BeneHeart D3/BeneHeart D2

Defibrillator/Monitor

Operator’s Manual

CE 0123

- Release time: January 2019
- Revision: 8.0

2.3.4 External Paddles

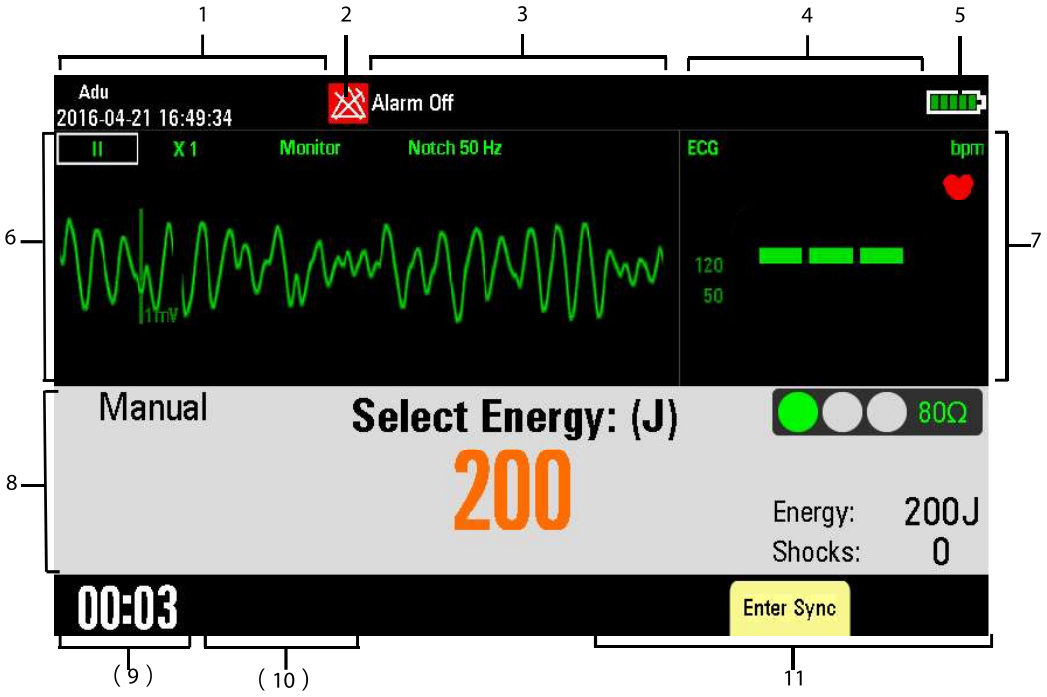
Apex paddle

Sternum paddle

1. Shock button
2. Charge button
3. Energy Select button

2.4 Display Views

A typical screen in Manual Defib Mode is shown below.



1. Patient Information area

   This area shows patient name, patient category, paced status, and current date and time.

   - : indicates that the patient has an implanted pacemaker.

2. Alarm status symbols

   indicates alarms are paused.

   indicates alarm are reset.

   indicates alarm sounds are turned off.

   indicates the system is in alarm off status.

3. Physiological Alarm area

   This area shows physiological alarm messages. When multiple alarms occur, they will be displayed circularly.

4. Technical Alarm area

   This area shows technical alarm messages and prompt messages. When multiple messages come, they will be displayed circularly.

5. Battery Status indicator

   It indicates battery status. Refer to chapter *23 Batteries* for details.

6. Waveform area

   This area shows measurement waveforms. The waveform label is displayed at the upper left corner of the waveform.

7. Parameter area

   This area shows measurement parameters. Each measurement module has a parameter block and the parameter name is displayed at the upper left corner.

8. Manual Defib information area

   This area shows the selected defibrillation energy, shock counter as well as prompt related to manual defibrillation.

20 Recording

20.1 Using a Recorder

The thermal recorder records patient information, measurement numerics and waveforms.

