

Technical Specifications

General Specifications

Isolated Power Supply

110/115 or 230 VAC ± 10% input, 50 - 60 Hz

595 VA primary; 500 VA secondary

Output voltage = input voltage

Dimensions

Unibody cart approx. 119 H x 53 W x 76 D cm (47" x 21" x 30")

Weight..... Unibody cart approx. 68kg (150 lbs.) (depending on model of printer)

Operating Environment (in use)

Temperature.....15.6 to 32.2° C, (60 to 90° F)

Relative humidity.....20-80%, non-condensing

Altitude..... 0-3km, (0-10,000 ft)

Non-Operating Environment (in storage)

Temperature.....17.7 to 55° C, (0 to 132° F)

Relative humidity 10-90%, non-condensing

Altitude..... 0-12km, (0-40,000 ft)

Computer

The Nicolet Clinical EEG system operates with a desktop computer. Please contact your Natus representative for the latest computer specifications.

Printout

HP DeskJet printer (black, white, and color)

Network

10/100/1000 Mb Ethernet (standard)

HL7 compatible through NicVue Connect interface

EEG software (with v32/v44 Amplifier)

EEG Display

Sec/Page..... 2, 5, 10, 20, 30, 60, 120, 240, 300, 600, 1200

mm/Sec.....6, 8, 10, 15, 30, 60, 120, 240

Sensitivity..... 10, 20, 30, 50, 70, 100, 150, 200, 300, 500, 700, 1000, 2000, 5000 μ V/cm

1, 2, 3, 5, 7, 10, 15, 20, 30, 50, 70, 100, 200, 500 μ V/mm

High Filters

Off, 10, 15, 25, 30, 35, 40, 50, 60, 70, 100, 150, 200, 300, 500, 1000, 1500 Hz

Low Filters

Off, 0.053, 0.16, 0.3, 0.5, 1, 1.6, 2, 3, 5 Hz

0.2, 0.33, 0.5, 0.625, 1, 2, 3.3, 6.2, 18.9 seconds

Notch FilterOff, 50/60 Hz



v32 Amplifier

Analog/Digital Converter 16 bits

ADC Resolution Voltage = 0.153 μ V

DC Offset Tolerance..... ± 340 mV

Channels (Inputs) ... 32 EEG, configurable as bipolar AC (24-32), 1 configurable as DC (32)

Maximum Input Range ± 5 mV

Bandwidth0.053 - 500 Hz

Noise..... < 1.5 μ V pk-pk @ 0.1 - 100 Hz

Input Impedance > 100 M Ω (common mode)

CMRR at Patient Inputs.....> 115 dB @ 50 – 60 Hz, with active patient ground connected

Channel Crosstalk < -40 dB

Amplifier Sample Rate (under software control) 125, 250, 500, 1000, 2000

Calibration Square wave, 1, 5, 10, 20 sec period, 10, 50, 100, 1000 μ V amplitude

Input Bias Current..... < 5 nA

Anti-Aliasing Filter Cut Off Frequency 500 Hz

Differential Input Impedance 40 M Ω

Interface to Amplifier Ethernet

Built-in Impedance and Display

Headbox..... Optional; no impedance display

Additional Ports

– Isolated SpO₂ with X-Pod

– Photic output

– Isolated patient event button

Channel Hardware Gain.....410

Deblock.....Yes

Auxiliary Inputs

1 Hi-level, non-isolated input for connection of external devices (e.g. CO2 monitors, etc.)

Analog/Digital Converter 16 bits

Maximum Input Range ± 2.5V

ADC Resolution76.3 μ V

Bandwidth DC – 500 Hz

v44 Amplifier

System Configurations

Sleep, EEG, ICU monitoring and LTM

OR and non-OR applications

Cart mount and wall mount options

Analog/Digital Converter	16 bits
ADC Resolution Voltage	= 0.153 μ V
DC Offset Tolerance	\pm 900 mV
Channels (AC Inputs)	32 EEG, (9 configurable as bipolar (24-32) AC) 12 non-isolated DC inputs (\pm 5 V, BW = 100 Hz)
Maximum Input Range	\pm 5 mV
Bandwidth	0.053 - 500 Hz
Noise	< 1.5 μ V p-p @ 0.1 - 100 Hz (except channels 31, 32 and OR channels < 2 μ V p-p @ 0.1 - 100 Hz)
Input Impedance	> 100 M Ω (common mode)
CMRR at Patient Inputs	> 115 dB @ 50 – 60 Hz, with active patient ground connected (except channels 31, 32 and OR channels > 100 dB @ 50-60 Hz with RLD)
Channel Crosstalk	< -40 dB
Amplifier Sample Rate (under software control)	125, 250, 500, 1000, 2000
Calibration	Square wave, 1, 5, 10, 20 sec period, 10, 50, 100, 1000 μ V amplitude
Input Bias Current	< 5 nA
Anti-Aliasing Filter Cut Off Frequency	500 Hz
Differential Input Impedance	40 M Ω
Interface to Amplifier	Ethernet
Channel Hardware Gain410
Deblock	Yes

Integrated SpO₂

Channels (DC Inputs): 12 non-isolated

- Analog/Digital converter: 16 bits
- Maximum input range: \pm 5V
- ADC resolution: 153 μ V
- Bandwidth: DC – 100 Hz

Additional Ports

- Panasonic camera control port on amplifier
- Isolated SpO₂
- Isolated patient event button
- Photic output

Headboxes

v44 requires one of the following:

- Clinical headbox with built in impedance and display
- Clinical headbox with head cap adapter and built in impedance and display
- OR headbox

Interfaces with the Nicolet Ambulatory Module.

See Nicolet Ambulatory EEG Specifications Sheet #169-435300.

Quality Standards

Manufactured, designed, developed and marketed under ISO 13485 certified quality system

Compliance/Regulatory Standards

Designed, tested, manufactured and certified to meet the following domestic (USA), Canadian, European and International Standards:

- UL 60601-1 Medical Electrical Safety Standard (USA)
- CAN/CSA-C22.2 no. 601.1-M90 Medical Electrical Safety Standard (Canada)
- EN/IEC 60601-1 Medical Electrical Safety of Medical Equipment (International and Europe)
- IEC 60601-2-26 Particular Safety of electroencephalographs equipment
- IEC 60601-2-40 Particular Safety of electromyography and evoked response equipment
- EN 60601-1-2 Collateral safety standard for EMC
- European Community (CE Mark)**
- Medical Device Directive (MDD) product certified to comply to EC Directive 93/42/EEC
- Patient Isolation BF



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