Complete GENOMICS™

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DNBSEQ-T7RS System Guide

Complete Genomics, Inc.

About this guide

This guide is applicable to Genetic Sequencer (DNBSEQ-T7RS) and DNBSEQ-T7RS High-throughput Sequencing Set. The guide version is 1.0 and the software version is V1.

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Figures in this guide are for illustrative purpose only. The content may be slightly different from the device. For the most up to date details, refer to the device purchased.

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Revision history

	Date	Version
Initial release	March 24, 2023	1.0

Contents

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01

Safety

This chapter describes basic safety information about the device. Carefully read and understand the information before use to ensure correct operations, best performance, and personnel safety. Keep this guide at hand for reference at any time.

Conventions used in this guide

The following table describes conventions that are used in this guide:

Item	Description
shall	Means compliance with a requirement or it is mandatory for compliance with this document
should	Means compliance with a requirement but it is not mandatory for compliance with this document
may	Used to describe possibility or probability
can	Used to describe permission and capability
must	Used to express a constraint
Boldface	Indicates the printings and on-screen characters on the device
Reagent name	Indicates the name of a reagent

General safety

⚠️ DANGER
- Ensure that the device is operated under the conditions specified in this guide. Otherwise, it may cause altered experimental results, device malfunction, or even personal injury.
- Ensure that the components of the device are completely installed before operation. Otherwise, it may result in personal injury.
- A laser is installed in the device. Laser radiation can cause eye injury and skin burns. Before performing a sequencing run, ensure that the optics maintenance door, fluidics maintenance door, and flow cell retrieval compartment door of the device are closed. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- Maintain the device by following the instructions described in this guide to ensure best performance. Otherwise, it may result in device malfunction or even personal injury.
- Do not operate the device in the presence of flammable or explosive liquids, vapors, or gases. Otherwise, it may result in device damage, or even personal injury.
- Do not operate the device during maintenance or transportation.

⚠ WARNING • Only CG Technical Support or qualified and trained personnel may unpack, install, move, debug and maintain the device. Incorrect operations may cause altered experimental results or damage to the device.

• Do not move the device after CG Technical Support have installed and debugged the device. Unauthorized moves of the device may cause altered experimental results. If you require to move the device, contact CG Technical Support.

• Only trained personnel can operate the device.

• Do not disconnect the power cord when the device is on. Otherwise, it may result in device malfunction.

• Only the components provided by the manufacturer can be used for device maintenance. Unapproved components may degrade device performance or result in device malfunction.

• Do not reuse disposable items, except where noted in this guide.

• Do not place tubes or reagent kits on the device. Liquids seeping into the device may damage it.

⚠ CAUTION • Only the peripheral devices and consumables specified by the manufacturer can be used.

• If you have maintenance questions that are not mentioned in this guide, contact CG Technical Support.

• The device has been verified before delivery. If serious deviation occurs during use, contact CG Technical Support for calibration.

• After the device is powered off, a key is needed to open the fluidics maintenance door. The key is only accessible to CG Technical Support, or other trained/qualified individuals. Please do not open the fluidics maintenance door by force.

• After the device is powered off, a screwdriver is needed to open the optics maintenance door. The door should only be opened by CG Technical Support, or other trained/ qualified individuals. Please do not open the optics maintenance door by force.

Electrical safety

⚠ DANGER • Ensure that the device is properly grounded, and the grounding resistance meets the requirements. Failure to do so may result in altered experiment results, electric leakage, or even electric shock.

• Do not remove the device cover and expose the inner components. Otherwise, electric shock may be caused .

⚠ WARNING Do not use the device in close proximity to sources of strong electromagnetic fields, such as unshielded sources of radiated emissions. Radiated signals may reduce the accuracy of the results.

⚠ CAUTION • Before initial use of the device, assess the electromagnetic environment in which the device will be used.

• Ensure that the input voltage meets the device requirements.

• Ensure that the voltage of the power outlet in your laboratory or the UPS (if any) meets the voltage requirements before using the device. Failure to do so may damage the electrical components.

• Prepare the laboratory and power supply according to the instructions described in this guide.

FCC statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment should be installed and operated with a minimum distance of 25 mm between the radiator and your body.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

IC statement

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

The distance between user and products should be no less than 20 cm.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:

1. l'appareil ne doit pas produire de brouillage, et
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La distance entre l'utilisateur et de produits ne devrait pas être inférieure à 20 cm.

Industry Canada ICES-003 Compliance:CAN ICES-3(B)/NMB-3(B)

Mechanical safety

⚠️ DANGER   To avoid device damage and personal injury, place the device on a level surface that meets the load-bearing requirements and ensure that the device cannot be easily moved.

Components safety

⚠️ WARNING
- Only the software that has been provided by the manufacturer can be installed and used on the device. Other software may interfere with normal device functions, or even cause data loss.
- Do not uninstall the control software by yourself. If any problem occurs during software operation, contact CG Technical Support.

⚠️ CAUTION   Ensure that the peripheral devices meet the requirements of IEC/EN 62368-1.

Biological safety

☣️
- Reagents and waste chemicals may cause personal injury through skin, eye, or mucosal contact. Follow the safety standards of your laboratory and wear protective equipment (such as a laboratory coat, protective glasses, mask, gloves, and shoe covers) when using the device.
- If you accidentally splash reagents or waste liquids on your skin or into your eyes, immediately flush the affected area with large amounts of water and seek medical aid immediately.
- When disposing of expired reagents, waste liquids, waste samples, and consumables, comply with local regulations.

