

Neurofax

Electroencephalograph
EEG-9200J/K



Fighting Disease with Electronics

 **NIHON KOHDEN**

Efficient and user-friendly

EEG-9200 is a Windows® XP desktop PC based electroencephalograph that is efficient and easy to use with 8 ch DSA trendgraph, 3D mapping, high performance such as less susceptibility to artifact, and a USB electrode junction box.

EEG-9200 is expandable with optional software such as mapping, sleep analysis and spike detector.

Nihon Kohden electroencephalographs are highly admired for their performance and you will surely be satisfied with the results of EEG testing with Neurofax.

With superb performance equipment, Nihon Kohden has established itself as the world's leading manufacturer of electroencephalographs.



operation

Innovative electrode junction box: JE-921A

All-in-one solution: One junction box for routine EEG and PSG study



This advanced junction box integrates 32ch EEG input and SpO₂/CO₂ inputs. JE-921A provides the highest signal quality and maximum reliability.

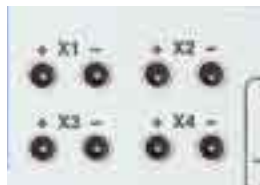
Unique technology

Built-in SpO₂/CO₂ inputs



Extra PSG sensor capability

4 channel inputs with bipolar/monopolar sensors



4 channel of DC input

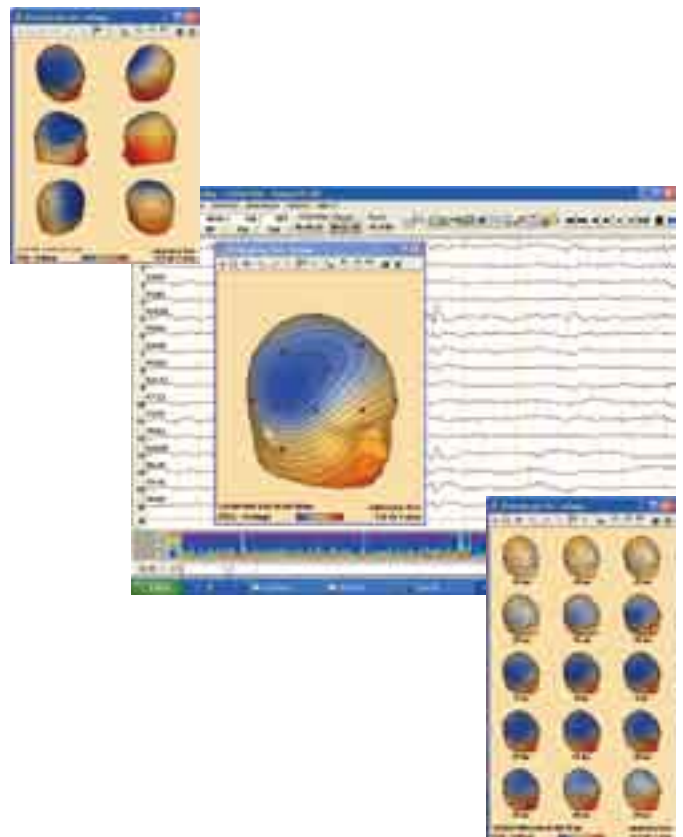
Inputs for analog signals from external instruments such as CPAP

3D voltage mapping

Fast review and advanced EEG analysis

Whole head maps provide a complete overview and a better interpretation of the topography of EEG abnormalities. Just click on a detected pattern to obtain 3D whole head maps. Click on a particular view to obtain a series of maps showing the change over time.

