



 **CASCADE**[®] **PRO**

SOLUTION GUIDE



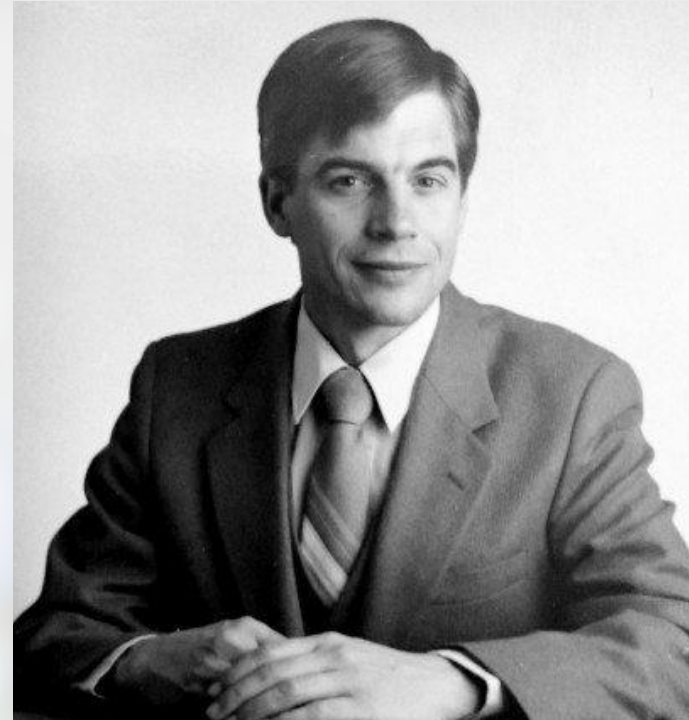
This guide is designed to give you a comprehensive understanding of the hardware, carts, supplies, accessories, and electrodes that Cadwell offers to support the Cascade PRO IONM system.



CADWELL IS ADVANCING THE FIELD OF INTRAOPERATIVE NEUROPHYSIOLOGICAL MONITORING

The products, services and clinical benefits offered by Cadwell® provide a comprehensive solution for the life of the system. Our IONM hardware, software platforms, remote monitoring offerings and data management solutions are purpose-built with technologists in mind. Cascade® Surgical Studio software has free updates and new licensable features added regularly as we proactively seek customer feedback. All of our Cascade product development and production is done in Kennewick, Washington, USA. Our dedicated Application Support and Service teams are the best in the industry.

ABOUT CADWELL	5
CADCARE CUSTOMER SUPPORT PROGRAMS	7
SOLUTION OVERVIEW	9
BASE UNIT & ACCESSORIES	11
16-CHANNEL AMPLIFIER & ACCESSORIES	13
ELECTRICAL STIMULATORS	15
TRIGGER OUT/ELECTROSURGERY	16
VIDEO	17
SOFTWARE	19
COMPUTERS, MONITORS, SPEAKERS & CASES	21
G1 CART	23
G2 CART	25
BAEP & VEP	27
SURFACE ELECTRODES	29
SUBDERMAL ELECTRODES	31
PROBES	33
SPECIALTY ELECTRODES	37
ELECTRODE ACCESSORIES & MISCELLANEOUS	39



A HISTORY OF CADWELL

The legacy that John and Carl Cadwell began in 1979 remains entirely focused on providing innovative and easy-to-use neurodiagnostic, neuromonitoring, and sleep diagnostic solutions.

We value customer input, innovation, product quality, intuitive usability, and outstanding user support to set new standards with our neurology solutions for:

- IONM surgical monitoring
- EEG brain monitoring
- EMG, EP, NCS and Ultrasound
- PSG and HSAT sleep diagnostics
- Data management
- Neuro consumables

We are committed to creating cutting-edge neurology technology and providing market-leading customer support. If you have a Feature Request, share it with us at www.cadwell.com/feature-request.

CASCADE IONM REFLECTS DECADES OF INNOVATION

After years of multi-modal IONM-EMG, Cadwell released its first dedicated surgical monitoring product, the Cascade 16-channel, in 1999. The Cascade® IONM product line provided the performance that customers expected, and Cascade IONM continues to dominate the U.S. market in intraoperative neurophysiological monitoring.

CASCADE PATENTS

Cadwell values innovation and collaboration, and our team of hardware and software designers have contributed 14 patents specific to Cascade IONM products.

Visit www.cadwell.com/patents for the complete list.

WORLD-CLASS CUSTOMER CARE

The customer care Cadwell provides is unmatched in the neuro world. Our CadCare® Customer Support Programs give you additional options including extended service plans, and the CadLink® Software Support and Maintenance Program. With the purchase of each Neurodiagnostic or Intraoperative Monitoring system from Cadwell, you acquire:

- A lifetime CadCare Membership
- Limited Factory Warranty
- Limited Software Maintenance and Support

Increase your coverage on hardware with an Extended Service Package, which may include bundled discounts for support benefits, and multi-unit and multi-year discounts.

Learn more at www.cadwell.com/cadcare.

COMPLIMENTARY PREMIUM ONLINE SUPPORT

Cadwell's web-based Support site provides easy access to:

- Downloadable Cascade Surgical Studio (CSS) software updates
- Licensable feature upgrades
- User guides
- Frequently asked questions
- Video tutorials and recorded webinars including:
 - Top Features in CSS
 - Adding Modes and Assigning Channels
 - Automatic Threshold Mode
 - Generating a Report
 - Navigating the Basics

Register at cadwell.support/register.



CADCARE CUSTOMER SUPPORT PROGRAMS

The customer care Cadwell provides is unmatched in the neuro world. Our CadCare® Customer Support Programs give you additional options including extended service plans and a CadLink Software Support and Maintenance Plan.

When a Cadwell system is purchased directly from Cadwell, that equipment is automatically enrolled in the CadCare Membership Program for as long as you own the equipment.

- **A lifetime CadCare Membership**

Lifetime means the functional lifetime of the equipment, during which Cadwell is able to service, support and provide software updates for the piece of equipment; functionality may slowly diminish as software updates are no longer provided and parts become obsolete, at which time the functional lifetime of the equipment may cease.

- **Limited Factory Warranty**

Limited Factory Warranty coverage is 12 months for new equipment or six months for refurbished equipment purchased from Cadwell.

- **Limited Software Maintenance and Support**

Software Maintenance and Support is covered during the Limited Factory Warranty.

CadLink® Software Support and Maintenance Plan is included during the limited factory warranty period. Increase your coverage on hardware with an Extended Service Package, which may include bundled discounts for support benefits, and multi-unit and multi-year discounts.

CADCARE MEMBERSHIP ELIGIBILITY

If your Cadwell equipment was purchased from a third-party seller, you must enroll that equipment in the CadCare Membership Program for \$1,200 per system, per year of membership.

CADCARE HARDWARE OPTIONS

Increase your coverage on hardware with an Extended Service Package. Cadwell Cascade PRO systems qualify for CadCare:

- Cascade PRO 16-channel Level 2 Extended Service Plan (Service Contract Part No. 8001322)
- Cascade PRO 16-channel Level 3 Extended Service Plan (Service Contract Part No. 8001323)
- Cascade PRO 16-channel Level 4 Extended Service Plan (Service Contract Part No. 8001324)
- Cascade PRO 32-channel Level 3 Extended Service Plan (Service Contract Part No. 8001332)
- Cascade PRO 32-channel Level 2 Extended Service Plan (Service Contract Part No. 8001333)
- Cascade PRO 32-channel Level 4 Extended Service Plan (Service Contract Part No. 8001334)

Legend: ✓ = included, \$ = available as a purchasable option, x = not available, % = discount available

Limited Warranty	CadCare Membership	Benefits	Extended Service Plans		
			2	3	4
✓	✓	Live phone answering (M-F, 4:30 a.m. – 5 p.m. PT)	✓	✓	✓
✓	✓	Phone support for general software application and hardware troubleshooting questions (M-F, 6:30 a.m. – 5 p.m. PT)	✓	✓	✓
✓	✓	Software upgrades (for purchased licensed features)	✓	✓	✓
✓	\$	Custom report creation	\$	✓	✓
✓	✓	Maintenance with existing reports	✓	✓	✓
✓	\$	Application training via webinar	✓	✓	✓
✓	\$	Diagnostic Remote Web Support	✓	✓	✓
✓	\$	Preventative Maintenance (scheduled PM & 7-day turn options)	✓	✓	✓
✓	\$	Equipment loaners	✓	✓	✓
✓	\$	Shipping and handling of repairs and loaners	\$	✓	✓
✓	\$	Cadwell parts and labor (basic extended warranty)	✓	✓	✓
\$	\$	Expedited equipment repair	\$	✓	✓
\$	\$	Workstation setup and configuration beyond original equipment install	\$	\$	✓
✓	\$	Non-Cadwell peripheral equipment coverage (e.g. PCs and printers purchased from Cadwell)	\$	\$	✓
x	x	One-time discount for computer replacement	x	x	30%
✓	\$	CadLink Software Maintenance and Support Plan (discounts available). Service Contract Part No. 8001066	\$	20%	30%

Learn more at www.cadwell.com/cadcare.