⚠️ WARNING
- Use and store the reagents according to the guide. Failure to do so may negatively impact performance.
- Check the expiration date of all reagents before use. Using expired reagents may cause inaccurate results.

Symbols

Packaging

The following table describes symbols on the packaging or on the label of the packaging:

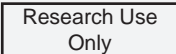| Symbol	Name	Description
	This way up	Indicates the correct upright position of the crated unit for transport and/or storage
	Fragile, handle with care	Indicates a device that can be broken or damaged if not handled carefully
	Keep dry	Indicates a device that needs to be protected from moisture
	Do not stack	Indicates that stacking of the crated unit is prohibited and no item shall be placed on top during transport or storage
	Do not roll	Indicates that the crated unit shall not be rolled or turned over. It shall remain in the upright position at all times
	Temperature limit	Indicates the temperature limits to which the device can be safely exposed
	Humidity limitation	Indicates the range of humidity to which the device can be safely exposed
	Atmospheric pressure limitation	Indicates the range of atmospheric pressure to which the device can be safely exposed

Device

The following table describes symbols on the device:

Symbol	Name	Description
⚠	General warning sign	Signifies a general warning
☣	Warning; biological hazard	Biological hazard warning
♨	Caution; hot surface	Indicates that the marked item can be hot and should not be touched without taking proper safety precautions
⚡	Warning; dangerous voltage	Indicates hazards arising from dangerous voltages
⏚	Protective earth	Indicates the terminal of a protective earth (ground) electrode
DANGER-CLASS 4 LASER RADIATION WHEN OPEN AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION / DANGER – RAYONNEMENT LASER DE CLASSE 4 EN CAS D'OUVERTURE EXPOSITION DANGEREUSE AU RAYONNEMENT DIRECT OU DIFFUS DES YEUX OU DE LA PEAU / 注意–打开时有4类激光辐射 避免眼或皮肤受到直射或散射辐射的照射	Warning; laser beam	Warns of a hazard from laser beam
I	"ON" (power)	Indicates the main power supply is on
○	"OFF" (power)	Indicates the main power supply is off
SBC-LAN	Network port	Connects to the network
BCS-LAN	Network port	Connects the server to the network
SBC-USB 3.0	USB 3.0 port	Connects USB devices, such as the keyboard and mouse, to the computer
BCS-USB 3.0	USB 3.0 port	Connects USB devices, such as the keyboard and mouse, to the server
VGA	VGA port	Used for display adjustment
BCS-Fiber	Optical fiber port	10 Gigabit network port

For research use only

Symbol	Name	Description
RFID	RFID (Radio frequency identification) reader indication	Scans the ID of the flow cell or cartridge placed near the area
SWITCH	Power switch	Powers the device on or off
SOCKET	Power port	Connects to the main power supply
LAN	RJ45 network port	Connects the network of the computer and server
⬦⟵	USB 2.0 port	Connects to the USB device
SS⟵	USB 3.0 port	Connects to the USB device

Label

The following table describes symbols on the label:

Symbol	Name	Description
Research Use Only	/	Indicates a device that is for research use only, and cannot be used for clinical diagnosis.
▰▰	Manufacturer	Indicates the name and address of the device manufacturer
〽	Date of manufacture	Indicates the date when the device was manufactured
SN	Serial number	Indicates the manufacturer's serial number so that a specific device can be identified
📖i	Consult instructions for use	Indicates the need for the user to consult the instructions for use
MET c us E115163	NRTL Listing and Certification Mark	Used to designate conformance to nationally recognized product safety standards. The mark bears the name and/or logo of the testing laboratory, product category, safety standard to which conformity is assessed and a control number.
REF	Catalog number	Indicates the manufacturer's catalog number so that the device can be identified

Symbol	Name	Description
⧗	Use by date	Indicates the date after which the device is not to be used
LOT	Batch code	Indicates the manufacturer's batch code so that the batch or lot can be identified
☼	Keep away from sunlight	Indicates a device that needs protection from light sources
②	Do not re-use	Indicates a component or reagent that is intended for a single use only
PN	Part number	Indicates the part number of an individual box in the reagent set
Ver.	Version	Indicates the version of the device or reagent kit
⚠	Caution	Indicates that caution is necessary when operating the device, or that the current situation needs operator awareness or operator action in order to avoid undesirable consequences

System guide

The following table describes symbols that are used in this guide:

Symbol	Description
⚠ DANGER	Indicates that the operator should operate the device according to the instructions in this guide. Failure to do so will result in death or serious injury
⚠ WARNING	Indicates that the operator should operate the device according to the instructions in this guide. Failure to do so could result in death or serious injury
⚠ CAUTION	Indicates that the operator should operate the device according to the instructions in this guide. Failure to do so could result in minor or moderate injury
ⓘ	Indicates that the operator should pay special attention to the noted information, and operate the device by following the instructions
☣	Indicates biological risk. The operator should operate the device by following the instructions

02

Devices overview

This chapter describes the intended use, working principle, and structural composition of the device.

Intended use

This device is a sequencing instrument that measures optical and electronic signals of the reporting molecules, which decode the sequence information of a DNA or RNA fragment. This is accomplished through the use of instrument-specific reagents, flow cells, imaging hardware, and data analysis software. The sequencing input is intended to be prepared as DNA Nanoball (DNB) libraries, which can be used for whole genome, whole exosome, and de novo sequencing.

Working principle

The device adopts the advanced DNA Nanoball (DNB) and the core technology of combinatorial probe-anchor synthesis (cPAS). It uses a regular, arrayed flow cell with special surface sites. Each site contains a single DNB, which is evenly arrayed across the flow cell, ensuring that the optical signals of nearby Nanoballs cannot be interrupted by each other. This improves the accuracy of signal processing.

