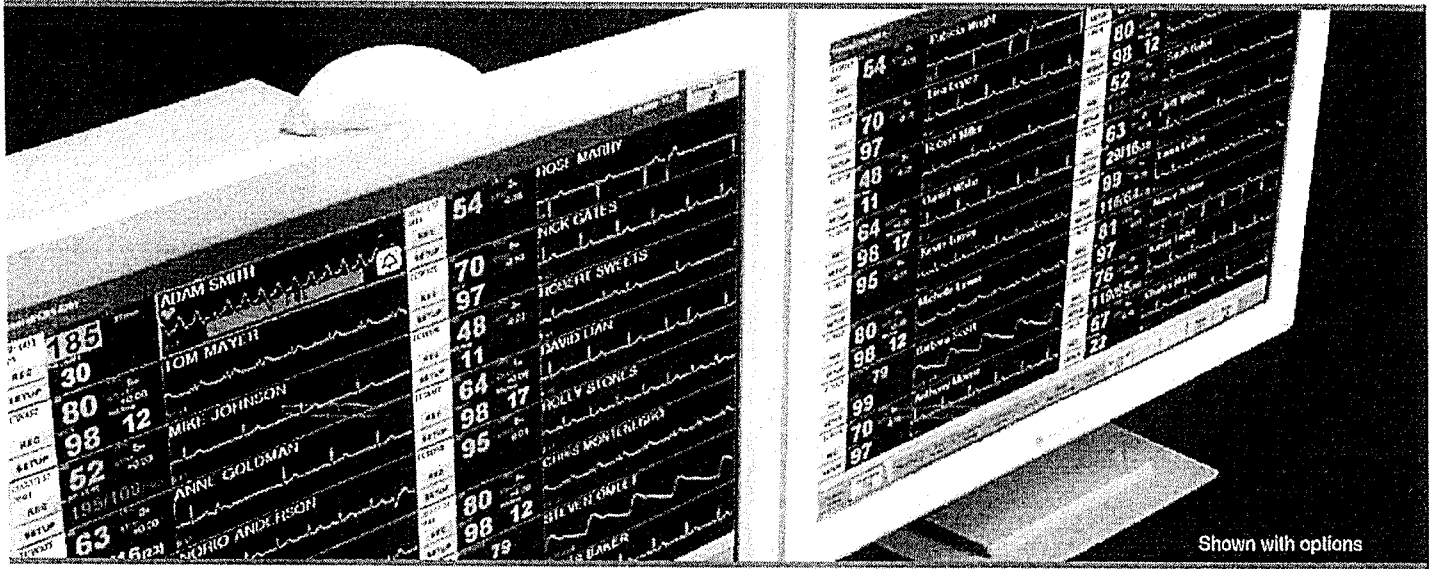


# Central Monitor

CNS-6201



*Designed for patient safety*

## Central Monitoring System

คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์

๑. ลงชื่อ..... *adm* ..... ประธานกรรมการ

๒. ลงชื่อ..... *sw* ..... กรรมการ

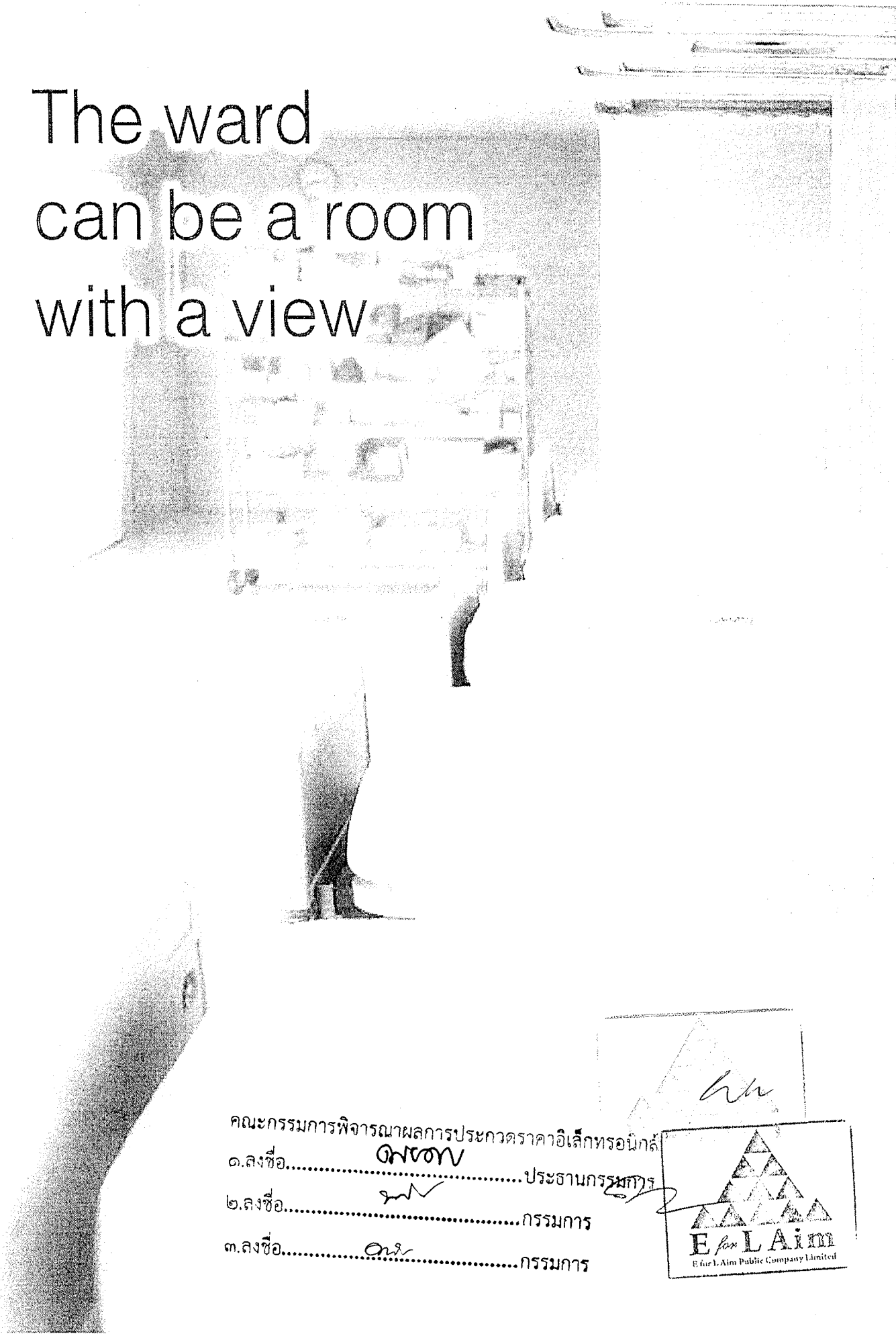
๓. ลงชื่อ..... *ns* ..... กรรมการ

Fighting Disease with Electronics

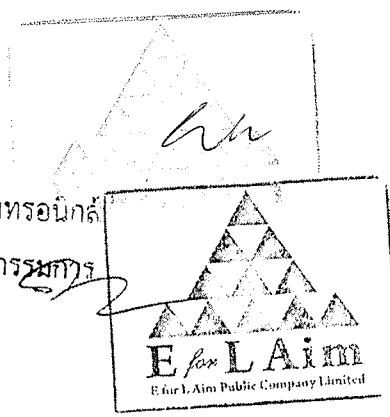
 NIHON KOHDEN

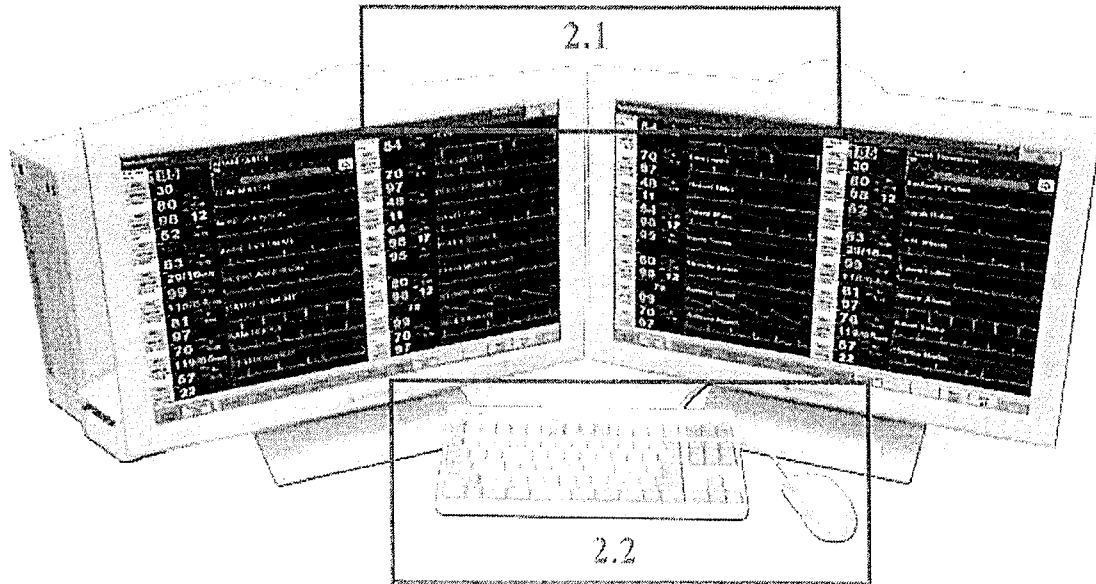


The ward  
can be a room  
with a view



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๑.ลงชื่อ..... *อนิชา* .....ประธานกรรมการ  
๒.ลงชื่อ..... *จรูญ* .....กรรมการ  
๓.ลงชื่อ..... *อนิชา* .....กรรมการ





**Dual wide display**

One main unit can have two displays that operate separately and display different information. You can view all patient information on a combination of two display monitors.

**Up to 32 patients**

Up to 32 patients can be simultaneously monitored.

**Easy alarm setup**

Alarms for 8 basic parameters can set on one screen.

**Touch screen operation**

Easy and fast. Just touch the parameter you want to change.

