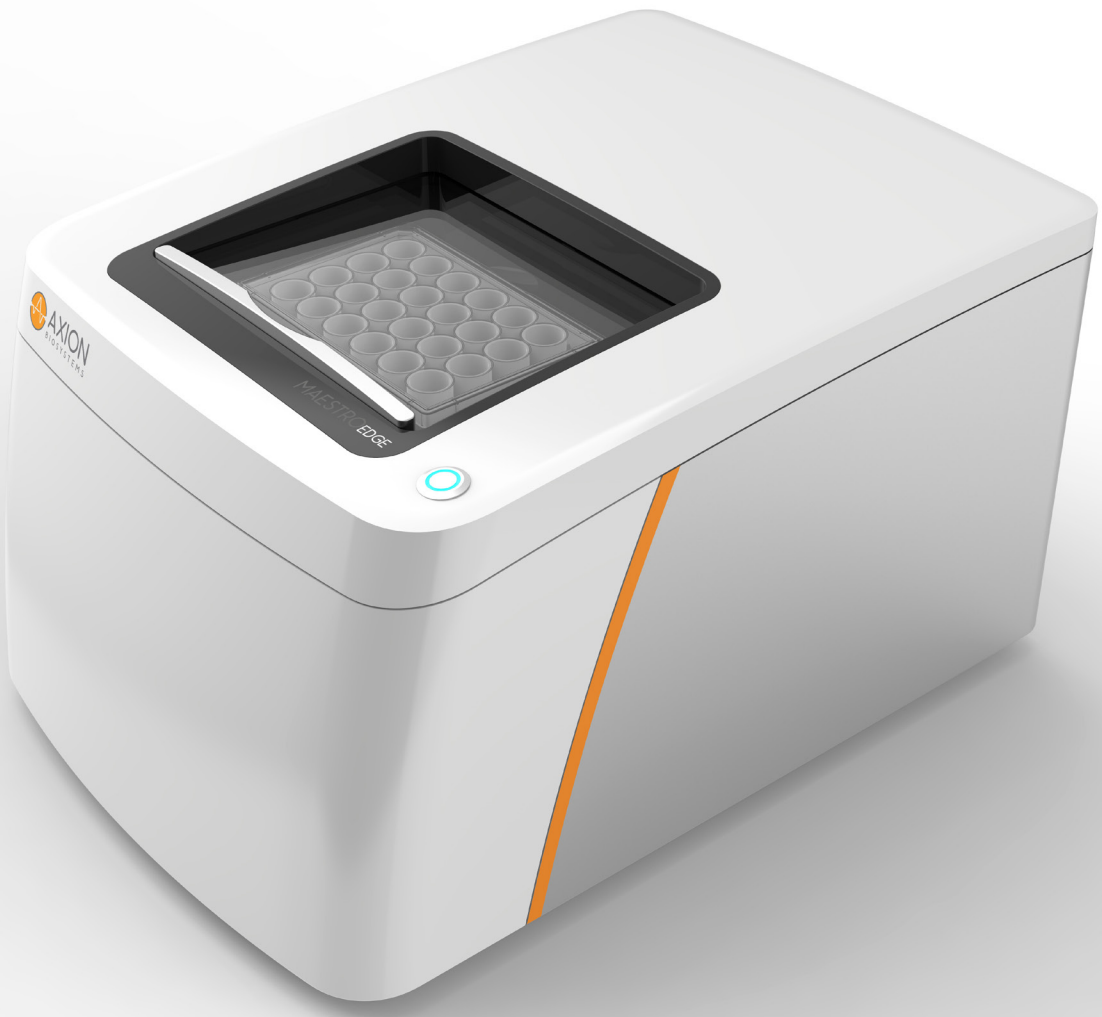
AXION BIOSYSTEMS

# MAESTRO EDGE

## A versatile bioelectronic assay system



# IMAGINE

## A simple assay...

Bioelectronic assays monitor ***in vitro*** cell health and behavior. Sensitive electrodes track cellular activity, while the culture remains undisturbed.

## Flexible

Noninvasively measure activity anytime, as often as needed, while cells remain in an optimally controlled environment.

## Easy

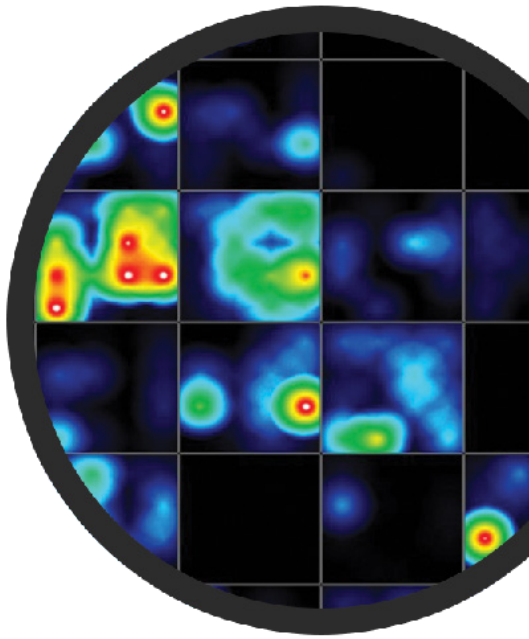
Use basic cell culture techniques to perform quantitative assays that deliver high-resolution, functional data – with no need for dyes, labels, or complicated steps.

