

Request for Reconsideration after Final Action

The table below presents the data as entered.

Input Field	Entered
SERIAL NUMBER	85449613
LAW OFFICE ASSIGNED	LAW OFFICE 115
MARK SECTION (no change)	
ARGUMENT(S)	
<p>This communication is responsive to the Office Action dated July 23, 2012.</p> <p>As an initial matter, the Examiner requests additional information from Applicant concerning its proposed SURGEON VIEW products. Specifically, the Examiner requests product information about the goods.</p> <p>At the present time, Applicant's SURGEON VIEW products have not been commercialized. As such, Applicant attaches information concerning a similar product offered by Cadwell Industries, Inc. This product is called Cascade®. See Exhibit A, attaching a brochure for the Cascade® product, and Exhibit B, attaching Cadwell's web page on this product. As noted in Exhibit B, Cascade® is IONM equipment, or intraoperative neurophysiological monitoring equipment. IONM equipment is "aimed at reducing the risk of neurological deficits after operations that involve the nervous system." See Exhibit C, attaching the American Society of Neurophysiological Monitoring's web page. Specifically, this equipment is used to "identify changes in brain, spinal cord, and peripheral nerve function prior to irreversible damage." See <i>id.</i></p> <p>As indicated in the instant application, Applicant's SURGEON VIEW product is for neuro-monitoring. Through the use of computer software and surgical instruments and apparatus, the Applicant's product aims to reduce the risk of damage to nerves and the nervous system.</p> <p>In addition to the above, the Examining Attorney maintains her 2(d) refusal of Applicant's mark SURGEON VIEW in Class 10 only because she believes Applicant's mark is likely to be confused with Registration No. 3860592 for SURGVIEW for "endoscopic equipment" (hereinafter the "Cited Mark"). The cited registration is owned by Bio Vision Technologies (hereinafter "Registrant"). Applicant respectfully requests reconsideration of the refusal to register its mark SURGEON VIEW. The arguments previously submitted on June 26, 2012, are incorporated herein by reference.</p> <p>1. Applicant's and Registrant's Mark are Distinguishable</p> <p>The Examiner contends that the marks are similar in appearance and commercial impression as both marks contain the prefix SURG and end in VIEW. More specifically, the Examiner argues that "Surg" is an abbreviation for "surgeon", "surgery", or "surgical." Thus, the marks have the same meaning. Applicant acknowledges the similarities between the marks; however, these overlaps are not enough to cause consumer confusion, especially when one considers the differences in the products and the sophistication of the consumers.</p> <p>Despite the Examiner's contention that the marks have a similar appearance, the marks clearly are different lengths. Applicant's mark is three syllables whereas the Cited Mark is two syllables. Further,</p>	

Applicant's mark is two distinct words, namely, SURGEON and VIEW. In contrast, the Cited Mark is a signal, made-up term SURGVIEW. These differences impact the appearance and sound of the marks. As to the marks' meanings, the Examiner claims that "Surg" is an abbreviation for "surgeon", "surgery", or "surgical". Further, the Examiner indicates that the Registrant's products, namely, endoscopes, are for "viewing images from inside the body during endoscopic surgery." As such, the Cited Mark should be considered weak as it is highly descriptive of the Registrant's goods which provide the "surgeon" a "view" inside the patient.

In contrast, the Applicant's goods are not for viewing patients during surgery. Rather, the product is meant to provide surgeons with information about things that are not easily seen, namely, nerves and nerve endings. Thus, in view of the goods, Applicant's mark SURGEON VIEW implies a device that gives surgeons another point of view, namely, of things not directly or easily visible. This is a sharp contrast to the function and purpose of the goods associated with the Cited Mark.

In view of the above, Applicant contends that the marks are sufficiently distinctive to avoid consumer confusion.

2. Applicant's and Registrant's Products are for Very Distinct Purposes

The Examiner contends that Applicant's Class 10 goods and Registrant's goods have complementary uses and that Applicant's neuro-monitoring products may be used during endoscopic surgery.

However, the Examiner's generalizations ignore the distinct purposes of these products.

Neuromonitoring equipment is meant to reduce the risk of damage to the patient's nervous system. See Exhibit D, attaching definition of "neuromonitoring" from

<http://disctionary.sensagent.com/neuromonitoring/en-en/>. See also Exhibit C describing the purpose of IONM equipment. This often means identifying and avoiding nerves, which may be difficult or impossible to see. For example, IONM equipment may locate nerves by obtaining "recordings of electrical potentials from the nervous system during surgical operations." See Exhibit C.

In contrast, endoscopic equipment is used in connection with the visual examination of "the interior of a bodily canal or a hollow organ such as the colon, bladder, or stomach." See Exhibit E, attached definition of "endoscope" from <http://www.thefreedictionary.com/endoscopic>.

Thus, the purposes of Applicant's product and those associated with the Cited Mark are extremely distinct.