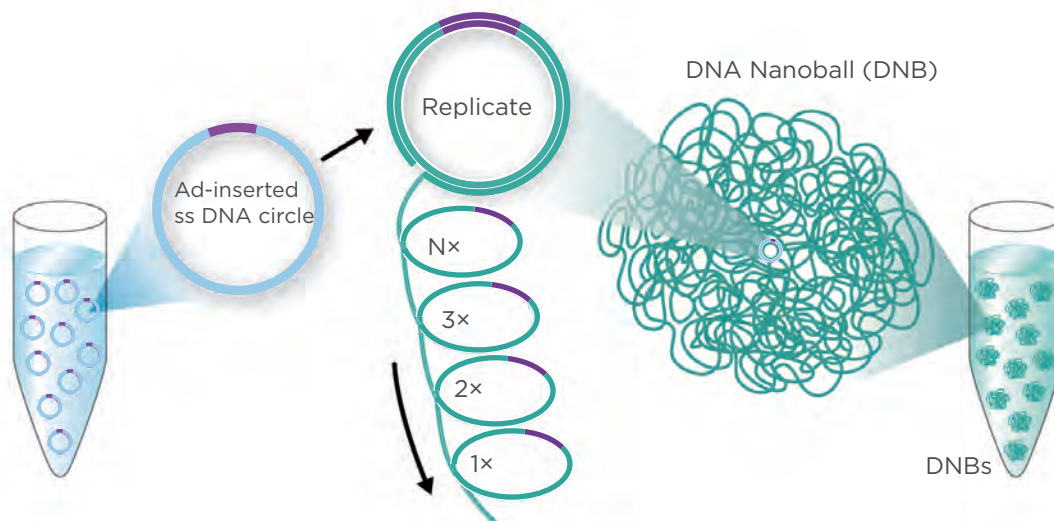The following figure demonstrates how to make DNBs:

Figure 1 Making DNBs

The following figure demonstrates how to load DNBs:

DNBs

Flow cell

Decorated sites evenly spread on the flow cell.
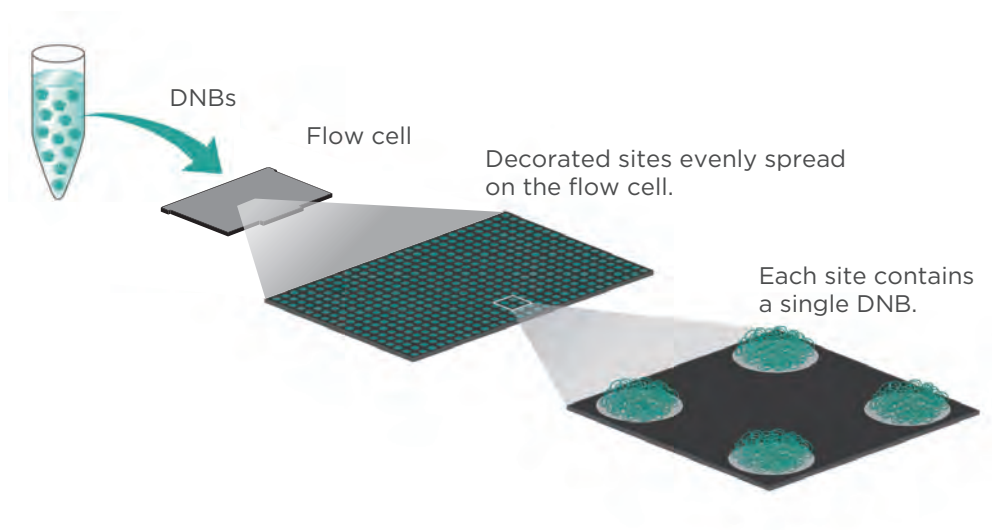
Each site contains a single DNB.

Figure 2 Loading DNBs

The DNBs and sequencing reagents are pumped into the sequencing flow cell through the device's liquid delivery system. Each DNB combines the respective fluorescence group. The laser excites the fluorescence group to emit light, and the optical signals are acquired by the camera. The optical signals are converted to digital intensities and processed by the computer to determine the nucleotide sequence of the DNB.

Sequencer overview

Structural composition

The device consists of the main unit and pre-installed control software (software version: V1). The main unit includes the shell, host, optical system, XYZT-stage, flow cell stage, gas-liquid system, electric control system, reagent storage system, power supply system, display system, robotic arm, flow cell drive, and flow cell retrieval compartment.

The following table describes the function of each component:

| Component	Description
Shell	Provides the stable support for the main unit.
Host	Controls the device, collects, analyzes, and stores data.
Optical system	Images the fluorescence signal on the flow cell.
XYZT-stage	Moves the flow cell and focuses automatically.
Flow cell stage	Connects the flow cell to fluidics lines and controls the temperature of the flow cell.
Gas-liquid system	Provides the gas-liquid support that is required for the biochemical reaction.
Electric control system	Controls the electric system.
Reagent storage system	Provides the reagent storage environment.
Power supply system	Provides the power supply for the device.
Display system	Provides the human-computer interaction interface.
Robotic arm	Transfers and loads flow cells.
Flow cell drive	Loads a flow cell for sequencing or washing.
Flow cell retrieval compartment	Holds used flow cells.