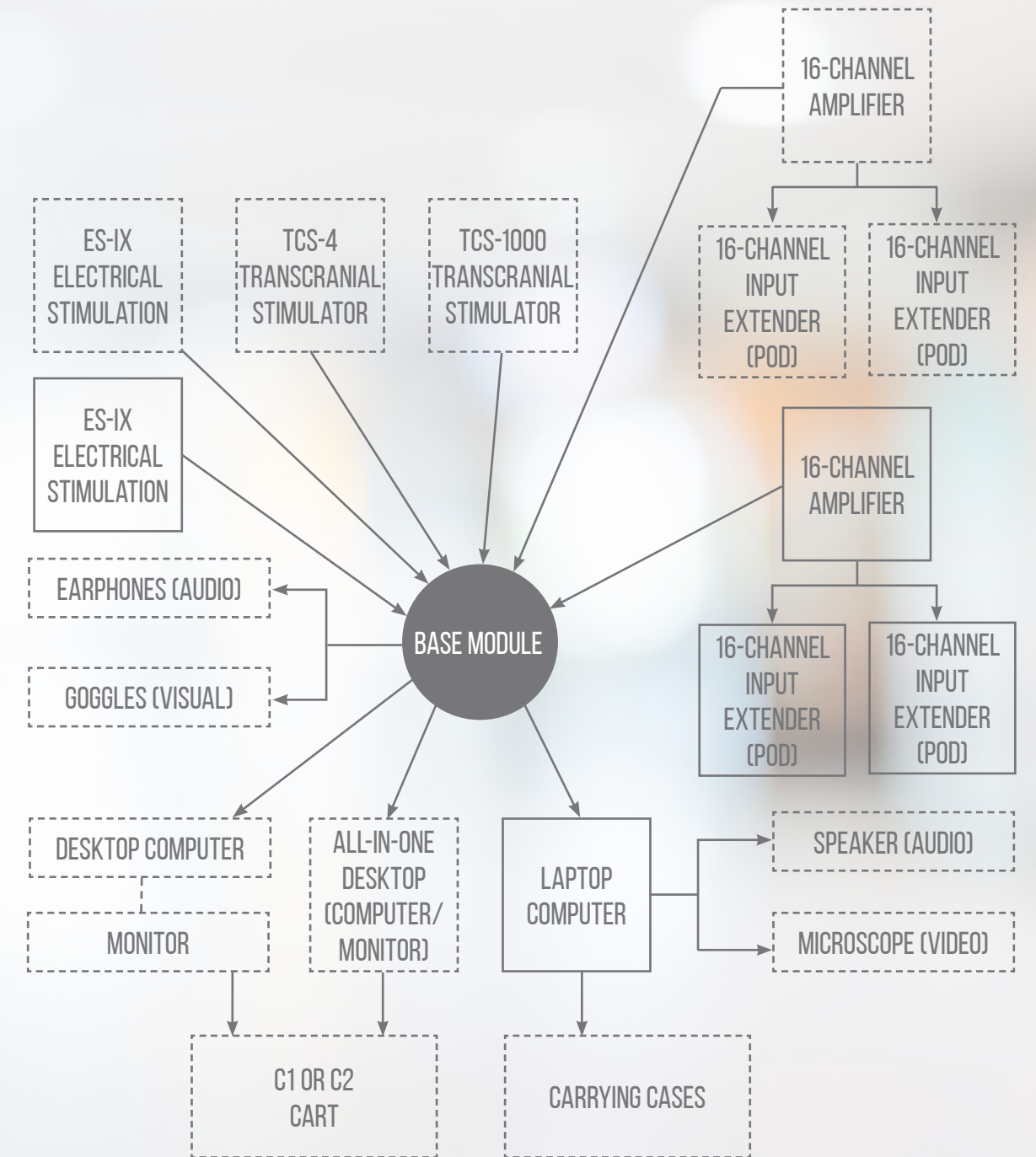
Customers are responsible for pulling all cables and installing any non cart-based cameras prior to the scheduled installation of the Cadwell system.



CASCADE PRO IS TIME-TESTED AND USER-APPROVED IONM FOR DYNAMIC SURGICAL ENVIRONMENTS

Cascade[®] PRO is a reliable pod-based neuromonitoring solution. Scalable from 16 to 32 channels with one or two amplifiers, the PRO can function as a cart-based or portable system that maximizes user-configuration choices and simplicity. Peripheral stimulators support increased case-by-case flexibility for electrical and transcranial motor stimulation. Custom accessories are designed to reduce noise and increase efficiencies.

Cascade[®] Surgical Studio streamlines IONM workflow, delivers clinical excellence, monitors all modalities, strengthens documentation, and lets you stay connected. CadX[®] Simulator helps you learn or teach IONM outside of the operating room.



Solid lines denote typical configuration. Dashed lines indicate optional equipment.



Base Unit, front view



Base Unit, back view



Base Unit, right side view

CASCADE PRO BASE UNIT

Use with Cascade PRO amplifiers, cables, and accessories to deliver IONM solutions.

Order Qty.	Product	Part No.
1	Cascade PRO Base Unit	190264-200
1	PRO Base Unit Power Supply	229038-200
choose 1	2 ft/0.61 m Patch Cable for laptop PC	286054-000
	7 ft/2.13 m Patch Cable for desktop PC	286050-000



PRO BASE UNIT POWER SUPPLY

Provides power to Base Unit.



PATCH CABLE FOR DESKTOP/LAPTOP PC

Connects Base Unit to computer.



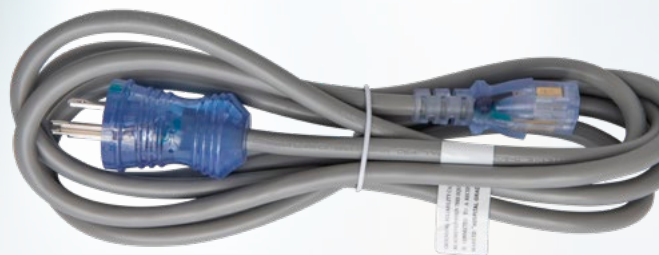
Y-POWER CORD ADAPTOR KIT

Adapts Power Supply Cord to supply power to Pro Base Unit and laptop computer. This is included with new laptops from Cadwell, and may be needed if you use an existing laptop.



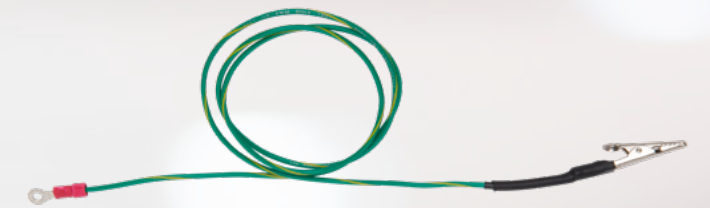
10 BASE T CABLE 25 FT

Connects computer to network jack in your facility. 25 ft cable length.



HOSPITAL POWER CORD 10 FT/3 M

Connects your power supply (Isolation Transformer or TrippLite power strip) to power in your facility. Line 3 Cond 16 AWG 10 ft Hospital. You may need this if you use an existing computer.



CASCADE CART GROUND WIRE

Connect one end to the grounding post on the Base Unit and the other end to the cart.

Order Qty.	Product	Part No.
1	Y-Power Cord Adaptor Kit	197286-200
1	10 Base T Cable	199136-200-025
1	Hospital Power Cord 10 ft/3 m	286114-000
1	Cascade Cart Ground Wire	199235-200



CASCADE PRO 16-CHANNEL AMPLIFIER (AMP, ACQUISITION BOX)

Use one amplifier for 16 IONM channels, or two amplifiers for 32 IONM channels.

Order Qty.	Product	Part No.
1 or 2	PRO Amplifiers	190265-200
+ choose	9 in/0.22 m Amplifier Cable	199262-200-009
	10 ft/3.04 m Amplifier Cable	362031-000
	25 ft/7.62 m Amplifier Cable	362029-000



REMOTE INPUT EXTENDER POD

These are used for recording electrodes input at the operating table, and are designed to protect the amplifier. Two pods are required per amplifier.



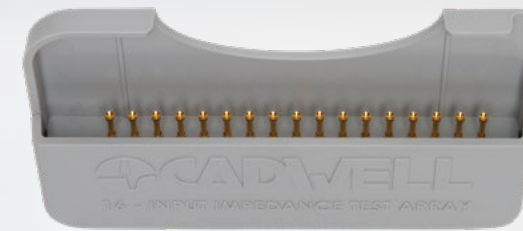
PRO QUICK ADAPT KIT

Quickly insert or remove groups of electrodes on the Remote Input Extender Pods. Includes 4 Quick Adaptors and one pouch.



AMPLIFIER CABLE

Connects Amplifier to Base Unit. Typical use cases: 9" with the Amplifier Holder, 10 ft with an arm on a cart, and 25 ft for bedside placement.



