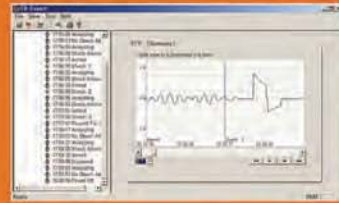


# Software CU-EX1



- Patient and Data Management Software
- Easy Data Communication between PC and Product (SD card, IrDA)
- Records ECG Data and Voice
- Easy Printing by all kinds of Printers
- Data Communication with i-PAD, Paramedic, Lifegain

CU-EX1 displays ECG data on the computer after receiving the data from i-PAD, Paramedic, Lifegain. If you use CU-EX1, you are able to analyze, record and manage ECG data of the patients more efficiently.

## Intelligent PATIENT INFORMATION & CARE

### Method



#### Method to connect SD card for wireless communication



#### Method to connect IrDA cable for wireless communication



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# CU Medical Systems, Inc.

## Company Overview

CU Medical Systems, Inc. is a high-technology medical device company that designs, develops, manufactures, and markets medical devices centered around one common characteristic: Intelligence

## Mission

Our missions for our range of intelligent resuscitation and monitoring devices to become the standard tool for health and emergency organizations in their quest to save and preserve more lives.

## Product Lines



This is our line intelligent Public Access Defibrillators that are designed for the general public who may be the first on the scene of a cardiac arrest. These devices come with simple and straightforward user interfaces-perfect for the general public that seldom use defibrillators.

## Paramedic

This is our line of intelligent patient care devices that consist of defibrillators designed for advance users such as emergency responder and health care organization personnel. These devices are light-weight and easy to use-perfect for rescuers in and out of the hospital.

## LIFEGAIN

These defibrillators are designed for hospital use. These may run either in Manual or AED mode. Aside from defibrillation capability, these devices usually come integrated with physiological monitors such as 12-lead ECG and SpO<sub>2</sub>. These features make this kind of defibrillators suitable for use by physicians inside a hospital.

## Quality Credentials

### Corporate Quality Policy

Since we design, develop, manufacture, sell and service our brand-new Paramedic series and AED and other products as well, we put a lot of importance on the quality of our products and services. It is our way of showing to our partners and customers not only concern for safety and reliability but also our belief that quality is the key for long term success in business.

- Do it right the first time to eliminate costly rework
- Listen to and learn from customers and employees
- Make Continuous improvement an everyday matter
- Build teamwork, trust, and mutual respect

### Quality Assurance

CU Medical Systems, Inc. continuously encourage quality improvement through Total Quality Management to consistently improve the safety and reliability of our products as well as quality systems. With these perspectives, CU Medical Systems, Inc. strives to comply with the rigorous quality system regulations of the following organizations:

- ISO 13485 - 2003 (Europe) (with yearly inspections) - EN46001 (Europe)
- Medical Device Directive (MDD 93/42/EEC) (Europe)
- Conformance Europeen (CE MARK) labeling
- KFDA Quality Approval (Korea)
- JFDA Approval (Japan) -Paramedic CU-ER1, i-PAD NF1200, CU-SP1
- FDA Approval (US) - iPAD NF1200
- SFDA (China) : i-PAD NF1200, LifeGain CU-HD1
- British Heart Foundation : i-PAD CU-SP1

### Quality Achievements

It is gratifying when quality achievements come with official recognition from outside entities. In the past years, CU Medical Systems, Inc. has achieved and been honored with the following:



**Excellent Korean Technology Mark (KT MARK) (June 11, 2003)**  
Development of automatic external defibrillator by utilizing entropy arrhythmia analysis algorithm  
Ministry of Science Technology



**Excellent Machinery, Mechanism Materials Mark (EM MARK) (Aug 30, 2003)**  
ATS (Agency for Technology and Standards)  
Ministry of Commerce, Industry Energy



**Certificate of Excellent Quality Product (Oct 30, 2003)**  
Public Procurement Service, Republic of Korea



**Won the 4th SMBA technological innovation prize for AED (Sep 24, 2003)**  
Small Medium Business Administration



**Health Industry Technologies Exposition Korea 2003 Award (Dec 4, 2003)**  
Korea Health Industry Development Institute



**Korean World-class Product Award 2005 (June 30, 2005)**  
Ministry of Commerce, Industry Energy



**Leading company of regional Innovation Award 2005 (Oct. 5, 2005)**  
The Prime Minister, Presidential Committee on Balanced National Development.