- Six standard head views from different perspectives instead of just the conventional top view.
- Standard time series of 15 maps or user-defined time series.
- Whole head view with optimized color display and topographic lines to facilitate identification of the generating brain region.
- Maps can be rotated freely in 3D or set to standard views by fast rotation buttons.
- Variety of map types: Voltage and current source density (CSD)

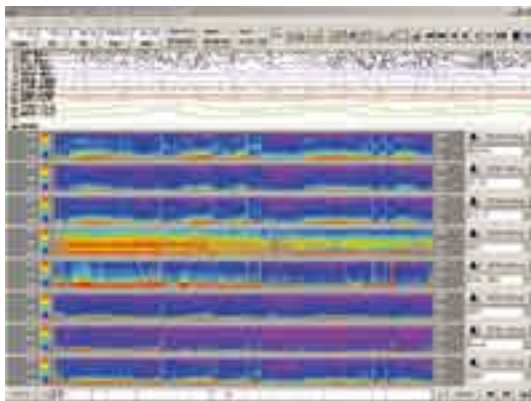


High performance EEG recording

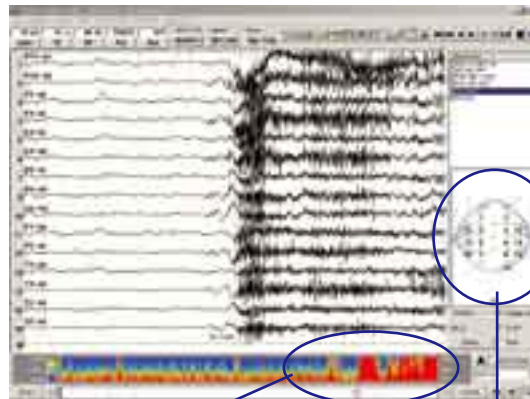
Efficient user-interface for any EEG testing

Up to 8 DSA trendgraph—You can find a specific EEG frequency band at a glance

Frequency components of EEG and the amplitudes of each frequency are displayed as a DSA (Density Spectral Array) trendgraph on the review screen and EEG scope. The DSA lets you find epileptic seizures of a specific EEG frequency band over a long period of time at a glance. A long term DSA window is also available to show detailed change in the extended trendgraph.



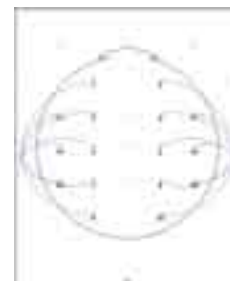
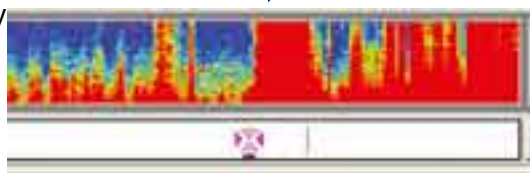
A mark indicates where the frequency components of the waveform suddenly change to high seizure region. Red shows the highest level while blue shows the lowest.



Montage map display

The montage is displayed on the electrode position layout map. You can find the selected montage at a glance with this graphic montage.

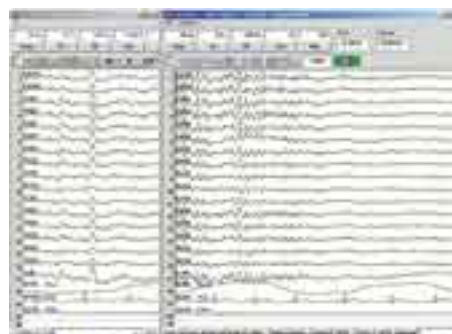
This graph shows DSA of the entire period of acquisition.



Accurate and reliable EEG recording

EEG Scope—Data review during acquisition

Comparison Mode: EEG Scope function lets you look back into and review previous EEG while simultaneously monitoring and acquiring new EEG. One side of a split screen shows previous EEG and the other side shows currently acquired EEG.



EEG Scope window

Acquisition window

ding and review

Convenient and efficient review

Customizable 64 trace display

Up to 64 traces and one mark channel and 5 minutes of EEG can be displayed for easier recognition and comparison.

Simultaneous 4 data display

Up to 4 EEG data files can be simultaneously opened and compared for easy tracking of a patient's progress.

Note window—Simple copying of waveform parts

You can save up to 1000 parts of waveforms for comparison by dragging and dropping. Up to 100 copied waveforms can be registered as sample data for comparison with other patients.

Zoom window

You can easily magnify the waveforms by dragging them. Amplitude and latency of magnified waveforms can be measured and printed.