3. The Potential Purchasers of Applicant's and Registrant's Products are Highly Sophisticated

Neither Applicant's nor Registrant's products are for general consumer use. Rather, the relevant consumers are in the medical and/or surgical fields and are of a sophisticated class. These consumers are purchasing specialized goods, and, by necessity, know with whom they are dealing. Where the purchasers are sophisticated, more care is taken and confusion is less likely to result. See, e.g., *Barre-National, Inc. v. Barr Laboratories, Inc.*, 773 F. Supp. 735 (D. N.J. 1991) (denying plaintiff's preliminary injunction motion on the basis that it cannot establish a likelihood of confusion between the marks BARR and BARRE, both used on liquid pharmaceuticals); *Astra Pharmaceutical Products v. Beckman Instruments*, 718 F.2d 1201, 1206 (1st Cir. 1983) (finding no likelihood of confusion between ASTRA for pharmaceuticals and ASTRA for computerized blood analyzer machines).

4. Conclusion

In view of the foregoing, Applicant respectfully requests that the Examining Attorney withdraw the refusal under Section 2(d) of the Trademark Act and that this application be passed to publication and, in due course, to registration.

EVIDENCE SECTION

EVIDENCE FILE NAME(S)

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DESCRIPTION OF EVIDENCE FILE	Exhibit A, Brochure for Cadwell's CASCADE product; Exhibit B, Cadwell website for CASCADE product; Exhibit C, American Society of Neurophysiological Monitoring's web site on IONM equipment; Exhibit D, definition of "neuromonitoring"; Exhibit E, definition of "endoscope."
GOODS AND/OR SERVICES SECTION (009)(current)	
INTERNATIONAL CLASS	009
DESCRIPTION	
software for use with medical patient monitoring equipment, for receiving, processing and transmitting	

data; software for use with intra-operative neuromonitoring, encephalography, and sleep apnea instrumentation, all for medical use	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (009)(proposed)	
INTERNATIONAL CLASS	009
DESCRIPTION	
software for use with medical patient monitoring equipment, for receiving, processing and transmitting data; software for use with intra-operative neuromonitoring, encephalography, and sleep apnea instrumentation, all for medical use	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (010)(current)	
INTERNATIONAL CLASS	010
DESCRIPTION	
surgical instruments and apparatus, namely probes, dilators, electrodes, retractors, and retractor blades, all for use with neuro-monitoring equipment	
FILING BASIS	Section 1(b)
GOODS AND/OR SERVICES SECTION (010)(proposed)	
INTERNATIONAL CLASS	010
TRACKED TEXT DESCRIPTION	
surgical instruments and apparatus, namely probes, dilators, electrodes, retractors, and retractor blades, all for use with neuro-monitoring equipment ; <u>surgical instruments and apparatus, namely probes, dilators, and electrodes, all for use with neuro-monitoring equipment</u>	
FINAL DESCRIPTION	
surgical instruments and apparatus, namely probes, dilators, and electrodes, all for use with neuro-monitoring equipment	
FILING BASIS	Section 1(b)
SIGNATURE SECTION	
RESPONSE SIGNATURE	/Denise I. Mroz/
SIGNATORY'S NAME	Denise I. Mroz
SIGNATORY'S POSITION	Attorney of record, PA bar member
SIGNATORY'S PHONE NUMBER	215.568.3100
DATE SIGNED	12/26/2012

AUTHORIZED SIGNATORY	YES
CONCURRENT APPEAL NOTICE FILED	YES
FILING INFORMATION SECTION	
SUBMIT DATE	Wed Dec 26 14:36:32 EST 2012
TEAS STAMP	USPTO/RFR-209.92.255.132- 20121226143632865901-8544 9613-4901cc2a18c904bac81c fedd8f79c7e232-N/A-N/A-20 121226142003019925

PTO Form 1930 (Rev 9/2007)
OMB No. 0651-0050 (Exp. 4/30/2009)

Request for Reconsideration after Final Action To the Commissioner for Trademarks:

Application serial no. **85449613** has been amended as follows:

ARGUMENT(S)

In response to the substantive refusal(s), please note the following:

This communication is responsive to the Office Action dated July 23, 2012.

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arguments previously submitted on June 26, 2012, are incorporated herein by reference.

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4. Conclusion

In view of the foregoing, Applicant respectfully requests that the Examining Attorney withdraw the refusal under Section 2(d) of the Trademark Act and that this application be passed to publication and, in due course, to registration.

EVIDENCE

Evidence in the nature of Exhibit A, Brochure for Cadwell's CASCADE product; Exhibit B, Cadwell website for CASCADE product; Exhibit C, American Society of Neurophysiological Monitoring's web site on IONM equipment; Exhibit D, definition of "neuromonitoring"; Exhibit E, definition of "endoscope." has been attached.