**IR52 Jang Young Shil Award 2008 (May 20th, 2008) : iPAD NF 1200**  
Korea Industrial Technology Association

# i-PAD CU-SP1 (Semi-Automated with 150J)

# i-PAD CU-SP1 Plus (Semi-Automated with 200J)

# i-PAD CU-SP1 Auto (Fully Automated with 150J)

(Intelligent Public Access Defibrillator)  
Defibrillation capability for the general public

## Key Features

- Ambient noise detection (Auto volume adjusting)
- CPR detection
- Pads and battery status indicator
- Multi events recording
- Easy communication with CU-EX1 software
- Low cost of ownership

## Specifications

### DEFIBRILLATOR

- Model : IPAD CU-SP1
- Standard Package : Defibrillator, Pads, Battery, Manual
- Output Energy : Adult-150Joules / Pediatric-50Joules (Common usage)
- Charging Time  
Charging time : Less than 10 seconds  
Charging time after CPR finished : At least 6 seconds

### User Interface

- User Support : Detailed voice prompts and flashing indicators
- CPR guidance : Voice prompts for how to perform CPR for adult and child patient
- Controls : On/Off button, I button, Shock button
- Indicator : LCD display (Device status, Battery status, Pads status)
- Sensing : Pads expiring date, Pads connection status
- CPR monitoring
- Automatic Volume adjusting

### Environment

- Sealing :  
Waterjet proof IPX5 per IEC60529 (IP55)  
Dust protected IP5X per IEC60529
- Temperature : Operation/Standby (0 - 43°C)
- Vibration : Meets MILSTD 810G

### Data Recording and Transmission

- IrDA port : Wireless transmission of event data to PC, SD card
- Internal Memory : ECG, Event
- Storage Capacity : Multi Recording 5 events / Max 3 hours
- Data Review PC Program : CU-EX1

### Patient Analysis System

- Patient Analysis : Shockable rhythms (Ventricular Fibrillation, Ventricular Tachycardia)
- Sensitivity/Specificity : Meets AAMI DF80 Guideline

### Battery

- Standard Capacity : - Type : DC 12 volt 2.8Ah, Lithium manganese dioxide  
- Capacity : Minimum 50 shocks (150J)
- High Capacity : - Type : DC 12 volt 4.2Ah, Lithium manganese dioxide  
- Capacity : Minimum 200 shocks (150J)
- Lifespan : 5 years (high capacity battery)  
(With the condition of the temperature of operation/standby, standby mode after the first initial check)



- Size : 260 × 256 × 69.5 (W × L × H, mm)
- Weight : 2.4kg

### Parts & Accessories

#### Standard Package

- Device
- Multifunction Defib. Pads
- Disposable LiMnO<sub>2</sub> Battery Pack
- User's Guide

#### Option

- Carrying case
- SD card
- Software for data management with key file
- Wall bracket - Wall cabinet



### CU-SP1 Trainer

- 8 Standard rescue scenarios
- Powered by AAA disposable, rechargeable battery
- Simulates all the functions of CU-SP1



**Auto volume adjusting, upto 90db**  
Ambient noise detector measures level of background noise and adjusts the volume of the voice prompts accordingly.



**Smart pads storage, underneath the device**  
Integrated pad storage  
- electrode pads are stored, pre-connected, in a clear compartment on the underside of the unit.



**Smart CPR detection**  
- If CPR is not being performed, voice prompts encourage the responder to 'perform CPR'  
- If CPR is being performed, voice prompts encourage the responder to 'continue CPR'



**Easy communication**  
- Internal memory stores the last 5 events/3 hours of data  
- Data can be transferred via the built in SD card and IrDA ports



**Patient mode switch**  
- Easily switch from Adult to Child mode without changing pads  
- Safety cover prevents accidental switching

# i-PAD CU-SP2

(Intelligent AED for professional use)

## Key Features

- Manual Override, R-Sync function
- Graphic LCD status indicator
- Wireless ECG transmission device
- External Bluetooth Printer
- Ambient noise detection(Auto volume adjusting)
- Easy communication with CU-EX1 software

## Specifications

### DEFIBRILLATOR

- Model : IPAD CU-SP2
- Output Energy :  
AED Mode : Adult-150/200J(fixed) or 150-200J, 150-150-200J(Energy Escalating)  
Manual Mode : 2-200J, R-Sync
- Charging Time  
Charging time : Less than 10 seconds  
Charging time after CPR finished : At least 6 seconds

