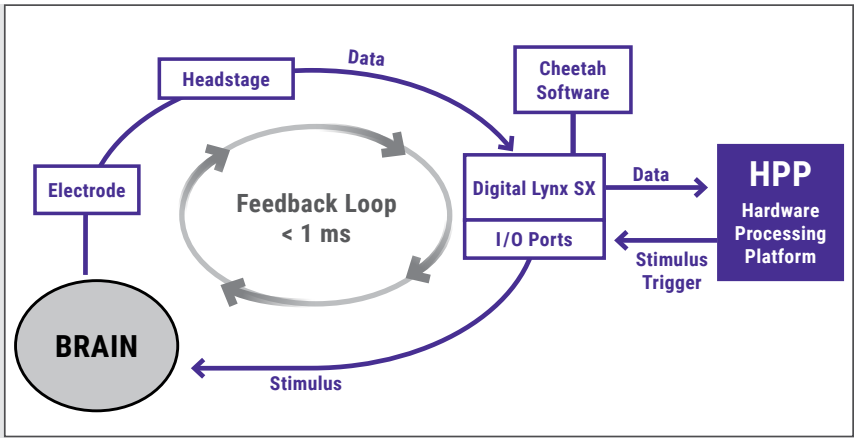
NeuraLynx

advanced electrophysiology solutions
for data acquisition & experiment control

HPP - Hardware Processing Platform

Real-time signal processing platform with sub-millisecond latency for feedback and stimulation experiments.

The Hardware Processing Platform (HPP) is a low-latency platform that connects directly to the Digital Lynx SX motherboard providing real-time data analysis and response for low-latency feedback stimulation experiments. **With HPP, researchers can analyze and respond to input signals in less than 1 millisecond.** HPP can execute experiment stimuli with precise control of Digital Lynx SX analog and digital outputs.



- Integrates with Digital Lynx SX for access to all signals for real-time data processing
- Unprecedented processing speed: sub-millisecond latency
- Upgrade existing Digital Lynx SX systems
- Eliminates operating system latencies – deterministic response
- USB connection for external device interfaces

Example applications

- Spike detection and classification
- Neural ensemble detection and burst analysis
- Low frequency narrow band signal response (ie., Alpha, Theta, Gamma)
- Digital signal filtering and other DSP functions
- Experiment control
- Analog signal output
- Complex stimulation
- Precision TTL pulse trains

Process data from all Digital Lynx SX inputs, including

- Buffered headstages / Digital Lynx input boards
- FreeLynx wireless digital telemetry headstages
- Digital multiplexing (MUX) headstages

HPP hardware features

- Dual ARM Cortex A9 CPU @ 1 GHz
- 1 GB DDR3 RAM
- 16 MB Flash
- SD Card Interface

Connections

- USB 2.0
- Gigabit Ethernet
- Serial UART
- JTAG

HPP programming tools

- MATLAB®
- Simulink®
- C++ (RTOS)
- VHDL (FPGA)

Requires advanced programming skills.

MathWorks Partner

MATLAB Enabled
MathWorks Partner

SIMULINK Enabled
MathWorks Partner

quotes-research@neuralynx.com / orders-research@neuralynx.com

Ask about our **System Maintenance Plan.**

neuralynx.com