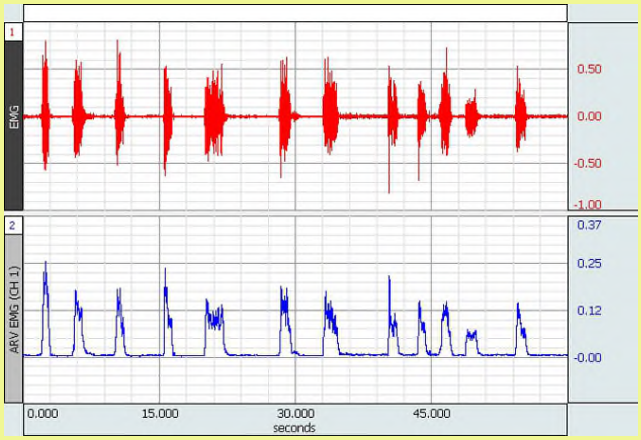
EMG Resources

Resources for Electromyography Data Acquisition and Analysis

Wired, wireless, and MRI options for human and animal research

Key Features

- Surface EMG
- Automated EMG Analysis
- EMG Power Spectrum Analysis
- H-Reflex Methodology
- Facial EMG and Startle Response



On Demand Webinars- Watch Now

How to Get Great EMG Data

How to Get Great EMG Data-Analysis

System Level Solutions

Complete Hardware Bundles Available Online

WIRED	WIRELESS	MRI
MP36R 4 Channel system uses Disposable Electrodes MP160 16 Channel system uses Disposable Electrodes MP160 16 Channel system uses Reusable Electrodes	BioNomadix Logger BioNomadix Logger and one transmitter for wireless EMG setup, disposable electrodes Mobita Mobita system for up to 32-CH Wireless Biopotentials plus AcqKnowledge BioNomadix Logger BioNomadix Logger and one transmitter for wireless dynamometry & EMG, clench force transducer, 30 cm leads & disposable electrodes, plus Impedance Checker	MP160 System Uses Disposable Electrodes and includes 100 pre-wired 3-lead Ag-AgCl radio-translucent electrodes MP160 System with Acq*Knowledge* plus EMG MRI amp with disposable radio-translucent electrodes

Video Tutorials for Analysis

- EMG- Frequency and Power Analysis
- EMG- Locate Muscle Activation
- EMG- Derive Average Rectified
- EMG- Derive Integrated EMG
- EMG- Derive Root Mean Square
- MRI- Cleaning Data: EMG Example
- Wireless Neuro-controlled Prosthesis
- EL-CHECK Portable Independence Checker from BIOPAC
- Horse EMG- Running on Treadmill and Data

Application Notes

214—EMG Startle Scoring for Repulse Inhibition Studies
118—EMG Signal Analysis
165—Integrated EMG
232—EMG: Normalized to Maximum Voluntary Contraction
232—EMG: Normalized to Maximum Voluntary Contraction - BSL Pro
235—Zygomaticus Measures with Pressure Pads Vs. EMG in MRI or fMRI
241—Recording EMG Data in an fMRI

