Becoming a global leader of medical solutions

Every year Nihon Kohden is expanding its global network, from research and development to manufacturing, sales, and service, in order to fulfill its mission to save lives with the most advanced medical technology.

Nihon Kohden began its overseas expansion with Nihon Kohden America in 1979. The Company now has the sales subsidiaries in the US, Mexico, Colombia, Brazil, Germany, France, Spain, Italy, the UK, China, Singapore, Thailand, Malaysia, India, UAE, and Korea. A network of distributors covers the countries where Nihon Kohden does not have a direct sales system. Nihon Kohden products are exported worldwide.
Nihon Kohden products are used in more than 120 countries

Since its founding in 1951, Nihon Kohden has continued to provide a wide range of medical electronic equipment including EEG, EMG/EP measuring systems, electrocardiographs, bedside monitors, defibrillators and hematology analyzers. In particular Nihon Kohden has a high market share in EEG. Demand for medical equipment varies by country and region so the Company makes the most appropriate strategy for each region.

Company Profile

Patient Monitoring

Ventilators

ECGs

Defibrillators

Neurology

ME Supplies

IVD
1951: Yoshio Ogino founds Nihon Kohden with the unique vision of “fighting disease with electronics.”

1951: Nihon Kohden develops the world’s first electroencephalograph which is completely AC powered (ME-1D).

1967: Japan’s first ICU monitor is installed at Tohoku University School of Medicine in Sendai city. This monitor, the ICU-80, is developed by Nihon Kohden.

1974: Nihon Kohden researcher Takuo Aoyagi develops the principle of pulse oximetry. All pulse oximeters today are based on Dr. Aoyagi’s original principle of pulse oximetry.

1979: Nihon Kohden is commissioned by NASDA* (National Space Development Agency of Japan) to develop instruments for Japan’s first contribution to experiments onboard the US space shuttle.

* Now JAXA (Japan Aerospace Exploration Agency)

1982: Nihon Kohden pioneers arrhythmia analysis in patient monitors. This epoch-making technology first appears in the company’s Life Scope 10 OEC-5501 heart monitor.

1982: After 30 years of impressive growth, Nihon Kohden is listed on the 1st Section of the Tokyo Stock Exchange.

1987: Nihon Kohden develops the world’s first electrocardiograph with an LCD display, the ECG-8210. This revolutionary development allowed checking of the ECG before starting recording.
1990s

1991: Nihon Kohden develops the world’s first digital multi-parameter telemetry bedside monitor, the Life Scope 12 BSM-8502.

1994: Nihon Kohden introduces the world’s first Windows® based digital EEG, Neurofax EEG-2100. It provides unparalleled ease of use.

1999: Nihon Kohden develops the world’s first low-invasive blood volume monitor, the DDG-2001 Pulse Dye Densitometer. This received the new technology development award from Japan’s Science News.

2000s

2003: Nihon Kohden develops the world’s smallest CO₂ sensor. It enables measurement of mainstream CO₂ for nonintubated patients.

2004: Nihon Kohden introduces the world’s first wireless monitoring of ECG, respiration, SpO₂ and NIBP with its ZS-940P transmitter.

2007: As part of its campaign to popularize the lifesaving technology of AED throughout Japan, Nihon Kohden supports the Tokyo Marathon with AEDs for the runners and CPR educational booths for the huge number of spectators.

2010s

2010: Nihon Kohden America received the Outstanding Service Achievement award from Medical Strategic Planning (MSP) for the highest customer satisfaction among patient monitoring vendors for the fifth consecutive year.

2012: Nihon Kohden introduces bedside monitors with esCCO, and electrocardiograph with synthesized 18-lead ECG.

Bedside Monitors

Life Scope G9
CSM-1901

Site Optimization

OR
- Providing complete information for anesthesiologist, physician and heart-lung machine operator with triple display
- Multigas measurement
- MAC value calculation
- BIS/TOF monitoring
- Respiratory loops

ER
- Seamless monitoring by using Life scope PT as a transport monitor and an input box for Life Scope G9

ICU/CCU
- 12-lead ECG analysis
- Hemodynamics Review Program, Advanced Intensive Therapy Management Calculation/Trend
- PPV/SPV (Pulse Pressure Variability)
- CVP-ET
- esCCO measurement

NICU
- OCRG (oxycardiorespirogram)
- Dual SpO₂
- αEEG (amplitude-integrated EEG)
- Original sensors for neonate
of monitoring

19-inch TFT LCD touch screen
Local purchase display: 18.5/21.5/24-inch
Number of waveforms: 17/display

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO₂, TEMP

MULTI connector parameters: Up to 15
IBP, TEMP, CO, RESP (thermistor), FiO₂,
CO₂ (mainstream), BIS, SpO₂-2*, APCO
*depending on the monitor configuration

Options
BIS/TOF, CO₂ (sidestream), Multigas, FLOW/Paw,
EEG (CSA/DSA, aEEG), esCCO

Other features
• 12-lead ECG analysis
• 168 hours, all waveforms full disclosure

Decisive Information

Vital sign monitoring during review
Life Scope G9 allows reviewing previous data without hiding the current vital signs and waveforms. Just swipe the side or the bottom of the screen and select from three pre-assigned review screens.

