CG000256 Rev C

QUICK REFERENCE CARDS

Chromium Connect

FOR USE WITH

Chromium Connect, PN-1000171
Chromium Connect, PN-1000180

Chromium Connect

System Components

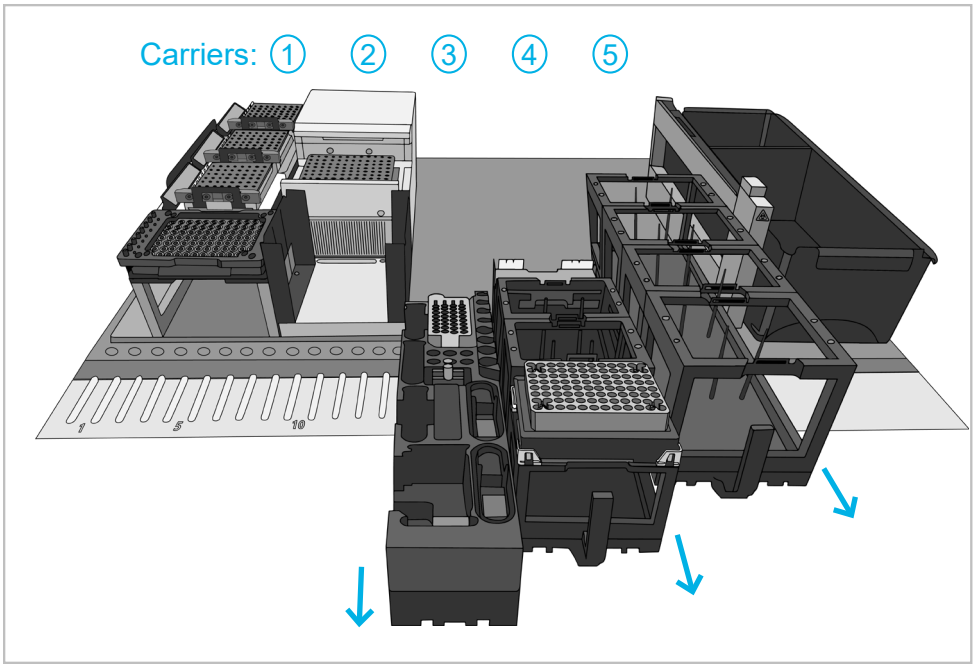
1. Front Panel
2. Left side of the power base assembly:
   - a. Thermal Cycler Power Supply
   - b. System Power Supply
     One or two independent circuits possible
   - c. Fuses/Fuse covers
     (two 12A fuses, two 4A fuses)
3. Right side of the power base assembly:
   - a. USB port: external devices
   - b. USB port: optional HEPA CAP hood
   - c. USB port: Thermal Regulator
   - d. Ethernet to customer Wired Network
   - e. Power plug: optional HEPA CAP hood
   - f. 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)
   - a. Main power cable for Thermal Regulator
     (plugs into 3f)
   - b. USB port
   - c. ID port
   - d. External Sensor port

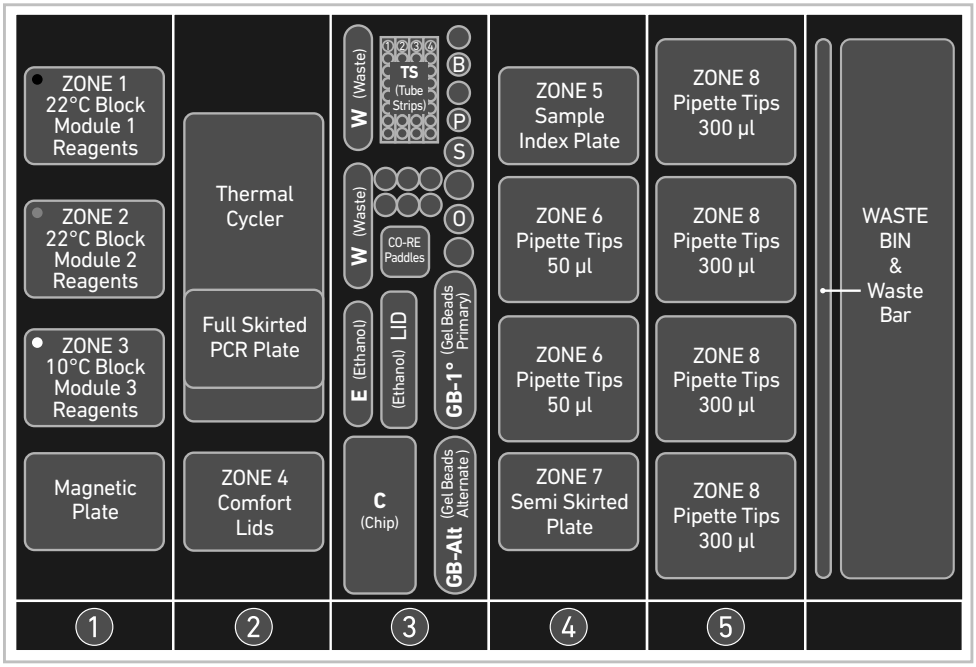
REMOVE POWER FROM BOTH AC INLETS PRIOR TO ANY SERVICE ON THERMAL CYCLER OR SYSTEM.

