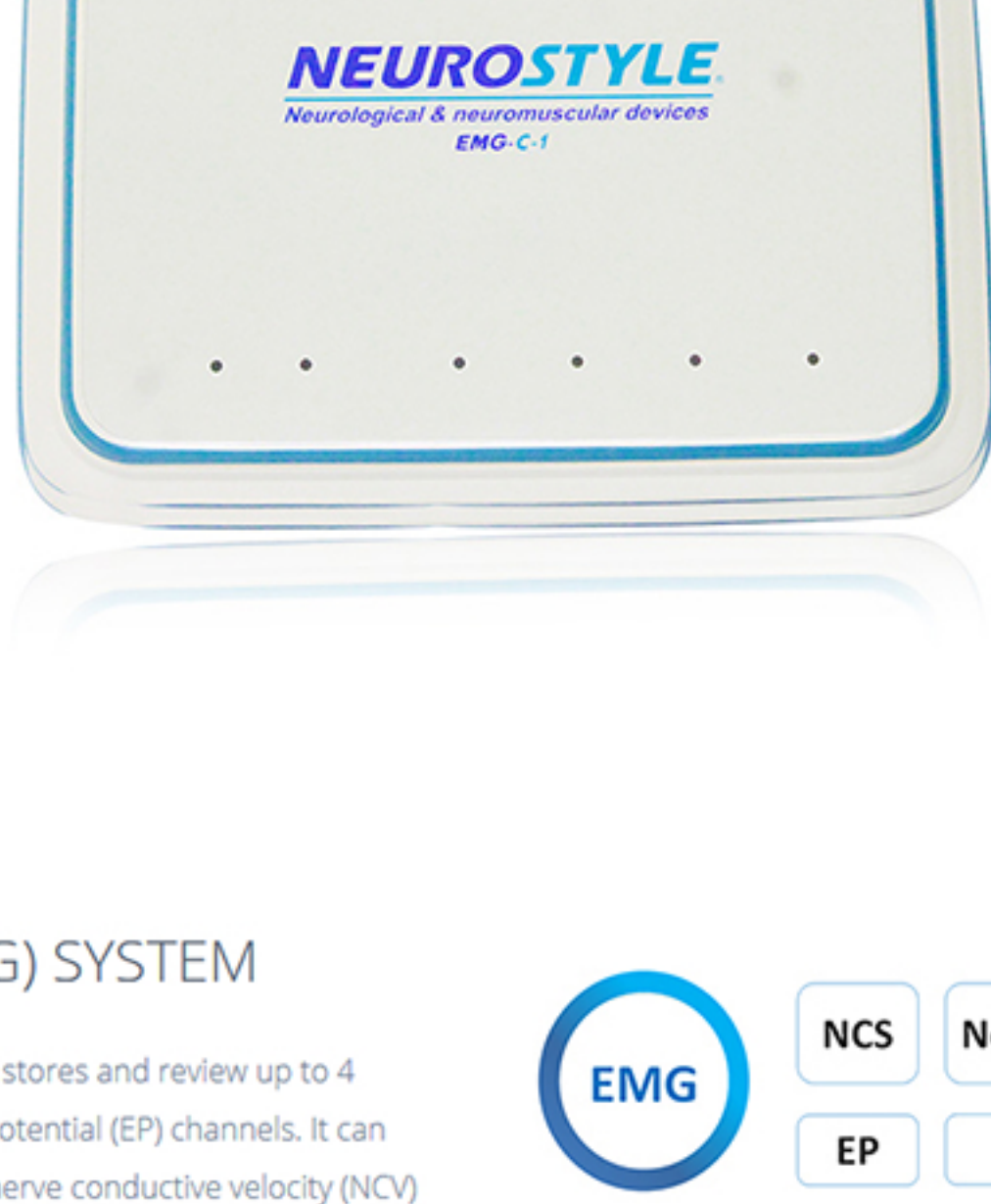


Products

EMG

ELECTROMYOGRAM (EMG) SYSTEM



EMG

ELECTROMYOGRAM (EMG) SYSTEM

NS-EMG-C-1 is a digital EMG device. It acquires, stores and review up to 4 channels of EMG data and 2 channels evoked potential (EP) channels. It can perform routine EMG recording, EP, as well as nerve conductive velocity (NCV) diagnostic examination.



