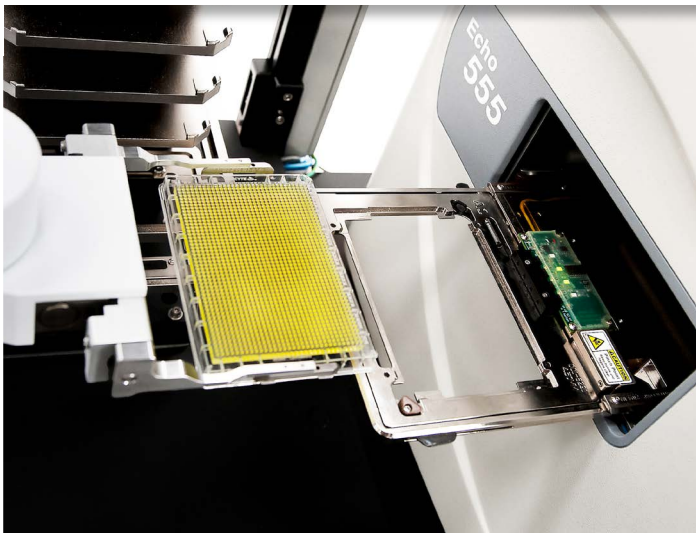


ACCESS™ WORKSTATION CONFIGURATION

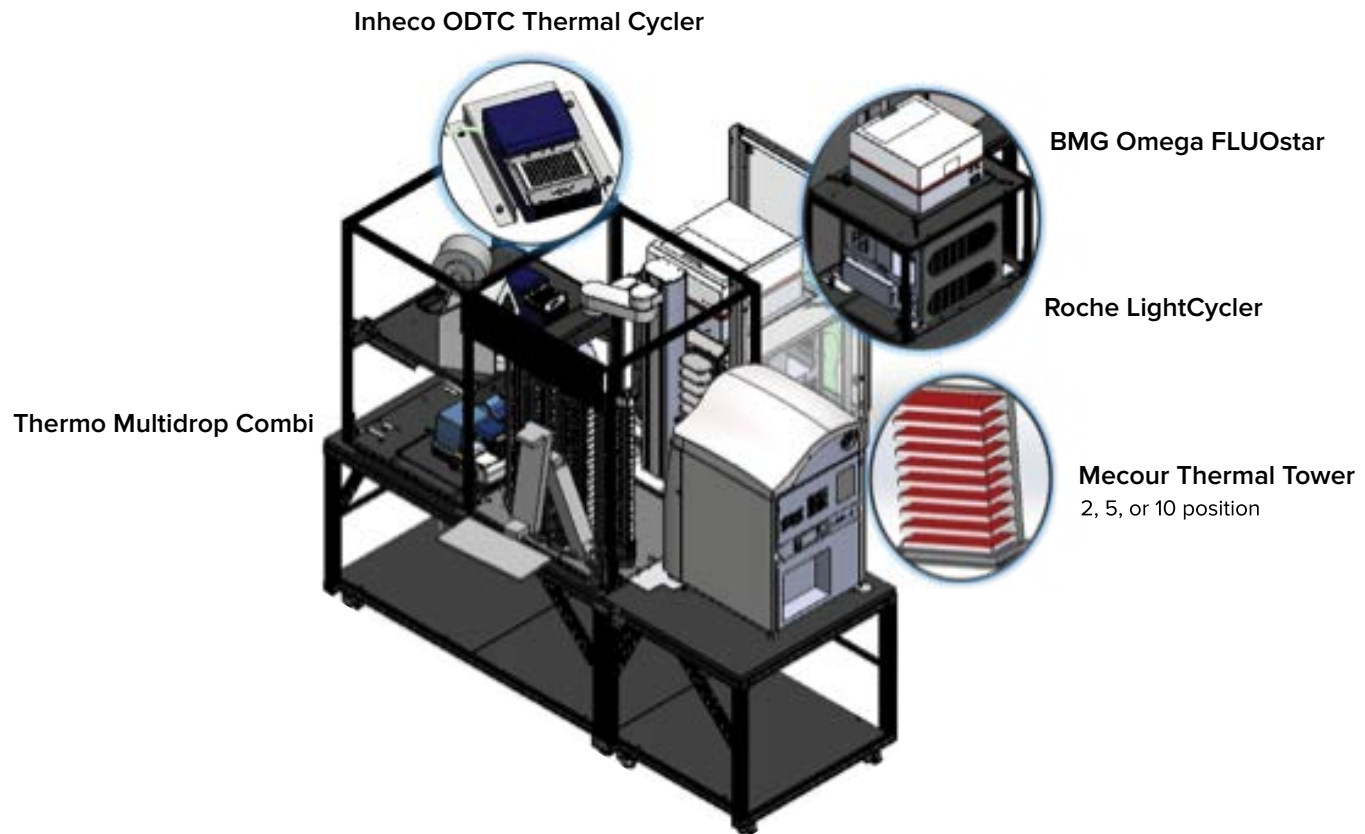
Access Laboratory Workstation *for*
Genomics