For research use only

Basic components

Front view
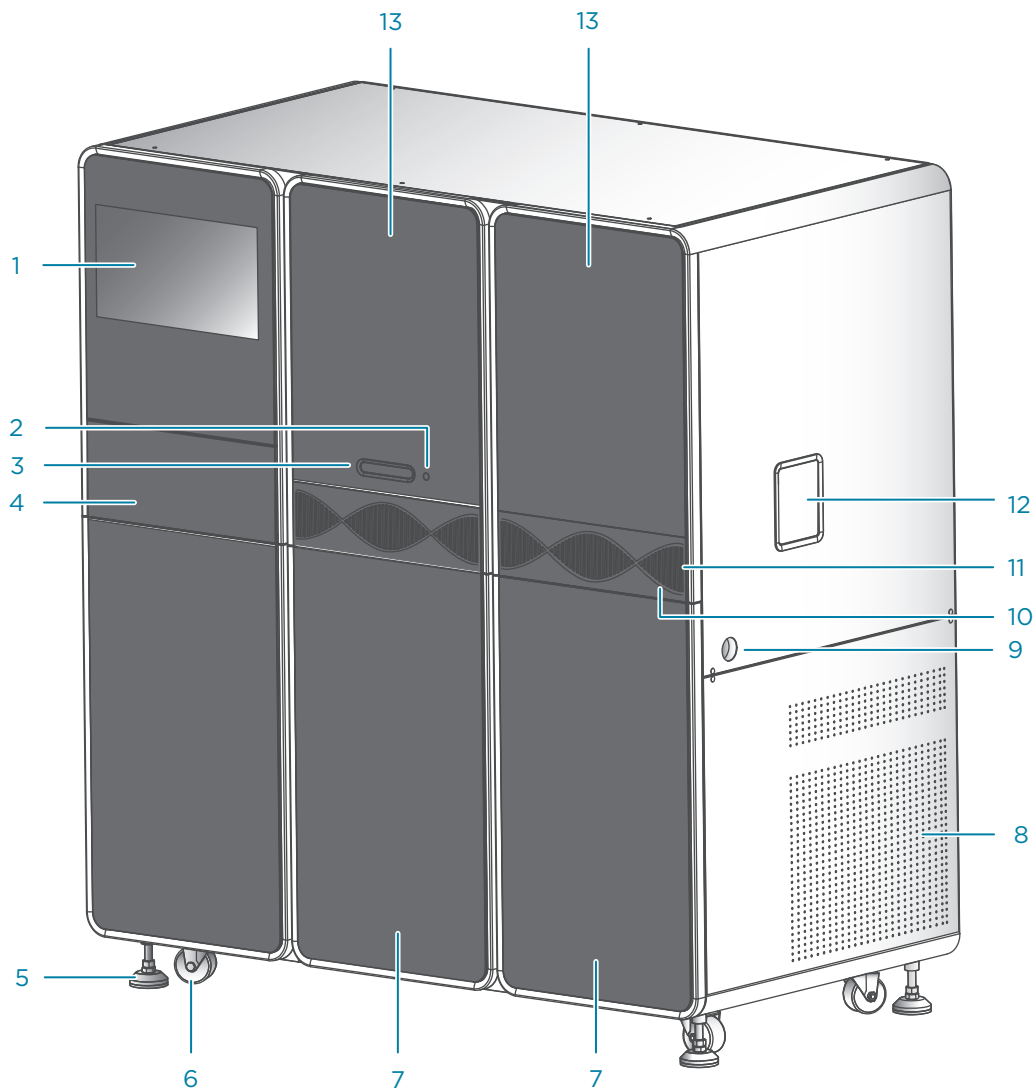
Figure 3 **Front view of the sequencer**

No.	Name	Description
1	Touch screen monitor	Facilitates on-screen operations and displays information.
2	Flow cell drive button	Touch to eject the flow cell drive.

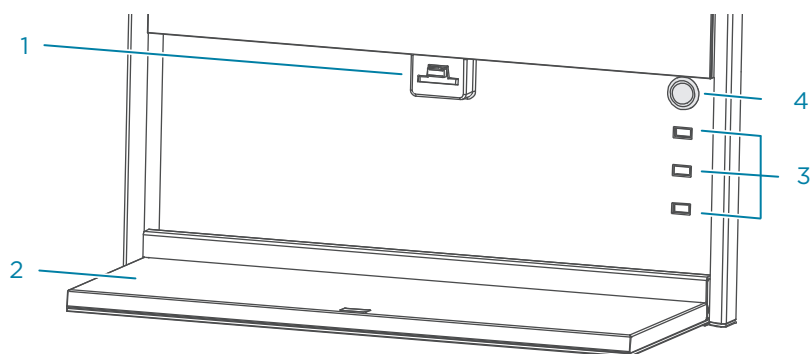| No.	Name	Description
3	Flow cell drive	Touch the flow cell drive button to eject the flow cell drive.
4	Keyboard tray	When unfolded, you can power the computer on or off and connect USB devices, such as the keyboard and mouse, to the computer.
5	Supporting feet	Supports the main unit to ensure stability.
6	Caster	Used for moving the device.
7	Reagent compartment	Holds reagent kits and samples at appropriate temperatures. You can press to open the door.
8	Ventilation inlet	Ventilates the device.
9	Waste container port	Used for connecting the waste container.
10	Status indicator	Displays the current status of the device: • Green: the device is running. • Blue: the device is in standby status. • Red: an error occurs. • Yellow: a warning notification appears.
11	Ventilation inlet	Air enters the air filter in the device through this inlet.
12	Flow cell retrieval compartment	Retrieves used flow cells.
13	Fluidics maintenance door	Used by CG Technical Support or trained personnel to maintain the fluidics system.