Efficient Operation

Interbed monitoring
Numeric data for 16 patients or numeric data and two waveforms for 1 patient can be displayed on the interbed screen.

Drag and drop screen builder
The position of numeric values and waveforms can be changed by drag and drop the numeric value.
BSM-1700 series
TFT LCD 5.7-inch touch screen
Number of waveforms: 9
Basic parameters
ECG, RESP, NIBP (iNIBP), SpO₂ (Nihon Kohden, Nellcor OxiMax or Masimo SET), TEMP
MULTI connector parameters
IBP, CO₂, CO, BIS, SpO₂-2
Option
esCCO
Other features
• 12-lead ECG analysis
• 72-hour, 5 waveforms full disclosure (Standard mode)
• 5-hour battery operation

One action to go
To transport the patient, just remove the Life Scope PT from the cradle with one action without losing parameters.
It is easy to carry and you can hook it onto a bed rail without a bed rail adapter.

Powerful input unit
Life Scope PT can be used as input unit of BSM-6000 and CSM-1901 bedside monitors.

Superior visibility
The large 5.7-inch screen clearly displays all parameters. MULTI connectors allow flexible parameters and optimal monitoring based on the patient condition.

Standard mode
Transport mode
Vital Sign Telemeters

Mobile solution

Life Scope G3

New!

Vital Sign Telemeters
GZ-130P
GZ-140P

3.2-inch touch screen
Basic parameters
GZ-130P: ECG, RESP, SpO2
GZ-140P: ECG, RESP, NIBP (iNIBP), SpO2
IEEE 802.11a/b/g/n WLAN network

Safety

The Life Scope G3 is a wearable vital sign telemeter to support various phases of ambulatory patient care such as rehabilitation or transport.

Streamling

Life Scope G3 lets you confirm alarm and review data intuitively at patient side to help streamline your work flow.

Seamless

Robust network configuration, data backup and water resistant construction ensure valuable patient data.
ViTrac

Unified gateway, QP-988P
ViTrac network server provides you with monitoring information on multiple patients, any time and any place.

Mobile viewer, QP-989P
App for iPad / iPhone
ViTrac provides monitoring information of multiple patients on an iPhone or iPad.

Ubiquitous
Patient data can be viewed in near real-time on an Apple mobile iOS device within the hospital network or remotely via a VPN connection.

Complete review capability
Patient data includes waveforms, 12-lead ECG, full disclosure, arrhythmia and ST recall, trends and other information, just like on the bedside monitor.

Guaranteed security
The administrator can create multiple user accounts and control who can review which patients.
Central Monitors

CNS-6201
- 24-inch wide display
- Dual display
- 32 patients*
- LAN, WLAN and telemetry
- 120-hour data storage
- 12-lead ECG analysis
- Full disclosure
- Transport function
*Option required

CNS-9101
- 24-inch display
- 48 patients*
- Dual display
- 120-hour data storage
- 12-lead ECG analysis
- Full disclosure
*Option required

ORG-9100K
Receiver unit
- Up to 8 individual receivers

Optional Software

NetKonnect, QP-983P
Remote Viewer Terminal Program
Review real-time data on a networked monitor anytime and anywhere with a web browser on your PC.

HL7 Gateway, QP-993PK
The gateway server enables data communication between the hospital or clinical information system (HIS, CIS) and Life Scope Network.
Waveforms are also transferred by MFER, which is the new standard for medical waveforms.
Redefine quality of care
Continuous Cardiac Output from ECG and SpO₂

Nihon Kohden is redefining Quality of Care with new, non-invasive technologies like PWTT and esCCO by introducing volumetric information to all care levels.

Estimated Continuous Cardiac Output (esCCO) is a new technology to determine the cardiac output using Pulse Wave Transit Time (PWTT). PWTT is obtained by the familiar vital sign parameters of ECG and pulse oximetry. With esCCO, cardiac output can be measured continuously with a very simple and totally non-invasive process.

Performance of esCCO
In 2009, a multi center study at seven facilities verified the effectiveness of esCCO as a practical application.

