



C100HT Biologics Analyzer System

Installation Guide



This document contains confidential and proprietary information belonging to SCIEX and is intended for the sole use of providing technical support to customers by fully trained service and technical specialists authorized by SCIEX. This document and contents or portions thereof shall not be disclosed to any third party, copied or reproduced without the prior written permission of SCIEX, and must be returned to SCIEX when no longer required.

Software that may be described in this document is furnished under a license agreement. It is against the law to copy, modify, or distribute the software on any medium, except as specifically allowed in the license agreement. Furthermore, the license agreement may prohibit the software from being disassembled, reverse engineered, or decompiled for any purpose. Warranties are as stated therein.

Portions of this document may make reference to other manufacturers and/or their products, which may contain parts whose names are registered as trademarks and/or function as trademarks of their respective owners. Any such use is intended only to designate those manufacturers' products as supplied by SCIEX for incorporation into its equipment and does not imply any right and/or license to use or permit others to use such manufacturers' and/or their product names as trademarks.

SCIEX warranties are limited to those express warranties provided at the time of sale or license of its products and are SCIEX's sole and exclusive representations, warranties, and obligations. SCIEX makes no other warranty of any kind whatsoever, expressed or implied, including without limitation, warranties of merchantability or fitness for a particular purpose, whether arising from a statute or otherwise in law or from a course of dealing or usage of trade, all of which are expressly disclaimed, and assumes no responsibility or contingent liability, including indirect or consequential damages, for any use by the purchaser or for any adverse circumstances arising therefrom.

For research use only. Not for use in diagnostic procedures.

AB Sciex is doing business as SCIEX.

The trademarks mentioned herein are the property of AB Sciex Pte. Ltd. or their respective owners.

AB SCIEX™ is being used under license.

© 2018 AB Sciex



AB Sciex LLC
500 Old Connecticut Path
Framingham, Massachusetts 01701
USA

Contents

1 Introduction.....	4
Hardware Overview.....	5
Cartridge.....	7
Decommissioning and Disposal.....	8
Chemical Precautions.....	8
2 Installation Instructions.....	10
Unpack and Place the System.....	10
Unpack the System.....	10
Unpack the Controller and Monitor.....	10
Remove the Transport Lock.....	11
Connect the Cables.....	12
Configure the Controller and the Software.....	13
Set the Instrument ID.....	14
Install the Cartridge in the System.....	15
Verify the Alignment of the Transport System	16
Configure the Photomultiplier Tube (PMT) Voltage.....	18
Inject a Sample and Determine the Detector Counts.....	18
Set the Photomultiplier Voltage.....	19
Test the Detector.....	20
Review the Default Users.....	21
Complete the Qualifications.....	21
3 Troubleshooting.....	22
Troubleshooting Tables.....	22
Run a Test Sample.....	28
Export Log Files for Troubleshooting.....	29
4 Service Kit Bill of Materials.....	31

Introduction

1



WARNING! Personal Injury Hazard. Use SCIEX-recommended parts only. Use of parts not recommended by SCIEX or use of parts for any purpose other than their intended purpose can put the user at risk of harm or negatively impact system performance.

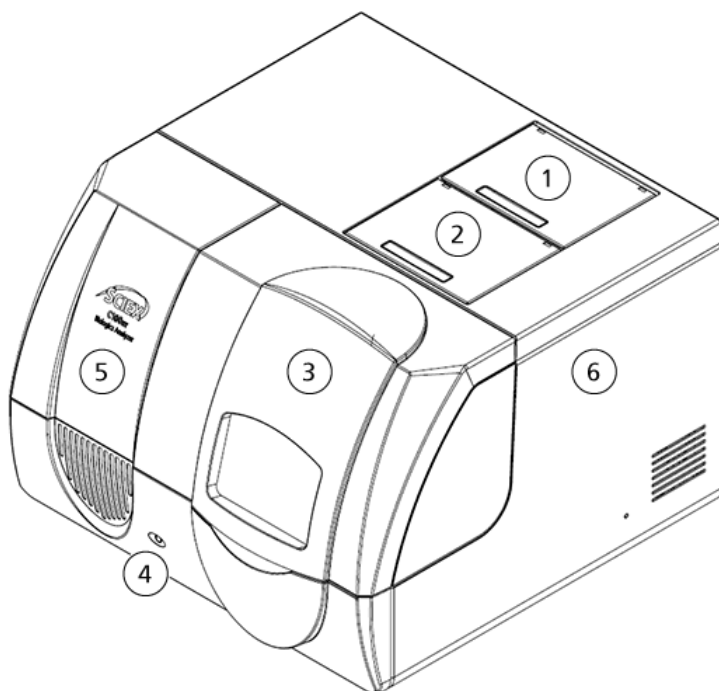
CAUTION: Potential System Damage. Follow the instructions in the service documentation when servicing the system. Do not perform unauthorized procedures.

This guide is intended solely for a trained and qualified Field Service Employee (FSE). It contains information required to install and troubleshoot the C100HT Biologics Analyzer system.

This capillary electrophoresis system and its components meet or exceed the applicable regulatory requirements. For safety and regulatory information about the system refer to the *C100HT Biologics Analyzer System Operator Guide*.