Keyboard and ports

Figure 4 **Keyboard and ports**

No.	Name	Description
1	Keyboard tray latch	Used to secure the keyboard tray in the closed position.
2	Keyboard tray	Used to support the keyboard and mouse. When not in use, fold the keyboard tray up and press it towards the latch until you hear a click.
3	USB 3.0 port	Connects to USB devices, such as the keyboard and mouse.
4	Host power button	Press to power the computer on or off.

Reagent compartment

The reagent compartments include the sequencing cartridge compartments and washing cartridge compartments. The system automatically identifies the QR code of the cartridges by built-in RFID readers.
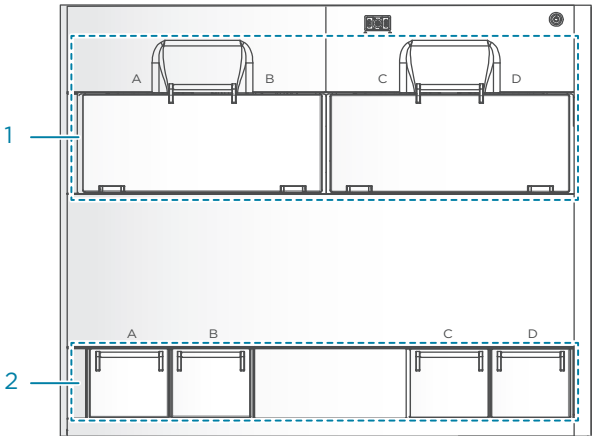

Figure 5 **Reagent compartment**

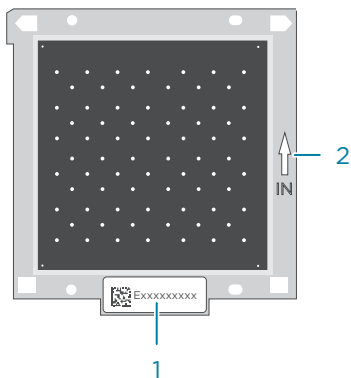| No.	Name	Description
1	Sequencing cartridge compartment	Holds the sequencing cartridges at appropriate temperatures.
2	Washing cartridge compartment	Holds the washing cartridges.

Flow cell

Figure 6 Top view (front side) of the flow cell

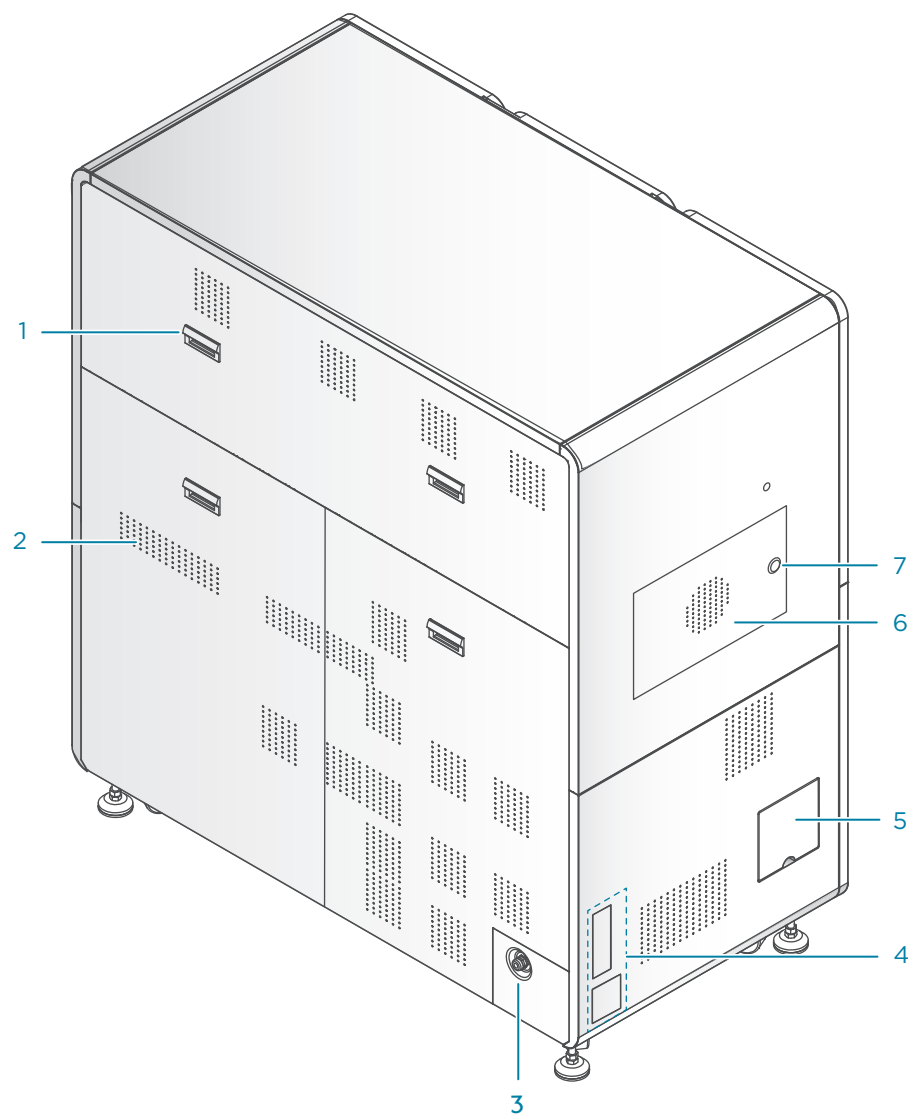| No.	Name	Description
1	Label location	Shows the QR (quick response) code of the flow cell.
2	Flow cell orientation marker	Shows correct flow cell orientation.

