Sierra Summit EMG/NCS/EP/NMUS

Innovative insights. Intuitive design.

Sierra Summit

Bringing more clinical insights to electrodiagnostics

Your electrodiagnostic system should give you answers without added complexity. The Sierra Summit™ system brings EMG, NCS, EP, and NMUS on a single platform, powered by Sierra™ software and integrated with the Sierra NMUS1™. Designed with physicians and technologists, Sierra Summit delivers comprehensive clinical insights, with a streamlined workflow that enhances efficiency and precision.

- **Confidence in every study:** The Sierra Summit system is built for high-volume use with industrial-grade cables, precision connectors, and machined aluminum dials. Integrated diagnostics and test fixtures ensure consistent performance across every study.

- **Software that works the way you do:** Sierra software enables fast, intuitive data acquisition and analysis with a fully-customizable interface that helps minimize clicks and maximize accuracy.

- **Flexible PC options:** The system works with your facility's PC hardware, or select from Cadwell-tested laptops, towers, or mini PCs, ensuring seamless integration with your existing environment.

- **Support for more than your system:** Through CadCare™, Cadwell's comprehensive support ecosystem, you receive ongoing education and expert service to help sustain your practice into the future.

1-2 or 3-12 channel amplifiers

Provide sophisticated filtering and noise reduction, up to 100 kHz sampling, and 24-bit equivalent resolutions

StimTroller™ Plus

Handheld electrical stimulator and remote control for EMG and NCS

Sierra Summit Base Unit

The central control panel and hub for amplifiers, simulators, and more

Sierra NMUS1

Fully-integrated ultrasound for neuromuscular and musculoskeletal imaging and needle guidance

Product and service availability may vary between different countries and markets.

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Software streamlined for EMG, NCS, EP, and NMUS

Every feature in Sierra software is driven by feedback from you—the experts who use our tools every day. As our most advanced electrodiagnostic platform, Sierra simplifies testing and accelerates analysis across modalities. With flexible, protocol-based licensing, you invest only in the tools you need, while accessing powerful features at the peak of what's possible.

Every Sierra software protocol is designed to deliver:

- **Customization and control:** Define studies, protocols, and settings, adjusting on the fly as needed.
- **Seamless data acquisition and analysis:** Purpose-built functions and auto-calculation tools reduce clicks and save time.
- **Intuitive reporting:** Customizable reports transform waveforms into meaning.

Smarter EMG

Sierra software delivers the most intuitive and efficient EMG tools yet—supporting spontaneous and volitional needle EMG with exclusive analysis features and specialized studies including single-fiber EMG (SFEMG), macro EMG, and multi-channel EMG—all within one seamless platform.

- **Automated analysis**

  Save testing time with a suite of proprietary hands-free analysis tools that deliver instant insights, including AutoMUP, Firing Rate, Stability, and Interference Pattern Analysis.

- **At-a-glance data interpretation**

  Speed interpretation with color-coded live values against normative data. Customize how you view results in tables, histograms, or cloud plots.

- **Hands-free Auto Mute**

  When the needle is removed, Auto Mute instantly silences audio feedback so you can focus on needle safety.

- **Sierra Navigator**

  Use Sierra software's intuitive anatomy-based navigator to choose from pre-built studies or create your own. Commonly used tests and anatomies auto-populate, and lists can be filtered by region.

- **Faster quantification of nerve fiber stability**

  - Save all data–not just trigger data–enabling the analysis of multiple potentials from the same data set.
  - Use fully-automated interface or manually control acquisition, trigger location, peak rejection, and blocking.
  - Display results in a table or histogram with an auto jitter truncation option and auto selection of MSD/MCD.
  - Quantify amplitude, area, average count, jitter, and fiber density of an entire motor unit using two-channel recordings and back averaging with Macro EMG.

Complete confidence in NCS

Sierra Summit gives you precise control and streamlined workflows for nerve conduction testing. Maximize efficiency and achieve reliable results.

- **Control at your fingertips**

  With the StimTroller Plus electrical stimulator, perform an NCS in the palm of your hand, easily adjusting intensity, pulse width, distance, nerve selection, site selection, and trace history.