**Reliable alarms**

You can reduce false alarms by reviewing alarm and measurement conditions on the alarm review screen.

**Flexible 72-hour data storage**

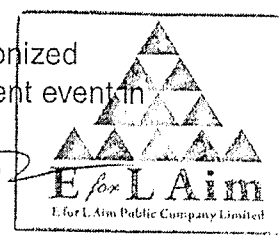
The nine different review screens are time synchronized with each other so you can review the same patient event in different ways.

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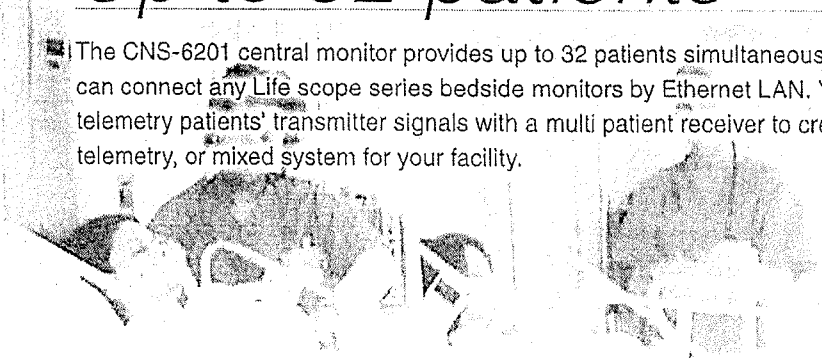
๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ



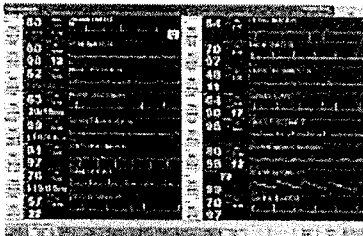
# Up to 32 patients

The CNS-6201 central monitor provides up to 32 patients simultaneous monitoring. You can connect any Life scope series bedside monitors by Ethernet LAN. You can also monitor telemetry patients' transmitter signals with a multi patient receiver to create the ideal hardwired, telemetry, or mixed system for your facility.

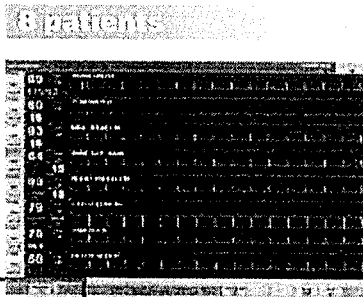


*Flexible screen layouts for any number of patients*

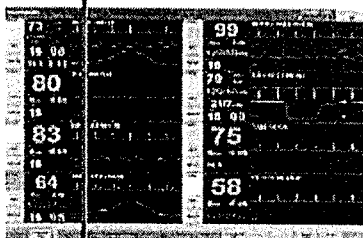
2.3



1 wave



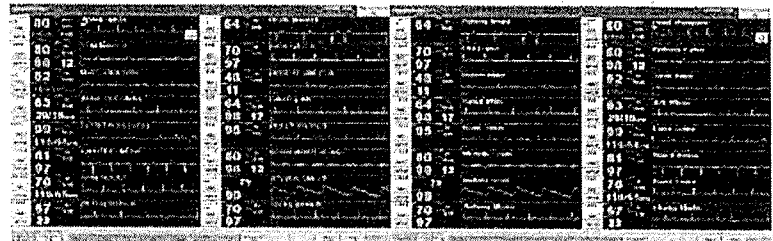
1 wave



3 waves

2.3

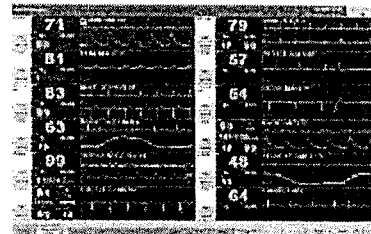
32 patients (grid display)



