temperature: 24 °C  
 Compressor Temperature: 41 °C  
 PM PCB Temperature: 42 °C  
 Battery1 Temperature: 26 °C  
 Battery2 Temperature: N/A

The screenshot shows the EDAT software interface with several panels:

- Control Board:**

#	Event	Status
1	O2 < 70% Low Battery	Full Pack Installed Continuous 2.5L
2	O2 < 85% Low Battery	Full Pack Installed Continuous 2.5L
- Power Board:**

#	Event	Status
- Compressor and Flow:**

O2 Concentration:	79.5 %
Actual Compressor Speed:	2950 RPM
Target Compressor Speed:	2963 RPM
Measured Flow:	2.46 LPM
Target Flow:	2.44 LPM
- Pressure and Temperature:**

Ambient Pressure:	14.3 psia
Rel Product Pressure:	7.3 psig
Abs Product Pressure:	21.6 psia
Target Product Pressure:	20.6 psia
Product Temperature:	24 °C
Compressor Temperature:	41 °C
PM PCB Temperature:	42 °C
Battery1 Temperature:	26 °C
Battery2 Temperature:	N/A
- Power:**

Battery1 Voltage:	14.4 V	External Power:	0.0 W
Battery1 Current:	-6.0 A	External Current:	6.0 A
Battery1 ICA:	3.7 Ahr	External Voltage:	0.1 V
Battery2 Voltage:	N/A		
Battery2 Current:	N/A		
Battery2 ICA:	N/A		

At the bottom of the interface, there are status indicators: "eQuinox detected", "CB COM OK", and "PM COM OK".

# Monitoring the Battery and Power

## eQuinox

Power	
Battery1 Voltage:	14.4 V
Battery1 Current:	-6.0 A
Battery1 ICA:	3.7 Ahr
Battery2 Voltage:	N/A
Battery2 Current:	N/A
Battery2 ICA:	N/A

- Eclipse will have 2 Batteries displayed
  - Compare ICA's to determine if calibration is needed

## Eclipse

Power	
Battery1 Voltage:	15.3 V
Battery1 Current:	-5.1 A
Battery1 ICA:	8.6 Ahr
Battery2 Voltage:	15.2 V
Battery2 Current:	-5.0 A
Battery2 ICA:	8.7 Ahr

The screenshot shows the EDAT software interface with the following sections:

- Control Board:**

#	Event	Status
1	O2 < 70% Low Battery	Full Pack Installed Continuous 2.5L
2	O2 < 85% Low Battery	Full Pack Installed Continuous 2.5L
- Power Board:**

#	Event	Status
- Compressor and Flow:**
  - O2 Concentration: 79.5 %
  - Actual Compressor Speed: 2950 RPM
  - Target Compressor Speed: 2963 RPM
  - Measured Flow: 2.46 LPM
  - Target Flow: 2.44 LPM
- Pressure and Temperature:**
  - Ambient Pressure: 14.3 psia
  - Rel Product Pressure: 7.5 psia
  - Abs Product Pressure: 21.6 psia
  - Target Product Pressure: 20.6 psia
  - Product Temperature: 24 °C
  - Compressor Temperature: 41 °C
  - PM PCB Temperature: 42 °C
  - Battery1 Temperature: 26 °C
  - Battery2 Temperature: N/A
- Power:**

Battery1 Voltage:	14.4 V	External Power:	0.0 W
Battery1 Current:	-6.0 A	External Current:	6.0 A
Battery1 ICA:	3.7 Ahr	External Voltage:	0.1 V
Battery2 Voltage:	N/A		
Battery2 Current:	N/A		
Battery2 ICA:	N/A		

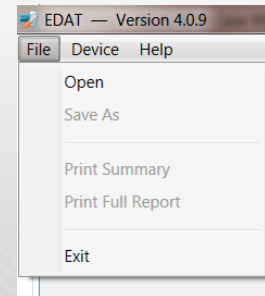
At the bottom of the interface, there are status indicators: "eQuinox detected", "CB COM OK", and "PM COM OK".