Example of an Access Workstation Configuration for Genomics Workflows

The Echo Acoustic Liquid Handling technology revolutionizes life sciences by using sound energy to provide highly accurate, fully automated, non-contact dispensing of fluids. By overcoming traditional liquid handling barriers it lowers the cost of genomics applications in many areas, including synthetic biology/DNA assembly, gene expression, next-generation sequencing, and single-cell genomics.

Combine the revolutionary performance of the Echo® Liquid Handler with automated plate handling and integrated devices to create walk-away systems tailored for a range of genomics applications. Access systems are modular, flexible, solutions that can scale when needed. With use of the Access workstation, Echo Liquid Handlers can be easily incorporated into an integrated system to automate genomic workflows including, but not limited to, qPCR, PCR, enzyme reactions, DNA/RNA quantification, sample pooling, and normalization.



System Devices

- Labcyte Echo 525 or 55X Liquid Handler
- BMG FLUOstar multimode reader
- Agilent Technologies PlateLoc Sealer
- Agilent Technologies Microplate Centrifuge
- Brooks Automation XPeel Peeler
- Roche LightCycler 480 or 1536
- Inheco ODTC 384 or 96 Thermal Cycler
- Mecour Thermal Tower

System Components

- ACC-700 Access Workstation Base System
- ACC-706 2D/1D Barcode Reader
- ACC-708 25-Plate HD Random Access Rack
- ACC-710 20-Plate Random Access Racks
- ACC-711 50-Plate Sequential Stacker
- ACC-712 4-Plate Delidder
- ACC-714 Base Extension with shelf
- ACC-715 96" Workstation Table
- ACC-724 Small Rear Table
- ACC-739 Shelf for Small Rear Table

Workflows

PCR / qPCR

- Keep primers and master mix cool using the integrated Mecour thermal tower
- Combine samples, primers, probes and master mix into miniaturized PCR reactions using the Echo
- Use integrated Inheco On-Deck Thermal Cycler or Roche LightCycler to perform thermal cycle reactions

DNA Assembly

- Rapidly pool DNA fragments and reagents for miniaturized Gibson or Golden Gate assembly reactions

QC and Normalization

- Add PicoGreen dye to DNA samples and use the integrated BMG FLUOstar to quantify concentration
- Alternatively use Roche LightCycler to perform a qPCR-based quantitation of DNA samples
- Use the Echo Liquid Handler to normalize and pool samples without creating intermediate dilutions

NGS Library Prep

- Transfer DNA samples and library preparation reagents (Nextera, Kapa, NEB, others) into miniaturized reactions
- Pool barcodes at a higher density to multiplex more sequencing libraries

Labcyte Microplates

Sample Storage

- Labcyte Echo qualified microplates are designed for long term sample storage with minimal dead volume
- Labcyte has partnered with several DNA providers (IDT, Twist, etc.) to provide DNA oligos in Labcyte LDV microplates

Protection

- Labcyte MicroClime™ lids protect samples and reagents from evaporation and contamination
- Bio-Rad Auto-Sealing PCR Lid compatible on Access System with Inheco ODTC

Reagent Source

- Labcyte Echo 384 PP microplates and Echo Qualified Reservoirs are commonly used to contain assay reagents during transfer

Software Applications

The Access Workstation includes **Tempo™ Automation Control Software** to adapt Echo software application protocols into fully automated routines. The Tempo software readily integrates with LIMS systems, analysis software and other tools (DNA design software, for example) to completely automate critical genomics workflows.

- **Echo® Plate Reformat**
- **Echo® Cherry Pick**

Many Access Workstation users find the following software packages essential for genomics applications:

Additionally some find that the ability to pre-qualify sample plates prior to transfer on Echo systems greatly improves efficiency. Such users also add **Echo® Plate Audit** software to their Access Workstations.

Information

For more information, please visit www.labcyte.com/access.



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