IMPEDANCE TEST ARRAY

Plug into 16-channel Input Extender Pods to test impedance functionality.



TEST ARRAY CONNECTOR

Plug into Amplifiers to test functionality.

Order Qty.	Product	Part No.
Order 2 per amplifier	10 ft/3 m Remote Input Extender Pod(s)	199251-200
	20 ft/6 m Remote Input Extender Pod(s)	199252-200
1	PRO Quick Adapt Kit	197277-200
1	Impedance Test Array	190267-200
1	Impedance Test Array Connector	360049-200
1	Amplifier Holder	197245-200
2	Amplifier Trays	197245-200
4	Velcro Foot	342193-000



AMPLIFIER HOLDER (GARAGE)

Place Amplifier(s) in Amplifier Holder Tray and slide into Amplifier Holder for compact storage. Base Unit sits on top of Holder. Use with Remote Input Extender Pods.



AMPLIFIER HOLDER TRAY

Cradles Amplifiers inside Amplifier Holder. Order two per Holder.



VELCRO FOOT

Attaches Laptop to Base, and Base to Amplifier Holder. Requires 4 per use case. 1/4 in tall Poron with Velcro.



**ES-IX2 STIMULATOR
(STIM BOX, E-STIM)**

ES-IX2 offers high and low output stimulation with up to 16 outputs for various applications, such as peripheral nerve stimulation and direct nerve stimulation. Eight high current, one low current/voltage per stimulator. Use two concurrently with the Daisy Chain Cable.

Order Qty.	Product	Part No.
1 or 2	ES-IX Stimulator(s)	190262-200
This includes	ES-IX Test Array	190268-200
	Daisy Chain Cable (if 2 stims are ordered)	199269-200
	1 Pocket Chain / stim ordered	067005-000
+ your choice of	20 ft/6 m ES-IX Cable	362049-200-006
	10 ft/3 m ES-IX Cable	362049-200-003



ES-IX TEST ARRAY

Plug into ES-IX to test functionality.



DAISY CHAIN CABLE, 10 FT/3 M

If using two ES-IX stimulators together.



POCKET CHAIN, 18 IN

Hang ES-IX2 Stimulator / TCS on cart or operating table. With Trigger Snap.



ES-IX CABLE

Choose from 10 ft/3 m or 20 ft/6 m.



**TCS-1000
(MOTOR BOX, MEP STIM)**

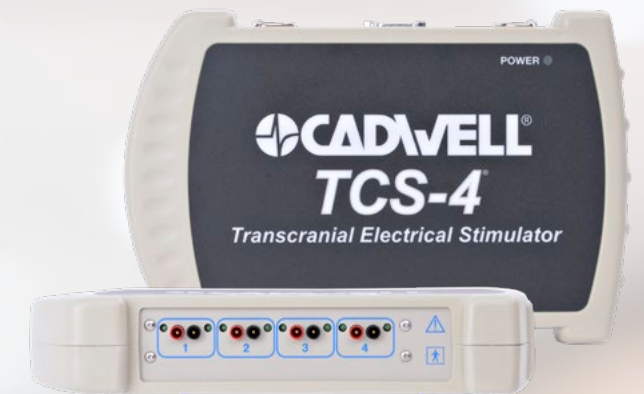
TCS-1000 delivers high voltage, rapid trains of up to nine pulses at 1000V with one set of single anode to single cathode output.

Order Qty.	Product	Part No.
1	TCS-1000	190258-200
This includes	1 Pocket Chain	067005-000
+ your choice of	10 ft/3 m Aux Cable	355320-200
	25 ft/7.6 m Aux Cable	355325-200
optional	25 ft/7.6 m TCS Extension Cable	302152-200



AUXILIARY CABLE (AUX)

Connection for TCS extension cable. Use 10 ft if also using a TCS Extension Cable.



**TCS-4
(MOTOR BOX, MEP STIM)**

TCS-4 delivers high voltage, rapid trains of up to nine pulses at 1000V. One to four pairs of single anode to single cathode output combinations can be created and switched between in the Cascade Surgical Studio (CSS) software.

Order Qty.	Product	Part No.
1	TCS-4	190261-200
This includes	1 Pocket Chain	067005-000
+ your choice of	10 ft/3 m Aux Cable	355320-200
	25 ft/7.6 m Aux Cable	355325-200
optional	25 ft/7.6 m TCS Extension Cable	302152-200



TCS EXTENSION CABLE

Used as 25 ft/7.62 m extension to protect the TCS motor box and keep the motor box away from the bed.



TRIGGER OUTPUT INTERFACE BOX + CABLE

Provides a way to trigger an external device, like a strobe flash for VEPs, or older MEP stimulators.

Order Qty.	Product	Part No.
1	Trigger Output Box	190223-200
1	Trigger Cable	199243-200

Order Qty.	Product	Part No.
1	ES Detector Module	190235-200
1	ES Detector Clip	190236-200
+ your choice of	10 ft/3 m Aux Cable	355320-200
	25 ft/7.6 m Aux Cable	355325-200



ELECTROSURGERY (ES) DETECTOR MODULE

Detects electrosurgical artifact, pauses storage, mutes audio.



ELECTROSURGERY (ES) DETECTOR CLIP



AUXILIARY CABLE (AUX)

Connects ES Detector to Base Unit.



COLOR BULLET CAMERA WITH BUILT-IN INFRARED ILLUMINATOR

Camera hardware and accessories are frequently updated. Call for the latest models. Requires Video Software License.

Order Qty.	Product	Part No.
Your choice of	Wall Mount Color Camera with IR	9800015
	Arm Mount Color Camera with IR	9609009
+	Video Software License	369028-455



AVIO MICROSCOPE SDI OR HD VIDEO ADAPTOR

Used to connect a microscope to computer for video. Includes 3 ft cable.

Order Qty.	Product	Part No.
1	AVIO Microscope HD Adaptor + 10 ft HDMI Cable	198256-000
or 1	AVIO Microscope SDI Adaptor	198252-000
+ your choice of	12 ft/3.6 m BNC/BNC Video Cable	199002-200
	50 ft/15 m BNC/BNC Video Cable	199250-200-050
+ 1	Video Software License	369028-455



MICROSCOPE ADAPTOR: DAZZLE VIDEO CONVERTER (HD)

Used to connect a microscope to computer for video.



BNC/BNC VIDEO CABLE

Used for Microscope video connection and Color Bullet Camera connection.



BNC JACK: RCA ADAPTOR

Order Qty.	Product	Part No.
1	Dazzle Video Converter, HD	290157-000
If you're using your own camera, also order:		
1	BNC Jack: RCA Adaptor	277024-000
1	S-VHS : RCA M Blue Adaptor	277074-000
+ your choice of	12 ft/3.6 m BNC/BNC Video Cable	199002-200
	50 ft/15 m BNC/BNC Video Cable	199250-200-050



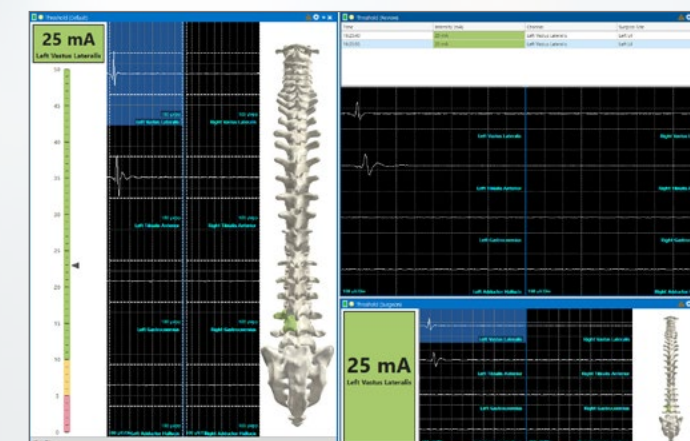
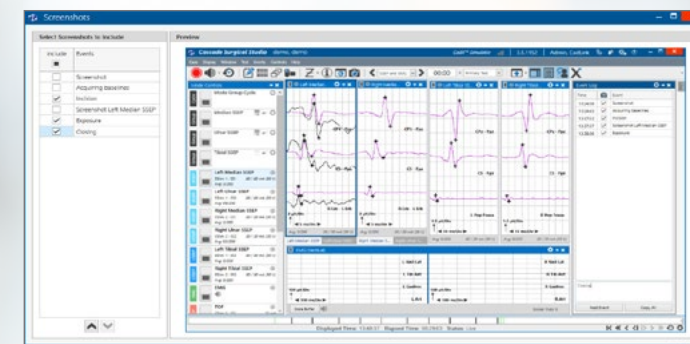
CASCADE SURGICAL STUDIO

Cascade® Surgical Studio (CSS) IONM Software enables all-modality monitor for SSEP, EMG, TEMG, MEP, EEG, DWave, and TOF with CadCapture.

