

# CU EXPERT

## User's Manual



Medical Systems, Inc.

**CU Medical Systems, Inc.**

# User's Manual

ECG Data Management Software  
CU Expert ver. 3.50 EN Rev. A



**Medical Systems, Inc.**

## Table of Contents

<b>Table of Contents.....</b>	<b>3</b>
<b>Contact Us .....</b>	<b>5</b>
<b>1. Introduction .....</b>	<b>6</b>
<b>2. System Requirements.....</b>	<b>6</b>
2.1 Hardware/Software Requirements .....	6
2.2 PC Requirements.....	7
<b>3. Installation .....</b>	<b>8</b>
<b>4. Device Key File .....</b>	<b>10</b>
<b>5. Data File Transfer .....</b>	<b>11</b>
5.1 Port Connections .....	13
5.1.1 UART Connection .....	13
5.1.2 IrDA Connection .....	14
5.2 Data Reception .....	15
5.3 Data Reception Duration .....	22
<b>6. Device Configuration for i-PAD .....</b>	<b>23</b>
6.1 Port Connections .....	23
6.2 Device Configuration .....	23
6.3 Details of device configuration setting.....	25
<b>7. ECG Data Review .....</b>	<b>26</b>
<b>8. ECG Record Printing.....</b>	<b>32</b>
8.1 Printing the ECG Waveform – AED Source Device.....	32
8.1.1 Printing Any Range .....	32
8.1.2 Printing One Page of ECG Data .....	33
8.2 Printing the Event Part – AED Source Device .....	34
8.3 Printing All Information – AED Source Device.....	34
8.4 Printing ECG Waveform – CU-PH2 .....	35
<b>9. Patient Information .....</b>	<b>36</b>
<b>10. Help .....</b>	<b>38</b>
10.1 User’s Manual .....	38
10.2 CU’s Website.....	38
<b>11. Notes .....</b>	<b>39</b>

# CU EXPERT USER'S MANUAL

Version 3.50 EN Rev.A

## Notice:

This User's Manual applies to CU Expert, the ECG Data Management Software from CU Medical Systems, Inc. The information in this manual is subject to change without prior notice.

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**Medical Systems, Inc.**

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## 1. Introduction














This document is the User's Manual for the CU Expert ECG Data Management Software.

The CU Expert is the Data Management Software from CU Medical Systems, Inc. It is used to download, review, and archive data from applicable devices from CU Medical Systems, Inc. These devices will be hereinafter simply referred to as "device" or "source device".

## 2. System Requirements

### 2.1 Hardware/Software Requirements

The following hardware and software are needed when transferring data from the device to a PC. You may choose between the UART cable and the IrDA Com-Port Serial Adapter for the data transmission

1	 CU-ER1	 CU-ER2	 CU-ER3	 CU-ER5
	 CU-ERT	 NF1200 i-PAD	 CU-PH2	 CU-SP1
	Source Devices			
2	 PC		3	 CU Expert CU Expert Software
4	 A1B22BXXXXR.kif Device Key File		5	 UART Cable
6	 IrDA Com-Port Serial Adapter (use either this or the UART cable, as the device version permits)			

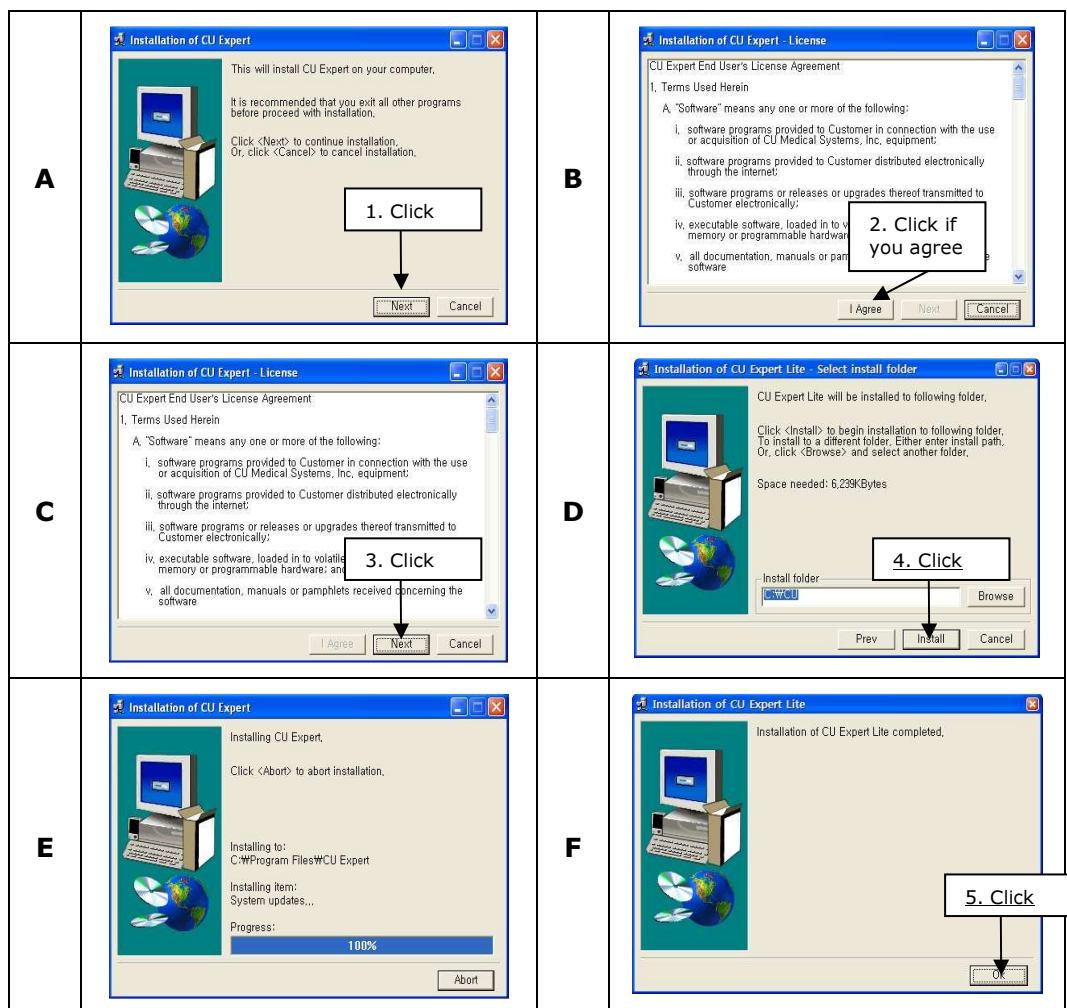
## 2.2 PC Requirements

Operating System	Minimum RAM	Processor	Hard disk free space	Monitor Color Capability
<b>Minimum PC Requirements</b>				
Windows 98 SE	64 MB	Pentium 150 MHz or equivalent	80 MB	16 bits
Windows ME	64 MB	Pentium 150 MHz or equivalent	80 MB	16 bits
Windows 2000	128 MB	Pentium 333 MHz or equivalent	80 MB	16 bits
Windows XP	128 MB	Pentium 333 MHz or equivalent	80 MB	16 bits
<b>Recommended PC Setup</b>				
Windows XP or Windows 2000	128 MB	Pentium 500 MHz or higher	120 MB	16 bits

### 3. Installation

To install the software, do the following steps

- a. Software acquisition: The software may be acquired through the website of CU Medical Systems, Inc. at: <http://www.cu911.com>. It may also come in an installation disc sent to you.
- b. If a previous version of the CU Expert software is currently installed in the target PC, it should be uninstalled. To uninstall the previous version of CU Expert:
  - Go to the Start Menu of Windows
  - Open the Control Panel,
  - Double Click on the Add/Remove Programs icon,
  - Locate the CU Expert icon and uninstall the program.
- c. Double click on the installer if you have saved it on disk. The following dialog boxes will be displayed. Do as directed in the figures.





The following table shows the versions of the software of the source devices that work with the CU Expert

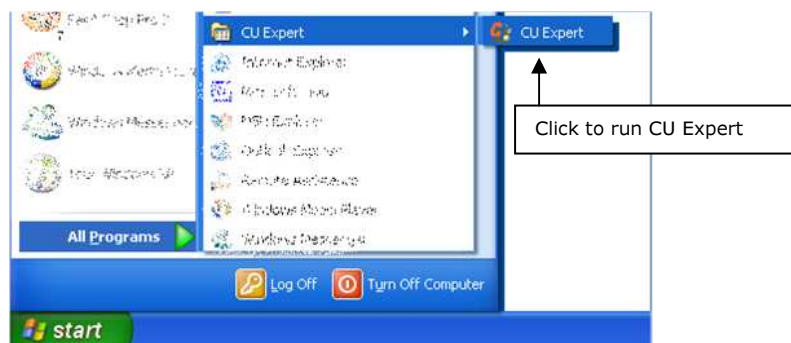
Classification Devices	Versions that are not compatible for PC communications	Versions that are compatible for PC communications	
		ECG Data Only	ECG and Voice Data
CU-ER1	ver1.00 to ver1.11	ver2.00 to ver2.10	ver2.20 onwards
CU-ER2	-	ver1.00	ver1.10 onwards
CU-ER3			ver1.00 onwards
CU-ER5			Ver1.12 onwards
CU-ERT			Ver1.00 onwards
NF1200 i-PAD		ver1.00 onwards	
CU-SP1		ver1.00 onwards	
CU-PH2		ver1.00 onwards	

The version number of the software installed on the Paramedic CU-ER1, Paramedic CU-ER2, Paramedic CU-ER3, Paramedic CU-ER5, and Paramedic CU-ERT can be determined by running a manual self-test. The software version number is displayed on the LCD screen during the test.

The version number of the software installed on the CU-PH2 can be determined by running the device Menu. The software version is displayed under the DEVICE submenu.

The CU Expert software is installed in 『C:\CU\』 by default.

After the installation, the CU Expert can be run by clicking on the CU Expert icon in the Windows Start Menu or by clicking on the CU Expert icon that is installed in the desktop of the PC.



## 4. Device Key File

The Device Key File contains the code that will enable the CU Expert to run properly in conjunction with a source device. Without the Device Key File, the CU Expert will not be able to connect and download data from a source device

The Device Key File is also needed whenever a record stored in the PC is opened. Without the Device Key File, ECG records cannot be opened.

The Device Key File is not included when the installer is downloaded from the website of CU Medical Systems, Inc. You have to contact CU Medical Systems, Inc. to obtain the proper Device Key File. The following data must be sent to CU Medical Systems, Inc.

Device Name and model	e.g. Paramedic CU-ER1
Serial Number	e.g. A1B22B096US

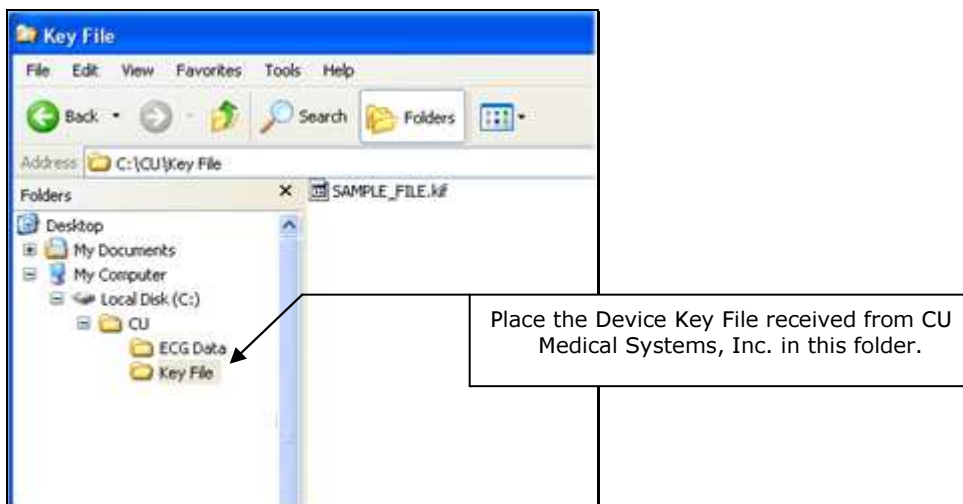
CU Medical Systems, Inc. will send the Device Key File through email.

