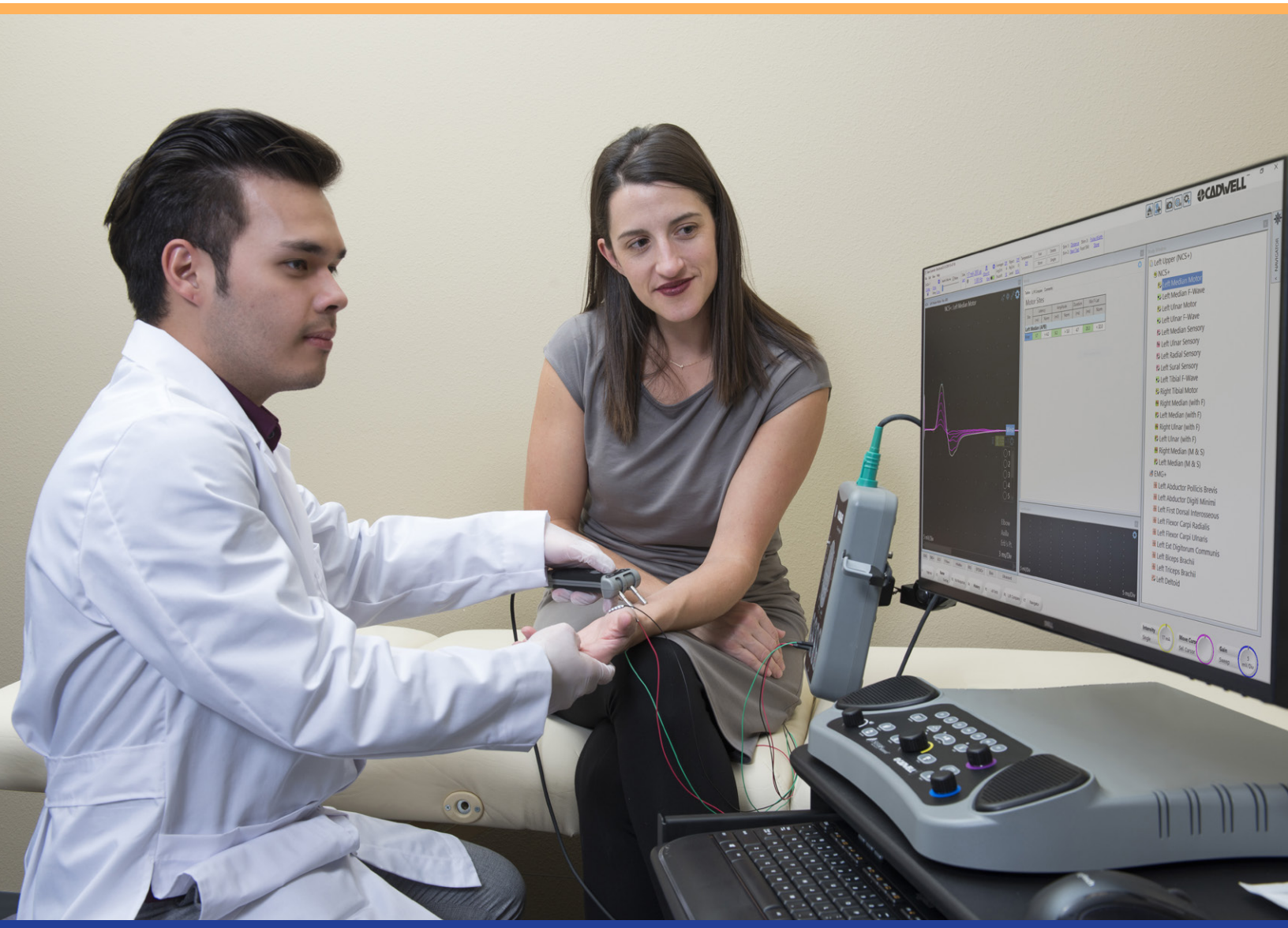
CADWELL®
Helping you help others

EMG • NCS • EP • ULTRASOUND

SIERRA® Summit™

EMG • NCS • EP • ULTRASOUND



MADE IN THE USA

WWW.CADWELL.COM

SIERRA® Summit™

EMG • NCS • EP • ULTRASOUND

Cadwell enables cutting-edge neurodiagnostics with forward-thinking hardware and innovative software. The Sierra® Summit™ is designed for the electromyographer who prioritizes quality, durability, and efficiency.

SCALABLE TO FIT YOUR NEEDS

Build the system you need with a variety of amplifiers, accessories, and test protocols.

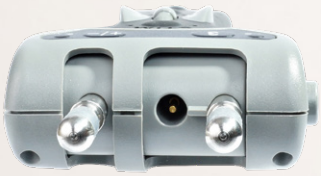
- Our most advanced amplifiers offer 1 to 12 channels of sophisticated filtering and noise reduction
- Choose from a variety of carts, computers and monitors, or provide your own
- Protocol licensing allows you to select only the protocols that you need

DURABLE AND RELIABLE

Cadwell uses the highest quality components to ensure longevity and resilience.

- Test fixtures and electrode tester for instant hardware diagnostics
- Machined aluminum knobs and raised buttons rated for 100k+ uses
- Electrode connectors rated for 100k+ connections
- Industrial cables with locking aluminum connectors

NCS+



FAST+ SIMPLE + PRECISE

Perform an entire NCS from the palm of your hand with the new and improved StimTroller Plus™

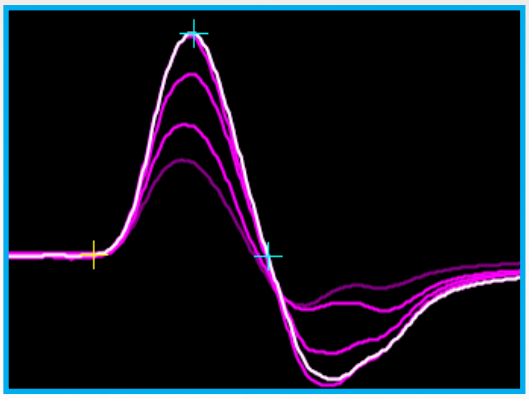
- Reinforced housing and stainless steel mechanics
- Controls intensity, pulse width, distance, nerve selection, site selection, trace selection, and more
- Adjust the angle and distance between probes or remove them to attach electrodes, needles or other stimulators

Simple and Reliable Hardware Interface

- The Summit Base Unit keeps things simple with programmable, protocol-specific function keys and control dials that are built to last

Intuitive and Sophisticated Software

- The Sierra software is rich with features designed to improve accuracy and reduce testing time
- The smart and flexible user interface can fit your workflow and expand your capabilities



Glowing and Hold Max

Previous responses fade into the background for easy comparison. Hold Max automatically selects the supramaximal response.