- Streamline Your IONM Workflow
- Capture Critical IONM Information
- Deliver Clinical Excellence in the OR
- Monitor All Modalities in the OR
- Strengthen IONM Documentation
- Remote monitoring and integrated chat are powerful tools for communication with colleagues during surgery
- Optimize quality IONM management

Order	Part No.
Cascade Surgical Studio IONM Software	950032

Options	Part No.
VEP software	369028-453
VEP software + Goggles	9720024
BAEP software	369028-452
BAEP software + Insert Earphones	9720019
Video software	369028-455
Remote Monitoring / Direct Connect (for acquisition PCs)	369028-451
Reader Software License (for reader PCs)	369050-201 350180-000
Case Data Export	369028-458
CadX Simulator, Educator License	369050-462
Automatic Threshold Detection	369050-465



CADX SIMULATOR

CadX® is a comprehensive training and teaching tool that uses the same procedure setups and software functions as you use in the OR.

CadX simulates realistic IONM data to demonstrate anesthesia effects, technical setup errors, trace characteristics (physiological or not), pedicle screw stimulation, and more. CadX is software-based and requires no hardware.

CASE DATA EXPORT FOR ANALYSIS

Ideal for research settings, you can now export waveform data, events, and more to EDF+ for analysis in third-party software (license required).

AUTOMATIC THRESHOLD MODE

Fast and accurate pedicle screw threshold testing can be achieved using Automatic Threshold Mode with a specially-designed anatomical interface and dedicated surgeon view (license required).

Computers purchased from Cadwell include Microsoft Office. Computers may change. Call your Cadwell Sales Representative for the latest available computer options.



ALL-IN-ONE DESKTOP PC 27 IN

Requires no external monitor. Compatible with any single-monitor configuration.



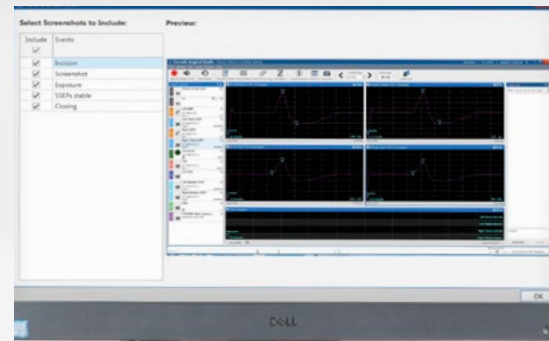
HIGH PERFORMANCE LAPTOP PC

Can be used with external monitor(s).



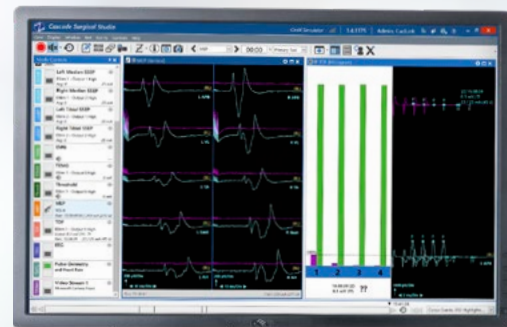
SMALL FORM FACTOR PC

Use with Dual Monitor Kit or monitors.



27 IN FLAT PANEL WIDESCREEN MONITOR

For use with Laptop or SFF Desktop PC on single-monitor carts.



24 IN FLAT PANEL WIDESCREEN MONITOR

For use with Laptop or SFF Desktop PC (also available in Dual Monitor Kit for SFF).

Order Qty.	Product	Part No.
Your choice of	All-in-One Desktop PC (27") (needs no external monitor)	9602139
	High performance laptop PC (not for use as CadLink server)	9602140
	+ (optional) Portable DVD drive	291238-000
	Small Form Factor (SFF) Desktop PC	9602137
	+ (optional) Dual Monitor Kit for SFF (includes 2x24 in monitors)	9602011
+ your choice of	24 in Flat Panel Widescreen Monitor	9602009
	27 in Flat Panel Widescreen Monitor (compatible with single monitor carts)	291255-000
+ optional	USB Mouse	291161-000
	Soundbar Speaker (for 24 in monitor only)	291216-000
	USB Speaker	291258-200

CARRYING CASES



PELICAN CASE

Safeguard your PRO system for storage and transport with the Cadwell Pelican™ Case. Waterproof, carry-on sized hard case with a TSA-approved lock, wheels, and a retractable handle.



SOFT CARRY CASE

Transport your mobile monitoring system with this carry-on sized soft carry case with wheels and retractable handle.



SOFT LAPTOP CASE

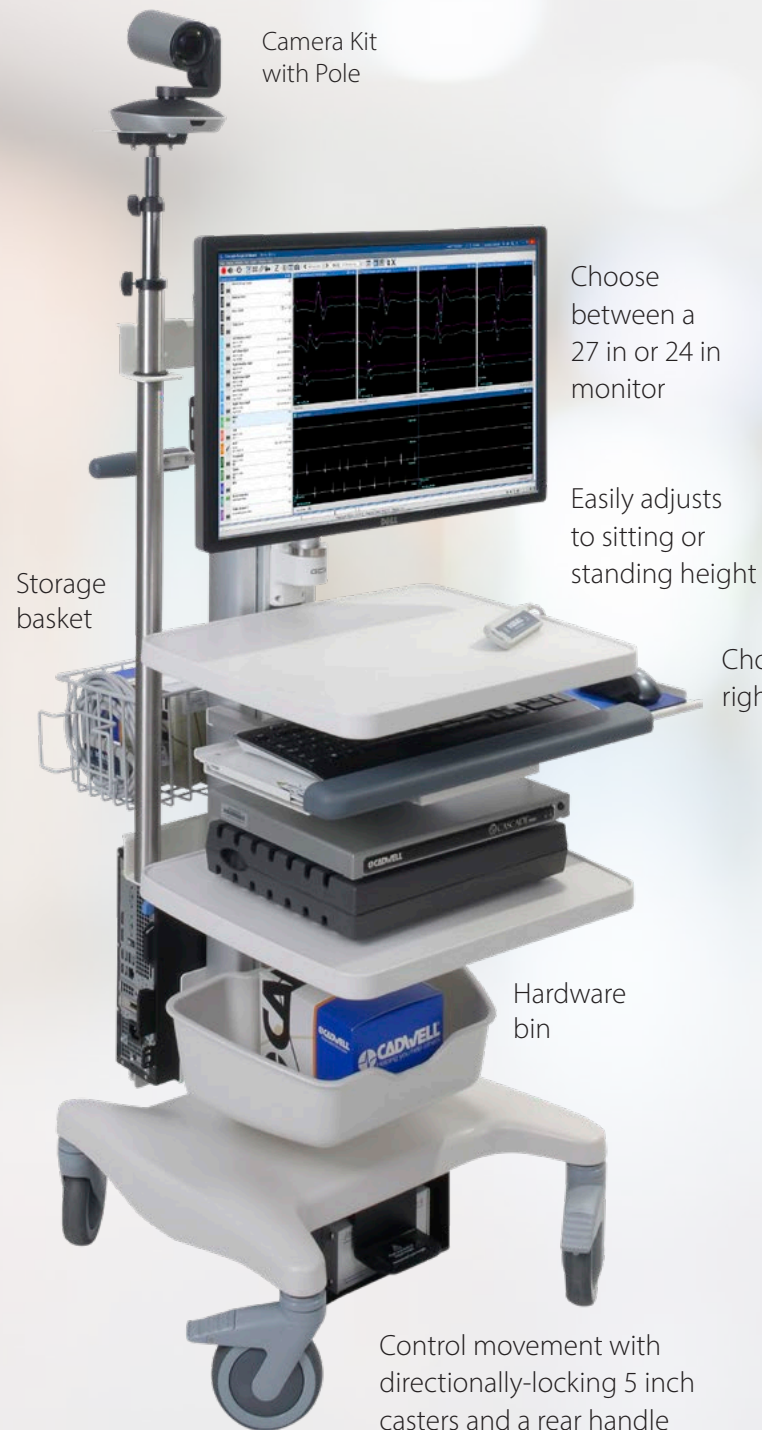
Mobilize your laptop with this soft laptop case.



DUFFLE BAG

Store cables and accessories.

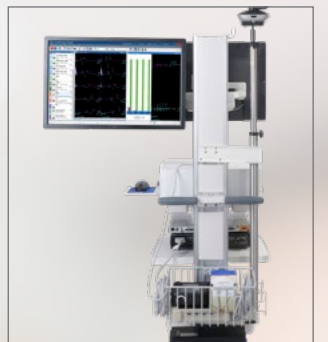
Order Qty.	Product	Part No.
Your choice of	Pelican Case	198240-000
	Soft Carry Case with Wheels and Handle	198204-000
	Soft Laptop Case	198201-000
	Duffle Bag	198202-000



C1 CART - SINGLE MONITOR

The C1 Cart comes standard with an isolation transformer, storage basket, hardware bin, and storage bin.