NCS

Nerve Conduction Study

CHANNELS

2

EP

Evoked Potential

4

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Technical Specifications

Dimensions & Weights

size	Size: L310 xW250 X H55 mm
Amplifier Weight	2 Kg (approx)

Environmental

Operating temperature:	-40 to +40 C
Humidity:	<=90%
Atmospheric pressure:	960hPa to 1060hPa

Power Supply

Input:	Input: 100-240V AC+/- 10% @50Hz/60Hz
Power consumption:	Amplifier < 2 Watt

Performance

Performance	Support 1280X800, 1280X1024, 1366X768 Pixels colour display
Display area:	17 inch (depending on the computer configuration)
Language:	English
Report:	Print single page, print combined reports, print data and waves, print colour reports.

Technical Parameters

Amplifiers

Channel s:	2/4
Gain:	0.05µV /div -20KµV /div in variable steps.
Error of Gain:	<=10% for 50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K µV/div
Low Frequency:	0.1Hz -5KHz in variable steps.
High Frequency:	10 Hz-20KHz in variable steps.
Notch Filter:	50 or 60 Hz
Input impedance:	>1000MΩ
Noise :	≤0.4µV (Vp-p)
Amplitude calibration:	1 microV -10 MilliV
CMRR:	>=110dB
Sampling Rate:	200kHz
A/D Conversion Rate:	24 bit

Electrical Stimulator

Output intensity:	0-100mA.
Stimulus frequency:	0.1Hz-120 Hz
Duration:	50 – 1000µS in variable steps
Stimulus mode:	Single, paired, repetitive

Normal Auditory Stimulator

Stimulus type:	Click, Pure tone, customized tone
Maximum intensity:	>=130dB for click tone, >=120 dB for pure tone
Stimulus frequency:	0.1Hz-100 Hz

ASSR Auditory Stimulator

Stimulus intensity:	10-130 dB
Carrier frequency:	250 Hz -8K Hz
Modulation frequency:	20Hz-200Hz

Visual Stimulator

Stimulus intensity:	0-100mA.
Stimulus frequency:	0.1Hz-10 Hz
Stimulus graphics:	bars, checkerboard grid, customised pictures
Pattern size:	4X3, 8X6, 16X12, 32X24, 64X48

System Modules

Acquisition Module:	Display the EMG waves on screen and record them on recording media.
System Setting Module:	Set system parameters.
File Management Module:	help to manage EMG related files, including file search, deleting, copying, patient registration and editing.
Review Module:	Replay the saved EMG waves.
Calibration Module:	Calibrate the amplifier's output data.

Functional Modules

1. Electromyography (EMG):

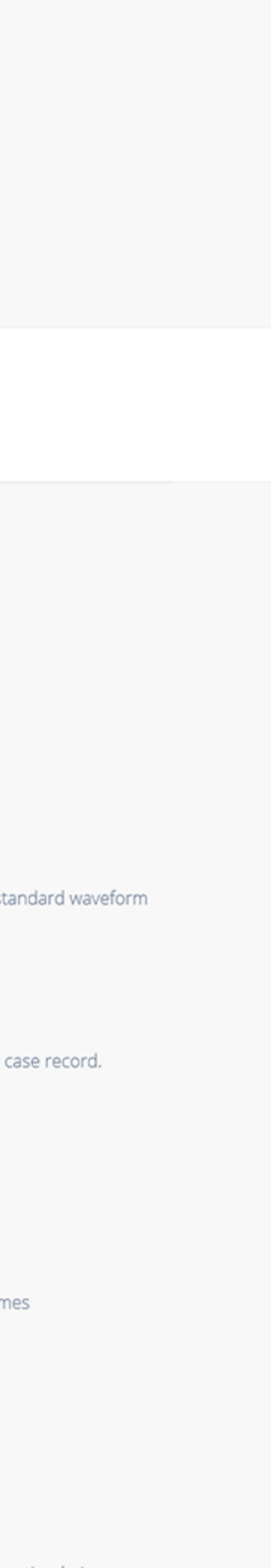
- Motor Unit Potential (MUP)
- Interference Phase (IP)
- Scanning EMG

2. Evoked potential (EP):

- Auditory Evoked Potential (AEP) : BAEP, LAEP, MAEP, EcochG, 40Hz
- Visual Evoked Potential (VEP) : EOG, ERG, FVEP, PRVEP
- Cognitive Evoked Potential : MMN, N400, P300
- Somatosensory Evoked Potential (SEP) : LSEP, SCEP, TSEP, USEP

3. Nerve Conductive Velocity (NCV):

- Blink Reflex (BR)
- F-Wave
- H-Reflex
- Motor NCV (MCV)
- Repetitive Nerve Stimulation (RNS)
- Sensory NCV (SCV)
- Short Segment Conduction (SSCT)
- Sympathetic Skin Response (SSR)



