

How to start the device

Check the precaution and caution before using the device.

I Operating procedure I

- 1) Connect leads to the patient, and then turn on the device in accordance with the preparation steps for measuring electrocardiogram.
- 2) Check the setting for filter, size of signals, printing speed, channels and rhythm. Set up the new values if you want to modify them.
- 3) Input the patient's information.
- 4) If the waveform displayed on the LCD is abnormal or has excessive noise, follow the instruction of "Countermeasures by Bad Lead Connection".
- 5) If the waveform displayed on the LCD is normal, press the 'RECORD' key to record the electrocardiogram of the patient.
- 6) Press the 'COPY' button to print out the previously saved 10-second data or modified data.
- 7) Press the 'RHYTHM' key to monitor the ECG waveform through the printer not through the LCD.
- 8) Press the 'ESC' key to stop the operation while printing or recording.

How to download the eIFU (Electronic Instructions for Use)

- 1) Visit this link: <https://www.ebionet.com/operation-manuals/>
- 2) After entering the provided password, you can download the eIFU.
- 3) The electronic manual is provided as a PDF file. If you have difficulty accessing the above site, please contact the salesperson in charge or the customer support team at our headquarters.

PW: C9Mbh5

I System Requirement I

	Minimum Requirement	Recommended Requirement
OS	Windows 2000	Windows XP (32bit) or Windows 7, 8 (32/64bit)
CPU	Core2Duo 1.86GHz	Core2Duo 3.0 GHz or more
RAM	2GB	3GB or more
Monitor	19 inches	24 inches or more
Graphic Card	VGA RAM 256 MB, 1600 x 900	VGA RAM 512MB or more, 1920 x 1080
CD-ROM drive	24X	48X or more
LAN	10 Mbps	100 Mbps or more

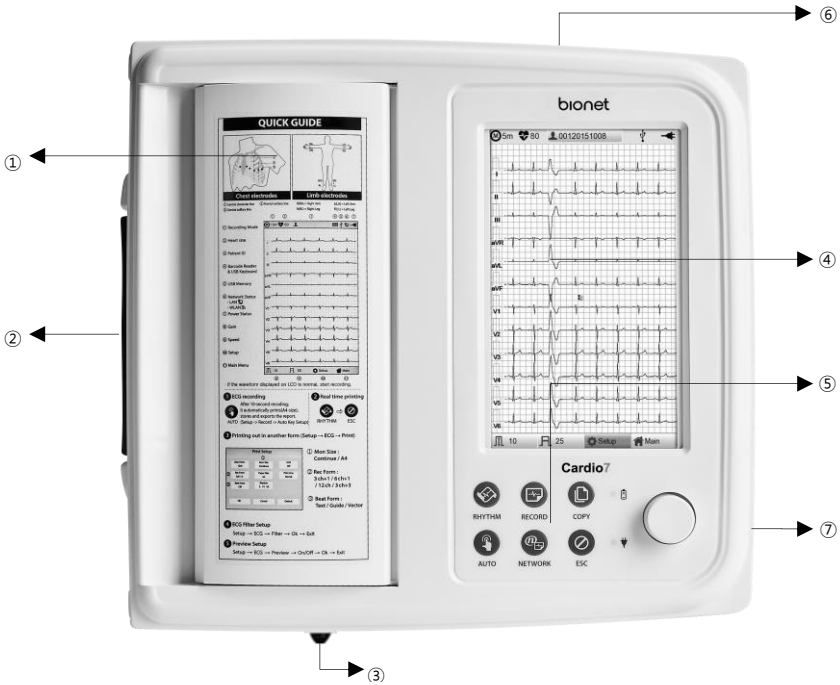
PRODUCT CONFIGURATION

■ Basic composition and accessories

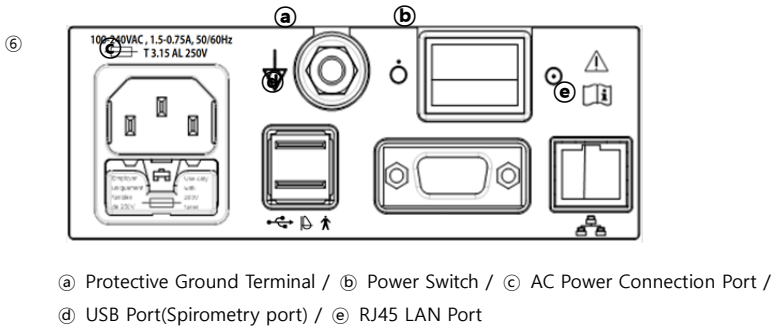
- ① Cardio7e/Cardio7 main body (1 EA)
- ② Patient cable (1 EA)
- ③ Limb electrodes (1 SET)
- ④ Chest electrodes (1 SET)
- ⑤ ECG Paper (1 EA)
- ⑥ Power cable (1 EA)
- ⑦ ECG Gel (1 EA)
- ⑧ Operation manual & ECG diagnosis guide (1EA)

