

Analyst Device Driver Software

Tutorial



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The Analyst Device Driver (ADD) software is an LC device control application for the control software. It is based on Agilent Technologies Instrument Control Framework (ICF). Currently, the ADD software can be used to control the Agilent Technologies devices and PAL3 RTC and RSI autosamplers from CTC. The ADD software uses ICF components and interfaces to provide instrument configuration, method creation and editing, communication (Run Control) and status representation.

Note: The ADD software is designed to interface the control software with Agilent Instrument Control Framework, a new way to control newer LC devices. Most of the Agilent-related or CTC-related user interface shown within the ADD software are provided by Agilent or CTC. These interfaces are detailed within the documentation that comes with the device. Online Help is also available through the ADD software. Familiarize yourself with these documents before using the ADD software to avoid configuration issues. Note that the Agilent documentation refers to the use of Chemstation. ADD software can be substituted for Chemstation within these instructions.

In this guide, the term control software refers to the Analyst, Analyst MD, and the Analyst TF software.

Configure the Devices in the Agilent LC Stack Automatically

The various peripheral devices in an LC stack can be configured both automatically and manually. This procedure describes the automatic method.

When using an Agilent LC stack that includes pumps and an autosampler but does not include a DAD, connect the LAN from the computer to the pump and not to the autosampler.

- 1. Open the control software.
- 2. Make sure that the hardware profile is deactivated.
- 3. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The Windows Security Alert window opens.
- Select the networks that the Analyst Device Driver (ADD) software is allowed to communicate on and then click **Allow Access**. The Analyst Device Driver dialog opens.

Figuro	1	Analy	/et	Dovico	Drivor	Dialor
Iguie		Allal	γэι	DEVICE	DIIVEI	Dialog

Analyst Device Driver		
Configure	Method	Status
÷		

5. Click Configure.

The LC Device Configuration dialog opens.

Figure 2 LC Device Configuration Dialog

🖳 LC Device Configuration			- • ×
Aglent ELSD Growthild Constraints of the second s	> < Auto Configure	Up Down Configure	e Cear
Help Enable Real-Time Monitoring		ОК	Cancel

 In the left panel, select the type of Agilent LC system to be configured. All of the peripheral devices for each group of Agilent LC systems are listed under that group. Expand the group to view the list.

Aglert ELSD CTC Analytics LC CTC PAL3 LC Sampler Sampler Bin. Pump Bin. Pump Bin. Pump Courd Row Pump Courd Row Pump Prep. Pump Courd Row Pump Prep. Pump Courd Row Pump Courd Row Pump Courd Row Pump Prep. Pump Courd Row Pump Prep. Pump Courd Row Pump Prep. Pump Courd Row Pump Courd Row Pump Courd Row Pump Prep. Pump Cluster Courd Row Pump Prep. Sampler Low Row HP Sampler Prep. Sampler Prep. Sampler RID FLD Valve Low Row Valve Rexbile Cube Cube Universal Interface Box Pume Makin Chuster

Figure 3 LC Device Configuration Dialog: Agilent

7. Click Auto Configure.

The Automatic configuration parameters dialog opens.

Figure 4 Automatic Configuration	Parameters Dialog
---	-------------------

Automatic	configuration	n parameters	×	
0	IP address [Hostname [
		ОК	Cancel	

- 8. Click either the **IP address** or the **Hostname** option.
- 9. Type either the IP address or the host name for the host computer. For more information, press **F1** to open the Agilent Help.

10. Click **OK**.

Auto Configure automatically detects the peripheral devices connected to the computer and lists them in the right panel in the LC Device Configuration dialog.

Figure 5 LC Device Configuration Dialog

🖳 LC Device Configuration (modified)			- • • ×
Aglent ELSD CTC Analytics LC Aglent 1100/1200/1260/1290 LC - Iso. Pump - Bin. Pump - Quat. Pump - Quat. Pump - Column Comp. Sampler - Column Comp. Sampler - Low Rlow Sampler - Low Rlow HIP Sampler - DAD - HDR-Dad Cluster - MWD - VWD - RID - FLD - Valve - Low Rlow Valve - Rexble Cube - Universal Interface Box - Pump Valve Cluster - Column Comp. - Cume. Chuster - Cume. Cume. Cume. - Cume. Cume. - Cume. Cume. Cume. - Cume. Cume. Cume. - Cume. Cume. - Cume. Cume. - Cume. Cume. Cume. - Cume. - Cume. Cume. - Cume.	> < Auto Configure	Bin. Pump (G1312A) Low Row HIP Sampler (G1377A)	e Gear
Help Pump Pressure		ОК	Cancel

- 11. To customize the settings of a peripheral device:
 - a. In the right panel, double-click the device to be configured.
 - b. Change the settings, if required.

Tip! To open the Agilent Help, click Help.

Note: Each Agilent pump can be assigned a unique name during configuration. The names are shown in the Instrument Control Method Editor, Status user interface, and File Info.

The dialog to configure the selected peripheral device opens.

Figure 6 Configure Bin. Pump Dialog

Configure Bin. Pump		
Communication		÷.
1	Device name Binay Pump A Type ID G1312A Serial number imware revision Connection settings	a
Per	sure Unit bar	
<		, Cancel

- 12. Click OK.
- 13. Repeat step 11 and step 12 for all of the peripheral devices shown in the right panel.
- 14. Click **OK**.
- 15. Click the minimize button on the top right part of the Analyst Device Driver dialog.

Change the Agilent Sampler Temperature Mode (Thermostat Handling)

- 1. Open the control software.
- 2. Make sure that the hardware profile is deactivated.
- 3. Turn on the LC devices, making sure that the thermostat module is available for the sampler.
- 4. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The Windows Security Alert window opens.
- Click Configure. The LC Device Configuration dialog opens.

E LC Device Configuration			
Agilent ELSD CTC Analytics LC Agilent 1100/1200/1260/1290 LC Agilent 1120/1220 LC Systems CTC Analytics GC Agilent 7100 CE			
	< Configure		
Pump Pressure Help		Up Down	Configure Clear OK Cancel

6. Select **Agilent 1100/1200/1260/1290 LC**, click **Auto Configure**, and then type the IP address of the LC stack.

All of the available modules, including the sample thermostat, are detected. The software reads the selected temperature mode from the LC stack. The default mode is **Constant temperature** mode (control setting).

Note: Do not change the mode in this configuration dialog.

- 7. Click **OK** and then save the LC configuration.
- 8. In the control software, activate a hardware profile containing the Analyst Device Driver (ADD) software.
- 9. In the ADD software, click **Status**.
- 10. In the **Status Dashboard**, right-click the autosampler tile, click **Modify > Temperature Mode** and then select the new **Temperature Mode**.



Figure 8 Status Dashboard

The new **Temperature Mode** is written to the LC stack. The Sampler module is shown as offline.

- 11. Deactivate the hardware profile.
- 12. Return to the ADD software, click **Configure**, and then click **Clear** to remove all of the LC devices in the right pane.
- In the left pane of the LC Device Configuration dialog, select Agilent 1100/1200/1260/1290
 LC, click Auto Configure, and then type the IP address of the LC stack. All of the LC modules, including the thermostat with the new assigned Temperature Mode, are detected.
- 14. In the control software, activate the hardware profile containing the ADD software again.

Note: When the **Temperature Mode** is changed, the LC devices must be configured again in the ADD software as described in steps 11 to 14.

Note: When the **Temperature Mode** is set to **Constant temperature mode (control setting)**, the thermostat (shown as cooler) parameters are shown in the autosampler control screen, accessed from the Status Dashboard. When **Temperature Mode** is set to **Variable temperature mode (method parameter)**, the thermostat (shown as cooler) parameters are shown in the autosampler Method Editor, which is accessed from the ADD method. Refer to the following figures.

For Constant Temperature Mode

Figure 9 Change Temperature Mode

Change Tempera	ture Mode
Mode:	Constant temperature mode (control setting)
	Constant temperature mode (control setting)
	Variable temperature mode (method parameter)

Figure 10 Sampler Control screen in the ADD Status Dashboard

Cooler	
O On	25 🛟 °C
Off	
Max. Temperature ≤	5°C below ambient

Figure 11 Sample Method Editor

		Multisampler (G7167B)	
Advanced			
Sampling Speed			
	Draw Speed 100.0 : JL/min Eject Speed: 400.0 : JL/min Wait Time After Draw: 1.2 : s		
Needle Height Position			
	Officet 0.0 : mm		
High Throughput			
	Sample Flush-Out Factor: 5.0 🛟		
	Injection Valve to Bypass for Delay Volume Reduction		
	Enable Overlapped Injection		
	When Sample is Rushed Out		
	After Period of Time 0.00 * minutes after injection		

For Variable Temperature Mode

Figure 12 Change Temperature Mode

Change Temperature Mode				
Mode: Variable temperature mode (method parameter) Constant temperature mode (control setting) Variable temperature mode (method parameter) Figure 13 Sampler Control Screen in the ADD Status Dashboard				
Missing Vessel	Illumination			
Ignore missing vessel	OnOff			
At Power On				
Turn on 0	Cooler			
Automatic Turn On				
Turn on at Tuesday	y, July 03, 2018 - 3:00:00 PM 🛛 🗧 🔻			
Pump Connected to Sampler	Clear Workspace			
G7120A:DEBAY00131 -	At End of Analysis 👻			

Advanced	
ampling Speed	
	Draw Speed: 100.0 📜 µL/min
	Eject Speed: 400.0 - µL/min
	Wait Time After Draw: 1.2 📜 s
eedle Height Position	
	Offset: 0.0 : mm
	Use Vial/Well Bottom Sensing
gh Throughput	
	Sample Flush-Out Factor: 5.0
	Injection Valve to Bypass for Delay Volume Reduction
	Enable Overlapped Injection
	When Sample is Flushed Out
	After Period of Time
	0.00 1 minutes after injection
nolar	
200	
	O 0n 25 : "C
	 Off

Figure 14 Sample Method Editor

Configure the CTC PAL3 Autosampler Automatically

The PAL3 autosampler from CTC can be configured both automatically and manually. This procedure describes the automatic method.