# EDAT Menu

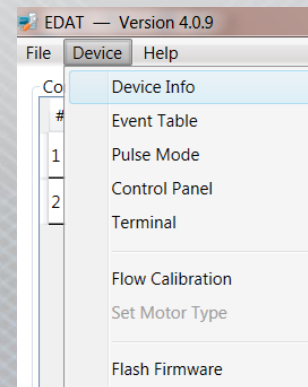
## FILE:

- OPEN**
- SAVE AS**
- PRINT SUMMARY**
- PRINT FULL REPORT**
- EXIT**



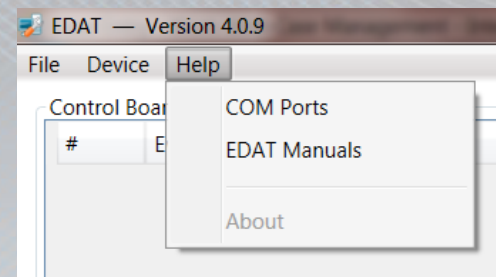
## DEVICE:

- DEVICE INFO**
- EVENT TABLE**
- PULSE MODE**
- CONTROL PANEL**
- TERMINAL**
- FLOW CALIBRATION**
- SET MOTOR TYPE**
- FLASH FIRMWARE**



## HELP:

- COM PORTS**
- EDAT MANUALS**
- ABOUT**





# Print Summary vs Full Report

## SUMMARY

## FULL REPORT

Eclipse / Equinox Data Acquisition Tool Report

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Serial Number: \_\_\_\_\_

Control Board Software Part Number: 4813C1 Revision: 3.3 CRC: 87  
 Power Manager Software Part Number: 4814C1 Revision: 3.3 CRC: 0B

Date: Wednesday, March 02, 2016, 12:03:38 PM

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Compressor & Flow

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O2 Concentration	65.0 %	Measured Flow	2.53 LPM
Actual Compressor Speed	2950 RPM	Target Flow	2.43 LPM
Target Compressor Speed	3073 RPM		

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Pressure & Temperature

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Ambient Pressure	14.3 psia	Product Temperature	25 °C
Rel Product Pressure	6.4 psig	Compressor Temperature	43 °C
Abs Product Pressure	20.7 psia		
Target Product Pressure	20.6 psia	PM PCB Temperature	34 °C
Battery1 Temperature	28 °C	Battery2 Temperature	N/A

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Power

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Battery1 Voltage	14.2 V	External Current	6.8 A
Battery1 ICA	3.0 Ahr	External Voltage	0.1 V
Battery2 Voltage	N/A	External Power	0.0 W
Battery2 ICA	N/A		

Eclipse / Equinox Data Acquisition Tool Report

Name: \_\_\_\_\_  
 Company: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 Serial Number: \_\_\_\_\_

Control Board Software Part Number: 4813C1 Revision: 3.3 CRC: 87  
 Power Manager Software Part Number: 4814C1 Revision: 3.3 CRC: 0B

Date: Wednesday, March 02, 2016, 12:05:24 PM

---

Compressor & Flow

---

O2 Concentration	80.1 %	Measured Flow	2.49 LPM
Actual Compressor Speed	2975 RPM	Target Flow	2.43 LPM
Target Compressor Speed	2983 RPM		

---

Pressure & Temperature

---

Ambient Pressure	14.3 psia	Product Temperature	25 °C
Rel Product Pressure	7.6 psig	Compressor Temperature	43 °C
Abs Product Pressure	21.9 psia		
Target Product Pressure	20.6 psia	PM PCB Temperature	41 °C
Battery1 Temperature	28 °C	Battery2 Temperature	N/A

---

Power

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Battery1 Voltage	14.1 V	External Current	6.5 A
Battery1 ICA	2.8 Ahr	External Voltage	0.1 V
Battery2 Voltage	N/A	External Power	0.0 W
Battery2 ICA	N/A		

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Control Board Event Table

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#	Event	Status
1	O2 < 85%	Full Pack Installed
	Low Battery	Continuous 2.5L
2	O2 < 85%	Full Pack Installed
	Low Battery	Continuous 2.5L
3	O2 < 85%	Full Pack Installed
	Low Battery	Continuous 2.5L

