

# Life Scope G7

# Life Scope G5

Bedside Monitors CSM-1700/1500 Series

Revolutionizing Relationship



Fighting Disease with Electronics

 NIHON KOHDEN



CSM-1501 (12.1-inch)



CSM-1502 (15.6-inch)

# Better outcomes, better future

Now, what is desired in medical practice?

Academic research reveals that it is an early recovery of patients, better prognosis and preventive medical care.

Life Scope G5/G7 is designed to be a new platform to realize such medical care.

Nihon Kohden has been focused on the medical field over 60 years and we have been developing innovative Human Machine Interfaces starting from our first electroencephalograph. As Nihon Kohden researcher developed the principle of pulse oximetry, we also developed unique technologies for cardiopulmonary care.

These breakthrough technologies make invisible patient information visible and support more accurate diagnosis.

Information obtained from various devices is connected to an integrated system through the Life Scope G5/G7 and the data will be analyzed and used to select optimal treatment for each patient and provide early preventive measures.

With Life Scope G5/G7, we would like to be your partner to realize the future of medical care together.



CSM-1701 (15.6-inch)



CSM-1702 (19-inch)



# Human Machine Interface

Make invisible patients information visible and support more accurate diagnosis.

## See more, act fast

How do you treat patients with an unclear mental state or suspicion of brain issues?



Continuous NeuroMonitoring is a highly valuable tool in the ER and ICU. NeuroMonitoring gives you a better indication of the state of the brain during coma, helping you better predict the outcome, and therefore directly influencing the management of patients.

Simply connect our compact EEG module to Life Scope G5/G7 monitors to examine up to eight channels in real time. It enables quick data review with various trends including Density Spectral Array (DSA), Compressed Spectral Array (CSA) and amplitude-integrated EEG (aEEG).

The combination of EEG headband and innovative gel type EEG electrodes enables you to prepare the patient for EEG monitoring within 15 minutes, a process which takes usually more than 30 minutes.

### ESICM recommendations on the use of EEG monitoring in critically ill patients for:

- Non-convulsive status epilepticus
- Comatose patients with unexplained and persistent altered consciousness
- Comatose patients after cardiac arrest

Consensus statement from the neurointensive care section of the ESICM: Intensive Care Med (2013)

### ERC recommendations for post-resuscitation care:

- Continuous electroencephalography (EEG) is recommended to detect seizures after cardiac arrest
- Consider continuous EEG to monitor patients with a diagnosed status epilepticus and effects of treatment

Section 5 of the European Resuscitation Council Guidelines for Resuscitation 2015.



## Identify invisible ischemia

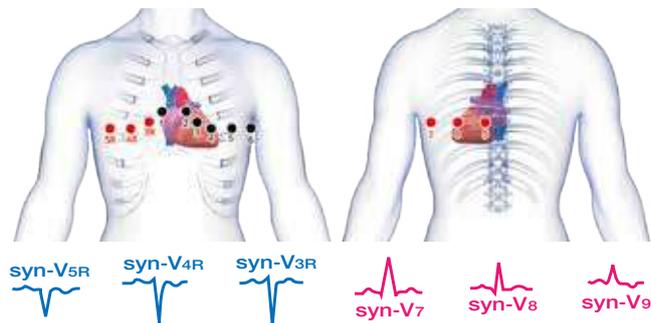
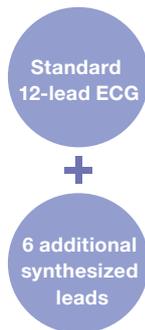
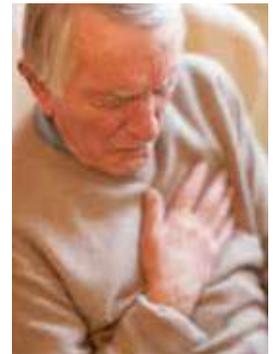
**synECi 18**  
Synthesized Electrocardiogram

### What will be done for patients who come to emergency by complaining of chest pain?

12-lead electrocardiogram will be measured to identify a suspected acute myocardial infarction. However is it enough?

12-lead ECG and additional leads provide you with the ability to make advanced care decisions to reduce the time to reperfusion.

synECi 18 provides the additional information for right ventricular and posterior wall from standard 12-lead ECG without additional procedure.



## Ensuring quality of care during sedation



Currently clinical guidelines, including those of the American Society of Anesthesiologists (ASA) and Anesthesia Patient Safety Foundation (APSF), recommend capnography as one of the most reliable non-invasive methods to continuously monitor and assess the adequacy of the patient's respiratory condition during procedural sedation and analgesia.