20.2 Recording Types

By the way recordings are triggered, they can be classified into the following categories:

1. Manually-triggered realtime waveform recordings.
2. Event-triggered recordings.
3. Alarm recordings triggered by an alarm limit violation or an arrhythmia event.
4. Manually-triggered, task-related recordings.

The task-related recordings include:

- Frozen wave recording
- Tabular trends recording
- Event recording
- Parameter alarm recording
- Event review recording
- Event Summary Report
- Check report
- Configuration recording

For details about alarm recording, refer to *5 Alarms*.

For details about task-related recordings, refer to respective sections of this manual.

20.3 Starting and Stopping Recordings

To manually start a recording, you can either

- Press the hardkey on the front of the recorder,
- Select the [**Record**] button from the current menu or window.

At the completion of recording, two columns of "*" marks will be printed to indicate the end of recording.

Automatic recordings will be triggered in the following conditions:

- If both [**Alarm**] and [**Alm Rec**] for a measurement are switched on, an alarm recording will be triggered automatically as an alarm occurs.
- When related event is triggered.

To manually stop a recording, you can press the hardkey again.

Recordings stop automatically when:

- A recording is completed.
- The recorder runs out of paper.
- The recorder has a failure.
- Operating mode is changed.

NOTE

- **If you change the ECG Lead, Gain or Filter during recording, the recorded ECG waveform changes accordingly, but the label of Lead, Gain or Filter recorded remains unchanged.**

A Specifications

A.1 General Specifications

Type of protection against electrical shock	Class I, equipment energized from an external and internal electrical power source. If you suspect the integrity of the external protective earthing or the protective earthing wire, you should run the equipment on internal electrical power supply (battery).
Degree of protection against electric shock	Type BF defibrillation proof for CO_2 monitoring and external defibrillation.
	Type CF defibrillation proof for ECG, SpO_2, NIBP, internal defibrillation and CPR sensor.
Mode of operation	Continuous
Degree of protection against harmful ingress of solid	IP4X
Degree of protection against harmful ingress of water	IPX4 (when running on battery) IPX1 (when running on AC power supply)
Degree of mobility	Portable

Size	
Width × depth × height	288×203×275 mm

Maximum Weight
6.1 kg, including a battery, external paddles and 3-leadwire.

Display	
Type	TFT Color LCD
Size	7 inch
Resolution	800×480 pixels
Viewed waveforms	Max. 3
Wave viewing time	Max. 16s (ECG)

Equipment connectors	
USB connector	Connects USB flash memory
Multifunctional connector	Connects a cable for analog output or a cable for defibrillator synchronization.
RJ45 connector	Connects standard network cable.

Audio Indicator	
Speaker	Gives alarm tones (45 to 85 dB), key tones, QRS tones; Supports PITCH TONE and multi-level tone modulation; Alarm tones comply with IEC60601-1-8.
Multifunctional connector	
Standard	Meets the requirements of EN60601-1 for short-circuit protection and leakage current
Output impedance	Typically 50Ω
ECG Analog Output (only ECG lead set)	
Bandwidth (-3 dB; reference frequency: 10 Hz)	Diagnostic mode: 0.05 to 150 Hz Monitor mode: 0.5 to 40 Hz Therapy mode: 1 to 20 Hz
Maximum QRS delay	25 ms (in diagnostic mode, and with Notch off)
Sensitivity	1 V/mV ±5%
Pace enhancement	Signal amplitude: V_{oh}≥2.5V Pulse width: 10ms±5% Signal rising and falling time: ≤100μs
Synchronous input	
Input signal range	0 to 5V (TTL level)
Input impedance	≥10 kΩ
Pulse width	>5 ms
Alarm output (Network connector)	
Alarm delay time from the equipment to other remote equipment	The alarm delay time from the equipment to other remote equipment is ≤4 seconds, measured at the equipment signal output connector.