Be impressed, free from stress
Non-invasive blood pressure measurement with speed, gentleness, and reliability.

iNIBP is Nihon Kohden’s unique algorithm to measure NIBP during inflation. It provides fast and painless measurement of NIBP. YAWARA CUFF 2, Nihon Kohden’s special cuffs, prevent subcutaneous bleeding, increase patient comfort and reduce noise for more accurate measurement.
**New Hemodynamics Graph**

The Hemodynamics Graph is a new monitoring tool which shows overall hemodynamic information. A trendgraph at the top and two target graphs below show the relationship of two hemodynamic parameters.

**Target Graph Features**
- Preload parameters such as CVP and PPV on the X axis
- Cardiac function parameters such as cardiac index on the Y axis
- Brightness level of the traces and plots shows hemodynamic change over time
- Red target zones show target areas of treatment

**Various Combinations of Hemodynamic Parameters**

The Target Graphs can show different hemodynamic parameters for different clinical conditions. For example, target graphs for PPV and esCCO provide minimally invasive hemodynamic monitoring for fluid management, or, blood pressure and CVP target graphs can support therapy according to the guidelines for initial resuscitation of severe sepsis and septic shock. Intermittent invasive parameters such as cardiac output by bolus thermodilution and pulmonary wedge pressure can also be used for the Target Graphs.

The Hemodynamics Graph can open up new ways to manage hemodynamics for all care levels more efficiently and effectively.
Smart Cable Systems - new modular technology

Smart Cable technology miniaturizes circuits found in traditional modules and embeds that circuitry into the cable.

When you plug a Smart Cable into a MULTI connector, it automatically detects the type of parameter and starts measuring.

*Available parameters depend on monitor
BSM-3500 series

TFT LCD touch screen
BSM-3500: 12-inch, BSM-3700: 15-inch

Number of waveforms
BSM-3500: 14, BSM-3700: 15

Basic parameters
ECG, RESP, NIBP, SpO2 (Nihon Kohden, Nellcor OxiMax or Masimo SET), TEMP

MULTI connector parameters
IBP, CO, CO2 (mainstream), BIS, APCO

Options
CO2 (sidestream), Multigas, FLOW/Paw, EEG, esCCO, iNIBP

Other features
- 12-lead ECG analysis
- 72-hour, 5 waveforms full disclosure
- Battery operation

BSM-6000 series

TFT LCD touch screen
BSM-6301: 10-inch, BSM-6501: 12-inch, BSM-6701: 15-inch

Number of waveforms: 15

Basic parameters
ECG, RESP, NIBP (iNIBP), SpO2 (Nihon Kohden, Nellcor OxiMax or Masimo SET), TEMP

MULTI connector parameters: up to 7 IBP, TEMP, CO, RESP (thermistor), FiO2, CO2 (mainstream), BIS, SpO2-2*, APCO

Options
CO2 (sidestream), Multigas, FLOW/Paw, EEG, esCCO

Other features
- 12-lead ECG analysis
- 72-hour, 5 waveforms full disclosure
- Dual battery configuration
- Transport function*

*depending on the monitor configuration

Detachable input unit
Supreme ease of use

Vismo

PVM-2701/PVM-2703
10-inch color TFT LCD touch screen

Number of waveforms
PVM-2701: 4, PVM-2703: 5

Basic parameters
ECG, RESP, NIBP, SpO₂, TEMP

MULTI connector parameters (PVM-2703 only)
IBP, CO₂

Option
iNIBP

Other features
• 3-hour battery operation
• 120-hour, 1 waveform full disclosure

Pulse Oximeters

Oxypal

OLV-2700K
• SpO₂, Pulse rate
• Large numerical data display
• Pulse wave bar graph
• Alarm function
• Compact and lightweight (1.0 kg)
• AC or 2-hour battery operation

CO₂ Monitors

cap-TEN New!

OLG-3800
• ETCO₂, RESP, SpO₂*, Pulse rate*
• Large LED (numeric data) and clear LCD (waveforms) display
• Audible cue function for appropriate manual ventilation
• 120-hour trend graphs/
  Tabular Trend/Full disclosure
• Alarm function
• AC or 5-hour battery operation

*Options

New!

Frequency of capnographic cue

0 20 40 60
CO₂ (mmHg)

≥ 45 mmHg*
35 - 44 mmHg*
20 - 34 mmHg*
10 - 19 mmHg*
≤ 9 mmHg*

High Normal Low1 Low2 Low3

* ETCO₂ range for each pitch can be adjusted to suit your needs
Transmitters

Telemetry Central Monitors

WEP-5204K
WEP-5208K
• 4 or 8 patients
• 15-inch LCD display
• Touch screen
• Digital telemetry
• 96-hour data storage
• 30 minutes battery operation
• Alarm indicator
• Individual alarm indicator