1 wave

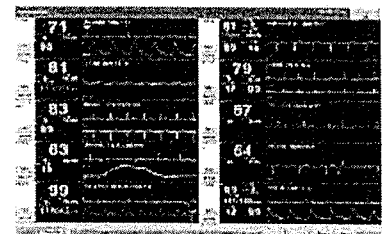
1 wave

12 patients



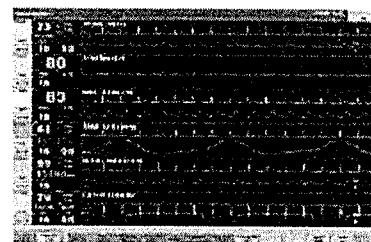
2 waves

10 patients



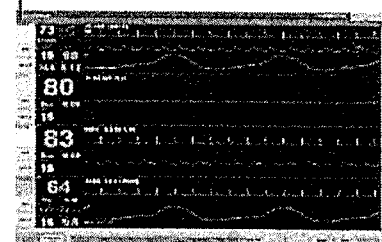
2 waves

8 patients



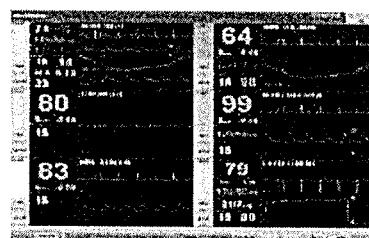
2 waves

4 patients

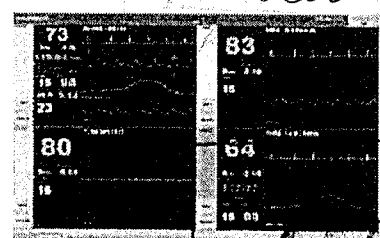


3 waves

2.3



4 waves



6 waves

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๒.ลงชื่อ.....กรรมการ

๓.ลงชื่อ.....กรรมการ

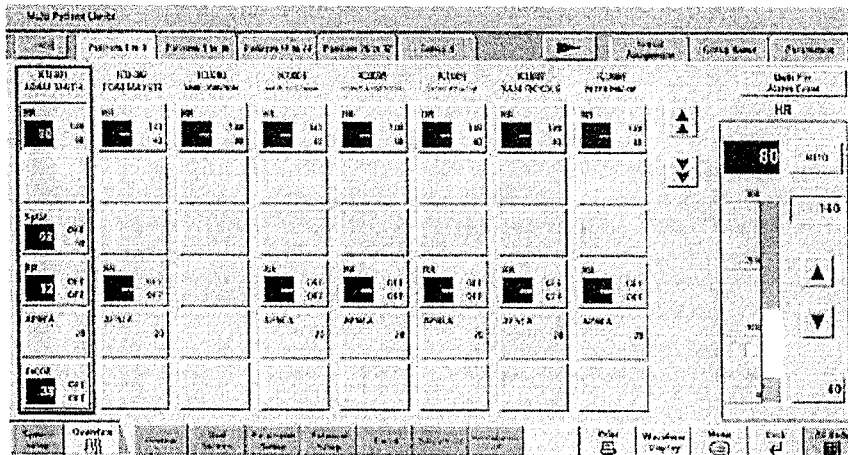


# Easy alarm setup

Alarm levels of 8 basic parameters can set on one screen.

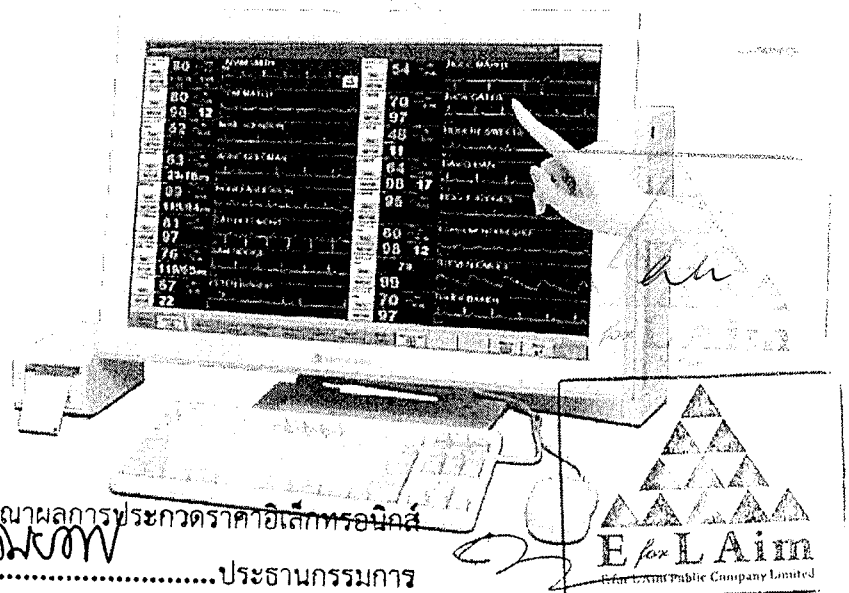
## Multi patient limits screen

The multi patient limits screen helps you set alarms more efficiently. Alarm levels for up to 8 patients are shown on one screen so you can check and change alarm settings compared to other patients.



# Touch screen operation

Operating menus are similar to other Life scope series monitors. Most functions can be done in just 3 steps. With an NKD-ELO24 LCD display (24-inch color), you can operate the monitor by touch screen. You can also use a local purchase display and operate the monitor by keyboard and mouse.



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๒. ลงชื่อ.....กรรมการ

๓. ลงชื่อ.....กรรมการ

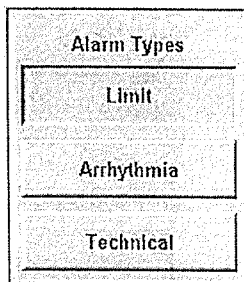
# Reliable alarms

Typical central monitors cause too many false alarms so staff can't rely on them. Many false alarms are caused by technical alarms and unsuitable alarm settings.