### User Interface

- User Support : Graphic guide, Detailed voice and text prompts
- CPR guidance : Voice prompts for CPR for adult and child patient
- Controls : On/Off button, I button, Shock button, 3 Menu buttons
- Indicator : Graphic LCD display (Device status, user's guide, ECG, heart rate, etc.)
- Sensing : Pads expiring date, Pads connection status, Pads usage detecting
- ECG monitoring
- CPR monitoring
- Automatic Volume adjusting

### Environment

- Sealing :  
Waterjet proof IPX5 per IEC60529(IP55)  
Dust protected IP5X per IEC60529
- Temperature : Operation/Standby(0 ~ 43℃)
- Vibration : Meets MILSTD 810G

### Data Recoding and Transmission

- Internal Memory : ECG, Event
- IrDA : Wireless transmission, SD card
- Storage Capacity : Multi Recording 3 events(up to 17 hours for each event)
- Bluetooth : Printer or CU-EM1
- Data Review : CU-EX1

### Patient Analysis System

- Patient Analysis : Shockable rhythms (Ventricular Fibrillation, Ventricular Tachycardia)
- Sensitivity/Specificity : Meets AAMI DF80 Guideline

### Battery

- Rechargeable : - Type : 11.1V DC, 1.9Ah Li-ion  
- Capacity : Minimum 60 shocks or 3 hours of operation
- Disposable : - Type : 12V DC, 4.2Ah LiMnO2  
- Capacity : Minimum 130 shocks or 5 hours of operation



- Size : 260×256×69.5(W×L×H,mm)
- Weight : 2.4kg

### Parts & Accessories

#### Standard Package

- Device
- Multifunction Defib. Pads
- Rechargeable Battery Pack
- Battery Charger
- User's Guide

#### Option

- Carrying case
- SD card
- Printer
- CU-EM1 (ECG Transmission Device)

DEVICE SETUP	DATA REVIEW	EXIT
Device Mode	Manual Mode	
Manual Override	CHARGE	
Adult / Pediatric Mode	ADULT	
Shock Energy	Escalating(150-150-200J)	
ECG Gain	10mm/mV	
Device Volume	1	1/2
Graphic Indication	ON	

### Manual Mode

When in manual override, the user can set the energy value for defibrillation. Using R-Sync will detect the R-wave of the patient's ECG, and display the R-Sync mark on the LCD Screen with a short beep.



### Wireless ECG transmission device(CU-EM1)

In Monitor Mode, the i-PAD CU-SP2 uses Bluetooth to receive ECG data from the CU-EM1 and displays it on the LCD Screen.



### Printer

The i-PAD CU-SP2 supports connection to an external Bluetooth printer

# i-PAD NF1200 (Semi-Automated)

# i-PAD NF1201 (Fully-Automated)

(Intelligent Public Access Defibrillator)  
Defibrillation capability for the general public

## Key Features

- Patented *e-cube* Biphasic Truncated Exponential Shock Waveform
- Automatic Self-testing
- CPR coaching
- Multi event recording
- Pads status detection
- Simple operation
- LED status indicator

## Technical Specifications

### DEFIBRILLATOR

- Model : NF1200      - Operation : Semi-Automated (NF1200), Fully-Automated (NF1201)
- Waveform : Biphasic Truncated Exponential      - Energy : 200J (Fixed)
- Shock-to-Shock Cycle Time : Typically less than 20 seconds
- Protocol : Voice prompts and indicators guide user through protocol.  
Follow preconfigured settings. Can be modified with software
- Voice Instructions : Detailed voice messages guide responder through use of the defibrillator
- Controls : Shock Button (NF1200 only), i-Button, On/off Button
- Indicators : 4 LEDs (different colors), i-Button

### ENVIRONMENTAL / PHYSICAL REQUIREMENTS

- Temperature : Operating : 32° - 110° F (0° - 43°C)  
Standby : 32° - 110° F (0° - 43°C)
- Humidity : Operating - 0% to 60% relative, non-condensing  
Standby - 0% to 95% relative, non-condensing
- Vibration : Meets EN1789 random and swept sine, road ambulance specification  
in operating and standby states
- EMI (Radiated/Immunity) : Meets EN55011 Group 1 Level B Class B and EN61000-4-3

### Sealing

- Meets IEC60529 class IP54 with battery installed

### BATTERY

- Type : 12 Volt DC, 4.2 Ah, lithium manganese dioxide, disposable long-life primary cell
- Capacity : Minimum 200 shocks or 4 hours of operating time (25°C)

