

CG000256 Rev B

**QUICK REFERENCE CARDS**

# Chromium Connect

**FOR USE WITH**

Chromium Connect, PN-1000171

Chromium Connect, PN-1000180

① Front Panel

② Left side of the power base assembly:



- ① Thermal Cycler Power Supply
- ② System Power Supply  
One or two independent circuits possible
- ③ Fuses/Fuse covers  
(two 12A fuses, two 4A fuses)

③ Right side of the power base assembly:

- ① USB port: external devices
- ② USB port: optional HEPA CAP hood
- ③ USB port: Thermal Regulator
- ④ Ethernet to customer Wired Network
- ⑤ Power plug: optional HEPA CAP hood
- ⑥ Power plug: Thermal Regulator

④ Touchscreen

USB port on monitor: User External Drive  
(download log files/upload setup files)

⑤ Gantry (liquid-handling device)

⑥ Barcode Scanner

⑦ Deck Area

⑧ Chromium Automated Controller

⑨ Thermal Regulator

(kept on/underneath benchtop)

- ① Main power cable for Thermal Regulator  
(plugs into 3f)
- ② USB port
- ③ ID port
- ④ External Sensor port



REMOVE POWER FROM BOTH AC INLETS PRIOR TO  
ANY SERVICE ON THERMAL CYCLER OR SYSTEM.

Information also available in  
Chromium Connect Quick Reference Cards (CG000254)  
and in the Software Menu Options.

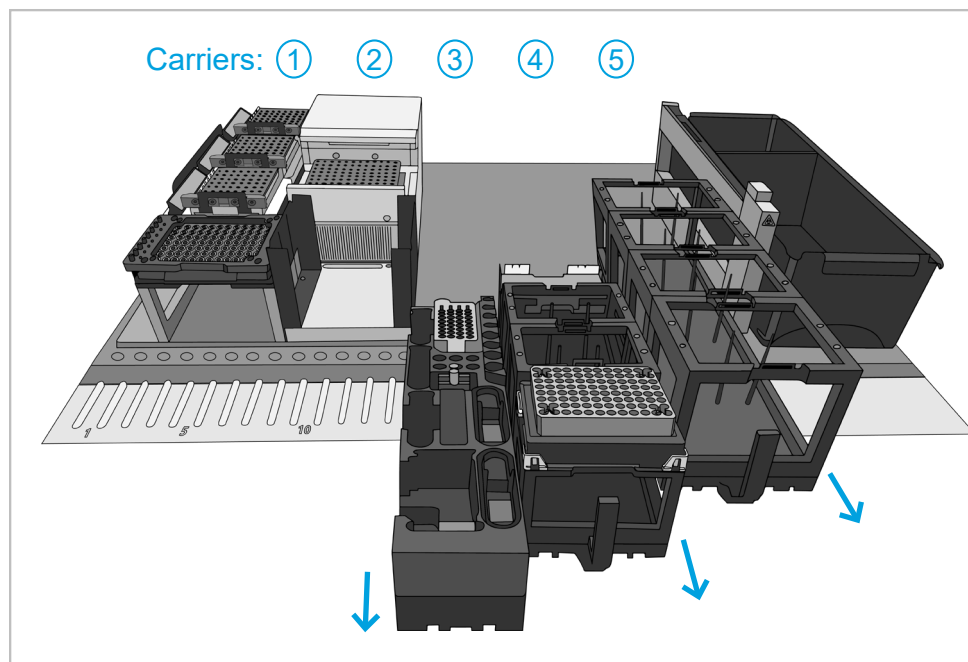


# Chromium Connect

## Deck Area Layout

### Chromium Next GEM Automated Single Cell 3' Gene Expression v3.1 Assay

The deck includes five carriers. Carriers 1-2 are stationary while Carriers 3-5 slide out for loading/unloading items. The items displayed in the layout and table are specific to the assay listed above.

