

grapevine™



The **grapevine™** neural interface system offers a hardware and software platform for neuroscience research and neuroprosthesis development. Our systems are compact, portable, and optimized for real-time, closed-loop control experiments with up to 512 electrodes. A complete system includes a neural interface processor and selected front ends for analog, digital, EMG, EEG, ECoG, LFP, and/or microelectrode array signals. Data collection and spike sorting are provided by our Open Source **trellis™** software for Windows, Mac OSX, and Linux.

neural interface processor

- up to 16 grapevine front ends
- gigabit Ethernet connection to PC
- support for USB peripherals
- multi-core, 64-bit processor
- 19 x 12 x 2.5 cm (7.5 x 4.5 x 1.0 in)
- optional portable battery power
- UL 60601 compliance for animal and clinical research applications



amplifier front ends for electrodes

amplify, filter, and digitize biopotential signals



EMG

16-channel differential pairs

EEG, ECoG, ENG

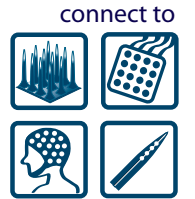
32-channel single reference

microelectrode

32-channel single reference for extracellular spike and LFP

Samtec, Omnetics or custom connector
1.27 mm pitch, 36-pin

13.8 g



connect to

Utah microelectrode array
subdural and μ ECoG electrode grids
surface EEG & EMG electrodes
Michigan microelectrode probe
custom connections for any electrodes

mini

ideal for rodent microelectrode applications

32 channels

Omnetics connector
0.63 mm pitch 36-pin
#A8649 or similar

2.5 g



specifications

filtering	0.01 Hz to 7.5 kHz input bandwidth additional band selection via digital filtering
input range	± 6.5 mV (± 5.0 V max allowable input)
resolution	16-bit, 0.25 μ V/bit, up to 30 ksp/s
impedance	> 250 M Ω 20 pF (input)
noise	< 2.1 μ Vrms (referred to input)

front ends for analog & digital signals

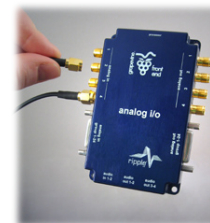
connect to other instruments and audio devices

digital i/o

16-bit LVTTTL data input port
(16 event inputs or data to 2 MB/s)

4 dedicated LVTTTL event inputs
20 LVTTTL event outputs

1 RS-232 serial i/o port



analog i/o

28 channels, ± 5 V analog input
(4 SMA connectors, 1 micro-D25)

28 channels, ± 5 V analog output

2 channels, line-level audio in

4 channels, line-level audio out

Contact us for a demonstration in your lab.
128-channel systems available for under \$60,000

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Info and pricing at www.rppl.com