**cap-ONE**  
ORAL NASAL EXPIRATION

cap-ONE is an ultra compact and highly durable sensor will change your image of main stream CO<sub>2</sub> sensors being easy to break. cap-ONE provides accurate and stable CO<sub>2</sub> monitoring for both intubated and non-intubated patients.

**cap-ONE mask**

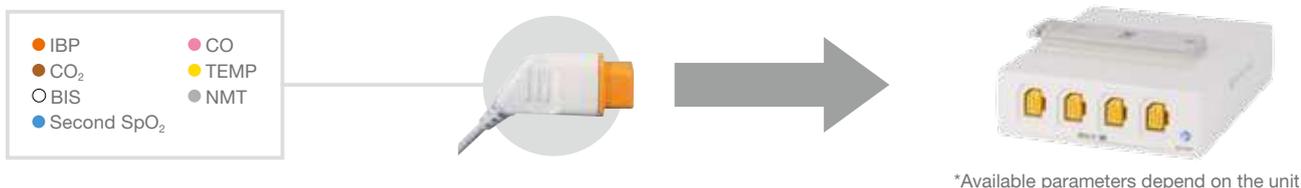
cap-ONE mask is an originally designed open face oxygen mask for patients who are receiving supplemental oxygen. The combination of cap-ONE (TG-980P) and cap-ONE mask reliably detects respiratory depression and avoid serious complications in all care levels.

# Efficient operation throughout the hospital

Life Scope G5/G7 contributes to efficient operation throughout your hospital. Increasing efficiency gives you more time for your patients.

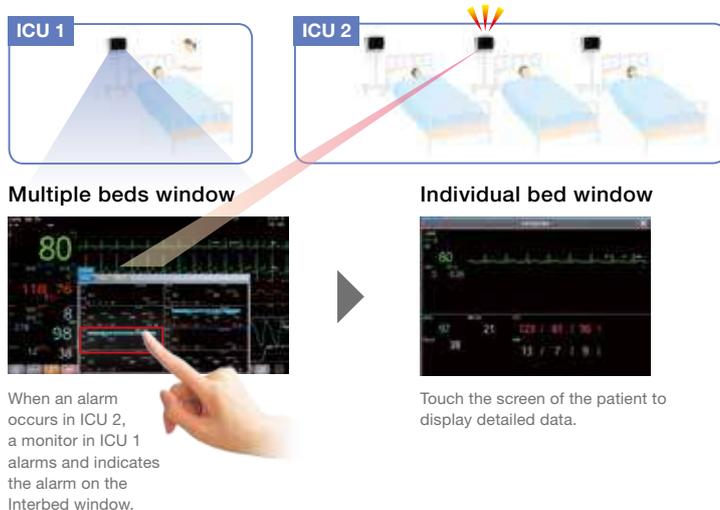
## Smart Cable system—unique modular technology

When you plug a Smart Cable into a MULTI socket, it automatically detects the parameter and starts measuring. The combination of fixed basic parameters and flexible MULTI socket parameters allows flexible monitoring for different patient conditions. You get complete modular flexibility at a significantly reduced cost and without the inconvenience associated with traditional modular systems.



## Solution for the shortage of staff

Do you have a situation where you have to manage multiple patients? The interbed function will support such an environment. You can use any bedside monitor to check the patients, vital information and the alarm status of other monitors in the network, even if there is no central monitor. Numeric data for 20 patients or numeric data and 2 waveforms for one patient can be displayed on the interbed screen.



## High quality monitoring increases accuracy

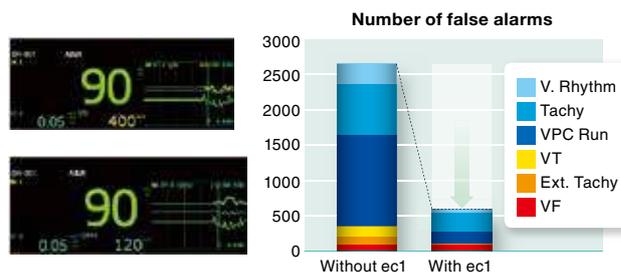


### High accurate ec1 arrhythmia analysis

If there are too many false alarms, you may miss noticing when a patient's condition becomes critical.