Motor Sites

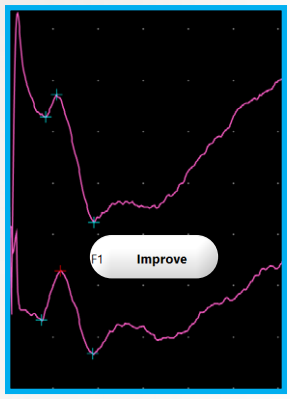
Site	Latency (ms)	Latency Norm	Amplitude (mV)	Amplitude Norm	Duration (ms)	Min F-Lat (ms)	Min F-Lat Norm
Left Median (APB)							
Wrist	3.7	< 4.2	9.2	> 5.0	4.7	28.3	< 32.0
Elbow	8.1	-	7.8	-	5.3		

Motor Segments

Segment	Delta-O (ms)	Distance (cm)	CV (m/s)	CV Norm
Left Median (APB)				
Elbow-Wrist	4.4	23	52.3	> 50.0

Flexible and Clear Result Tables

Display various parameters for clinical applications and research with advanced reference limits, comparisons, and on-the-fly editing.



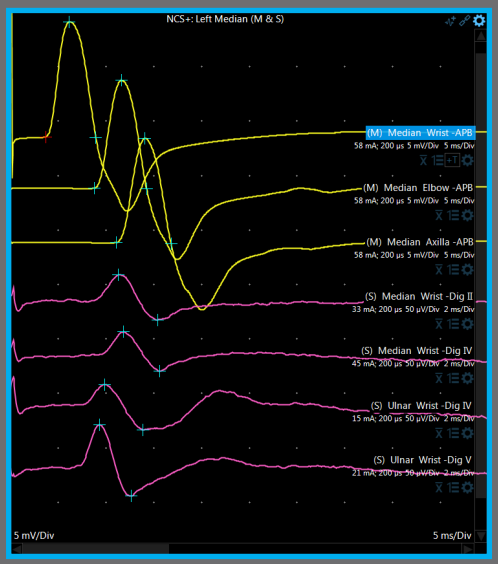
Improve Button

Reduces shock artifact, flattens the baseline and improves accuracy.

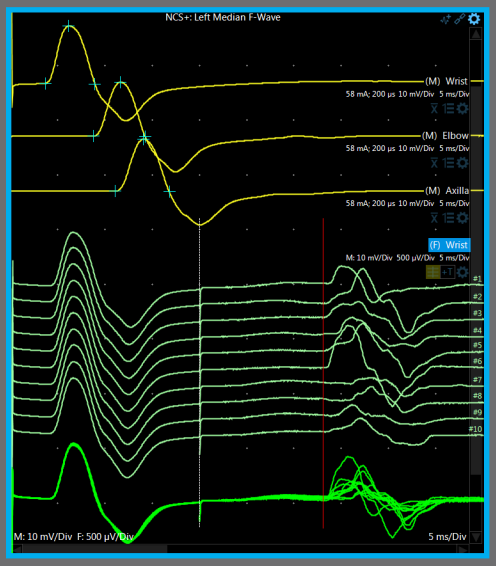
See the full story with Combination Tests and Strategies

Display multiple test types or even an entire strategy in the same display. Simultaneously display motor, sensory, F and H responses to reduce testing time, improve result analysis, and facilitate advanced test protocols.

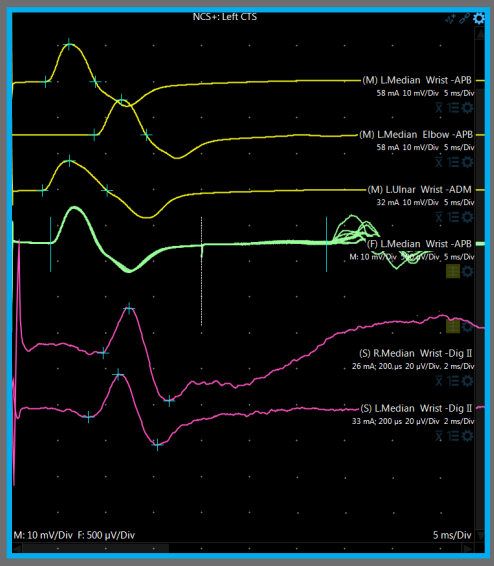
Motor + Sensory

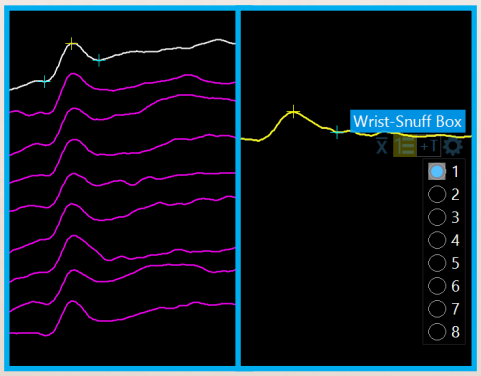


Motor + F Wave



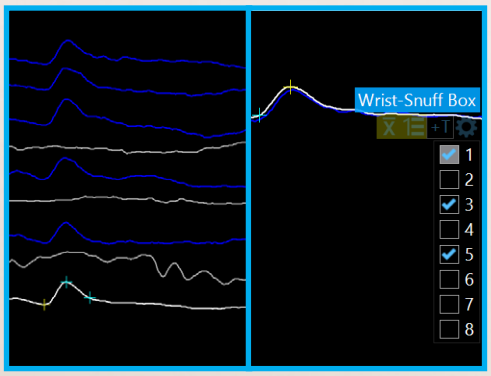
CTS Strategy





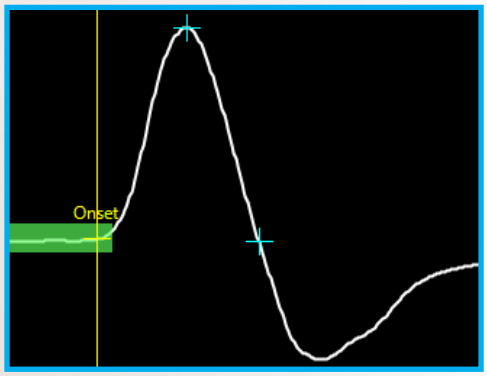
Trace History and Trials

See the entire stim history at once or one trace at a time. Save multiple trials per site.