Note: A sync cable, called the PAL connecting cable APG Remote, is used to connect the PAL3 autosampler to an Agilent pump when both the devices are configured through the Analyst Device Driver (ADD) software. The cable connects to the 15 pin INTERFACE connection on the back of the PAL3 autosampler and to the 9 pin REMOTE connection on the back of the Agilent pump.

- 1. Do one of the following:
 - If only a PAL3 autosampler is being configured using the ADD software, then continue with step 2 .
 - If both Agilent devices and a PAL3 autosampler are being configured using the ADD software, then in the LC Device Configuration dialog where the Agilent devices were

configured in the section: Configure the Devices in the Agilent LC Stack Automatically, autoconfigure the PAL3 autosampler by performing steps 7 onwards in this procedure.

Note: Make sure to add the CTC PAL3 autosampler to the ADD software configuration before adding any other LC devices.

- 2. Open the control software.
- 3. Make sure that the hardware profile is deactivated.
- 4. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The Windows Security Alert window opens.
- 5. Select the networks that the ADD software is allowed to communicate on and then click **Allow Access**.

The Analyst Device Driver dialog opens.

Figure 15 Analyst Device Driver Dialog



6. Click Configure.

The LC Device Configuration dialog opens.

LC Device Configuration (modified)			
Agilent ELSD CTC Analytics LC Agilent 1100/1200/1260/1290 LC Agilent 1120/1220 LC Systems CTC Analytics GC Agilent 7100 CE	>		
	Auto Configure		
		Up Down	Configure Clear
Pump Pressure Help Enable Real-Time Monitoring			OK Cancel

Figure 16 LC Device Configuration Dialog

7. If required, select **CTC Analytics LC** system in the left panel. Expand the CTC Analytics LC group to view the peripheral devices for that group.

LC Device Configuration (modified)		
Aglent ELSD CTC Analytics LC CTC PAL3 LC Sampler Aglent 1100/1200/1260/1290 LC Aglent 1120/1220 LC Systems CTC Analytics GC Agilent 7100 CE	<	
Pump Pressure		Up Lown Configure Clear

Figure 17 LC Device Configuration Dialog

8. Click Auto Configure.

The Automatic Configuration Parameters dialog opens.

Figure 18 Automatic Configuration Parameters Dialog

Automatic configuration parameter	rs 💌 🗙
Connection Information IP Address or Hostname:	
	OK Cancel

- 9. Type either the IP address or the hostname for the host computer.
- 10. Click **OK**.

Auto Configure automatically detects the peripheral devices connected to the computer and lists them in the right panel in the LC Device Configuration dialog.

Figure 19 LC Device Configuration Dialog with only the CTC PAL3 Autosampler Configured using the ADD Software

P LC Device Configuration (modified)			
Aglert ELSD CTC Analytics LC Aglert 1100/1200/1260/1290 LC Aglert 1120/1220 LC Systems CTC Analytics GC Aglert 7100 CE	Auto Configure	CTC PAL3 LC Sampler (PAL3:n/a)	
R and Restore		Up Down Configur	e Clear
Help Enable Real-Time Monitoring		ок	Cancel

- 11. Click CTC PAL3 in the right pane and then click **Configure**.
- 12. Click Retrieve Configuration.

Figure	e 20 Retrieve Configu	ration		
Config	gure CTC PAL3 LC Sampler			×
	Connection Information			
	IP Address or Hostname:	192.168.255.12		
	Instrument Name:	PAL3		
	Firmware Version:	2.4.17310.1610		
	Serial Number:	n/a		
	Retrieve Configuration			
	Tray Configuration			
ł	Help		ОК	Cancel:

Note: When adding or changing a CTC PAL3 autosampler configuration, or if there is an accidental physical interference with the autosampler, then **Retrieve Configuration** must be performed in the Configure CTC PAL3 LC Sampler dialog to retrieve the latest configuration. If the hardware profile is active during an accidental physical interference with the autosampler, then it must be deactivated and then activated again after the recovery Retrieve Configuration is successful.

- 13. If the Retrieve Configuration is successful, then click **Tray Configuration** if there were any changes made to the tray configuration as well.
- 14. Click OK.
- 15. If required, customize the settings of the PAL3 device in the right panel using the PAL terminal.
- 16. After the changes are completed, reconfigure the device using steps 7 to 14.
- 17. Select the appropriate Agilent devices from the left pane and then click **Auto Configure**. The Automatic Configuration Parameters dialog opens.
- 18. Type either the IP Address or the Hostname for the host computer and then click OK. Auto Configure automatically detects the peripheral devices connected to the computer and lists them in the right panel in the LC Device Configuration dialog.

Figure 21 LC Device Configuration Dialog with both Agilent Devices and the CTC PAL3 Autosampler Configured using the ADD Software

🛃 LC Device Configuration (modified)	-		×
 Aglert ELSD	9)	Cea	T
Help Densble Real-Time Monitoring	к	Cano	el

- 19. Click **OK** in the LC Device Configuration dialog.
- 20. Click the minimize button on the top right part of the Analyst Device Driver dialog.

Configure and Activate the Hardware Profile

- 1. On the Navigation bar, double-click **Hardware Configuration**. The Hardware Configuration Editor opens.
- 2. Click **New Profile**. The Create New Hardware Profile dialog opens.
- 3. Type a name in the **Profile Name** box.
- 4. Click **Add Device**. The Available Devices dialog opens.
- 5. Select Mass Spectrometer as the Device Type.
- 6. In the **Devices** section, select a mass spectrometer, and then click **OK**.

- 7. In the Create New Hardware Profile dialog, click **Setup Device** and configure the mass spectrometer as required. Refer to the control software document: *Help* or *System User Guide*.
- 8. Click **Add Device**. The Available Devices dialog opens.
- 9. Select **Software Application** from the **Device Type** list. Software Application is listed in the Devices section.

Figure 22 Available Devices Dialog

Available Devices	×
Device Type:	
Software Application	-
Devices:	
Software Application <not configured=""></not>	
ОК	Cancel

- 10. Click **OK**.
- 11. In the Create New Hardware Profile dialog, make sure that the Software Application entry is selected and then click **Setup Device**.

The Software Applications Settings dialog opens. The **Analyst Device Driver** option is selected in the Software applications section.

Software Application Set	ttings	
All sension perception		
Simulate device	Álias name:	
Enable debug messag	es	
ОК	Cancel	Help

Figure 23 Software Application Settings Dialog

12. Select the required options and click **OK**. The Analyst Device Driver (ADD) is added to the current profile.

Figure 24 Create New Hardware Profile Dialog

Create New	Hardware Profile	×
Profile Nam	e: ADD_TQ5500	
Devices in	current profile:	
⊕ <mark>-</mark> M ⊕ S	ass Spectrometer Triple Quad 5500 (0) on Ethernet oftware Application Analyst Device Driver (0)	Add Device
		Delete Device
		Setup Device
	ОК	Cancel

13. Click **OK**.

The new hardware profile is created.

14. With the newly created hardware profile selected, click **Activate Profile**.

Tip! If the hardware profile activates successfully, then set the Read Only attribute on the hwpf file, located in D:\Analyst Data\Projects\API Instrument\Configuration, to prevent accidental changes. Make sure to remove the Read Only attribute before editing the hardware profile.

15. Click Close.

Hardware Profiles with Different Combinations of the ADD Software and Integrated Devices

The Analyst Device Driver (ADD) software supports hardware profiles containing different combinations of Agilent, CTC, Shimadzu, ExionLC, and other devices connected using the ADD software or connected as integrated devices. Some examples of possible combinations of devices in a hardware profile are provided. Refer to the table: Table 1.

If a hardware profile contains some devices configured using the ADD software and some configured as an integrated device, then the integrated device is configured using the control software and the ADD-controlled device is configured using the ADD software.

Devices configured using ADD	Devices configured as integrated devices
PAL3 autosampler from CTC	DAD, Agilent pump, oven, and so on
DAD, Agilent pump, CTC PAL3 autosampler, oven, and so on.	N/A
Note: A sync cable, called the PAL connecting cable APG Remote, is used to connect the PAL3 autosampler to an Agilent pump when both of the devices are configured through the ADD software. Depending on the Agilent device, a sync cable is required between the CTC PAL3 device and pump. An ERI connector is required for Agilent 1260 Infinity II pumps and an APG connector is required for the Agilent 1290 pump.	
PAL3 autosampler	Shimadzu pump, column oven, PDA, UV Detector
PAL3 autosampler	ExionLC pump, column oven, PDA, and so on
Agilent autosampler, Agilent pump, oven, DAD, and so on	N/A

Table 1 Examples of Possible Combinations of Devices Configured using the ADDSoftware or Configured as Integrated Devices in a Hardware Profile

Table 1 Examples of Possible Combinations of Devices Configured using the ADD
Software or Configured as Integrated Devices in a Hardware Profile (continued)

Devices configured using ADD	Devices configured as integrated devices
Agilent autosampler	Agilent pump, oven, DAD, and so on
Agilent autosampler	Shimadzu pump, column oven, PDA, UV Detector
Agilent autosampler	ExionLC pump, column oven, PDA, and so on
Agilent pump, oven, DAD, and so on	PAL autosampler
Agilent autosampler	PAL autosampler; Agilent pump, oven, DAD, and so on
	Note: When multiple autosamplers are included in the hardware profile, only the last added autosampler is used for acquisition.
Agilent pump, oven, DAD, and so on	PAL autosampler; Shimadzu pump, column oven, PDA, UV Detector
Agilent pump, oven, DAD, and so on	PAL autosampler; ExionLC pump, column oven, PDA, and so on

Create a Hardware Profile with Different Combinations of ADD and Integrated Devices

As an example, the following procedure describes the steps to create a hardware profile that contains a mass spectrometer, Agilent pump and column oven as integrated devices, and the CTC PAL3 autosampler as a device controlled by the Analyst Device Driver (ADD) software. The procedure also describes creating an acquisition method for such a hardware profile.