Software Features

1. Operation menu

- Customizable selection of EMG with common nerve/ muscle colour map.
- One key switch function for monitoring EMG, SCV, RNS and F-wave.
- Easy access to waveform data comparison
- Pull-down list structure for easy operation

2. Guide for Electrode Placement

- Easy-to-understand illustration for electrode placement, stimulation position and standard waveform

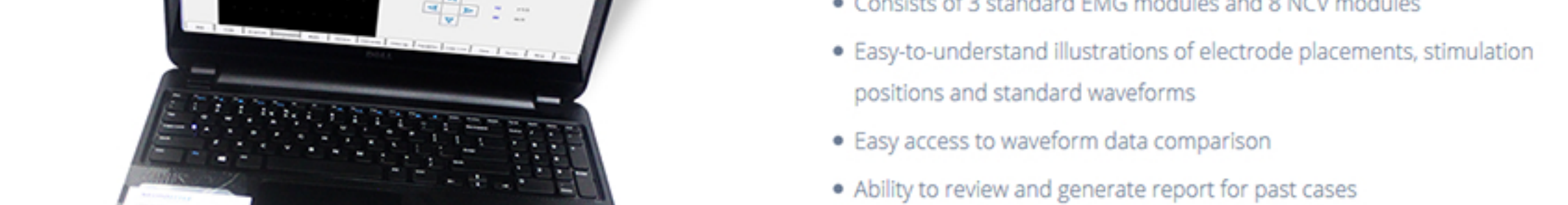
3. Case Management module

- Easily accessible through search by "Accurate Inquiry" or "Fuzzy Inquiry" for patient case record.
- Ability to replay, review and print reports for past cases

4. Examination Protocol: EMG

- Scanning EMG
 - Ability to replay and analyse stored, scanned waveforms measured multiple times
 - Automatic saving and extraction of data and result.
- Motor Unit Potential (MUP)
 - Automatic scanning of EMG waveform and selection of optimum MUP value
 - Automatic analysis of time limit, square, phase, frequency, etc.
 - Extraction of MUP during collection, display, analysis and replay of EMG signal
- Examination Protocol: EP
 - Monaural or binaural stimulation: change of stimulation polarity and alternative stimulation
 - Audio signal output: rare wave, dense wave, alternative wave
 - Monocular or binocular stimulation during interval
 - Improved efficiency through rapid extract algorithm; efficient data selection and overlay analysis
 - Waveform is marked automatically
 - Dynamic display of examination results in spectrum format
- Examination Protocol: NCV
 - NCV examination procedure is simple. Nerve examination plan can be pre-established.
 - One key switch for nerve switch and lateral switch, and the item can be stored automatically after test.
 - Waveform caching function enables saving of multiple waveforms with the same examination point.
 - With waveform comparison function, saved waveforms can be shown on the same screen.
 - Four-channel synchronised signal acquisition is offered.
 - Dual-screen display is featured, one screen displaying F-Wave/H-wave separately, the other screen displaying overlay.
 - Latency value and graphic amplitude, rapid data observation with measurement lines are displayed.

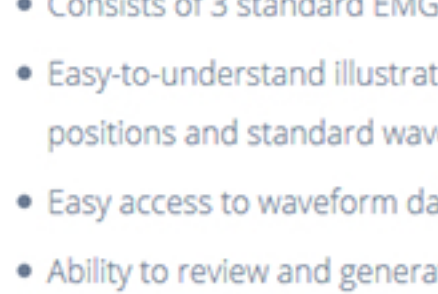
Accessories



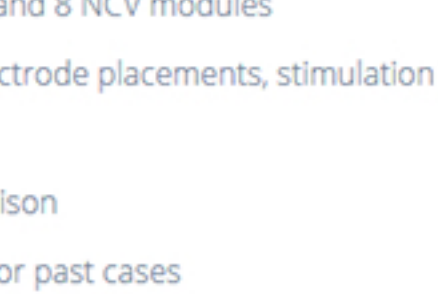
NS-EMG-C-1-CLIP3 EMG 3-core clip electrode



NS-EMG-C-1-CLIP2 EMG 2-core clip electrode



NS-EMG-C-1-CUP2 EMG 2-core cup electrode



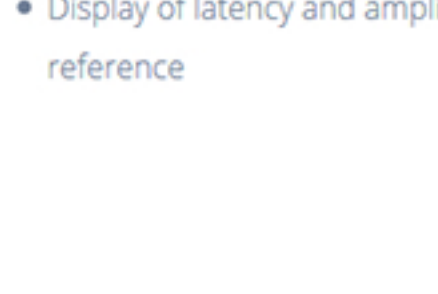
NS-EMG-C-1-RING Ring electrode



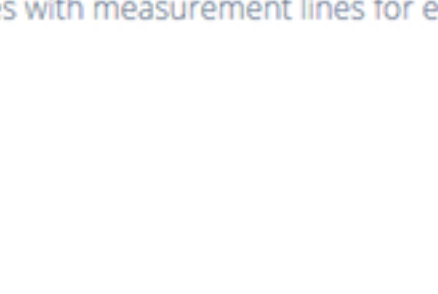
NS-GRD-CLIP Single touchproof grounding cable (Clip)