Order Qty.	Product	Part No.
C1 Cart Single Monitor	for Small Form Factor (SFF) PC	9600122
	Tall Column, Single Monitor for SFF PC	9607098
	for Laptop PC	9600123
	for All-in-One PC	9600124
1	Camera Kit with Pole	9600121
1+	Accessory Bag (not shown)	198187-000



Surgeon view, handle and supplies basket



Removeable supply drawer. Order extra supply drawers for each technologist

C1 CART - DUAL MONITOR

The C1 Cart with Dual Monitor comes with an isolation transformer, storage basket, hardware bin, storage bin, and a dual monitor mount with 180° horizontal monitor adjustment.

Order Qty.	Product	Part No.
C1 Cart Dual Monitor	for Small Form Factor (SFF) PC	9600125
1+	Removeable Supply Drawer	111188-000
1	Camera Kit with Pole	9600121
1+	Accessory Bag (not shown)	198187-000

The C2 Cart is designed to combine quality, functionality, and future flexibility for Cadwell IONM systems and accessories. It can be configured with single or dual side-by-side monitors. C2 comes with a worktop with one removeable supply drawer (order more for multiple technologists), pull-out keyboard tray with left and right mousepads, large casters and a rear handle for easy transport, and a new, small isolation transformer that comes preinstalled under the wheel base. C2 Cart can be configured for Cascade PRO and Cascade IOMAX systems.



Upgraded workstation



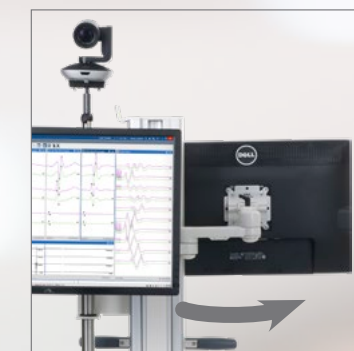
Standard workstation

C2 CART WITH SINGLE MONITOR

C2 Cart with Single Monitor includes an isolation transformer, a front bin, a shelf for the Base Unit and Amplifiers, a keyboard and mouse tray, a basket with cable hooks, and a worksurface without a drawer. Upgrade to a worksurface with a drawer, and order extra drawers for multiple technologists.

Order Qty.	Product	Part No.
Your choice of C2 Cart - Single Monitor	for Small Form Factor (SFF) PC	9607094
	for Laptop or All-in-One PC	9607095

Order Qty.	Product	Part No.
1	PTZ Camera Kit with Telescoping Pole	9600121
1+	Accessory Bag	198187-000
1	Upgrade to worksurface with removeable supply drawers	111187-000
1+	Additional Supply Drawers	111188-000



Rotate for surgeon view



Removeable supply drawer

C2 CART WITH DUAL MONITOR

C2 Cart with Dual Monitor includes an isolation transformer, a front bin, a shelf for the Base Unit and Amplifiers, a keyboard and mouse tray, a worksurface with a removeable supply drawer, a basket with cable hooks, and a dual monitor mount with 270° horizontal monitor adjustment.

Order Qty.	Product	Part No.
C2 Cart - Dual Monitor	for Small Form Factor (SFF) PC	9607093

Order Qty.	Product	Part No.
1	PTZ Camera Kit with Telescoping Pole	9600121
1+	Accessory Bag	198187-000
1+	Additional Supply Drawers	111188-000



BAEP INSERT EARPHONE KIT

Used for Auditory Response, and connects to QuickConnect Insert Earphone Cable. ER-3C 10ohms kit includes 2 speakers, attachable Velcro patient straps, 3 pairs of color-coded tubing, 2 impedance adaptors, 2 connectors, 2 Velcro clips, and foam ear tips (10 pediatric + 50 adult + 4 jumbo).

Order Qty.	Product	Part No.
1	Insert Earphone Kit	198235-000
1	Insert Earphone PRO Cable	355350-200
1	BAEP Extension Cable, 25 ft	355339-200
1	Hook and Loop Clips	202699-000
Extra	Ear Tips and Impedance Adaptors	see below

Order	Size	Part No.	Qty.
Foam Ear Tips	A pediatric	202692-000	50/pk
	B adult	202710-000	50/pk
	C jumbo	202693-000	24/pk
Connectors	-	202691-000	10/pk
Neonate/ Pediatric Ear Tips	D 4 mm (0.16 in)	202742-200	20/pk
	E 5 mm (0.20 in)	202743-200	20/pk
	F 6 mm (0.24 in)	202744-200	20/pk
Impedance Adaptors	G -	202690-000	5/pk



INSERT EARPHONE CABLE

Connects BAEP Insert Earphones to either AUX port on the side of the Base Unit.



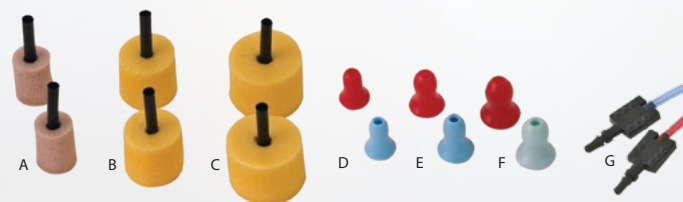
BAEP EXTENSION CABLE, (25 FT)

Expand your reach for BAEP Insert Earphones with this 25 ft extension cable. 15P Headphone Ext 25 ft/7.62m.



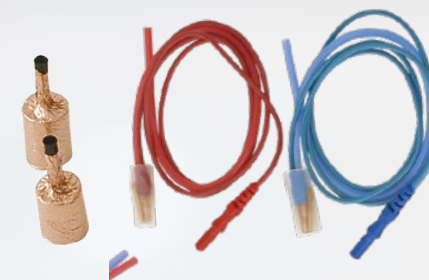
HOOK AND LOOP CLIPS, 6-PACK

Stick the Velcro side to Earphone Transducer, and then attach to patient gown to hold recording lead wire in place.



EAR TIPS AND IMPEDANCE ADAPTORS

Neonate and pediatric ear tips connect to the ear phone tubing by impedance adaptors. Quantities vary.



GOLD FOIL EAR TIPS AND TUBING WITH RECORDING LEAD WIRE

Neonate and pediatric ear tips connect to the ear phone tubing by impedance adaptors.

Order Qty.	Product	Part No.
1 pair	Recording lead wire tubing	202688-000
20/pk	Adult gold foil ear tips	202689-000
20/pk	Pediatric gold foil ear tips	202695-000



RIGHT ANGLE INSERT EARPHONE SUPPLIES

Threaded right angle adaptors and threaded foam tips are a convenient and quick way to change out the foam ear tips. If using the replacement tubing (202698-000), first remove the existing straight adaptor from the tubes and insert the right angle threaded adaptor. Quantities vary.

Order Qty.	Product	Part No.
10/pk	Right-angle threaded adaptor	202681-200*
12/pk	Foam ear tips – slim 0	202682-000*
12/pk	Foam ear tips – standard 0	202683-000*
1 pair	Replacement tubing (clear, red+blue stripes)	202698-000*

*Call for availability.



VEP-LED GOGGLES

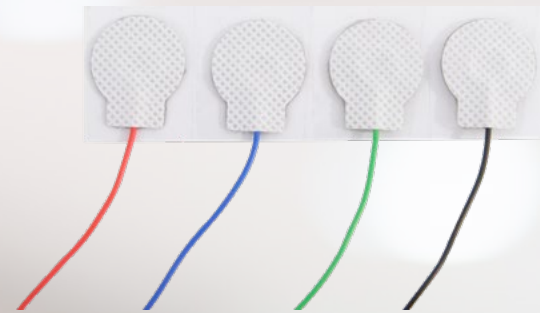
Connects in either AUX port on the side of the Base Unit. The cable is 10 ft/3 m. Use with Auxiliary Cable for more length.



AUXILIARY CABLE (AUX)

Use as a VEP extension cable.

Order Qty.	Product	Part No.
1	VEP-LED Goggle	199253-200
+ your choice of	10 ft/3 m Aux Cable	355320-200
	25 ft/7.6 m Aux Cable	355325-200



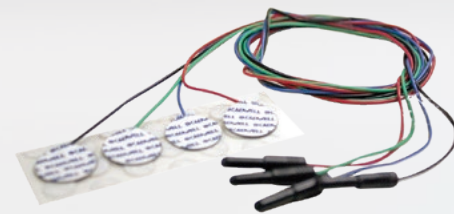
NEW -CADWELL DISPOSABLE 4-DISC ELECTRODES WITH LEADS

Ag/AgCl sensor and an extra thick and flexible conductive gel. Use for recording, stimulation and ground use. Highly flexible and can be repositioned on all types of skin. Designed for patient comfort and user friendliness with soft wires and an optimized connector for easy headbox insertion and extraction. Disc diameter is 20 mm. 10 per box.