- 1. In the ADD software, autoconfigure the CTC PAL3 autosampler. Refer to the section: Configure the CTC PAL3 Autosampler Automatically.
- 2. Create a hardware profile in the control software and then activate it. Refer to the control software document: *Help* and the section: Configure and Activate the Hardware Profile.

Figure 25 Sample Hardware Profile with Agilent Pump and Column Oven Configured as Integrated Devices and CTC PAL3 Autosampler Configured with the ADD

Devices in current profile:

±	Mass Spectrometer QTRAP 5500 (0) on Ethernet
÷	Pump Agilent 1260 G1312B (0) on Serial Port 1
÷	Column Oven Agilent 1260 G1316A (0) on Serial Port
÷	Software Application Analyst Device Driver (0)
_	,

3. Open the Acquisition Method Editor.

Acquisition method Acquis	Acquisition Method Properties Comment: Duration (min): 0.100 Synchronization Mode: No Sync Auto-Equilbration Auto-Equilbration Auto-Equilbration Duration (min): 0	
	Original Configuration Instrument signature: QTRAP 5500 Ion Source: Turbo Spray	Device methods: Agilent 1260 LC Binary Pump Method Agilent 1260 TCC Method Analyst Device Driver

Figure 26 Acquisition Method Editor

- 4. Set the Synchronization Mode to Manual/AAO Sync.
- 5. Provide the parameter values for the mass spectrometer, pump, and the column oven. Refer to the control software document: *Help*.
- 6. Save the acquisition method.
- 7. Maximize Analyst Device Driver window and then click **Method** to update PAL3 parameters using the ADD software.

View			Method Custom I
Binary Pump Column Comp. 0AD			
et Method Sorpt	Parameter Setup Description		
AULISCHIPT V			
Noe read only Parameters			

Figure 27 Instrument Control Method Editor

- 8. Select a script from the **Select Method Script** list. Refer to the PAL3-specific section: Create an Acquisition Method.
- 9. Update the parameter values for the PAL3 autosampler as required. Refer to the PAL3specific section: Create an Acquisition Method.
- To save the parameter values for the peripheral devices in the same method that was created in step 6, click File > Save to Analyst .dam file. The Save Method dialog opens.
- 11. Select the method that was created in step 6, and then click **Save**.
- Click Yes in the Confirm Save As dialog. The parameter values for the PAL3 are saved in the same method that was created in step 6.
- 13. Click File > Exit.
- Open the acquisition method in the control software and then click Analyst Device Driver in the left pane in the Acquisition Method Editor. The parameters for the CTC PAL3 autosampler are shown in the Software Application Properties tab.

Acquisition method	Software Application Properties
→ M Acquisition Method → Ø Mass Spec 5.005 min → Ø Period 5.005 min	Sampler 1 (PAL3): "PAL3"
	Name: SYH208312
Agilent 1200 Binary Pump (0.1 mins)	Maximum Volume: 100 µL
The Run (0.1 mins)	Minimum Volume: 10 µL
Agilent 1260 Thermostatted Column Compartment	Bottom Sense Sample Vial: Off
Analyst Device Driver	Sample Aspirate Flow Rate: 10
	Filling Strokes: 0
	Pullup Delay: 500
	Air Volume: 0
	Height From Bottom Sample Vial: 0.5
	Leave Drawer Open: Off
	sampleVialDepth: 30
	Pre Clean With Solvent 1: 0
	Pre Clean With Solvent 2: 0
	Pre Clean With Sample: 0
	Injector: LCInjector1
	Inject Sample Flow Rate: 5
	Pre Inject Delay: 500
	Post Inject Delay: 500
	Post Clean With Solvent 1: 0
	PostCleanWithSolvent 2: 0
	Valve Clean With Solvent 1: 100
	Valve Clean With Solvent 2: 100
	Clean Valve Flow Rate: 100
	Liquid Chromatograph: LC1
	Tool: LS 1
	Wash Station: Fast Wash 1
	Wash Volume: 70
	Script Name: LC Injection
	Script Version: 1.0
	Sarial Number: n/a
	Senai Number. IVa

Figure 28 Parameters for the CTC PAL3 Autosampler in Acquisition Method Editor

This method can be used to acquire samples.

Assign Wellplates and Map Racks

Some devices might need to be further configured, such as assigning wellplates in Agilent autosamplers, resetting the injector, and mapping racks in the PAL3 autosampler. For such configuration, use the Status mode in the Analyst Device Driver (ADD) software.

The Status mode enables the user to configure the connected devices directly.

Tip! If a hardware profile is already configured for the peripheral devices in an LC stack and after that the devices are further configured using the Status mode, then those devices must be automatically configured again using the ADD software. First deactivate the hardware profile and then automatically configure the devices. Refer to the section: Configure the Devices in the Agilent LC Stack Automatically or Configure the CTC PAL3 Autosampler Automatically.

Assign Wellplates in the Agilent Autosampler

1. Click **Status** in the Analyst Device Driver dialog.

Figure 29 Analyst Device Driver Dialog

Analyst Device Driver		
Configure	Method	Status
Ê		

The Status dialog opens.

Figure 30 Status Dialog



2. To open the menu to control the autosampler, right-click in the Multisampler pane.

Tip! To use the menu to control other devices, right-click in the pane for that device.

Note: The autosampler might not automatically detect which plates are placed inside the autosampler trays.



3. To view the plates that are currently available, move the cursor over the plate picture in the Multisampler status pane.

Status		-	
Multisampler ? _ 🗆	Quat. Pump	Column Comp	
Idle	Not Ready		Not Ready
Don ⊖off EMF⊘	EMF⊘		EMF⊘
1 т т 5.00 µL	A B 100.0 0.0 0.000 mL/min	0 24.62°C	0 24.72*C
↓	C D 0.20 bar		0
0.00/0.00	BEERS .		

Figure 32 Viewing the Plates inside the Autosampler

4. To change the plates, right-click in the Multisampler status pane and then click **Assign Wellplates**.

👗 Tray and	Plate Configur	ation					-		×
Assign Samp	le Container								
Drawer	Container ID	Front	18)° Rotated	Container ID	Back		180° Rot	ated
3	P5	<no plate=""></no>	•		P6	<no plate=""></no>	-		
2	P3	<no plate=""></no>	•		P4	<no plate=""></no>	•		
1	P1	*54VialPlate*	•		P2	<no plate=""></no>	•		
						ОК	Cancel	н	elp

Figure 33 Tray and Plate Configuration Dialog

5. Select the required plates and then click **OK**.

Map Rack Positions for a CTC PAL3 Autosampler

1. Click **Status** in the Analyst Device Driver dialog.

Figure 34 Analyst Device Driver Dialog



The Status dialog for the PAL3 autosampler opens.

👻 Status		- • ×
PAL3 Idle		
Peltier Stack 1 21.6°C Valve Drive InjectorValve		
0.00/0.00 Ins	strument Idle	🕴 🕕 On 😑 Off

Figure 35 Status Dialog for PAL3 Autosampler

2. Right-click in the PAL3 pane. The right-click menu opens.



Figure 36 Status Dialog for PAL3 Autosampler — Right-click Menu

3. Click **Show Rack Position Mapping**. The PAL3 Rack Position - Mapping dialog opens.

	Module Name	•	Slot	Tr	ау Туре
•	Drawer 1 (Rad	* 4)	1	VT	54
	Drawer 1 (Rac	* 5)	2	VT	54
	Drawer 2 (Rad	* 6)	1	VT	54
	Drawer 2 (Rad	* 7)	2	VT	54
	Drawer 3 (Rad	* 8)	1	VT	54
(
Rad	k Position 2 k Position 3	None	•	Rack Position 8 Rack Position 9	None
Rad	k Position 4	None	•	Rack Position 10	None
			1	Rack Position 11	None

Figure 37 F	PAL3 Rack	Position -	Mapping	Dialog
-------------	-----------	------------	---------	--------

4. Map the rack positions in the dialog to the rack positions in the autosampler.

	Module Name	e	Slot		Tray Type	
•	Drawer 1 (Rad	ck 4)	1		VT54	
	Drawer 1 (Rad	sk 5)	2		VT54	
	Drawer 2 (Rad	sk 6)	1		VT54	
	Drawer 2 (Rad	sk 7)	2		VT54	
	Drawer 3 (Rad	sk 8)	1		VT54	
			-			
Rad	ck Position 3	Drawer 3	•	Rack Position 9	None	
Rad	ck Position 4	Tray Holder 1	•	Rack Position 1	0 None	
Rad	ck Position 5	None	•	Rack Position 1	1 None	
Rad	ck Position 6	None	•	Rack Position 1	2 None	

Figure 38 PAL3 Rack Position - Mapping Dialog

Note: Make sure that this same mapping is used in the Sample tab and Locations tab when a batch is created in the Batch Editor in the control software. Refer to the CTC PAL3 section: Create and Submit Batches for Data Acquisition.

- 5. Click OK.
- 6. Right-click in the **PAL3** field and then click **Show Script Manager**. The PAL3 Scripts dialog opens.

Figure	39	PAL3	Scripts	Dialog
--------	----	------	---------	--------

PAL3 Scripts					
🗙 Remove 🛛 📑	Import Scripts	Export Scripts	👕 Reset Scripts		🕐 Help
Name	Description				Version
DEFAULTSCRIPT	Default Script				1.0
L					
				ОК	Cancel

- 7. Click Import Scripts.
- 8. Navigate to the folder where the PAL3 scripts are stored.

Tip! On computers configured with the Windows 7, 32-bit operating system, navigate to the C:\Program Files\AB SCIEX\AnalystDeviceDriver\CTCScripts folder. On computers configured with the Windows 10, 64-bit and Windows 7, 64-bit operating systems, navigate to the C:\Program Files (x86)\AB SCIEX\AnalystDeviceDriver\CTCScripts folder.