- **Reproducible results**

  Features like Glowing, Hold M Max, XY-Align, Trials, and Trace History make it easy to capture multiple responses, compare them side-by-side, and lock in the most representative waveforms for reporting.

- **Collect clinical insights faster with combination tests**

  Combine protocols to record motor, sensory, and F-Wave responses simultaneously, reducing patient time on the table and maximizing your efficiency.

- **Flexible displays and preferences**

  Tailor your workspace with multiple trace layouts, side-by-side comparisons, and mixed-nerve setups. Easily edit parameters, reference limits, and calculations, ensuring every study matches your workflow.

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Beyond integrated, fully-synchronized ultrasound

Ultrasound is a seamless part of your electrodiagnostic examination with the fully-integrated Sierra NMUS1 system. Designed with eight simultaneous beamformers with spatial compounding and variable transmit frequencies, the Sierra NMUS1 helps you see more in neuromuscular, musculoskeletal, and needle guidance, directly at the point of care.

Interchangeable probes

Choose from L14-4 Linear, HL18-4, and C5-2 Curvilinear probes to visualize superficial, deep, and hard-to-reach structures.

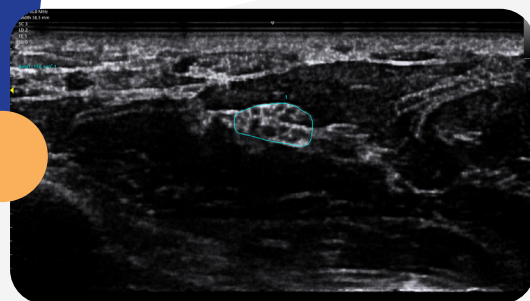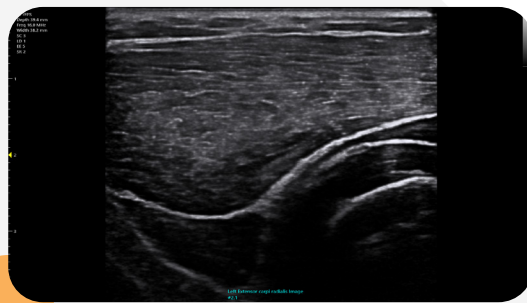### Insights that help you move the needle

Switch between ultrasound, EMG, and ESTIM with the push of a button. By leveraging concurrent EMG and ultrasound technology you gain powerful reporting, needle visualization, and injection tracking.

Our clearest ultrasound imaging

Improve visualization of muscles, nerves, and surrounding structures with Nerve HD and other customizable presets that optimize images for improved clarity of internal nerve structure.

Side-by-side analysis

Dual and Quad Mode allow comparison of two or four live or stored images, supporting real-time comparison of normal versus abnormal physiology and structural changes over time.

Flexible EPs

Sierra software gives you access to a comprehensive suite of pre-configured protocols designed for clinical clarity, flexibility, and speed in somatosensory, motor, visual, and auditory EPs.

Advanced post-processing

Compare, average, grand average, smooth, and invert trials; and analyze latency, amplitude, ratios, and side-by-side comparisons with ease.

Cutting-edge VEPs

The system offers advanced VEP testing with pattern reversal stimulation, flash goggles, and support for external stimulators. Innovative Auto Calibration feature delivers robust synchronization and precise timing across LCD/OLED monitors, while CRT-to-LCD correction preserves established normative data, delivering accurate, reproducible results.

- Cadwell LED Goggles
- VEP Pattern Generators
- VEP Calibration Sensor

Customizability without compromise

Adjust parameters, channel counts, and protocols in real time, without disrupting your workflow.

Integration that extends possibilities

Four trigger-in/out ports, raw data exports, and live API integration options allow seamless connection with external stimulators and devices, supporting clinical and research applications.

» SSEPs

- Remote Input Box with custom overlays
- E-Stim Switch Box

» AEPs & P300

- BAEP Insert Earphones
- Cadwell Auditory Bone Transducer
- Headphones

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Autonomic testing and motor unit number estimation (MUNE)

R-R interval
Collect heart rate variability data with confidence. Adjustable peak detection and artifact rejection deliver clean signals, while live analysis provides immediate results. Edit data points, add calculations, and remove artifacts, all in real time.