To get a copy of the Device Key File, contact the following:

Sales Team	<a href="mailto:sales@cu911.com">sales@cu911.com</a>
CU Medical Systems, Inc. website	<a href="http://www.cu911.com">http://www.cu911.com</a>

**IMPORTANT**   
**Do not change anything in the Device Key File.**  
**Do not change the filename of the Device Key File.**  
**Do not open and modify the contents of the Device Key File.**  
**Keep a backup copy of the Device Key File in a safe place.**

Upon receipt of the Device Key File, copy it to the Key File folder located at 『C:\CU\Key File』



In cases when the installer is sent to you in a compact disc, the Device Key File is included in the disc. It has to be copied to the Key File folder as outlined above.

## 5. Data File Transfer

One of the main functions of the ECG Expert Data Management Software is the archiving of data recorded by a source device.

In the Paramedic and NF series of AEDs, the data recorded during a rescue operation are overwritten whenever a new rescue operation is performed. In order to keep the rescue data records, these have to be transferred to a PC before a new rescue operation is performed.

In the CU-PH2 devices, the data recorded have to be transferred when the data size exceeds the capacity (600 minutes of ECG data).

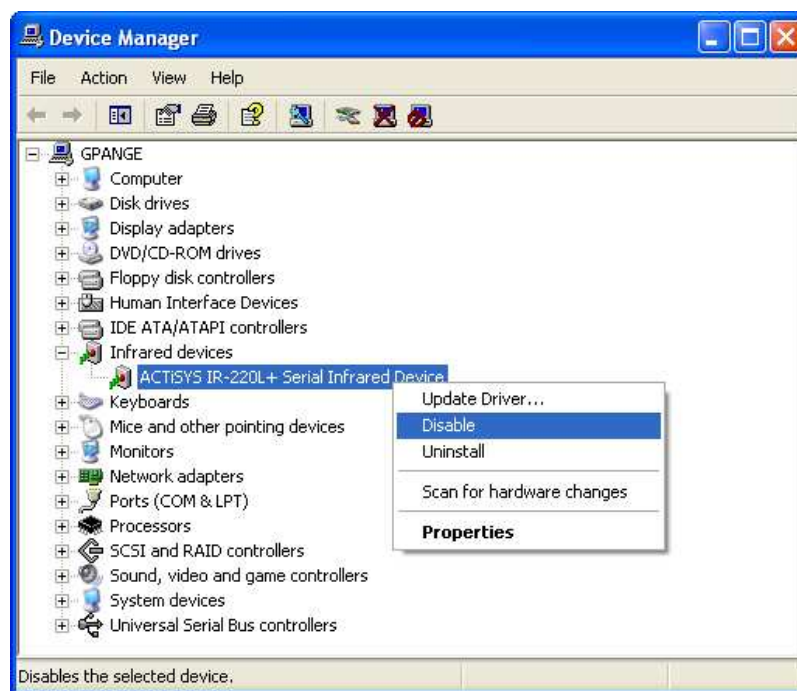
### IrDA Com Port Serial Adapter Driver

No IrDA Com Port Serial Adapter software driver is necessary for the transfer of data using the IrDA port.

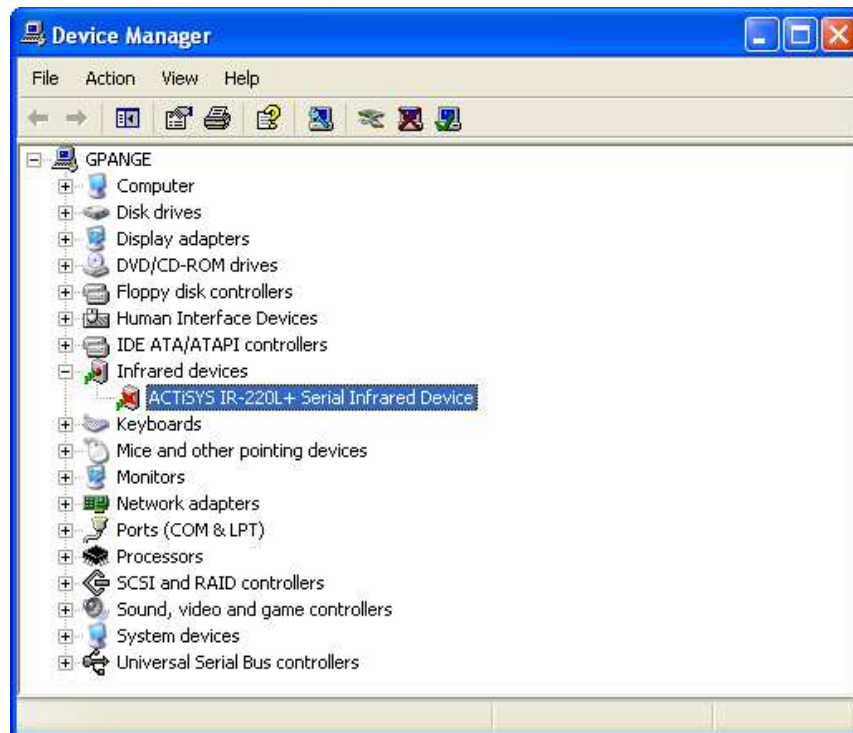
If your personal computer has been installed with the driver, the CU Expert will not work. The IrDA Com Port Serial Adapter software driver will have to be disabled.

To disable the IrDA Com Port Serial Adapter software driver, do the following:

1. Right click on the My Computer icon on your PC desktop.
2. Left click on the Properties option of the context menu that pops up.
3. The System Properties Dialog Box will pop up.
4. Left Click on the Hardware Tab then left click on the Device Manager Button.
5. The Device Manager pops up. Left click on the + sign beside Infrared Devices. Right click on the ACTISYS IR-220L icon. Disable the device through the context menu that pops up. This is shown in the figure below



6. After being disabled, the ACTISYS IR-220L icon will be crossed out as shown below



7. Close the Device Manager and proceed with data transfer.

### **IMPORTANT** ⚠

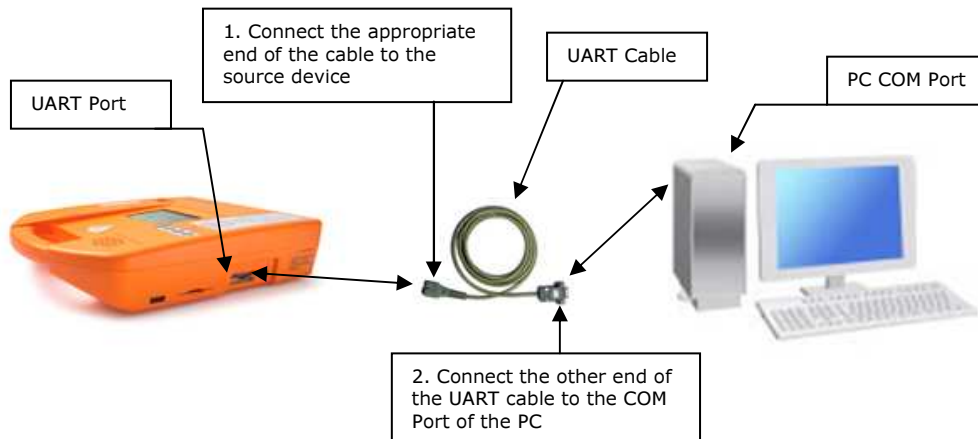
**Do not use the AC/DC power adapter or the Car cigar lighter jack adapter to provide power to the Paramedic AEDs during data reception. Noise from the external power source may interfere with the data transmission.**

## 5.1 Port Connections

Data transfers using the CU Expert can be done using either UART or IrDA.

### 5.1.1 UART Connection

Connect the UART cable supplied by CU Medical Systems, Inc. to the COM Port of the PC and the UART port of the source device.



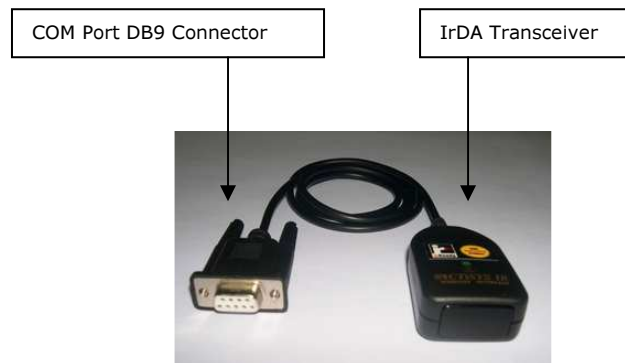
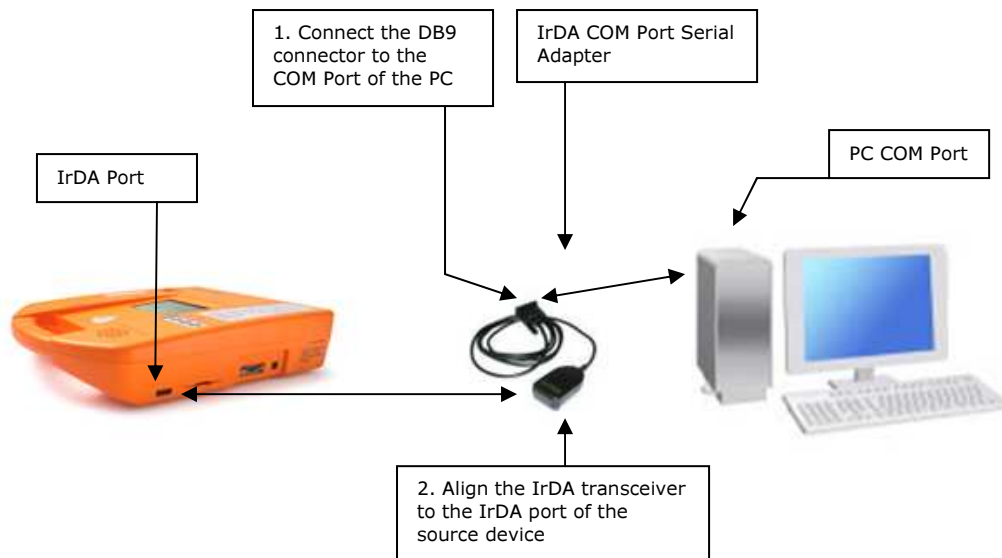
### IMPORTANT

**Use only the UART cable supplied by CU Medical Systems, Inc. The supplied UART cable had been configured to work with the communications protocol used in transferring data between the source devices and a PC. Using other UART cables will damage the source device.**

### 5.1.2 IrDA Connection

Connect the DB9 connector of the IrDA Com Port Serial Adapter supplied by CU Medical Systems, Inc. to the PC. Align the IrDA transceiver of the adapter to the IrDA port of the source device.

The IrDA adapter must be between 5 cm and 30 cm away from the IrDA port of the source device. It should also be within  $\pm 15^\circ$  of the horizontal plane passing through the IrDA port of the source device.