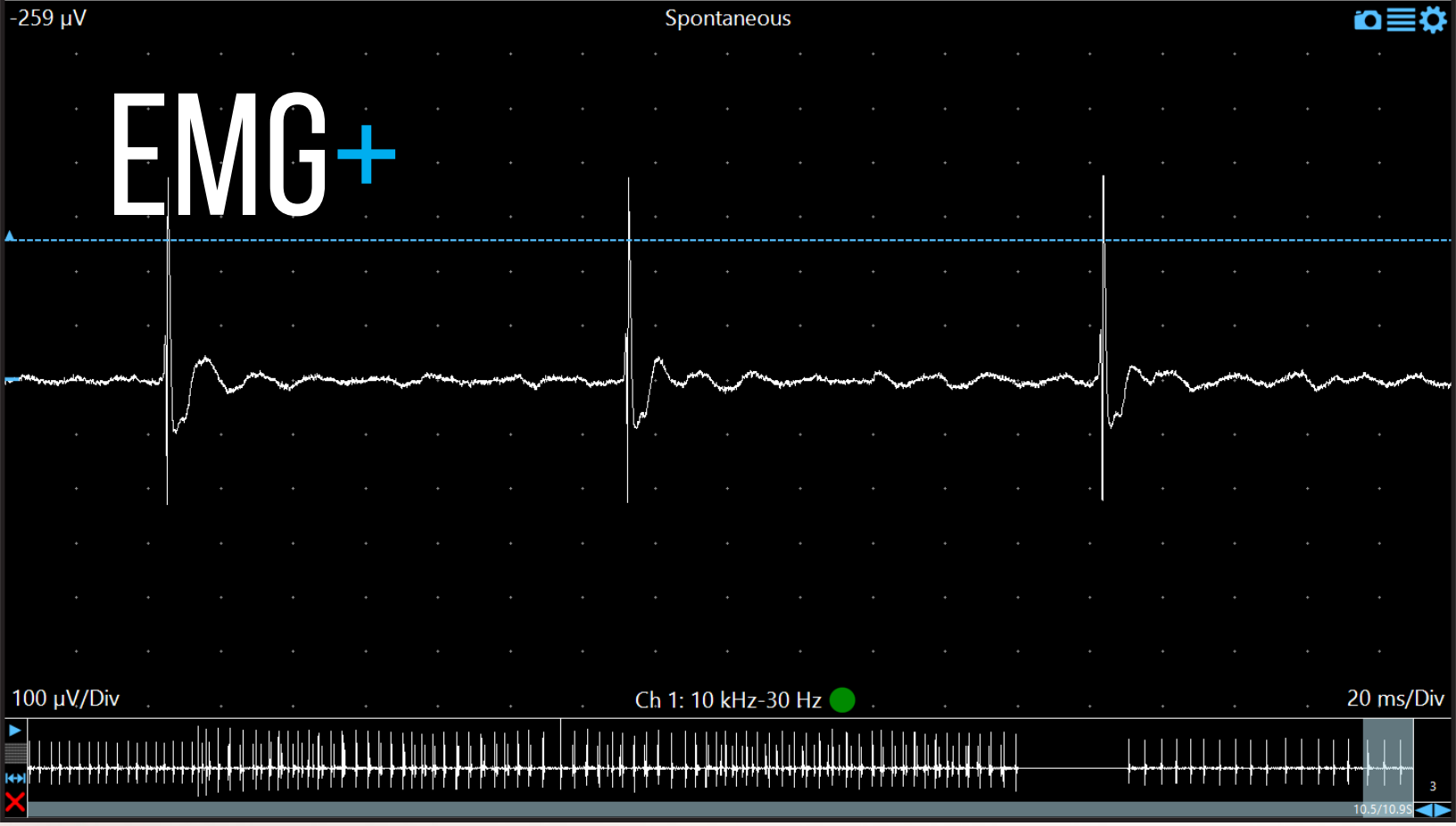
Live and Post Hoc Averaging

Average or exclude traces post acquisition using either trace history option.



Visible Reference Limits

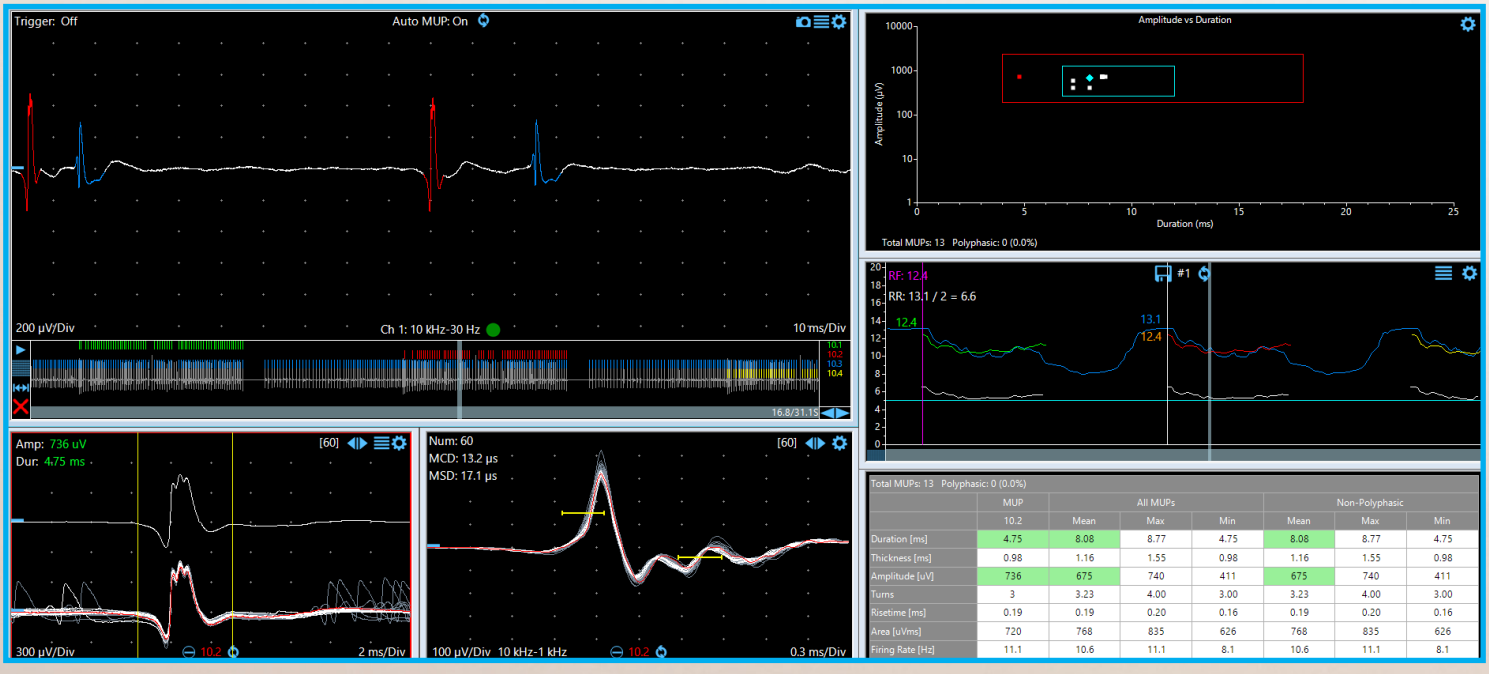
Show the reference limits on traces during cursor adjustment or review.