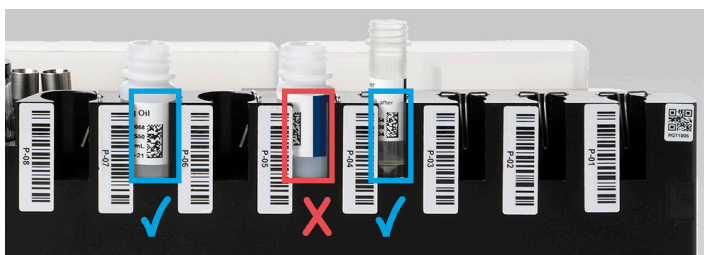


<ul style="list-style-type: none"> <li>ZONE 1 22°C Block Module 1 Reagents</li> </ul>	<ul style="list-style-type: none"> <li>Thermal Cycler</li> </ul>	<ul style="list-style-type: none"> <li>W (Waste)</li> <li>TS (Tube Strips)</li> <li>B</li> <li>P</li> <li>S</li> <li>O</li> <li>CP</li> <li>E</li> <li>LID</li> <li>GB-1° (Gel Beads Primary)</li> <li>GB-Alt (Gel Beads Alternate)</li> <li>C (Chip)</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 5 Sample Index Plate</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 8 Pipette Tips 300 µl</li> </ul>	
<ul style="list-style-type: none"> <li>ZONE 2 22°C Block Module 2 Reagents</li> </ul>	<ul style="list-style-type: none"> <li>Full Skirted PCR Plate</li> </ul>	<ul style="list-style-type: none"> <li>W (Waste)</li> <li>CO-RE Paddles</li> <li>E (Ethanol)</li> <li>Ethanol Lid</li> <li>GB-1° (Gel Beads Primary)</li> <li>GB-Alt (Gel Beads Alternate)</li> <li>C (Chip)</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 6 Pipette Tips 50 µl</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 8 Pipette Tips 300 µl</li> </ul>	
<ul style="list-style-type: none"> <li>ZONE 3 10°C Block Module 3 Reagents</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 4 Comfort Lids</li> </ul>	<ul style="list-style-type: none"> <li>W (Waste)</li> <li>TS (Tube Strips)</li> <li>B</li> <li>P</li> <li>S</li> <li>O</li> <li>CP</li> <li>E</li> <li>LID</li> <li>GB-1° (Gel Beads Primary)</li> <li>GB-Alt (Gel Beads Alternate)</li> <li>C (Chip)</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 6 Pipette Tips 50 µl</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 8 Pipette Tips 300 µl</li> </ul>	
<ul style="list-style-type: none"> <li>Magnetic Plate</li> </ul>		<ul style="list-style-type: none"> <li>W (Waste)</li> <li>TS (Tube Strips)</li> <li>B</li> <li>P</li> <li>S</li> <li>O</li> <li>CP</li> <li>E</li> <li>LID</li> <li>GB-1° (Gel Beads Primary)</li> <li>GB-Alt (Gel Beads Alternate)</li> <li>C (Chip)</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 7 Semi Skirted Plate</li> </ul>	<ul style="list-style-type: none"> <li>ZONE 8 Pipette Tips 300 µl</li> </ul>	
①	②	③	④	⑤	

Zone	Item
<b>Carrier 1</b>	<i>Stationary</i>
Zone 1	22°C Block, Reagents, Module 1
Zone 2	22°C Block, Reagents, Module 2
Zone 3	10°C Block, Reagents, Module 3
-	Magnetic Plate
<b>Carrier 2</b>	<i>Stationary</i>
-	Thermal Cycler
-	Full Skirted PCR Plate (within Thermal Cycler)
Zone 4	Comfort Lids
<b>Carrier 3</b>	<i>Rails: 15-18, Lights: 4</i>
W	Waste Reservoir
TS	Tube Strips
B	Dynabeads™ MyOne™ SILANE
P	Primer
S	Glycerol
O	Partitioning Oil
CP	CO-RE Paddles
E	Ethanol Reservoir
LID	Lid for Ethanol Reservoir
GB-1°	Gel Beads Primary
GB-Alt	Gel Beads Alternate
C	Next GEM Chip G (Automated)
<b>Carrier 4</b>	<i>Rails: 19-24, Lights: 6</i>
Zone 5	Sample Index Plate
Zone 6	Pipette Tips 50 µl
Zone 7	Semi Skirted Plate
<b>Carrier 5</b>	<i>Rails: 25-30, Lights: 6</i>
Zone 8	Pipette Tips 300 µl

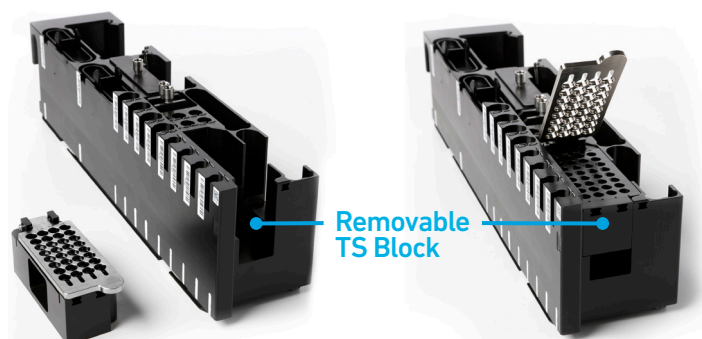
## Carrier Handling

- Establish a clean space near the instrument for placing sliding carriers during loading.
- To scan barcodes, slide carrier in SLOWLY and follow software prompts (chime & flashing lights).
- Practice sliding the carriers completely off the deck and replacing them back using rails.