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

Deck Area Layout

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 assays listed above.





Zone	Item
Carrier 1	*Stationary*
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
Carrier 2	*Stationary*
-	Thermal Cycler
-	Full Skirted PCR Plate (within Thermal Cycler)
ZONE 4	ComfortLids
Carrier 3	*Rails: 15-18, Lights: 4*
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/K (Automated)
Carrier 4	*Rails: 19-24, Lights: 6*
ZONE 5	Sample Index Plate
ZONE 6	Pipette Tips 50 µl
ZONE 7	Semi Skirted Plate
Carrier 5	*Rails: 25-30, Lights: 6*
ZONE 8	Pipette Tips 300 µl

Chromium Connect

Software Orientation

Chromium Connect Workflow — Timing

Gene Expression

1 h

Assay	Select
Setup	Input Info
Load	Samples, Reagents & Consumables

8.5 h

Run	Single Cell Partitioning, Barcoding & Reverse Transcription
	GEM QC *(optional)*
	cDNA Amplification & Cleanup
	cDNA QC *(optional for 3' only)*
	Library Constr., Cleanup & Sample Indexing

2 h

Complete	Final Library QC & Quantification
Unload	Reagents & Consumables

Optional Assays

- qPCR Setup
- Pooling

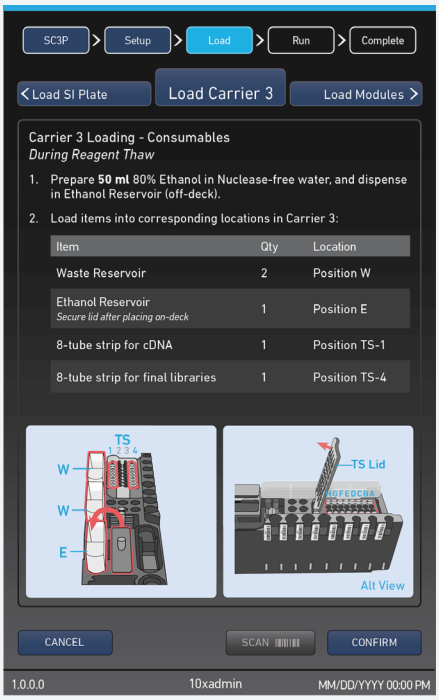
Load Screen

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)

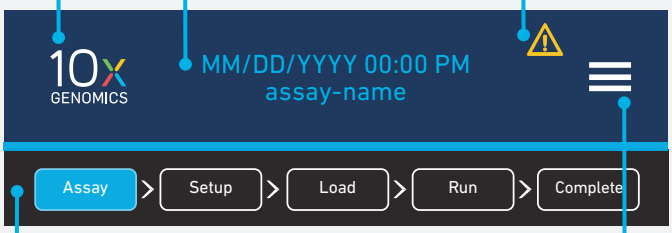


Toolbar

Screen Capture
Tap logo (saved in run data package)