Digital Transmitters

ZS-620P
• ECG, RESP
• 6 days, 1 AA battery

ZS-630P
• ECG, RESP, SpO₂
• 4 days, 2 AA batteries

ZS-940PK/PG
• ECG, RESP, SpO₂, NIBP
• 2 days, 3 AA NiMH batteries

Life Scope Network

Hospital Network (HIS/CIS)
OR
ICU
CCU
NICU
HL7 Gateway
Transmitters

General ward
Doctor’s office
NetKonnect Server
Firewall
Internet
Web browser

Company Profile
Patient Monitoring
Ventilators
ECGs
Defibrillators
Neurology
ME Supplies
ND
Humming Vue

- For neonate and pediatric patients
- HFO, SIMV, A/C, APRV*, CPAP, N-CPAP*, NIV* modes
- Stroke volume up to 160 mL
- Amplitude larger than 100cmH₂O
- MAP from 3 to 40 cmH₂O
- Frequency from 5 to 17 Hz
- SI pressure from 3 to 50 cmH₂O
- PV and FV Loops in HFO and SIMV
- Large 15.3-inch Touch screen monitor
- Ventilation waveforms
- Patient data monitoring
- Piston type HFO
- You can choose your favorite view for continuous monitoring of patient condition

*Options

Humming Vue superior piston technology guarantees that the volume delivered in every stroke is exactly according to the setting in any respiratory conditions.
PICU/ICU

R100

- For pediatric and adult patients
- SIMV, A/C, CPAP, HFO
- Stroke volume up to 350 mL
- MAP from 5 to 60 cmH₂O
- Frequency from 5 to 15 Hz
- SI pressure from 5 to 80 cmH₂O
- Inspiratory flow from 3 to 140 LPM
- Ventilation waveforms
- Monitor
- Rotary valve type HFO

Rotary HFO

Unique rotary valve technology alternates air way to the membrane chamber between the delivery side (push-in) and the suction side (pull-out) of the blower in intervals corresponding to the Hz setting. This generates a powerful oscillation of circuit pressure and extends the range of applicable patient weights.

Ventilators are manufactured by Metran Co., Ltd. (www.metran.co.jp/en/)
ECG-1150
- 3 channels
- 63 mm paper
- 4.8-inch backlit LCD

ECG-1250K
- 6 channels
- 110 mm paper
- 5.7-inch backlit color LCD

ECG-1350K
- 12 channels
- 210 mm paper
- 5.7-inch backlit color LCD

ECG-1550K
- 12 or 15 channels
- 210 mm paper
- 12.1-inch backlit color and flexible arm display
- Actual paper size display and touch screen
- Stress test function with QP-156E software
ECG-2150
- 3 channels
- 63 mm paper
- 4.8-inch backlit LCD

ECG-2250
- 3, 4 or 6 channels
- 110 mm paper
- 7-inch backlit color TFT LCD

ECG-2350
- 12 channels
- 210 mm paper
- 7-inch backlit color LCD
- Flexible display
- Synthesized 18-lead ECG (option)

ECG-2010
- Handy ECG
- Review on Android tablet

ECG-1950K
- 6 channels
- 110 mm paper
- 5.7-inch backlit color LCD
- Interpretation

You can set animal type, age and position.
Synthesized 18-lead ECG

What is Synthesized 18-lead ECG?

The most common ECG exam is the standard 12-lead ECG. It is simple to measure, has low burden on the body, and observing the heart from these 12 directions provides a lot of information which has a wide range of clinical applications.

However, some areas, especially pathological change in the right ventricle and the posterior wall cannot be observed from the 12-lead ECG.

In order to actually measure the right chest (V3R, V4R, V5R) and back (V7, V8, V9) areas, it is necessary to use different electrode positions than the standard 12-lead ECG. In particular, electrodes must also be attached to the patient’s back so that normal suction cup electrodes cannot be used. Also, the patient must be turned over in some cases and in an emergency it is often difficult to use back electrodes. This complicates the exam procedure.

Synthesized 18-lead ECG uses the 12-lead ECG waveforms to mathematically derive the waveforms of the right chest leads (V3R, V4R, V5R) and back leads (V7, V8, V9).

The measurement procedure is the same as the standard 12-lead ECG but more information can be obtained. 18-lead synthesized ECG is expected to be useful in detecting right side and posterior infarction.
Principle of synthesized waveforms

Instantaneous cardioelectric vectors are continuously measured from the standard 12-lead ECG data and ECG of the right leads (V3R, V4R, V5R) and back leads (V7, V8, V9) is synthesized from this data.