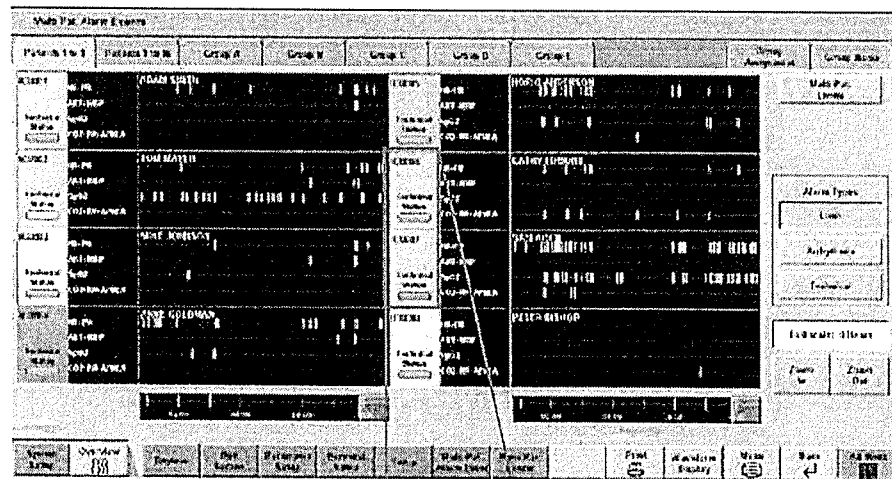
In order to improve this, a new Multi Patient Alarm Event window was added to CNS-6201. This can help reduce false alarms and provide high quality patient care.

## Alarm type hide and display

In the multi patient alarm event window, you can hide or display specific alarm types.



- **Limit alarm**  
Vital signs alarms indicate the condition of each parameter.
- **Arrhythmia alarm**  
You can check the frequency of arrhythmias on one screen. This can show the effect of arrhythmia drugs.
- **Technical alarms**  
This can help manage the electrode replacement cycle.



## Technical status signal

You can display the frequency of technical alarms in the last hour, indicated by specified color. This shows at a glance the measuring conditions such as electrode attachment or noise.

ICU006  
Technical Status: Green (Good): less than 10 alarms in one hour

ICU007  
Technical Status: Red (Bad): over 30 alarms in one hour

Legend:  
Green (Not Bad): 10 to 29 alarms in one hour  
Red (Bad): over 30 alarms in one hour

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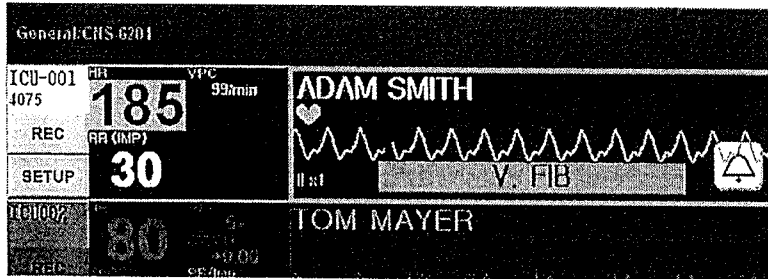
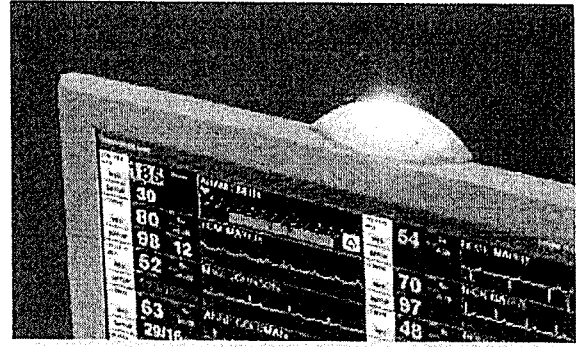
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## Alarm related features

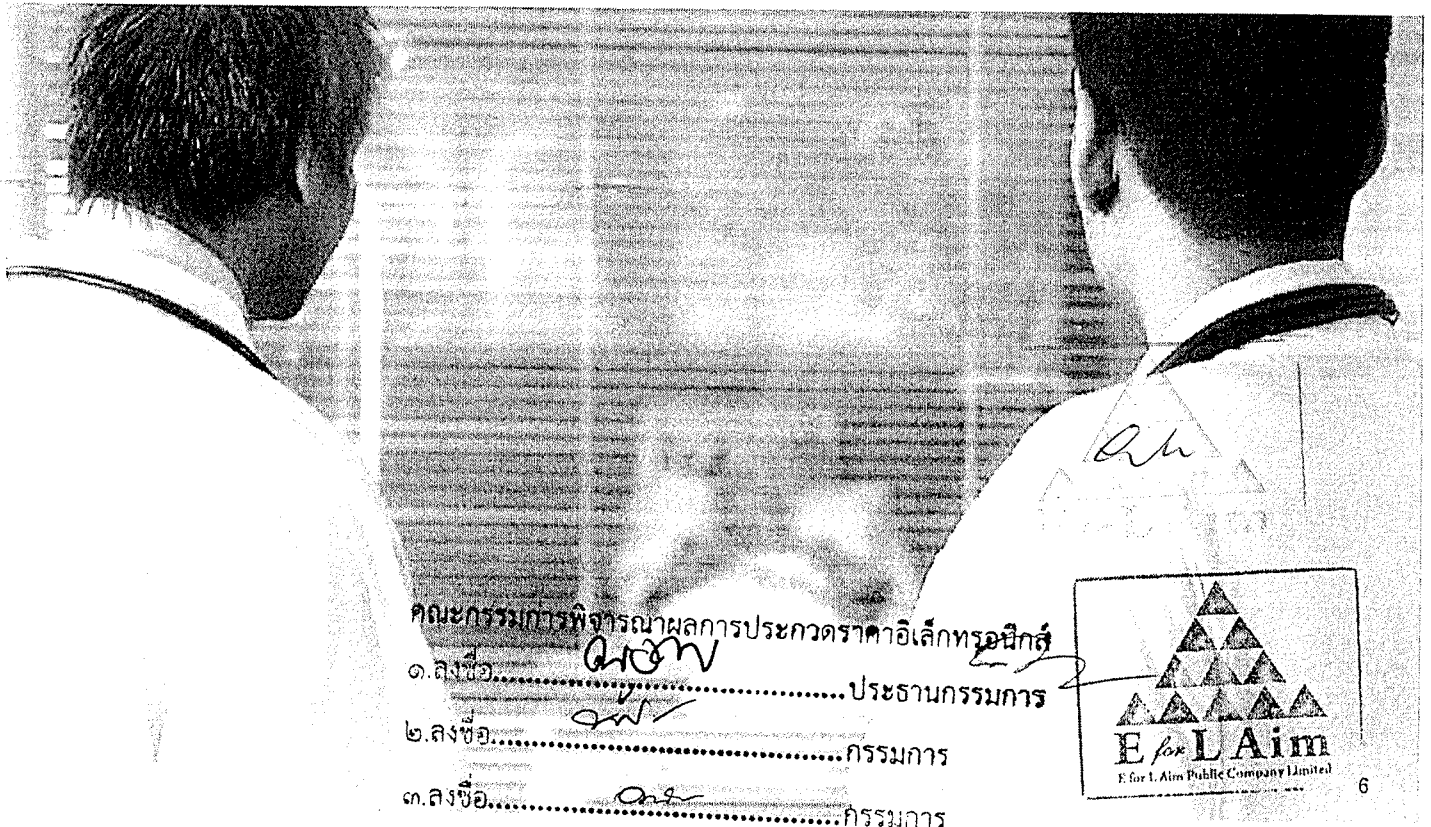
### Optional alarm indicator

The alarm indicator on the top of the display can be clearly seen at a distance. The blinking or steady lighting condition and color shows alarm information. The blinking alarm indicator can also be synchronized with heart rate, blood pressure or SpO<sub>2</sub> of a selected patient.