Original PDF file:

[evi_20992255132-142003019_.SYNT4932ExA.pdf](#)

Converted PDF file(s) (7 pages)

[Evidence-1](#)

[Evidence-2](#)

[Evidence-3](#)

[Evidence-4](#)

[Evidence-5](#)

[Evidence-6](#)

[Evidence-7](#)

Original PDF file:

[evi_20992255132-142003019_.SYNT4932ExB.pdf](#)

Converted PDF file(s) (2 pages)

[Evidence-1](#)

[Evidence-2](#)

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Converted PDF file(s) (1 page)

[Evidence-1](#)

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[Evidence-2](#)

[Evidence-3](#)

Original PDF file:

[evi_20992255132-142003019_.SYNT4932ExE.pdf](#)

Converted PDF file(s) (2 pages)

[Evidence-1](#)

[Evidence-2](#)

CLASSIFICATION AND LISTING OF GOODS/SERVICES

Applicant proposes to amend the following class of goods/services in the application:

Current: Class 009 for software for use with medical patient monitoring equipment, for receiving, processing and transmitting data; software for use with intra-operative neuromonitoring, encephalography, and sleep apnea instrumentation, all for medical use

Original Filing Basis:

Filing Basis: Section 1(b), Intent to Use: The applicant has had a bona fide intention to use or use

through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

Proposed: Class 009 for software for use with medical patient monitoring equipment, for receiving, processing and transmitting data; software for use with intra-operative neuromonitoring, encephalography, and sleep apnea instrumentation, all for medical use

Filing Basis: Section 1(b), Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

Applicant proposes to amend the following class of goods/services in the application:

Current: Class 010 for surgical instruments and apparatus, namely probes, dilators, electrodes, retractors, and retractor blades, all for use with neuro-monitoring equipment

Original Filing Basis:

Filing Basis: Section 1(b), Intent to Use: The applicant has had a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

Proposed:

Tracked Text Description: ~~surgical instruments and apparatus, namely probes, dilators, electrodes, retractors, and retractor blades, all for use with neuro-monitoring equipment;~~ surgical instruments and apparatus, namely probes, dilators, and electrodes, all for use with neuro-monitoring equipment

Class 010 for surgical instruments and apparatus, namely probes, dilators, and electrodes, all for use with neuro-monitoring equipment

Filing Basis: Section 1(b), Intent to Use: The applicant has a bona fide intention to use or use through the applicant's related company or licensee the mark in commerce on or in connection with the identified goods and/or services as of the filing date of the application. (15 U.S.C. Section 1051(b)).

SIGNATURE(S)

Request for Reconsideration Signature

Signature: /Denise I. Mroz/ Date: 12/26/2012

Signatory's Name: Denise I. Mroz

Signatory's Position: Attorney of record, PA bar member

Signatory's Phone Number: 215.568.3100

The signatory has confirmed that he/she is an attorney who is a member in good standing of the bar of the highest court of a U.S. state, which includes the District of Columbia, Puerto Rico, and other federal territories and possessions; and he/she is currently the applicant's attorney or an associate thereof; and to the best of his/her knowledge, if prior to his/her appointment another U.S. attorney or a Canadian attorney/agent not currently associated with his/her company/firm previously represented the applicant in this matter: (1) the applicant has filed or is concurrently filing a signed revocation of or substitute power of attorney with the USPTO; (2) the USPTO has granted the request of the prior representative to withdraw; (3) the applicant has filed a power of attorney appointing him/her in this matter; or (4) the applicant's appointed U.S. attorney or Canadian attorney/agent has filed a power of attorney appointing him/her as an associate attorney in this matter.

The applicant is filing a Notice of Appeal in conjunction with this Request for Reconsideration.

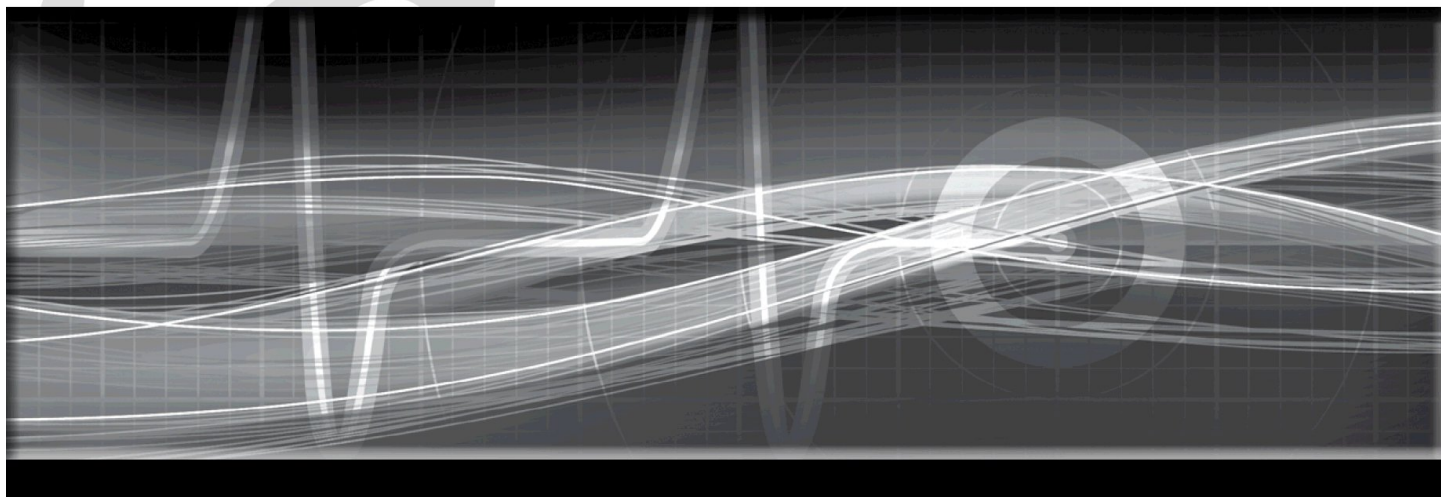
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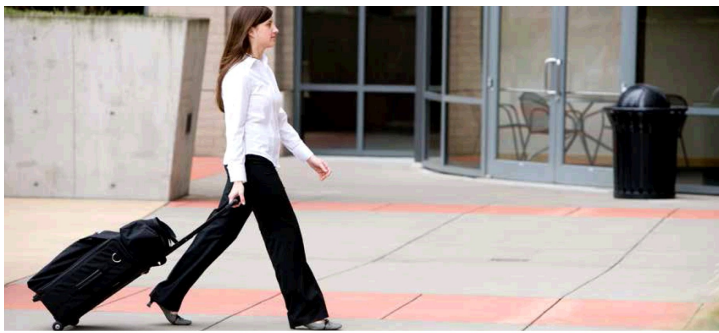
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Advancing medical technology to help you, help others.