Time Stamp
Experiment-specific display

Notification Alert
Tap to see message



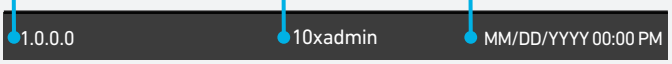
Workflow Steps

Menu Options
Admin settings & maintenance

Selected Assay Name & Version

Username

Real-Time Stamp

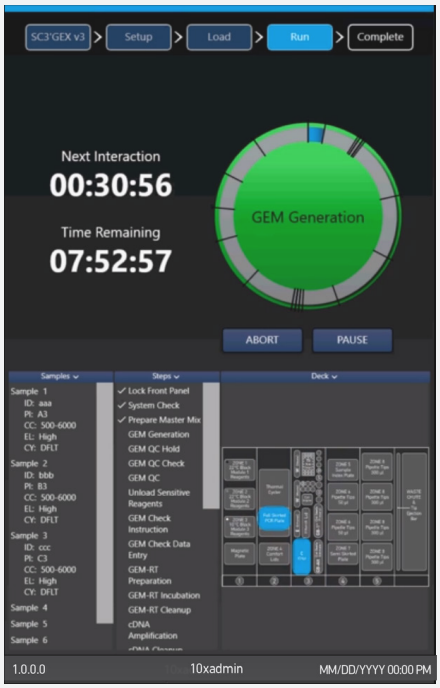


Run Screen

Abort
Ends assay (may compromise reagents)

Pause
Completes in-progress step before pausing

Subwindows
Collapsible info updated in real-time

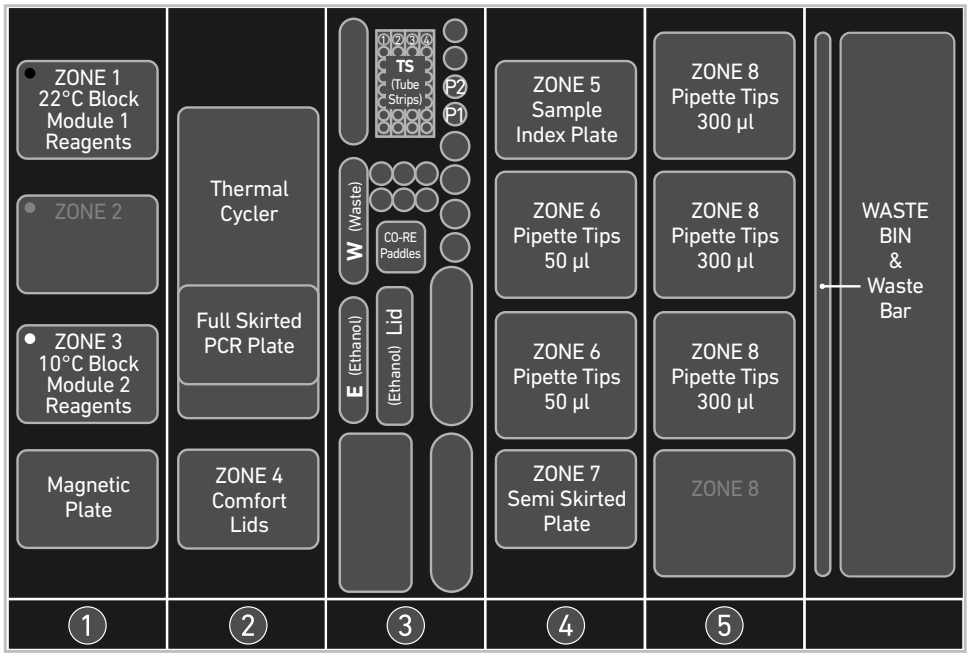


Chromium Connect

Chromium Next GEM Automated Single Cell 5' V(D)J Amplification Assay

Deck Area Layout

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.



Chromium Connect Workflow *V(D)J Amplification*		Timing
1 › 2 › 3 › 4 › 5		**1 h**
Assay Setup Load	Select Input Info cDNA, Reagents & Consumables	
1 › 2 › 3 › 4 › 5		**7 h**
Run	V(D)J Amplification 1 & 2 V(D)J Amplification QC Library Construction, Cleanup & Sample Indexing	
1 › 2 › 3 › 4 › 5		**2 h**
Complete Unload	Final Library QC & Quantification Reagents & Consumables	
Optional Assays		**1.5 h**
	qPCR Setup Pooling	