The following example shows actually measured waveforms and synthesized waveforms. Other data also has good correlation with actually measured ECG. This suggests that we can obtain useful information which corresponds to the condition of the heart.
Defibrillators

TEC-5600 series

<table>
<thead>
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<th></th>
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<th>Disposable Pad</th>
<th>Internal Paddle</th>
<th>3/6 Lead ECG</th>
<th>Cardioversion</th>
<th>AED mode</th>
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<th>CO₂ (option)</th>
<th>NIBP (option)</th>
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TEC-8321K, TEC-8322K, TEC-8332K, TEC-8342K, TEC-8352K

- 8.4-inch TFT LCD
- Smart Cable (Refer to page 14)
- Easy maintenance
- 12-lead ECG data transmission
- Two battery slots
- esCCO available (option, Refer to page 12)
- INIBP available (option, Refer to page 12)
**Options**

**CO₂/SpO₂/NIBP/CPR**
- Multi parameter/SpO₂ unit (QI-564V), for TEC-5600
- DSI interface unit, for SpO₂, CO₂ and NIBP (QI-565V), for TEC-5600
- NIBP unit, SG-565V, for TEC-5600
- NIBP available (Refer to page12)
- CPR assist, CPR-1100, for TEC-5600

**Cap-ONE**
- CO₂ sensor kit, TG-920P (P907)
- Airway adapter

**Internal paddles**
- Without switch (ND-863V/864V/865V/866V/867V)
- With switch (ND-893V/894V/895V/896V/897V)

**Disposable pads**
- Disposable pads for adult/pediatric, P-711 (H329)
  - for infant, P-713 (H330)
- Disposable pads for X-ray, P-511X (H327A)
- Disposable pad adapter cable, JC-865V (K342B)

**Other**
- Battery charger (SB-551V), for TEC-5600
  - (SB-801V), for TEC-8300
- SpO₂ connection cord, JL-900P, 2.5 m (K931)
- Reusable SpO₂ probe, TL-201T2 (P225F)
- Defibrillator report viewer software for PC (QP-551VK)
Automated External Defibrillators

Take action, Save a life

Step 1. Open the lid
Step 2. Attach the pads to the patient
Step 3. Push the button

Options

- Carrying bag (YC-310V)
- Wall mount kit (KG-202V)
- Defibrillator report viewer software (QP-551VK)
- AED box (YZ-042H8)
- Rescue kit (YZ-043H3)

Consumables

- Battery pack (SB-310V)
- Defibrillation pads (P-740K)
Options

- Carrying bag (Y184A)
- Wall mount kit (KG-202V)
- Defibrillator report viewer software (QP-551VK)
- AED box (YZ-042H8)
- Rescue kit (YZ-043H3)
- Battery Charger for SB-220V (SB-205V)

Consumables

- Battery pack (SB-212VK, SB-214VK)
- Defibrillation pads (H324, P-740K)
- Rechargeable battery for AED-2152K (SB-220V)

Transfer patient to a TEC-5600/8300 series defibrillator

The AED-2152K/3100 defibrillation pads can be connected to a TEC-5600/8300 series defibrillator with JC-865V (K342B). This lets you transfer the patient from the rescue site to the ambulance and hospital without removing the pads.
Electroencephalographs

Routine EEG

Neurofax

EEG-1200J/K

- 32-channel junction box with SpO₂/ETCO₂ connector
- Zooming function
- Voltage mapping
- Frequency mapping
- DSA trendgraph for a fast review
- EEG Portaview software
- NeuroWorkbench software for data management
- Synchronized video image (resolution adjustable up to Full HD)

DSA & 3D voltage mapping

Fast review and advanced EEG analysis
**Epilepsy Monitoring**

**Neurofax**

**EEG-1200J/K with JE-120A**
- 256, 192, 128 or 64-channel junction box
- 10 KHz sampling rate
- LAN connectivity by QI-123A (IP addressable)
- EEG report software
- Zooming function
- Voltage mapping
- Frequency mapping
- DSA trendgraph for a fast review
- EEG auto editor for a fast clipping
- Slide show function for conference
- EEG scope for look back
- Full HD video synchronized with EEG waveforms (option)
- Heart rate, SpO₂, ETCO₂ for vital sign monitoring (option)
- Neuro Portaview can transfer data by CD-R
- NeuroWorkbench software for data management

**Portable EEG**

**Neurofax**

**EEG-9100J/K**
- 32-channel junction box with SpO₂/ETCO₂ connector
- Zooming function
- Voltage mapping
- DSA trendgraph
- EEG Portaview software
- NeuroWorkbench software for data management
EEG trend monitoring program is designed to monitor long term EEG trends at ICU/NICU.

**ICU/ NICU aEEG Monitoring**

**EEG-1250**

*Save lives with aEEG monitoring in the ICU/NICU*

- Space-saving design EEG
- 17-inch touch screen
- 32-channel junction box with SpO₂ / ETCO₂ connector
- aEEG monitoring with QP-160AK software (option)
- Shielded electrodes (option)
- Synchronized digital video with QP-110AK (option)
- Remote monitoring with NeuroWorkbench

**QP-160AK EEG trend program**

EEG trend monitoring program is designed to monitor long term EEG trends at ICU/NICU.