Sympathetic skin response (SSR)
Streamline testing by recording upper and lower limb responses simultaneously. Capture multiple trials or averaged responses for fast, reliable comparisons.

MUNIX, MUNE-MPS, MUNE-Incr
Sierra offers multiple methods for tracking disease progression in motor neuron diseases including amyotrophic lateral sclerosis (ALS).

Built for research

Push the boundaries of what's possible in electrodiagnostics with proprietary research tools, available exclusively in Sierra software.
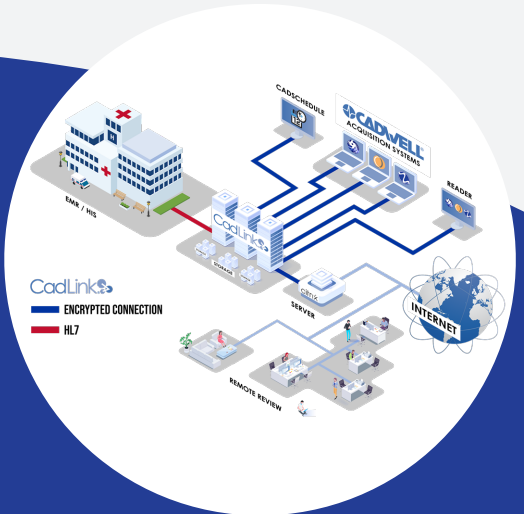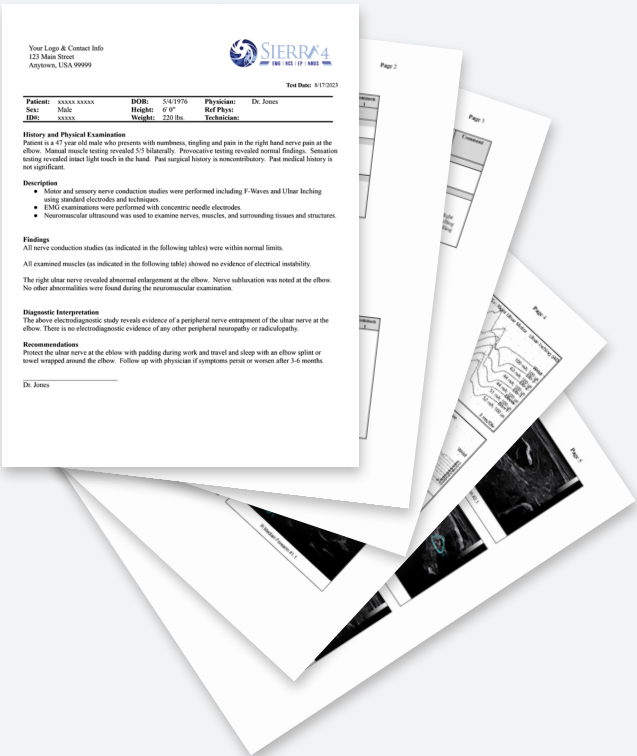
- **Q-Mode: Quantitative tissue assessment**
  Cadwell's proprietary Q-Mode™ supports ultrasonic quantification of muscle and nerve tissue. It enables you to compare tissue characteristics with mean echo intensity and signal-attenuation-compensated measurements, quantify echogenicity, display live results, and perform histogram analysis of regions of interest for research and comparison.

- **Sierra Analytics**
  Sierra Analytics™ offers a synchronized results database—DBSync™—and other data mining tools for retrospective analysis and research of clinical results.

- **Sierra API**
  Supports real-time output to third-party applications through an accessible API.

- **Raw data export**
  Full access to the data you need.

Customizable, clear, and connected reports

Transform waveforms into clinical insights with Sierra Reports, featuring intuitive controls and smart automation that simplify report creation, reduce repetitive work, and ensure findings are documented with clarity.
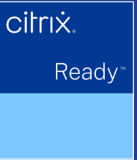
- **QuickReport:** Create and apply templates across your workflow to minimize repetitive data entry.