he Cadwell Difference

Experience The Cadwell Difference – Since 1979

The benefits of owning a Cadwell system are numerous. Our development team understands and delivers what you need. Everyone at Cadwell stands behind our products and we all have the same goal - to keep you as a loyal, devoted customer long into the future.

Innovative Instruments for Neurophysiology

John Cadwell, BSEE, MD designed the first microprocessor controlled EMG instrument. In 1979 he and his brother Carl, DDS, formed Cadwell Laboratories, Inc. and began selling their device. Since then, Cadwell has been a leader in the development and manufacture of innovative and reliable instruments for neurophysiology. Many of these instruments have been providing decades of service to their owners.

Numerous patents are held by Cadwell, including those for magnetic stimulators, cable shielding designs, neural network analysis of EEG and database designs. Today, still located in Kennewick, Washington, John and Carl continue ownership of the company and come to work everyday to develop and market products ranging from EMG to EEG to PSG to IONM instrumentation and more. Cadwell has a firm hold of its identity and a dedicated focus on neurophysiology.

Advancing medical technology to help you, help others.

re Standard in IONM

Setting the Standard in IONM.

The Cadwell Cascade is a powerful, multi-modality system capable of performing EP (including SEP, TcMEP, BAEP, VEP), free-run EMG, stimulated EMG, EEG, and train of four tests simultaneously. The Cascade can also be used clinically for multi-channel evoked potential testing and other applications.

The Cascade was designed with portability as a priority. The base unit weighs only 4.25 lbs. The Cascade can be configured with a laptop computer for portability or as a desktop PC-based system.

Come stand above the rest.



Cascade 16-channel amplifier with one input extender attached.

Features of the Cascade

- Crosspoint Technology: flexibility of a referential amplifier with the super quiet qualities of a true differential amplifier.
- 16 channel/32 input configuration
- All-modality monitoring
- Robust and reliable hardware
- Industry-leading service support
- Low total cost of ownership
- Dynamic montaging allows any combination of inputs be connected to a channel for unlimited channel utilization
- Each channel has independent gain, hi-cut and lo-cut filter controls
- Intuitive and easy to use software that's fast to set up and simple to learn
- Remote monitoring for viewing and review data independent of unit in surgery
- Sixteen unique data-window types
- Up to 20 user-programmable data-window views
- Automatic report generator
- Automatic interleaving
- Automatic train-of-four testing
- Video software with auto-capture and multiple input support
- NerveGuard® automated screw testing software
- Input extenders effectively place the amplifier inputs closer to the electrode site.
- The patented shielding in our cable significantly reduces noise and allows the use of shorter electrode cable lengths.
- The main amplifier may be placed away from the operating table without any loss of signal fidelity or increase in interference.
- Each patented extender has eight inputs plus one ground with a molded shielded cable



Versatile System Configurations

The Cascade is available as a portable or cart-based system. For mobile users, the rugged hardware stands up to the rigors of being transported. All the components fit easily into our carry-on size rolling case for ease of travel. The case has smooth rolling wheels, a durable handle and looks professional. The optional laptop bag allows you to breeze through airport security and the optional accessories duffel bag is perfect for electrodes. Whether you're taking your Cascade across the hall, across town or across the country, be assured that it will perform flawlessly.



Easy Positioning

Whether you are the sole user at a single hospital, or on the move monitoring in multiple facilities, the Cascade is the most advanced, easy to use neuromonitoring instrument available today. The software is so intuitive and logical you'll be amazed at how much time is saved setting up before surgery and how easy it is to make changes during surgery. The small, compact design fits into the crowded OR and can be easily moved from one hospital to another. After all, more informed surgical teams lead to better patient care; and that's what matters most.

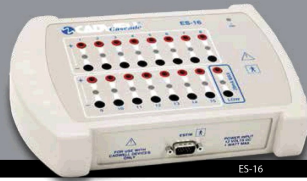


Stimulator Options

Electrical Stimulators

The Cascade has a variety of electrical stimulator options to suit a wide range of needs. Cascade stimulators display actual current delivered so you always know how much current is being delivered to the patient.