Selecting parts of waveforms

You can select up to 100 parts of waveforms to edit. Selected waveforms are shown in green between two cursors.

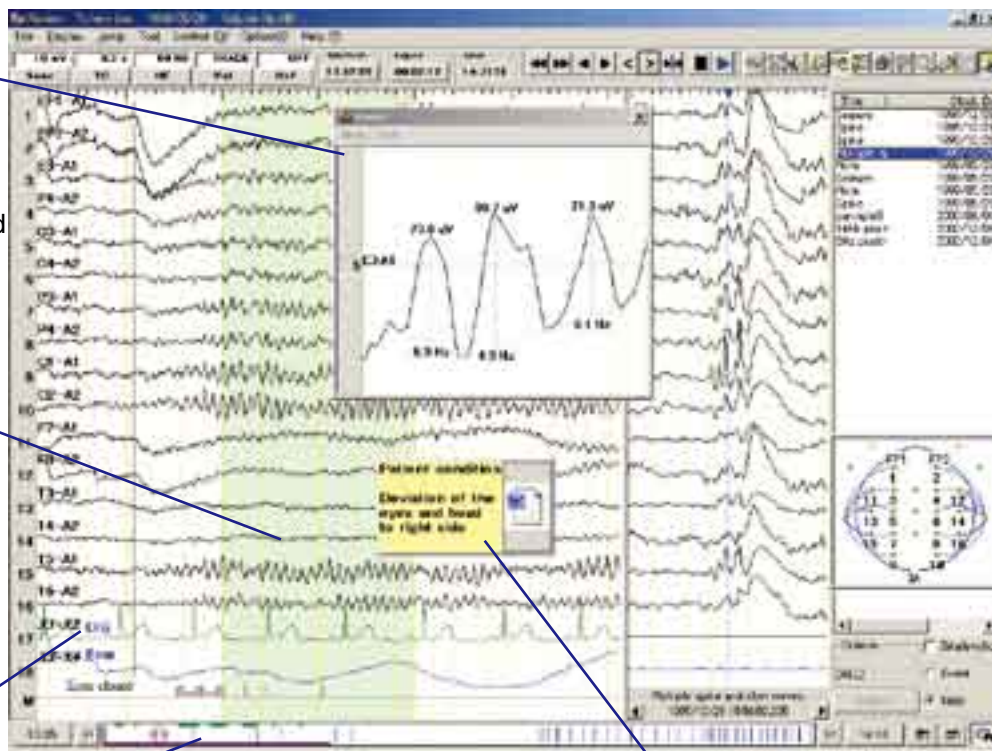
Trace annotation

Indication of reviewed or selected period

When you scroll or select the waveforms, color bars corresponding to the scrolled or selected period to edit are shown on the time bar to avoid unnecessary duplicate review or editing. Reviewed periods are shown in purple and selected periods are shown in green.

Screen comment tags

Up to 100 tags can be attached to an EEG file for later reference or messages to the reviewer. The tags can include Word documents, Excel spreadsheets, images and other files.



EEG PortaView

Review EEG files on a Windows PC

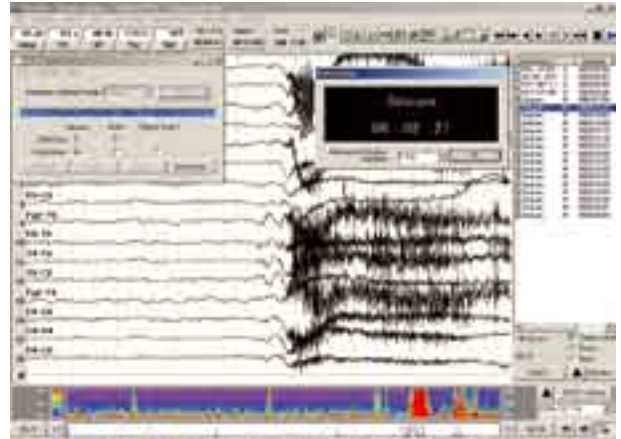
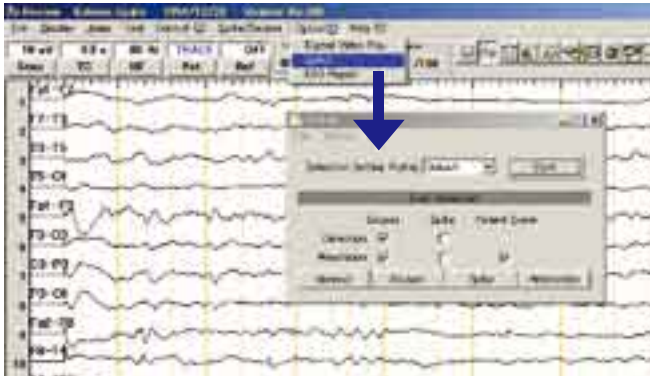
- Review EEG data and patient image anywhere without special software
- Re-format and re-filter EEG data on your PC

