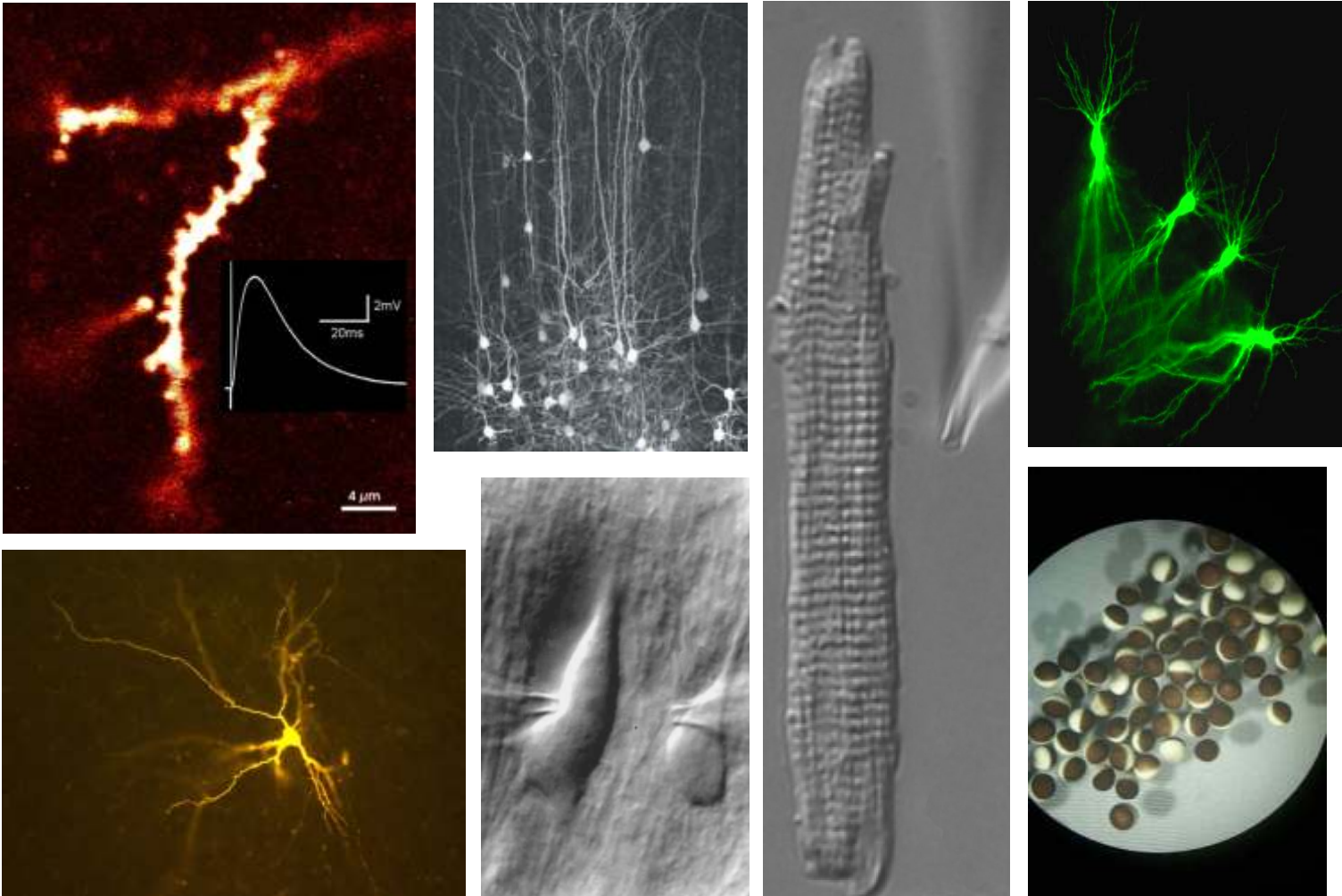


Product Overview



For meanwhile over 30 years npi electronic GmbH develops and produces equipment for *in vitro* and *in vivo* research in the life sciences (especially physiological and pharmacological basic research) with main focus on neurosciences and excitable tissues. Instruments include patch and voltage clamp amplifiers, oocyte amplifiers, extracellular amplifiers, stimulus isolators, voltammetric and amperometric amplifiers, filters, drug application systems, micromanipulators, temperature controllers and data acquisition systems. npi electronic can also supply integrated systems like the robotic ScreeningTool for ion channel drug screening using oocytes, and complete setups including imaging. npi electronic is expert in registration of bioelectrical signals and in microelectrode techniques.



made to measure

ELC-01X



Versatile All-in-One Amplifiers

Juxtacellular filling of dyes, single cell transfection, extra- and intracellular recordings, whole-cell patch clamp in CC or VC mode, single cell stimulation and electroporation, iontophoresis, voltammetric and amperometric measurements. Now with seal resistance display and switchable headstage.

ELC-03XS



SEC series



Single Electrode Voltage & Current Clamp Amplifiers

Unique current and voltage/patch-clamp amplifiers providing high (>20 kHz) switching frequencies for accurate measurements with sharp microelectrodes and patch pipettes. With linear mode (optional) also suitable for juxtacellular filling.

TEC series



Two Electrode Voltage & Current Clamp Amplifiers

Versatile current and voltage-clamp amplifiers with $\pm 150V$ output and no virtual ground. Versions for oocytes, and special versions for other preparations such as invertebrate neurons, muscle or plant cells.

RS-01R



Series Resistance Measurement

Measuring series resistance in oocyte experiments.

BA-01X



Bridge / Current Clamp Amplifiers

Versatile, wide-bandwidth, high impedance current-clamp amplifiers for recordings with sharp and patch electrodes. Features x10 current range for electroporation and juxtacellular filling (BA-01X, BA-03X), as well as potential gain and filters for extracellular, juxtacellular recordings (BA-03X).