- **TabData Summary View:** Offers live reporting of notes and findings during the examination. Compare results and waveforms, adjust cursors, access templates and complete interpretations without leaving the Sierra software.

- **Auto-Findings Composer:** Automatically generate narrative sentences from tables, complete with results comparisons to normative data.

- **Custom reports:** Choose from pre-generated report templates, or modify your own templates. Save reports as .doc, .pdf, and other common formats.

- **Effortless report management:** Automatically save reports in your preferred format to any local or network location, or integrate directly with the EMR for seamless access and sharing.

Access, manage, and protect patient data, anywhere in your network

Organize, manage, and secure patient files and customize user settings with CadLink™, Cadwell's enterprise-level patient information and database management system for EMG, EEG, and IONM.

- **Enterprise-level security:** HIPAA-compliant communication, customizable user settings, and secure synchronization across your network.

- **Flexible EMR integration:** Import from HIS/EMR and export results back with HL7 support. Send reports as embedded data or attachments.

- **Access data anywhere:** Review and edit patient data from any CadLink-connected workstation or virtual desktop.

- **Integrate ultrasound:** Automatically save and organize images and cine to your CadLink network, or directly into a PACS environment through Sierra software's optional DICOM interface.

- **Scalable performance:** Compatible with Citrix XenApp, XenDesktop, and PVS 7.6 LSTR and 7.15 LSTR.

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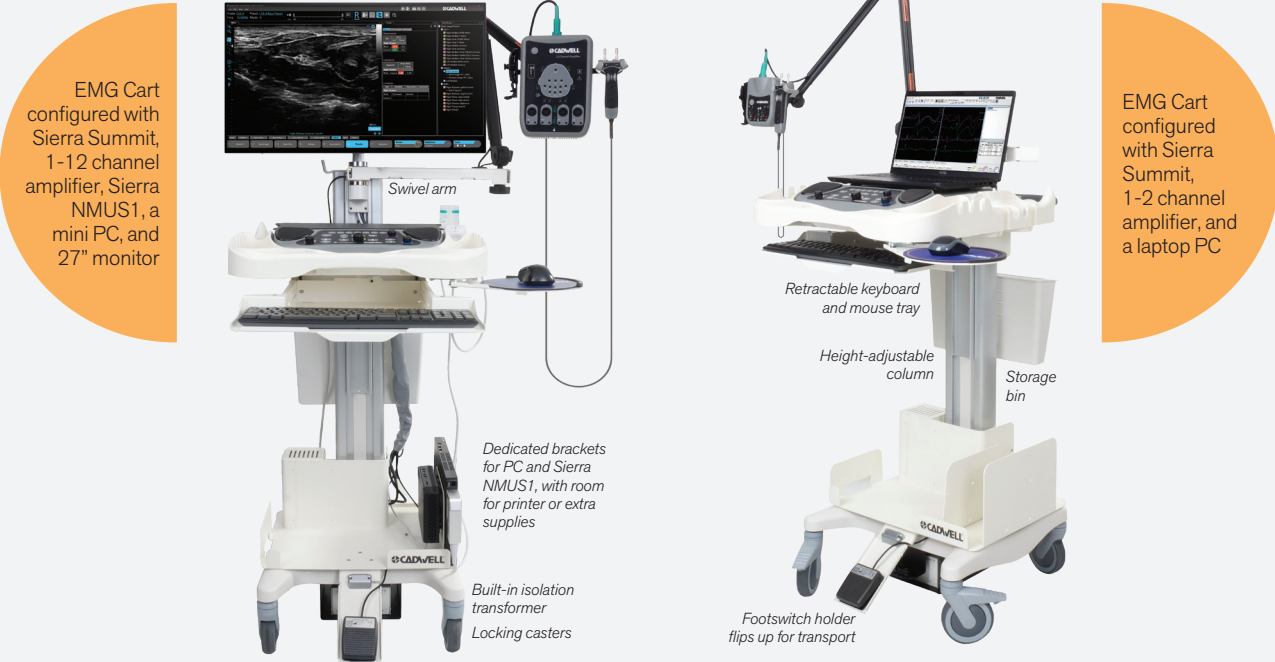
Flexible configurations for every clinical environment

