

# The Evoked Potential Operant Conditioning System (EPOCS): A Research Tool and an Emerging Therapy for Chronic Neuromuscular Disorders

N. Jeremy Hill<sup>1,2</sup>, Disha Gupta<sup>1,2</sup>, Amir Eftekhari<sup>1</sup>, Jodi A. Brangaccio<sup>1</sup>, James J. S. Norton<sup>1,2</sup>, Michelle McLeod<sup>3</sup>, Tim Fake<sup>1</sup>, Jonathan R. Wolpaw<sup>1,2,4</sup>, Aiko K. Thompson<sup>3</sup>

<sup>1</sup>National Center for Adaptive Neurotechnologies, Stratton VA Medical Center <sup>2</sup>Electrical & Computer Engineering Department, State University of New York at Albany <sup>3</sup>College of Health Professions, Medical University of South Carolina <sup>4</sup>Department of Biomedical Sciences, State University of New York at Albany

## Corresponding Author

N. Jeremy Hill  
jeremy.hill@neurotechcenter.org

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## Materials

Name	Company	Catalog Number	Comments
Alcohol swabs	any		For application to skin
BNC cable (long) x 1	any		Male BNC to male BNC, long enough to reach from digitizer to stimulator
BNC cable (medium) x 2	any		Male BNC to male BNC, long enough to reach from amplifier to digitizer
BNC cable (short) x 1	any		Male BNC to male BNC, short (to patch between two digitizer ports)
BNC tee connector	any		Female-male-female BNC splitter
Computer	Lenovo	ThinkStation P340	A wide range of computing hardware is suitable, especially if using a USB digitizer (no PCI slots needed). Must run Windows 7+. Include standard keyboard & mouse.
Constant-current stimulator	Digitimer Ltd.	DS8R	The DS8R enjoys EPOCS automation support. If controlled manually, other constant-current stimulators may be used provided they have an external TTL trigger and can achieve a pulse duration of 1 ms or more.
Digitizer (option A)	National Instruments	USB-6212	USB digitizer with integrated BNC connectors.
Digitizer (option B)	National Instruments	PCIe-6321	PCIe digitizer—requires desktop computer with a free PCI slot, also cable and BNC terminal block (below)
Digitizer cable (for option B only)	National Instruments	SHC68-68-EPM	Connects PCIe digitizer to BNC terminal block

Digitizer terminal block (for option B only)	National Instruments	BNC-2090A	19-inch-rack-mountable BNC terminal block
EMG amplifier system	Bortec Biomedical Ltd.	AMT-8	Analog amplifier + portable unit + long transmission cable + battery pack + two 500-gain active electrode leads (1 bipolar, 1 bipolar with ground)
Monitor	any		Large enough for the participant to see clearly from the intended viewing distance.
NeuroPlus electrodes (22 x 22 mm) x 6	Vermont Medical Inc.	A10040-60	Disposable self-adhesive silver/silver-chloride 22 x 22 mm surface-EMG electrodes. 6 needed per session (11 on participant's first session)
NeuroPlus electrode (22 x 35 mm) x 1	Vermont Medical Inc.	A10041-60	Disposable self-adhesive silver/silver-chloride 22 x 35 mm surface-EMG electrode. 1 needed per session.
Snap lead x 2	any	EDR1220	Leads for stimulating electrodes: 1.5mm DIN to button snap
Wire	any		8–10 cm length of single-core insulated wire