BA-03X



VA-10X



Voltammetric / Amperometric Amplifier

Picoampere range current amplifier that is intended for voltammetric or amperometric measurements with 5 μm carbon-fiber microelectrodes.

Miniature Headstages



Multisite Recordings with Miniature Headstages

Amplifiers for *in vitro* and *in vivo* experiments including freely moving animals with compact, light-weight headstages. Available for up to sixteen recording sites, with stimulation, position LEDs and acceleration sensor.



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Isolated Stimulators



Stimulus Generators and Isolators

Stimulus isolators with line power supply or batteries. Up to ± 100 V / ± 50 mA monopolar or bipolar output. Several trigger capabilities with adjustable duration and output amplitude, or direct input from data acquisition system. Stimulation with voltage or current.

Timers



Timer Series

Easy-to-use timing units for generating square pulses of fixed amplitude (TTL, +5 V) and variable length and delay. Features also pulse or burst modes. Several timers can be cascaded.

Extracellular Amplifiers



EXT-02 B Series

Two recording channels with stimulus control. Small headstages with differential inputs. High and low pass filters with six corner frequencies and gain up to 10000. Expandable by audio monitor and/or electrode resistance meter. One power supply for up to four EXT-02 B amplifiers, one RES-08 B and one AUDIS-08 B system.



EXT-02F Series

One or two-channel amplifier with external power supply, high and low pass filters, gain up to 10000, differential input and audio monitor. Optionally, the EXT-02F can be equipped with headstages.



EXT-T2

EXT-T2 - Extracellular Amplifier for Two Tetrapodes

Amplifier with internally adjustable high pass and low pass filters and gain up to 1000. Also available with MiniHeadstage for recording in freely moving animals.



EXT-16

EXT-16 - 16-Channel Extracellular Amplifier

Amplifier with adjustable high pass and low pass filters (one for all channels), gain up to 10000 and current injection unit (option). 2 amplifiers combined allow 32 channel recording.



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EPMS-07 series



Modular System

Modular system for recording and processing of bio-electrical signals in electrophysiology. The system is housed in a 19" rackmount cabinet with a power supply, and has room for up to 7 plug-in modules. An extra low-noise version with external power supply is also available.

ELC-01MX



Extracellular loose-patch clamp amplifier module

SEC-03M



Single electrode VC/CC module

PEN-03M



Penetration module

BUZZ-01M



Universal penetration module

BA-01M



Bridge amplifier module

EXT-10C



Extracellular amplifier modules

EXT-10 2F



EXT-HS-M



HS Connector module

EXT-T1M



For recordings with tetrodes

R/I-T1M



Elect. resistance test module

ISO-STIM 01M



Stimulus isolator module

DPA-2FX/2FS



High/low pass filter module

DPA-2FL



Low-noise filter module

LPBF-01GX



Low pass filter module

BF-48DGX



8-pole BESSEL filter module

PA-01GX



Preamplifier module

HVA-100



High voltage amplifier module



EPMS-07 series
(continued)

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MVCS-02M

MVCC-02

PDES-01TM

PDES-01DM

HV-TR150

HVC-03M



Iontophoresis and Balance module

Pneumatic drug ejection modules

Tracer injection module High voltage clamp module

ION-01M

TMR-02M

INR-01-T

DI-01

WD-01

AUDIS-03M

INT-20M



Ionsensitive amplifier module

Timer module

Signal envelope/integrator module

Diff./int. module

Window discr. module

Audio module

Breakout box module

VA-10

TRC-01M

PMT



Amperometric/voltammetric amplifier module

Transient compensation module

I/V converter / mixer / control modules for photomultipliers

MVCS series



microJECT



PDES series



High Speed Iontophoresis Amplifiers

Due to the perfect capacity compensation of the electrode a spatial resolution of 1 μm and a time resolution of 500 μs is achieved. Suitable for receptor mapping and for simulating synaptic events. Also available for slower applications.

High Speed Pneumatic Drug Ejectors

< 1 ms injection time with *microJECT*. Digital and analog versions available comprising one or two channels. One channel digital versions can also be made as a hold channel.



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PEXT-01



Extracellular Amplifier / Drug Ejector

Amplifier with high and low pass filters and gain up to 10000. Drug ejector with analog or digital timer and analog or digital manometer.

TC/PTC series



Accurate Temperature Controllers

Precise control and low-noise operation make them ideal for electrophysiological setups.

LHBF-48X



Signal Conditioner

Low and high pass BESSEL filter with adjustable gain, offset compensation and differential input.

AUDIS-01D/16



Audio Monitor

Acoustic signal monitor with pitch and noise mode. Threshold allows blanking of baseline noise.

INT-20X



Breakout Box for CellWorks, WinWCP, WinLTP or RELACS

Convenient breakout box for CellWorks, WinWCP, WinLTP or RELACS; available with PCI or USB 2.0 interface.

CellWorkS
npi electronic

CellWorks Software

Modular, multi-user software for data acquisition, stimulation and solution handling.

npi electronic distributes:



Drug application systems, recording chambers, electrode holders etc.
www.alascience.com



Micromanipulators
www.marzhauser.com



Micromanipulators and mounting solutions
burleigh.thorlabs.com



Axon patch clamp amplifiers and data acquisition systems
www.moleculardevices.com



Vibrating microtomes
www.campdeninstruments.com



Micromanipulators, mounting solutions, SliceMaster, FibreMaster, SliceScope motorized microscope
www.scientifica.uk.com



LED fluorescence illumination
www.cooled.com



Small piezo micromanipulator
www.sensapex.com



X-Cite fluorescence illumination
www.ldgi-xcite.com



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