Back view

Figure 7 **Back view of the sequencer**

No.	Name	Description
1	Handle	Used to easily remove the rear panel during maintenance.
2	Ventilation outlet	Ventilates the device.
3	Power inlet	Connects to the power cord.
4	Ports	Used for cable connections.

No.	Name	Description
5	Pure water container port	Connects to the pure water container.
6	Optics maintenance door	Used by CG Technical Support to maintain the optical system.
7	Maintenance door button	Used for opening the door after unlocking.

Ports
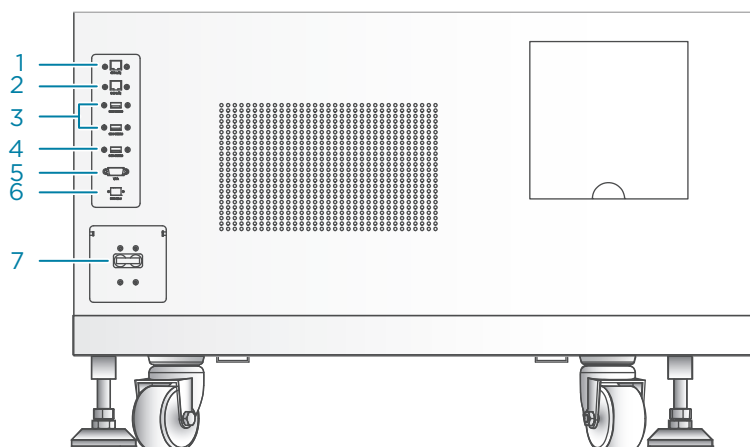
Figure 8 **Ports**

No.	Name	Description
1	Network port 1	Connects the computer to the network.
2	Network port 2	Connects the server to the network.
3	USB 3.0 port 1	Connects USB devices, such as the keyboard and mouse, to the computer.
4	USB 3.0 port 2	Connects USB devices such as the keyboard and mouse to the server.
5	VGA port	Connects to the LCD screen for adjustment.
6	Optical fiber port	10 Gigabit network port.
7	Power switch	Powers the device on or off: • Switch to the ON position to power the device on. • Switch to the OFF position to power the device off.

Control software

Overview

The system control software initiates the communication protocol through physical ports to coordinate with the hardware, control gas lines, fluidics lines, temperature, mechanical components, and optical components. The software detects the signal on the sequencing flow cell, transfers the photographic information to the base sequence files in standard format, and guides users to perform different processes, such as maintenance and experimental protocols.

The following table describes the function of each functional module:

Item	Description
Self-test	Checks whether the components of the system are functional.
Sequence	Performs different types of sequencing processes.
Wash	Performs wash and maintenance for fluidics lines of the system.

ⓘ
- Because the flow cell stages have the same functions, flow cell stage A is used as an example in the subsequent sections.
- For interface control, you can use either the touch screen monitor or keyboard and mouse.

Self-test interface

After you power the device on, self-test starts. If the self-test succeeds, the main interface appears.

If the self-test fails, perform the following steps:

1. In the main interface, select ⊞ , and select **Log** to check the detailed self-test results that are recorded in the log.
2. Follow the on-screen instructions or the solutions that are mentioned in *FAQs on Page 127*
3. Perform a self-test again:

   - Select ⊞ > **Maintenance** > **Self-test**.
   - Select ⊞ > **Restart**.

If the problem persists, contact CG Technical Support.

Main interface

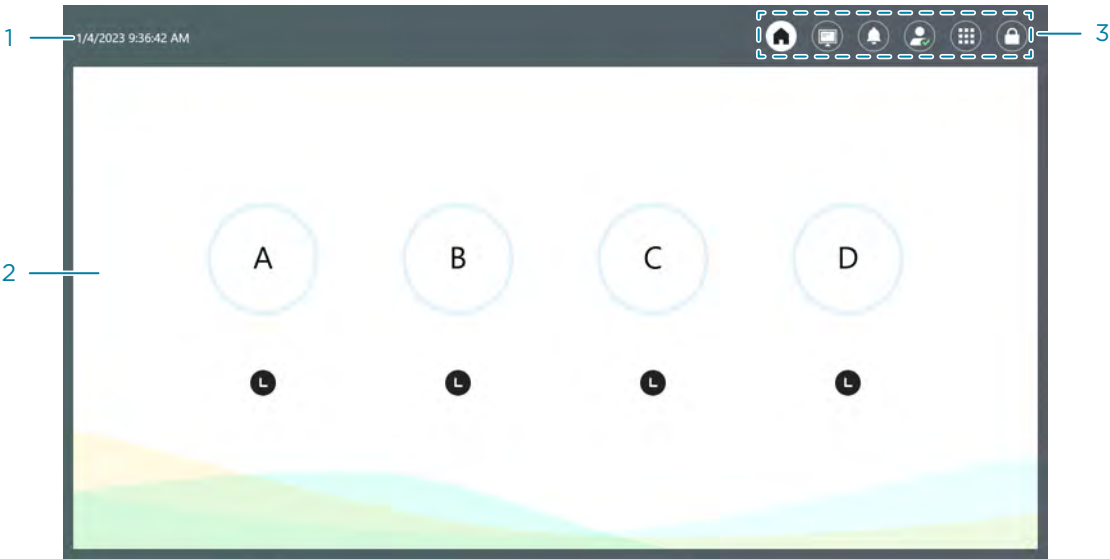The main interface appears after a successful self-test, as shown in the figure below:

Figure 9 **Main interface**

The following table describes the function of each area or button in the main interface:

No.	Name	Description
1	Date and time area	Displays the local date and time.
2	Operation area	Indicates the status of flow cells and provides wash and sequence options when you enter the main interface of the selected flow cell stage.
3	Menu area	Select the buttons to perform relative operations.

