

Specifications

Major Components

- Four micro-manipulators, each one includes a motorized linear stage and a manual XY stage
- Two perfusion chamber I and platform
- One PCI data acquisition board with BNC interface
- Mechanical error: $< \pm 0.05$ mm
- Dimension: 12 in x 12 in x 9.5 in
- Weight: 15 lb
- Line voltage: 100 VAC to 120 VAC, or 220 VAC to 240 VAC

Motorized Stage

- Travel: 28 mm
- Resolution: 0.05 μ m
- Maximum speed: 4 mm/s
- Lowest speed: 0.5 μ m/s
- Serial/USB interface

Manual XY Stage

- Modular Dovetail Linear Stages
- Set, lock, and forget; less susceptible to shock and vibration
- 0.5 in travel

Data Acquisition Board

- Sixteen analog Inputs, 16-bit, 250 kS/s, Input Impedance: > 10 G Ω in parallel with 100pF
- Two 16-bit analog outputs, 740 kS/s per channel. Output impedance: 0.2 Ω
- 24 digital I/O lines, 32-bit counters; digital triggering
- Analog input range: ± 10 V
- Analog output range: ± 10 V

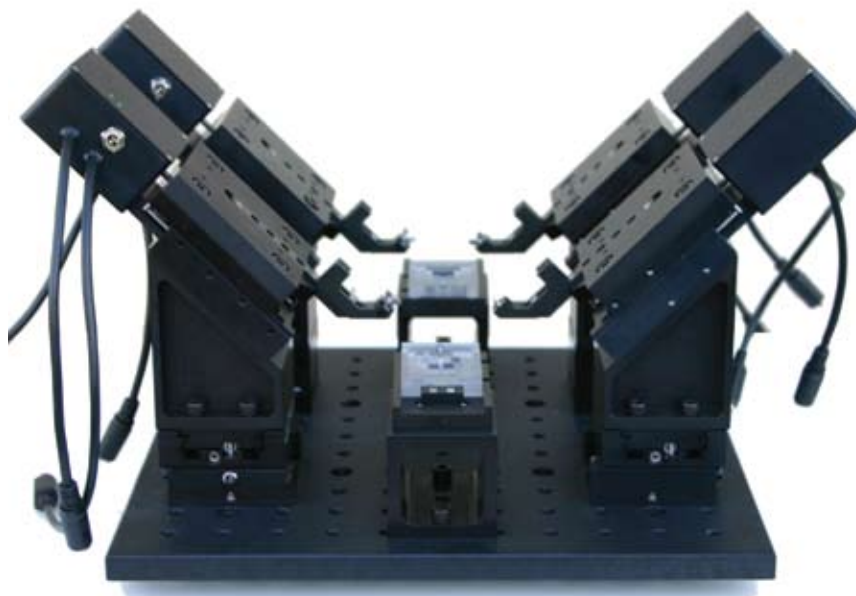
Perfusion Chamber

- Accepts 1/16" tubing

Computer Requirements

- Windows 2000 or XP with 2.0 GHz CPU
- At least 1 USB port
- 1 PCI slot

ChannelMAX 100A Twin



This system is similar to the ChannelMAX 100A Mini except it can be used for doing two two-electrode voltage clamp experiments or up to four patch clamp experiments simultaneously.

Key Features

Run dual two-electrode voltage clamp or four patch experiments simultaneously

With two additional micromanipulators, the system can do dual two-electrode voltage clamp (TEVC) experiments simultaneously. Designed to be affordable to the scientific community, this system increases productivity significantly. Additional units can be run in parallel to further increase TEVC throughput. As each manipulator can do one patch clamp experiment, the ChannelMAX 100A Twin can run up to four patch clamp experiments at the same time. This system significantly increases productivity for patch clamping.

High quality single channel recording

Since the computer controlled manipulators guide the patch pipettes to touch the cell membrane in a more precise and consistent manner than manually controlled manipulators, the success rate of making seals is over 90%. The system possesses the same high quality, noise free, low drift and vibration free data acquisition as the PatchMAX 100A system.

Best value

This system is more cost effective than a traditional electrophysiology setup. In order to reach the same functionality and productivity using a traditional setup, the equipment cost is more expensive, plus labor cost. Lower cost and better quality. If you work on 50 oocytes per week using a traditional two-electrode voltage clamp system, now you can extract data from 100 oocytes per week.

ez-gSEAL Pressure Controller



The ez-gSEAL 100B pressure controller is designed mainly for automated patch clamping, but it can also be used for many other applications. With the ez-gSEAL, patch clamping becomes as easy as a click of a button. You can use it with our automated clamp systems for fully automated experiments, or use it as a stand-alone product on a traditional rig. You can also use the controller for puffing drugs or studying stretch channels. The software-controlled pressure controller comes with pumps so air tanks are not required.

Key Features

The ez-gSEAL pressure controller makes patch clamping easy. Click the first button to set the positive pressure, the second button to set negative pressure for making seals, and the third button to set the holding pressure for long-lasting seals. By clicking a single button, you apply pulses to break into the cell.

The ez-gSEAL control software helps you measure the pressure you use for making seals and breaking in. In addition, many types of cells and tissues, such as HEK293 cells, brain slice and oocytes, have been tested and seal parameters are available for them. New users can usually use these parameters to make seals and break on the first attempt.

When used with the ezPATCH 100A manipulator, all you need to do is to aim the patch pipette at the cell you want to patch. After you click a button, it will touch the cell and make seal, or even go whole cell automatically.

ChannelMAX 100A & ez-gSEAL Ordering Information

Part No.	Product Description	Price
Ne-ChannelMAX 100A Twin	ChannelMAX 100A Twin	\$ 33,000
Ne-ChannelMAX 100A Mini	ChannelMAX 100A Mini	\$ 18,000
Ne-ez-gSEAL	ez-gSEAL Pressure Controller	\$ 4,990
	Complete NeoBiosystems product line available.	

U.S./Canada prices shown. International prices add 10%. Email or visit web store for latest prices.

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Specifications

- Pressure range: -250 mmHg to 250 mmHg
- Pressure resolution: +/- 1.5 mmHg
- Minimal pulse duration: 7 ms
- Minimal pulse interval: 7 ms
- Computer interface: USB
- Line voltage: 110 to 240 VAC
- Dimensions: 17"x14"x3.5" rack mount or desktop
- Weight: 10 lbs

Computer Requirements

- 32-bit Windows 2000, XP, Vista, or Win 7 with 2.0 GHz CPU
- 1 USB port

Pressure control for stretch channel study

The ez-gSEAL pressure controller can be used for pressure clamping for stretch channel study. The pressure sensitivity is 1.5 mmHg and the pressure range is from -250 mmHg to 250 mmHg — good enough for most stretch channels.

Pressure control for drug application

The ez-gSEAL pressure controller can also be used for local drug application. A series of pressure pulses can be given at defined pressures for defined durations.

PatchXpress Testing

The auto-seal algorithm is similar to what is used in the PatchXpress® automated patch-clamp system. PatchXpress users can use it to test their seal parameters under a microscope for easier trouble shooting and lower costs.