- ES-5-5: Four high current outputs (0-100 mA) and one 0-5 mA output
- ES-5-100: Five high current outputs
- ES-5-5V: Four high current outputs and one 0-5V output. This device does not provide current delivery information
- ES-16: 15 high current outputs and one 0-20 mA low current output



The ES Detector module and clip prevent electrosurgery noise from contaminating your EMG and EP recordings. Simply attach the clip to the leads of the electrosurgical handpiece and turn on the appropriate options in the software. When the surgeon uses the electrosurgery device, the system mutes EMG audio, prevents the system from storing electrosurgical noise in the EMG, pauses the EMG stimulator if it's in use, and pauses EP modes.



- ES-5-20: Four high current outputs and one 0-20 mA output
- TCS-1: A constant voltage, transcranial stimulator with programmable train stimulation, 800V and 1000 mA
- TCS-1000: A constant voltage, transcranial stimulator with programmable train stimulation, 1000V and 1000 mA
- TCS-4: A constant voltage, transcranial stimulator with four output channels. Also includes programmable train stimulation, 1000V and 1000 mA.



EP Stimulators

- Auditory click with insert earphones, shielded or lightweight headphones
- Visual with Checkerboard Monitor, LED Pad, LED Goggles or Strobe Flash



From left to right: TCS-1, TCS-1000 and TCS-4

Software Options

The Cascade software is user-friendly, intuitive and easy to learn. You'll spend less time troubleshooting and more time taking full advantage of the extensive features found in the Cascade to vastly improve patient care and bring greater value to your hospital. Choose the features and options you need to make the perfect system.

Start a procedure in just four easy steps.



1. Click the icon to launch the software.



2. Click to start a new procedure.



3. Choose a procedure from the list.



4. Enter the patient name.

Managing multi-modality monitoring is quick and easy using Modes, Mode Controls, and Mode Groups. You choose exactly what you want to monitor, when to monitor it and how it's monitored.

- Flexible setups for each stimulation site and free-run modality allow you to turn on all or some modes manually or in groups.
- You have complete control of everything about the stimulus, recording, display and storage for each mode individually.
- The system can be set to run in fully automatic mode allowing you to focus on the monitoring.

An extensive list of automated run options allow hands-free operation.

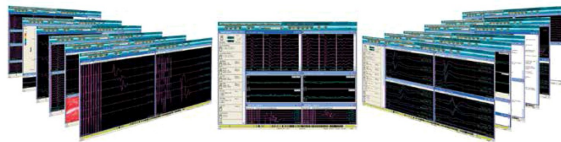
- Auto placement of cursors.
- Store waveforms, clear the average, and start a new trial.
- Automatic interleaving of all modes provides faster data acquisition, quicker response time, and faster intervention.
- Run multiple modes simultaneously; the system automatically adjusts the repetition rate as you start and stop modes.
- Auto-store EMG activity that exceeds above a user-defined amplitude threshold.

Easy and intuitive procedure setup menus save valuable time before and during surgery.

- Graphic displays make it easy and intuitive.
- Views can be defined and arranged in the procedure setup so you are ready to monitor when the procedure begins.
- Edit procedure settings on the fly without exiting the patient record.

Data management, handling and viewing is easy using windows and views, putting the information you need where and when you and any remote users need it.

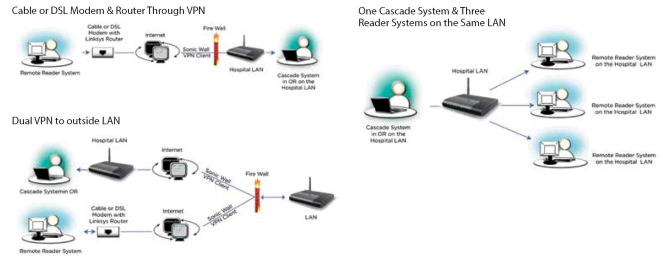
- Display data in a variety of window types – averaged; stacked; numeric trends; 3D waveform trends and waveform analysis.
- To accommodate the massive amounts of data generated by multimodality monitoring, you can create up to 20 unique views. Views are comprised of a select set of data display windows. It's easy to switch views with one mouse click to quickly access the data you need.
- Windows, screens and event lists can be copied and pasted into outside applications such as Word documents.
- All Cadwell instruments run on familiar Microsoft Windows® operating systems.



Remote Monitoring

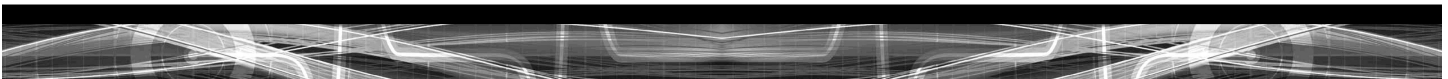
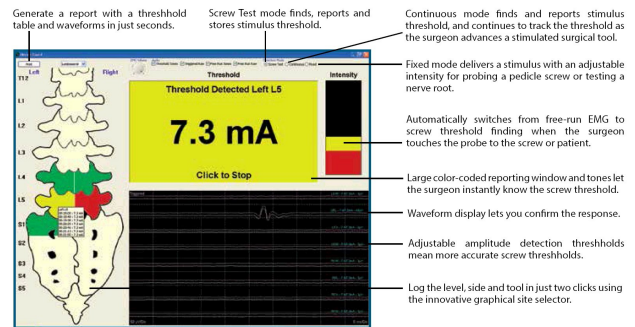
Cadwell's optional remote monitoring feature allows multiple reviewers to connect to a single Cascade system and allows one reviewer to remotely monitor multiple Cascades at the same time. Remote readers can review data, change views and data presentation instantly without affecting the acquisition systems.