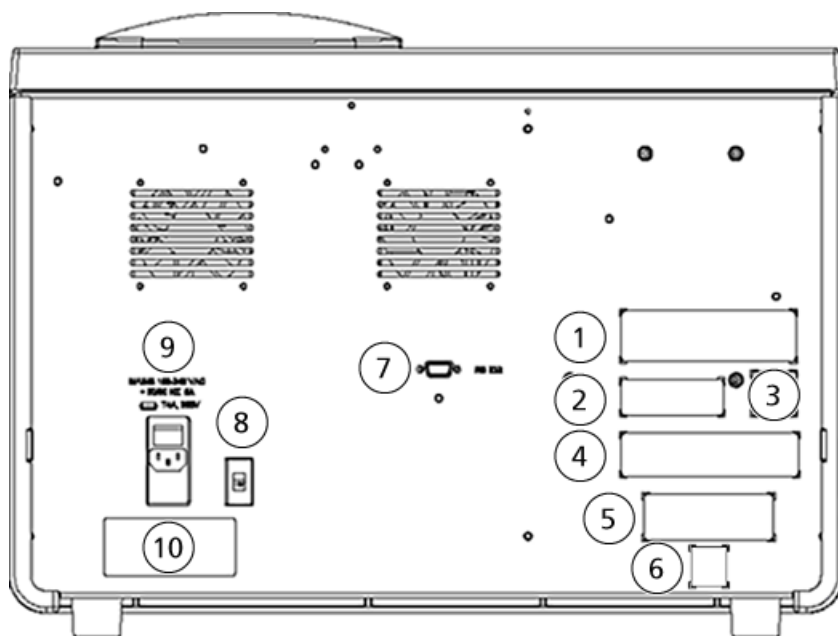
Hardware Overview

Figure 1-1 Front and Side Panel



Item	Description
1	Service door
2	Cartridge door
3	Sample door
4	LED power indicator; green when the system is on, blue when it is off.
5	Access cover
6	Right side cover

Figure 1-2 Back Panel

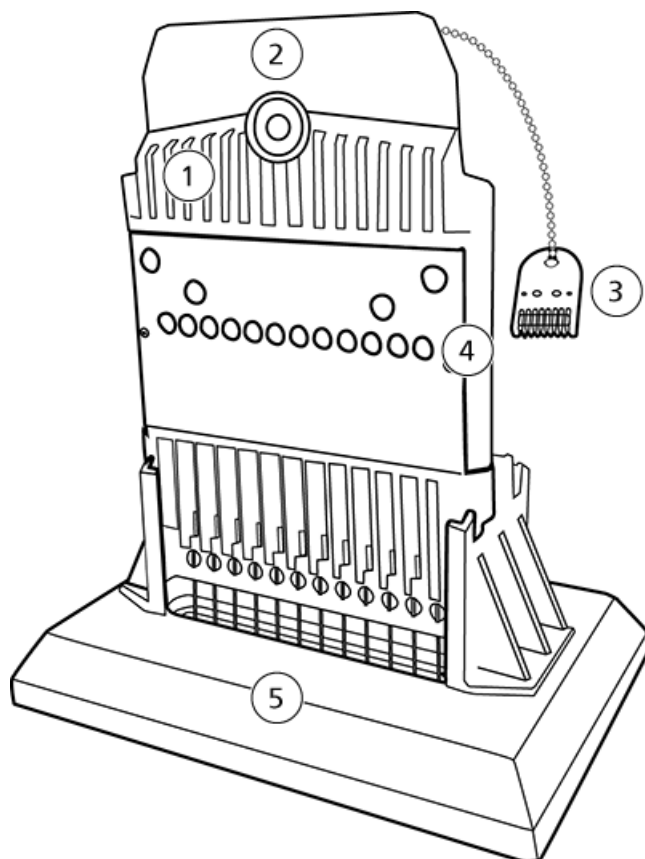


Item	Description
1	Name plate
2	FCC Compliance label
3	Waste Electrical and Electronic Equipment label
4	No User-serviceable Parts label
5	For Research Use only label
6	RoHS label
7	RS-232 connector
8	Voltage switch
9	Power switch, mains supply connection, and fuse holder
10	High Voltage label

Cartridge

Note: Always allow the cartridge to stand in the cartridge stand at room temperature for at least 20 minutes before use.

Figure 1-3 Cartridge in Cartridge Stand



Item	Description
1	Gel reservoir
2	Cartridge purge port
3	Cartridge data key
4	Capillary windows
5	Cartridge stand

Decommissioning and Disposal



WARNING! Environmental Hazard. Do not dispose of system components in municipal waste. Follow local regulations when disposing of components.

Before decommissioning, decontaminate the entire system following local regulations. Follow the SCIEX Red Tag process and complete an instrument Decontamination Form for instrument and parts returns.

When removing the system from service, separate and recycle different materials according to national and local environmental regulations.

Note: SCIEX will not accept any system returns without a completed Decontamination Form.

Chemical Precautions



WARNING! Ionizing Radiation Hazard, Biohazard, or Toxic Chemical Hazard. Determine whether decontamination is required prior to cleaning or maintenance. The customer must decontaminate the system prior to cleaning or maintenance if radioactive materials, biological agents, or toxic chemicals have been used with the system.



WARNING! Environmental Hazard. Do not dispose of system components in municipal waste. Follow local regulations when disposing of components.