MAXIMIZE CLINICAL INFORMATION + REDUCE TESTING TIME

Increase confidence in your diagnosis with a seamless transition to live quantitative EMG

- Live Single-MUP analysis and auto trigger
- Live Multi-MUP analysis
- Live recruitment ratio analysis
- Live firing rate analysis
- Live Interference pattern analysis
- Live MUP stability analysis
- Display results as tables or charts
- Multiple export options and API access



FLEXIBLE + FAMILIAR + INTUITIVE

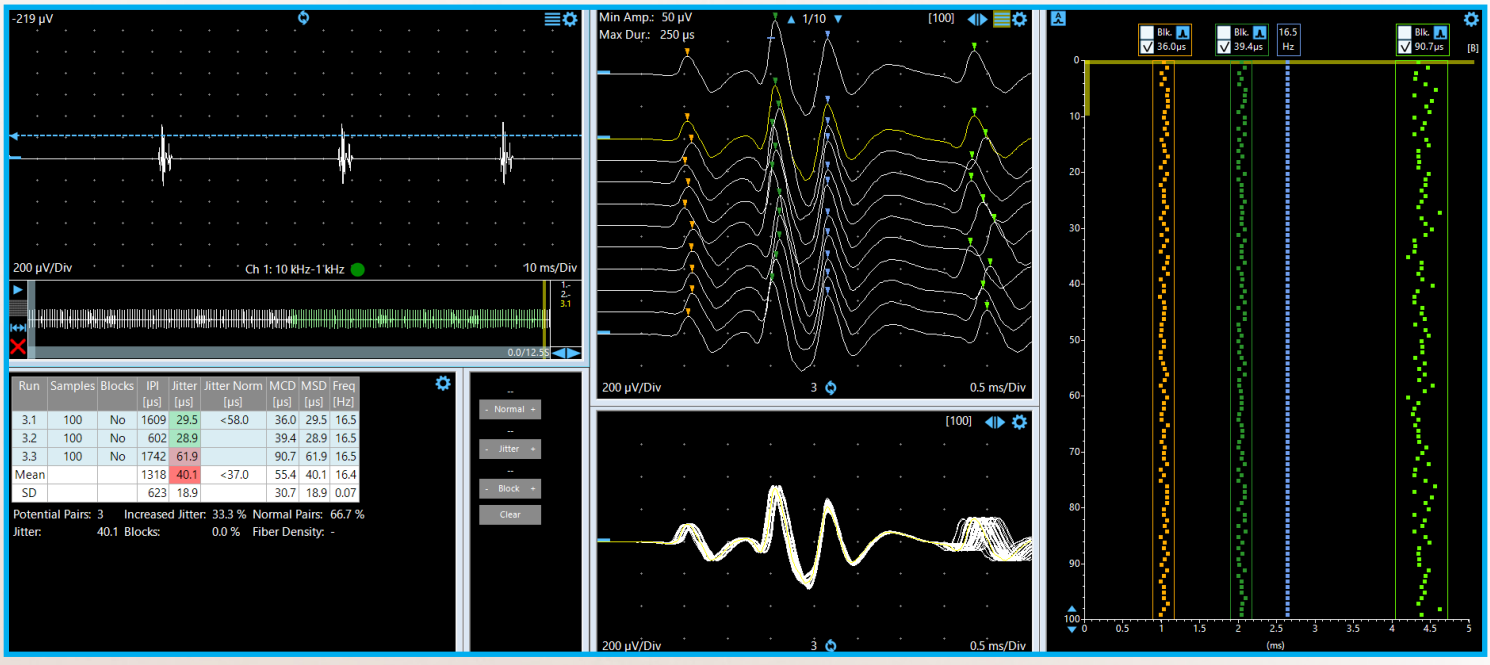
SEE IT HOW YOU WANT Custom views give you quick access to the features you want. Full control of displays, colors, tables, and test protocols. Simple on-screen controls and settings can be changed on the fly.

HEAR IT HOW YOU WANT Our highest sound quality is achieved with instantaneous signal processing, dual high-quality speakers, and full equalizer controls.

USE IT HOW YOU WANT Customize your workflow with user-defined studies and tests that can be adjusted on the fly. Fast and simple muscle scoring features and sentence generator allow for instant and accurate reporting.

ANATOMY NAVIGATOR Quickly filter the muscle list by clicking on an anatomical region or double click to have commonly tested muscles from that region populate your muscle scoring table.

SFEMG+



Cadwell puts great effort into reducing examination time and providing a simple user interface. Our latest SFEMG+ protocol gives you real-time jitter analysis with automatic triggering and peak detection. All live data is saved, so you can easily perform edits and refine the results at any time.

ULTRASOUND

Sierra® Summit™ with ultrasound, a completely integrated electrodiagnostic and imaging solution. Two ultrasound options with a variety of transducers will fit your needs and your budget.