A.2 Defibrillator Specifications

Standards	Meet standards of IEC 60601-2-4
Defibrillation mode	Manual defib, synchronous cardioversion, AED
Defibrillation waveform	Biphasic truncated exponential (BTE) waveform, auto-compensation according to patient impedance
Defibrillation electrodes	External paddles set coming with pediatric paddles included, multifunction electrode pads and internal paddles
Controls and indicators on external paddles	Charge button, Shock buttons, Energy Select buttons and charge done indicator

Range of selected energy	
External defibrillation	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50, 70, 100, 150, 170, 200, 300, 360 J
Internal defibrillation	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50 J

Patient impedance range	
External defibrillation	25 to 300 Ω
Internal defibrillation	15 to 300 Ω

A.4 Pacer Specifications

Standards	Meet standards of IEC 60601-2-4
Pacing mode	Demand, fixed
Output waveform	Monophasic square wave pulse pulse width 20 ms or 40 ms Accuracy: ±5%
Pacing rate	30ppm to 210ppm Accuracy: ±1.5% Resolution: 5 ppm
Pacing output	0mA to 200mA, Accuracy: ±5% or ±5mA, whichever is greater Resolution: 1mA, 2mA or 5mA
Refractory period	200 to 300 ms (depending on pacing rate)
4:1 pacing	Pacing pulse frequency reduced by factor of 4 when this function is activated.
Output protection	The equipment has no sign of damage after defibrillation-proof test.

A.5 Monitor Specifications

ECG (from ECG lead set)	
Standards	Meet standards of IEC 60601-2-27
Patient connection	3-lead ECG cable, 5-lead ECG cable
ECG inputs	3-lead ECG set: I, II, III 5-lead ECG set: I, II, III, aVR, aVL, aVF, V
Gain	2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1), 20 mm/mV (×2), 40mm/mV (×4), Auto. Error less than ± 5%
Paper speed	6.25mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s. Error no more than ± 5%
Bandwidth (-3dB)	Diagnostic mode: 0.05 to 150 Hz Monitor mode: 0.5 to 40 Hz Therapy mode: 1 to 20 Hz
Common mode rejection	Diagnostic mode: >90 dB Monitor mode: >105 dB Therapy mode: >105 dB
Notch filter	50/60Hz, In Monitor, Therapy modes: notch filter turns on automatically In Diagnostic mode: notch filter is turned on manually
ECG signal range	±8mV (peak-to-peak value)
Calibration signal	1mV (peak-to-peak value) ±5%
Differential input impedance	≥5 MΩ
Electrode offset potential tolerance	±500mV
Defibrillation protection	Enduring 5000V (360 J) charge without data loss or corruption Baseline recovery time: <2.5 s (after defibrillation) Polarization recovery time: <10 s Defibrillation energy absorption: ≤10% (100Ω load)
ESU protection	Cut mode: 300 W Coagulate mode: 100 W Recovery time: ≤10 s In compliance with the requirements in clause 202.6.2.101 of IEC 60601-2-27
Pace Pulse	