- Determine which chemicals have been used in the system prior to service and regular maintenance. Refer to the *Safety Data Sheets* for the health and safety precautions that must be followed with chemicals. SCIEX *Safety Data Sheets* can be found at sciex.com/tech-regulatory.
 - Always wear laboratory-required personal protective equipment. For associates, SCIEX recommends the use of powder-free neoprene or nitrile gloves, safety glasses, and a laboratory coat.
 - Avoid ignition sources when working with flammable materials, such as isopropanol, methanol, and other flammable solvents.
 - Take care in the use and disposal of any chemicals. Potential risk of personal injury if proper procedures for handling and disposing of chemicals are not followed.
 - Avoid skin contact with chemicals during cleaning and wash hands after use.
-

- Collect all spent liquids and dispose of them as hazardous waste.
- Comply with all of the local regulations for the storage, handling, and disposal of biohazardous, toxic, or radioactive materials.

Installation Instructions

2

Unpack and Place the System

Refer to the "Checklists" in the *Site Planning Guide* for more information.

Unpack the System



WARNING! Lifting Hazard. Make sure that at least three people or a lifting device are available to lift the CE system. Follow established safe lifting procedures. Refer to the *Site Planning Guide* for the weights of system components.



WARNING! Electrical Shock Hazard. Make sure that the system can be disconnected from the mains supply outlet in an emergency. Do not block the mains supply outlet.

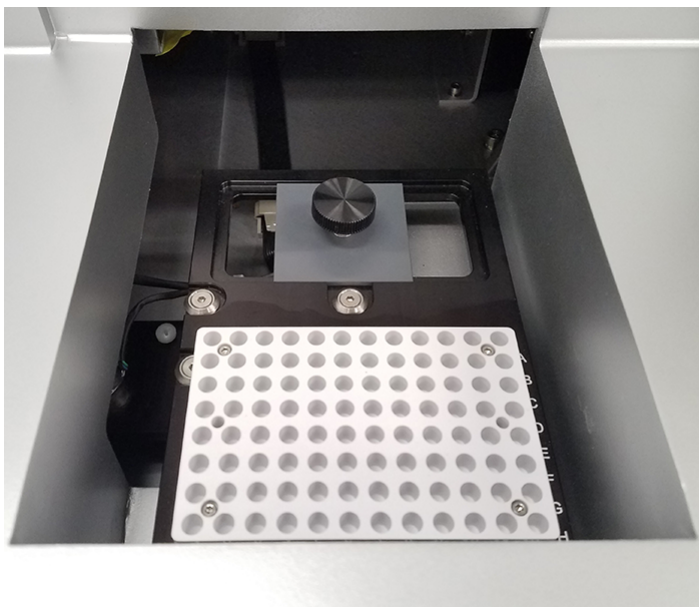
1. Inspect the shipping box for damage or evidence of mishandling. If external damage is evident, notify the carrier before opening the crate.
2. Cut the straps on the box and then open the box.
3. Remove the cartridge stand and the ship kit containing cables from the packaging foam.
4. Remove the boxes containing the controller and monitor.
5. (For customers with the cart) Remove the cart from the box and then lock the wheels on the cart.
6. Lift the C100HT Biologics Analyzer system out of the box and then put it on the bench or the cart.
7. Instruct the user to store the packaging in a safe location for later use when moving the system.

Unpack the Controller and Monitor

1. Open the controller carton, remove the controller, and then put it on the cart or a table close to the C100HT Biologics Analyzer system.
2. Open the monitor carton, remove the monitor, and then put it on the cart or the table close to the controller.
3. Instruct the user to store the packaging in a safe location for later use when moving the system.

Remove the Transport Lock

1. Open the sample door.
2. Turn the black knob counterclockwise to remove the transport lock.



3. Instruct the user to store the transport lock in a safe location for later use when moving the system.

Connect the Cables

Required Materials
<ul style="list-style-type: none">• In the instrument ship kit box:<ul style="list-style-type: none">• System power cable• RS-232 cable• In the monitor carton:<ul style="list-style-type: none">• mDP cable• Power cable• In the computer carton:<ul style="list-style-type: none">• Mouse• Power cable• Keyboard• (For customers with the cart) Cart power cable

1. On the back of the system, select the correct voltage. Refer to [Figure 1-2](#).
2. Make sure that the power switch on the back of the system is in the off position.
3. (For customers without the cart) Connect the power cables.
 - a. Connect one power cable to the back of the system and to an appropriately grounded line voltage outlet.
 - b. Connect the second power cable to the controller and to an appropriately grounded line voltage outlet.
 - c. Connect the third power cable to the monitor and to an appropriately grounded line voltage outlet.
4. (For customers with the cart) Connect the power cables.
 - a. Connect the cart power cable to the cart and an appropriately grounded line voltage outlet.
 - b. Connect the power cables to the system, the controller, and monitor and then to the power strip on the cart.

Make sure that the cables are routed above the cross beam on the cart so that they are not pulled when the cart is raised or lowered.
5. Connect the mDP cable between the controller and the monitor.
6. Connect the keyboard to the controller.
7. Connect the RS-232 cable between the controller and the C100HT Biologics Analyzer system.
8. Press the power switch on the back of the system to turn on the system.

Configure the Controller and the Software

Required Materials
<ul style="list-style-type: none">• In the box with the controller: C100HT reprocessing key• In the instrument ship kit: Customer reference DVD


- In the box with the controller: C100HT reprocessing key
- In the instrument ship kit: Customer reference DVD


1. Put the C100HT reprocessing key in a USB port on the controller.
2. Turn on the controller and the monitor and then log into the controller as a user with Windows Administrator privileges.