Integrated Controls

Directly from the Sierra Base Unit: Adjust image settings. Record and review snapshots and videos. Switch between B, M, Doppler and Comparison modes directly from the Sierra Base Unit.

Integrated Reports

Include ultrasound images and measurements in your EMG report, and store everything in the same locations.

Integrated Settings

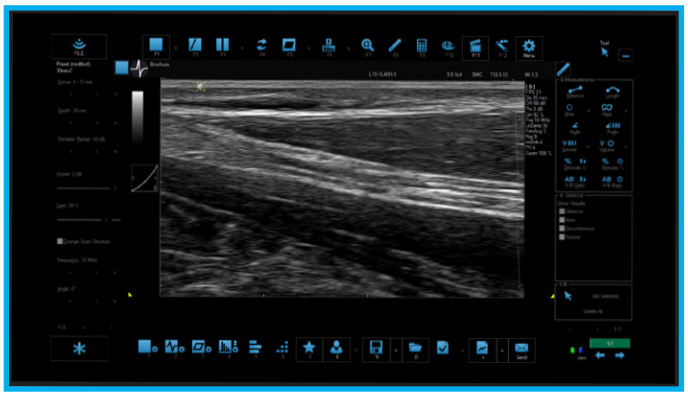
Pre-define ultrasound structures in the Sierra Summit with specific image presets. Save time with labeling. Improve clarity of specific structures.

Integrated Workflow

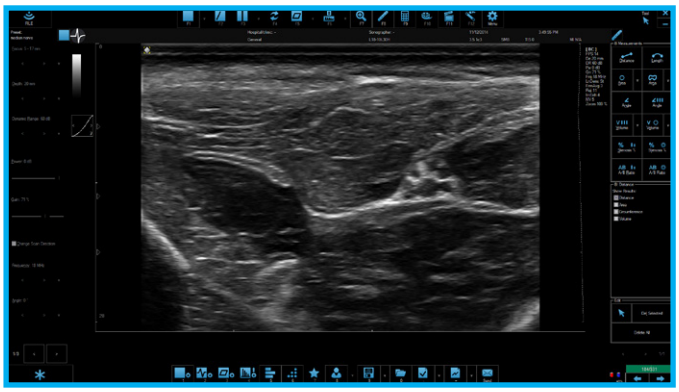
Switch between ultrasound and EMG or NCS with the push of a button. Include ultrasound sites in your NCS and EMG study lists.

Concurrent Use

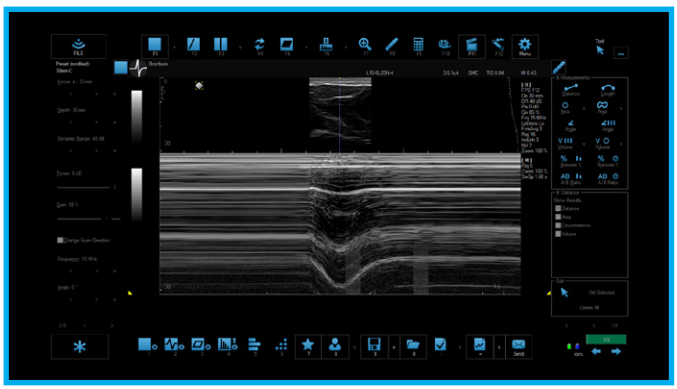
Use ultrasound simultaneously with any NCS or EMG protocol. Hear, see, and stim for more accurate injections and needle guidance. Combine imaging with any nerve study and create a new and unique protocol.



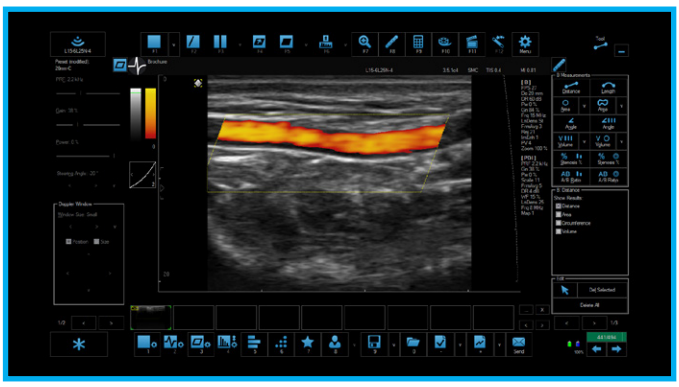
B Mode: Median Nerve Long Axis



B Mode: Median Nerve Cross-Section



M Mode: Diaphragm with Phrenic Nerve Stim



Needle Injection with PDI Doppler

EVOKED POTENTIALS

The Sierra® Summit™ Evoked Potential system is...

SMART

- **Advanced post processing:** Compare, combine, average, grand average, smooth, and invert trials
- **Custom cursors and calculations:** Latency, amplitude, inter-latency, inter-amplitude, percentages, ratios, and side-by-side comparisons
- **Live Test Edit:** Easily adjust parameters, protocols and channel count during acquisition

FLEXIBLE

- **Multi Modality:** Add EEG, ultrasound, and IONM to the same cart
- **Scale from 1 to 12 channels** and easily add or re-montage channels during acquisition
- **Personalized Views:** Adjust views for side-to-side comparisons with a vertical or horizontal split screen
- **Remote Head Box:** Use this inexpensive break-out box for tight spaces and better patient mobility
- **Stimulator Options:** Select from a variety of visual, auditory, and electrical stimulators, and use trigger inputs to connect to other devices

EFFICIENT

- **Intuitive controls:** Test specific buttons and knobs for acquiring and analyzing data
- **Auto Cursors:** Auto places cursors on any trial with the click of a button
- **Custom Protocols:** Preset protocols reduce testing time and ensure consistency
- **Custom Reports:** Create unique report templates for protocols
- **Auto-Findings:** Automatically generate findings paragraphs based on reference values

The Sierra® Summit™ offers a full suite of evoked potential tests that can be modified to fit the needs of your practice. Multiple Trigger-in and Trigger-out ports are available to connect external devices and applications.