ECG (from defibrillation electrodes)	
Patient connection	paddles or multifunction electrode pads
ECG inputs	pads/paddles
Gain	2.5 mm/mV (×0.25), 5 mm/mV (×0.5), 10 mm/mV (×1), 20 mm/mV (×2), 40mm/mV (×4), Auto. Error less than ± 5%
Paper speed	6.25mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s. Error no more than ± 10%
Bandwidth (-3dB)	Therapy mode: 1 to 20 Hz
Common mode rejection	Therapy mode: >105 dB
Notch filter	50/60Hz In Therapy mode: notch filter turns on automatically
ECG signal range	±8mV (peak-to-peak value)
Calibration signal	1mV (peak-to-peak value) ±5%
Differential input impedance	≥5 MΩ
Electrode offset potential tolerance	±1V
Defibrillation protection	Enduring 5000V (360 J) charge without data loss or corruption Baseline recovery time: <2.5 s (after defibrillation) Polarization recovery time: <10 s Defibrillation energy absorption: ≤10% (100Ω load)
ESU protection	Cut mode: 300 W Coagulate mode: 100 W Recovery time: ≤10 s In compliance with the requirements in clause 202.6.2.101 of IEC 60601-2-27
Pace Pulse	
Pace pulse markers	Pace pulses meeting the following conditions are labelled with a PACE marker: Amplitude: ±2 to ± 700 mV Width: 0.1 to 2 ms Rise time: 10 to 100 µs
Pace pulse rejection	When tested in accordance with the IEC 60601-2-27: 201.12.1.101.13, the heart rate meter rejects all pulses meeting the following conditions. Amplitude: ±2 to ± 700 mV Width: 0.1 to 2 ms Rise time: 10 to 100 µs
HR	
Measurement range	Pediatric 15 to 350 bpm Adult 15 to 300 bpm
Accuracy	±1% or ±1bpm, which ever is greater
Resolution	1 bpm
Sensitivity	200 µV
Heart rate averaging	In compliance with the requirements in Clause 201.7.9.2.9.101 b) 3) of IEC 60601-2-27, the following method is used: If the last 3 consecutive RR intervals are greater than 1200 ms, the 4 most recent RR intervals are averaged to compute the HR. Otherwise, heart rate is computed by subtracting the maximum and minimum ones from the most recent 12 RR intervals and then averaging them. The HR value displayed on the screen is updated every second.
Response time to heart rate change	Meets the requirements of IEC 60601-2-27: Clause 201.7.9.2.9.101 b) 5). From 80 to 120 bpm: less than 11 s From 80 to 40 bpm: less than 11 s

A.7 Recorder Specifications

Method	High-resolution thermal dot array
Number of waveforms	Max. 3
Paper speed	6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s. Error no more than ± 5%
Paper width	50 mm
Grid lines	The operator can choose to print grid lines or not
Auto record	Charge events, shock events, marked events, auto test report, parameter alarms, ARR alarms, if configured on

A.8 Alarm Specifications

Alarm Levels	High, medium, low level alarms, complying with IEC60601-1-8
Alarm Categories	Physiological alarms, technical alarms; Latched alarms and unlatched alarms.
Alarm lamp	Independent alarm LED
Parameter alarm setting	Alarm properties of all available parameters can be set simultaneously in the Para. Alarm menu
Auto alarm limits	Parameter alarm limits can be automatically adjusted according to currently measured vital signs

A.9 Data Management Specifications

Data Storage	1G Bytes
Marking Events	16 types of events, user customized
Event recording	At least 1000 events for each patient.
Waveform storage	At least 24 hours of consecutive ECG waveform
Voice recording	At least 180 minutes in total, more than 60 minutes for each patient
Tabular Trends	At least 72 hours of all measured parameters; resolution:1 min
Data Export	Data can be export to a PC through a USB flash memory
Patient archives	Up to 100

A.10 Wi-Fi Specifications

Wi-Fi Technical Specifications	
Protocol	IEEE 802.11a/b/g/n
Modulation mode	DSSS and OFDM
Operating frequency	IEEE 802.11b/g/n (at 2.4G): 2.4 GHz to 2.495 GHz IEEE 802.11a/n (at 5G): 5.15 GHz to 5.825 GHz
Channel spacing	IEEE 802.11b/g/n (at 2.4G): 5 MHz IEEE802.11a/n (at 5G): 20 MHz
Wireless baud rate	IEEE 802.11b: 1 Mbps to 11 Mbps IEEE 802.11g: 6 Mbps to 54 Mbps IEEE 802.11n: 6.5 Mbps to 72.2 Mbps IEEE 802.11a: 6 Mbps to 54 Mbps
Output power	<20dBm (CE requirement: detection mode- RMS) <30dBm (FCC requirement: detection mode- peak power)
Operating mode	Infrastructure
Data security	Standards: WPA-PSK, WPA2-PSK Encryption: TKIP, AES

E Alarm Messages

This chapter lists only the most important physiological and technical alarm messages. Some messages appearing on your equipment may not be included.