## Deck Loading – Consumables

- Follow touchscreen for assay-specific handling.
- Ensure correct barcode orientation (on tubes and racks) as prompted by the touchscreen.
- The deck orients the A1 position to the back left corner of the instrument.
- Keep chip and gasket in sealed package until prompted to load.
- DO NOT use chips or gaskets specific to other 10x Genomics protocols.
- Optional removal of the TS block from Carrier 3 may facilitate loading tube strips.

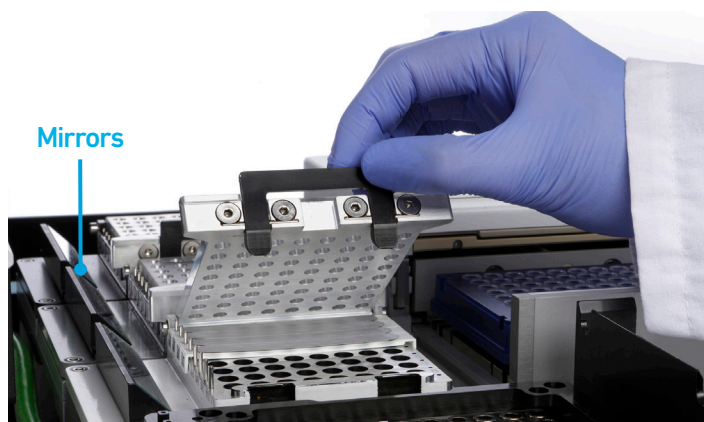


## User Interaction

- CSV file upload enabled for Assay Setup and cDNA Input.
- For sample prep, refer to assay-specific Automation Kit User Guide
- The touchscreen provides a window for sample prep during which reagents are safely held on deck.
- Emulsion check requires user interaction ~30–50 min into the run.

## Deck Loading – Reagents

- Follow touchscreen for assay-specific handling.
- Ensure that no air gaps remain at the bottom of tubes.
- Prepare and dispense 80% ethanol off-deck to avoid spilling on consumables (i.e. chip).
- Carrier 3 gel bead positions allow use of one full tube strip or two partially used tube strips (adding up to 8 tubes total). Use GB-Primary first.
- Reagent thaw begins at specified points on touchscreen, with continued loading during thaw.
- Module loading: Use black handles to lift lids. Load from row 1 (back to front), inserting barcode end onto pin.
- **Press black handles while closing lids.** DO NOT allow lids to forcefully snap shut.
- DO NOT touch module mirrors. Smudges can prevent barcode scanning. Wipe clean when necessary.



### Chromium Connect Workflow

Timing

1 > 2 > 3 > 4 > 5 **1 h**

Assay Select  
Setup Input Info  
Load Samples, Reagents & Consumables

1 > 2 > 3 > 4 > 5 **8.5 h**

Run Single Cell Partitioning, Barcoding & Reverse Transcription  
GEM QC (optional)  
cDNA Amplification & Cleanup  
cDNA QC (optional)  
Library Construction, Cleanup & Sample Indexing

1 > 2 > 3 > 4 > 5 **2 h**

Complete Final Library QC & Quantification  
Set Up qPCR (optional)  
Run qPCR (optional)

## Load Screen

### Navigation Bar

Review previous & next steps

### Confirm

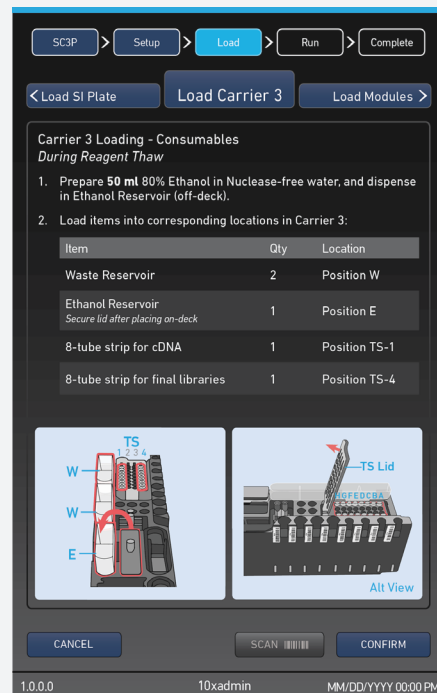
Required to proceed to next step

### Scan

Activated (blue) for barcode scanning

### Cancel

Ends assay (reagents not compromised)