IrDA Com-Port Serial Adapter Details

#### **IMPORTANT** ⚠

**Use only the IrDA Com Port Serial Adapter supplied by CU Medical Systems, Inc.**

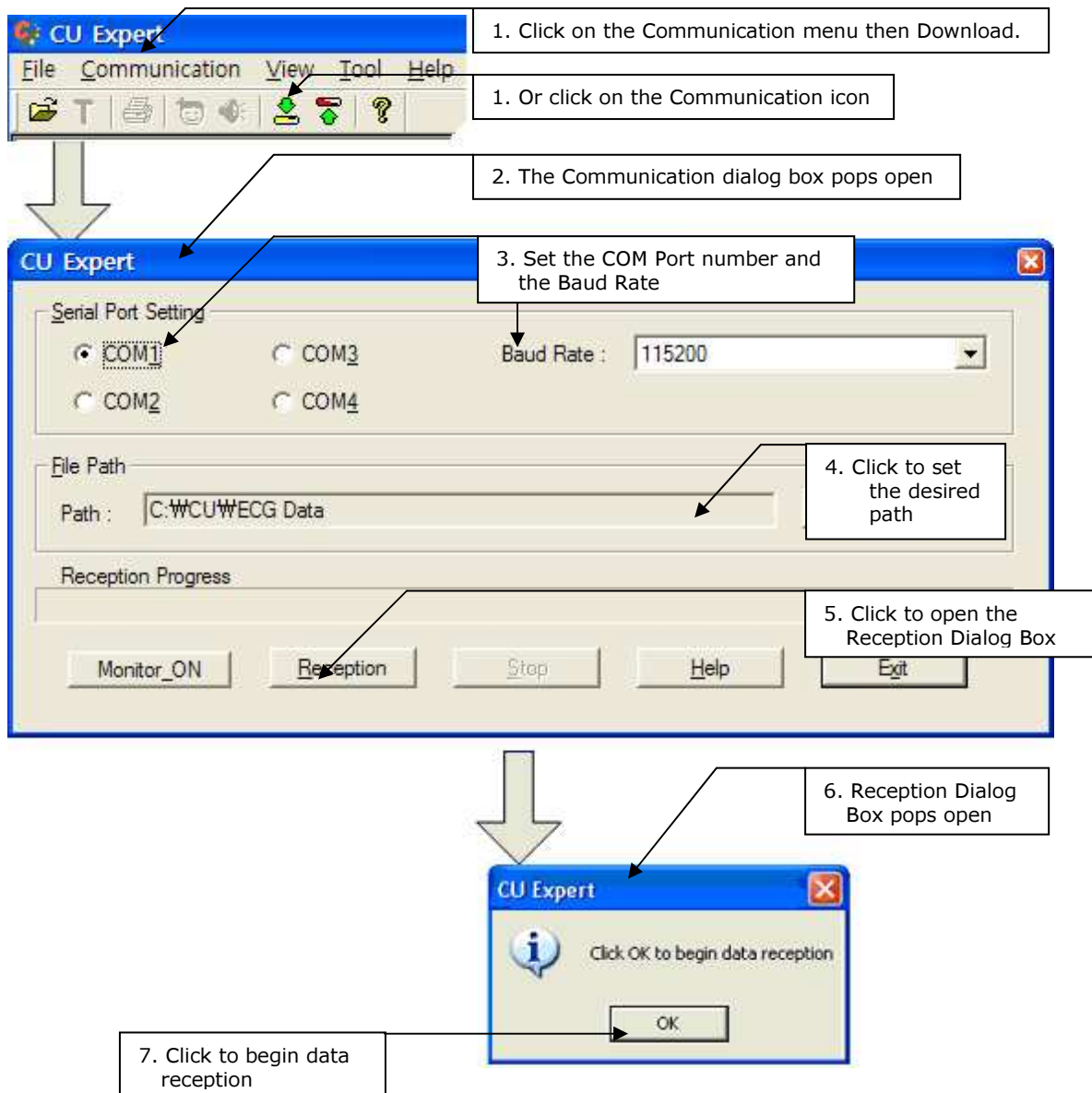
**Refrain from transferring data in the presence of intense light or heat.**

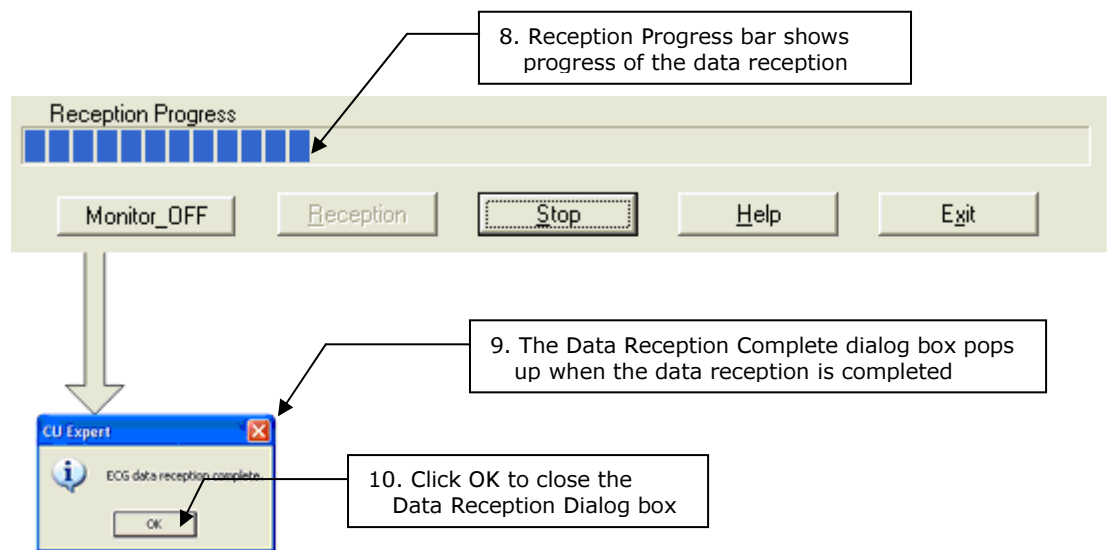
**Avoid transferring data in the presence of vibration.**

## 5.2 Data Reception

To receive data from the source device, do the following steps

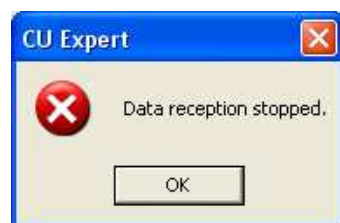
1. Run the CU Expert by clicking on its desktop or Windows Start Menu icon.
2. Open the Communication dialog box by clicking on the Communication icon or by clicking on the Communication menu and its download option.





Interference during data transmission (noise, cable disconnection, IrDA transmission path blocked, intense light or heat, etc.) will also make the CU Expert display the Data Reception Failure dialog box.

If the Stop button in the Communication dialog box is clicked before the data reception is finished, CU Expert will display the Data Reception Stopped dialog box as shown below.





## Serial Port Setting

Set the COM Port number to match the COM Port number where the connector to the source device is connected to the PC.

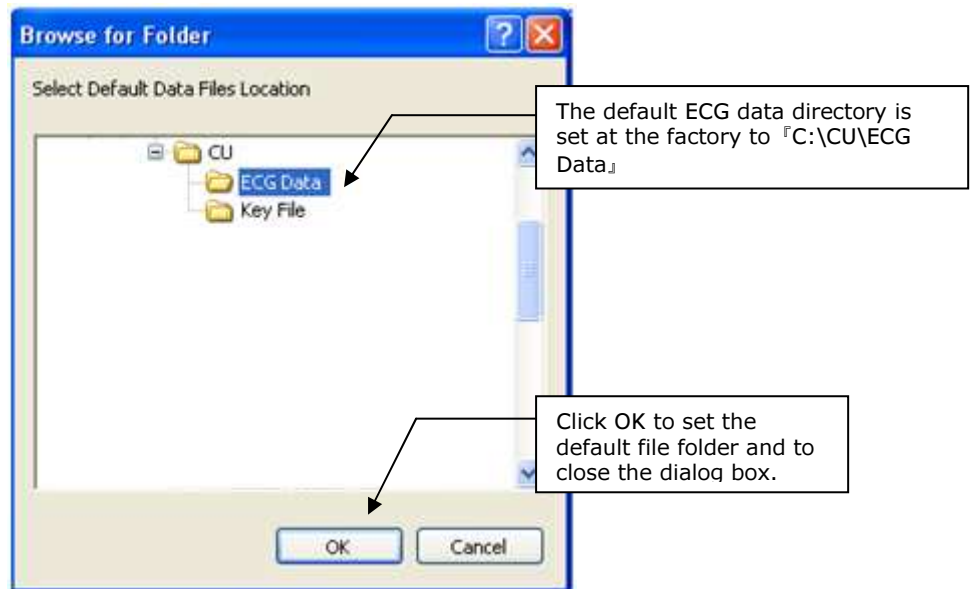
## Baud Rate

If the Baud Rate capabilities of the PC are not known, choose the default setting of 115200.

## File Path

The file path is set by default to C:\CU\ECG Data

If it is desired to change the default directory, the Path button should be clicked. When the Path button is clicked, the Browse for Folder Dialog box will open as shown below:



Select the desired Default Data Files Location and then click on the OK button

### 3. Source Device Paramedic CU-ER1, Paramedic CU-ER2, Paramedic CU-ER3, Paramedic CU-ER5 and Paramedic CU-ERT

#### PREPARATION

Preparation should be done well before data transmission is started.

##### Paramedic CU-ER1

Turn the Paramedic CU-ER1 ON without connecting any Pads connector in the ECG-DEFIB port. Activate the Menu by pressing the MENU button. Go to DEVICE SETUP – GENERAL and choose the data transmission mode to match the connector used between the Paramedic CU-ER1 and the PC.

##### Paramedic CU-ER2

Turn the Paramedic CU-ER2 ON with the knob selector switched to MENU and proceed to data transmission.