In this chapter:

- The "I" column indicates how indications of technological alarms are cleared after the hardkey or [**Alarm Reset**] softkey is pressed: "A" means all alarm indications are cleared; "B" indicates alarm light and alarm tones are cleared and the alarm messages change to prompt messages; and "C" indicates only alarm tone is disabled, but alarm light and alarm message remain presented.
- The "L" column indicates the alarm level: "H" refers to high, "M" refers to medium, and "L" refers to low. "*" means the alarm level is user-adjustable.
- XX represents a measurement or parameter label, such as ECG, NIBP, HR, PVCs, RR, SpO_2, PR, etc.

In the "Cause and solution" column, corresponding solutions are given instructing you to troubleshoot problems. If the problem persists, contact your service personnel.

E.1 Physiological Alarm Messages

Measurement	Alarm Message	L	Cause and solution
XX	XX Too High	M*	XX value has risen above the high alarm limit or fallen below the low alarm limit. Check the patient's condition and check if the patient category and alarm limit settings are correct.
	XX Too Low	M*	
ECG	Asystole	H	Arrhythmia has occurred to the patient. Check the patient's condition and the ECG connections.
	V-Fib/ V-Tach	H	
	Vent. Brady	H	
	Extreme Tachy	H	
	Extreme Brady	H	
	Brady	M*	
	Tachy	M*	
	R on T	M*	
	PVC	M*	
	VT>2	M*	
	Couplet	M*	
	Bigeminy	M*	
	Trigeminy	M*	
	Missed Beats	M*	
	Vent. Rhythm	M*	
	Multif. PVC	M*	
	Nonsus. Vtac	M*	
	Pause	M*	
	Irr. Rhythm	M*	
	A-Fib	M*	
	PNP	M*	The pacer appears abnormal. Check the pacer.
	PNC	M*	

Measurement	Alarm Message	L	Cause and solution
Resp	Resp Apnea	H	The respiration signal was so weak that the equipment cannot perform respiration analysis. Check the patient's condition and the Resp connections.
	Resp Artifact	H	The respiration circuit is disturbed. Check for any possible sources of signal noise.
SpO_2	SpO_2 Desat	H	The SpO_2 value has fallen below the desaturation alarm limit. Check the patient's condition and check if the alarm limit settings are correct.
	No Pulse	L	The pulse signal was so weak that the equipment cannot perform pulse analysis. Check the patient's condition, SpO_2 sensor and measurement site.
CO_2	CO2 Apnea	H	The patient stops breathing, or the respiration signal was so weak that the equipment cannot perform respiration analysis. Check the patient's condition, CO_2 accessories and airway connections.

E.2 Technical Alarm Messages

Measurement	Alarm Message	L	I	Cause and solution
XX	XX SelfTest Err	H	C	An error occurred to the XX module, or there is a problem with the communications between the module and the host. Restart the equipment.
	XX Init Err	H	C	
	XX Comm Err	L	C	
	XX Comm Stop	H	C	
	XX Overrange	L	C	The measured XX value is not within the specified range for XX measurement. Contact your service personnel.
ECG	ECG Lead Off	L*	B	The ECG electrode has become detached from the patient or the lead wire has become disconnected from the trunk cable. Check the connection of the electrodes and leadwires.
	ECG YY Lead Off (YY represents the leadwires V, LL, LA, and RA, as per AHA standard, or C, F, L and R as per IEC standard.)	L*	B	
	Pads/Paddles off	L*	B	The pads/paddles have been detached from the patient or the therapy cable is loose. Check that the pads/paddles and therapy cable are properly connected.
	ECG Noise	L	A	The ECG signal is noisy. Check for any possible sources of signal noise form the area around the cable and electrode, and check the patient for excessive motion.
	ECG Signal Invalid	L	A	ECG amplitude is so low that ECG signal is undetectable. Check for any possible source of interference from the area around the cable and electrode; check the patient's condition.