The folder contains three PAL3 scripts: LC Injection.xml, LC MS Fast Injection.xml, and LC MS Standard Injection.xml.

9. Click the required script file. For example, select **LC Injection.xml**. The imported script is shown in the PAL3 Scripts dialog.

I Igule to FALS Scripts Dialog

PAL3 Scripts		
🗙 Remove 🛛 📑	Import Scripts 📑 Export Scripts 🥤 Reset Scripts	🕐 Help
Name	Description	Version
DEFAULTSCRIPT	Default Script	1.0
LC Injection	LC Injection with a syringe	1.0
		OK Cancel

Note: A script must be imported only once if the same hardware configuration is used. If a hardware change is made in the PAL3 autosampler, for example if a new drawer or a tool is added, then we recommend configuring the PAL3 autosampler again using the **Configure** option in the ADD, and then checking for the presence of the selected script in the Instrument Control Method Editor. Refer to step 7 in the section: Create an Acquisition Method. If the script is not listed in the Instrument Control Method Editor, then import it again.

10. Click **OK**.

Create an Acquisition Method

- 1. On the Navigation bar, under **Acquire**, double-click **Build Acquisition Method**. The Acquisition Method window opens.
- 2. On the Acquisition Method Properties tab, click **Manual/AAO Sync** in the **Synchronization Mode** field.
- 3. For the mass spectrometer, provide the values for the different parameters on the MS and Advanced MS tabs. Refer to the control software document: *Help*.
- 4. Click File > Save.
- 5. Maximize the Analyst Device Driver dialog.
- 6. Click Method.

The Instrument Control Method Editor opens. The editor contains one tab for each peripheral device that was configured in the LC Device Configuration dialog.

2 Unsaved method - Instrument Control Method Editor		
File View		Method Custom Injector
Low Flow HIP Sampler Brivary Pump A		
	Binary Pump A	(G1312A)
Flow	Advanced	
0.000 C mil./min	▲ Tenetable (empty)	
		function cantric view
Solveria A: 1000 : % B: 00 : % Pressure Links Min: 000 : bar Min: 000 : bar Max 40000 : bar Stoptime Posture Posture 0 1:00 : min	Time jmin A [X] B [X] Plow [pcL/min] Max. Pressare Linel [box] 0.00 100.0 0.0 0.000 400.00	
	Add Remove Dear All Dear Empty	
	Cut Copy Paste Shit Times 0.00 1 min	

PA3 Bray Pure Colum Core. DA0 Sout Select Method Sout DEFAULTSCRIPT V Hole read only Parameters	Method Custom Injecto
Solid Select Method Sogit DEFAULTSCRIPT Hole read only Parameters	canon april
Hide read only Parameters	

Figure 42 Unsaved Method Dialog (CTC PAL3 Device)

 (For the CTC PAL3 device) Select a script from the Select Method Script list. Scripts provide a predesigned template of parameters for the CTC PAL3 devices. If a customized template of parameters is needed, then contact SCIEX support at sciex.com/ request-support.

Parameters for the selected script are shown.

🥺 Unsaved method - Instrument Control Metho	od Editor	4		- X -
Elle View				Method Custom Injector
Sorpt Select Method Sorpt	Parameter Setup Description			
LC Injection	 Setup 			*
Hide read only Parameters	Tool	none 💌		
	Wash Station			
	Liquid Chromatograph			
	Wash Volume	70	5	
	 Pre Wash 			
	Pre Clean With Solvent 1	0		
	Pre Clean With Solvent 2	0		-
	Pre Clean With Sample	0		
	 Load Sample 			
	sampleVialDepth	30	mm	
	Air Volume	0	uL	
	Sample Aspirate Flow Rate	10	µL/s	
	Bottom Sense Sample Vial	off 💌		
	Height From Bottom Sample Vial	0.5	mm	
	Filling Strokes	0		
	Pullup Delay	500	ms	
1	Leave Drawer Open	off 💌		
	 Inject Sample 			
	Inject Sample Flow Rate	5	µL/s	
	Automatica Constraints	-		•

Figure 43 Parameters for the Selected Script LC Injection

Note: Each script installed with the Analyst Device Driver (ADD) software is designed for a specific tool.

- LC Injection: To be used only when using a standard syringe tool (for example, D7/57, D8/57) and wash module (for example, Fast Wash). Do not use this script when using the LCMS Tool and LCMS Wash Module.
- LCMS_Standard: To be used only when LCMS-P Tool and LCMS wash are installed.
- LCMS_Fast: To be used only when LCMS-P Tool and LCMS wash are installed. This version of the script is different than the Standard version. It does not contain an outside needle wash that speeds up the wash process. If carryover is an issue, then use the LCMS Standard Script.
- 8. Modify the values of the parameters for the peripheral devices, as required. For more information, press **F1** to open the Agilent Help or the CTC Help.
- 9. To save the parameter values for the peripheral devices in the same method that was created in steps 2 and 3, click **File > Save to Analyst .dam file**.

Figure 44 File Menu



Tip! The **File** > **Save** menu option can also be used to save the parameter values in the same method that was created in steps 2 and 3.

The Save Method dialog opens.

- 10. Select the method that was created in steps 2 and 3, and then click **Save**.
- Click Yes in the Confirm Save As dialog. The parameter values for the peripheral devices are saved in the same method that was created in steps 2 and 3.
- 12. Click File > Exit.
- 13. Close the Analyst Device Driver dialog.

View the Acquisition Method in the Acquisition Method Editor

- 1. In the control software, on the Navigation bar, under **Acquire**, double-click **Build Acquisition Method**.
- Open the method that was created in the previous section. The method opens and Analyst Device Driver (ADD) software application is shown in the Acquisition Method pane.

Figure 45 Analyst Device Driver in the Acquisition Method Editor

Acquisition method	Acquisition Method Properties]	
Acquisition Method	Comment:		
e-e Period 4.999 min	Duration (min):	4.999	
Analyst Device Driver	Synchronization Mode:	Manual/AAO Sync	•
	Auto-Equilibration		
	Auto-Equilibration		
	Auto-Equilibration Duration	(min):	
	Original Configuration		Device methods:
	Instrument signature: Triple	e Quad 5500	Analyst Device Driver
	Ion Source: Turb	o Spray	

3. Click Analyst Device Driver.

The configuration details for the devices configured using the **Analyst Device Driver** is shown in the Software Application Properties tab.

cquisition method	Software Application Properties	
- Mass Spec 4.999 min		
e-e Period 4.999 min	Pump 1 (G1312B): "Binary Pump	-
\$\$\$ +Q1	Automatic Stroke Calculation A:	Yes
Analyst Device Driver	Automatic Stroke Calculation B:	Yes
	Stoptime Mode:	No limit
	Posttime Mode:	Off
	Flow:	0.000
	Use Solvent Types:	Yes
	Low Pressure Limit:	0.00
	High Pressure Limit:	400.00
	Maximum Flow Gradient:	100.000
	Channel:	A
	Solvent 1:	H20
	Name 1:	
	Solvent 2:	H20
	Name 2:	
	Selected:	Ch. 1
	Used:	Yes
	Percent:	100.0
	Channel:	в
	Name 1:	
	Name 2:	
	Selected:	Ch. 1
	Used:	No
	Sampler 1 (G1377A): "Low Flow I Draw Speed: Fiert Speed:	HiP Sampler" 4.0
	Draw Position Offset	0.0
	Wait Time After Drawing	12
	Wat time Ater Drawing.	1.6

Figure 46 Configuration Details for the Devices (for Agilent devices)

isition method	Software Application Properties	
Acquisition Method		
🖓 Mass Spec 5.000 min		
ia- [™]	Sampler 1 (PAL3); "PAL3"	
	Name:	SYH207836
Analyst Device Driver	Maximum Volume:	1000 µL
	Minimum Volume:	100 µL
	Bottom Sense Sample Vial:	Off
	Sample Aspirate Flow Rate:	10
	Filling Strokes:	0
	Pullup Delay:	500
	Air Volume:	0
	Height From Bottom Sample Vial:	0.5
	Leave Drawer Open:	Off
	sampleVialDepth:	30
	Pre Clean With Solvent 1:	0
	Pre Clean With Solvent 2:	0
	Pre Clean With Sample:	0
	Injector:	LCInjector1
	Inject Sample Flow Rate:	5
	Pre Inject Delay:	500
	Post Inject Delay:	500
	Post Clean With Solvent 1:	0
	PostCleanWithSolvent 2:	0
	Valve Clean With Solvent 1:	100
	Valve Clean With Solvent 2:	100
	Clean Valve Flow Rate:	100
	Liquid Chromatograph:	LC1
	Tool:	LS 2
	Wash Station:	Fast Wash 1
	Wash Volume:	70
	Script Name:	LC Injection
	Script Version:	1.0
	Serial Number:	n/a
	Firmware Revision:	n/a

Figure 47 Configuration Details for the Devices (for CTC PAL3 device)

Modify Parameters for the LC Devices in the Acquisition Method

1. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The User Account Control dialog opens, asking if the Analyst Device Driver (ADD) software should be allowed to make changes to the computer.

2. Click Yes.

The Analyst Device Driver dialog opens.

3. Click **Method**.

The Instrument Control Method Editor opens.

4. Click File > Open from Analyst .dam file.

Figure 48 File Menu

File	View	
	Open from Analy	st .dam file
	Save	
	Save to Analyst .d	lam file
	Exit	Alt+F4

The Load Method dialog opens.

- 5. Click the method to open and then click **Open**.
- 6. The peripheral devices portion of the selected acquisition method opens in the Instrument Control Method Editor.
- 7. Make the required changes.
- 8. Click File > Save.