To use remote monitoring, users simply connect to a network, type in the name or IP address of the system to be monitored and go. Several remote monitoring scenarios are shown below.



NerveGuard®

NerveGuard® is Cadwell's automated pedicle screw testing feature that shortens testing time, provides highly accurate results and gives you the information you need as a valuable member of the surgical team.

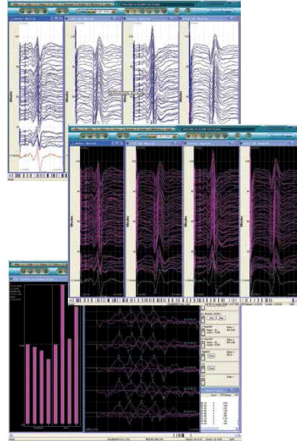


Software options

The Cascade software offers sophisticated, powerful and easy to use features that allow you to provide superior care to your patients.

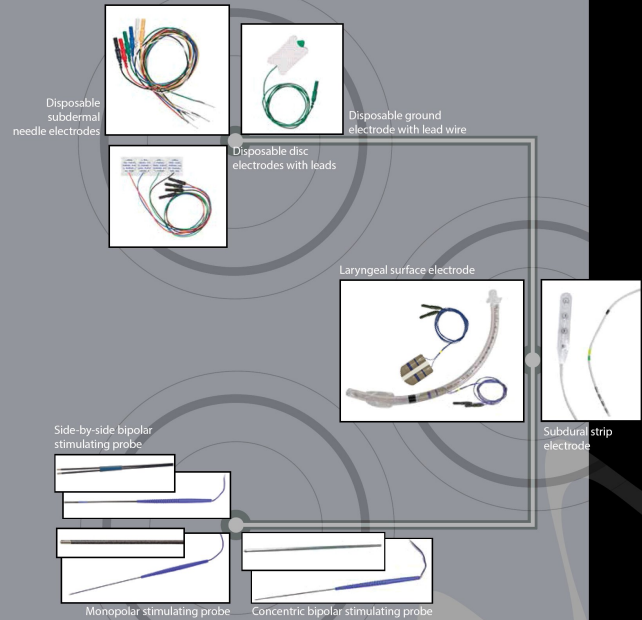
- Logical and intuitive workflow using our Windows® XP compatible software interface.
- Flexible data views give you the data you need when you need it.
- Unique procedure setup makes it easy to build and edit a test.
- True interleaving of multiple stimuli or manual control of each modality.
- Reporting features you've come to expect from Cadwell, such as traces, tables, predefined paragraphs, automatic sentence generation and more.
- Resize, move, maximize, or minimize any data window any time with a single mouse click.
- Detect electrosurgical devices and automatically pause acquisition and mute audio during their use.
- NerveGuard™ automated EMG and threshold detection software reduces testing time.
- Files and event lists can be easily transferred to other Cascades, saving time in facilities with multiple systems.
- Auto Place Cursors feature accurately marks peaks for you.
- Stimulus Delivery Tone feature lets you and the surgeon know when the stimulus probe touches the patient.
- Pre-defined or "on the fly" comments can be added to the event record along with averages and related video images.
- Unique user interface allows you to improve signal quality by quickly setting individual reject threshold levels for each channel.
- Review stored EEG and watch live EEG at the same time.
- EMG threshold detection with auto capture, auto store and selectable sound presentation (beeps, words, muscle name, etc.).
- Custom trace labels give you instant access to critical information.

- Flexible trending displays give you important data at a glance.
- Window for surgical microscope or other video views.
- Built-in impedance testing for all amplifier inputs.
- Review cases on other compatible PCs.
- Review the record exactly as recorded anytime throughout the procedure.
- Extensive help files explain every component of the system.
- Copy and paste windows, screens or event lists into other outside applications.
- Built-in amp calibration and self diagnostics.
- Train of Four modality.
- CSA, DSA and trending.
- FFT and digital filter package.



Supplies and Accessories

Cadwell has a complete range of quality, reliable supplies as well. From subdermal needles; disposable and reusable surface electrodes and a wide variety of stimulus probes. We are your one-stop source for everything neurophysiology related.





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IONM

IMPORTANT INFORMATION REGARDING THE PURCHASE OF USED EQUIPMENT

Cadwell Cascade is the gold standard for IONM equipment. Cadwell equipment is known for its durability, dependability and portability. The Cascade, Cascade Elite and Cascade Pro systems monitor multiple modalities simultaneously; SEPs, MEPs, ABRs, VEPs, EMG, TEMG, EEG, TOF and Video. The Cascade Elite system has 32 channels to accommodate any monitoring need, while the Pro can be configured as either a 32-channel or 16-channel system. All systems have Cascade's built in remote monitoring, giving the remote neurologist independent control over data viewing. For over thirty years Cadwell equipment has proven itself to be the most reliable Neurodiagnostic equipment money can buy. You can always count on your Cadwell system.