SOMATOSENSORY

SEP Protocols: SEP, Dermatomal SEP, Interleave SEP, Trigger-In and Trigger-Out

- Advanced post processing: Compare, add, average, grand average, smooth and invert trials
- Advanced stim and acquisition modes

VISUAL

VEP Protocols: Pattern VEP, Flash, ERG, Goggle, Trigger-In and Trigger-Out

- Selectable Fields, Check Sizes, and Targets
- Use any LCD monitor with Summit's Calibration Sensor

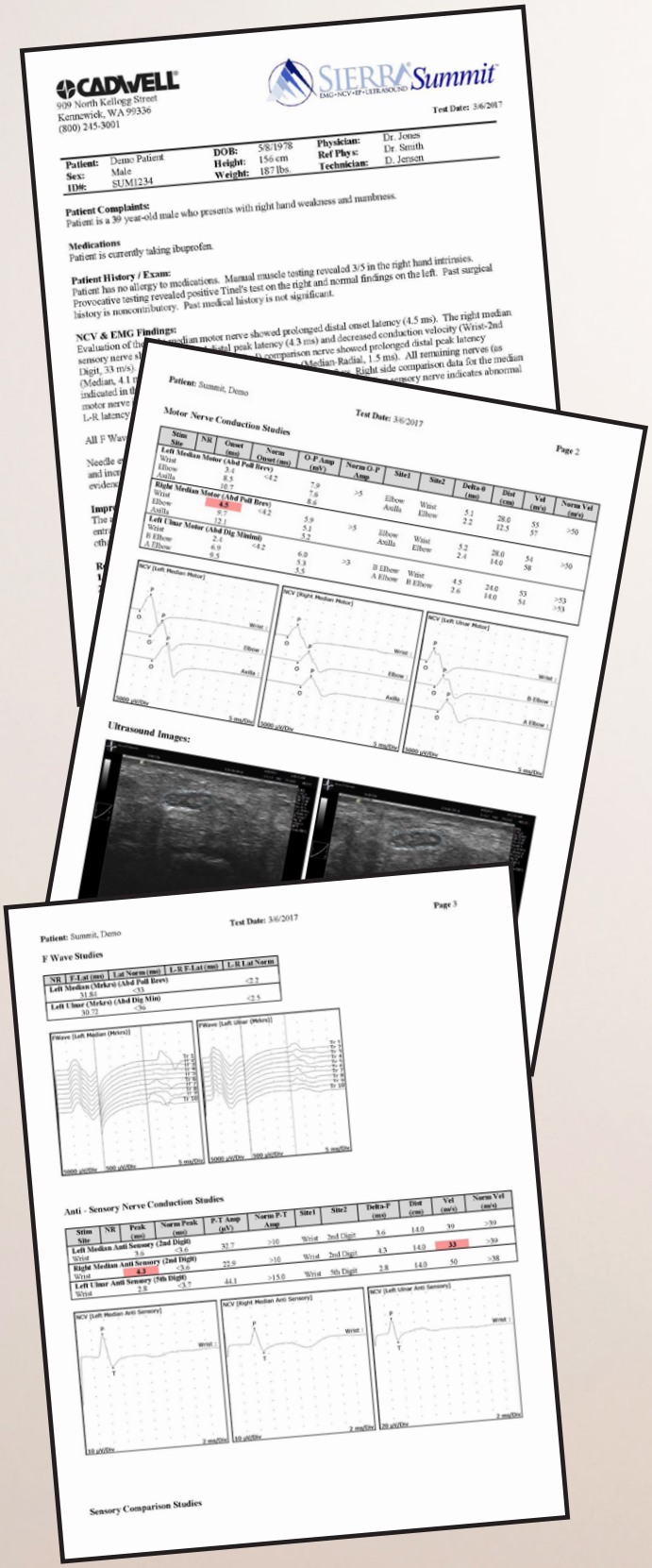
AUDITORY

AEP Protocols: AEP, MLR, VEMP, ECochG, P300 with Headphone, Bone Transducer and Insert Earphones

- Condensation, Rarefaction, and Alternating
- Click, Tones, PIP 202 and PIP 212
- WAV, Trigger-In and Trigger-Out

REPORTING AND REVIEW

Cadwell understands that efficiently and effectively reviewing and communicating diagnostic results is a top priority. The Sierra® Summit™ is designed with many timesaving and intuitive reporting features.



Quick Report

Complete your report while you are performing the examination with custom templates and selections accessible during patient entry, acquisition, and review. Create a personalized report with just a few mouse clicks.

Tab Data Summary View

See all test results and waveforms with the click of a button, and complete your report without switching screens. Adjust cursors, replay buffers, and edit the muscle scoring table.

Auto Findings Composer

The Sierra software will transform your EMG scoring to sentences and compare your NCS and EP results with normative data, instantly summarizing your findings in paragraphs or bullet points. Personalized wording and language give you full control of how your results are communicated.

Custom Reports

Several professional report templates are included with the Sierra Summit, however you have full control to modify or create your own report templates. Ultrasound images and measurements can be also be included.

Anatomy View

Anatomical images illustrating results can be included within the report to better communicate neurodiagnostic findings.

EMR integration and Data Management

Reports can be automatically sent to the patient's EMR as embedded data or as an attachment when using CadLink with HL7. Reports can also be emailed, printed, or saved locally or to a remote server. Multiple formats are available including PDF, .DOCX, and .RTF.

Sierra® Summit™ includes many features specifically focused on helping physicians manage their many responsibilities.

- Leave the exam room and finish your diagnosis and reporting in your office or from any computer connected with CadLink
- Have an identical user experience from any computer with synchronized settings and role-based user management
- Remotely view tests that are being acquired by a technician or resident
- Easily access previous studies, including EEG and IONM cases and compare with recent results
- Anonymize and export data in multiple formats for publications, presentations, or research
- Create training videos and lectures with CadCapture