### AUTOMATED AND USER-ACTIVATED SELF-TESTS

- Daily Self-Tests : Tests internal circuitry, waveform delivery system, battery capacity and software
- Battery Insertion Test : Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness

### Data stored

- Maximum 7 events can be saved.
- 1 event can be recorded for 75 minutes
- If 7 events are recorded, maximum recording duration for each event is 5 minutes



- Size : 220×281×82 (W×L×H, mm)
- Weight : 2.2kg

### Parts & Accessories

#### Standard Package

- Device
- Multifunction Defib. Pads
- Disposable LiMnO<sub>2</sub> Battery Pack
- User's Guide
- Quick Reference Card

#### Option

- Carrying case
- IrDA connector for data communication
- Software for data management with key file
- Wall bracket      - Wall cabinet

## TRAINER



### i-PAD NF1200 T1

- 8 standard Rescue Scenarios
- Infrared remote control operation
- Powered by an external disposable battery pack or rechargeable battery pack
- Simulates all the functions of the NF-1200

### i-PAD NF1200 T2

- 8 standard Rescue Scenarios
- Powered by AA Battery
- Function Switch
- Simulates all the functions of the NF-1200



### Pads Connector Guide & LEDs

- Indicates the position of the pads connector
- Guide the user during rescue operation



### Shock Button (NF1200 only)

- Delivers the shock



### Information Button

- When pressed, guides the user
- during CPR and system trouble shooting



### State LED

- Indicates operational state of the device



### Battery Pack

- Disposable LiMnO<sub>2</sub> Battery Pack



### IrDA Port

- Used for data communication

# Paramedic CU-ER1

(Automated External Defibrillator)

Someone goes down in cardiac arrest, resuscitation is just a hand away...



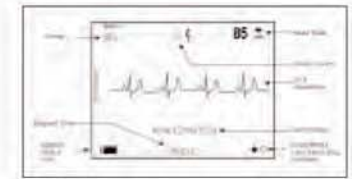
Patented *e-cube* Biphasic measure impedance and deliver efficient defibrillation shock.

## Key Features

- Intelligent Arrhythmia Detector
- Efficient and effective *e-cube* Biphasic Truncated Exponential shock waveform
- Lightweight and highly portable
- Versatile Power Supply
  - Internal rechargeable battery pack
  - External disposable battery pack
  - AC/DC adapter
  - Car cigar lighter jack
- Intelligent data management system
  - ECG of the patient is recorded all throughout the rescue operation.
  - Relevant events (e.g. shock advised, charging, shock delivery) are recorded together with timestamp.
  - Recorded data may be transferred to a PC for archiving and review.
  - Recorded data may be reviewed in the device.
- Automatic and operator initiated self-tests
  - Power on test
  - Run-time test
  - Daily / weekly / monthly test



• Size : 305×250×94 (W×L×H, mm)  
• Weight : 2.7kg



### LCD Screen

- Displays
- The ECG of patient
  - Energy of the shock to be delivered
  - Shock count
  - Heart rate
  - Battery status
  - Elapsed time



### Indicator Lamps

- Indicates
- Power sources
  - Occurrence of system error



**SmartMedica Card Port**  
Nonvolatile memory port for data storage



**UART Port**  
Port for serial data transfer to a PC



**IrDA Port**  
Port for infrared communication with a PC



**AC/DC Adapter Port**  
Port for AC/DC adapter and Car cigar lighter jack



## Paramedic CU-ERT (AED Trainer)

- 10 standard Rescue Scenarios
  - Infrared remote control operation
  - Powered by an internal rechargeable battery pack or AC/DC Adapter
  - Simulates all the functions of the Paramedic CU-ER1
- The CU-ERT is a defibrillator simulator designed to mimic the operations of the Paramedic CU-ER1. It can simulate all the functions of the Paramedic CU-ER1 including charging and shock delivery.

### Parts & Accessories

- |  |  |
|--|--|
| <b>Standard Package</b> <ul style="list-style-type: none"> <li>- Device</li> <li>- Defi pads</li> <li>- Power cord</li> <li>- AC adapter</li> <li>- NI-MH battery</li> <li>- User's guide</li> <li>- Quick reference card</li> </ul> | <b>Option</b> <ul style="list-style-type: none"> <li>- Carrying case</li> <li>- SMC card</li> <li>- Printer</li> <li>- Cigar lighter jack car</li> <li>- ECG cable</li> <li>- Disposable battery pack</li> <li>- Software for data managing</li> <li>- Pediatric pads</li> </ul> |
|--|--|

# Paramedic CU-ER2

(Dual Mode Defibrillator)

Someone goes down in sudden cardiac arrest...  
Build up more chances of saving lives with Paramedic Series.