- aEEG
- DSA (Density Spectral Array)
- DSA asymmetry
- FFT power
- FFT asymmetry
- FFT power ratio
- Burst suppression ratio
- Burst per minute
- Inter burst interval
Standard Software

**NeuroWorkbench**
- Scheduling
- Patient database
- EEG reports

**NeuroReport**
- Create customised report
- Export reports as PDF

Optional Software

**Digital Video Software (QP-110AK)**

Synchronized digital video for EEG systems
- Precise synchronized patient image with EEG waveforms
- IP camera connectivity for up to Full HD (1,920x1,080) resolution with software PTZ (Pan, Tilt, Zoom) control
- Video data management by NeuroWorkbench database

**EEG Mapping (QP-220AK)**

Real-time and basic EEG mapping software
- Real-time and off-line mapping
- Up to 8 frequency maps (7 power/voltage maps at 7 different frequency bands and 1 map of all frequency bands)
- Power/Voltage spectra for up to 32 channels of EEG waveform data
- Edge frequency, average frequency, median frequency or peak frequency for each spectrum is indicated with a mark
Routine EP/EMG

**Neuropack X1**

**MEB-2300K**
- 6 or 12-channel junction box with head montage
- 18 bit A/D conversion rate for smooth waveform
- Integrated NCS & NCS2 menu (MCS, SCS, F-wave)
- EMG, EMG2, QEMG, SFEMG
- Reflex study (Blink, H-reflex)
- Auditory Evoked Potential (ABR, MIR, SVR, VEMP)
- Visual Evoked Potential (Pattern, Goggle, Flash, ERG, EOG)
- Somatoary Evoked Potential (SEP)

**Optional Software for MEB-2300**

**Trend monitoring software**
- IOM (Intraoperative Monitoring)

**Event related potentials software**
- P300
- MRCP (Movement Related Cortical Potential)
- CNV (Contingent Negative Variation)

**Autonomic nervous system test software**
- Micro-N (Microneurography)
- SSR (Sympathetic Skin Response)
- R-R interval analysis

**Optional Hardware**

**SEN-4100J/K Stimulator**
- For Motor Evoked Potential test during IOM
- Integrated control from Neuropack
- Output voltage: 0 to 1,000 V
- 50 μsec rectangular wave
- 1.0 A output current
Neuropack S1
MEB-9400K
- 2 or 4-channel junction box
- Integrated NCS & NCS2 menu (MCS, SCS, F-wave)
- EMG, EMG2
- Reflex study (Blink, H-reflex)
- Auditory Evoked Potential (ABR, MIR, SVR, VEMP)
- Visual Evoked Potential (Pattern, Goggle, Flash, ERG, EOG)
- Somatory Evoked Potential (SEP)
- 1 channel electric stimulator

Optional Software for MEB-9400

Quantitative EMG software, QP-946BK
- Real-time MUP Analysis
- Real-time interference pattern analysis

Single Fiber and Macro EMG program, QP-947BK
- Voluntary SFEMG/Stimulated SFEMG

Autonomic Nervous System Test Software, QP-948BK
- Microneurography
- SSR (Sympathetic Skin Response)
- R-R interval analysis

Standard Software

NeuroReport
- Create customized reports
- Save reports as PDF

NeuroNavi
- On-screen guide to examination procedures
Intraoperative Monitoring System

New!

Neuromaster G1

MEE-2000

• Flexible and multimodality monitoring is available, including SEP/TcMEP/ABR/Auditory nerve function, Facial nerve mapping and spontaneous EMG.
• Choice of Panel PC and Laptop PC
• Selection from 16 channels or 32 channels
• Up to 4 Breakout boxes with 16 inputs
• Up to 4 daisy chain stimulation pod
• In-built High current/High voltage stimulator
• ESU detection probe to mute the sound
• Remote access from review station

Neuromaster

MEE-1000A

• Dedicated to intraoperative monitoring—Flexible and multi-modality monitoring is available, including SEP/TcMEP/ABR/auditory nerve function, facial nerve mapping and spontaneous EMG.
• 16 or 32-channel amplifiers are selectable.
• Compact individual breakout boxes for waveform acquisition and stimulation provide a flexible layout.
• Images during operation can be saved with the waveforms. Microscope images can be displayed using an optional camera capture unit.
• The NeuroWorkbench SQL database integrates all of Nihon Kohden’s neurology devices to provide a complete database across all neuro-diagnostic and monitoring modalities.
Sleep Study