Operation area

The following table describes the function of icons and buttons in the area:

Item	Description
A	Flow cell stage name If an error occurs in a flow cell stage, an error indicator appears on the progress bar.
xx%	Task progress

Item	Description
(icon)	The flow cell stage is in sequencing.
(icon)	The fluidics lines of the flow cell stage are being washed.
L	The flow cell stage is in idle status.
···	The flow cell stage is preparing for sequencing or washing.
I:	Sequencing or washing is in the process of being paused.
II	Sequencing or washing is paused.
−	Sequencing or washing is in the process of stopping.

Main interface A

Select a flow cell stage name to enter the main interface for that flow cell stage.
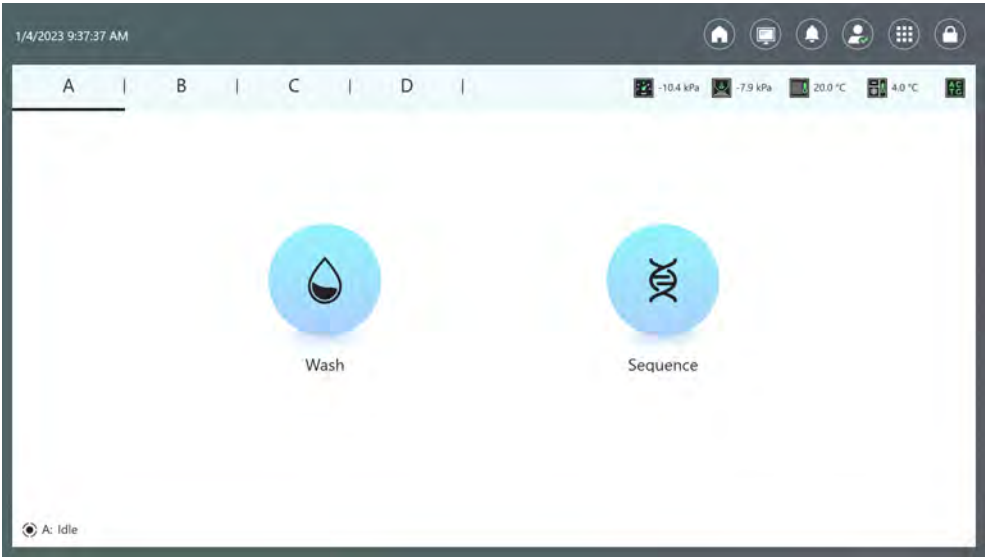
Figure 10 Main interface A

The following table describes the function of the sensor status indicators on the main interface of the selected flow cell stage.

Item	Description
ACTG	Basecalling is connected.

Item	Description
	Errors occur in the Basecalling connection.
	The Basecall software is processing image data. This icon is dynamic.
	The fluidics chuck vacuum is normal. The real-time value is displayed to the side.
	The fluidics chuck vacuum is outside the normal range. The real-time value is displayed to the side.
	The fluidics chuck vacuum is almost outside the normal range. The real-time value is displayed to the side.
	The imager vacuum is normal. The real-time value is displayed to the side.
	The imager vacuum is outside the normal range. The real-time value is displayed to the side.
	The fluidics chuck temperature is normal. The real-time value is displayed to the side.
	The fluidics chuck temperature is outside the normal range. The real-time value is displayed to the side.
	The sequencing cartridge compartment temperature is normal. The real-time value is displayed to the side.
	The sequencing cartridge compartment temperature is outside the normal range. The real-time value is displayed to the side.

Menu area

The following table describes control functions in the menu area:

Item	Description
	Select to return to the main interface when the flow cell stage is not preparing for sequencing or washing.
	Sensor status indicator Select to check the status of sensors for all flow cell stages. A red dot appears on the icon when an error occurs.

Item	Description
🔔	Select to view notification details. The notification icon indicates: • Yellow: a warning notification appears. • Red: an error occurs.
👤	Select to log in to the system.
⊞	Menu button When the device is idle or paused, the system information and logs can be viewed by selecting the menu button.
🔒	After logging into the system, you can select this button to lock the screen.

The following table describes the function of the sensor status indicators in the menu area.

Item	Description
Zlims	Error occurs in connection with the server on which the ZLIMS software is installed.
Zlims	The device is not connected to the server on which the ZLIMS software is installed and is running independently.
Zlims	The device is connected normally to the server on which the ZLIMS software is installed.
▤	Sufficient storage drive space
▤	Insufficient storage drive space
🌡	Inner temperature of the device is normal. The real-time value is displayed to the side.
🌡	Inner temperature of the device is outside the normal range. The real-time value is displayed to the side.
💧	The device humidity is normal. The real-time value is displayed to the side.
💧	The device humidity is outside the normal range. The real-time value is displayed to the side.
🗑	Sufficient space remaining in the built-in waste container.

Item	Description
🪣	Insufficient space remaining in the built-in waste container. If this occurs, contact CG Technical Support.

Log interface

You can view log information in this interface.

To open the log interface, select (⊞) in the main interface, and select **Log**.