Measurement	Alarm Message	L	I	Cause and solution
SpO_2	SpO_2 Sensor Off	L*	B	The SpO_2 sensor has become detached from the patient or the module, or there is a fault with the SpO_2 sensor, or an unspecified SpO_2 sensor has been used. Check the sensor application site and the sensor type, and make sure the sensor is not damaged. Reconnect the sensor or use a new sensor.
	SpO_2 Sensor Fault	L	C	
	SpO_2 No Sensor	L	B	
	SpO_2 Unknow Sensor	L	C	
	SpO_2 Sensor Incompatible	L	C	
	SpO_2 Too Much Light	L	C	There is too much light on the SpO_2 sensor. Move the sensor to a place with lower level of ambient light or cover the sensor to minimize the ambient light.
	SpO_2 Low Signal	L	C	The SpO_2 signal is too low or too weak. Check the patient's condition and change the sensor application site. If the error persists, replace the sensor.
	SpO_2 Weak Signal	L	C	
	SpO_2 Weak Pulse	L	C	
	SpO_2 Low Perf	L	B	
	SpO_2 Interference	L	C	The SpO_2 signal has been interfered. Check for any possible sources of signal noise form the area around the sensor, and check the patient for excessive motion.
	SpO_2 Non-Pulsatile	L	C	
	SpO_2 Board Fault	L	C	There is a problem with the SpO_2 measurement board. Do not use the module and contact your service personnel.
NIBP	NIBP Loose Cuff	L	A	The NIBP cuff is not properly connected, or there is a leak in the airway.
	NIBP Air Leak	L	A	
	NIBP Pneumatic Leak	L	A	Check the NIBP cuff and pump for leakages.
	NIBP Cuff Type Wrong	L	A	The cuff type applied mismatches the patient category. Verify the patient category and replace the cuff.
	NIBP Air Press. Err	L	A	An error occurred to the air pressure. Verify that the equipment application site meets the environmental requirements and check if there is any source that affects the air pressure.
	NIBP Weak Signal	L	A	The patient's pulse is weak or the cuff is loose. Check the patient's condition and change the cuff application site. If the problem persists, change the cuff.
	NIBP Sig. Saturated	L	A	The NIBP signal is saturated due to excess motion or other sources.
	NIBP Overrange	L	A	The patient's NIBP value may be beyond the specified measurement range.
	NIBP Excessive Motion	L	A	Check the patient's condition and reduce the patient motion.
	NIBP Equip Err	H	A	An error occurred during NIBP measurement and therefore the equipment cannot perform analysis correctly. Check the patient's condition and NIBP connections, or replace the cuff.
	NIBP Time Out	L	A	
	NIBP Measure Failed	L	A	
	NIBP Reset For Err	L	A	An illegal reset occurred during NIBP measurement. Check if the airway is occluded.

Measurement	Alarm Message	L	I	Cause and solution
CO_2	CO2 Sensor High Temp	L	C	Check, stop using or replace the sensor.
	CO2 Occlusion	L	C	The airway or watertrap was occluded. Check the airway and remove the occlusion.
	CO2: Change Watertrap	L	C	Change the watertrap.
	CO2 Watertrap Mismatch	L	C	Check the patient category, replace a matched watertrap.
	CO2 No Watertrap	L	B	Check the watertrap connections.
	CO2 Zero Failed	L	A	Check the CO_2 connections. After the sensor's temperature becomes stabilized, perform a zero calibration again.
	CO2 Module Error	L	C	There is a problem with the CO_2 module, or a problem with the communications between the host and the CO_2 module. Restart the equipment.
CPR sensor	CPR Sensor Err	H	C	There is a self-test error or communication problem with the CPR sensor. Contact your service personnel.
	CPR Sensor Low Battery	M	C	The battery power of the CPR sensor is low. Charge the battery by connect the CPR sensor to the equipment.
	CPR Sensor Need Service	H	C	The compressions using the CPR sensor exceed the expected numbers. Contact your service personnel.
	CPR Sensor Cable Fault	L	C	An error occurred to the CPR sensor cable. Replace the CPR sensor cable.
	Change CPR Sensor Battery	L	C	The CPR sensor battery is aging. Contact your service personnel.
	CPR Sensor Bat. Charge Err	L	C	The CPR sensor cannot be charged. Contact your service personnel.
Main control system	No Speaker	L	C	Make sure that the speaker is connected.
	Power Board Comm Err	H	C	An error occurred to the power board, or there is a problem with the communications between the power board and the host. Restart the equipment.
	Keyboard Comm Err	L	C	An error occurred to the keypad board, or there is a problem with the communications between the keypad board and the host. Restart the equipment.
	Therapy Module Comm Err	S	C	An error occurred to the therapy module, or there is a problem with the communications between the therapy module and the host. Restart the equipment. If the problem persists, contact your service personnel.
	Main Control Selftest Err	H	C	The main control voltage is abnormal. Replace the main control board.
	Wifi Module Fault	L	C	Contact your service personnel.
	Machine Type Error	H	C	
	RT Clock Need Reset	L	C	Reset system time.
	RT Clock Err	H	C	An error occurred to the RTC chip, or the button cell is depleted. Replace corresponding part.