EMG Cart

Engineered for integrated neurodiagnostics and neuromuscular imaging, Cadwell's most robust cart for electrodiagnostic testing.
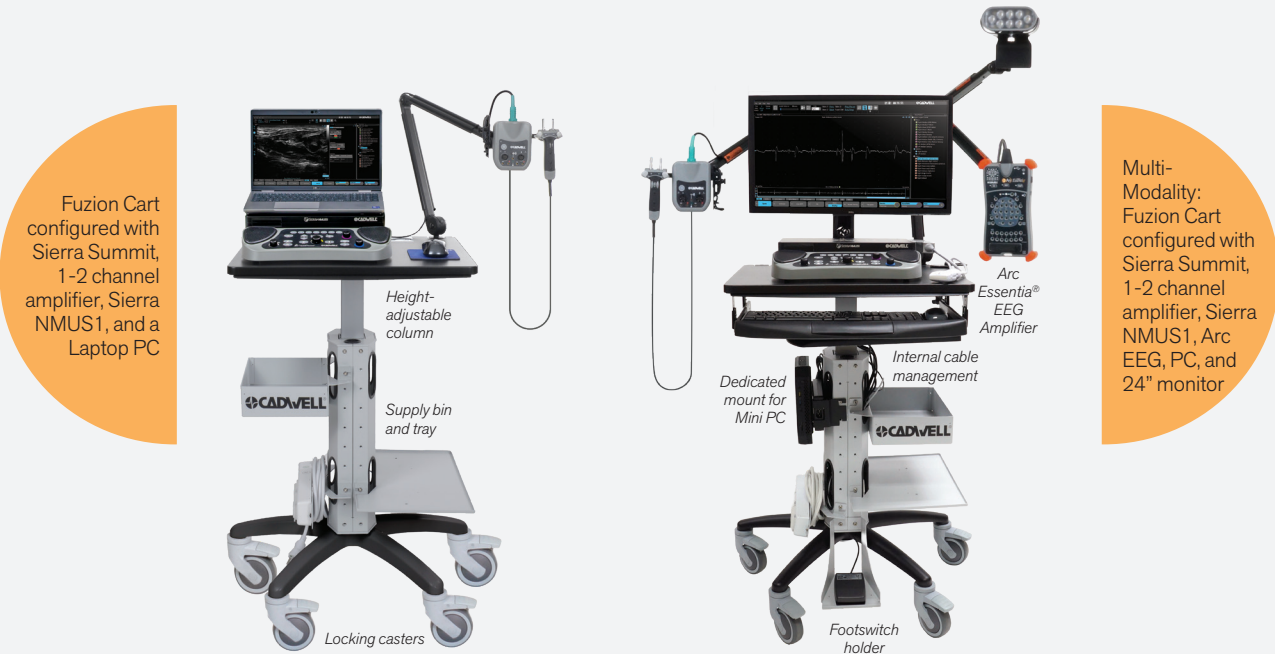
» Compatible with the Sierra Summit 1-2 channel or 3-12 channel amplifier

» Height-adjustable column and swivel arm for full patient range of motion

» Configurable with a laptop, small form factor, mini, or all-in-one PC

EMG Cart configured with Sierra Summit, 1-12 channel amplifier, Sierra NMUS1, a mini PC, and 27" monitor

Swivel arm

Dedicated brackets for PC and Sierra NMUS1, with room for printer or extra supplies

Built-in isolation transformer

Locking casters

EMG Cart configured with Sierra Summit, 1-2 channel amplifier, and a laptop PC

Retractable keyboard and mouse tray

Height-adjustable column

Storage bin

Footswitch holder flips up for transport

Fuzion Cart

Designed for space-constrained environments and combination testing, Cadwell's most lightweight cart for electrodiagnostics.