## Time-saving

Measure with the push of a button or schedule recordings ahead of time. No incubation steps or complex handling required with a mostly hands-free assay.

# EXPLORE

## Complex biology...



The versatility of the Maestro Edge makes it **ideal for any lab.** Monitor dynamic cellular activity and perform complex functional experiments with only basic cell culture.

## Electrical *Activity*

Create detailed functional profiles of electrically active cells using microelectrode array (MEA) technology. Repeatedly measure from the same culture and track network development and activity.

- Neurons
- Cardiomyocytes
- Skeletal muscles
- Retinal cells
- Primary or stem cells
- 2D or 3D cultures

## Cellular *Kinetics*

Monitor the health and behavior of any cell type using impedance-based technology. Bioelectrodes measure complex dynamic responses, capturing every minute to reveal detailed cellular kinetics.

- Immuno-oncology
- Cytotoxicity
- Cell proliferation
- Barrier function
- Migration/invasion
- Cell signaling

# DISCOVER

## The Maestro Edge


The latest technological advances to facilitate your research. **The Maestro Edge features:**

### Dynamic *responses*

Detect key parameters of neural activity, network dynamics, and cardiac functionality, measure cell growth and cytolysis, barrier function, and signaling – all label-free and in real time.

### Push-button *acquisition*

Simplify processes with Maestro's automatically adjusted temperature and $CO_2$ levels and integrated barcode scanner that conveniently tracks plate usage.

### Precise cellular *control*

Recreate specific patterns of cellular activity using electrical stimulation or light pulses (with the Lumos™ optical stimulation system).

### Integrated *environment*

Easily control temperature and $CO_2$ levels while suppressing electrical noise and mechanical vibrations with Maestro's smart environmental chamber. No need to take up incubator space.

### Efficient *design*

The Maestro Edge is designed to save time, cost, and space. Record from 6 or 24 wells of MEA data, or 96 wells of impedance data.

### On-the-go *connectivity*

Use the Impedance module to track changes in cell proliferation, viability, and cell death from any mobile device. No need to be in the lab.

Customize your

# MAESTRO EDGE


## Standard Equipment

- Environmental control
- Push-button start
- Computer
- Analysis software
- Warranty

## Software

- Cardiac
- Neural
- MEA Viability
- MEA Automation
- Impedance
- GxP Impedance
- Impedance Automation

## Throughput

**MEA:**
6- or 24-well

**Impedance:**
96-well

## Consumables

- BioCircuit MEA
- CytoView MEA
- Lumos MEA
- CytoView-Z

## Lumos Optogenetic Stimulation

- 24-well, 4 LED colors

# SOFTWARE MODULES

## To expand your assay

The Maestro Edge platform is available with seven software modules.
Select the software modules to **match your assay needs:**

**Neural** - Measure electrical network behavior of neurons, including: activity, synchrony, and network oscillations, label-free.

**Cardiac** - Record the four key measures of functional cardiac performance: action potential, field potential, propagation, and contractility.

**MEA Viability -** Measure cell viability and coverage on MEA plates for a complete structure-function assay.

**MEA Automation -** Automate Cardiac and Neural MEA assays with this API for interfacing with liquid handling platforms.

**Impedance -** Track cell proliferation, viability, barrier function, immune cell-mediated killing, viral cytopathic effects, and more.

**GxP Impedance -** Achieve FDA 21 CFR Part 11 compliance in GMP/GLP labs with this version of the Impedance Software Module.

**Impedance Automation -** Automate impedance assays with this API for interfacing with liquid handling platforms.

# MULTIWELL PLATES

## In a range of formats

All of Axion's MEA and impedance assay multiwell plates can be used with the Maestro Edge system. Select the multiwell plates to **match your assay needs:**

| | Assay requirements | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Plate Technology* | Field Potential | Action Potential (LEAP) | Contractility | Propagation | MEA viability | Electrical Stimulation | Optical Stimulation | Impedance |
| **Biocircuit MEA**<br>For lowest cost per well MEA assays | ● | ● | | ● | | ● | | |
| **Cytoview MEA**<br>For MEA & cell imaging assays | ● | ● | ● | ● | ● | ● | | |
| **Cytoview-Z**<br>For impedance assays | | | | | | | | ● |
| **Lumos MEA**<br>For optical stimulation MEA assays | ● | ● | ● | ● | ● | ● | ● | |

**BioCircuit MEA -** Maestro MEA plates with an opaque well bottom delivering high-quality results at the lowest cost per well. Available in 24-well format.

**CytoView MEA -** The premium Maestro MEA plate with a transparent well bottom for cell visualization and assay multiplexing. Available in 24-, and 6-well formats.

**Lumos MEA -** Maestro MEA plates designed for use with the Lumos system, featuring a transparent well bottom and light-focusing lid. Available in 24-well plate format.

**CytoView-Z -** The Maestro impedance plate with a transparent well bottom for cell visualization and assay multiplexing. Available in 96-well plate format.

**Learn more:**

*axionbiosystems.com/maestro-edge*

**Contact us:**

*axionbiosystems.com/contact*

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