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NeuroNexus SmartBox Pro Allego User Guide

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Introduction

Congratulations on your purchase of the SmartBox Pro/ Allego acquisition system! This advanced new system from NeuroNexus enables and accelerates neuroscience research through its unique combination of performance, ease of use, and forward-looking advanced features, which include:

- Plug-and-play compatibility with all NeuroNexus probes and electrode arrays
- High-quality acquisition and recording of up to 512 channels of neural and biological signals
- Unique, highly interactive, probe- centric user interface that allows the researcher to remain focused on the experiment at hand

This "Quick Start Guide" is intended to provide a brief overview of the SmartBox Pro/Allego system and some of its basic functions. A note on basic terminology: "SmartBox Pro" refers to the hardware component of the system, i.e., the "SmartBox Pro box." "Allego" refers to the software application that interfaces with and controls the hardware box.

IMPORTANT: Please check the NeuroNexus website at **www.NeuroNexus.com** for regular updates of this document and related system documentation.

For questions regarding the operation of the system or if you have any issues with the SmartBox Pro, please email us at **support@NeuroNexus.com**. You can also call us at +1.734.913.8858.

Getting up and running

What's in the Box

- SmartBox Pro unit
- AC Power Adapter
- USB 3.0 cable

- (2) Banana-to-banana cables
- (2) BNC-to-BNC cables
- (2) BNC-to-Alligator cables
- Selected Smartlink headstage amplifier(s) and headstage interface cable(s) that are specified in the order. For more information about our Smartlink headstages please visit our website at **www.NeuroNexus.com**
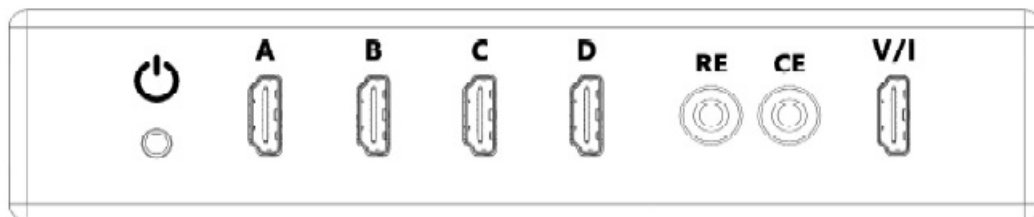- (optional) Windows laptop computer that was specified in the order

Computer Requirements

The computer system requirements include

- **Storage:** SSD. Traditional magnetic hard disks may not be fast enough in some recording configurations
- USB 3.0
- 3rd Generation Intel Core i7 processors (4 cores), or equivalent.
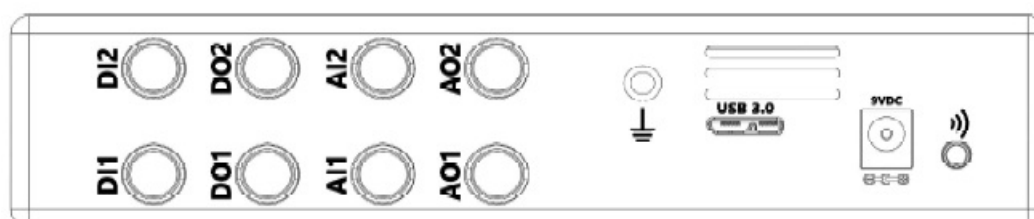
System Overview

Front Panel

⏻	Power LED/Button	Indicates system status.
ABCD	Headstage Input Ports	Proprietary HDMI-style ports for connecting Smartlink headstages to Ports A-D.
RE	Reference Electrode	Banana jack for connection to Reference Electrode (poten tiostat/galvanostat).
CE	Counter Electrode	Banana jack for connection to Counter Electrode (potentiostat/galvanostat).
V/1	Potentiostat/Galvanostat Port	Proprietary HDMI-style multifunction port for connection to the SmartBox Pro MUX adapter to provide access to potentiostat and galvanostat functions.

Back Panel

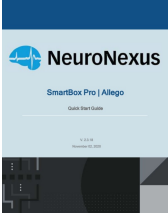|		
DI/DO	Digital / Analog Inputs and Outputs	BNC connectors for connecting auxiliary signals from other instruments.
⏚	System Ground	Banana jack for connecting the box to a low-noise earth ground point.
USB 3.0	USB 3.0 Connector	Connect to a USB 3.0 port on PC/Mac using the supplied USB 3.0 cable.
9VDC	DC Power Input	Use only the supplied AC power adapter to provide the required DC voltage input.
Audio Output)))		Stereo audio Aux jack for connection to speakers to monitor the Analog Output (AO) channels.

Connect the SmartBox Pro to Your Computer

- Unpack the SmartBox Pro unit from its packaging and place it on a secure surface with adequate ventilation
- Plug the AC adapter into a standard (110-220 V) wall outlet and connect its DC power output pin into to the power port of the unit
- Connect the USB cable to the SmartBox Pro and a USB 3.0 port on your computer
- With the computer on and connected to the internet, press and release the SmartBox Pro power LED switch. Your computer should indicate that it has detected new hardware (Opal Kelly XEM6310-LX45). The necessary drivers should be automatically installed with no further action necessary. If the driver does not install or the Allege recording software cannot detect your SmartBox Pro unit, try downloading and installing the driver from **www.NeuroNexus.com**.
- Connect a Smartlink headstage amplifier to a Smartlink HDMI cable and then connect the other end to one of the SmartBox Pro amplifier ports (ports A-D)
- Optional-Use a banana cable to attach the SmartBox Pro ground port to low-noise earth ground. This may be beneficial for removing extrinsic noise on the signal lines depending on the laboratory environment. (**Note:** Regardless of the ground port connections, the recording reference and ground signals are provided through the configuration of the Smartlink headstage amplifier(s))
- **Note:** Do not connect the multiplexer adaptor to ports A through D.

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Documents / Resources

	NeuroNexus SmartBox Pro Allego [pdf] User Guide SmartBox Pro Allego, SmartBox Pro, Allego