The Cascade PRO is the latest innovation in neuromonitoring from Cadwell. It combines the best of the 16-channel Cascade and 32-channel Cascade Elite systems and combines them into a single system that is yours to configure. The Cascade PRO can be seamlessly configured by the user for either one or two 16-channel amplifiers, providing flexibility in switching between 16- and 32-channel systems.

Using the ES-IX stimulator, our monitorist-driven Lateral Access feature is a dual purpose solution with integrated surgeon-accessibility built in. The monitorist controls the system during every phase of the case, while our Dual View™ window provide the surgeon with real-time auditory and visual feedback, thus the entire team performs at their peak and provides the best possible patient care. Click [here](#) for more information.



The 32-Channel Cascade Elite was designed and built from the same platform as the best selling Cadwell



The Cadwell Cascade is a powerful, multi-modality system capable of performing EP (including SEP, TceMP, BAEP, VEP), free-run EMG, stimulated EMG, EEG, and train of four tests simultaneously. The Cascade can also be used clinically for multi-channel evoked potential testing and other applications. The Cascade was designed with portability as a priority. The base unit weighs only 4.25 lbs. The Cascade can be configured with a laptop computer for portability or as a desktop PC-based system. Click [here](#) for more information.

IONM Feature Request - NEW!

Looking for a feature our products don't currently have? Request it today! We value your feedback. We may contact you for additional information about your request. [Feature Request](#)

Cascade, so you know the performance and reliability are there. Flexible placement options allow you to adapt to any surgical setting. The hardware is extremely rugged, yet it's still highly portable and easily transported. The software is intuitive and very user friendly with all the features (and more) you need to excel in the OR.

Using the ES-IX stimulator, our monitorist-driven Lateral Access feature is dual purpose solution with integrated surgeon-accessibility built in. The monitorist controls the system during every phase of the case, while our Dual View™ window provide the surgeon with real-time auditory and visual feedback, thus the entire team performs at their peak and provides the best possible patient care.

Click [here](#) for more information.

Worldwide Headquarters: Cadwell, 909 N. Kellogg St. Kennewick, WA 99336 USA
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NEW TO IONM?

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Are you interested in learning more about or getting more involved in the field of intraoperative neurophysiological monitoring? ASNM has what you need.

What is IONM?

Intraoperative neurophysiological monitoring has been utilized in attempts to minimize neurological morbidity from operative manipulations. The goal of such monitoring is to identify changes in brain, spinal cord, and peripheral nerve function prior to irreversible damage. Intraoperative monitoring also has been effective in localizing anatomical structures, including peripheral nerves and sensorimotor cortex, which helps guide the surgeon during dissection.

Intraoperative neurophysiologic monitoring (IONM) is a technique that is directly aimed at reducing the risk of neurological deficits after operations that involve the nervous system. IONM is a technique that has evolved during the last two decades; it makes use of recordings of electrical potentials from the nervous system during surgical operations.

The use of IONM offers a possibility to detect injuries before they become so severe they cause deficits after the operation. Introduction of IONM has reduced the risk of debilitating deficits such as muscle weakness, paralysis, hearing loss, and other loss of normal body functions. IONM is normally performed by technologists supervised by a physiologist, or a neurologist. Similar techniques as used in IONM are now used in a few kinds of operations for guiding the surgeon in an operation to help obtain the best results.

What training is required for IONM?

For certification programs for intraoperative neurophysiological monitoring or for information on how to maintain certifications, please [click here](#).

If you have any other questions, don't hesitate to [connect with us](#) or one of our [board members](#).

ASNM is not affiliated with, nor does it endorse, any specific IONM program, but the following link to The Commission on Accreditation of Allied Health Education Programs website may be helpful in your search for schools that offer IONM training and education. The programs are listed under Neurodiagnostic Technology. <http://www.caahep.org/Find-An-Accredited-Program/>

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Wikipedia

Neuromonitoring

From Wikipedia, the free encyclopedia

The scientific practice of **neuromonitoring** takes place in the surgical suite (OR). It aims to 1) reduce the risk to the patient of iatrogenic damage to the [nervous system](#), and/or 2) provide functional guidance to the surgeon. To accomplish this, a specially trained member of the surgical team, for example a [neurophysiologist](#), obtains and co-interprets triggered and spontaneous [electrophysiologic](#) signals from the patient as their surgery proceeds. Patients who benefit from neuromonitoring are those undergoing surgeries which involve the [nervous system](#) or which pose risk to it. Neuromonitoring is also known as surgical neurophysiology, intraoperative neurologic monitoring, or simply intraoperative monitoring. Acronyms include IOM and IONM.

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Licensure - Certification - Credentialing

In the US, IONM licensure has not been legislated at the state or federal level. Issues of licensure are discussed in ASET's 68 page [White Paper on Occupation Regulation](#). Worldwide, there are at least two private certifications available: the technologist level CNIM and the professional level D.ABNM. Though not governmentally regulated, certain health care facilities have internal regulations pertaining to neuromonitoring certifications. The more fundamental issue is that demand for trained intraoperative neurophysiologists continues to be greater than their number (2007).