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Power Manager Event Table

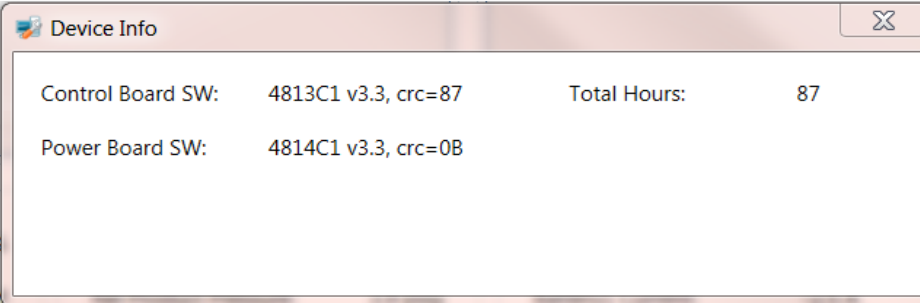
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#	Event	Status
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- Full report includes the summary plus the event table

# Device Menu

## Device Info:

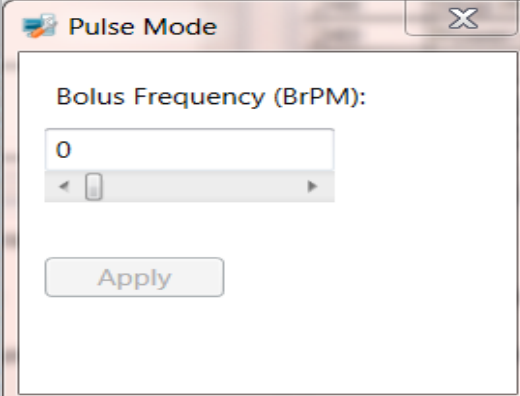


Control Board SW: 4813C1 v3.3, crc=87      Total Hours: 87  
Power Board SW: 4814C1 v3.3, crc=0B

## Event Table:

Control Board			Power Board		
#	Event	Status	#	Event	Status
245	Low Battery	Standby Full Pack Installed Continuous 2.5L	237	Battery Charger Enabled	
246	O2 < 70% Low Battery	Full Pack Installed Continuous 2.5L	238	Battery Charger Disabled	
247	O2 < 85% Low Battery	Full Pack Installed Continuous 2.5L	239	Battery Charger Enabled	
248	O2 < 70% Low Battery	Full Pack Installed Continuous 2.5L	240	Stop Production	
249	O2 < 85% Low Battery	Full Pack Installed Continuous 2.5L	241	Battery Charger Disabled	
250	O2 < 85% Low Battery Continuous 1.0L	Full Pack Installed Continuous 1.0L	242	AC Adapter Removed	
251	O2 < 85% Low Battery Continuous 0.5L	Full Pack Installed Continuous 0.5L	243	Power Off	
			244	Power Off	
			245	Battery Pack Installed	
			246	Battery Pack Installed	
			247	Start Production	
			248	Stop Production	
			249	Power Off	
			250	Power Off	
			251	Battery Pack Installed	
			252	Start Production	

## Pulse Mode:



Bolus Frequency (BrPM):

0

Apply

## Control Panel:



Equinox Control Panel

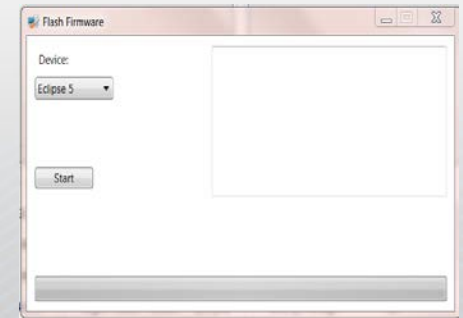
SEQUAL<sup>®</sup>      \*\*\*autoSAT\*\*\*