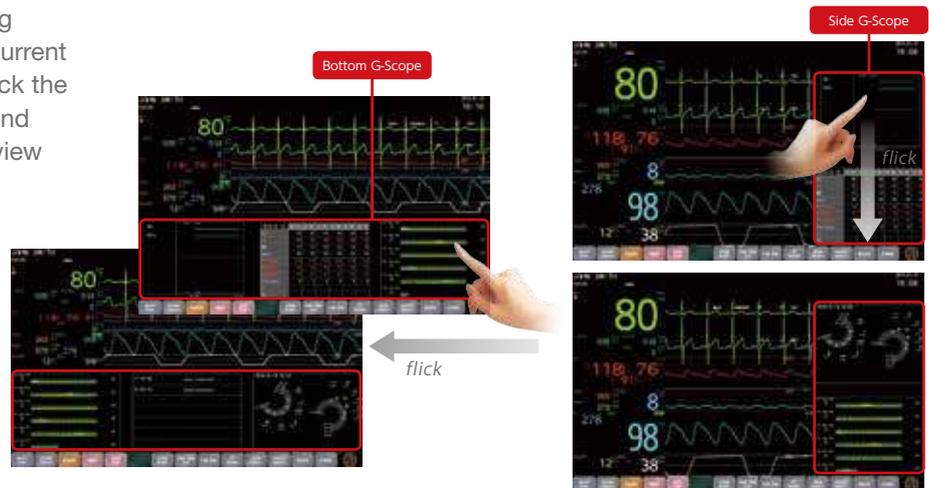
Nihon Kohden's ec1 arrhythmia analysis provides superior elimination of false alarms. ec1 has been evaluated against public arrhythmia databases as well as Nihon Kohden's own ECG database, with a result of 80% reduction of false alarms.

Afib detection and QTc/QRSD measurement are now available.



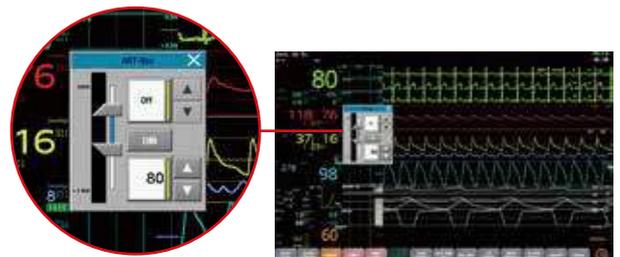
## Review data without hiding the current vital signs

Life Scope G5/G7 allows reviewing previous data without hiding the current vital signs and waveforms. Just flick the side or the bottom of the screen and select from three pre-assigned review screen.



## Quick access to change settings

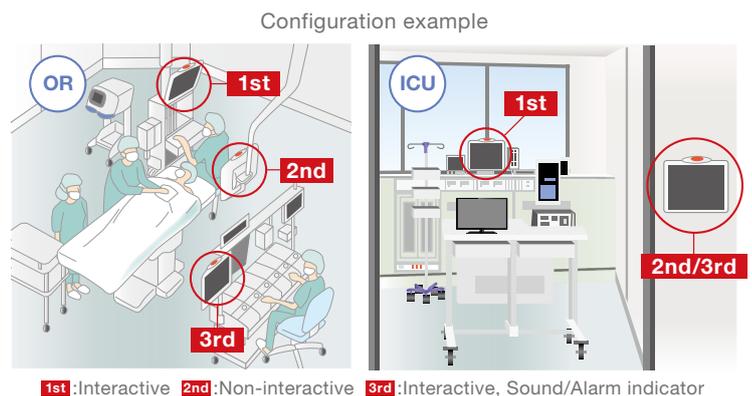
You can change the frequently used settings such as alarm settings and sensitivity directly on the home screen. There is no need to open setting windows that will hide current patient data.



## Flexible installation

The flexible configuration of the Life Scope G5/G7 would meet variety of hospital needs.

For example, in the open heart surgery room, with Life Scope G5/G7, while the surgeon is watching the basic vital parameters, the anesthesiologists can review all parameters including anesthetic parameters on the other screen with another screen layout. A heart-lung machine operator can see other vital information on a separate third screen.



# Holistic Care Platform

The importance of data management is increasing more and more in recent years. Life Scope G5/G7 can be interfaced with various devices and the data including data from external devices will be sent to an integrated system.