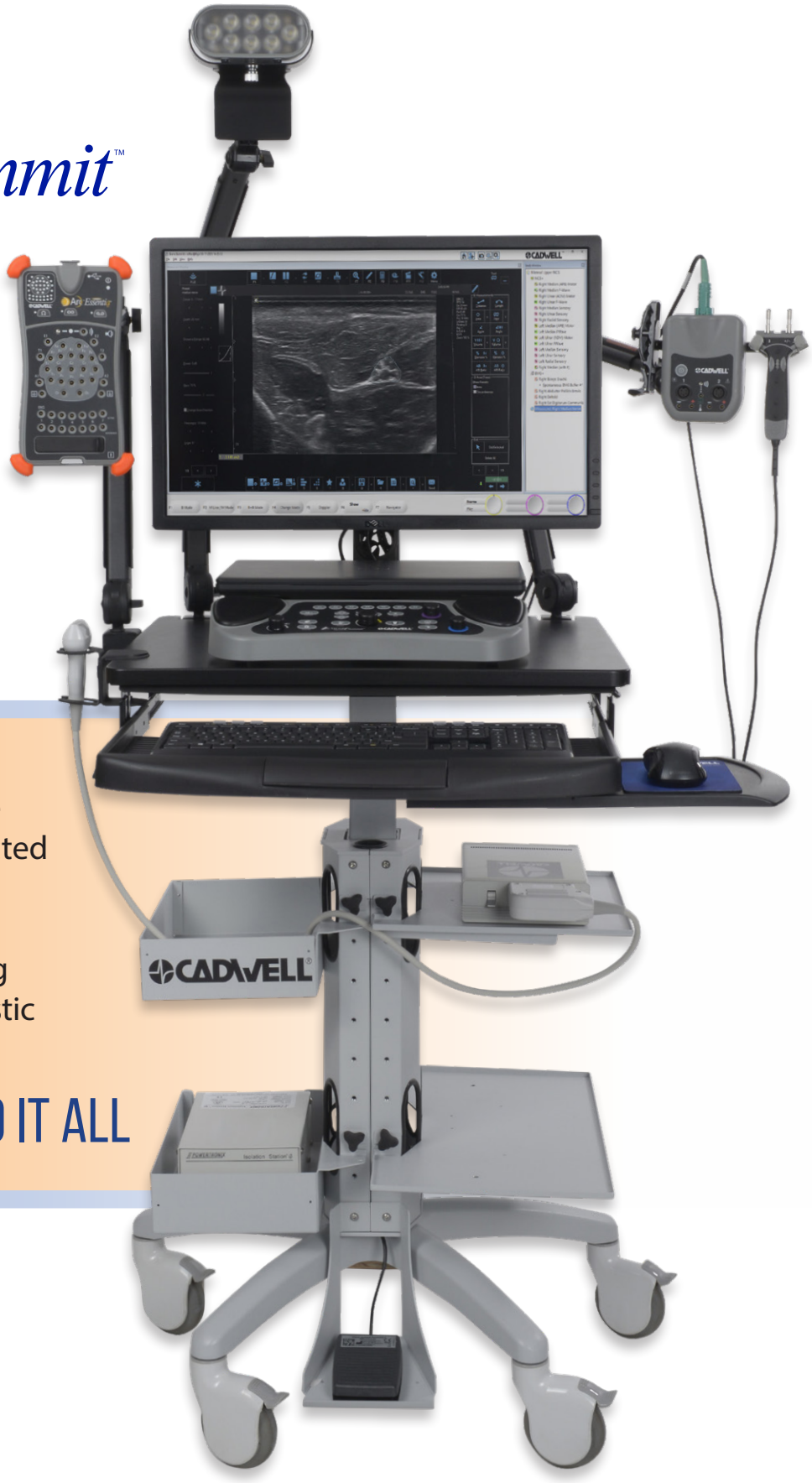
MULTI-MODALITY

Complete Neurodiagnostic Solutions EEG, EMG, NCS, EP and Ultrasound

SIERRA® Summit™
EMG • NCS • EP • ULTRASOUND

Arc EEG

CadLink™



Cadwell neurodiagnostic solutions are engineered to work on a single cart or as separate systems connected with CadLink® data management.

Cadwell is dedicated to engineering smart and affordable neurodiagnostic technology.

ONE SYSTEM THAT CAN DO IT ALL

CadLink™

DATA MANAGEMENT • EMR INTERFACE
REMOTE ACCESS • SCHEDULER • AUTO-ARCHIVING

CadLink provides a common network solution for all of Cadwell's EDX products, including Sierra® EMG/NCS/EP/Ultrasound, Arc® EEG, and Cascade® Surgical Studio IONM.

BENEFITS

REVIEW AND MONITOR FROM ANYWHERE

Review studies from any CadLink client via a local network, Internet, VPN or Citrix. See studies as they are being acquired by a technician or resident physician.

ENSURE FAIL-SAFE DATA STORAGE

Simultaneously save patient data to the local hard drive and network storage.

SECURE DATA COMMUNICATION

Encrypted process to process communication eliminates the need for shared network folders and user permissions, and ensures secure data communication, even over the Internet.

SYNCHRONIZED SETTINGS

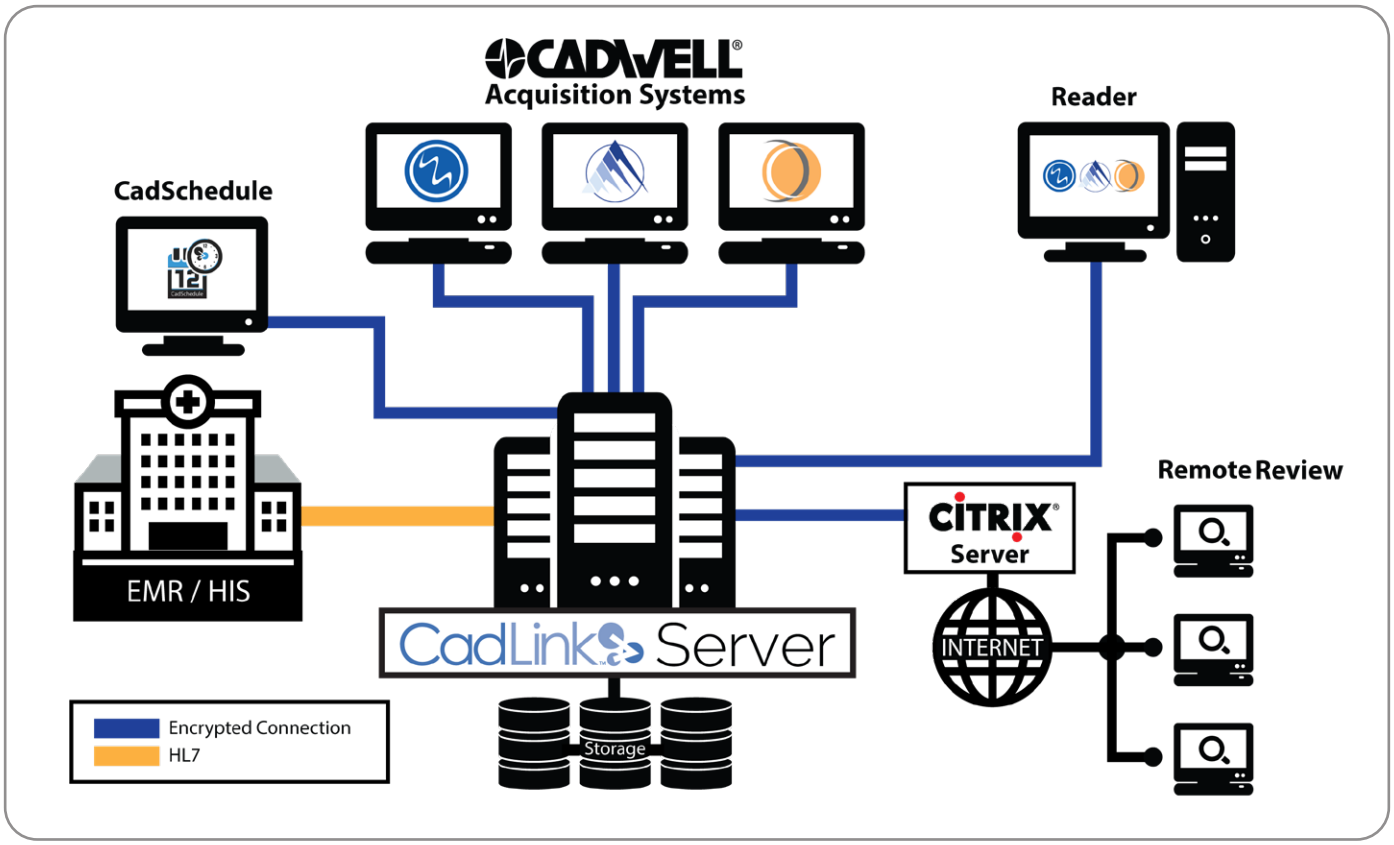
User settings, preferences and report templates can be automatically synchronized to all systems connected with CadLink.