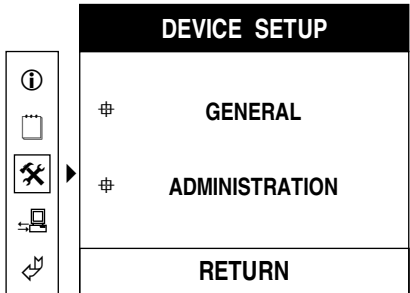
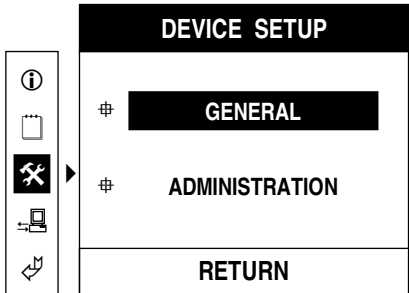
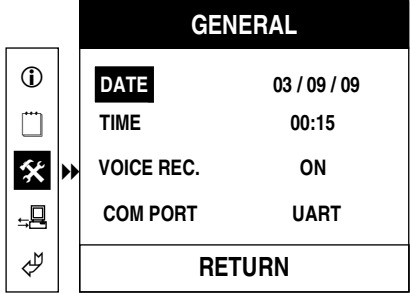
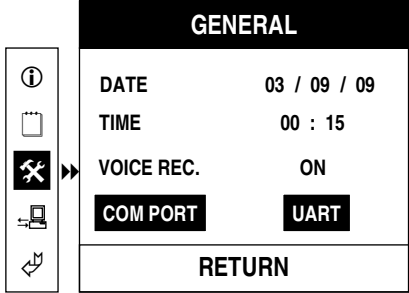
##### Paramedic CU-ER3, Paramedic CU-ER5

Same as Paramedic CU-ER2

##### Paramedic CU-ERT

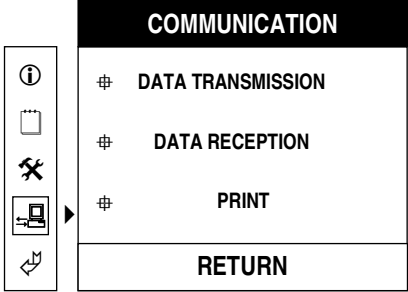
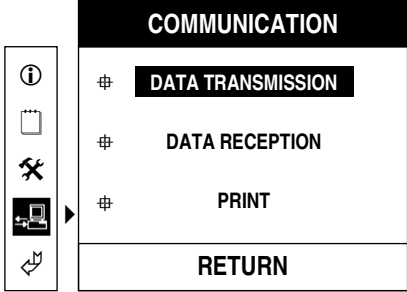
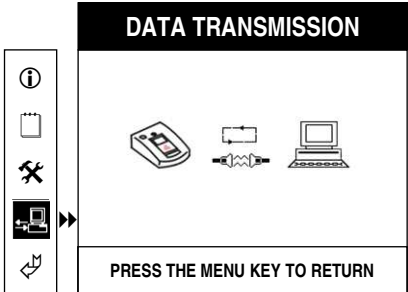
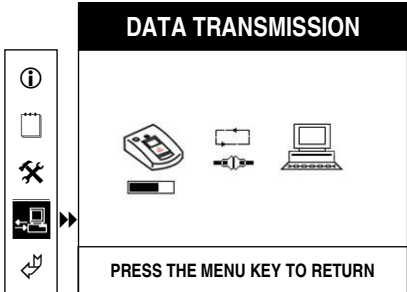
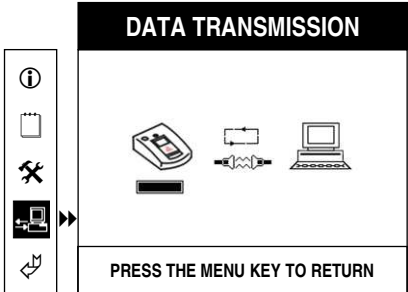
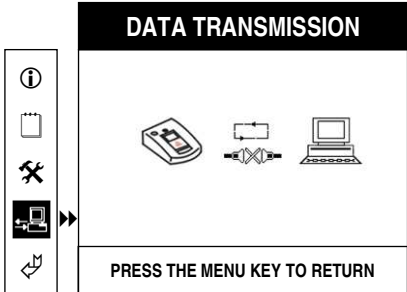
Turn the Paramedic CU-ERT ON and activate the Menu by pressing the MENU button. Go to DEVICE SETUP – GENERAL and choose the data transmission mode to match the connector used between the Paramedic CU-ERT and the PC. The menu steps are shown in the following screens.

These are true for Paramedic CU-ER1, Paramedic CU-ER2, Paramedic CU-ER3, Paramedic CU-ER5 and Paramedic CU-ERT.

A	 <p>When the menu is activated, go to DEVICE SETUP</p>	B	 <p>Push the MENU button to enter the DEVICE SETUP sublevel. GENERAL is highlighted by default.</p>
C	 <p>Push the MENU button to enter the GENERAL menu sublevel</p>	D	 <p>Scroll the highlight down to COM PORT and push the MENU button. The COM PORT field will be highlighted. The default mode is UART. Cycle through the choices (IrDA and UART) by pushing the UP or DOWN arrow button.</p> <p>Choose UART if the UART cable is used to connect the source device to the PC</p> <p>Choose IrDA if the IrDA Com-Port Serial Adapter is used to connect the source device to the PC</p>

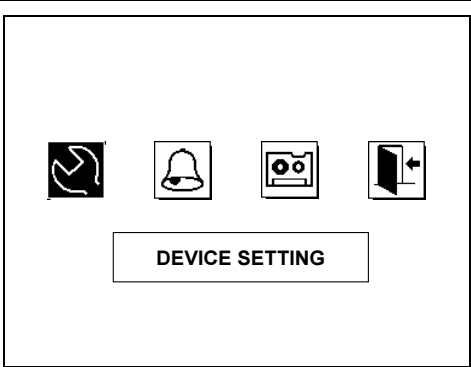
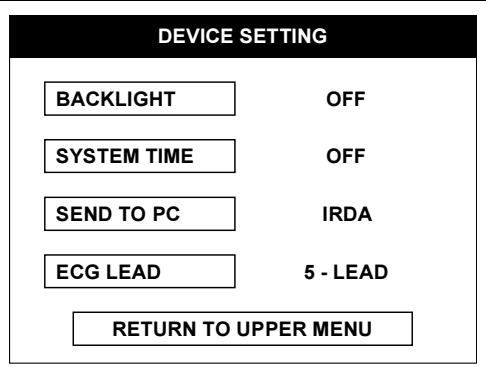
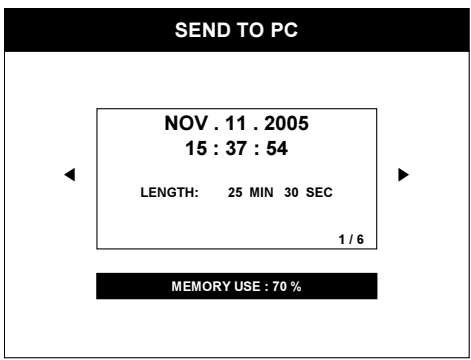
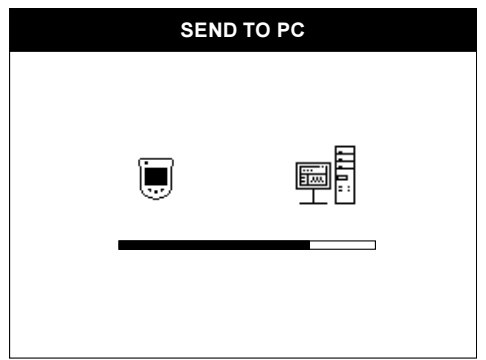
## DATA TRANSMISSION

Go to COMMUNICATION. Initiate data transmission by pushing the MENU button when the DATA TRANSMISSION menu item is highlighted. The progress and status of the data transmission will be shown on the LCD screen. The following table shows the screen displays during the data transmission process.

A	 <p>Go to COMMUNICATION</p>	B	 <p>Enter the COMMUNICATION sublevel by pressing the MENU button. DATA TRANSMISSION is highlighted by default.</p>
C	 <p>Press the MENU button. The Paramedic CU-ER1, CU-ER2, CU-ER3 or CU-ER5 will show the icons in this screen signifying that connection with the PC is being attempted.</p>	D	 <p>This screen will be shown if the connection is successful. The progress of the data transmission is shown by the progress bar beneath the Paramedic CU-ER1, CU-ER2, CU-ER3 or CU-ER5 icon.</p>
E	 <p>This screen will be shown when the data transmission is finished.</p>	F	 <p>This screen will be shown if:</p> <ul style="list-style-type: none"> <li>i. Connection is not established or</li> <li>ii. Connection is lost in the middle of data transmission</li> </ul>

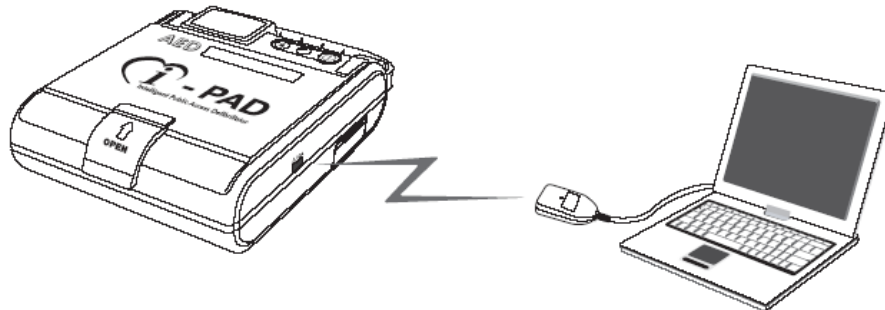
## CU – PH2

Activate the MENU by pressing the MENU button and go to DEVICE SETTING. Highlight SEND TO PC, press the MENU button and choose the recording to be transmitted. Begin transmission by pressing the MENU button while the recording information is displayed onscreen. These are shown in the following screens.

A	 <p>Activate the Menu by pressing the MENU button. Press the MENU button again while the DEVICE SETTING icon is highlighted.</p>	B	 <p>Scroll the highlighter down to SEND TO PC. Press the MENU button to display the memory partition information.</p>
C	 <p>Choose the desired memory partition by scrolling right or left using the RIGHT or LEFT button. When you have chosen the desired partition, press the MENU button to initiate transmission.</p>	D	 <p>The CU-PH2 displays this screen when transmission is initiated. The TEXT PROMPT indicates the state of the transmission process.</p> <p>The following are the possible prompts that can be displayed:</p> <p>PREPARING FOR TRANSMISSION – the CU-PH2 is preparing for transmission.</p> <p>TRANSFERRING DATA – the CU-PH2 is transferring data to the PC.</p> <p>TRANSMISSION COMPLETE – transmission is finished.</p> <p>TRANSMISSION ERROR OCCURRED – the data transmission failed.</p>

## **NF1200 i-PAD**

### **PREPARATION**



Connect the IrDA adapter to the PC Com Port and align the other end to the IrDA port of the NF1200 i-PAD

### **DATA TRANSMISSION**

Press the i-Button while the NF1200 i-PAD is in standby mode. It goes to Administration Mode and announces last usage information. The NF1200 i-PAD then automatically transfers data to the personal computer.

### 5.3 Data Reception Duration

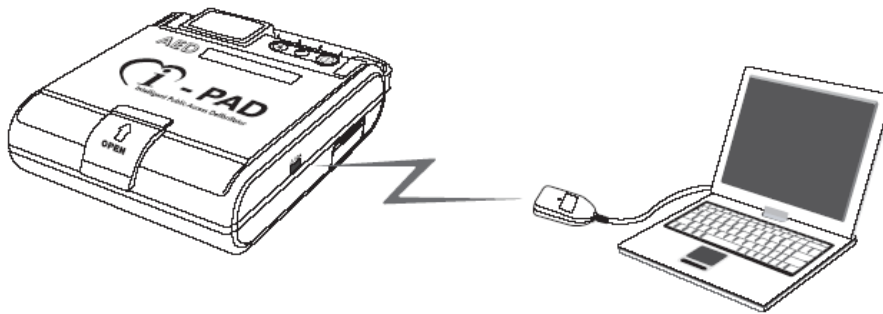
The following table shows the duration of the data reception.

	ECG Data Only			ECG and Voice Data		
Recording Duration (minutes)	10	30	60	10	30	60
Reception Duration (minutes)	1	2	3	10	30	60

For long recordings, the Reception Progress bar may seem to freeze. When this happens, do not cancel the data reception. The reception is progressing and should be left alone. If the data reception fails, a dialog box will pop up and inform you of the data reception failure.