## Key Features



- AED and Manual Mode Defibrillation
- Synchronized Cardioversion
- ECG Monitoring (3 Lead ECG Cable)
- CPR Coaching in AED
- Lightweight (2.7kg) and highly portable
- Efficient and effective *e~cube* Biphasic Truncated Exponential shock waveform
- versatile Power Supply
  - Internal rechargeable battery pack
  - External disposable battery pack
  - AC/DC adapter
  - Car cigar lighter jack
- intelligent Data Management System
  - ECG of the patient is recorded all throughout the rescue operation.
  - Relevant events (e.g. shock advised, charging, shock delivery) are recorded together with timestamp.
  - Recorded data may be transferred to a PC for archiving and review.
  - Recorded data may be reviewed in the device.
- Automatic and Operator Initiated Self-Tests (power on / run-time / daily / weekly / monthly test)

Variable energy levels selection

# Paramedic CU-ER3

(Dual Mode Defibrillator +SpO<sub>2</sub> Monitor)

## Key Features



- AED and Manual Mode Defibrillation
- Synchronized Cardioversion
- ECG Monitoring Mode (3 Lead ECG Cable)
- SpO<sub>2</sub> Monitoring (Nellcor SpO<sub>2</sub> Module)
- Heart Rate and SpO<sub>2</sub> Alarm System
- CPR Coaching in AED
- Efficient and Effective *e~cube* Biphasic Truncated Exponential shock waveform
- Lightweight (2.8kg) and Highly Portable
- Versatile Power Supply
- Intelligent Data Management System
- Automatic and Operator Initiated Self-Tests (power on / run-time / daily / weekly / monthly test)

SpO<sub>2</sub> Module (Nellcor)

## SPECIFICATIONS CU-ER1, CU-ER2, CU-ER3

### Common

- **ECG Monitor**
  - Patient Connection : Defibrillation Pads, ECG Electrodes
  - Bandwidth : Monitoring Mode : 0.3 to 40Hz (-3dB)
  - EMS Mode : 1 ~ 30Hz
  - Heart Rate : Digital 30 to 300 bpm (± 3bpm)
- **Defibrillator**
  - Waveform : *e~cube* Biphasic (Biphasic Truncated Exponential type)
  - Charging Time : Less than 10 seconds
  - Sensitivity & Specificity : Meets AAMI guidelines
  - Defibrillation Electrodes : Multifunctional electrodes (disposable, Pre-gelled)
- **Voice & Text Prompts**
  - Voice Prompts guide the user through the rescue protocol
  - All user interfaces are supported in local language
- **Data Storage & Management**
  - Internal Flash Memory : 12 Hours of event and ECG recording
  - SmartMedia Card(32M) : 42 hours of event and ECG recording or 1 hour if voice recording is enabled
  - Review the Patient ECG, incident details and device information
  - Transmit multi patient data to PC
- **Display**
  - Screen Type : High resolution display (Graphic LCD)
  - Screen Size : 4 inches (10.16 cm) diagonal, 320 X 240 pixels
  - Sweep Speed : 25mm / sec, nominal
  - Viewing Time : 3.2 seconds
- **Automatic Self-Test**
  - Power on Self-Test / Run Time Self-Test / Manual Self-Test
  - Periodic Self-Test (daily/weekly/monthly)
- **AC Adapter**
  - Input : 100 ~ 240V AC 50 / 60Hz 170VA
  - Output : +12V DC 3.6A
- **Battery Pack**
  - 12V 4.5Ah Nickel-Metal Hydride battery pack (Rechargeable)
  - Charging time : Minimum of 4 hours for full charging
  - Capacity : when new, minimum of 200 shock deliveries (Fully charged)
- **External Link**
  - UART port
  - IrDA port

### Parts & Accessories

#### Standard Package

- Device
- Defi pads
- Power cord
- AC adapter
- NI-MH battery
- User's guide
- Quick reference card
- SpO<sub>2</sub> Probe (only for CU-ER3)

#### Optional

- Carrying case
- SMC card
- Printer
- Ciger lighter jack car
- ECG cable
- Disposable battery pack
- Software for data managing
- Pediatric pads