Knowledge Base

- EMG-Underwater Measures
- ECG Artifact in EMG Signal

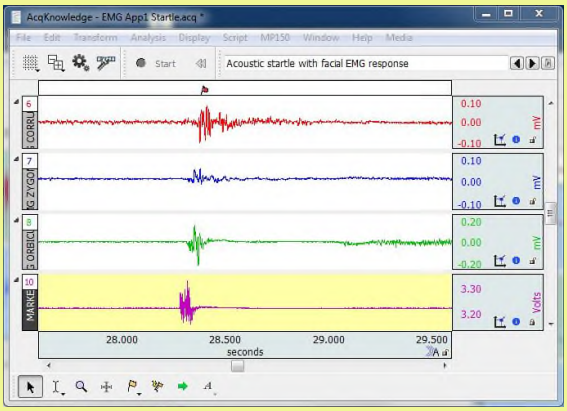
Hardware Options for High-Quality EMG

Request more information online

WIRED	WIRELESS	MRI
MP36RWSW Trusted modular 4-channel data acquisition workstation	BN- Logger-1 Research Quality Data in Easy to Use, Wearable, Wireless Package	MECMRI-BIOP MRI Filtered Cable Sets
MP16WSW 16-Channel data Acquisition & Analysis System	BN-EL15-LEAD3 Electrode Leads-Bionomadix Wireless	EMG100C-MRI EMG Electromyogram Amplifier for MRI
EMG100C Advanced Amplifier for Research Acquisitions	BN-EL15-LEAD2 Electrode Leads-Bionomadix Wireless	EL510 Disposable Electrodes
EL504 Cloth Based Electrodes	MOBITA-W-12+20 Wearable, Wireless, Rugged Physiological Monitoring and Logging	
SS2LB Lead Set, Shielded BSL	BN-CLENCH-XDCR Transducer for Wireless, Wearable Physiology	
TSD150A Designed for Multiple-channel Surface EMG (sEMG) Measurements		
Lead110A Lead Wires with Clip		
EL503 General Purpose Electrodes		
EL258S AG-AGCL Electrodes		

Automated Analysis with Acq*Knowledge*

- Active Electrode and Fine Wire EMG
- Automated EMG Analysis
- Automatic Spike
- EMG and Force
- EMG Power Spectrum Analysis
- Facial EMG and Startle Response
- H-Reflex Methodology
- Histogram Analysis
- Interface with Imaging Equipment
- Synchronize with Video Capture



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Research Citations

Selected citations below—search online for more than 6,340 BIOPAC Citations for EMG

Effect of Yelling on Maximal Aerobic Power during an Incremental Test of Cycling Performance
C.L. Chen, et al. (2015). *Journal of Sport and Health Science.*

Evaluation of Electromyographic Frequency Domain Changes during a Three-Minute Maximal Effort Cycling Test
R. Wang, D. H. Fukuda, et al. (2015). *J Sports Sci Med.* Jun, 14(2): 452–458.

The Effects of T'ai Chi on Muscle Activity, Pain, and Balance in Females in their 20s with Acute Low Back Pain
J. H. Jang, et al. (2015). *Journal of Physical Therapy Science,* Vol. 27, No. 3, p. 725-727.

Individual Responses for Muscle Activation, Repetitions, and Volume during Three Sets to Failure of High- (80% 1RM) versus Low-Load (30% 1RM) Forearm Flexion Resistance Exercise
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Effects of Performing an Abdominal Hollowing Exercise on Trunk Muscle Activity during Curl-Up Exercise on an Unstable Surface
Moon-Hwan Kim, & Jae-Soep Oh. (2015). *J Phys Ther Sci,* 27(2): 501–503.

Comparison of Selective Electromyographic Activity of the Superficial Lumbar Multifidus Between Prone Trunk Extension and Four-Point Kneeling Arm and Leg Lift Exercises
J. S. Kim, M. H. Kang, J.H. Jang, & J. S. Oh. (2015). *J Phys Ther Sci*, 27(4): 1037–1039.

Near-Wins and Near-Losses in Gambling: A Behavioral and Facial EMG Study
Wu, Y., van Dijk, E. and Clark, L. (2015), *Psychophysiol*, 52: 359–366.

Media Exposure and Sympathetic Nervous System Reactivity Predict PTSD Symptoms after the Boston Marathon Bombings
Busso, Daniel S., Katie A. McLaughlin, and Margaret A. Sheridan. (2014). *Depression and anxiety,* 31.7: 551–558.

Comparative Analysis of Clubfoot and Normal Calf Muscle Activity Using Electromyography- A Case Study
Mushtaq, H., Chawla, S., & Mushtaq, M. (2016). Comparative Analysis of Clubfoot and Normal Calf Muscle Activity Using Electromyography-A Case Study.

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Johnson, W. E. (2016). Comparison of Abdominal Muscle Activity Elicited Using the Lean Abs Abdominal Exercise Machine with Popular Abdominal Training Devices and Abdominal Crunch Variations: An Electromyographic Study. *International Journal of Scientific Research*, *4*(8).

EMG Asymetricity of Selected Knee Extensor Muscles in Sustained Squat Posture (A Yogic Posture) of Athletes in Relation to their Gender and Performance
Kaur, M., Nara, S., Shaw, D., & Bhatia, D. (2016). EMG Asymetricity of Selected Knee Extensor Muscles in Sustained Squat Posture (A Yogic Posture) of Athletes in Relation to their Gender and Performance. *J Nov Physiother*, *6*(322), 2.

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