Figure 49 File Menu

File	View	
	Open from Analyst .d	am file
	Save	
	Save to Analyst .dam	file
	Exit	Alt+F4

The changes are saved into the open acquisition method.

9. If required, click **File** > **Save to Analyst .dam file** to save the peripheral devices configuration in a different acquisition method.

Figure 50 File Menu

File	View	
	Open from Analyst .dam file	
	Save	
	Save to Analyst .dam file	
	Exit Alt+F4	

The Save Method dialog opens.

- 10. Select an acquisition method, and then click **Save**. The Confirm Save As dialog opens.
- Click Yes. The parameter values for the peripheral devices are saved in the acquisition method selected in step 10.
- 12. Click **File > Exit**.

Create and Submit Batches for Data Acquisition

Using the methods created in this guide, create and submit batches to acquire data. Refer to the control software document: *Help*.

If the Agilent Infinity II Multisampler is used, then in the **Locations** tab in the Batch Editor, right-click and select **Multi Drawer** to view the new layout of Agilent Infinity II Multisampler.

Figure 51 New Layout of the Agilent Infinity II Multisampler in the Locations Tab



The Agilent Infinity II Multisampler device being used might contain fewer drawers and plates than are shown in the preceding figure. The layout in the Locations tab shows the maximum number of drawers and plates possible. When configuring the plates on the Locations tab, start from the bottom of the multi-drawer layout and then proceed up.

When the CTC PAL3 autosampler is used to create a batch in the control software, make sure that the rack mapping in the Sample tab and the Locations tab matches the rack mapping that was performed in step 4 in the section: Map Rack Positions for a CTC PAL3 Autosampler. The

rack mapping in the following figures matches the rack mapping that was done in step 4 in the section: Map Rack Positions for a CTC PAL3 Autosampler.

Set:	22.0				Quantitati none	on			Quick Quart
	Add Set.	Renove Set	A0	quisition Use as Tempi	late Set kinn •			Method Editor	
	Add Samples	Del Samples		Steel Michigan II.	and a state of the				
_				Use Hutpe H	Rethods				
				Use Hutpe H	Rethods				
	Sample Name	Rack Code	Rack Position	Plate Code	Plate Position	Vial Position	Data File	Inj.Volu	me (µl)
	Sample Name Sample001	Rack Code Drawer	Rack Position	Plate Code DW96	Plate Position	Vial Position	Data File DataSET1	Inj.Volu 1.000	me (µl)
	Sample Name Sample001 Sample002	Rack Code Drawer Drawer	Rack Position	Plate Code DW96 DW96	Plate Position	Vial Position 1 15	Data File DataSET1 DataSET1	Inj.Volu 1.000	me (µl)
1	Sample Name Sample001 Sample002 Sample003	Rack Code Drawer Drawer Drawer	Rack Position 1 2 3	Plate Code DW96 DW96 VT12	Plate Position	Vial Position 1 15 1	Data File DataSET1 DataSET1 DataSET1	Inj.Volu 1.000 1.000	me (µl)

Figure 52 Sample Tab in the Control Software Batch Editor—Rack Mapping for CTC PAL3





Note: For batch submission and acquisition, there is no validation on the rack and plate type between the batch and autosampler configuration if the autosampler is controlled using the Analyst Device Driver (ADD) software. Users must make sure that the same rack and plate are selected in the batch as configured for the autosampler in the ADD software.

Use the ADD Software

Note:

The ADD software does not directly support column indexing for the CTC PAL3. To use column indexing for batch acquisition, use the hand-held pilot to add a new plate with column indexing, and use the RackBuilder.exe utility to add a custom plate with the same column indexing to the control software Autosampler Database. Make sure that the indexing is in sync between the CTC PAL3 and the control software. The following steps can be followed:

- 1. Start RackBuilder.exe by right-clicking and then clicking Run as administrator. Refer to the section: Create a Custom Plate Layout.
- 2. Add a new plate with a specific indexing by row or by column using the RackBuilder.exe utility.
- 3. Add the same plate with the same layout and orientation using the PAL3 handheld pilot.
- 4. Configure PAL3 in the ADD software. Click **Tray Configuration** and then select the new custom plate.
- 5. After activating the hardware profile, click **ADD Status UI**.
- 6. Right-click on **PAL3** and then click **Show Rack Position Mapping**.
- 7. Make sure that the mapped rack contains the new custom plate. Refer to the section: Map Rack Positions for a CTC PAL3 Autosampler.

Verify the Status of Instrument, Devices connected to the Instrument, and Batch Acquisition

- 1. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**.
- In the Analyst Device Driver dialog, click Status. The Status dialog opens. The dialog shows the status of the peripheral devices connected to the mass spectrometer and the computer. The dialog also shows if the mass spectrometer is switched on, is offline, or is idle.



Figure 54 Status Dialog for Agilent Devices in the ADD



Status				-	
PAL3	? _ 🗆	Binary Pump	Column Comp.	DAD	
	Idle	Not Ready	Not Ready		Not Ready
RobostemLeft ### ParkStatio	an 1 Value Drive 10 Dominiont GPo	EMF () 90.00 10.00 0.000 mL/min 0000 0.00 bar	24.92°C Position 1 (Port 1 -> 6)	Â	EMF©
0.00 / 0.00			Instrument Not Rea	ady 👔 (🕕 On 😑 Off

- 3. Click ? to open the Agilent Help. Refer to the figure: Figure 54.
- 4. Click ? to open the PAL3 Help. Refer to the figure: Figure 55.
- 5. Click do open a dialog to view information about the Agilent devices connected to the mass spectrometer and the computer. Refer to the figures: Figure 56 and Figure 57.

Figure 56 View Information About Devices Connected to the Mass Spectrometer

∆:							×
Mod	dule List						
Vendor	Name	Part Number	Serialnumber	Firmware Revision	Connection Info	Driver Version	Additional Information
Agilent	Quat. Pump	G7111B	DEAET00648	D.07.22 [0001]	192.168.254.11	A.02.18 SI 18.4	Access Point
Agilent	Multisampler	G7167A	DEACJ00153	D.07.20 [0008]	192.168.254.11	A.02.18 SI 18.4	
Agilent	Column Comp.	G7116A	DEAEM01211	D.07.20 [0008]	192.168.254.11	A.02.18 SI 18.4	Slave Firmware: C.07.20 [0002]
							Close Print

Figure 57 View Information About Devices Connected to the Mass Spectrometer

A.							>
Module	List						
Vendor	Name	Part Number	Serialnumber	Firmware Revision	Connection Info	Driver Version	Additional Information
CTC Analytics AG	PAL3	PAL3	n/a	2.4.17310.1610	192.168.255.12	1.1.0.11	
Agilent	Binary Pump	G7120A	DEBAY01097	B.07.20 [0007]	192.168.254.11	A.02.18 SI 18.4	
Agilent	Column Comp.	G71168	DEBA401959	D.07.20 [0007]	192.168.254.11	A.02.18 SI 18.4	Slave Firmware: C.07.20 [0002]
Agilent	DAD	G71178	DEBAW01219	D.07.20 [0007]	192.168.254.11	A.02.18 SI 18.4	Access Point
							Close Print
0.00/0.00						nstrument Idle	i () On 😑 Off

6. In right bottom corner of the control software, double-click the **Analyst LC** status icon. The Software Application Status dialog, including both Brief Status and Detailed Status for the Analyst Device Driver (ADD) software, is shown.

Name	Status	
Analyst Device Dr	ver Ready	
etailed Status:		
hat Device Driver		
npler1 (PAL3): PAL3		
DriverState.	Ready	
ConnectionState:	eOnline	
EmorState:	eNoError	
ReadyState:	eReady	
RunState:	eRidle	
FirmwareRevision:	2.4.17310.1010	
ModuleId:	PAL3	
DisplayName:	PAL3	
SerialNumber(n/a	
IPAddress.	192.168.255.12	
RobotArmLeftTypeName:	RobotArmDescription	
RobotArmLeftAddress:	pal://localhost/machineObject/type/RobotArm?name=RobotArmLef#00fct99242bo4528-b99e-b111c13ee82e	
LdinjectorValve1StatusId:	StandbyInjectPosition	
LdnjectorValve1StatusldUnit	pos	
no1 (G7120A): Binary Pumo		
ConnectionState State	Online	

Figure 58 Software Application Status Dialog

View Devices Parameters Used for Acquisition in File Information of Data Files

Open a data file acquired with the acquisition methods created in this document.

- 1. On the Navigation bar, under **Explore**, double-click **Open Data File**. The Select Sample dialog opens.
- 2. In the Data Files pane, select the wiff file to view.
- 3. In the Samples pane, select the sample to view and then click **OK**. The data acquired from the sample opens.
- 4. To view the file information, click **Show File Info** (12). The File information pane opens below the graph.
- 5. Expand the Log Info section.

Information about the Analyst Device Driver (ADD) software and the peripheral devices connected to the mass spectrometer and configured is shown in the right pane of the File Information pane.

6. Expand the Acquisition Info section in the left pane of the File Information pane. The parameters and their values for each peripheral device used during data acquisition are shown in the right pane of the File Information pane.

Create a Custom Plate Layout

Users can create a plate layout that is not currently available in the plate list. If a similar plate (for example, a plate with the same layout and same number of vials, by row or by column) already exists in the list of generic plates, then a new plate does not need to be created using the RackBuilder.exe utility and the user should continue with step 24.

- 1. Close the control software.
- 2. Do one of the following:
 - For computers configured with the Microsoft Windows 7, 32-bit operating system, browse to the C:\Program Files\Analyst\bin\ folder.
 - For computers configured with the Microsoft Windows 7, 64-bit operating system, browse to the C:\Program Files (x86)\Analyst\bin\ folder.
 - For computers configured with the Microsoft Windows 10, 64-bit operating system, browse to the C:\Program Files (x86)\Analyst\bin\ folder.
- 3. Create a backup copy of the following files and then store them in a safe location on the local drive so that they can be restored if required:
 - AutosamplerDB.adb
 - AutosamplerDBServer.adb
- 4. Right-click RackBuilder.exe and then click Run as administrator. The Open POET Database dialog opens.