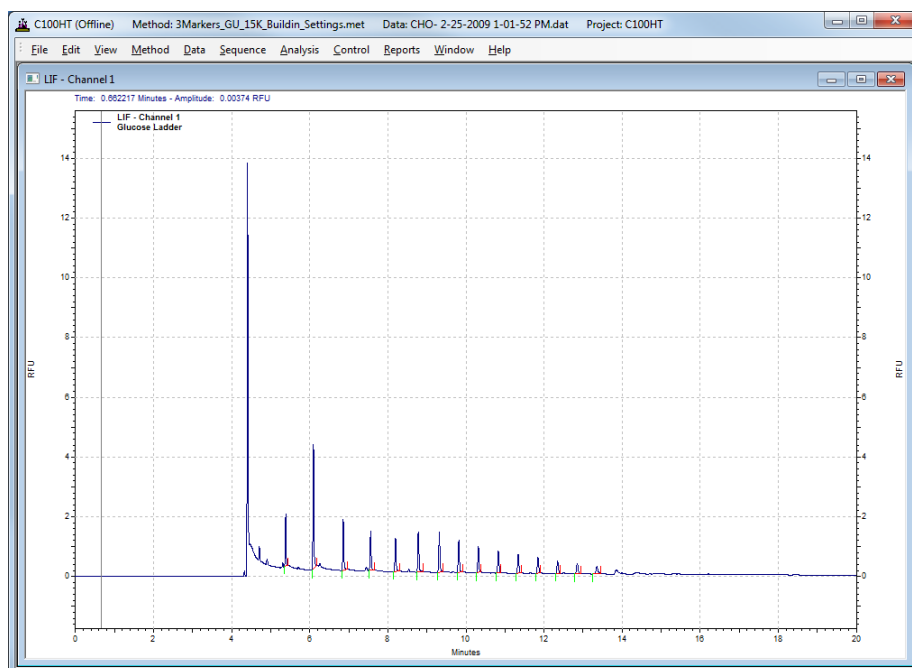
The software for the C100HT Biologics Analyzer system is already installed on the controller.

3. Click **Start > Control Panel > Date and Time**.
4. If necessary, click **Change date and time** to set the date and time.
5. Click **Start > Control Panel > Display > Adjust Resolution**. If necessary, set the resolution to 1920 × 1080.
6. In the 32 Karat software, verify the printer for the DataAnalyzer instrument.
 - a. Go to C:\32Karat and then double-click csmain.exe.
 - b. In the **32 Karat Software Enterprise** window, right-click the **DataAnalyzer** icon and then click **Open offline**.
 - c. Type **C100HTSW** in the **User name** field and **C100HTPrivate** in the **Password** field, click **DataAnalyzer** in the **Project** list, and then click **Login**.
 - d. Click **File > Print Setup**. If necessary, click **SciexPDF** in the **Name** list and then click **OK**.
 - e. Click **File > Exit**.
7. Verify the printer for the C100HT instrument.
 - a. In the **32 Karat Software Enterprise** window, right-click the **C100HT** icon and then click **Open offline**.
 - b. Type **C100HTSW** in the **User name** field and **C100HTPrivate** in the **Password** field, click **C100HT** in the **Project** list, and then click **Login**.
 - c. Click **File > Print Setup**. If necessary, click **SciexPDF** in the **Name** list and then click **OK**.

Do not close the 32 Karat software.
8. Set the size for the electropherogram in the 32 Karat software main window.

CAUTION: Potential Wrong Result. Do not click  (Maximize) to maximize any of the windows in the following step. If any of the windows are maximized, then the title bar buttons for windows in the DataReviewer software might not be visible.


- a. If the 32 Karat software window is maximized, click  (Restore).
- b. Click **File > Open** and open a data file.
- c. Drag the edges of the data window so that it fills the 32 Karat software window as shown in the following figure.



9. Click **File > Exit** to close the 32 Karat software.
10. In the **32 Karat Software Enterprise** window, click **File > Exit**.
11. Put the customer reference DVD in the DVD drive on the controller and then copy the *C100HT Biologics Analyzer Operator Guide* to the Windows desktop.

Set the Instrument ID

1. Write down the serial number found in the **SN** field in the nameplate on the back of the C100HT Biologics Analyzer system.
2. Start the C100HT software and type **Service** in the **USER ID** field, **ABSciexService1** in the **Password** field, and then click **OK**.

3. Click  (Service) and then click the **Maintenance** tab.
4. Click **Instrument ID**.
5. Type the serial number in the **Instrument ID** field and then click **Apply**.

Install the Cartridge in the System

CAUTION: Potential System Damage. Handle the cartridge with care. The tips of the capillaries are made of glass and are fragile. If the tips are broken, then replace the cartridge.

1. If the cartridge has been stored in the refrigerator, it must come to room temperature before use. Follow these instructions:
 - a. Remove the cartridge from the storage box and then put it in the cartridge stand.
 - b. Add enough DDI water to the cartridge stand trough to keep the capillary tips submerged so that they do not dry out.
 - c. Allow the cartridge to stand at room temperature for at least 20 minutes before use.
2. Remove the cartridge from the cartridge stand.
3. Remove the seal from the cartridge purge port and then, using a laboratory tissue, wipe off any gel residue. Refer to [Cartridge](#).