### Color coded alarm level

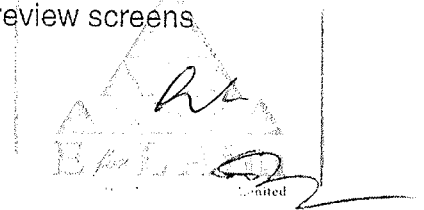
Alarms are indicated by a blinking frame and highlighted message. Red shows CRISIS alarms and orange shows WARNING alarms.



# Flexible 72-hour data storage

## Synchronized review data

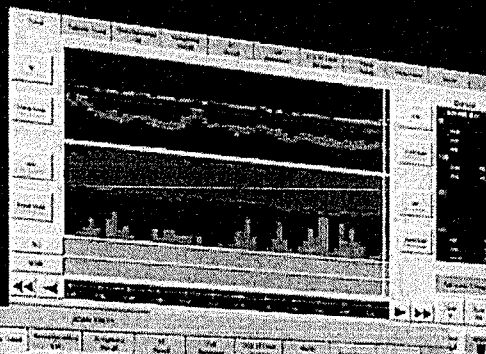
All 9 review screens are time-synchronized so that when you find an alarm or arrhythmia episode, you can see the same event on other review screens as full disclosure, trend or numeric data to check details.



## 9 ways

### 1) Trend graphs

Trend graphs of 4 parameters and 2 events of the last 72 hours can be displayed.



### 2) Tabular trends

Numeric data of measured parameters for the latest 72 hours can be displayed in a table.

### 3) Hemodynamics data

Up to 256 hemodynamics measurements can be displayed in 8 rows per screen.

### 9) Alarm events window

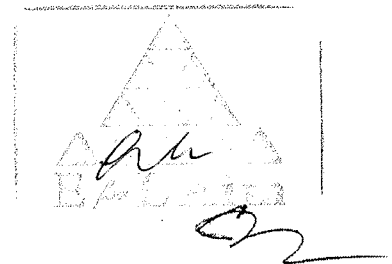
72-hour alarm lists for 8 persons can be displayed at the same time. There are 3 types of alarm displays: vital sign alarms, arrhythmia alarms, and technical alarms.

*Time Syn*

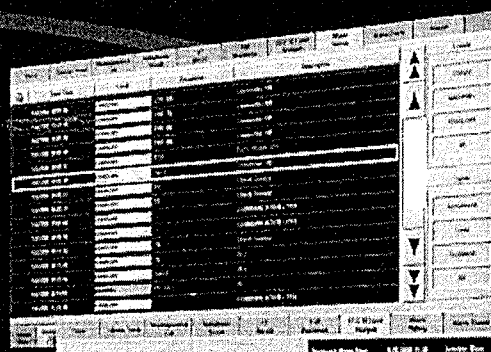
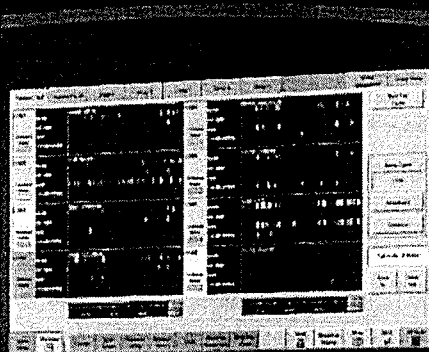
### 4) Arrhythmia recall

Up to 768 eight-second arrhythmia episodes for each patient can be stored and reviewed.





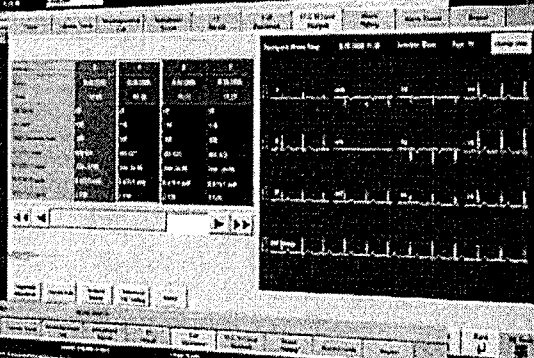
to review



**8) Alarm history**

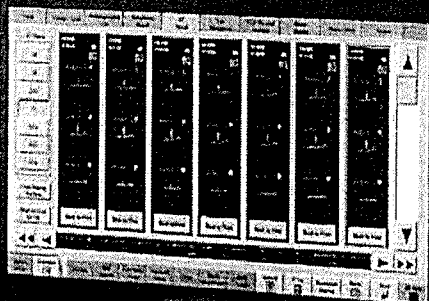
The latest 1,000 files can be saved for each bed. The alarm history window displays the file list with report creation time, alarm levels, parameters, descriptions, and other information.

chronized



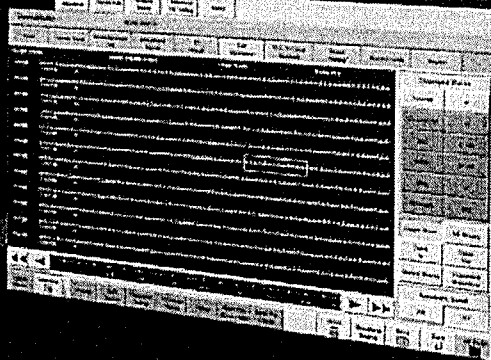
**7) 12-lead ECG analysis**

12-lead ECG analysis waveform, average waveform, comparison waveforms, and analysis reports from the bedside monitor can be displayed.



**5) ST recall**

ST recall files are created at specified intervals. Up to 4,320 files can be saved. 7 files can be displayed at the same time.