### Differences

ECG Monitor		CU-ER1	CU-ER2	CU-ER3
ECG Size	auto-scaled 5, 10, 20mm/mV	•	•	•
Defibrillator				
Operating Mode	Semi automatic Manual	•	•	•
Waveform	<i>e~cube</i> Biphasic (BTE type)	•	•	•
Energy	AED Mode 150J (default setting) Manual Mode : Variable energy levels selection (12 steps escalating, 2, 3, 5, 7, 10, 20, 30, 50, 70, 100, 150, 200J)	•	•	•
Synchronous Cardioversion	Energy delivery begins within 60ms of the QRS peak		•	•
Control	Manual Mode : CHARGE, SYNC(R-wave), DISARM AED Mode : ANALYZE, PAUSE		•	•
SpO <sub>2</sub>				
Pulse Rate	20 ~ 250 bpm (± 3bpm)			•
Saturation	70 ~ 100% (± 3digits)			•
Perfusion	0.2 %			•
Physical				
Size (W X L X H)	254mm X 309mm X 93mm	•	•	•
Weight	Approximately 2.7 kg Approximately 2.8 kg	•	•	•
Patient Isolation	Type BF	•	•	•
Optional Accessories				
ECG Cable	3 Lead	•	•	•
Package Contents				
SpO <sub>2</sub> Module (Nellcor)				•

# Paramedic CU-ER5

(Multifunction Defibrillator / Monitor)

The Paramedic CU-ER5 defibrillator / monitor is designed to accommodate both basic and advanced life support personnel.



## Specifications

### Defibrillation

- ECG Lead Select I, II, III, aVR, aVL, aVF, V, Paddle/Pads, Ext ECG
- Waveform *e-cube* Biphasic (Biphasic Truncated Exponential type)
- Output Energy Manual : 1-10J, 15J, 20J, 30J, 70J, 100J, 120J, 150J, 170J, 200J  
AED : 150J (Fixed)  
Internal Paddle : 1-10J, 15J, 20J, 30J, 50J
- Charge Time Less than 10 seconds to 150J
- Shock Delivery Via multifunction defib. electrode pads or paddle
- Patient Impedance Shock range : 25 Ohm ~ 175 Ohm
- AED Mode Shock advisory sensitivity and specificity meet AAMI DF-80 guidelines
- Synchronous Cardioversion Energy transfer begins within 60ms of QRS peak
- Voice & Text Prompts Multi language support

### ECG Monitoring

- Input Lead I, II, III (3-lead ECG cable)  
Lead I, II, III, aVR, aVL, aVF or V (5-lead ECG cable)
- Heart Rate Display 30 to 300 bpm
- ECG Size 5, 10, 20mm/mV and Auto-gain
- Heart Rate Alarm Less than minimum setting rate /  
Over than maximum setting rate
- Waveform Sweep Speed 25mm/sec

### SpO<sub>2</sub> Pulse Oximetry (Nellcor)

- Saturation 70-100% (±3digits)
- Pulse Rate 20-250bpm (±3bpm)
- Perfusion 0.2%

### Power

- Internal Battery**
  - Type Rechargeable / 12V 4.5Ah Ni-MH battery pack
  - Capacity When new, minimum of 200 shock deliveries (200J)
  - Recharging Time Minimum of 4 hours for full charging
- External Battery Pack**
  - Type Disposable / 15V 4.2Ah LiMnO<sub>2</sub> battery pack
  - Capacity When new, minimum of 200 shock deliveries (200J)
- AC/DC Adapter**
  - Input 100-240V AC 50/60Hz
  - Output DC 12V, 3.6A
  - Car Cigar Lighter DC 12V

### Physical

- Dimensions Without external paddle : 254\*365\*105 (mm)  
With external paddle : 455\*365\*105 (mm)
- Weight 4.7Kg (with external paddle)

### Environmental Requirement

- Temperature Operation : 0°C ~ 40°C  
Storage : -20°C ~ 60°C
- Humidity 5% ~ 95%



External Paddle  
(Adult, Pediatric)

- Size : 455 × 365 × 105 with paddle (W×L×H, mm)
- Weight : 4.7kg (with external paddle)

### Display

- LCD Dimensions 4" diagonal (80mm\*60mm)
- Type High resolution mono graphic LCD
- Resolution 320\*240 pixels
- Wave Viewing Time 3.2 seconds (ECG)
- Back Light EL back light

### Data Storage & Management

- Internal Flash Memory 12 hours of event and ECG recording
- Data Card (SMC 32M) 42 hours of event and ECG recording  
or 1 hours if voice recording is enabled
- Data Transfer to PC UART / IrDA