POWERFUL INTEGRATED USER MANAGEMENT

Create granular users, user types, user roles, user-specific system setup, integration with Active Directory, and much more.

EMPOWER COLLABORATIVE FUNCTIONALITY

Access, review, and edit patient data and reports from anywhere on the CadLink network, and document user involvement for HIPAA compliance.



TEST PROTOCOLS

NERVE CONDUCTION STUDIES

Motor Studies
Sensory Studies
Inching
F-Wave
H-Reflex
Mixed Studies
Repetitive Nerve Stimulation
Blink Reflex (Electric and Manual Stim)
Silent Period
Triple Stimulation*
Near-Nerve Studies
MUNE - MPS/Incremental*
Collision Studies*

ELECTROMYOGRAPHY

Routine EMG
Triggered EMG
Single MUP Analysis
Auto Multi MUP Analysis
Recruitment Ratio Analysis
Firing Rate Analysis
MUP Stability Analysis
Interference Pattern Analysis
SFEMG Stimulated/Volitional*
Macro EMG*
Multi-Channel EMG (2-12 Ch.)
Guided Injection Protocols

AUTONOMIC STUDIES

Heart Rate Variability (R-R Interval)
Valsalva, Deep Breathing, 30:15
Sympathetic/Galvanic Skin Response

EVOKED POTENTIALS

SEPs
Dermatomal SEPs
AEP*
MLR*
LLR*
VEMPs*
ECochG*
P300*
VEP*
ERG*

***Optional upgrade**

NOTABLE FEATURES

SOFTWARE

QuickReport™
CadCapture™
Auto Findings Composer
EMG to AVI Converter
EMG Audio Export
DataLAB™
Anatomy View™
ASCII Output Utility
Internal Calibration Signals
CadLink™ Information Management
CadLink™ HL7 EMR Interface

HARDWARE

Dual High-Power Speakers with Equalizer
StimTroller PLUS™ full function remote and stimulator
1 to 12 Channel Amplifier Options
USB Foot switch
Hardware Diagnostics Suite
Electrode Continuity Check
Advanced Stim/Trigger
Dual Stimulators*
Trigger In x 4, Trigger Out x 4

MicrUs Probes

SmartUs Probes

BASE UNIT

- Dedicated keypad and knob controls
- Integrated stimulators
- Trigger in/out for peripheral equipment
- Dual high-powered speakers with software equalizer

AMPLIFIERS

- Montage switching
- RF immunity
- Very low noise
- Impedance
- Power switches
- Calibration signals
- Excellent signal quality
- Temperature measurement
- Electrode cable continuity checking
- Fast artifact recovery
- Internal analog-to-digital conversion

STIMTROLLER PLUS™

- Hand-held control to store traces, adjust intensity and pulse duration, deliver single or multiple stimulations, enter distance, open trace history, and more
- Adjust angle and distance of probes or replace with other electrodes or stimulators
- Use as a remote control for EMG: run and stop EMG acquisition, adjust gain and sweep control, store snapshots and buffers, review and playback buffer, select muscles, increase volume, and more

ACCESSORIES

- Programmable USB Foot switch
- Second electrical stimulator
- Skin temperature probe
- Reflex hammer
- VEP Stimulator
- Ring/Bar Switch box
- AEP Stimulator
- Hardware diagnostic test fixtures
- Stackable jumper cables
- Trigger In/Out cable
- Amp/Stim Switch box (injection studies)
- Remote Input Box and cable
- Standard laptop PC
- High performance laptop PC
- All-in-One PC
- Small Form Factor PC
- Wireless or USB mouse
- SmartUs and MicrUs Ultrasound
- Supplies and electrodes

ULTRASOUND

MicrUs Ultrasound

- B Mode (B+B, 4B)
- M Mode, B+M
- Spacial Compound
- B-Steer (Needle Enhancement)

SmartUs Ultrasound

- B Mode (B+B, 4B)
- M Mode, B+M
- Spacial Compound
- B-Steer (Needle Enhancement)
- Doppler (CFM, PDI, DPDI)
- Pulsed and Continuous Wave
- Spectral Doppler
- High Pulse
- Repetition Frequency

MicrUs Probes

- 6-15 MHz linear, 25mm (Included)
- 5-12 MHz Linear, 40mm

SmartUs Probes

- 2-5 MHz Curvilinear, 60mm
- 7.5-15 MHz Linear, 40mm (Included)
- 7.5-15 MHz Linear, 25mm

AT YOUR SERVICE AND SUPPORT

WWW.CADWELL.SUPPORT

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