Length		Part No.
1 m	39 in	302298-000-039
1.5 m	59 in	302298-000-059
2 m	79 in	302298-000-078
2.5 m	98 in	302298-000-098
3 m	118 in	302298-000-118

Surface, Twisted Disposable Electrodes - 24 pack			
Length		Part No.	
20x15 mm	1.5 m	60 in	302853-000-060
20x15 mm	2.5 m	100 in	302853-000-100
27x20 mm	1.5 m	60 in	302854-000-060
27x20 mm	2.5 m	100 in	302854-000-100

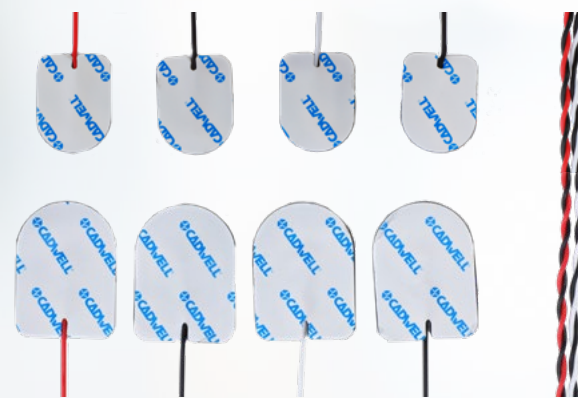
Single Disposable Surface Electrodes - 12 pack			
Length		Part No.	
27x20 mm	2.5 m	100 in	302852-000-100



ORIGINAL - CADWELL DISPOSABLE 4-DISC ELECTRODES WITH LEADS

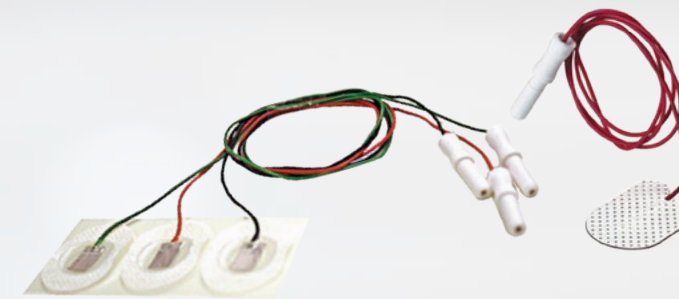
Four disposable disc electrodes with hydrogel are attached to wires in red, blue, green, and black. Hydrogel is formulated so it stays on the patient better and is still movable. Four mil carbon film, silver/silver chloride coated. Disc diameter is 19 mm (0.75 in). Individually sealed sets of four leads. Single patient use only. 20 per box.

Length		Part No.
1m	39 in	302290-000



CADWELL DISPOSABLE SURFACE ELECTRODES WITH LEAD WIRES

Single surface electrodes are pre-attached to wires in red, black, and white. Twisted surface electrodes are pre-attached to wires a red/white and black/white combo. Four mil carbon film, silver/silver chloride coated. Hydrogel is formulated so it stays on the patient better and is still movable. Single patient use only. Singles: 12 individually sealed 4-packs. Twisted: 24 individually sealed pairs.



AMBU® NEUROLINE DISPOSABLE TAB ELECTRODES WITH LEAD WIRES

Self-adhesive electrodes are easy to reposition and feature high quality silver/silver chloride sensor for optimum signal quality. The 30x22 mm pads have color-coded lead wires. The 28x20 mm have a duck-foot style for better grip. Single patient use only. 12 per pack.

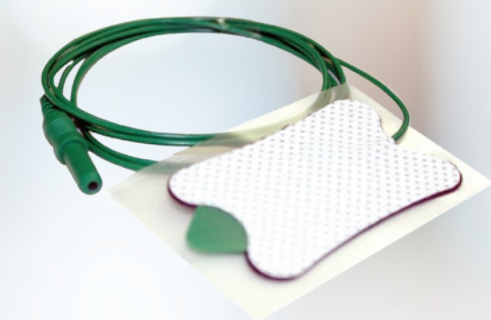
Length		Part No.	
30x22 mm	0.5 m	20 in	202380-000
30x22 mm	0.8 m	32 in	202381-000
28x20 mm white lead	1.5 m	60 in	202383-000-060-PK12
28x20 mm color coded lead	1.5 m	60 in	202384-000-060



CADWELL DISPOSABLE GROUND ELECTRODE WITH LEAD WIRE

Adhesive Ground Electrode 40x50 mm surface; green lead wire. 20 per box.

Length		Part No.
1 m	39 in	302299-000-039
1.5 m	59 in	302299-000-059
2 m	79 in	302299-000-078
2.5 m	98 in	302299-000-098
3 m	118 in	302299-000-118



AMBU® NEUROLINE DISPOSABLE GROUND ELECTRODE WITH LEAD WIRE

Ground electrode, with attached lead wire, is easily repositioned and conforms to the curves of the body. Utilizes a special green tab which makes it easy to grasp. Each individual electrode is packaged in a foil pouch for longer shelf life. Single patient use only. 25 per box.

Length		Part No.
1 m	40 in	202382-000
1.5 m	60 in	202382-000-060-BX25



CADWELL DISPOSABLE SUBDERMAL NEEDLE ELECTRODES

Single subdermal needle with ultra-sharp tip for low penetration resistance. Four sets of six colors. EO gas sterilized. Single patient use only. 24 per box.

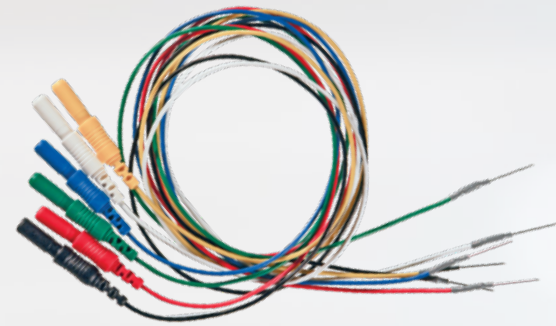
Length	Needle	Diameter	Part No.
1m	40 in	13 mm	302353-000-040
1.5m	60 in	13 mm	302353-000-060
2m	80 in	13 mm	302353-000-080
2.5m	100 in	13 mm	302353-000-100



TECHNOMED DISPOSABLE EXTRA SMALL SUBDERMAL NEEDLE ELECTRODES

Single 7 x 0.3 mm (0.28 in x 30G) stainless steel needles in four sets of six color-coded PVC 1.5 m (4.9 ft) lead length electrodes with safety DIN 42802 connectors. EO gas sterilized. Single patient use only. 24 per box.

Part No.
202307-000-015



AMBU® NEUROLINE DISPOSABLE SUBDERMAL NEEDLE ELECTRODES

Lancet cut stainless steel needle with ultra-sharp tip for low penetration resistance, low noise and low impedance level. Color-coded attached lead wires. EO gas sterilized. Needle length: 12 mm (0.5 in) diameter: 0.4mm (27G). Single patient use only. 24 per box.

Length	Part No.	
0.5m	20 in	202353-000
1m	40 in	202354-000
1.5m	60 in	202356-000
2.5m	100 in	202355-000



CADWELL DISPOSABLE PARALLEL SUBDERMAL NEEDLE ELECTRODES

Vacuum-smelted, high-elastic and medical grade stainless steel wires. Safe-touch DIN 42802. 13x0.4 mm (0.5 in x 30G) parallel needle pairs. Single patient use only. 10 colored pairs in individual pouches per box.

Length	Part No.	
1.5 m	4.9 ft	302822-000-060
2.5 m	8.2 ft	302822-000-100



CADWELL DISPOSABLE SIX-PARALLEL SUBDERMAL NEEDLE ELECTRODES

Easy to operate and wind during procedures. 10 sets of six-parallels individually packaged in each box. Needles 13 x 0.4 mm (0.5 in x 30G), 1.5 m lead. Single patient use only. 10 per box.

Part No.
302824-000-060



AMBU® NEUROLINE TWISTED DISPOSABLE SUBDERMAL NEEDLE ELECTRODES

Stainless steel needle with ultra-sharp lancet cut for easy penetration and secure recording. Twisted lead wires reduce noise and impedance levels giving a clean, clear signal. EO gas sterilized. Red, green, blue, yellow, and orange twisted with black and white wires. Single patient use only. 20 per box.

Length	Needle	Diameter	Part No.			
1.0 m	40 in	12 mm	0.5 in	0.4 mm	27G	202820-000-040
1.5 m	60 in	12 mm	0.5 in	0.4 mm	27G	202820-000-060



CADWELL TWISTED DISPOSABLE SUBDERMAL NEEDLE ELECTRODES

Double subdermal needles with ultra-sharp tip. Twisted lead wires reduce noise and impedance levels giving a clean, clear signal. Red, green, blue, yellow, orange, and purple twisted with black and white wires. EO gas sterilized. Single patient use only. 12 per box.

Length	Needle	Diameter	Part No.			
1.5 m	60 in	7 mm	0.27 in	0.4 mm	27G	302826-000-060*
1.0 m	40 in	13 mm	0.5 in	0.4 mm	27G	302820-000-040
1.5 m	60 in	13 mm	0.5 in	0.4 mm	27G	302820-000-060
2 m	80 in	13 mm	0.5 in	0.4 mm	27G	302820-000-080
2.5 m	100 in	13 mm	0.5 in	0.4 mm	27G	302820-000-100

*Call for availability



CADWELL SIX-TWISTED SET DISPOSABLE SUBDERMAL NEEDLE ELECTRODES

Convenient set of six twisted subdermal needle electrodes for reduced time of setup and lower cost per needle. EO gas sterilized. Each twisted set comes with red, yellow, blue, green, black and white. 10 sets per box. Single patient use only. Needles 13 x 0.4 mm (0.5 in x 27G), 1.5 m lead.