The following table describes control functions in the log interface:

Item	Description
⊠	Select to exit the log interface and return to the previous interface.
All	Select to view all logs.
Info	Select to view information logs.
Warning	Select to view warning logs.
Error	Select to view error logs.
📅	Select to select the date in the pop-up calendar.
Flow cell	Select the check box to view the logs of that flow cell.
Sort by	Set the display order of the logs.

Settings interface

You can manage recipes and change system settings in this interface.

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To open the settings interface, log in to your account, select ⌗ , and select **Settings**.

Figure 11 Settings interface

The following table describes control functions in the settings interface:

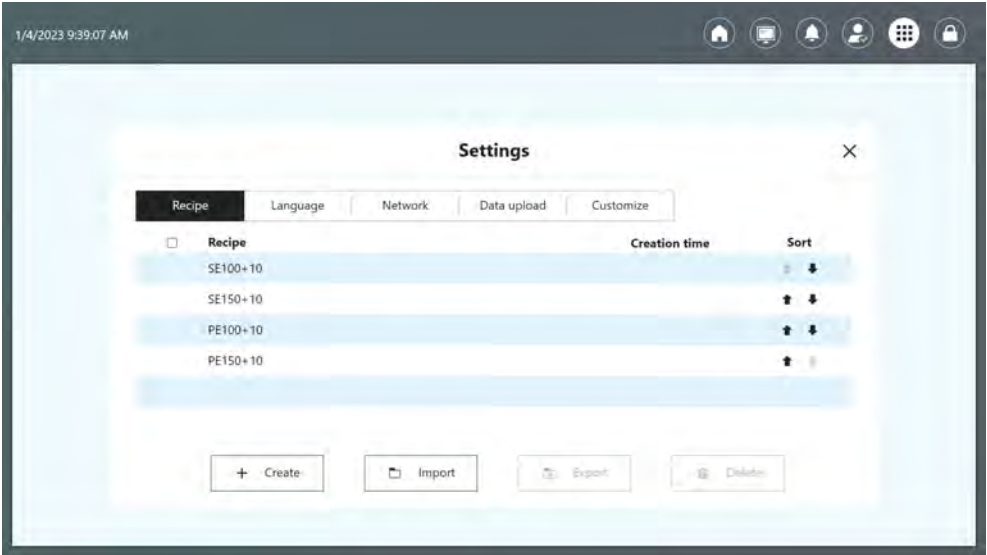| Item	Description
Recipe	Select to perform the following settings: • Select **Sort** to change the display order of the recipes. • Select **Create** to customize a recipe. • Select **Import** to import recipes. • Select **Export** to export customized recipes. • Select **Delete** to delete the customized or imported recipes.
Language	Select to change the language of the software. Restart the computer to apply the change.
Network	Select to input the IP address and port number of the ZLIMS server. Restart the computer to apply the changes.
Data upload	Select to set data processing methods.
Customize	Select to change the wait time before the screen locks automatically and change the buzzer volume.

Maintenance interface

You can empty the fluidics lines and perform self-tests in the maintenance interface.

To open the maintenance interface, log in to your account, select (image), and select **Maintenance**.

The following table describes control functions in the maintenance interface:

Item		Description
Device maintenance	Cleaning tool replacement	Select to replace the cleaning tool.
	Empty fluidics line	Select this button and select a flow cell stage to discharge the residual liquid in its fluidics line to the waste container.
	Self-test	Select to perform a self-test for the hardware of the device. When the test is finished, you will get a notification and the results will be displayed on the screen.
Door control	Unlock optics maintenance door	Select to unlock the optics maintenance door. Only CG Technical Support or trained personnel can maintain the optical system.
	Unlock fluidics maintenance door	Select to unlock the fluidics maintenance door. Only CG Technical Support or trained personnel can maintain the fluidics system.
User management		Select to reset the password of the current user account.

Shutdown or restart interface

You can shut down or restart the computer in this interface.

To open the shutdown or restart interface, select (image) and select **Shut down** or **Restart**.

About interface

You can view the software version, serial number, and other information of the device, and the manufacturer information in this interface.

To open the About interface, select (image) > **About**.

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Sequencing interface

The sequencing interface displays real-time sequencing progress.

The following table describes the function of each item in the sequencing interface:

Item	Description
Estimated completion time	Shows the sequencing completion time.
QC type	You can select a QC value graph from the QC type list to assess the sequencing quality.
⏸	Select to pause sequencing. Select **Yes** when prompted.
❯	Select to resume sequencing.
■	Select to stop sequencing. Select **Yes** when prompted.
ⓖ	Select to view the First Base Report.
🗐	Select to view the summary after a sequencing run completes.
⬡	Select to view sequencing information or change auto wash settings after a sequencing run starts.

DNB loader overview

Working principle

The device loads the sample libraries and/or reagent to a sequencing flow cell through defined and optimized vacuum procedures.

Structural composition

The device consists of the touch screen monitor, PCR board assembly, Y-Z motion stage, flow cell stage, syringe pump, vacuum pump, and RFID reader.

The following table describes functions of each component:

Component	Description
Touch screen monitor	Displays information and performs on-screen operations.
PCR board assembly	Controls the system, drives the components, collects status, and sends feed back to the system.
Y-Z motion stage	Switches among different reagents.
Flow cell stage	Connects the fluidics line to the flow cells, and controls the flow cell stage temperature.
Syringe pump	Aspirates flow cell reagents and discharges the waste to the DNB loading plate.
Vacuum pump	Firmly attaches the flow cell to the inlet and outlet of the sealing rings to avoid liquid leakage.
RFID reader	Identifies the ID of an item.

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