

Technical Specification

Portable, Desktop and Cart based system solutions

*Height adjustable system
cart:*

Weight: ~55 kg

Dimensions: 82x54x58 cm

General specifications

Power supply:

110/230 VAC $\pm 10\%$

50/60 Hz

Isolation transformer:

300 W

Dimensions:

102x69x58 cm

Weight:

~75 kg (cart based
system)

Operational

Environment:

Temperature: 15-50°C

Relative humidity:

20-80%, non condensing

Altitude: 0-10000 m

Amplifiers

Amplifier options:

2, 4 or 8 channels

Electrode Inputs:

switchable bipolar inputs

Connector types:

Two 6 pin DIN sockets and

1.5 mm touch-proof input

jacks for NCV & EMG/EP

(industry standard)

Input Impedance:

>1000 M Ω

Maximum Input Range:

± 32 mV

CMRR:

>120 dB

>140 dB 50/60 Hz

>160 dB IMRR

Band Width:

0.01-100000 Hz

Noise:

<0.2 μ V RMS (2Hz-10kHz)

shorted input

Calibration:

Square wave generator

(amplitude and frequency user
definable)

Impedance Measurement:

Built-in impedance meter 0-80

K Ω at 20 Hz

Sensitivity:

0.01 μ V to 10 mV/division in 19
steps

Low Frequency Filter:

0.01 – 100000 Hz in

1 Hz steps

High Frequency Filter:

0.01-100000 Hz

Notch Filter:

off/50/60 Hz

Time base:

msec/division in 14 steps
(or endless)

Temperature Module

Built in temperature module

Surpass

A/D Converter:

16 Bits analog digital converter
at 1MHz

Stored:

1 channel up to 400kHz

2 channels up to 300kHz/ch

4 channels up to 150kHz/ch

8 channels up to 60 kHz/ch

Resolution:

0,6 nV (Quantification)

Averager:

Epochs: Autostop at maximum

30000 per Averager

Timing:

Trigger mode:

manual, repetitive or external

Stimulator frequency:

0.1-1000 Hz (0.01-1000 Hz

optional)

Stimulus Mode:

Single, Train, Pair, Collision

All with user definable

configuration at fixed or random

frequency. Dual stimulation

modes- simultaneous or

alternate.

EMG trigger:

Signal and free run

Electrical Stimulator

Independent Output:

2 channels

Stimulus Intensity:

0-5mA, 0-50mA, 0-100mA

Stimulator current:

0-5mA in 0.02mA steps,

0-50mA in 0.2mA steps &

0-100mA in 0.5mA steps

Stimulus count in train:

Up to 50

Stimulus duration:

100 μ sec. to 1000 μ sec.

Technical Specification

Surpass

Auditory Stimulator option

Stimulus Type:

Clicks, Pips, Burst, Voice, Half Sine, Full Sine

Stimulus Rate:

0.1 Hz to 100 Hz

Stimulus Intensity:

0 to 138 dB SPL or 0-100dB nHL in 1 dB steps

Stimulus duration:

10-1000 µsec.

Stimulus Polarity:

Condensation, Rarefaction, Alternating

Tone Frequencies:

250 Hz to 16000 Hz in 1 Hz steps

Tone Burst Plateau:

Rise, Plateau, Fall: 0-600 cycles with different rise plateau and fall cycle settings

Masking:

White noise

Masking level:

+40 dB up to -60dB

Tone Pip Cycles:

1-200 cycles

Computer performance

Laptop, Desktop, Panel & All-in-one PCs Operating system Windows 10/11

Min. PC specification

I5, 8GB RAM, 256 GB SSD

HIS Interface (optional)

SQL Database HL7 Interface

EMS supplies latest PCs, check for current PC specification.

Visual Stimulator option

Stimulus Mode:

Pattern Reversal Checkerboard Horizontal and vertical bars

Pattern Flash

LED Goggles or LED photic stimulator

Stimulus Field:

Full Field

Half Field (left, right)

Quarter Field (upper right, lower right, upper left, lower left)

Pattern type:

2x2 – 256x256

Fixation:

User definable fixation point with different colours

Display Colours:

8

Trigger:

1 Trigger input (optional 8 inputs)

1 Trigger output

Software

Nerve Conduction Studies:

Motor Nerve Conduction
Sensory Nerve Conduction
F-Wave
H-Reflex
Decrement test
Blink Reflex
Inching
Sympathetic skin response
Refractory Period
Repetitive Stimulation
Collision tests
Triple stimulation

Electromyography:

Spontaneous EMG
Quantitative EMG
AMUP Analysis
IPA Analysis
Turns/Amplitude EMG
Free Run EMG
Macro EMG

Single Fiber EMG

MUNE

Tremor Analysis

Somatosensory Evoked Potentials

Auditory Evoked Potentials

BAER

Chirp evoked auditory brainstem resp.

40 Hz Response

Electrocochleography

Electronystagmography P300

Contingent Negative Variation

Normative Reference Values

Visual Evoked Potentials

Event Related Potentials

ASSR Auditory steady state response

Heart Rate Variability

IOM program

GPP program

Advanced Reporting software

(requires Windows Word & compatible with latest versions)

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