» Supports a combination systems, including Sierra Summit and Arc™ EEG

» Configurable with a laptop PC, all-in-one PC, or desktop PC with monitor

Fuzion Cart configured with Sierra Summit, 1-2 channel amplifier, Sierra NMUS1, and a Laptop PC

Height-adjustable column

Supply bin and tray

Locking casters

Dedicated mount for Mini PC

Arc Essentia® EEG Amplifier

Internal cable management

Footswitch holder

Multi-Modality: Fuzion Cart configured with Sierra Summit, 1-2 channel amplifier, Sierra NMUS1, Arc EEG, PC, and 24" monitor
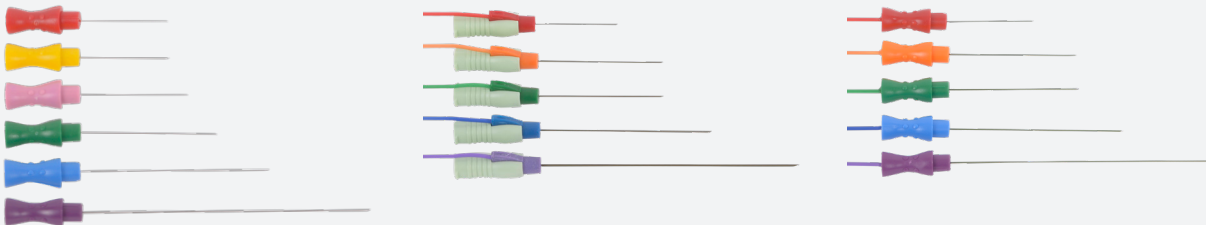
Accessories and more

Soft travel case

Portable and protective, this case features a wheeled design and retractable handle for mobile practices and satellite clinics.
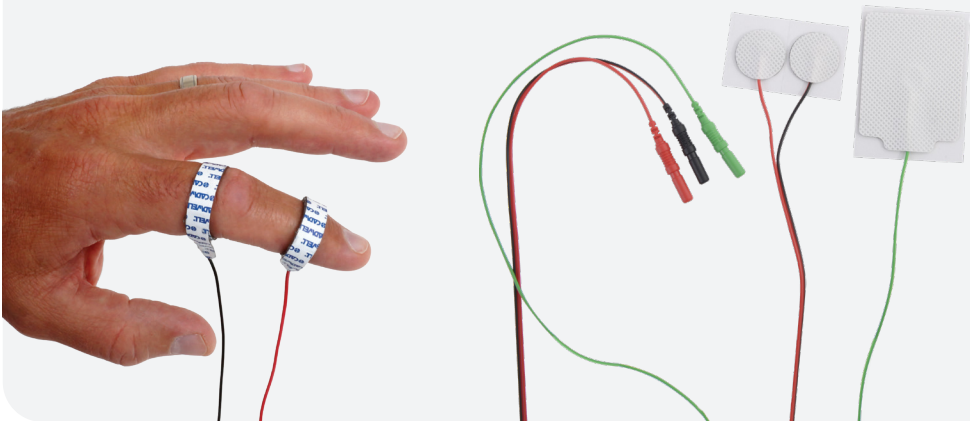
Electrodes and supplies, available 24/7

Complement your electrodiagnostic studies with a full suite of electrodes, supplies, and accessories.

● Concentric, hypodermic, and monopolar needles

● Disposable ring and NCV Kit electrodes with molded wires to reduce noise

● Sterile ultrasound probe covers and ultrasound gel

» **Shop the Cadwell online store today.**
   estore.cadwell.com

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✦ CADWELL®

✦ CadCare™

We are always here for you

When you purchase your equipment from Cadwell, you are becoming part of the Cadwell family, where a lifetime of care is guaranteed.

Education and training

Credentialed learning pathways for physicians and technologists, led by industry-leading clinical specialists.

Service and support

Ensure your systems stay up and running through extended service maintenance plans and comprehensive support.

Financial solutions

Flexible financing and rental options help you scale your equipment fleet.

» **Find out more about CadCare at cadwell.com/cadcare**

▶ **info@cadwell.com**   ▶ **www.cadwell.com**