High expandability with optional

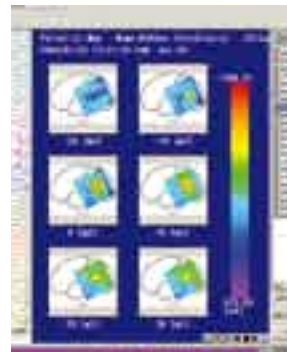
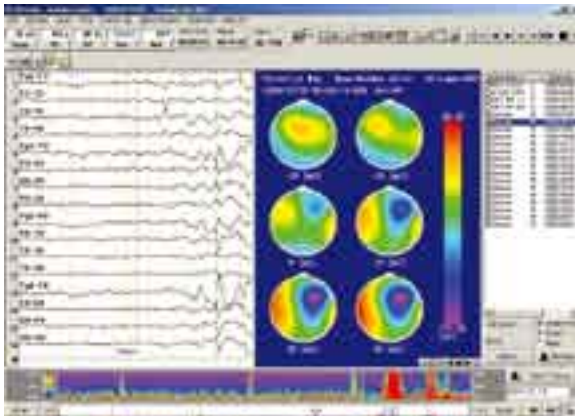
EEG examination support software: QP-150AK

Enjoy EEG as you have never seen it before—with comprehensive analysis software

- Seizure detection and review
 - Easy online/offline detection



- Voltage mapping and waveform view

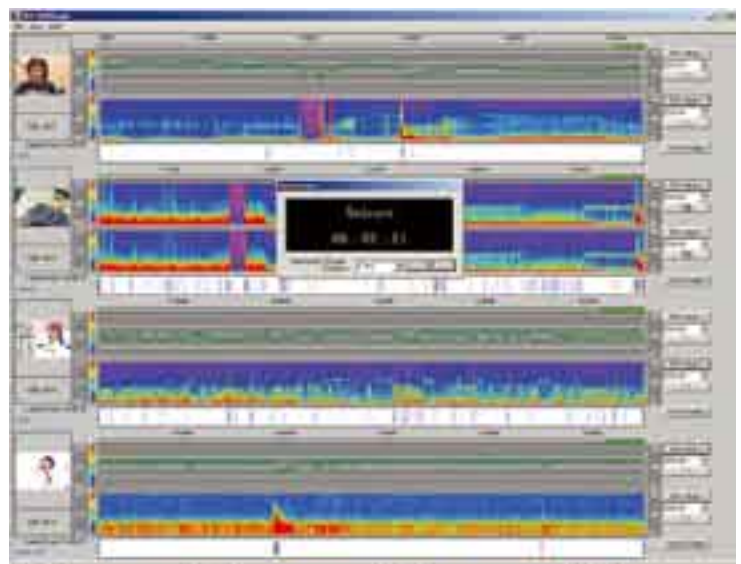


Voltage mapping
(grid electrode)



Waveform view window

- EEG TrendScope
 - Innovative EEG central review station
 - Up to 32 instruments can be connected to one review station and up to 8 instruments can be displayed in one window.
 - EEG waveforms can be opened by double-clicking a DSA area.
 - A message box annotates when seizure and/or other event is detected. Sound annotation is also available.



hardware and software

Video-link: Digital vide unit, QV-110AK / Digital video software, QP-110AK

2 types of digital video recording

- Hardware encoder (QV-110AK)
- Software encoder (QP-110AK)
- Patient images synchronized with the EEG waveforms can be recorded.
- The EEG waveforms and patient images can be saved in a hard disk.
- A "Video clip" function and "snapshot" function are available.