PSG-1100
- Full 10-20 recording capability with PSG channels
- 100 MΩ input impedance
- Internal pressure transducer
- Internal SpO₂
- Internal ETCO₂ with exclusive cap-ONE technology (option)
- Dedicated EKG reference
- Internal memory
- IP addressable

PMU800
(Home sleep testing device)
- Thermistor airflow
- Pressure airflow
- Snore sensor
- 2 respiratory effort
- Built-in body position sensor
- Built-in SpO₂
- 2 PLM leg movement

Polysmith Software

Polysmith sleep systems
Polysmith software is used in a variety of sleep lab environments and provides a comprehensive approach to studying your patients. From easy to use scoring and recording tools to convenient remote access solutions, Polysmith allows you to work with your entire lab’s data from the convenience of the control room.

Diagnostics are the specialty of your sleep lab. These features help technologists manage their patients and data easily.

- Live trending of multiple parameters
- Selectable video and audio quality
- On-line scoring and editing
- On-line AHI and sleep time
- Remote viewing of live data
- Auto append
- Automatic MSLT timer and recording tool
- Off-line video monitoring

In the ever changing sleep medicine environment, the only constant is the need for quick and efficient data scoring and processing.
- Polysmith offers the following features:

  - Automated analysis
  - Manual scoring and editing of data
  - Custom montages
  - Single click editing
  - Auto updating of patient information
  - Auto record tracking
  - LTM tool for use with LTM EEG or EMU file
  - Configurable keyboard and mouse key
  - Edit scoring from trend plots
**SpO₂ Probes, single-patient use**

**BluPRO**

1. Adult finger/toe, TL-271T
   
   (P203A/P203E/P204A/P204E)

2. Child finger/toe, TL-272T
   
   (P203B/P203F/P204B/P204F)

3. Neonate instep, TL-273T
   
   (P203C/P203G/P204C/P204G)

4. Infant finger/toe, TL-274T
   
   (P203D/P203H/P204D/P204H)

Premature baby, for premature’s skin, TL-260T

(P205A)

- Tape S
  
  (P260A)

- Tape L
  
  (P260B)

- Ear clip
  
  (P256)

- Neonates and preterm infants, for premature’s skin, TL-535U
  
  (P206)

- Attachment tape for TL-535U,
  
  5. Tape S, YS-102P0 (264A)

  6. Tape L, YS-102P1 (264B)

**NIBP Cuffs**

**YAWARA CUFF 2, YP-710 Series**

- S951A infant, 5 cm
- S951B child, 7 cm
- S951C adult, 10 cm
- S951D adult, 13 cm
- S951E adult, 16 cm
- S951F thigh, 19 cm

Yawara(kai) means “soft to the touch”
SpO₂ Probes, reusable

BluPRO

Finger, TL-201T (P225F)

Multi-site, TL-220T (P225G)

Finger-tip, regular TL-631T3 (P311C)

Finger-tip, large TL-630T3 (P310C)

Disposable cuff for neonate, YP-820 Series
S948A 2 cm
S948B 3 cm
S948C 4 cm
S948D 4.5 cm
S948E 5 cm
CO2 monitoring is the most effective parameter for the detection of respiratory incidents. Nihon Kohden’s innovative mainstream CO2 sensor, cap-ONE, provides CO2 monitoring for both intubated and non-intubated patients.

CO2 sensor kit, TG-980P (P910A) with MULTI connector

Airway adapter,
① YG-211T (R805) adult
② YG-213T (R806) neonate/infant
YG-214T (R807) neonate/infant with flow sensor

CO2 sensor kit oxygen mask,
③ YG-242T (V935) infant
④ YG-232T (V933) pediatric
⑤ YG-272T (V938A) adult
⑥ YG-282T (V938C) adult, large
Both intubated and non-intubated patients

CO₂ sensor kit,
TG-920P (P907)
with MULTI connector
TG-921T3 (P908)
with mini DIN connector

Nasal/oral adapter,
⑦ YG-121T (V922)
⑧ YG-122T (V923)

Airway adapter,
⑨ YG-111T (R804)

Nasal/oral adapter,
(for PSG measurement)
⑩ YG-125T (V928) adult
⑪ YG-135T (V929) child
**Disposable Electrodes**

**Vitrode L**  
*general use*  
L-150X (G207) radiolucent  
35 mm dia, 150 pcs

**Vitrode F**  
*less irritation*  
Adult, low irritation,  
F-150M (G210D)  
25 x 45 mm, 150 pcs  

Neonate to child, low irritation,  
F-150S (G210C)  
19 x 36 mm, 150 pcs

**Vitrode M**  
Adult, exercise test,  
M-150 (G236)  
40 mm dia, 150 pcs

**Disposable Electrodes, prewired**

**Vitrode V**  

- **Adult/Child**  
  25 x 45 mm  
  3/4/6-lead type available

- **Infant/Neonate**  
  V-120S3 (G271A)  
  20 x 20 mm  
  3 x 40 packs
Paste and Gel