### Self-Test

- Power on Self-Test
- Run Time Self-Test
- Manual Self-Test
- Periodic Automatic Self-Test (Daily / Weekly / Monthly)

### Parts & Accessories

#### Standard Package

- Device
- External Paddle (Adult, Pediatric)
- 3-Lead ECG Cable
- Power Cord
- AC Adapter
- Internal Battery (Ni-MH)
- User's Guide

#### Options

- Date Card (SMC 32M)
- Thermal Printer
- Printer Paper (10 rolls)
- Cigar Lighter Jack for Car
- Multifunction Defib. Pads
- Adapter for Defib. Pads
- 5-Lead ECG Cable
- ECG Electrodes (50EA)
- SpO<sub>2</sub> module set (probe, extension cable)
- Disposable Battery Pack (LiMnO<sub>2</sub>)
- IrDA Adapter for Data Communication
- Software for Data Management  
with Key File (UART Cable included)

# LIFEGAIN CU-HD1

(Multifunction Defibrillator / Monitor)

Someone goes down in cardiac arrest, resuscitation is just a hand away...



## Specifications

### Display

- LCD Dimensions : 7 inch Diagonal (152mm \* 91mm)
- Type : TFT Color
- Resolution : 800 \* 480 pixels

### Defibrillation

#### Defib Common

- Waveform : Truncated Exponential Biphasic (e-cube)
- Charge Time : Adapter : Less than 5 seconds to 200 Joules  
Battery : Less than 5 seconds to 200 Joules

#### AED Mode

- Output Energy : 200J
- Shock Delivery : Via multifunction defib electrode pads
- AED Develop Guideline : Shock advisory sensitivity and Specificity meet AAMI DF-80 guidelines
- Voice & Text Prompts : Guide the user through the protocol via multifunction defib electrode pads

#### Manual Mode

- Output Energy : 1-10J, 15J, 20J, 30J, 50J, 70J, 100J, 120J, (Selected) 150J, 170J, 200J
- Shock Delivery : External paddle (with Pediatric) / Internal paddle
- Synchronous Cardioversion

### Printer

- Continuous ECG Strip : Real-Time (8 seconds delay)
- Auto Printing : Recorder can be configured to print marked event, charge, shock and alarms
- Printing Speed : 25mm/s
- Paper : 50mm Width / 40mm Diameters

### Automatic Self-Test

- Power On Self-Test
- Run Time Self-Test
- Manual Self-Test
- Periodic Self-Test (Daily / Weekly / Monthly)

### Data Storage

- External memory card
- : SD Card (ECG data, Event, Voice)

### ECG Monitoring

- Input : 3-Lead Cable : I, II, III
- 5-Lead Cable : I, II, III, aVR, aVL, aVF or V
- 10-Lead Cable : I, II, III, aVR, aVL, aVF or V1, V2, V3, V4, V5, V6  
(Display View : All 12-Lead ECG waves display simultaneously)
- Lead Fault : "Lead Fault" message and dashed line display, if an electrode or lead wire becomes disconnected
- Heart Rate Display : 30 to 300 bpm ( $\pm 3$ bpm)
- ECG Size : 5, 10, 20mm/mV and Auto-gain
- Heart Rate/Arrhythmia Alarm : HR, Asystole, VF, VT

### Power Source

- External Battery Pack : Lithium Polymer**
- Type : 14.8V 3.1Ah (Rechargeable)
- Capacity : When new, minimum of 100 shock deliveries (200J)

#### AC Power Pack

- Output : 18V, 6A

### Noninvasive Pacing

- Waveform : Monophasic Truncated Exponential
- Mode : Demand and Fixed Mode
- Amplitude Accuracy : 0 ~ 200mA ( $\pm 5$ mA)
- Pulse Width : 20ms ( $\pm 1.5$ %)
- Pulse Rate : 30 ~ 180ppm ( $\pm 1.5$ %)
- Refractory Period : 340 msec (30 to 80 ppm)  
240 msec (90 to 180 ppm)

### SpO<sub>2</sub> Pulse Oximetry

- Saturation : 70 ~ 100% ( $\pm 3$ digits)
- Pulse Rate : 20 ~ 250 bpm ( $\pm 3$ bpm)
- Perfusion : 0.2%
- Module Manufacturer : Nellcor
- SpO<sub>2</sub> Alarm : Less than Minimum setting rate  
Over than Maximum setting rate