Part No.
302821-000-060

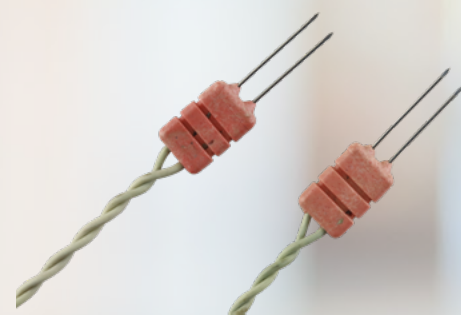


TECHNOMED HOOKED NEEDLE ELECTRODES

Tangle-free, color-coded 2 m (80 in) lead wires and stainless steel lancet cut 21 x 0.45 mm (0.83 in x26G) needle tip offer easy insertion and clear signals. Red, green, black, white, yellow and blue. EO gas sterilized. Single patient use only. 24 per box.

Part No.
202306-000-020*

*Call for availability.



CADWELL ENT DUAL DISPOSABLE NEEDLE ELECTRODES

12 x 0.4 mm (0.47 in x 30G) needle pairs with varying lead lengths. 12 dual needles per pouch, 12 pouches per box. Single patient use only.

Length	Part No.
1 m	302825-000-040*
1.5 m	302825-000-060*
2 m	302825-000-080*
2.5 m	302825-000-100*

*Call for availability.



CADWELL SUBDERMAL CORKSCREW

Standard single stainless steel corkscrew needle keeps it stable during use. Four sets of six colors. Individual sterile packaging. EO gas sterilized. Single patient use only. 24 per box.

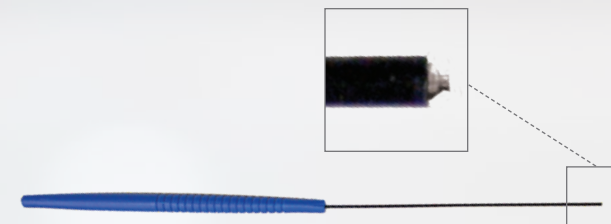
Length	Part No.
1.2 m	302357-000
2 m	302358-000



CADWELL STERILE TWISTED CORKSCREW DISPOSABLE NEEDLE ELECTRODES

Stainless steel 0.6 mm (23G) corkscrew needle electrodes with varying lead lengths. Single patient use only. 12 per box.

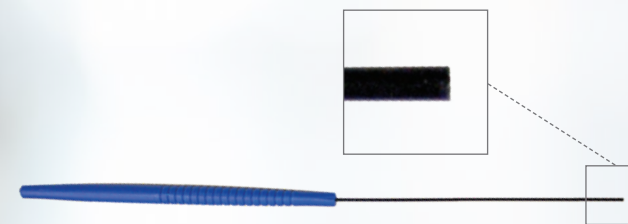
Length	Part No.
1.2 m	302360-000-048
1.5 m	302360-000-060
2 m	302360-000-080
2.5 m	302360-000-100



CADWELL DISPOSABLE MONOPOLAR PROBE

For direct nerve stimulation, pedicle screw stimulation, and stimulating across the bulk of a tumor to identify the course of a nerve. Teflon[®] coated with a blunt tip for low nerve trauma. Fits easily into the head of poly-axial and fixed-head pedicle screws. Bend shaft up to 30° for microscope use. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. Quantities vary.

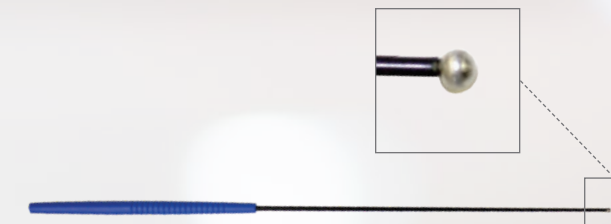
Shaft Length	Part No.	Qty.
90 mm	302427-000	10/box
275 mm	302427-000-275	5/box



CADWELL DISPOSABLE FLUSH TIP MONOPOLAR PROBE

Suitable for direct nerve stimulation and locating. Shaft length 90 mm (4 in) and lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. 10 per box.

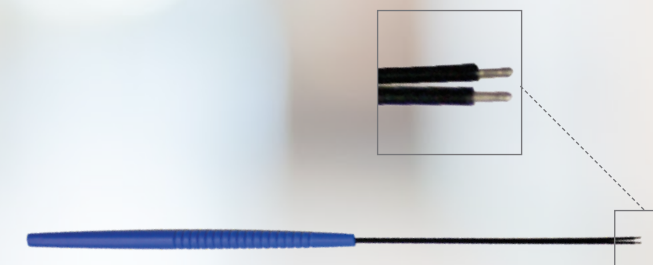
Part No.
302426-000



CADWELL DISPOSABLE BALL-TIP MONOPOLAR PROBE

Stimulate pedicle screws. Insulated shaft helps prevent current shunting. Exposed Ø2.3 mm ball tip. Bend shaft 30° for microscope use. Multiple shaft lengths for various procedures including lateral access. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. Quantities vary.

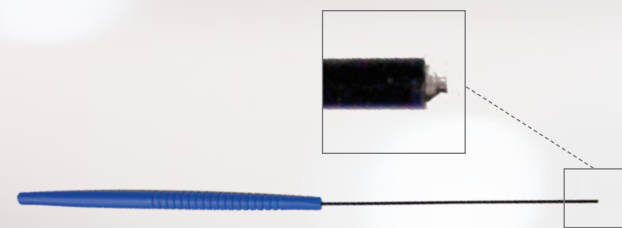
Length	Part No.	Qty.
90 mm	302430-000-090	10/box
160 mm	302430-000-160	10/box
160 mm	302404-000-160	1
200 mm	302430-000-200	10/box



CADWELL SIDE-BY-SIDE BIPOLAR PROBE

Use for direct nerve stimulation or stimulation through a small amount of tissue. Two probe tips limit the spread of current and increase specificity. Tip spacing is adjustable from 2 mm. Add a 30° bend in the shaft for use under a microscope. 90mm shaft, 2 mm spacing. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. 10 per box.

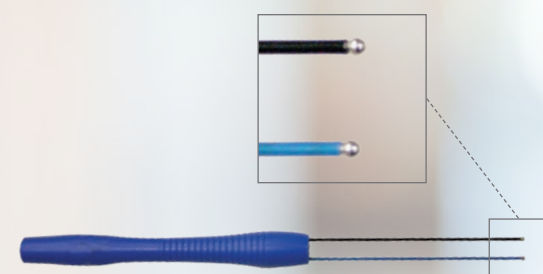
Part No.
302429-000



CADWELL DISPOSABLE CONCENTRIC PROBE

Stimulated with minimum current spread and maximum stimulus specificity. This offers an outer circumferential anode pole and an inner, straight cathode pole separated by insulation and Teflon coated to the tip. Bend probe shaft up to 30° for microscope use. Lead length 200 cm (78 in) and shaft length 90 mm (4 in). Individual sterile packaging. Single patient use only. 10 per box.

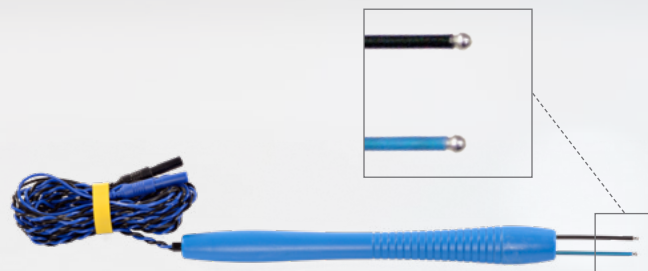
Part No.
302425-000



CADWELL DISPOSABLE DOUBLE BALL-TIP PROBE

Stimulate or record directly from the peripheral nerves and nerve roots. The Ø2 mm Double Ball tips are spaced 10 mm apart on 80 mm shafts. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. One per pack.

Part No.
302431-000



CADWELL BIPOLAR CORTICAL STIM BALL-TIP PROBE

Stimulate the cerebral cortex directly. The Ø2 mm Double Ball tips are spaced 10 mm apart on 30 mm shafts. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. One per pack.

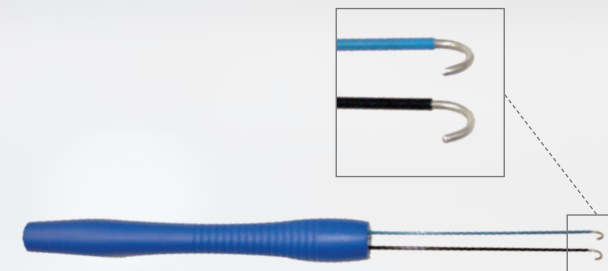
Part No.
302431-030



CADWELL DISPOSABLE BENT BALL-TIP MONOPOLAR PROBE

Stimulate pedicle screws. The 20 cm (7.8 in) insulated shaft after 75° bend helps prevent current shunting and the exposed Ø2.3 mm ball tip provides a contact area for stimulation. Individual sterile packaging. Single patient use only. 10 per pack.