Zone	Item
Carrier 1	*Stationary*
ZONE 1	22°C Block, Reagents, Module 1
ZONE 2	-
ZONE 3	10°C Block, Reagents, Module 2
-	Magnetic Plate
Carrier 2	*Stationary*
-	Thermal Cycler
-	Full Skirted PCR Plate (within Thermal Cycler)
ZONE 4	ComfortLids
Carrier 3	*Rails: 15-18, Lights: 4*
W	Waste Reservoir
TS	Tube Strips
P2	Primer Mix 2
P1	Primer Mix 1
CP	CO-RE Paddles
E	Ethanol Reservoir
LID	Lid for Ethanol Reservoir
Carrier 4	*Rails: 19-24, Lights: 6*
ZONE 5	Sample Index Plate
ZONE 6	Pipette Tips 50 µl
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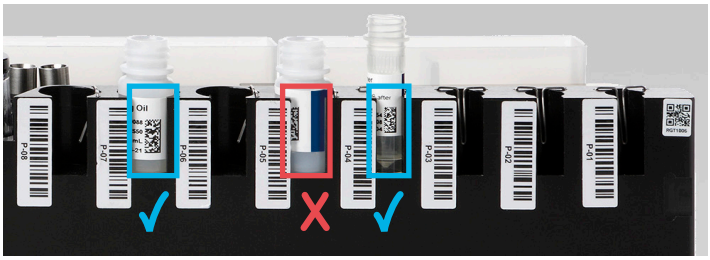
Carrier 5	*Rails: 25-30, Lights: 6*
ZONE 8	Pipette Tips 300 µl

Chromium Connect

Tips & Best Practices

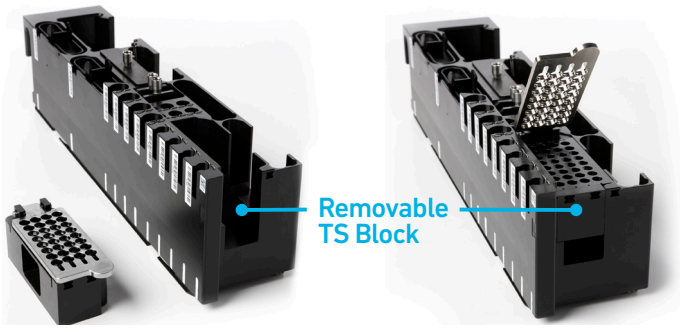
Carrier Handling

- 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.
- When loading PCR plates, press down firmly.



User Interaction

- CSV file upload enabled for Assay Setup
- 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.
- Optional emulsion check requires user interaction **~30–50 min** into the run.

Deck Loading – Reagents

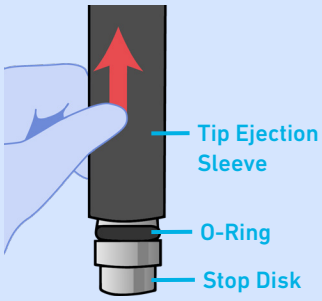
- Follow touchscreen for assay-specific handling.
- Ensure that no air gaps or precipitate remain at the bottoms of tubes.
- Prepare and dispense 80% ethanol off-deck to avoid spilling on consumables (*e.g.* chip).
- Carrier 3 gel bead positions allow use of one full tube strip or two partially used 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

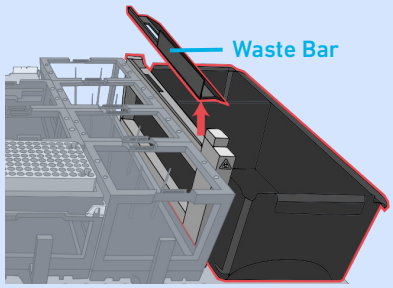
Maintenance

Running Maintenance via Software	Daily *15 min*	Weekly *40 min*
Inspect for Condensation, Dust & Smudges	✓	✓
Clean Touchscreen Lens-cleaning tissue and nuclease-free water	✓	✓
Empty Waste Bin & Liquid Waste	✓	✓
Channel Tests Pipette Channel Tightness Test Capacitive Liquid Level 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		✓
Chromium Automated Controller Self Check		✓

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

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Document Revision Summary

Document Number	CG000256
Title	Chromium Connect Quick Reference Cards
Revision	Rev B to Rev C
Revision Date	May 2021

Specific Changes:

- Pages reordered.
- Card relabeled by assay name on page 3.
- New card for V(D)J Amplification added on page 5.
- Described maintenance checks in more detail on page 7.

General Changes:

- Updated for general minor consistency of language and terms throughout.