

## Included with the MA300 EMG System!

Standard MA300 EMG Systems include the graphing software and Advanced MA300's include the EMG Analysis software. Both programs work with data from a range of

### EMG Graphing (MS-905)

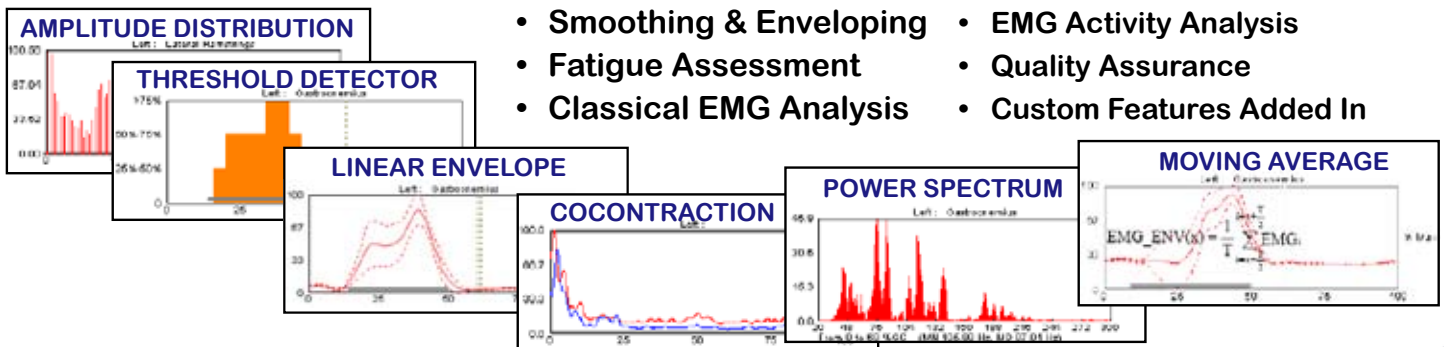
Display and customize graphs as Raw, Rectified or

- **Calibrate and View to Scale**  
Micro-volts, percentage of MVC, or custom scales
- **Easily Normalize Data**  
MVC, Gait Cycle, or Manual Muscle Test (MMT)
- **Automate Data Processing**  
Calibrate and label channels, apply filters, detect events
- **Full C3D File Support**  
Read raw EMG data from other manufacturers



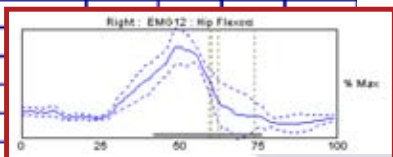
### Advanced EMG Analysis (MS-900)

All the features of EMG Graphing with Advanced Analysis functions!



- Smoothing & Enveloping
- Fatigue Assessment
- Classical EMG Analysis
- EMG Activity Analysis
- Quality Assurance
- Custom Features Added In

on/off as % of gait cycle	on	off	on	off
Anterior Tibialis	0	28	60	100
Vastus Medialis	0	24	84	100
Gluteus Medius	0	39	81	100
Gastroc/Soleus				
Medial Hamstrings				
Lateral Hamstrings				
Gluteus Maximus				
Tibialis Anterior				



### BONUS! "Normal" Database

Included in Both the MS-905 and MS-900

- Adult and Age-Matched Child- Includes 13 age options
- Simple Comparisons- Graph and compare data file to the included or your own custom set "normal" activity bars
- Fully Customizable- Enter in you own data for comparison

BUY IT ONCE, USE IT EVERYWHERE! Motion Lab Systems applications are site licensed.

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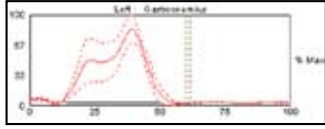
Download your free trial version today.

# EMG Analysis Features (MS-900)

## Smoothing and Enveloping Methods

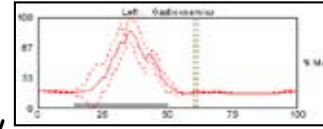
SEE PATTERNS OF ACTIVITY AND ESTIMATE MUSCLE FORCE.

### Linear Envelope



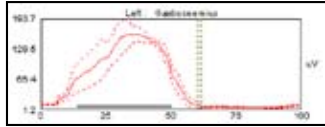
- Filtered Averaging
- Digital FIR filter
- Delay-free results
- Adjustable cutoff frequency

### Moving Average



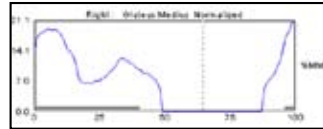
- Standard Averaging
- Adjustable window size

### RMS Data Analysis



- EMG Force Estimation
- Adjustable High Pass filter

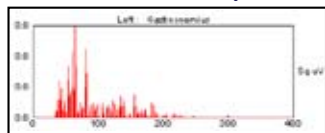
### Intensity Filtered Averaging



- Adjustable window size & signal suppression levels
- Bogey, Barnes & Perry algorithm

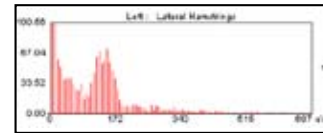
## Fatigue Assessment

### EMG Power Spectrum



- Frequency content
- FFT analysis
- Mean & Median frequencies
- Automatic FFT window selection of EMG burst

### EMG Amplitude Distribution

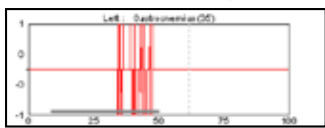


- Relative amplitudes over time.
- Fatigue onsets
- Frequency distribution changes

## Classical EMG Analysis Methods

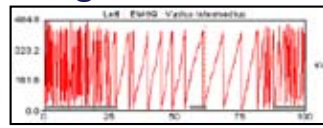
CLASSICAL EMG METHODS FOR RESEARCH AND EDUCATIONAL USE

### Zero Crossing Detection



- Measure activity by counting baseline transitions
- Adjustable hysteresis level

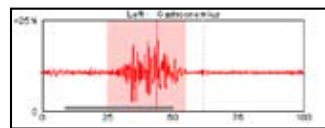
### Integration



- Integrate and Reset
- Integrate over Time (period analysis)

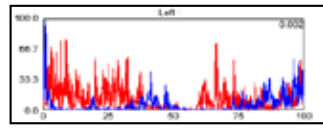
## EMG Activity Analysis

### Threshold Detection



- Quick estimate of activity
- Selectable detection methods

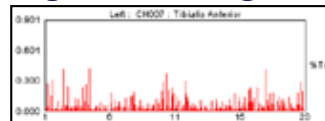
### Cocontraction Analysis



- Measure correlation between muscle activity
- High and Low Pass filters

## Quality Assurance

### Signal Aliasing



- Detects sample rate errors
- Detects signal aliasing

DON'T SEE WHAT YOU NEED?  
Ask about custom features.