Part No.
302428-000



CADWELL DISPOSABLE DOUBLE AND TRIPLE HOOK PROBES

For stimulating or recording directly from the peripheral nerves and nerve roots. 90 mm shafts with 5 mm adjustable spacing. Lead length 2 m (6.5 ft). Individual sterile packaging. Single patient use only. One per pack.

Length	Part No.
90° Double Hook Probe	302420-000
100° Double Hook Probe	302421-000
180° Double Hook Probe	302422-000
100° Triple Hook Probe	302423-000
180° Triple Hook Probe	302424-000



DRYTOUCH[®] SUCTION STIMULATOR PROBE WITH NEEDLES

Provide a dry stimulation field. The ball-tip design delivers repeatable stimulation while simultaneously evacuating conductive fluids that cause electrical shunting. 13 cm needles. Single patient use only. 5 per box.

Part No.
202419-000*

*Call for availability.



AD-TECH EPIDURAL SPINAL ELECTRODE

Three platinum contacts are ideal for recording D-waves during motor evoked potential monitoring. 16G Tuohy needle and internal stylet included. Attached 121 cm (48 in) ribbon cable terminates in standard touch-proof connectors. Individual sterile packaging. Single patient use only. One per pack.

Part No.
202830-000



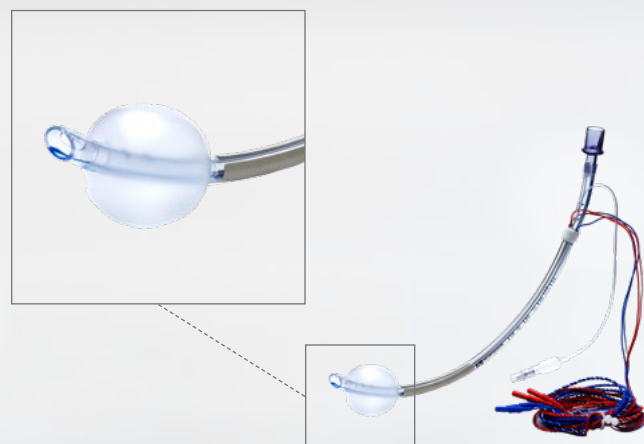
Large 1-channel

Small 2-channel

DRAGONFLY® LARYNGEAL SURFACE ELECTRODE

For continuous monitoring of the recurrent laryngeal branch of the Vagus nerve during surgery. When placed on a standard adult endotracheal tube (not included), the blue location markers on the electrode help confirm correct placement in the larynx. This electrode is the preferred electrode at teaching hospitals world-wide. Individually packaged, comes in boxes of five. Single patient use only. Not for EMT use. One per pack.

Product	Fits ET Tube	Length		Part No.
Large 1-ch	8 - 9.5 mm	76 cm	30 in	202426-000
Small 2-ch	6 - 7.5 mm	200 cm	78 in	202427-030
Large 2-ch	8 - 9.5 mm	200 cm	78 in	202427-050



1- AND 2-CHANNEL COBRA™ ET TUBE ELECTRODES

The Neurovision™ Cobra® 3-Plate EMG Endotracheal Tube is a patented technology, large atraumatic electrodes, universal compatibility, hermetically sealed connection, standard ET Tube and designed for precise placement. The Cobra 3-Plate tubes are robust electrodes that have been designed for impedance optimization and durability. Electrode geometry creates universal compatibility with single or multi channel systems. The high volume, low pressure cuff maintains the seal on the trachea. Color coded wires use a standard DIN and can identify the lateral vs. posterior electrode. Hermetically sealed wire connections protects from fluids to maintain a secure connection. 5 per box.

Product	Part No.
Cobra 3-Plate EMG Endotracheal Tube, 6 mm	202429-060
Cobra 3-Plate EMG Endotracheal Tube, 7 mm	202429-070
Cobra 3-Plate EMG Endotracheal Tube, 8 mm	202429-080



AD-TECH SUBDURAL STRIP ELECTRODE AND CONNECTION CABLE

For cortical mapping, cortical stimulation, and electrocorticography test procedures. This electrode strip has four or six numbered platinum contact discs 4 mm diameter with 2.3 mm exposure and 10 mm spacing in a flexible silastic body. Individually sterile packaged. Reusable connection cable sold separately. Also available in a one-piece version that is completely disposable. Single patient use only. One per pack.

Reusable Connection Cable and Electrodes	Part No.
1x4 Subdural strip electrode	202400-000
1x4 Reusable 1.8 m/6 ft electrode cable	202401-000
1x6 Subdural strip electrode	202402-000
1x6 Reusable 1.8 m/6 ft electrode cable	202403-000

Disposable Subdural Strip Electrode with Attached Cable	Part No.
1x4	202404-000
1x6	202405-000
1x8	202406-000



CADWELL PATENTED MULTI-STAGE CLIP

Clip-on style lead wire has a 1.5 mm touch-proof connector with a multi-stage wire form that auto adjusts to any diameter up to 3/4 in. Ideal for dilators. Lead length 1.83 m (6 ft). Sterilized for single use.

Part No.
302775-200-010 Leadwire, Multi-Stage Clip Sterile, 10 Pack
302775-200-150 Leadwire, Multi-Stage Clip Sterile, 150 Pack



CADWELL CLIP-ON LEAD WIRE

Clip-on style lead wire has a 1.5 mm touch-proof connector and a 65° angle plunger tip ideal for clipping onto instruments and probes. Up to 6.35 mm (.25 in). Lead length 1.83 m (6 ft). Sterilized for single use.

Part No.
302773-200-010 Leadwire, Plunger Clip-on Sterile, 10 Pack
302773-200-150 Leadwire, Plunger Clip-On Sterile, 150 Pack



NEEDLETAPE®

NeedleTape® is safe & effective solution when using Cadwell subdermal needles, twisted subdermal, and corkscrew needles to help prevent needle sticks. 2.5 x 3.75 in pieces. 96 per box.

Part No.
202365-000



Quad



Dual

CADWELL DUAL AND QUAD EXTENSION LEAD WIRES

Extension ribbon cables with touch-proof connectors for the OR. Non-sterile. One per pack.

Length	Color		Part No.	
Dual	1.52 m	60 in	blue, white	302774-200
Dual	4.57 m	180 in	blue, white	302774-200-180*
Quad	1.83 m	72 in	blue, green, orange, red	302781-200

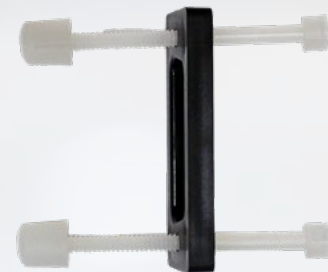


CADWELL REFERENCE JUMPER

Reference jumper features two stackable, 1.5 mm (0.06 in) touch-proof connectors and an ultra-flexible lead wire. One per pack.

Length	Color		Part No.
15 cm	6 in	blue	302169-200
249 cm	98 in	red	302167-200

*Call for availability.



QUICKCONNECT REPLACEMENT KIT

Replacement part for the PRO Cable connections at the Base Unit.

Part No.
340006-200



QUICKCONNECT CONNECTOR SAVER

Replacement part for the PRO Cable connections at the Base Unit.

Part No.
340007-200



NOISE DETECTION PROBE

Allows technologists to quickly locate sources of noise in the operating room. 200Ep Inductive Amp.

Part No.
198213-000



MULTICOLORED VELCRO STRAPS 5-PACK

Manage cables, wire and cords with 0.5 x 8 in multicolored Velcro straps.

Part No.
056040-000



TECHNICAL MANUAL

Digital version of the Cascade PRO Technical Manual, in CD or USB Drive formats.

Order	Product	Part No.
Your choice of	CD PRO Technical Manual	100822-621-200
	USB PRO Technical Manual	100822-621-201



Cadwell Industries, Inc. is an American, family-owned neurophysiology diagnostic and monitoring solutions provider founded in 1979 by brothers John and Carl Cadwell.

We engineer innovative and easy-to-use solutions that efficiently improve patient outcomes.

Our core competencies are full-spectrum EEG; Electrodiagnostic solutions for EMG, NCS, and EP with fully integrated Ultrasound; IONM; Sleep Diagnostics including in-lab PSG and HSAT; and a full suite of essential electrodes and accessories. We combine customer insight with decades of employee expertise to create cutting-edge technology and provide market-leading customer support.

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Cadwell Industries, Inc

909 N. Kellogg St. Kennewick, WA 99336

+1 (800) 245-3001 | +1 (509) 735-6481 | +1 (844) 364-1283 fax

info@cadwell.com

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Contact Us for a Demo

Scan the code on the right, or visit the Cadwell website and contact us to schedule a demonstration of Cadwell IONM solutions for your and your team.

www.cadwell.com/contact-us