Shown with option

Spike detector software: SpikeDetector, QP-251AK

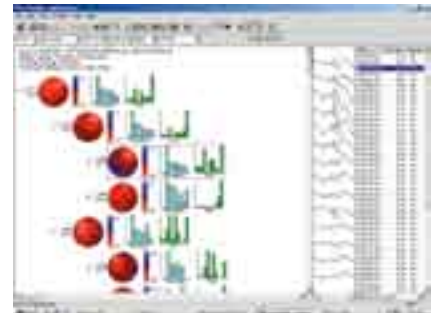
On-line and off-line spike and seizure detection vastly improved with detection accuracy

- Group spikes with hierarchical clustering
- Detailed topographic and morphologic distribution of selected group
- Spatial propagation of a spike over time
- Compare left and right hemisphere discharges with side by side traces
- Audible or visual notification of spike detection

*Product of Persyst Development Corporation



On-line trend graph of spike and seizure



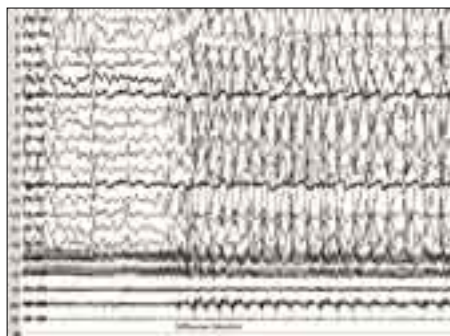
Group spikes with hierarchical clustering

Spike and seizure detector software: QP-121AK

On-line and off-line spike detection and newborn seizure pattern detection

- On-line or off-line spike and seizure detection
- Detection of newborn seizure pattern
- Stores detection results as event data

*Product of Stellate Systems Inc.



Newborn seizure

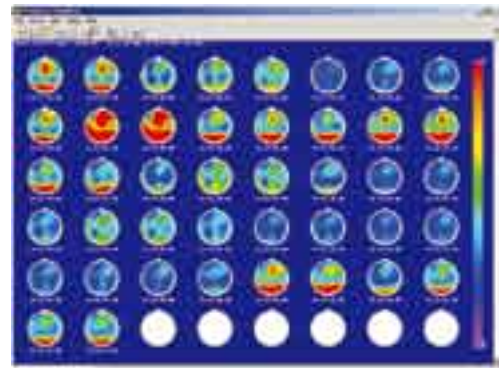


Setting screen for newborn seizure

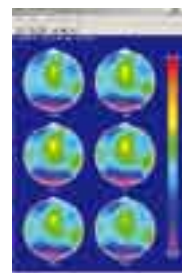
EEG mapping software: QP-220AK

Realtime and basic EEG mapping software

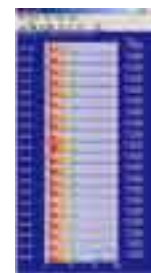
- Real-time and off-line mapping
- Display voltage maps of any time point by moving the cursor. The cursor can also be moved automatically with the cursor animation function.
- Up to eight frequency maps (seven power/voltage maps at seven different frequency bands and one map of all frequency bands).
- Trace and ratio mapping in frequency map program
- 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