## 6. Device Configuration for i-PAD

### 6.1 Port Connections




Connect the IrDA adapter to the PC Com Port and align the other end to the IrDA port of the NF1200 i-PAD

### 6.2 Device Configuration

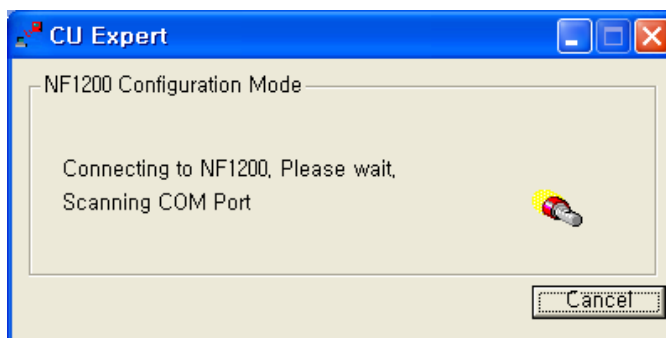
To change the i-PAD configuration settings, proceed with source device preparation as in downloading of ECG recording.

Run the CU Expert and do the following:

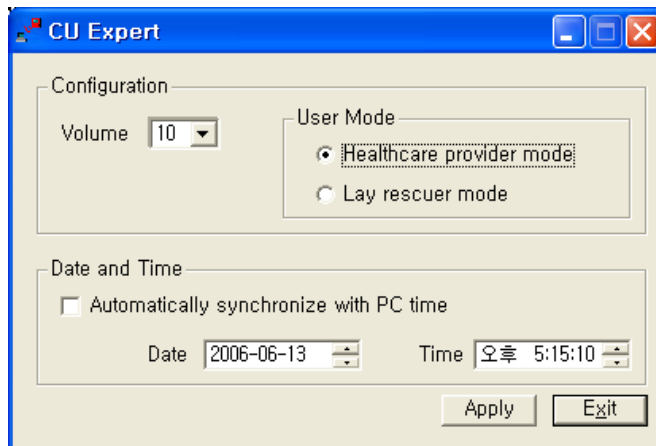
- a. Press the “Communication” and it’s submenu, “Device Setting” in the Menu of CU Expert. Or click the  button in the tool bar in CU Expert



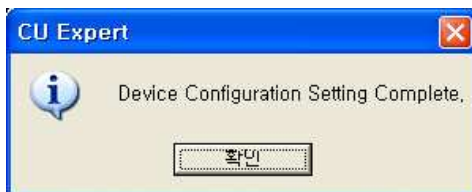
- b. The CU Expert then automatically connects to the i-PAD.



- b. The connection will be established within 20 seconds. If the connection is successful the following will be shown:



- d. Set the configuration settings as desired and press the  button. If the setting is successful, the following is displayed.

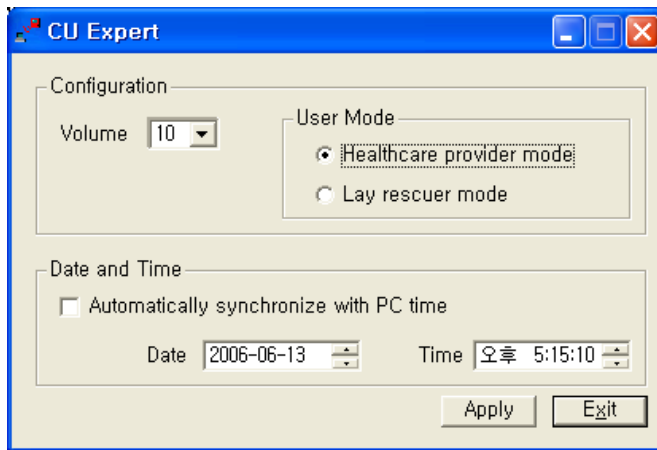


- e. Press the  button to finish setting the device configuration. The device turns off automatically.



### 6.3 Details of device configuration setting

After a successful connection, the device displays its current configuration settings



- Volume

This is the volume level of the speaker of the device.  
Can be set from 0 to 10, with 10 as the highest volume.

- User Mode

Healthcare Provider Mode :

In case that the ECG rhythm of the patient is nonshockable the NF1200 pauses for 10 seconds to allow you to check the pulse of the patient. The NF1200 plays CPR guidance automatically after 10 seconds.

Lay Rescuer Mode :

In case of the ECG rhythm of the patient is nonshockable, the NF1200 plays CPR guidance without pausing for a patient pulse check.

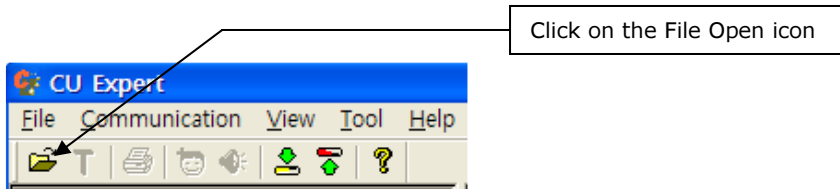
- Date and Time

Allows you to set the Date and Time of the device. If you check the [Automatically synchronize with PC time] option, the date and time settings will be based on the date and time of the PC.

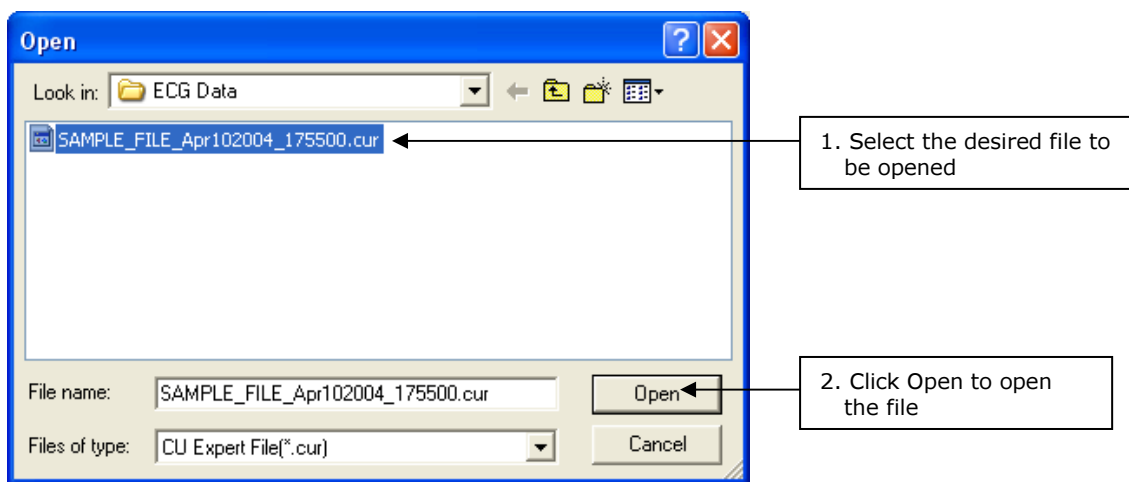
## 7. ECG Data Review

To review data files that have been transferred to the PC, click on the open file icon in the toolbar.

The voice data stored in the SmartMedia Card (for the Paramedic AEDs) is also transmitted together with the ECG data. This can then be played synchronously with the ECG record during ECG data review.

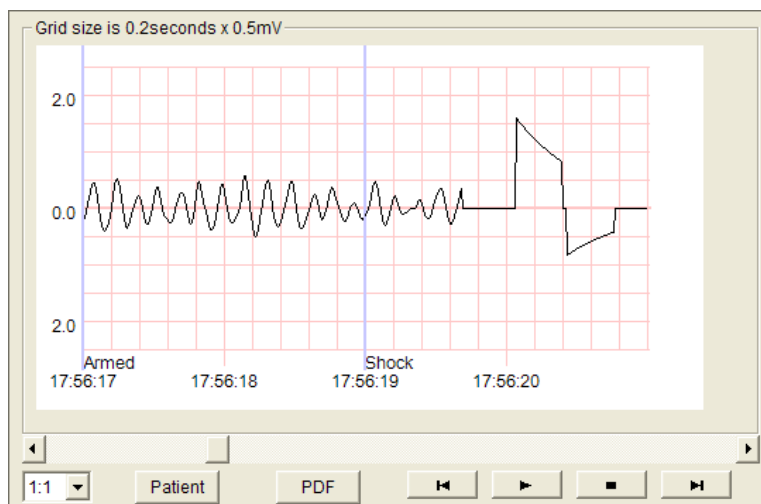


The following dialog box will open.

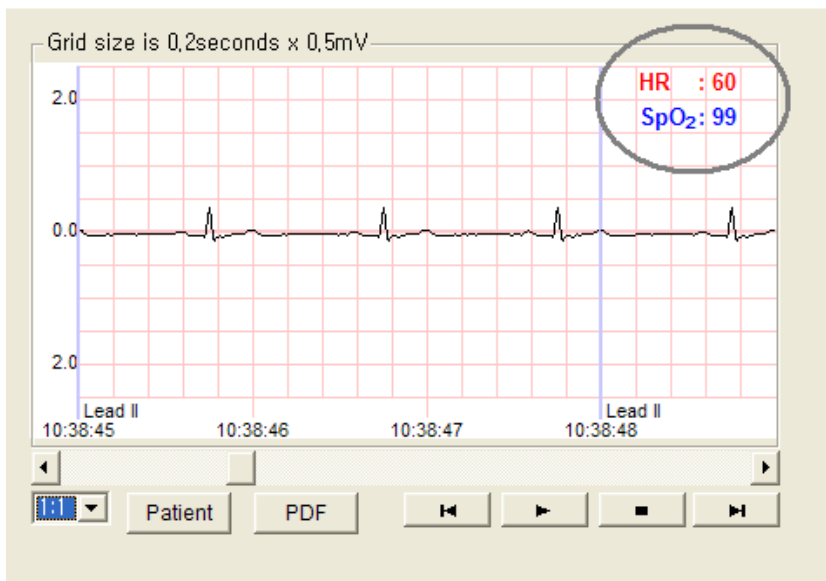


Choose the ECG data file to be opened. ECG data files have ".cur" as extension (\*.cur)

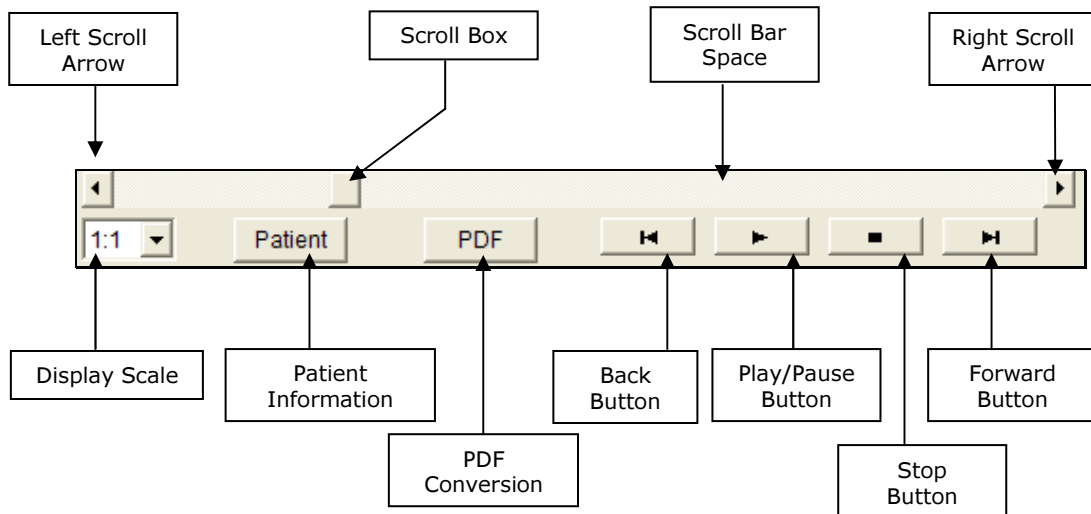
When the ECG data file is opened, the ECG tab of the main screen will display the ECG data together with the Event highlights as shown in the following figure.