### NIBP

- Patient Population : Adult, Pediatric, Neonate
- Method : Oscillometric
- Control : Automatic and manual measurements
- Auto Intervals : 1, 3, 5, 10, 15, 30, 60, 120 min
- Displayed Pressures : Systolic, Diastolic, MeanmmHg
- Displayer Units : Adult : 40 to 260 mmHg  
Pediatric : 40 to 160 mmHg  
Neonate : 40 to 130 mmHg
- Systolic Range : Adult : 20 to 200 mmHg  
Pediatric : 20 to 120 mmHg  
Neonate : 20 to 100 mmHg
- Diastolic Range :  $\pm 3$ mmHg
- Pressure Transducer : Adult : 300 mmHg  
Accuracy Pediatric : 300 mmHg  
Neonate : 150 mmHg
- Redundant Circuit Overpressure Limit

### EtCO<sub>2</sub>

- Range : 0 ~ 99 mmHg
- Accuracy :  $\pm (1.5 \text{ mmHg} + 2 \% \text{ of gas level})$
- Respiration Range : 0 ~ 150 bpm
- Respiration Rate Accuracy :  $\pm 1$  bpm
- Sampling Flow Rate :  $50 \pm 10$  ml/min
- Typical Response Time :  $< 1$  sec (IRMATM),  $< 3$  sec (ISATM)

## Key Features

- Efficient and e-cube Biphasic Biphasic technology (BTE Type)
- Manual and AED operation
- Defibrillation using paddles, pads or internal paddles
- ECG Monitoring (3-Lead ECG / 5-Lead ECG / 10-Lead ECG)
- SpO<sub>2</sub> pulse oximetry with alarms (Nellcor)
- Noninvasive pacing mode
- NIBP (Non-Invasive Blood Pressure)
- EtCO<sub>2</sub> (End-Tidal CO<sub>2</sub>)



- Size : 318×208×355 (W×L×H, mm)
- Weight : 6kg (with external paddle)



## Parts & Accessories

### Standard Package

- Device
- External Paddle (Adult, Pediatric)
- 3 Lead ECG cable
- ECG electrodes
- Defi pads & Adaptor
- Built in printer
- Power cord & SMPS
- Internal Battery
- Gel
- User's Guide

### Option

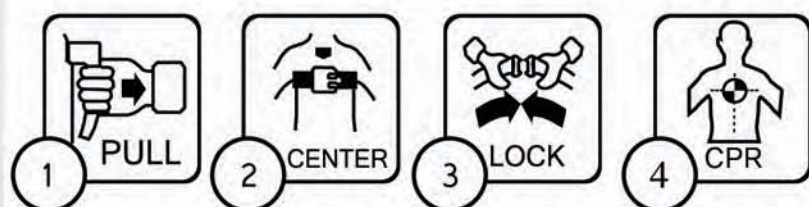
- Carrying case
- SD card
- SD card reader
- Pediatric pads
- 5 Lead ECG cable
- Car cigar lighter jack
- SpO<sub>2</sub> Module Set
- Pacer
- 10 Lead ECG cable
- NIBP (Non- Invasive Blood Pressure)
- EtCO<sub>2</sub> (Mainstream / Sidestream)
- Software for data management (CU-EX2)

# X-CPR

X-CPR (Simultaneous Sterno Thoracic CPR System)

## Key Features

- Simultaneous Sterno Thoracic CPR (SST-CPR) system
- Air powered consistent compressions
- 4 simple application steps



- 5 steps adjustable compression depth
- Combinable with ambulance stretcher
- Compression Frequency : 100times per min

## Specifications

### Input

- Range of Input Oxygen Pressure : 3.5 ~ 6.3kg/cm<sup>2</sup>
- Relief Valve Operation Pressure : 9kg/cm<sup>2</sup>
- Medical Grade Hyperbaric Oxygen

### Ventilation

- Range of Volume Control : 240 ~ 700ml
- Inspiration Period : 1.0sec (fixed)
- Relief Valve Operation Pressure : 55 CmH<sub>2</sub>O

### Compression

- Compression Frequency : 100 compressions per minute
- Compression Depth : 0~5cm
- Compression Modes : 30:2 / Continuous compression

### Physical Specifications

- Size : 52cm x 45cm x 7.5cm (LxWxH)
- Weight [NWT] : 11.5kg



- Operated by remote controller
- Stop / Fasten
  - 30:2 / Continuous CPR
  - Ventilation
  - Compression Depth
  - Internal battery status

## Parts & Accessories



Ventilation hose    Regulator    Ac adapter    Oxygen hose    Ventilation mask    Oxygen tank - Optional -