■ Optional items

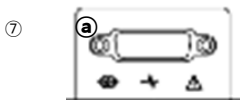
- ① Battery (1 EA)















① Print Cover / ② Handle / ③ Printer door release button / ④ LCD / ⑤ Control panel



① Protective Ground Terminal / ② Power Switch / ③ AC Power Connection Port /
④ USB Port(Spirometry port) / ⑤ RJ45 LAN Port



① Patient cable connection port

Control Panel	Status display
 RHYTHM  RECORD  COPY  AUTO  NETWORK  ESC	 Print out the rhythm data on A4 size or continuous paper.
	 10sec. and long-term readings (1min., 3min., 5min., 10min.) are saved and are printed as an output form after processing.
	 Process the recorded data with or without revision and print them out.
	 It operates the product in the most frequently used operation from the ECG diagnosis test to data saving.
	 It transfers the test data or saved data to the server PC.
	 Cancel commands or change into the former mode for main menu printing.

Trouble Shooting

When you have trouble with printing:

The cover may not be closed properly. Please close the cover and print again.

When using the battery power, there is a beep sound for more than 3 times and the following message comes up:

The battery is low. Please connect to the AC power to use.

SPECIFICATION

ECG leads	Simultaneous 12 Leads Resting ECG
Recording channel	3CH+1RHY, 3CH+3RHY, 6CH+1RHY, 12CH, 6CH+ST map 1CH Long Time (1min, 3min, 5min,10min) and Special Beat Report (Text, Guide, Vector, ST map)
Gain	2.5, 5, 10, 20, Auto (I~aVF: 10, V1~V6: 5) mm/mV
Printing speed	5, 12.5, 25, 50, 100 mm/sec
Sampling Rate	Analysis Sampling Rate – 500 / Digital Sampling Rate - 8,000
Filters	AC (50/60 Hz, -20dB or better), Muscle (25~35Hz, -3dB or better), Baseline drift (0.05Hz, 0.1Hz, 0.2Hz, -3dB or better), Low pass filter (off, 40Hz, 100Hz, 150Hz)
Display	800 x 480-pixel resolution, 7" Color TFT wide display 12 channels preview, ID, HR, Gain, Speed, Power status
User interface	Touch screen, Rotary push-knob

Printer resolution	Thermal print head, Roll Paper Report paper - width: A4/Letter 215mm (8.5") - length: A4: 297 mm (11.7") / Letter: 279mm (11") Resolution: 8dot/mm (0.125mm pitch)	
Patient data	ID, name, age, gender, height, weight, race, smoke, department, room number, study desc., accession no., referring physician	
Basic measurement	Heart rate (30~300bpm, ± 3 bpm), PR/RR int., QRS dur., QT/QTc int., P-R-T axis, SV1/RV5/R+S amp.	
ECG data storage	Internal Storage for 200 ECGs: Built- in memory	
Electrical information	Internal noise: 20uV(p-p) max Input impedance: $\geq 50M\Omega$ Input voltage range: ± 5 mV CMRR: > 105 dB DC offset voltage: $\geq \pm 400$ mV Patient leakage current: < 10 uA Frequency response: 0.05 ~ 200 with in -3 dB Isolated, defibrillation and ESU protected	
Signal quality control	Pacemaker pulse detection Lead fault detection, Signal Saturation Detection	
Line power	Input: 100-240Vac, 1.5-0.75A, 50-60Hz, Output: 15Vdc, 4.2A	
Battery type	Replaceable and Rechargeable, Lithium ion, 10.8V, 3250mA	
Battery capacity	6 hours of normal use or print 200 ECG pages (12 channel format at 25mm/s and 10mm/mV) The battery will charge to its full capacity within 3 hours with the power off.	
Communication	LAN, WIFI (option), USB flash driver, USB barcode scanner	
Safety conformity	Class I, Type CF defibrillation-proof applied part.	
Environ mental	Operation	Ambient Temperature: 10~40°C Relative Humidity: 30~85%RH Atmospheric Pressure: 70~106KPa
	Storage/Ship	Ambient Temperature: -20~60°C Relative Humidity: 10~95%RH Atmospheric Pressure: 50~106KPa
Dimensions	300(W) x 290(D) x 89.5(H) mm, Approx. 3.5 kg	
Standard accessories	Patient cable (1 EA), Limbs electrodes (1 SET), Chest electrodes (1 SET), ECG chart paper (1 EA), Power cord (1 EA), ECG Gel (1 EA) Operation manual & ECG diagnosis guide (1EA)	
Options	Rechargeable battery (1 EA),	

Warranty Period	1 year from date of purchase (Two years in Europe.)
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The guidelines for eFU are part of Bionet's ESG(eco-friendly) management practices to reduce paper consumption and streamline user manual accessibility and storage methods. Therefore, the eFU is provided in PDF file format rather than paper format.



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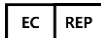
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※ 'CE1434' only supports Cardio7e equipment.



1434 Bionet Co., Ltd

Model Name: Cardio7e/Cardio7