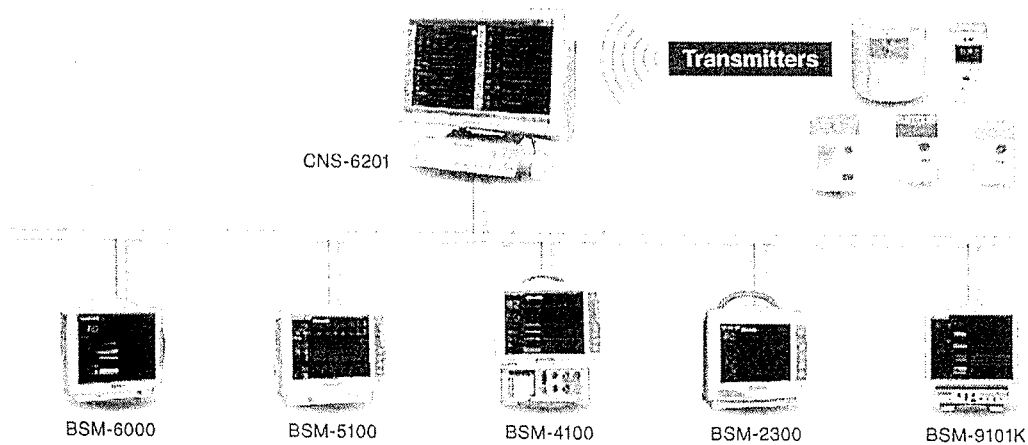
**6) Full disclosure ECG**

Six 72-hour full disclosure waveforms for each patient can be stored and reviewed with an optional program kit.

๒.ลงชื่อ.....กรรมการ  
 ๓.ลงชื่อ.....กรรมการ

## Flexible configuration

An optional multiple patient receiver unit receives signals from up to 8 patients' transmitters.



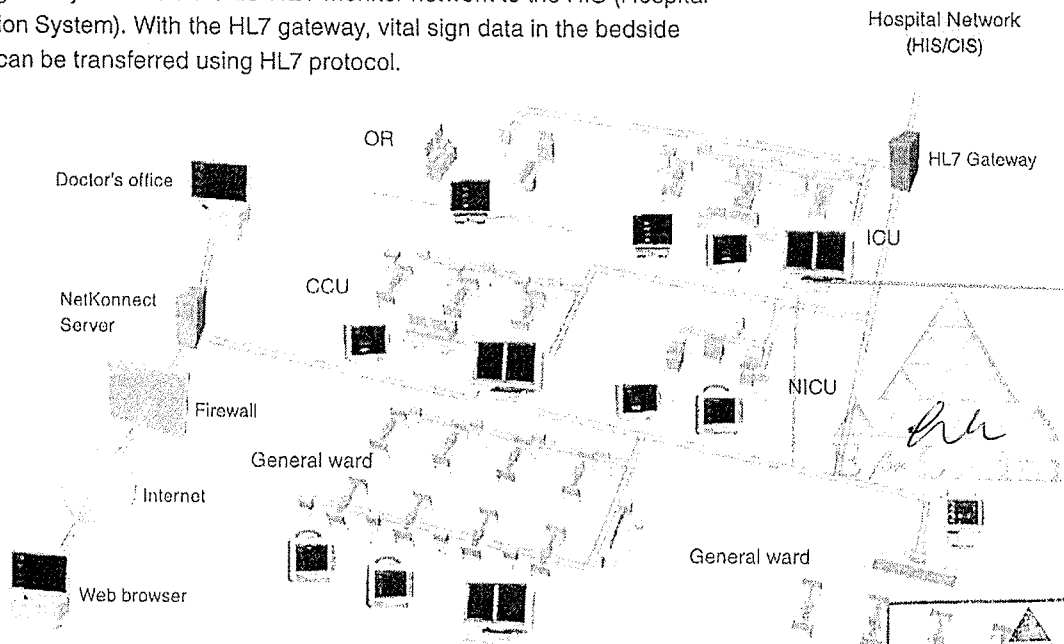
## Life Scope Network

### NetConnect

With optional NetConnect, you can review real-time patient data anytime and anywhere from your PC with a web browser.

### HL7 Gateway

An HL7 gateway connects the LS-NET monitor network to the HIS (Hospital Information System). With the HL7 gateway, vital sign data in the bedside monitor can be transferred using HL7 protocol.

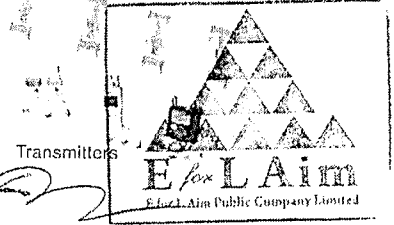


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๑. ลงชื่อ..... ประธานกรรมการ

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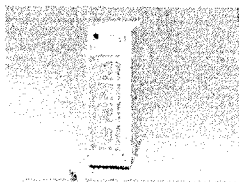


# Specifications

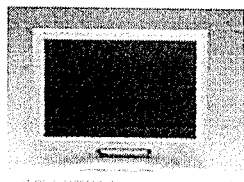
Display unit	Waveform display method: Non-fade, fixed trace
Number of traces	1 to 6 traces per patient (up to 32 patients)
2.4 Sweep speed	50, 25, 6.25 mm/s
2.5 Waveform display items (depends on the connected monitor)	ECG, IBP, Respiration wave, Pulse (SpO <sub>2</sub> ), EEG, Flow/Paw, CO <sub>2</sub> , External input, Anesthetic gas
2.6 Alphanumeric display items (depends on the connected monitor)	Heart rate, Pulse rate, VPC rate, Respiration rate, ST level, IBP (systolic, diastolic, mean), Temperature, SVO <sub>2</sub> , Flow/Paw, N <sub>2</sub> O, O <sub>2</sub> , Agent, BIS, TcPO <sub>2</sub> , TV, MV, PEEP, other
Arrhythmia detection items	Asystole, VF, Extended Tachycardia, Extended Bradycardia, VT, Tachycardia, Bradycardia, VPC Run, Couplet, Early VPC, Multiform, Bigeminy, Frequent VPC, Prolonged RR
Arrhythmia recall	768 arrhythmia recall files for each bed
2.9 ST recall	4,320 ST recall files for each bed
Trend	Trend display format: Trend graph and Tabular trend Trend display time: 1, 8, 24, 72 hours
Full disclosure	72-hour full disclosure waveform data for up to 6 waveforms
ECG 12-lead analysis	Saves up to 64 files of ECG analysis results for each bed
Alarm history	Saves up to 1,000 alarm history events for each bed
Alarm event	Saves 72-hour alarm events for each bed
Recorder unit	Paper speed: 25 mm/s Number of channels: 2 Printed items: Patient information, Date and time, Waveform and measurement data, Record type, Paper speed
Laser printer	Paper size: A4/letter Record type: Multi wave, Multi wave freeze, ECG 12-lead, Trend graph, Tabular trend, Arrhythmia recall, Hemodynamic list, ST recall, Full disclosure waveform, ECG 12-lead analysis result

## Composition

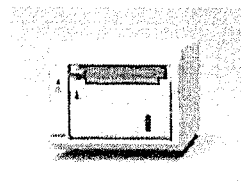
For a full list of options and consumables, see the technical data separately available.