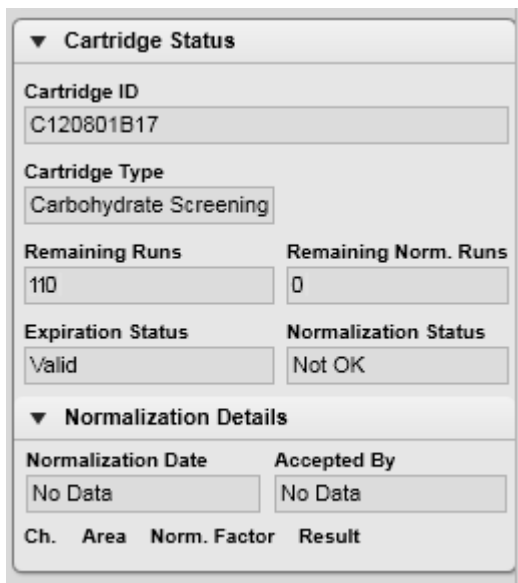
Store the seal in a safe location for later use when storing the cartridge.

4. Open the cartridge door and then put the cartridge in the C100HT Biologics Analyzer system so that the label faces the front of the system.
5. Put the data key in the socket in either orientation and then close the cartridge door.

If the **Latch cartridge automatically** option is selected in the C100HT software Settings, then the cartridge automatically engages and the optical and pressure systems are linked to the cartridge.

Installation Instructions

The Cartridge Status panel in the C100HT software updates to display the cartridge type, ID, remaining runs, remaining normalization runs, status, and other information.



Cartridge Status			
Cartridge ID C120801B17			
Cartridge Type Carbohydrate Screening			
Remaining Runs 110		Remaining Norm. Runs 0	
Expiration Status Valid		Normalization Status Not OK	
Normalization Details			
Normalization Date No Data		Accepted By No Data	
Ch.	Area	Norm. Factor	Result

Verify the Alignment of the Transport System


Required Materials

- 96-well plate
- Empty buffer plate



WARNING! Personal Injury Hazard. Keep fingers clear of the buffer plate carrier and the sample door. When the sample door is open for more than five minutes, the tray automatically moves to the park position.

CAUTION: Potential System Damage. Move the transport system one step at a time when performing the alignment. If the vertical or horizontal position is changed too quickly, the buffer plate or 96-well sample plate might collide with the capillary tips and damage them.

1. Log into the C100HT software as the service user. Type **Service** in the **USER ID** field, **ABSciexService1** in the **Password** field, and then click **OK**.
2. In the C100HT software, click  to go to Service mode.

- Click the **Maintenance** tab and then click **Start**.

Move to Position

W/S BUF DIP A Up Init

M CAL H D Down

Move Horizontal

Back

Forward

Steps 1 10 100

Move Vertical

Up

Down

Steps 1 10 100

Set Positions

Set X(D) 1555 Sample Row D

Set X(M) 937 Marker 1

Set Z 1154 Height

Save Positions

Unlatch Cartridge Start Cancel

- Click **Init** to initialize and then put the 96-well plate and the buffer plate in the system.
- Verify the M position.
 - Click **M** and then verify that the transport system moves to the M row of the buffer plate.
 - Click **Up** and then verify that the capillary tips are centered in the wells.

If the tips are **not** centered, then click **Back** or **Forward** until the tips are centered and then write down the value in the **Set X(M)** field.
- Verify the D position.
 - Click **D** and then verify that the transport system moves to row D of the 96-well plate.
 - Click **Up** and then verify that the capillary tips are centered in the sample wells and that they do not touch the bottom of the wells.
 - If the tips are not centered, then click **Back** or **Forward** until the tips are centered and then write down the value in the **Set X(D)** field.
 - If the capillary tips touch the bottom of the wells, then click **Down** to lower the height of the 96-well sample plate and then write down the value in the **Set Z** field.

Installation Instructions

7. Finish the alignment.

- If no adjustments are required, then the transport system is aligned. Click **Cancel** and then click **Yes** in the message to confirm.
- If changes are required, go to step 8.

8. Type the new value in the **SET X(D)** field and then click **SET X(D)**. Do the same thing for the **SET X(M)** and **SET Z** fields, and then click **Save Positions**.


A message that the EEPROM values have been saved opens.

Configure the Photomultiplier Tube (PMT) Voltage

The photomultiplier voltage must be configured when the system is installed and if the photomultiplier is replaced.

Inject a Sample and Determine the Detector Counts

Required Materials
<ul style="list-style-type: none">• 12-well tube strip• 20 µL pipette• Calibration solution• C100HT Glycan Labeling and Analysis buffer tray

1. Remove the buffer tray from the refrigerator and then allow it to stand at room temperature for at least 20 minutes before use.
2. Remove the seal from the buffer tray, put it in the buffer plate, and then put the buffer plate into the buffer plate carrier in the C100HT Biologics Analyzer system.
3. Pipette 20 µL of the calibration solution into each well of a 12-well tube strip and then put it in Row A of the sample tray. Make sure that the solution is at the bottom of the well and there are no bubbles.
4. In the C100HT software, click  to go to Service mode.
5. Click **Maintenance > Long Fill** and then click **Start**.

The filling process takes approximately 3 minutes.

6. Click **Terminal** and set the parameters as shown in the following figure.

☐ Low-Level Commands
☒ Action Commands
☐ Direct Commands

Define Action

SampleInject ▼

Voltage	Duration	Position
10 kV	300 sec	A ▼


Send to instrument

- Click **Send to instrument**.

The injection begins.

- When the sample injection is complete, test the detector. Refer to [Test the Detector](#). The raw counts should be between 14 000 and 15 000.
 - If at least one of the capillaries has a raw count that is approximately 15 000, then no changes are required.
 - If none of the capillaries has a raw count that is approximately 15 000, then set the photomultiplier voltage. Refer to [Set the Photomultiplier Voltage](#).