Measurement	Alarm Message	L	I	Cause and solution
Main control system	Memory Err	L	C	There is a problem with the data card. Format the CF card. If the problem persists, contact your service personnel.
	Last User Test Failed	L	C	Run a successful user test.
	Last Auto Test Failed	L	C	Run a successful user test again.
	No CMS	L	C	The equipment is disconnected from the CMS. Check the network connection.
	IP Address Conflict	L	C	Network IP conflicts. Check the network settings.
Power board	Power System Selftest Err	H	C	An error occurred to the system power supply. Restart the equipment.
	Power Board Volt Err	L	C	
	Low Battery	S	C	Change battery or connect the equipment to the AC power source to charge the batteries.
	No Battery	L	C	Battery is not installed. Install the battery.
	Battery Depleted! System will shut shown imminently. Connect to AC Mains or Replace Battery.	S	C	Connect the equipment to AC mains.
	Battery Err	H	C	There is a problem with the batteries. Check the batteries for damage; verify that correct batteries are used. Replace the batteries if necessary.
	Battery Aged	L	C	Replace the battery.
	Battery failed charging	M	C	Battery failure or power board hardware failure. Replace the battery. If the problem persists, contact your service personnel.
Therapy module	Therapy Equip selftest Err	S	C	An error occurred during therapy module self test. Restart the equipment or replace the therapy module low voltage board.
	Defib Malfunction	S	C	The defibrillation function fails or both the defibrillation and pacing functions fail. Restart the equipment and test defibrillation function. If the problem persists, contact your service personnel.
	Pacer Malfunction!	S	C	The pacing function fails. Restart the equipment and test pacer function. If the problem persists, contact your service personnel.
	Disarming Failed	H	C	There is a problem with the therapy module disarming circuit. Replace the therapy module low voltage board and high voltage board.
Monitoring module	Monitor Module Selftest Err	H	C	An error occurred during MPM module power-on self test. Replace the MPM module.
	Mornitor Module Reset Err	H	C	MPM module reset abnormally. In this case, the MPM module restores to default configuration. You can ignore this problem.
	Monitor Module Voltage Err	L	C	The voltage of MPM module is abnormal. Replace the MPM module.
Recorder	Recorder Init Err	L	A	Restart the equipment.
	Recordhead Overheated	L	A	The recorder has been working for a prolonged time. Clear the recording tasks and resume the recording till the recorder's print head cools down.
	Recorder Overcurrent	L	A	Re-load the recorder paper.

Measurement	Alarm Message	L	I	Cause and solution
Pacer	Pads cable Off	H	C	Check that pads cable is properly connected.
	Pads Off	H	C	Check that pads are properly connected.
	ECG Lead Off	H	C	Check that ECG leadwires are properly connected.
	Pacer Stopped Abnormally	H	C	Check paddles. Check that pads well contact with patient's skin. Make sure pads are properly applied, and then start pacing again.
Others	Load Config Err	L	A	Check if the configuration is correct, or restore the factory configuration.

Note: In the "L" column "S" refers to special technological alarm. The special technological alarms cannot be paused or silenced, and the alarm volume is unchangeable. These alarms stops only when the alarm condition is eliminated.