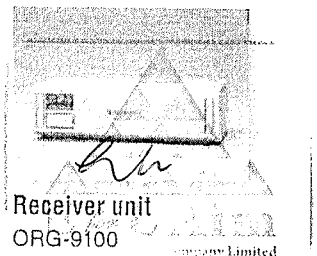
Main unit  
PU-621R



LCD display  
NKD-ELO24



Recorder unit  
WS-960P



Receiver unit  
ORG-9100

Alarm indicator, 2.5 m  
YL-611P

WS-960P power unit  
SC-611R

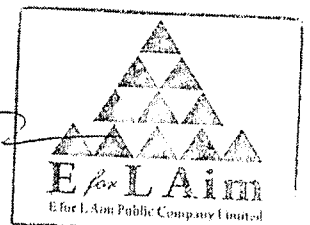
Alarm indicator, 5 m  
YL-612P

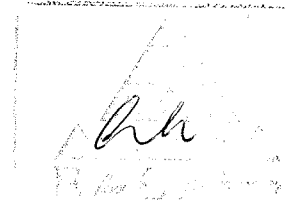
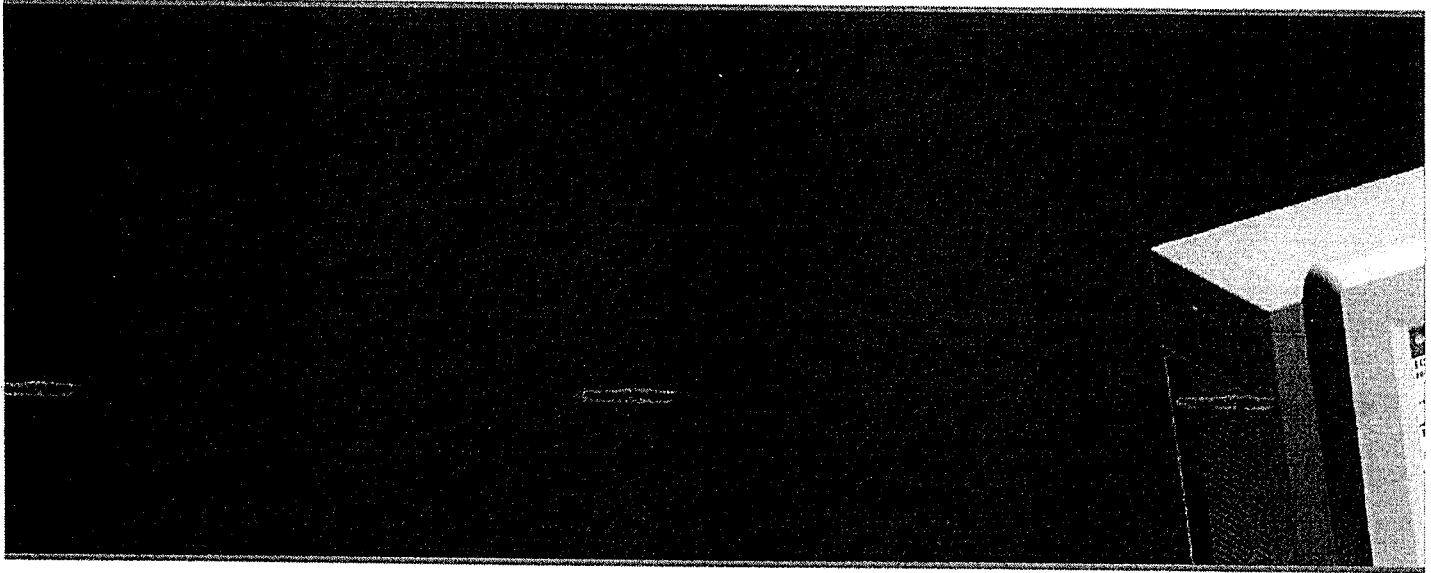
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www.nihonkohden.com

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Alarm silence:	Displays alarm silence mark or silence mark with remaining minutes. Alarm can be silence for each bed.
Patient settings:	Patient information can be entered when admitting or discharging the patient. Receiving channel number can be set when using the multiple patient receiver. Alarm settings can be changed.
Recording:	10 seconds of waveforms (on the network printer), manual recording

## 2.10 Full Disclosure Window

Display formats:	Zoom display, expanded waveform display
Saved data:	120 hours/bed
Number of saved waveforms:	Up to 16 waveforms
Arrhythmia alarm and waveform color:	Depends on the alarm level
Waveform zoom display:	Available
Automatic scroll:	Available
Full disclosure waveform recording:	Available on network printer
Expanded waveform recording:	Recorder, network printer
Calliper function:	Available
Divider function:	Available

## 2.8 Arrhythmia Recall Window

Display formats:	List display, waveform display
Number of recall files:	1500 files/bed* * The data is deleted after 120 hours even the files are less than a maximum number.
Waveform length:	More than 8 seconds (depends on the connected bedside monitor)
Arrhythmia recall recording:	Recorder, network printer

## 2.9 ST Recall Window

Display formats:	ST file display, comparison display
Number of recall files:	Up to 120 hours/bed
ST recall file recording:	Recorder, network printer

## Trend Window

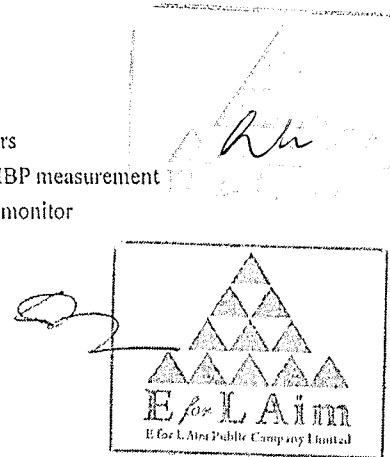
Display formats:	Trendgraph, tabular trend
Display times:	Up to 120 hours/bed
Zoom in display:	1, 2, 4, 8, 12, 24, 48, 96 or 120 hours
Display interval:	1, 2, 5, 10, 15, 30, 60 minutes at NIBP measurement
Parameters:	Depends on the connected bedside monitor
Trend recording:	Network printer
Tabular trend recording:	Network printer
NIBP trend recording:	Network printer

## Hemodynamics List Window

Display format:	Tabular trend
Number of files:	256 files/bed* * The data is deleted after 120 hours even the files are less than a maximum number.
Parameters:	Depends on the connected bedside monitor
Recording:	Network printer

Operator's Manual CNS-6201

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 ๒.ลงชื่อ.....กรรมการ  
 ๓.ลงชื่อ.....กรรมการ



MANUAL arrhythmia recall files are created on the Full Disclosure Waveform window. Refer to "Creating a Recall File of Desired ECG" in this section.

**NOTE**

- When [Arrhythmia Analysis] is set to [OFF] on the bedside monitor and central monitor, arrhythmia recall files cannot be created.
- Arrhythmia recall files are created only when the arrhythmia which is set on [Create Recall Waveform] are detected.
- If a new file is created when the maximum number of files has already been reached, the oldest file is deleted. Data is automatically deleted after the maximum 120 hours regardless of the number of files.
- End A-FIB is not displayed on the Arrhythmia Recall window.