In case of the CU-PH2, the main screen will indicate the HR and SpO<sub>2</sub> as shown below.



## ECG Display Controls



Play/Pause button – plays the ECG data. While the ECG data is being played, the Play button toggles to a Pause button. Pressing on the Pause button will stop the playback of ECG data and toggle the button back to a Play button. When the Play button is pressed after the display had been paused, the playback of ECG data will resume from the point where the playback was paused.

Stop button – stops the playing of the ECG data. Returns the display to the beginning of the ECG record.

Back button – scrolls the ECG display one second backward.

Forward button – scrolls the ECG display one second forward.

Display scale – changes the amplitude scale of the display. The available scales are:

- a. 1:1 -> the amplitude scale is 0.5mV/grid
- b. 1:2 -> the amplitude scale is 1.0mV/grid
- c. 2:1 -> the amplitude scale is 0.25mV/grid

Scroll box – scrolls the display forward or backward. To scroll the display, place the mouse pointer on the scroll box, left click and drag it to the left or to the right.

Scroll bar space – scrolls the display forward or backward 4 seconds at a time when clicked. When the scroll bar space is clicked to the right of the scroll box, the display is scrolled forward 4 seconds. When the scroll bar space is clicked to the left of the scroll box, the display is scrolled backward 4 seconds.

Left scroll arrow – when clicked, scrolls the display backward 1/10 second at a time.

Right scroll arrow – when clicked, scrolls the display forward 1/10 second at a time.

PDF Conversion – converts the ECG data and associated events with time stamps into PDF file format.

Patient Information – shows the patient information in a pop up Summary window.

The time markings in the ECG display are absolute times, meaning, the start time is the same as the time when recording of the data in the source device started.

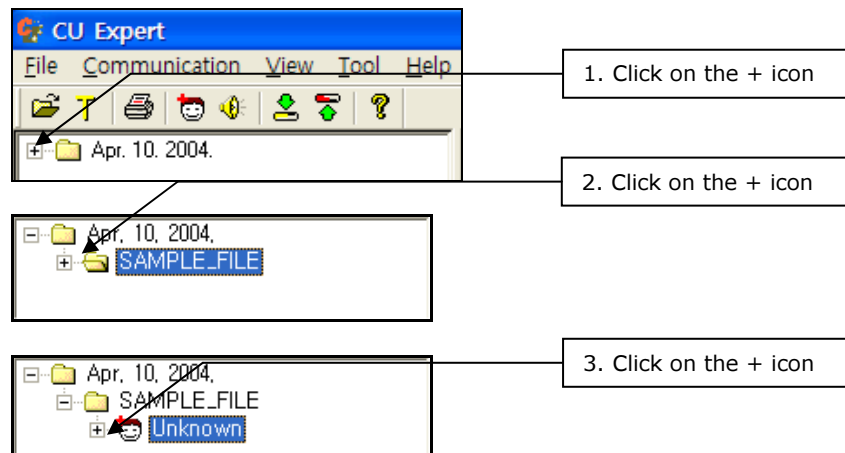
## Patient Information button

The summary pop up window displays Case and Patient information. The Patient information is blank when the data is opened for the first time since it was downloaded from the source device. You have to fill out the patient information.

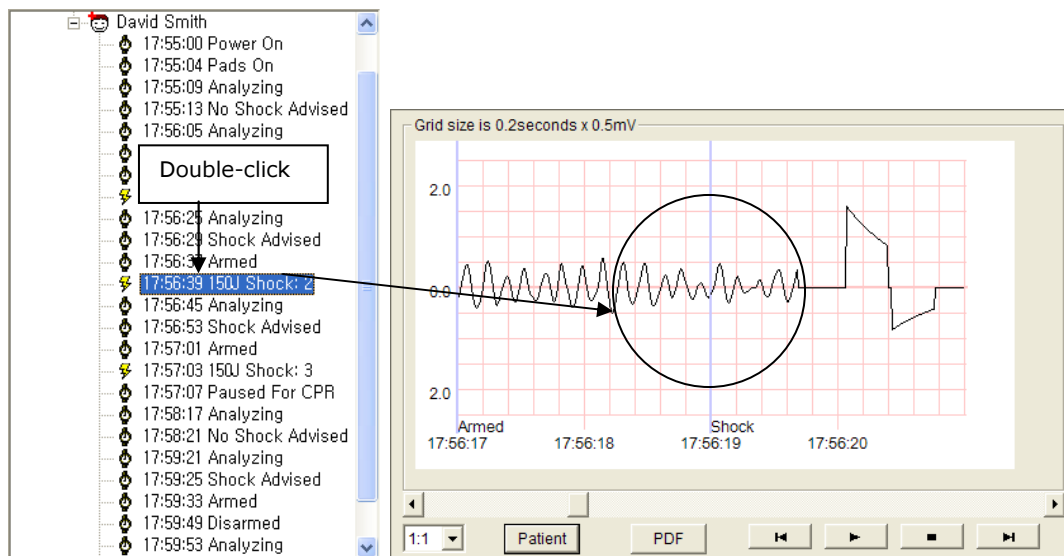
The Summary window is divided into two sections: Case and Patient. The Case section contains fields for Device Name (CU-ER1), Device ID, Date (Apr. 10, 2004), Start Time (17:55:00), and File Path (C:\CU\ECG Data\DavidSmith.cu). The Patient section contains fields for Last name (Smith), Patient ID (38317), First name (David), Height (180cm), Age (62), Weight (90kg), Sex (Male), and Address (5F, Cheonggye plaza, 991-4, Cheonggye).

## Event Tree



When an ECG data file is opened and displayed on the main screen, a list of event highlights is provided in the event tree on the left side of the screen display. To see the list of events, click on the + icon or double click on the patient icon.



Clicking on the last + icon will display a list of Event markers as shown in the following figure.



The event tree lists the event highlights in chronological order. When any of the listed event highlight is double-clicked, the ECG display is brought to that point in the ECG record. The event is displayed in the middle of the screen except for the Power-On event which is displayed at the beginning of the screen.

When the Toggle button  is clicked (left mouse button) the Event Tree is replaced with the list of ECG records in the default data folder (C:\CU\ECG Data\)(the default data folder may be changed to another folder during installation). Clicking on any of the ECG record file opens that particular file. Clicking on the Toggle button  when the list of ECG records is being displayed replaces the file list with the Event Tree.

## Voice Playback

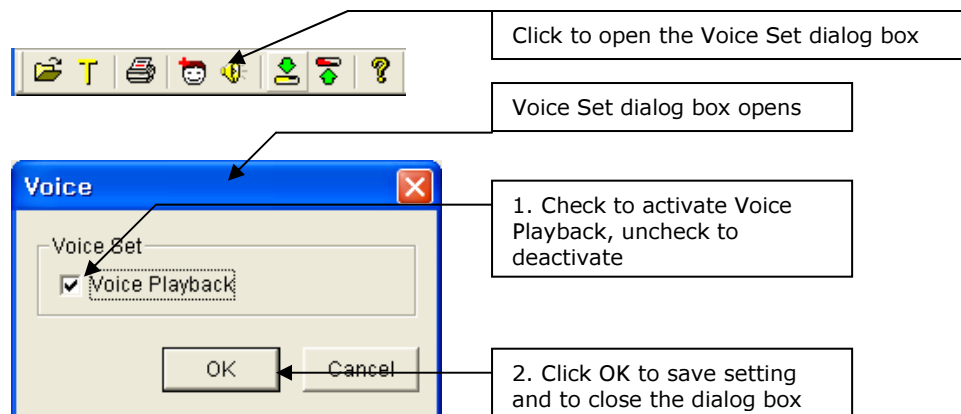
The voice data stored in the SmartMedia Card and transferred to the PC can be played synchronously with its corresponding ECG record.

When the ECG and voice records are downloaded, they are stored as different files in the PC. The ECG file has a .cur extension while the voice file has a .wav extension.

During downloading to the PC, the two files are stored with the same filename except for the extensions. When the ECG record file name is changed by entering the patient name the file name of the voice record is also changed automatically to match the name of the ECG record.

Do not manually change the name of the voice file to avoid a mismatch with its corresponding ECG record. When there is a mismatch, the voice record will not play together with the ECG record.

The voice playback can be activated or deactivated during ECG review. To set the voice playback option, click on the voice file icon in the toolbar. This is shown in the following figures.



When the ECG record is played back, the voice record is also played back synchronously. The synchronization point is the left side of the ECG display screen.

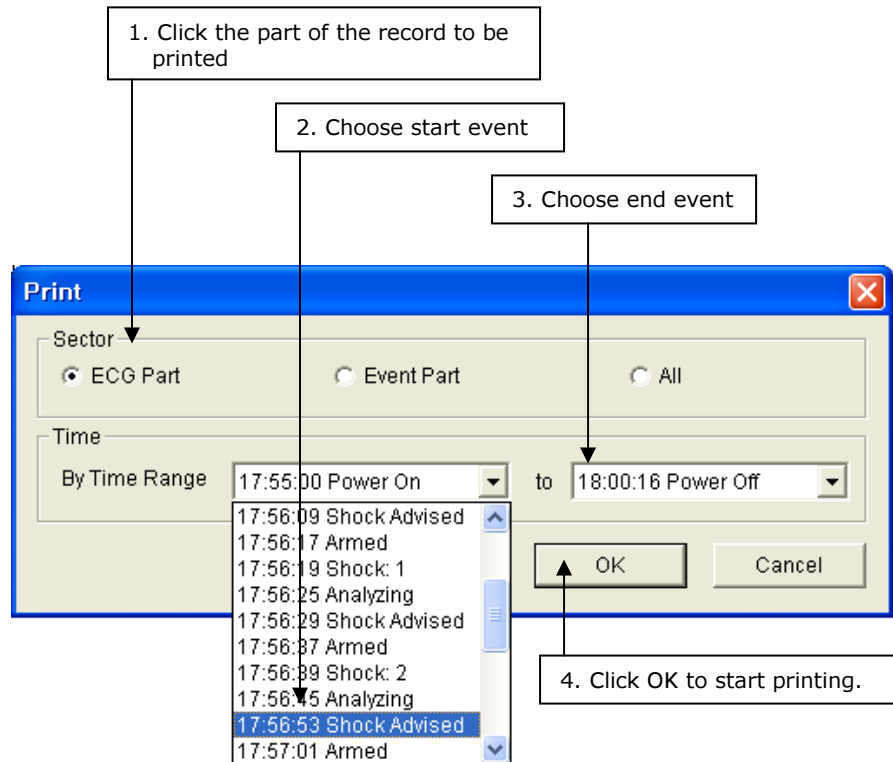
This means that, when the point on the display that has a corresponding voice recording hits the left side of the ECG display screen, the corresponding voice recording starts playing.

## 8. ECG Record Printing

The displayed ECG record can be printed by clicking on the printer icon in the toolbar



When the printer icon is clicked, the following dialog box is opened



### 8.1 Printing the ECG Waveform – AED Source Device

#### 8.1.1 Printing Any Range

In this option, the ECG waveform is printed along with the event markers.

The range of the ECG wave that is printed can be set by clicking on the start event and end event combo boxes indicated in the figure above.