Certification for Neurophysiological Intraoperative Monitoring (Technologist Certification)

The CNIM [\[1\]](#) is awarded by the American Board of Electroencephalographic and Evoked Potential Technicians [\[2\]](#). As of 2007-02, minimum requirements include 1) a B.A., B.S. or another health care credential, and 2) an experience base of 100 surgeries. ABRET has scheduled for 2008 major changes to these requirements. The \$350, 250 question, 4 hour multiple choice written exam is offered twice a year.

Diplomat of the American Board of Neurophysiologic Monitoring (Professional Board Certification)

The D.ABNM [\[3\]](#) is awarded by the American Board of Neurophysiological Monitoring [\[4\]](#). As of January 1, 2011 the minimum requirements include: 1) a doctorate in a health science related field, Most have an [MD](#), [PhD](#), [AuD](#), [ScD](#) or a [DC](#). 2) an experience base of 300 surgeries that spans at least 3 years of primary responsibility, and 3) two surgeon-signed attestation forms. The exam includes a written portion, which must be passed first, and an oral portion. The \$600, 250 question, 4 hour written exam is offered twice a year, as is the \$800 oral exam. As of 2007-02, there are 104 D.ABNM certified individuals.

Methods

Neuromonitoring employs various electrophysiologic modalities, such as extracellular single unit and local field recordings, [SSEP](#), TcMEP, [EEG](#), [EMG](#), and [ABR](#). For a given surgery, the set of modalities used in depends on which neural structures are at risk.

In general, a trained neurophysiologist or technologists attaches a computer system to the patient using stimulating and recording [electrodes](#). Interactive software running on the system carries out 2 tasks. The system 1) selectively activates stimulating [electrodes](#) with appropriate timing, and 2) processes and displays the electrophysiologic signals as they are picked up by the recording electrodes.

See video of the equipment used [\[5\]](#)

The neurophysiologist can thus observe and document the electrophysiologic signals in realtime in the operating during the surgery. The signals change according to a various factors, including anesthesia, tissue temperature, surgical stage, and tissue stresses. Various factors exert their influence on the signals with various tissue-dependent timecourses. Differentiating the signal changes along these lines - with particular attention paid to stresses - is the joint task of the surgical triad: surgeon, anesthesiologist, and neurophysiologist.

Transcranial Doppler Imaging is becoming more widely used to detect vascular [emboli](#). TCDI can be used in tandem with EEG during [vascular surgery](#).

IONM techniques have significantly reduced the rates of [morbidity](#) and [mortality](#) without introducing additional risks. By doing so, ONM techniques reduce health care costs.

Surgical Procedures

Patients benefit from neuromonitoring during certain surgical procedures, namely any surgery where there is risk to the [CNS](#) or to a peripheral nerve. Most neuromonitoring is utilized by spine surgeons or neurosurgeons, but vascular, orthopedic, otolaryngologists and urology surgeons have all utilized neuromonitoring as well.

Related Acronyms

Sort the acronym table by clicking on the header widgets:

Surg ACDF Anterior cervical decompression and fusion

Surg TLIF Transforaminal lumbar interbody fusion

Surg PLIF Posterior lumbar interbody fusion

Org ABRET [American Board of Registration of Electroencephalographic and Evoked Potential Technologists](#)

Org ASET [American Society of Electroneurodiagnostic Technologists](#)

Org ASNM [American Soc of Neurophysiologic Monitoring](#)

Org ABNM [American Board of Neurophysiologic Monitoring](#)

Org IFCN [International Federation of Clinical Neurophysiology](#)

Org WSET [Western Society of Electrodiagnostic Technologists](#)

Org AAAET [American Association of Electrodiagnostic Technologists](#)

External links

Private Practices

- [Computational Diagnostics, Inc/Clinical Neurophysiological Services, LLC.](#)
- [The Neuromatrix Group](#)
- [Impulse Monitoring, Inc](#)
- [IntraNerve, LLC](#)
- [PRNRead: Professional Real-Time Neurophysiological Reading](#)
- [Real-Time IntraOperative Neurophysiological Monitoring](#)
- [Surgical Monitoring Associates](#)
- [Sentient](#)

Vendors

- [RhythmLink International, LLC](#)
- [Computational Diagnostics, Inc.](#)
- [Cadwell](#)
- [Medtronic](#)
- [Biotronic, LLC](#)
- [inomed Medizintechnik GmbH](#)
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en·do·scope (*ĕnˈdɔːskəp*)
n.
An instrument for examining visually the interior of a bodily canal or a hollow organ such as the colon, bladder, or stomach.

enˈdɔːskəpˈɪk (*-skəpˈɪk*) *adj.*
enˈdɔːskəpˈɪkəl *adv.*
en-dosˈkɔːpi (*ĕn-dɔːskoʊˈpi*) *n.*

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Adj. 1. endoscopic - of or relating to endoscopy
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Studies suggest that endoscopic ultrasound and endoscopic removal is the treatment of choice for esophageal GCTs if they are small in size (<2 cm) and do not involve the muscularis propria.

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