**Arrhythmia Classification and Priority**

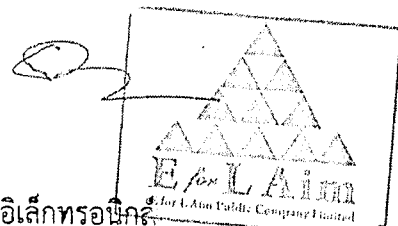
If several arrhythmias occur while creating an arrhythmia recall file, a recall file is created according to the priority shown below. The following arrhythmia types are available.

Arrhythmias might not be displayed depending on the bedside monitor model.

2.7

	Classification	Description
High ↑ Priority	ASYSTOLE	Asystole
	V FIB	Ventricular fibrillation
	V TACHY	Ventricular tachycardia
	EXT TACHY	Extreme tachycardia
	EXT BRADY	Extreme bradycardia
	VPC RUN	VPC short run
	V BRADY*	Ventricular bradycardia
	SV TACHY*	Supraventricular tachycardia
	TACHYCARDIA	Tachycardia
	BRADYCARDIA	Bradycardia
Low ↓ Priority	PAUSE*	Pause
	COUPLET	VPC couplet (Paired VPCs)
	EARLY VPC	Early VPC
	MULTIFORM	Multi-form ECG
	V RHYTHM*	Ventricular rhythm
	BIGEMINY	Ventricular bigeminy
	TRIGEMINY*	Ventricular trigeminy
	A-FIB*	Atrial fibrillation
	VPC	Ventricular premature contraction
	IRREGULAR RR*	Irregular RR
PROLONGED RR	Prolonged R-R interval	
NO PACER PULSE*	Oversensing	
PACER NON-CAPTURE*	Non-capture	

\* These arrhythmias become available when "Extended" is selected for Arrhythmia Type on bedside monitor. Refer to Section 6-1 "ORG Setting" of the Administrator's Guide.



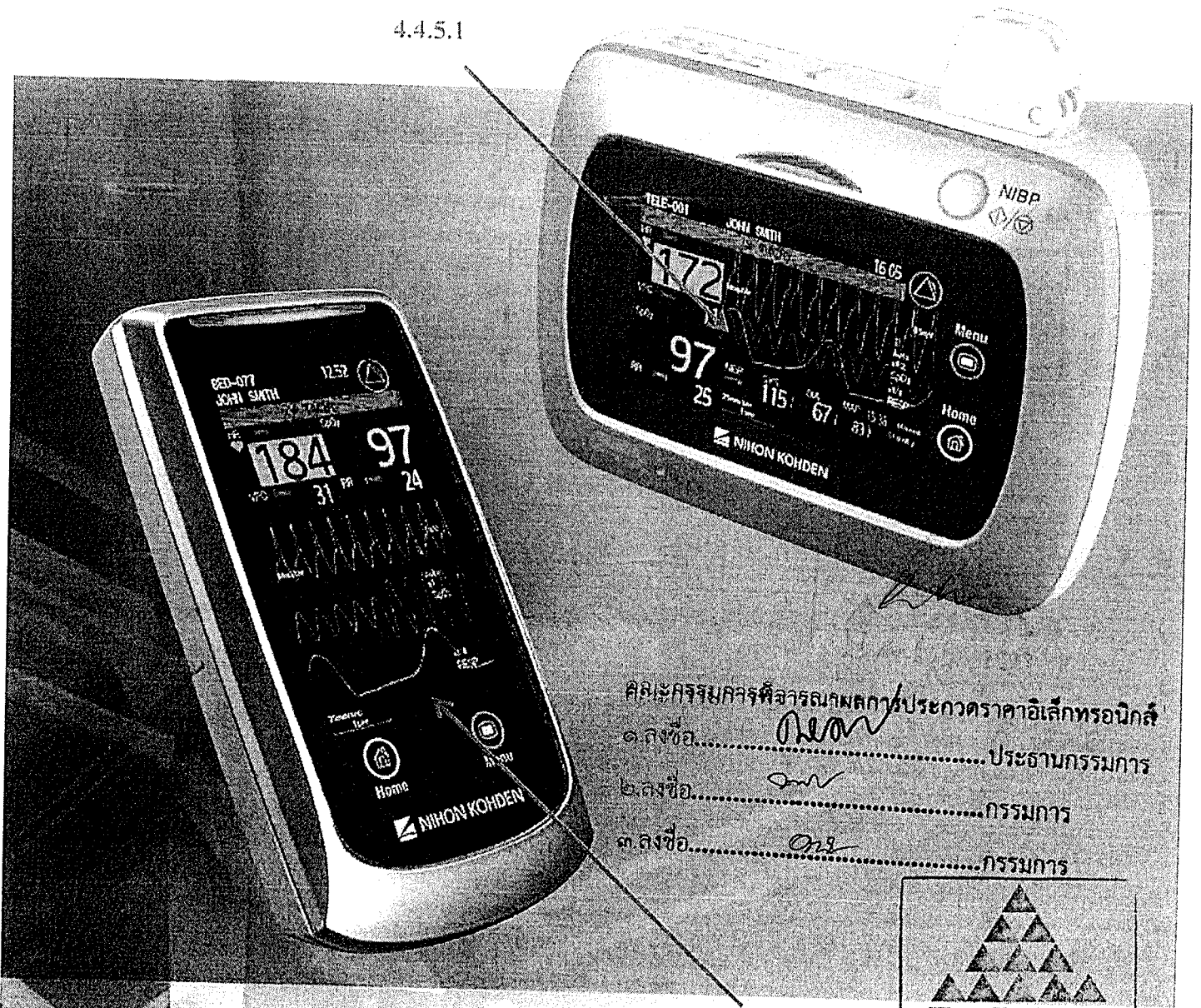
คณะกรรมการพิจารณาผลการประมวลราคาอิเล็กทรอนิกส์  
 ๑. ลงชื่อ..... ประธานกรรมการ  
 ๒. ลงชื่อ..... กรรมการ  
 ๓. ลงชื่อ..... กรรมการ

# Life Scope G3

Vital Sign Telemeters GZ-130P/GZ-140P

การวัดชีพจรด้วยเครื่องวัด

4.4.5.1



คณะกรรมการพิจารณาผลการประกวดราคาอิเล็กทรอนิกส์  
 ๑. ลงชื่อ..... *Neon* ..... ประธานกรรมการ  
 ๒. ลงชื่อ..... *Om* ..... กรรมการ  
 ๓. ลงชื่อ..... *On* ..... กรรมการ

Fighting Disease with Electronics  
**NIHON KOHDEN**

3.4.4.1