Set the Photomultiplier Voltage

- Start the C100HT software and type **Service** in the **USER ID** field, **ABSciexService1** in the **Password** field, and then click **OK**.
- In the C100HT software, click  to go to Service mode.
- In **Service** mode, click the **Terminal** tab.
- Check the voltage.
 - Select **Direct Commands**.

Installation Instructions

- b. Type **RPMT** and then click **Send to instrument**.

☐ Low-Level Commands
☐ Action Commands
☒ Direct Commands

RPMT

Send to instrument

The voltage appears below the command.

```
> RPMT
418*
Performance of a direct command completed successfully.
```

5. Change the voltage. Type **WRPMTV <XXX>** where <XXX> is the new voltage and then click **Send to instrument**.

Type a value for the voltage that is based on the raw counts reported in the detector test. Refer to [Test the Detector](#).


- If the raw counts are greater than 15 000, then enter a voltage that is 5 V less than the reported voltage.
- If the raw counts are less than 15 000, then enter a voltage that 5 V more than the reported voltage.

6. Test the detector. Refer to [Test the Detector](#).

- If at least one of the capillaries has a raw count that is approximately 15 000, then no changes are required. Write down the voltage.
- If there are no capillaries with a raw count that is approximately 15 000, then repeat step 4 and step 5 until the raw counts in at least one of the capillaries is approximately 15 000. Write down the voltage.

Test the Detector

Use this test to make sure that all of the capillaries in the C100HT Biologics Analyzer system work correctly.

1. In the C100HT software, click  to go to Service mode.
2. In **Service** mode, click the **System Check** tab.
3. Click **Detector Test** and then click **Start**.

At the end of the test, the status is shown and the results are saved to the SystemTest folder (by default C:\ProgramData\SCIEX\C100HT\Data\SystemTest).

Review the Default Users

The users in the following table are present by default. Refer to [Table 2-1](#). Additional users can be added to the system by a user with the Administrator User role.

Write down the user IDs and passwords and give them to the customer.

Table 2-1 Default Users in the C100HT Software

User Role	User ID	Password
Administrator	Administrator	Sciex100
Advanced	SciexAdvanced	SciexAdv100

Complete the Qualifications

1. Complete the *Capillary Electrophoresis System Installation Qualification*.
2. Complete the *Operational Qualification*.
3. If the customer requests a hard copies, then sign the documents and have the customer sign them.

Troubleshooting Tables

Table 3-1 Initialization

Symptom	Possible Cause	Corrective Action
The system does not turn on.	The power cable is not connected.	Connect the power cable.
	The fuse is blown.	Replace the fuse. Refer to "Replace the Fuse" in the <i>Operator Guide</i> .
The C100HT software cannot communicate with the system.	The COM port is not detected.	Check the user permissions for the registry entries for the COM ports. The relevant registry entry is typically named HKEY_LOCAL_MACHINE\SYSTEM\ControlSet001\Enum\ACPI\PNP0501\<X>\Device Parameters , where <X> is a number. Make sure that the "Everyone" user has at least read permission for this entry. If not, the COM port scan procedure might fail if the user operating the C100HT software does not have administrator permissions.
	The COM port setting is not correct.	Check the COM port setting. Refer to "Settings" in the <i>C100HT Software Help</i> .
	The RS-232 cable is disconnected.	Make sure that the RS-232 cable is connected to the system and the controller.
	The system is not turned on.	1. Inspect the fuse and replace it if needed. 2. Press the power switch on the rear of the system to turn on the system.

Table 3-2 Operation





Symptom	Possible Cause	Corrective Action
The cartridge cannot be fully seated in the system.	The cartridge is backwards.	Remove the cartridge and then remove the seal from the purge port, if present. Rotate the cartridge so that the label faces forward and then put it back in the system.
The cartridge cannot be engaged.	The air pressure is too low.	In the C100HT software, click  (Disengage) and then click  (Engage). If the problem persists, turn the system off and on.
	The cartridge data key was not detected.	Insert the data key. If the problem persists, contact sciex.com/request-support .
	The cartridge door is open.	Close the door. If the problem persists, contact sciex.com/request-support .
Cannot start a run.	The sample door is open.	Close the door. If the problem persists, contact sciex.com/request-support .
	The cartridge door is open.	
	The cartridge data key was not detected.	Insert the data key.
	The air pressure is too low.	In the C100HT software, click  (Disengage) and then click  (Engage). If the problem persists, turn the system off and on.
The sample tray does not move.	The transport lock is still in place.	Open the sample door and then remove the transport lock. If the problem persists, then contact sciex.com/request-support .
	The sample door is open.	Close the door. If the problem persists, then contact sciex.com/request-support .
There is no signal.	There are issues with sample preparation.	<p>Run a test sample. Refer to Run a Test Sample.</p> <ul style="list-style-type: none"> If the test is successful, then the C100HT Biologics Analyzer system works correctly and there is an issue with the sample preparation. Contact sciex.com/request-support. If the test fails, then there is a problem with the hardware.