Elefix
EEG paste
Z-401CE (F510), 400 g jars x 3
Z-181JE (F509), 180 g tubes x 10
Z-181BE (F507), 180 g tubes x 2

skinPure
Skin preparation gel, 135 g x 2
YZ-0019 (F020)

cardioCream
Paste for ECG, 100 g x 2
Z-101BC (F010)

Gelaid
Paste for defibrillation, 100 g x 2
Z-101BA (F015A)

Vitrode N

NICU
N-03IS3 (G300A)
14 x 25 mm
3 x 10 packs

NICU
N-01IS3 (G300D)
15 mm dia
3 x 10 packs
NCS Disposable Electrodes

NM-317Y3 (H690)
2 recording electrodes and 1 ground electrode

NM-319Y (H691)
4 recording electrodes

NM-316Y (H692)
4 recording electrodes and 1 ground electrode

NM-310Y (H693)
1 large ground electrode

NM-314YS (H694A)
4MEP/SEP electrodes

Disposable Electrodes for aEEG

Disposable electrode, NE-05IS3 (H544A)
Disposable Electrodes for aEEG

ECG Resusable Chest Electrodes

<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Qty</th>
<th>Tip size</th>
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<tr>
<td>H042C</td>
<td>Octopus</td>
<td>3</td>
<td>3 mm</td>
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<tr>
<td>H042D</td>
<td>Bear</td>
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<td>3 mm</td>
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<tr>
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<td>4 mm</td>
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<tr>
<td>H044B</td>
<td>Bear</td>
<td>3</td>
<td>4 mm</td>
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<tr>
<td>H042E</td>
<td>6 colors</td>
<td>6</td>
<td>3 mm</td>
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<tr>
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<td>6 colors</td>
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Child

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<tr>
<th>Code((Model))</th>
<th>Qty</th>
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<tr>
<td>H041A (-)</td>
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<td>3 mm</td>
</tr>
<tr>
<td>H043A (-)</td>
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<td>4 mm</td>
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Suction rubber

<table>
<thead>
<tr>
<th>Code((Model))</th>
<th>Qty</th>
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<tr>
<td>H049 (-)</td>
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Adult

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<th>Code((Model))</th>
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<tr>
<td>H052A Octopus</td>
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<tr>
<td>H052B Bear</td>
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Suction rubber

<table>
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<tr>
<th>Code((Model))</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>H049 (-)</td>
<td>3</td>
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</tbody>
</table>

aEEG measurement

NEURO unit, AE-918P
Hematology Analyzers

**Celltac G**

**MEK-9100**
- 33 parameters with WBC 5 part differential
- Up to 90 samples per hour
- Continuous loading of samples via rack fed system up to 7 racks of 10 tubes
- STAT / manual sample analysis
- Integrated validation station with touch screen
- Reagent and controls management with barcode
- Smart ColoRac Match system

**Celltac F**

**MEK-8222J/K**
- 22 parameters with WBC 5 part differential
- Open/Closed/Pre-dilution/STAT/WBC high/WBC low
- Up to 50 samples can be loaded in sample rack
- Automatic recount

**Celltac ES**

**MEK-7300K**
- 23 parameters with WBC 5 part differential
- 10.4-inch TFT-LCD
- Open/Closed/Pre-dilution/WBC high/WBC low/Capillary
- Advanced count for low PLT or WBC
- Over 15,000 results stored in SD card
Reagents and Controls

**Hematology control**
- MEK-5DN, normal
- MEK-5DL, low
- MEK-5DH, high

**Hematology control**
- MEK-3DN, normal
- MEK-3DL, low
- MEK-3DH, high

**Calibrator**
- MEK-CAL

**Diluent**
- Isotonac · 3

**Hemolyzing reagent for CBC**
- Hemolynac · 3N

**Hemolyzing reagent for Diff**
- Hemolynac · 5

**Detergent**
- Clenac

**Detergent (Bleach)**
- Clenac · 3

**MEK-6500J/K, MEK-6510J/K**
- 19 parameters with WBC 3 part differential
- Open/Closed/Pre-dilution/WBC high/WBC low/Capillary
- Closed mode (available on MEK-6500 J/K series)
- Over 15,000 results stored in SD card
<table>
<thead>
<tr>
<th>ME Supplies</th>
<th>Neurology</th>
<th>Defibrillators</th>
<th>ECGs</th>
<th>Ventilators</th>
<th>Patient Monitoring</th>
<th>Company Profile</th>
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