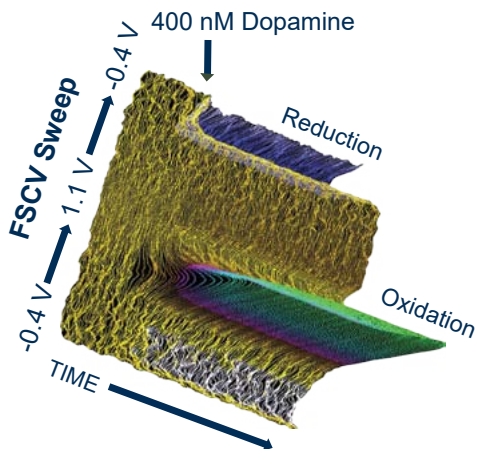




FAST SCAN CYCLIC VOLTAMMETRY



Pinnacle's robust, turn-key **FAST SCAN CYCLIC VOLTAMMETRY (FSCV) SYSTEM** is designed to simplify measurement for a wide range of analytes. Combined with Pinnacle's software, researchers can use preprogrammed or custom waveforms for analyte specific optimization. The FSCV system is available in tethered and wireless configurations and has built-in support for controlling an external stimulus. Use any FSCV system with your own electrodes or with our carbon fiber sensors.



SYSTEM SPECIFICATIONS

Voltage span:	-0.6 V to +1.5 V	Max sweeps/sec:	10
Max scan rate:	1000 V/s	Max points/sweep:	1000
User defined sweeps: Supported			
Standard sweeps: Dopamine, Serotonin, Norepinephrine, Adenosine			
Factory adjustable gain for different types / sizes of carbon fiber			

HOW IT WORKS

Changes in analyte concentration are detected by rapidly cycling a voltage across an implanted carbon fiber sensor and measuring the resultant current. Pinnacle's FSCV system can measure spontaneous sub-second neurotransmitter release while conducting detailed behavioral studies. Both the wireless and tethered systems sweep up to 1000 V/s in a user-selectable range spanning -0.6 to +1.5 V. All systems have built-in support for controlling an external stimulus.

TETHERED SYSTEM FOR MICE AND RATS

Our tethered FSCV system uses head-mounted hardware and a low-torque commutator. To provide optimal signal-to-noise, all sweep generation and digitization is implemented on the headstage. A stimulus control is available via an external tether.



WIRELESS SYSTEM FOR RATS

The wireless FSCV system allows for the study of freely moving rats, making it ideal for mazes, metabolic and behavioral chambers, as well as enclosed environments. Our head-mounted preamplifier transmits data via Bluetooth® and the long-lasting, rechargeable battery is easily accessible and readily exchangeable.

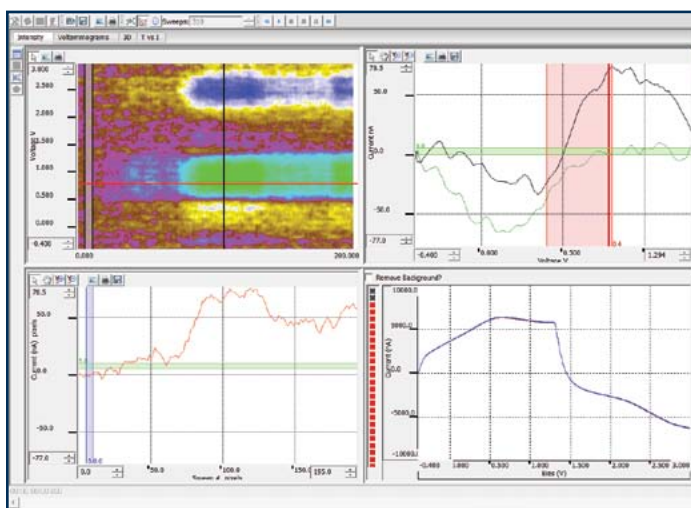


FAST SCAN CYCLIC VOLTAMMETRY

SOFTWARE

Pinnacle's FSCV software supports traditional, short recording paradigms (recordings of two minutes or less) as well as longer-term recordings that use an extended continuous mode. Additional features of this software include background subtraction, preprogrammed and custom waveforms, heat maps, 3-D visualization, user-selectable filters, and animated voltammograms. Data can be exported in common spreadsheet formats. The suite also supports integrated, synchronized video recording, which allows monitoring behavior simultaneously with electroactive neurotransmitter release.

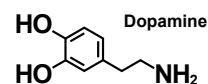
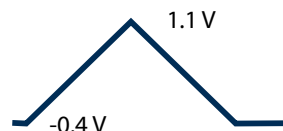
Dopamine Response in a Freely Moving Rat



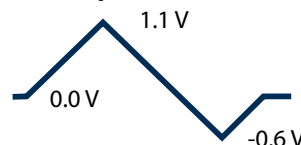
The above image displays representative data from a freely moving rat using Pinnacle's Wireless FSCV system with a 34 μm sensor. From top left to bottom right: heat map, voltammogram, current, background.

Preprogrammed and Custom Waveforms

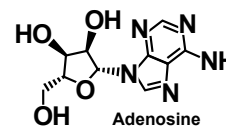
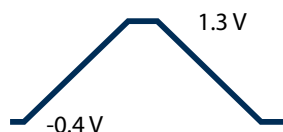
Triangle



N-Shape



Sawhorse



FSCV offers preprogrammed waveforms associated with commonly studied analytes. Custom waveforms can be easily uploaded and stored in a drop-down menu for quick selection.

CARBON FIBER SENSORS AVAILABLE

Call to discuss your requirements with
a technical sales consultant

SUPPORTING PRODUCTS AND ACCESSORIES

1. Add Pinnacle's video system to correlate changes in analyte concentration with observable behavior. Different camera options are available.
2. Circular cages allow the animal to move freely around the circumference of the cage without creating too much slack in the cable.
3. A stainless steel food hopper can be added to any Pinnacle cage. It holds approximately 50 grams of food (~12 standard pellets).