Table 3-2 Operation (continued)

Symptom	Possible Cause	Corrective Action
There is no signal.	There are issues with the hardware.	Blocked cartridge: Make sure that the sample volume is at least 10 µL.
		No samples injected: Remove the buffer tray and then fill the cartridge to remove the blockage. Refer to "Fill the Capillaries and Cartridge" in the <i>Operator Guide</i> . Observe the ends of the capillaries for the presence of gel. If there is no gel, then perform a run using the Purge_20min method. If there is still no gel, the cartridge is still blocked. Replace the cartridge and then start the run again.
		One or more LEDs is not lit: Test the detector to make sure that all of the LEDs are lit. Refer to "Test the Detector" in the <i>Operator Guide</i> . If the test fails, then contact sciex.com/request-support .
		Blocked purge filter: Perform a filter check. Refer to "Test the Filter" in the <i>Operator Guide</i> . If the filter is blocked, then replace it. Refer to "Replace the Purge Filter" in the <i>Operator Guide</i> .
The baseline is not flat.	There are beads at the bottom of the sample well.	Centrifuge the 96-well plate, transfer the samples to a clean 96-well plate and then run the samples again.
The signal varies between channels.	The cartridge is not normalized.	Normalize the cartridge. Refer to "Normalize the Cartridge" in the <i>Operator Guide</i> .
	The sample is not clean enough.	Clean up the sample and then run the sample again.
	The sample concentration is too low.	Make sure that the sample contains 100 µg of protein and then run the sample again.
The signal is low.	The sample concentration is too low.	Increase the injection time in the process profile. Refer to "Set the Plate Definition Parameters" in the <i>C100HT Software Help</i> .

Table 3-2 Operation (continued)

Symptom	Possible Cause	Corrective Action
There are no peaks.	There are issues with sample preparation.	<p>Run a test sample. Refer to Run a Test Sample.</p> <ul style="list-style-type: none"> If the test is successful, then the C100HT Biologics Analyzer system works correctly and there is an issue with the sample preparation. Contact sciex.com/request-support. If the test fails, then there is a problem with the hardware.
There are no peaks.	There are issues with the hardware.	<p>Air bubble at the bottom of the sample well: Centrifuge the sample plate or 12-well tube strip to make sure that there are no bubbles at the bottom.</p> <p>Capillary window or tip is broken: Inspect the capillary tip. If it is broken, then replace the cartridge.</p> <p>Clean the probe aligner with a cotton swab moistened with DDI water.</p>
The peaks are low intensity.	The labeling reaction was not performed properly.	<p>Compare the peak intensity of the IST peak to the intensities of the DP2 and DP15 peaks from the bracketing standard. If the IST peak is lower than the DP2 and DP 15 peaks, then prepare the sample again starting at the glycan release step. Refer to "Release the N-Glycans" in the <i>Operator Guide</i>.</p> <p>Make sure to:</p> <ul style="list-style-type: none"> Prepare fresh L6 (APTS). Make sure to add L5 to the L6 (APTS) vial. Inspect the sodium cyanoborohydride solution for cloudiness and precipitates. If they are present, then discard the solution and make a fresh batch. Make sure that the labeling reaction incubates for 20 min and that the temperature of the heat block is 60 °C.

Troubleshooting

Table 3-2 Operation (continued)

Symptom	Possible Cause	Corrective Action
	The enzyme activity was low.	Inspect the peak intensity for the IST peak. If it is above 4 RFU, then digest the sample again, adding more PNGase F enzyme or using PNGase F from a different lot. Make sure to add D4 to both the denaturation and labeling solutions.
	The sample concentration is too low.	Make sure that the amount of protein is 100 µg (concentration 10 mg/mL). If the sample concentration is significantly lower, then concentrate the sample using a spin filter with a pore size of 10 kDa MWCO.
The peaks are low intensity.	The deglycosylation was not complete.	Make sure that the amount of protein is 100 µg. If it is acceptable, then prepare the sample again and increase the incubation time for the deglycosylation step, increase the quantity of enzyme, or use a new enzyme lot.
The peaks are saturated.	The sample concentration is too high.	Dilute the sample with analytical-grade water and then run the sample again with the same or a shorter injection time.
There are extra peaks.	The L6 (APTS) reacted with contaminants in the vials.	Use new micro vials, especially for steps related to labeling.
There are fewer small glycans (DP < 5) than expected.	The small glycans were washed away during dye removal.	Perform fewer wash steps during the dye removal step.

Table 3-3 Data Analysis and Review

Symptom	Possible Cause	Corrective Action
The Data Report, Data Trace, and Plate Report tabs in the DataReviewer software are not enabled.	No wells are selected in the plate image.	Click in the plate image to select one well, several wells, or the whole plate.
The DataReviewer software opens and then an "Analysis failed" message opens.	The C100HT reprocessing key is not installed in the controller.	Install the C100HT reprocessing key and then repeat the analysis. Refer to "Open a Plate" in the <i>Operator Guide</i> .

Table 3-3 Data Analysis and Review (continued)


Symptom	Possible Cause	Corrective Action
The DataReviewer software opens and then an "Analysis failed" message opens.	The user does not have read and write access to the C:\32Karat\ folder.	Give all users read and write access to the folder and then repeat the analysis. Refer to "Open a Plate" in the <i>Operator Guide</i> .
The DataReviewer software opens and then an "Analysis failed" message opens.	The location for the output folder in the Sciex PDF Writer software is not correct.	From the Start menu in Windows Explorer, click All Programs > Sciex PDF > Preferences . Make sure that the folder location is C:\ProgramData\Sciex\DataReviewer\MethodReports and then repeat the analysis.
	The Sciex PDF Writer software is not selected as the default printer in the 32 Karat software.	Make sure that the Sciex PDF Writer software is selected as the printer for the C100HT instrument in the 32 Karat software. Refer to Configure the Controller and the Software .

Run a Test Sample

This test can be used to determine if there is an issue with the system hardware.