## Toolbar

### Screen Capture

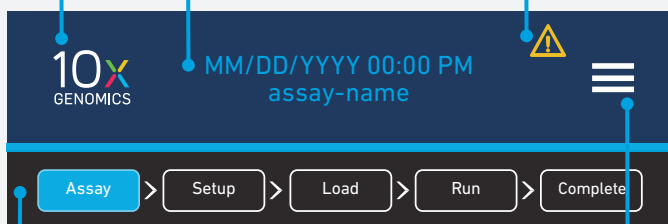
Tap logo (saved in run data package)

### Time Stamp

Experiment-specific display

### Notification Alert

Tap to see message



### Workflow Steps

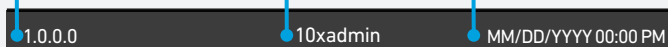
### Menu Options

Admin settings & maintenance

### Selected Assay Name & Version

### Username

### Real-Time Stamp



## Run Screen

### Abort

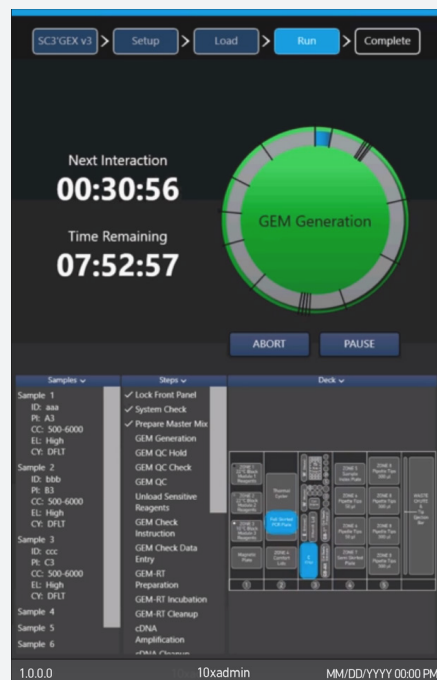
Ends assay (may compromise reagents)

### Pause

Completes in-progress step before pausing

### Subwindows

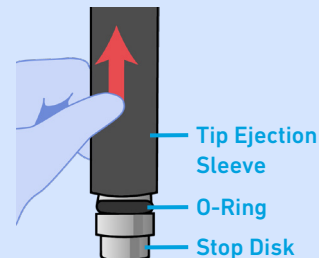
Collapsible info updated in real-time



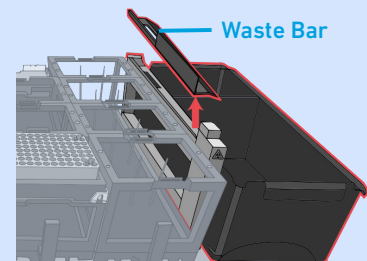


Running Maintenance via Software	Daily 15 min	Weekly 40 min
Inspect for Condensation, Dust & Smudges	✓	✓
Empty Waste Bin & Liquid Waste	✓	✓
Channel Tests Pipette Channel Tightness Test Liquid Detection Test	✓	✓
Clean Deck, Rails, Carriers, Mirrors & Walls Wipe down with laboratory wipes to minimize sources of particles and fibers 70% isopropanol or microcide on metal Deionized water or microcide on nonmetal		✓
Clean Gantry Channels Lens-cleaning tissue and nuclease-free water		✓
Calibration		✓

Access Gantry pipette channels for cleaning by lifting up on tip ejection sleeve



Remove Waste Bar prior to maintenance and replace when prompted by UI



## References

- Chromium Connect Instrument User Guide (Document CG000180)
- Chromium Connect Specifications (Document CG000255)
- 10x Genomics Support website

## Support

Email: [support@10xgenomics.com](mailto:support@10xgenomics.com)

10x Genomics  
6230 Stoneridge Mall Road  
Pleasanton, CA 94588 USA

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