Figure 59 Open POET Database Dialog

Open POET Da	itabase		<u> </u>
Database:		•	Browse
	ОК	Cancel	

5. In the **Database** field, select **AutosamplerPoetDB** and then click **OK**. The Autosampler Database dialog opens.

Autosampler Database
C:\Program Files (x86)\Analyst\bin\AutosamplerDB.adb
Autosampler: Gilson 233 Export
Plate New Import Code 30 Edit Remove Export Rack
New Remove Edit 5 Code 30s
OK Cancel

Figure 60 Autosampler Database Dialog

- 6. In the Autosampler field, select Agilent Autosampler.
- 7. In the **Plate** section, click **New**. The New Plate dialog opens.

Figure 61 New Plate Dialog

New Pl	ate		x
Ple	ase enter the new pla	ate name:	
	ОК	Cancel	

- 8. In the field provided, type the name of the new plate in the following format:
 - *r*×*c*VialGenPlate*R*, where *r* equals the number of rows in the plate, *c* equals the number of columns in the plate, and *R* indicates that the vials are ordered by row, **OR**
 - *r*×*c*VialGenPlateC, where *r* equals the number of rows in the plate, *c* equals the number of columns in the plate, and *C* indicates that the vials are ordered by column.

For example, in the name **6×9VialGenPlateR** indicates a 54-vial plate, with 6 rows and 9 columns.

9. Click OK.

The Plate Editor (Agilent Autosampler) dialog opens.

Plate Editor ((Agilent Autosampler)
Name:	u_6x9VialGenPlateR
- For CT	C PAL Autosampler Only
M	fax. Penetration:
C)eep Flag:
I	mport Plate Layout Edit Vials
	OK Cancel

Figure 62 Plate Editor (Agilent Autosampler) Dialog

10. Remove the **u**_ at the front of the plate **Name**. By default, the name of the plate is automatically preceded by **u**_.

11. Click Plate Layout.

The Vial Layout Information dialog opens.

Figure 63	Vial La	yout In	formation	Dialog
-----------	---------	---------	-----------	--------

Vial Layout Information
Enter the maximum grid size which this plate will fit into.
Horizontal Plate Size: 9
Vertical Plate Size: 6
Header Type: No Header -
Vial Shape: Circular
Starting Vial Number: 1
< Back Next > Cancel Help

12. In the Horizontal Plate Size field, type the number of columns in the plate.

Tip! For the example plate name provided in step 8, type 9 in this field.

13. In the Vertical Plate Size field, type the number of rows in the plate.

Tip! For the example plate name provided in step 8, type 6 in this field.

- (Optional) Select the appropriate Header Type from the list provided.
 Options include No Header, Alphanumeric A1 TopLeft, Alphanumeric A1 BottomLeft, Numeric Top, and Numeric Left.
- 15. (Optional) Select the appropriate **Vial Shape** from the list provided. Options include **Circular** and **Rectangular**.
- 16. Click Next.

The Vial Layout dialog opens.

Figure 64 Vial Layout Dialog

Vial La	yout												×
	-Se	electio Sir	on Tyj ngle	pe ©	Row	1	© Ca	olumn			Remove Selection	IS	
	1	2	3	4	5	6	7	8	9				_
	10	11	12	13	14	15	16	17	18				
	19	20	21	22	23	24	25	26	27				
	28	29	30	31	32	33	34	35	36				
	37	38	39	40	41	42	43	44	45				
	46	47	48	49	50	51	52	53	54				
	,												
						< B	ack		Finis	sh	Cancel	H	leip

- 17. Do one of the following to populate all of the vial positions in the table:
 - Click **Single** and then click inside each of the vial positions to add the vial numbers, one at a time.
 - Click **Row** and then click inside the first vial position of the row to add all of the vial numbers for the corresponding row.
 - Click **Column** and then click inside the first vial position of the column to add all of the vial numbers for the corresponding column.

Tip! If an error is made, then click **Remove Selections**. This removes all of the information in the table.

18. Click **Finish**. The Plate Editor (Agilent Autosampler) dialog opens.

19. Click OK.

The Autosampler Database dialog opens. The new plate is shown in the Plate list.

20. In the **Rack** section, select the appropriate rack for the plate and then click **Edit**. The Rack Editor (Agilent Autosampler) dialog opens.

Figure 65 Rack Editor (Agilent Autosampler) Dialog

Rack Editor (Agilent Autosam	pler)	×
Rack Ty Number of plates	rpe: MultiDrawer in the X direction: 2	
Number of plates The number of rack positions t	Count Right 💌	
Rack size: Unde	efined 👻]
Rack Layout	Plates used with this rack: 15VialGenPlateC 6VialGenPlateC 27VialGenPlateC 24VialGenPlateR 5x9VialGenPlateR Plate centers (1/100 mm) :	
Edit Vials	X Y 1 2 3 4 5 5	
		Cancel

- 21. In the **Plates used with this rack** list, select the check box corresponding to the new plate.
- 22. Click **OK**. The Autosampler Database dialog opens.
- 23. Click **OK**.
- 24. Open the control software.
- 25. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**.

The Analyst Device Driver dialog opens.

- 26. Click **Configure**. The LC Device Configuration dialog opens.
- 27. Select the autosampler to be configured in the right panel and then click **Configure**. The Configure (selected) Sampler dialog opens.

Configure HiP Sampler	X
Device name Multisampler	
Type ID G7167A 💌	
Serial number	
Firmware revision	
Connection settings	
Options Drawer	
These options are for information only or configuring an offline system. Please see help for instructions how to change the configuration.	
Metering G4267-60042: 40 µL Analytical Head ▼	
Left needle installed Alternating needle usage not available	
Left needle Right needle	
Loop G4267-60301: Loop 20 μL left Dual-Need 💌 Loop G4267-60300: Sample Loop-Flex 20 μL ri	. =
Seat G4267-87012: Seat assembly 0.12 mm 1 💌 Seat G4267-87012: Seat assembly 0.12 mm 1	·
Max. Injection Volume: 20.00 μL Max. Injection Volume: 20.00 μL	
(Multi-draw disabled) (Multi-draw disabled)	
Cooler installed Multi-wash installed	
Mode: Constant temperature mode (control s 💌	
Reference vial rack	
G4267-40071: Reference vial rack (5)	
Bypass capillary	
None -	
Define Sample Containers	
Denne Sample Containers	-
Help OK Ca	incel

Figure 66 Configure (selected) Sampler Dialog

28. Click Define Sample Containers.

The Define and edit Wellplates dialog opens.

Pofine and edit We	liplates			-					_	_	_	- 0	×
Name	Rows	Columns	Volume	Row Distance	Column Distance	Plate Length	Plate Width	Plate Height	Row Offset	Column Offset	Column Shift	Origin	W A
CustomePlate	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.
NewCustomPlate	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.
40VialPlate	5	8	1500	15	15	85.6	127.6	43	12.9	11.4	0	left/back	29
"54VialPlate"	6	9	1500	13	13	85.6	127.6	36	10.3	11.8	0	left/back	29
15VialPlate	3	5	6000	23.8	23.8	85.6	127.6	42	19	16.2	0	left/back	34.1
*15HRV5mlVialPl	3	5	6000	23.8	23.8	85.6	127.6	42	19	16.2	0	left/back	34.
*15HRV6mIVialPI	3	5	6000	23.8	23.8	85.6	127.6	47.5	19	16.2	0	left/back	42.
"6VialPlate"	2	3	20000	38	38	85.6	127.6	46	23.8	25.8	0	left/back	44
*Eppendorf1.5ml	3	9	1500	26	13.3	85.6	127.6	40.5	10.3	10.6	0	left/back	36
*Eppendorf2.0ml	3	9	2000	26	13.3	85.6	127.6	40.5	10.3	10.6	0	left/back	37.
*Eppendorf0.5ml	3	9	500	26	13.3	85.6	127.6	40.5	23.3	10.6	0	left/back	27.:
96Agilent	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.1
384Agilent	16	24	80	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	10.1
*96DeepAgilent3	8	12	1000	9	9	85.5	127.8	31.5	11.2	14.4	0	left/back	29.1
*96DeepAgilent4	8	12	1000	9	9	85.6	127.5	41	11.3	14.25	0	left/back	37.4
*96CappedAgilen	8	12	400	9	9	84.7	126.8	47.1	10.85	13.9	0	left/back	42.1
*96DeepRitter41	8	12	1000	9	9	84.7	126.8	41.2	10.85	13.9	0	left/back	38.1
96Nunc	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.1
384Nunc	16	24	80	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	10.3
*96DeepNunc31	8	12	1000	9	9	85.5	127.8	31.5	11.2	14.4	0	left/back	29.1
96Greiner	8	12	300	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.1
96GreinerV	8	12	250	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.2
384Greiner	16	24	90	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	11.5 *
4													•
Add Rem	ove	Сору	Edit	Import.	Export	Qk	Cancel						ielp

Figure 67 Define and edit Wellplates Dialog

29. Click Add.

The Edit Wellplate dialog opens.

Edit Wellplate	1.1		100		11	X
Wellplate						
Plate Name	6x9VialGenPlateR					
Row information			Column inform	nation		
Rows	6 🗧		Col	lumns	9 ÷	
Row Distance	9.00 🛟	mm	Column Dis	tance	9.00 ≑	mm
Row Offset	11.30 🛟	mm	Column (Offset	14.40 🕂	mm
			Column	n Shift	0.00	mm
Well information			Plate informat	ion		
Volume	400.00	μL	Plate L	ength	85.60	mm
Well Depth	11.20	mm	Plate	Width	127.70	mm
Well X Size	8.50 🛟	mm	Plate H	Height	14.30	mm
Well Y Size	8.50 🛟	mm	(Origin	left / back 🔻	
Bottom Size	1.000000	mm			Is Sealed	
	Square					
[Ok	Can	cel	Help		

Figure 68 Edit Wellplate Dialog

- 30. Type the name of the added plate in the **Plate Name** field.
- 31. Update all of the fields in the Edit Wellplate dialog with the appropriate information. All of the fields in the Row information, Column information, Well information, and Plate information sections must be updated with the information for the plate.
- 32. Click **OK**.