NS-GRD-DISC Single touch-proof grounding cable (Disc)



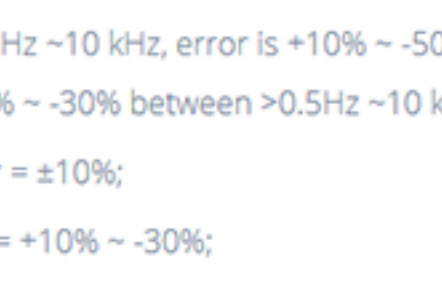
NS-STIM-CURR-BAR Saddle electrode (Bar-Type)



NS-STIM-CURR-FELT Saddle electrode (Felt-Type)



NS-STIM-AV-HIP Audio stimulation headphones (AEP only)



NS-STIM-AV-GG Visual stimulation goggles (VEP only)



NS-STIM-N EMG needle electrode cable



NS-STIM-DB15 DB15 Extension Cable (EP only)

EMG/EP

System Key Features

- Pre-amplifier operable with up to 4 EMG channels
- High signal quality with USB data transmission, shielding the signal from power line interference
- Consists of 3 standard EMG modules with 4 EP modules
- Easy-to-understand illustrations of electrode placements, stimulation positions and standard waveforms
- Easy access to waveform data comparison
- Ability to review and generate report for past cases



Amplifier Parameters

Current Stimulation Parameters

Audio and Visual Stimulation Parameters

- Display Sensitivity: 0.05µV/div ~ 20.00µV/div, ±10% error. No precision requirements below 50µV/div.
- Frequency-Amplitude Characteristics: 0.2Hz ~10 kHz, error is +10% ~ -50% between 0.2Hz ~ ≤0.5Hz, and error is +5% ~ -30% between >0.5Hz ~10 kHz.
- Scan Speed: 1ms/div ~ 5000ms/div; error = ±10%;
- High-Pass Filter: 10Hz ~ 20.000Hz; error = +10% ~ -30%;
- Low-Pass Filter: 0.1Hz ~ 5000Hz; error = +10% ~ -30%.
- Common Mode Rejection Ratio: ≥110dB;
- Input Impedance: ≥1000MΩ;
- Noise Voltage: ≤0.4µV (RMS);
- Resistance to Polarization Voltage: At ±300 mV DC polarization voltage, bias is ≤5%.

EMG/NCV

System Key Features:

System Key Features:

- Pre-amplifier operable with up to 4 EMG channels
- High signal quality with USB data transmission, shielding the signal from power line interference
- Consists of 3 standard EMG modules and 8 NCV modules
- Easy-to-understand illustrations of electrode placements, stimulation positions and standard waveforms
- Easy access to waveform data comparison
- Ability to review and generate report for past cases

Nerve Conduction Velocity (NCV)

- Waveform caching function enables saving of multiple waveforms with the same examination point
- Screen display of individual F-wave, H-wave and overlay
- Display of latency and amplitude values with measurement lines for easy reference

System Parameters:

A. Amplifier Parameters

- Display Sensitivity: 0.05µV/div ~ 20.00µV/div, ±10% error. No precision requirements below 50µV/div.
- Frequency-Amplitude Characteristics: 0.2Hz ~10 kHz, error is +10% ~ -50% between 0.2Hz ~ ≤0.5Hz, and error is +5% ~ -30% between >0.5Hz ~10 kHz.
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- Input Impedance: ≥1000MΩ;
- Noise Voltage: ≤0.4µV (RMS);
- Resistance to Polarization Voltage: At ±300 mV DC polarization voltage, bias is ≤5%.

B. Current Stimulation Parameters

- Current Pulse Output Intensity: Maximum output 100mA; at 0mA ~ 4mA, step difference is 0.01mA. Error = ±10%;
- Pulse Output Frequency: 0.1Hz ~120Hz, error = ±10%;
- Target Pulse Width: 50µs, 100µs, 200µs, 300µs, 500µs, 1000µs; error = ±10%;
- Stimulus Direction: Positive, Negative, and Two-Way.



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