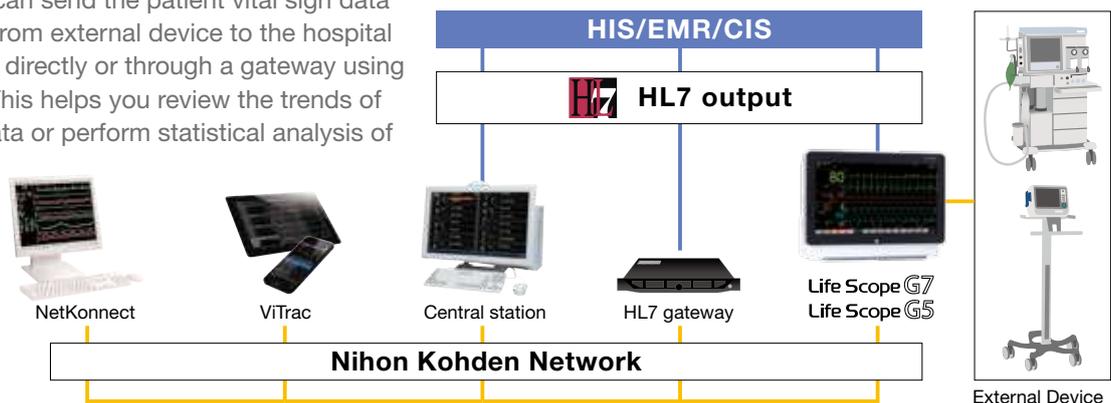
## Integrating information obtained from various devices



## Integrated data

The importance of evidence-based practice increases day by day. Clinicians who are seeking more advanced treatment may be struggling to collect the data more efficiently.

Life Scope G5/G7 can send the patient vital sign data including the data from external device to the hospital information system directly or through a gateway using the HL7 protocol. This helps you review the trends of patient vital sign data or perform statistical analysis of pathology.



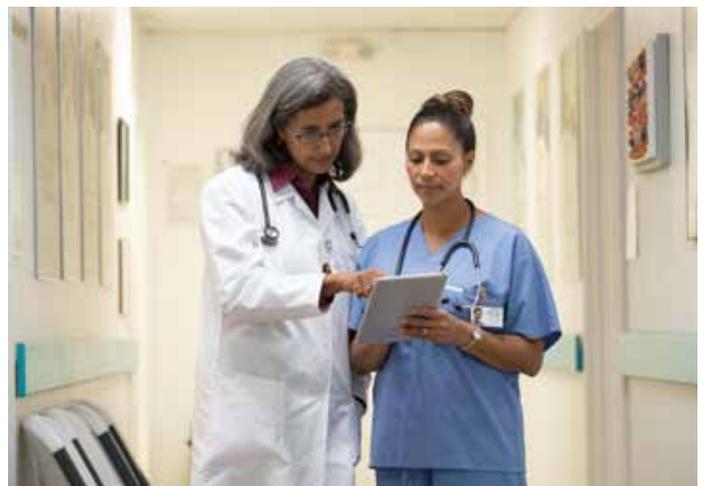
## Superior transportability

Using a Life Scope PT as an input box enables superior transportability. To transport the patient, just slide out the Life Scope PT. The patient information, including trend and waveforms, will be transferred to the destination monitor and central monitor to create one seamless patient record.



## Anywhere anytime

The ViTrac viewer software allows clinicians to access monitoring information on multiple patients anywhere anytime on their mobile devices.



# Preventive Intervention

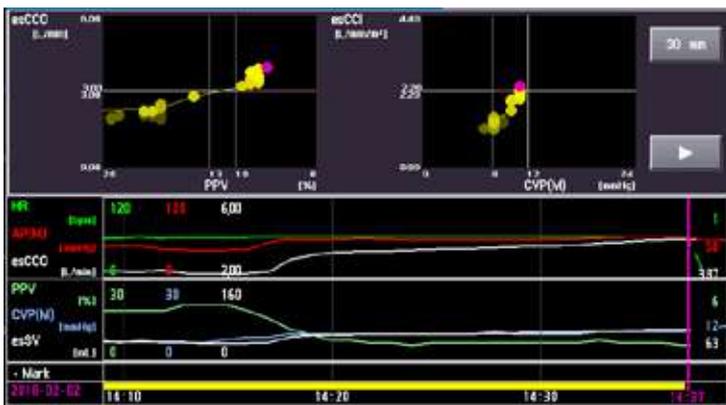
The integrated data will be analyzed and used to select optimal treatment for each patient and provide early preventive measures.

## Better outcomes

Optimizing fluid administration during and post operation can lead to benefits such as a shorter length of stay and lower complications.

Nihon Kohden's hemodynamics graph provides a more intuitive approach to diagnostic and therapeutic decision making in hemodynamic management. This new tool provides a visual Frank-Starling curve to help the clinician easily see the direction and trend of hemodynamic change.