The plate is added to the first line of the table on the Define and edit Wellplates dialog.

Pofine and edit We	liplates			-					-				×
Name	Rows	Columns	Volume	Row Distance	Column Distance	Plate Length	Plate Width	Plate Height	Row Offset	Column Offset	Column Shift	Origin	W *
▶ 6x9VialGenPlate	6	9	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left / back	11.
CustomePlate	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.
NewCustomPlate	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left / back	11.
40VialPlate	5	8	1500	15	15	85.6	127.6	43	12.9	11.4	0	left/back	29
"54VialPlate"	6	9	1500	13	13	85.6	127.6	36	10.3	11.8	0	left / back	29
15VialPlate	3	5	6000	23.8	23.8	85.6	127.6	42	19	16.2	0	left / back	34.1
*15HRV5mlVialPl	3	5	6000	23.8	23.8	85.6	127.6	42	19	16.2	0	left/back	34.1
*15HRV6mlVialPl	3	5	6000	23.8	23.8	85.6	127.6	47.5	19	16.2	0	left/back	42.
6VialPlate	2	3	20000	38	38	85.6	127.6	46	23.8	25.8	0	left/back	44
*Eppendorf1.5ml	3	9	1500	26	13.3	85.6	127.6	40.5	10.3	10.6	0	left/back	36
*Eppendorf2.0ml	3	9	2000	26	13.3	85.6	127.6	40.5	10.3	10.6	0	left/back	37.
*Eppendorf0.5ml	3	9	500	26	13.3	85.6	127.6	40.5	23.3	10.6	0	left / back	27.:
96Agilent	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left / back	11.1
384Agilent	16	24	80	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	10.1
*96DeepAgilent3	8	12	1000	9	9	85.5	127.8	31.5	11.2	14.4	0	left / back	29.1
*96DeepAgilent4	8	12	1000	9	9	85.6	127.5	41	11.3	14.25	0	left / back	37.4
*96CappedAgilen	8	12	400	9	9	84.7	126.8	47.1	10.85	13.9	0	left/back	42.1
*96DeepRitter41	8	12	1000	9	9	84.7	126.8	41.2	10.85	13.9	0	left / back	38.1
96Nunc	8	12	400	9	9	85.6	127.7	14.3	11.3	14.4	0	left / back	11.1
384Nunc	16	24	80	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	10.1
*96DeepNunc31	8	12	1000	9	9	85.5	127.8	31.5	11.2	14.4	0	left / back	29.1
96Greiner	8	12	300	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.1
96GreinerV	8	12	250	9	9	85.6	127.7	14.3	11.3	14.4	0	left/back	11.1
"384Greiner"	16	24	90	4.5	4.5	85.6	127.8	14.4	9.05	12.15	0	left/back	11.1 *
•													•
Add Rem	nove	Сору	Edit	Import.	Export	Qk	Cancel					1	lelp

Figure 69 Define and edit Wellplates Dialog

33. Click OK.

The plate is added and can now be selected in the **Location** tab of the control software Batch Editor.

Use the Generic Agilent Autosampler and Generic Plates

The user assigns a plate using the Analyst Device Driver (ADD) Status user interface in Direct Mode. Right-click on the autosampler status user interface, select **Assign Wellplates**, and then select a plate that matches the plate in the autosampler drawer. In the control software Batch Editor, select a generic plate that contains the same number of rows and columns. The single plate racks (10×10 , 4×10 and 3×5) are still available. However, the following new plate list is available for the 2 Wellplates and Multi Drawer rack types:

- 15VialGenPlateC
- 24VialGenPlateR
- 27VialGenPlateC
- 384VialGenPlateC
- 384VialGenPlateR
- 54VialGenPlateC
- 54VialGenPlateR

- 6VialGenPlateC
- 96VialGenPlateC
- 96VialGenPlateR

Note: The suffix letter represents the vial, numbered by column ('C') or numbered by row ('R'). For example, in the progressive count on the 6VialGenPlateC, A-1 represents vial 1, B-1 represents vial 2, and so on. In the progressive count on the 24VialGenPlateR, A-1 represents vial 1, A-2 represents vial 2, and so on. For all of the plates, the origin (A-1) is on the top left.

1. In the control software Batch Editor, create a batch.

Note: During the installation of the ADD, the autosampler database is updated with a generic Agilent Autosampler profile. When the ADD is part of the hardware profile, the Agilent Autosampler is automatically selected in the Batch Editor Locations tab, regardless of the model available in the LC stack.

- 2. On the Locations tab, click inside the appropriate drawer and then right-click to access the list of available plates.
- 3. Select the plate that matches the plate (number of vials) in the autosampler.

Note: When an Agilent autosampler is used in a batch, the following rack codes and autosamplers are available:

Table 2 Agilent Rack Codes and Autosamplers

Rack Code	Agilent Autosampler Type
Multi Drawer	Multisampler
2 Drawer Plates	Vialsampler
2 × 50Vial Drawer	
2 Wellplates	All the other Agilent Autosamplers
10 By 10	
4 By 10	
3 By 5	

Use the LC Reference Vials

When the Analyst Device Driver (ADD) software is installed, only the plates that are #VialGenPlateC or #VialGenPlateR contain five additional vials, referred to as the LC reference vials. These vials are typically shown to the right of the standard vials with the numbering starting at 20001 to 20005.

- 1. Create a batch in the control software.
- 2. Set the sample locations on the Batch Editor Locations tab.





3. To use the LC reference vials, select the appropriate vials in the order that they are to be analyzed.

Enable Recording of the Pressure Gradient

- 1. Open the control software.
- 2. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The Analyst Device Driver dialog opens.
- Click Configure. The LC Device Configuration dialog opens.

• Agilert ELSD • Agilert 1100/1200/1260/1290 LC • Agilert 1120/1220 LC Systems • Agilert 7100 CE • Agilert 7100 CE • Agilert Configure • A		
Agilent 1100/1200/1290 LC Agilent 1120/1220 LC Systems Agilent 7100 CE Agilent Corfigure	Agilent ELSD	Bin. Pump (G1312B:DE60555444)
Agilent 1120/1220 LC Systems Agilent 7100 CE	Agilent 1100/1200/1260/1290 LC	HiP Sampler (G7167A)
Agilent 7100 CE	⊕ Agilent 1120/1220 LC Systems	
Auto Configure	Aglent 7100 CE	
Auto Configure		
> Auto Configure		
Auto Configure		
Auto Configure		
Auto Configure		
Auto Configure		
Auto Configure		
Auto Configure		
Auto Configure	<	
Auto Configure		
Auto connigure	Auto Con	
	Auto Con	ligure
Up Down Configure Clea		Up Down Configure Clear
- Burno Prese ve	Dumo Praesura	
Halp // Cashle Real-Time Monitoring	Help IV Enable Real-Time Monitoring	OK Canad
	help	- Cancei

Figure 71 Enable Real-Time Monitoring Option

- 4. Select the **Enable Real-Time Monitoring** check box. During acquisition, the pump pressure data is captured in the wiff file.
- 5. To view the pressure date, open the wiff file in the control software, right-click inside the TIC pane and then select **Show ADC data** from the list of options. The pressure trace is shown.

Use the Custom Injection Program

This program provides a method to automatically add an internal standard to any vial before injection.

- 1. Open the control software.
- 2. On the Navigation bar, under **Companion Software**, double-click **Analyst Device Driver**. The Analyst Device Driver dialog opens.
- Click Method. The Instrument Control Method Editor dialog opens.
- 4. Click the **Custom Injector** tab.

Figure 72 Customer Injector Option

File View										Method Custom Inj
Function	Parame	ter								1
Draw	 Draw d 	efault volume fr	om sample with d	fault speed using	g default offset					
Inject	 Inject 									
										1
Append	Insert	Delete	Clear all	Move up						
Cut	Copy	Paste		Move down						
	2.141			and the second second						

5. Press **F1** to access information about working with this tab, if required.

Occasionally, during acquisition, the control software might go in the waiting state, generate an error, or seem to be waiting indefinitely for some action but the cause of these issues might not be clear. To help troubleshoot these occurrences, some possible causes are described in this section.

For more troubleshooting information, refer to the Agilent Help.

Tip! All of the events, including errors, warnings, and other messages, that are generated about the Analyst Device Driver (ADD) software are logged in the Event Log. To open the Event Log, in the control software, click **View > Event Log.** Under **Windows Logs**, double-click **Application**. For more information, refer to the *Filtering the Event Log* topic in the control software document: *Help*.

Tip! Another log, specific to the ADD software, is located in the <drive>:\ProgramData\AB SCIEX\AnalystDeviceDriver\Log folder.

Tip! To troubleshoot the cause of an issue, show detailed status information by moving the cursor over the status description in the Status dialog.

Control Software Waiting Indefinitely during Acquisition

During acquisition, the control software might seem to be waiting indefinitely for the sample injection to happen. In this case, as shown in the following figure, the front door of the autosampler might be open. After the front door is closed properly, the control software resumes acquisition.

Figure A-1 Front Door Open Message



Software Application Status for the ADD Software is in Error and the Pump Turns Off at the End of a Sample

If there is no sync (remote) cable between the CTC PAL3 autosampler and the Agilent pump, the current sample will finish, the software Application Status for the Analyst Device Driver (ADD) software in the control software will go to Error state, and the pump will be turned off. Refer to the figure: Figure A-2. To recover, connect the sync cable between the CTC PAL3 autosampler and the pump, and then deactivate the hardware profile, and activate it again.