Frequency mapping



Voltage mapping



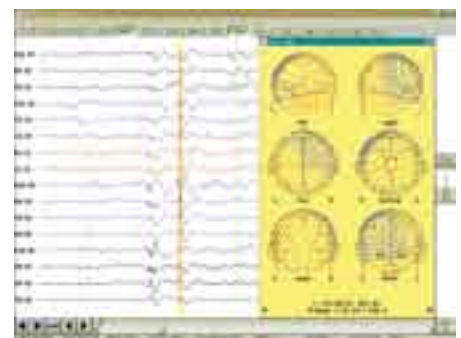
Power/Voltage spectra

Analysis software: FOCUS, QP-211A and MULTIVIEW, QP-214A

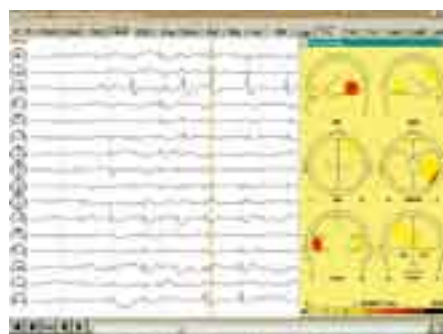
Review, mapping, remontaging, filtering and FFT

- Voltage and current source density mapping
- Automatic rejection of eye blink artifact without modifying the original data
- FFT frequency analysis and frequency and phase mapping
- Time lag and correlation analysis
- Automatic detection and averaging of similar waves
- Source imaging (available with FOCUS)

*Product of MEGIS Software GmbH



Voltage mapping



Source image (available with FOCUS)

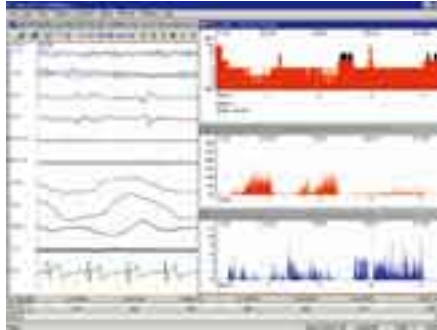
hardware and software

Sleep analysis software: POLYSMITH, QP-260AK

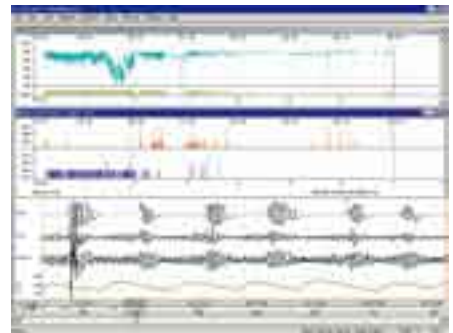
Diagnosis and study of sleep disorders and comprehensive reporting

- Display, store and analyze sleep data from sleep data files
- Reformatting of individual channel filters and sensitivities or montage
- Customize the system to best suit your needs
- Time-link trendgraphs superimposed on waveform data with epoch details

*Product of Neurotronic, Inc.



Sleep stage, Delta activity and Spindles



SaO₂, Apnea and Respiration

Wireless input unit: WEE-1000A/K

Wireless EEG frees the patient from cables



- Wireless—Up to 64 channels EEG, ECG, EMG, Resp, SpO₂ data can be sent to the EEG unit by wireless transmission.
- Data can be transmitted 100 m without walls.
- 24 hours battery operation (32 ch) / 18 hours battery operation (64 ch)
- EEG and PSG junction box.
- Oximeter interface.
- Seamless recording—60 min continuous backup of EEG data when a patient temporarily moves out of the wireless range
- Digital video recording is available with a QV-101AK digital video unit.



Major options and related instruments

For full list of options and consumables, see the Technical Data separately available



Cart, KE-920A (shown with EEG-9200, flash lamp assembly, local purchase LCD)



Electrode junction box, JE-921A



Mini junction box, JE-922A



SpO₂ adapter, JL-951T3 [Y090](#)
Reusable SpO₂ probe [P225F](#)



CO₂ sensor kit, TG-921T3 [P908](#)
Disposable naso-oral adapter, YG-121T V922, YG-122T [V923](#)



Flash lamp assembly, LS-703A
Photo control unit, LS-901AJ/AK



PSG input box, JE-912AK
Includes mini junction box



Shielded EEG disk electrodes, BE-911A (24 pcs/set)
BE-912A (12 pcs/set)

Model Suffixes

EEG-9200 has the following suffixes:

J: 110 - 127 V AC operation K: 220 - 240 V AC operation

This brochure may be revised or replaced by Nihon Kohden at any time without notice.



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