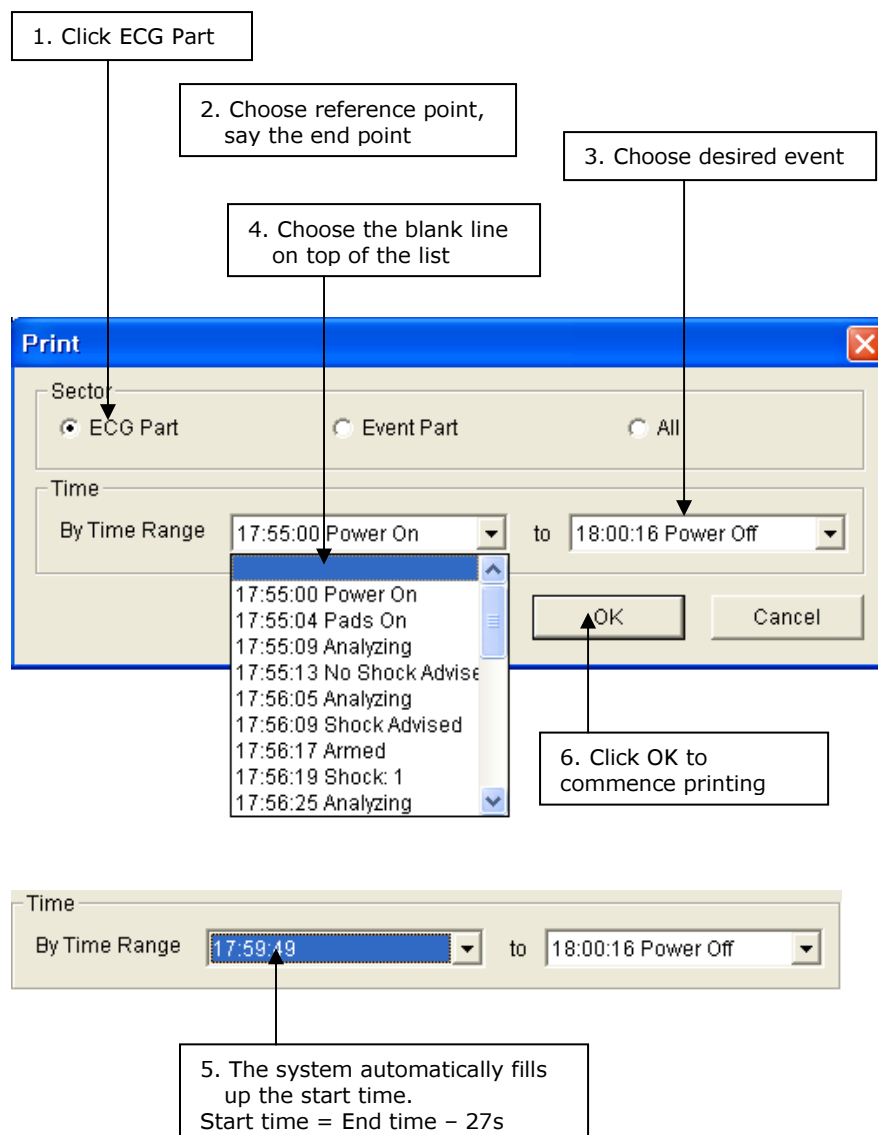


### 8.1.2 Printing One Page of ECG Data

If it is desired to print only one page of ECG data, do the following

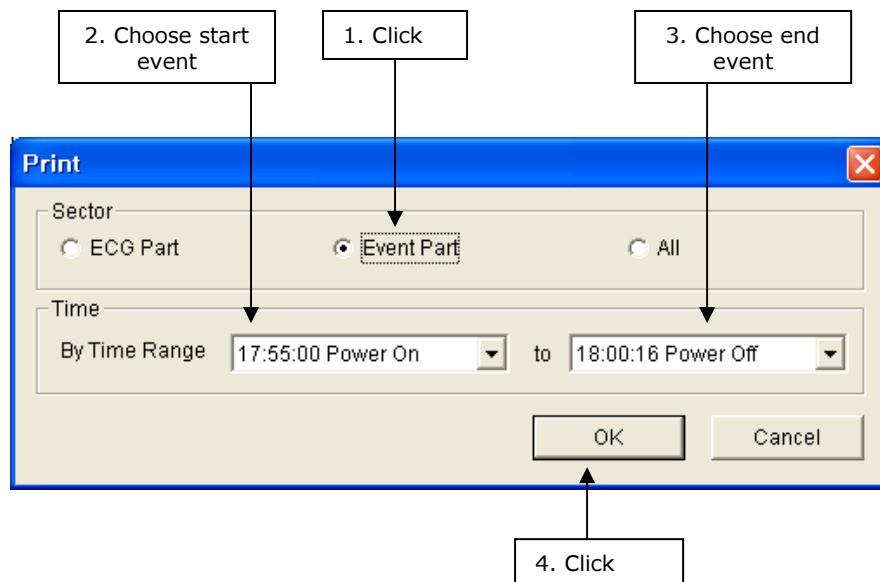
- a. Choose the reference event. It may be the starting or the ending event.
- b. Click the other combo box (starting event if, ending event is chosen in step a above, otherwise, ending event). When the drop down list is shown, a blank line is on top of the list. Click on the blank line. The CU Expert will automatically fill the line with the appropriate time such that the data will fit in one page of paper when printed.

c.



## 8.2 Printing the Event Part – AED Source Device

To print only the event part, do the following as shown in the figure below:

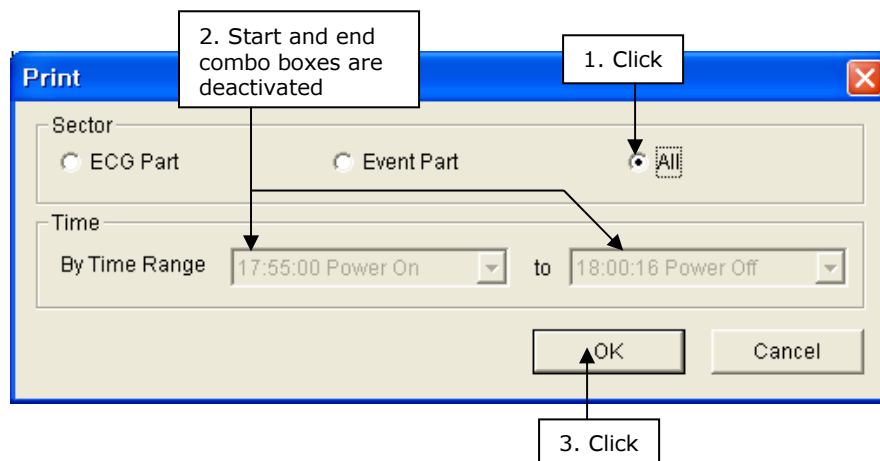


- a. Click on the Event Part radio button
- b. Choose the range of events to be printed
- c. Click the OK button

In this mode, the event list, case information, and patient information are printed.

## 8.3 Printing All Information – AED Source Device

When the All radio button is clicked, all the information contained in the ECG data file is printed. This is shown in the figure below

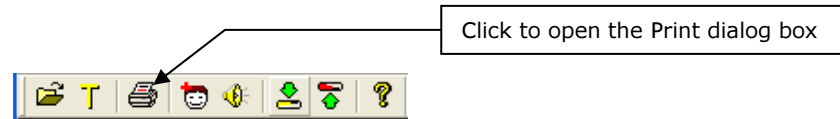


The ECG Waveform is printed using a 10mm/mV amplitude scale and 25mm/s time base.

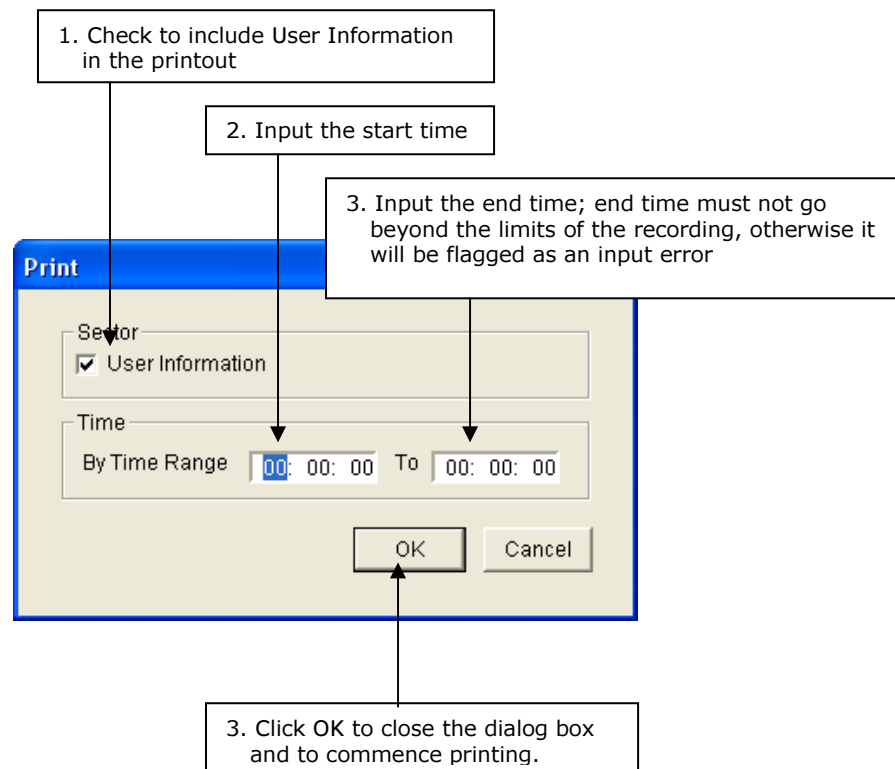
The ECG file is printed using A4 or Letter size paper.  
The software supports printing using a color printer.

## 8.4 Printing ECG Waveform – CU-PH2

Data from the CU-PH2 is printed in the same manner as the AEDs. To start, click on the printer icon to open the printer dialog box.



When the printer icon is clicked, the following dialog box is opened

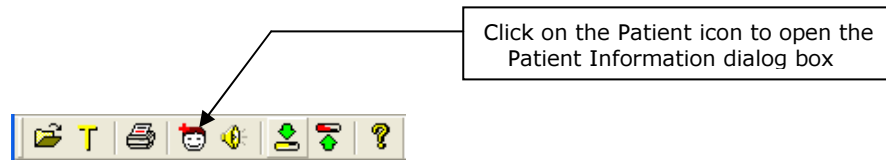


## 9. Patient Information

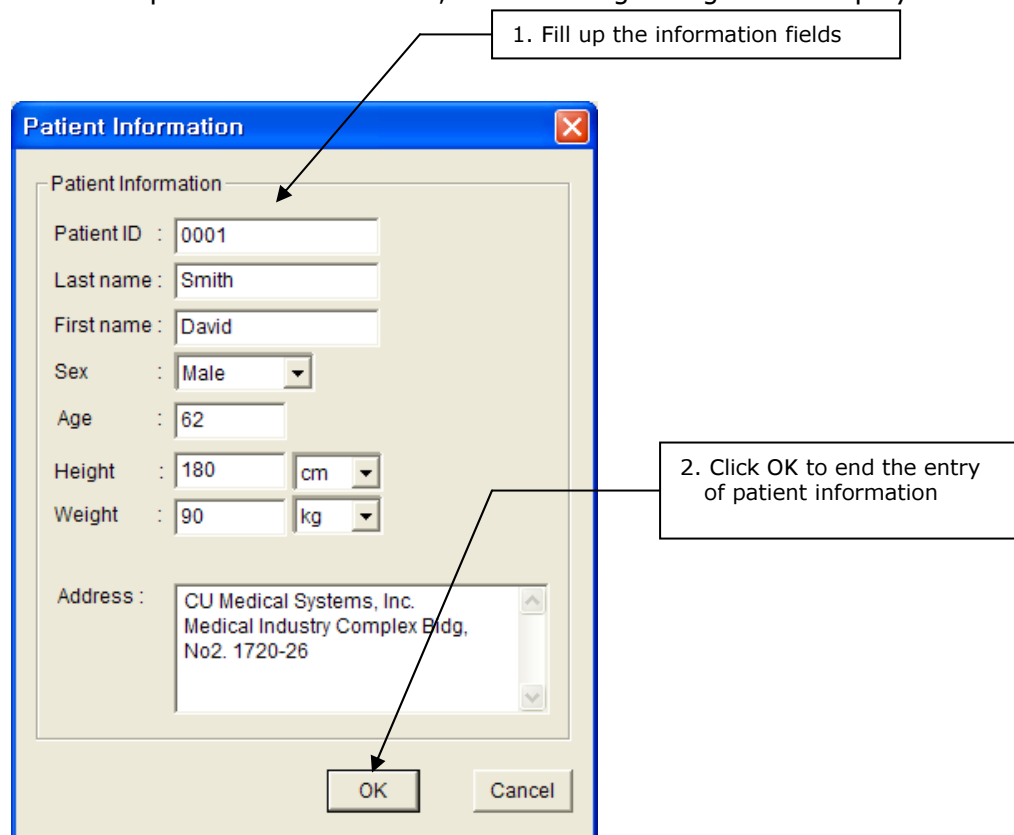
The ECG data files downloaded from the source devices do not contain patient information. The CU Expert allows you to enter the patient information in the ECG files downloaded from the source devices.