Figure A-2 ADD Software Error

PAL3	Binary Pump	
UCP 1 RobotArmLaft Dive RobotArmLaft Divert-GPo	Standby EMF 100.0 0.0 0.000 mL/min 000 3.40 bar	
0.00/0.00	Instrument Standby (1)	® on e or

Control Software Goes to Error State during Acquisition

During acquisition if the control software goes to Error state, as shown in the following figure, and the Status dialog in the Analyst Device Driver (ADD) software also shows an error, then move the cursor on the red Error rectangle in the Pump pane and the error message will show the cause of the error. Refer to the figure: Figure A-4. There might be a leak in the pump.

Eile Edit View Acquire Iools	Eiglore	lind	ow Script Help								- 0
🖄 🚅 🖬 🖨 🖪 🕺 X 🗞 🖄	$\cap \Omega$		oquine Mode		08	Default		•	🕫 X 🖼 🗂		
********	昌麗	60	8≁¤¢ r •	e p							
Hardware Configuration		Acqui	ing Sample 0 of 0		Period	1 of 1	Dura Eq 100% Ela	ione rected 001 poed	00.00 Beady	veve Server	
P Tune and Calibrate		Т	Start Time	Samp	e Name	Plate Po	Vial Position	Status	Method	Batch	Data File
Compound Optimization		17	25/02/2015 3 38 37	Samp	+001	1	1	Acquired	test icf dc	New Batch	DataSET
- 🖉 Instrument Optimization	2	Þ	25/02/2015 4 01:52	Samp	0001	2	12	Patial	test 90-tals	New Batch	DataSET
- A. Marcuel Turing	3	7	25/02/2015 4:04 23	Samp	e001	2	96	Acquired	test_90vals	New Batch	OwtableT
13	4	0	25/02/2015 4:20:11	Samp	e001	0	1	Acq.Error	test_96-tals	New Batch	DataSET
6 Alleire (1)	5	17	25/02/2015 4:40:49	Samp	e001	0	2	Patial	Not_964als	New Batch	DWASET
CA Method Waard	6	7	25/02/2015 5:09:05	Samp	e001	0	1	Acquired	test_90vials	New Batch	DataSET
7 Build Acquisition Method	1	1	25/02/2015 5:10:35	Samp	+002	0	2	Acquired	test_90vials	New Batch	DataSET
The sector sector fracts	0	1	25/02/2015 5 16:52	Sampl	e001	0	1	Acquired	test_90vals	New Batch	DataSE1
One vogseen beck	9	V	25/02/2015 5 26:48	Samp	e001	0	2	Acquired	test_96vials	New Batch	DataSET
27 Express Vew	10	_0	25/02/2015 5:38:28	Samp	e001	0	2	AcqError	Not_90vals	New Batch	DataSET
P Epione											
💕 Open Data File											
O the former of the term											

Figure A-3 Error State

🛃 Status			-		×
Multisampler	Error EMF@ pen: 3	Quat. Pump Column Comp. Error Error Image: Column Comp. Error Image:			
Injection Volume	1.00 µL				
Sample Location					
Prime Status	Idle				
Auto-clean Status	Idle				
Active Tray	None				
Purge Status	Idle				
0.00 / 0.00		Instrument Error	I	() On	⊖ off

Figure A-4 Leak Detected Message

To resolve this issue, do the following:

- 1. Deactivate the hardware profile in the control software.
- 2. Turn off the device.
- 3. Fix the leak in the pump.
- 4. Turn on the device.
- 5. Activate the hardware profile.
- 6. Start the acquisition again.

Hardware Profile Activation Might Take Some Time After the LC Devices Configuration in the ADD Software

After the LC devices are configured using the Analyst Device Driver (ADD) software and the hardware profile is created in the control software and activated, the device activation might take some time. During this time, the control software status bar shows the Wait status for the ADD software. This is because the LC devices might still be initializing. This can be checked by moving the cursor over the grey **Offline** rectangle in the Status dialog. The message will show that the devices are initializing. Refer to the figure: Figure A-5. After the initialization is complete, the hardware profile is activated.





Cluster Partner Missing Error in the ADD Software

If the initial pump in the LC stack is changed with another one, then during the hardware profile activation, the status bar in the control software might show that the Analyst Device Driver (ADD) software does not come out of the equilibration mode. This issue occurs because the autosampler in the LC stack is not able to find the pump to which it is connected. View the cause of the error in the Status dialog. Refer to the figure: Figure A-6. When the cursor is moved over the yellow **Not Ready** rectangle in the Multisampler pane, the error message shows that the cluster partner is missing, which means that the autosampler is not able to find the pump to which it is connected.

Figure A-6 Cluster Partner Missing Message

🛃 Status				-		×
Multisampler ? _ 🗆	Column Co	mp.				
Not Ready		Not Ready				
On Off EMF	dy condition: Cluster partne	er missing, Remote partner missin	ε			
1.00 μL	() 25.17°C	() 25.07℃				
		•				
					-	
0.00 / 0.00		Instrume	nt Not Ready	/ 🕴 (🕕 On 🤅	-) Off

To fix this issue, do the following:

1. In the Status dialog, right-click in the autosampler pane and click **Control**.

The Control dialog opens.

2. From the list in the **Pump Connected to Sampler** field, select the pump to which the autosampler is connected.

Figure A-7 Select the Pump

		-	\times
Missing Vessel	Illumination		
Ignore missing vessel	OnOff		
Pump connected to Sampler	Clear Workspace		
G7111B:DEAET00648	At End of Analysis		•

LC Devices Show Error in the Status Dialog in the ADD Software

If any of the LC Devices shows error in the Status dialog, then a red light is lit on the actual devices too, which indicates that the device is in an error state.

Multisampler	Quat. Pump	Column Co	mp.
Error	Erro	or	Erro
EMF⊘	EMF	D	EMF
1.00 μL	A B 50.0 50.0 0.000 mL/min	24.81°C	ل 24.89*0
	C D 0.15 bar		٥

Figure A-8 LC Devices in Error State

To clear the error state, do the following procedure.

- 1. Deactivate the current hardware profile in the control software.
- 2. Turn off the devices showing error.
- 3. Turn on the devices again.
- 4. Activate the hardware profile again.

Batch Acquisition Stops when an Autosampler is used through the ADD software

When an autosampler is used through the Analyst Device Driver (ADD) software, sometimes sample acquisition in a batch could stop. This could happen if the racks in the ADD software are not mapped correctly to the positions of racks and plates in the autosampler. For the CTC PAL3 autosampler, make sure that the rack mapping in the PAL3 Rack Position - Mapping dialog in the ADD software is mapped correctly to rack positions in the autosampler. Refer to the Map Rack Positions for a CTC PAL3 Autosampler. For an Agilent autosampler, refer to Assign Wellplates in the Agilent Autosampler.

Another reason for the batch to stop acquiring could be a missing vial in the rack.

Missing Vial and other Errors during a Batch Acquisition

During a batch acquisition, if a sample acquisition is aborted but the batch acquisition continues to the next sample, then the possible cause of the error is a missing vial. Refer to the figure: Figure A-9. Double-click the aborted sample to open a dialog that provides detailed information about the error. Refer to the figure: Figure A-10.

Note: In case of a missing vial, the batch acquisition will stop completely if the **Fail whole batch in case of missing vial** option is selected in the Queue Options dialog.

Figure A-9 Aborted Sample Acquisition in Batch Editor

A 0% =	cquir	ing Sample 0 of 0	Period 0	of 1	100%	Durations Expected Elapsed	00:00:00 8	Queue Server	al	
		Start Time	Sample Name	Plate Po	Vial Posi	Status	Method	Batch	Data File	Project
1	0	19/01/2017 2:21:15	Sample001	1	2	Acq.Error	test_validation	New Batch	DataSET1	Default
2	0	19/01/2017 2:22:26	Sample002	1	1	Acq.Error	test_validation	New Batch	DataSET1	Default
	0	19/01/2017 2:22:26	Sample002	1	1	Acq.Error	test_validation	New Batch	DataSET1	Default

Figure A-10 Sample Details Dialog — Details about the Error Missing Vial

nple Details					
Sample Name	Sample001	Sample ID	S	tatus Acq.	Error
Sync Mode	Manual Sync	Method	test_pal3		
Comment					
Period Information					
Acquisition Error	ice Driver:0::{CA84A7	DB-31CA-4FFB-AA8E-	E938DB87364E}: ERROR:	Method aborted du	e to missing vial 2
Message					
			OK.	Cancel	Help
If a sample acquisition is aborted during acquisition and the batch acquisition stops after that sample, then the possible cause could be anything. Refer to the figure: Figure A-11. Double-click on the aborted sample to open a dialog that provides detailed information about the error. Refer to the figure: Figure A-12. If the sample details just lists the error as method aborted, then open the Event Log to view detailed information about the error. Refer to the figure: Figure A-13

Figure A-11 Aborted Sample Acquisition in Batch Editor

Acquiring Sample 0 of 0	Period 0 of 1	Durations Expected 100% Elapsed	00:00:00	ady Nom	al	
Start Time	Sample Name Plate Po	Vial Posi Status	Method	Batch	Data File	Project
1 () 19/01/2017 2:21:15	Sample001 1	2 Acq.Error	test_validation	New Batch	DataSET1	Default
2 0 19/01/2017 2:22:25	Sample002 1	1 Acq.Error	test_validation	New Batch	DataSET1	Default

Figure	A-12 Sample	Details Dialog -	- Details	about the	Error Metho	d Aborted
1.94.0		Botallo Blaiog	Dotano	about the		

Sample Name	Sample002	Sample ID	Status	Acq.Error
Sync Mode	Manual Sync	Method	test_pal3	
Comment				
Period Information				
Acquisition Error Message	xplication:Analyst Devi	ice Driver:0::{CA8AA7E	08-31CA-4FFB-AA8E-E938DB87364E	ERROR: Method aborte



Figure A-13 Event Log — Details about the Error Method Aborted

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