C0.5LPM

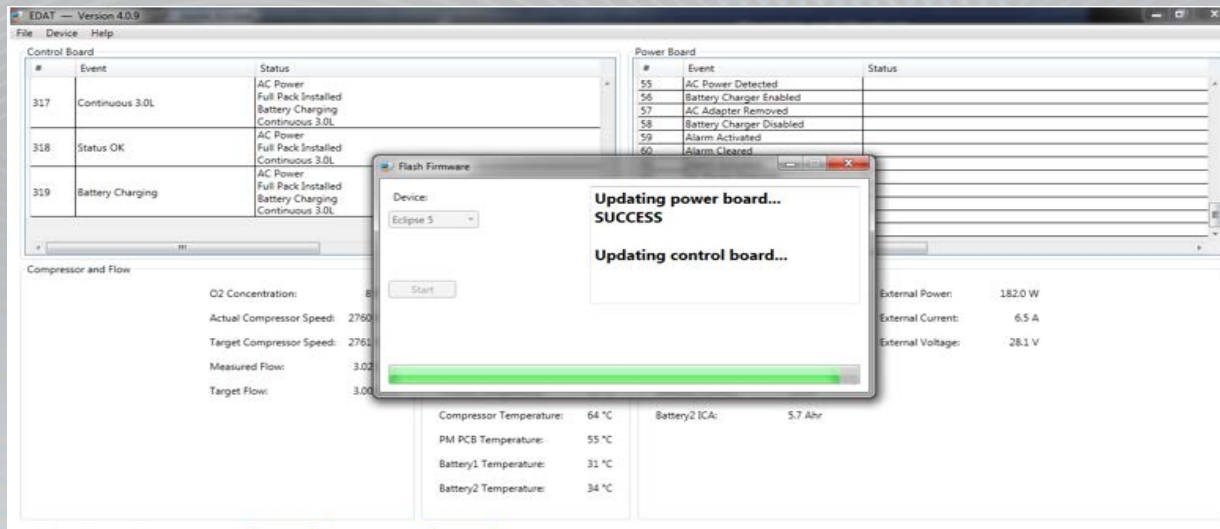
eQuinox

# Device Menu Continued: Flash Firmware

1. Click the Device menu button and then click Flash Firmware
2. Input password: sequaldl
3. Select appropriate unit from the drop down menu and then click start
4. Follow prompt for power cycling the unit



If steps 1-4 are completed correctly, then you should see a screen that resembles the example below:



The background interface shows the following data:

#	Event	Status
317	Continuous 3.0L	AC Power Full Pack Installed Battery Charging Continuous 3.0L
318	Status OK	AC Power Full Pack Installed Continuous 3.0L
319	Battery Charging	AC Power Full Pack Installed Battery Charging Continuous 3.0L

#	Event	Status
55	AC Power Detected	
56	Battery Charger Enabled	
57	AC Adapter Removed	
58	Battery Charger Disabled	
59	Alarm Activated	
60	Alarm Cleared	

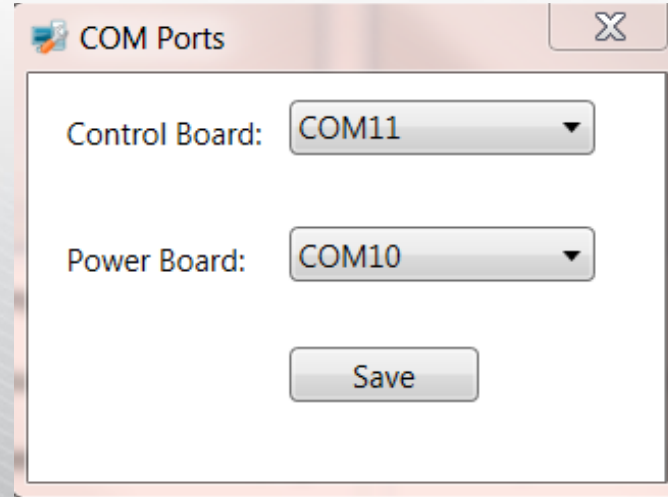
Compressor and Flow	External Power
O2 Concentration: 8	182.0 W
Actual Compressor Speed: 2760	External Current: 6.5 A
Target Compressor Speed: 2761	External Voltage: 28.1 V
Measured Flow: 3.02	
Target Flow: 3.00	

Compressor Temperature: 64 °C	Battery2 ICA: 5.7 Ahr
PM PCB Temperature: 55 °C	
Battery1 Temperature: 31 °C	
Battery2 Temperature: 34 °C	

# Help Menu

COM Ports:



If needed, select the COM ports for both the Control Board and Power Board and click **OK**. EDAT will modify the COM ports to the user selection.

**Note:** It is highly recommended that the EDAT application assign COM ports. If an error occurs, make sure all EDAT cables are securely connected. If COM Port error persists, attempt to reinstall EDAT and check with your IT department to ensure you have administrative rights.