The patient information is entered using the following steps

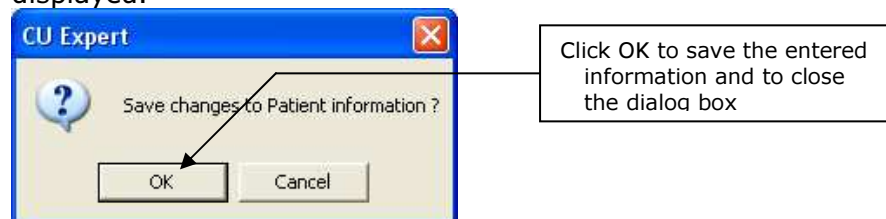
1. Click on the patient icon in the toolbar.



When the patient icon is clicked, the following dialog box is displayed.

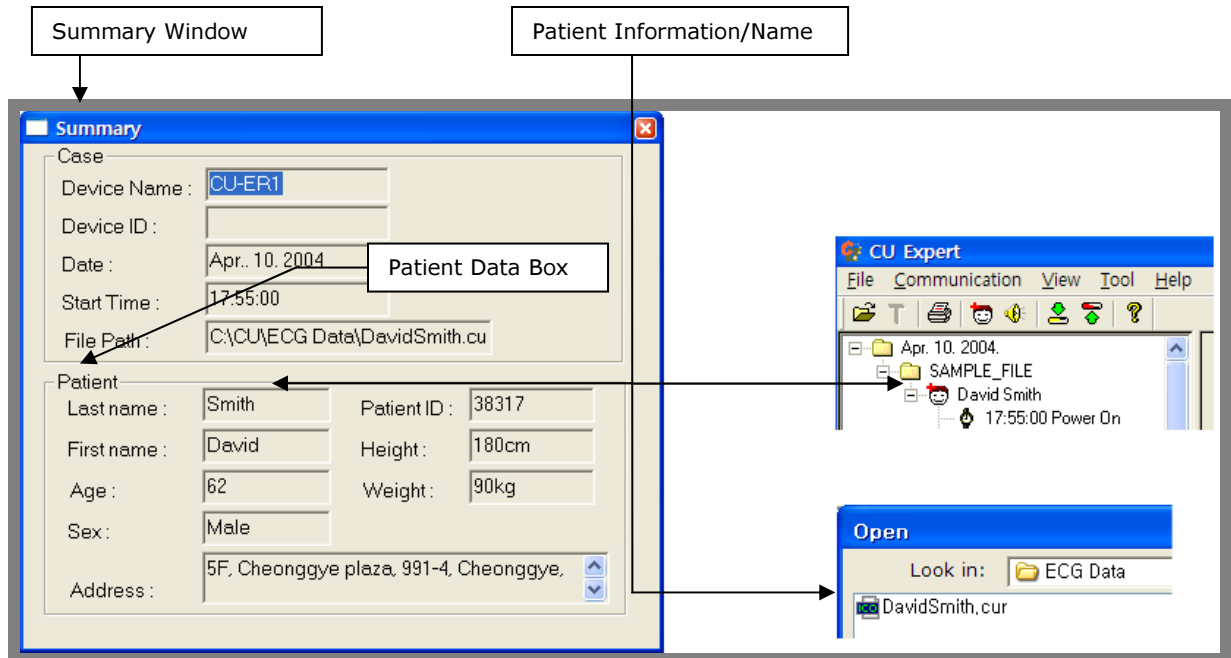


Fill the blank patient information fields appropriately then click the OK button. When the OK button is clicked the following dialog box is displayed.



Click the OK button to save the changes, otherwise, click the Cancel button.

2. When the changes are saved, the patient name is reflected on the Event tree and the file name of the ECG data file. The patient information is also shown in the summary window of the main screen display. These are shown in the figures below.



When all the information in the ECG file is printed, the following information is printed on the printout without patient data.

- a. Patient ID
- b. Height
- c. Weight

These data are not filled up using the CU Expert. They are meant to be filled up manually.

When two or more ECG data files have the same patient name entered, the other files will be named

FirstnameLastname(N).cur  
Where  $N = \{1, 2, 3, \dots\}$

For example, if there are three files for David Smith, these will be named:

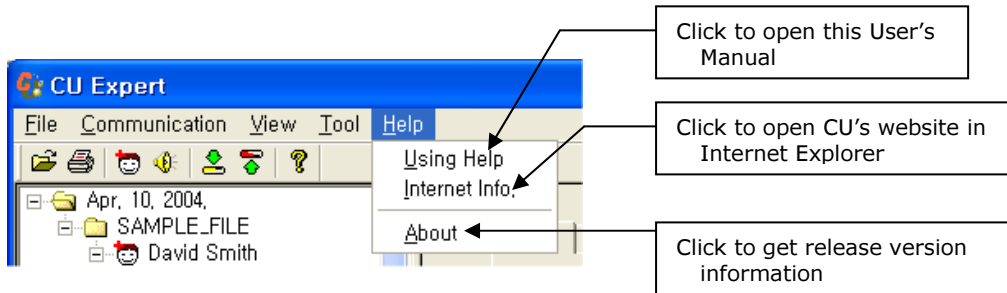
DavidSmith.cur, DavidSmith(1).cur, DavidSmith(2).cur.

If a fourth file with patient name David Smith is saved, it will be saved as DavidSmith(3).cur. If DavidSmith(1).cur is deleted before the fourth file is saved, the fourth file will be named DavidSmith(1).cur when it is saved. To designate multiple files with the same names with the number N, the software will scan the designation N of the filenames and get the lowest vacant number starting from 1.

## 10. Help

### 10.1 User's Manual

This User's Manual is downloaded together with the installer. To open this manual, Click on the Help menu, and then Click on the Using Help choice in the drop down menu.



This User's Manual will be automatically opened in Adobe Acrobat. At the minimum, the Adobe Acrobat Reader must be installed in the PC that is running the CU Expert.

If no Acrobat Reader is installed, go to the Downloads section of Adobe to get an installer.

The URL is:

<http://www.adobe.com/support/downloads/main.html>

### 10.2 CU's Website

For news, updates, new product launches, etc., the website of CU Medical Systems, Inc. can be opened by clicking on the Internet Info choice in the Help drop down menu. The website will be automatically opened in Internet Explorer.

## 11. Notes

Item	Notes
Device Key File	<ul style="list-style-type: none"> <li>a. The Device Key File is unique for every device. You can use a Device Key File only with the device for which the key file had been generated.</li> <li>b. Do not change anything in the Device Key File</li> <li>c. Make a backup copy of the Device Key File and store it in a safe place.</li> <li>d. Do not distribute the Device Key Files to others.</li> <li>e. The Device Key File is not incorporated in the software during downloading. You have to get it from CU Medical Systems, Inc. through the following contact persons  Sales Team : <a href="mailto:sales@cu911.com">sales@cu911.com</a> Telephone number : +82 31 421 9700 (134) Fax Number : +82 31 421 9911</li> <li>f. The Device Key File may also be provided in a compact disc. In this case it still needs to be copied from the disc to the appropriate directory in the host PC.</li> </ul>
ECG Data File	<ul style="list-style-type: none"> <li>a. When downloading data from a source device using the IrDA interface, do not work under intense lighting as this may interfere with the infrared transmission. Do not transfer data in vibrating environment.</li> <li>b. Do not open a lot of Windows in the PC during downloading of data from a source device.</li> </ul>
Printing	<ul style="list-style-type: none"> <li>a. Printing done in Windows XP and Windows 2000 will show 1/25 s time grids and 1/10 mV amplitude grids</li> <li>b. Printing done in Windows 98 and Windows ME will show 1/5 s time grids and ½ mV amplitude grids.</li> <li>c. Printing of the 1/25 s time grids and 1/10 mV amplitude grids will be affected by the printer driver installed in the PC. Some printer drivers may not enable the PC to print the fine grids.</li> <li>d. In the printer dialog box, clicking on any of the radio buttons in the Sector box (ECG Part, Event Part, All) will always reset the time combo boxes to the default settings which are Power ON and Power OFF events. This is true for data downloaded from the AEDs and AED training devices only</li> </ul>
Patient Information	<ul style="list-style-type: none"> <li>a. The Last Name and First Name fields are limited to a total of 34 characters only</li> <li>b. The Age field is limited to 3 digits of positive numbers only.</li> <li>c. The Address field is limited to 200 characters.</li> </ul>

## Notes, continued

Item	Notes
Changes in Patient Information	<p>The ECG data file from the source device is named in the following format by default  X_Y_Z.cur  Where  X = device serial number  Y = Rescue operation date  Z = Rescue operation start time</p> <p>e.g. A1B22B096US_Jan2504_041600.cur</p> <p>time format is 24hr format;  1<sup>st</sup> 2 digits = hours  2<sup>nd</sup> 2 digits = minutes  3<sup>rd</sup> 2 digits = seconds</p> <p>When the patient information is entered and saved, the filename of the ECG data file is automatically changed to the following format:  AB.cur  Where  A = first name of the patient  B = last name of the patient</p> <p>Deleting the patient information from an ECG data file will change the filename back to the X_Y_Z.cur format.</p>
Mouse Click	<p>All the mouse clicks in this User's Manual refer to clicking the left button of the mouse.</p>
Paramedic CU-ER1, ER2, ER3, ER5, ERT AC Adapter	<p>During data transfer:  Do not plug in or pull out the Paramedic CU-ER1, CU-ER2, CU-ER3 or CU-ER5 AC adapter into or from its port, respectively. The transients during the change in power may interfere with the data transfer.</p>
UART cable	<p>Use only the UART cable provided by CU Medical Systems, Inc. Data transmission is not possible when using UART cables other than the ones from CU Medical Systems, Inc.  <b>Using other UART cables will damage the source device.</b></p>
File Conversion	<p>When a file that is received from a source device is opened for the first time using the CU Expert, a file conversion will take place. This is done to convert the file from the storage format used by the source device to the format used by CU Expert. The file conversion progress will be shown in the status bar of the CU Expert window through a text message ("Converting File") and a progress bar.</p>



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