Required Materials
<ul style="list-style-type: none">• 12-well tube strip• 20 µL pipette• Calibration solution• C100HT Glycan Labeling and Analysis buffer tray

1. Remove the buffer tray from the refrigerator and then allow it to stand at room temperature for at least 20 minutes before use.
2. Remove the seal from the buffer tray, put it in the buffer plate, and then put the buffer plate into the buffer plate carrier in the C100HT Biologics Analyzer system.
3. Pipette 20 µL of the calibration solution into each well of a 12-well tube strip and then put it in Row A of the sample tray. Make sure that the solution is at the bottom of the well and there are no bubbles.
4. Run the sample.

- a. In the C100HT software, click  to go to Process mode.
- b. In the **Process Profile** list, click **OQ Suitability Profile**.
- c. Click **Run Parameters** and make sure that **OQ Suitability Profile** is selected in the **Method** list.
- d. (Optional) Click **Sample Information** and add sample information by typing **APTS_** and then drag to the right to the twelfth column.

If a name is not entered, the file name is the cartridge serial number followed by the date and time the data is acquired.

- e. Click **Run Check**, complete the tasks in the **Please Confirm** area and then select the corresponding check boxes.
- f. Resolve any issues in the **Errors and Warnings** area and then click **Run**.

After data for the entire plate has been acquired, the data is processed and automatically opens in the DataReviewer software.

5. Close the DataReviewer software and return to the C100HT software.

If the system is working correctly, each gel lane should contain a single band. Refer to [Figure 3-1](#) and [Figure 3-2](#).

Figure 3-1 Test Sample Gel Image

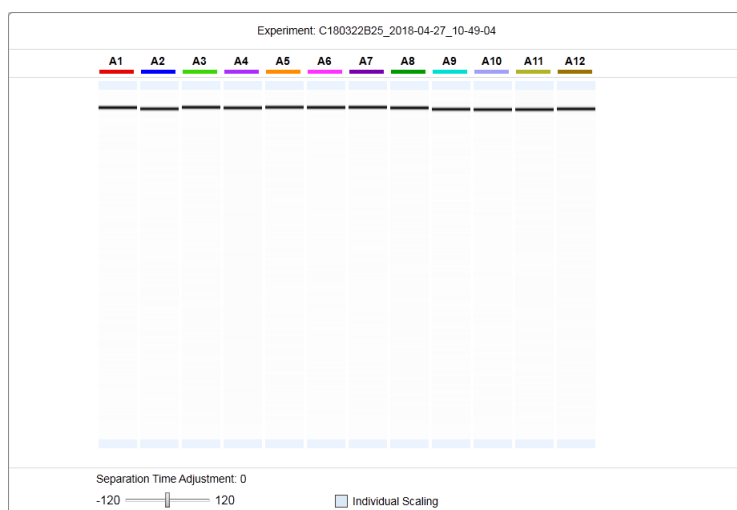
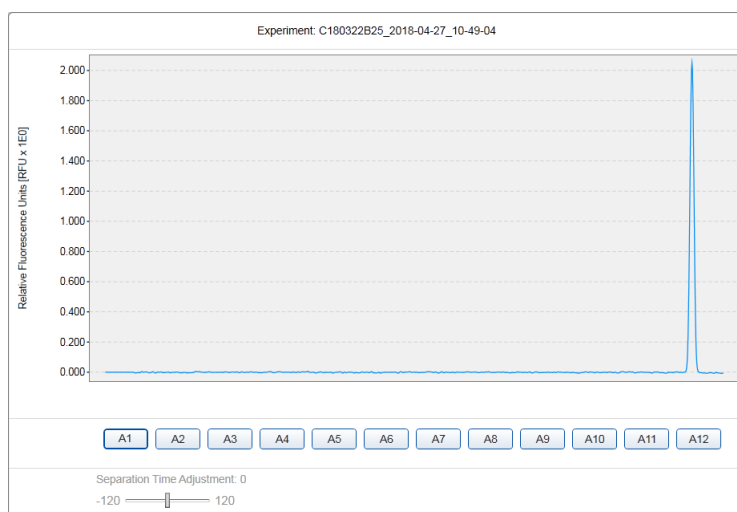


Figure 3-2 Test Sample Electropherogram




Export Log Files for Troubleshooting

This option is only available to users with the Basic User or Advanced User role.

Note: This option is also available to users with the Service User role.

Troubleshooting

1. In the C100HT software, click  to go to Service mode.
2. In **Service** mode, click **System Check** or **Maintenance**.
3. At the bottom of the pane, click **Troubleshooting folder**.
4. In the Troubleshooting Setup dialog, specify the settings for the export.
 - a. Select the date range for the information to be exported. By default, the range is the previous 24 hours.
 - b. In the **Results** table, select the tests to be exported.
 - c. In the **Logging Information** table, select all of the items.
5. Click **OK**.

The information is exported to a file in the Troubleshooting folder. The file is named "Troubleshooting_YYYYMMDD_HHMMSS.zip", where *YYYYMMDD* is the date and *HHMMSS* is the time.
6. (Optional) Click **File > Open Data Directory > Troubleshooting** to open the folder containing the exported file.

Service Kit Bill of Materials

4

Note: In addition to the Service Kit (PN C21029), a C100HT Glycan Labeling and Analysis cartridge (PN C15918) is required.

Part Number	Description	Quantity
C13796	12-well tube strip (5-pack)	1
609801	96-well sample plate	1
C13795	C100HT buffer tray (3-pack)	1
C13794	Calibration solution	1