You can select appropriate hemodynamic parameters from invasive to non-invasive depending on the patient's condition.



The AP-170P Hemodynamic unit supports PiCCO, ProAQT and CeVOX technologies with one unit.

## Redefining quality of care with non-invasive hemodynamics monitoring



esCCO (estimated continuous cardiac output) is new technology to determine the cardiac output using Pulse Wave Transit Time (PWTT) which is obtained by the pulse oximetry and ECG signals. esCCO provides real-time, continuous and non-invasive cardiac output measurement alongside the familiar vital sign parameters of ECG and SpO<sub>2</sub>. esCCO is a very effective cost-saving solution because it has no additional running costs or accessories.

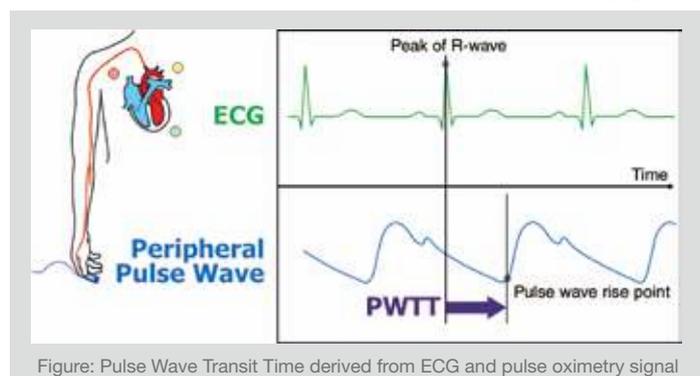
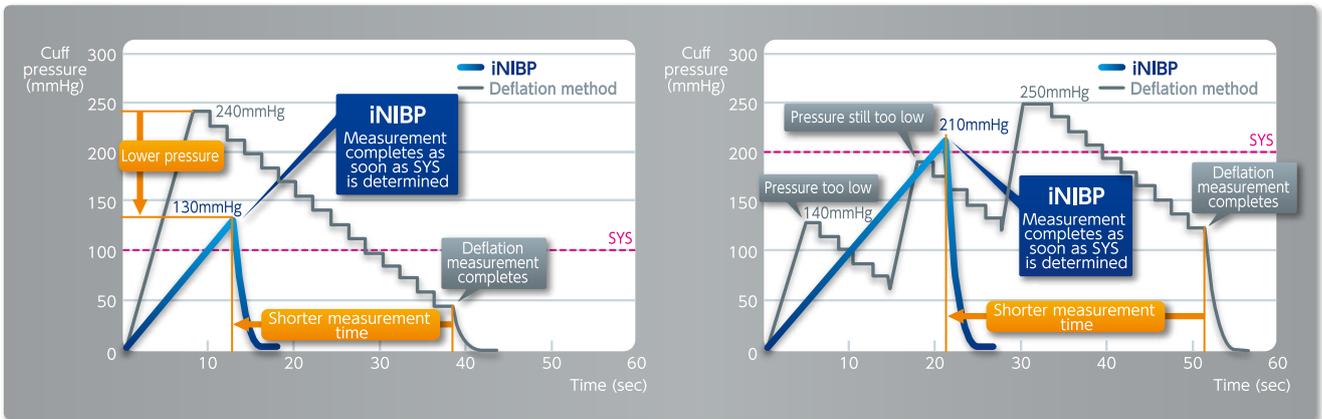


Figure: Pulse Wave Transit Time derived from ECG and pulse oximetry signal

# Improving patient safety in hemodynamics management



iNIBP is Nihon Kohden's unique algorithm to measure NIBP during inflation. It provides fast and painless measurement of NIBP. Even if a patient's blood pressure increases compared to previous measurements, iNIBP still provides fast measurement of NIBP.



PWTT (Pulse Wave Transit Time) triggered NIBP measurement increases the chance of detecting a sudden change in blood pressure. When it is set to ON, the monitor calculates the estimated NIBP systolic pressure using PWTT and if it exceeds the alarm limit of NIBP systolic pressure, NIBP is then measured automatically between the periodic NIBP measurement.

# Contributing to clinical research that supports the future of medical care

Advanced hospitals are seeking ways to provide early preventive measures using big data or artificial intelligence. Life Scope G5/G7 with its advanced Human Machine Interface will support the collection of accurate patient data and integrated data to enable more sophisticated research.

Nihon Kohden contributes to further medical development with advanced technologies.

For patients and their families.



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

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