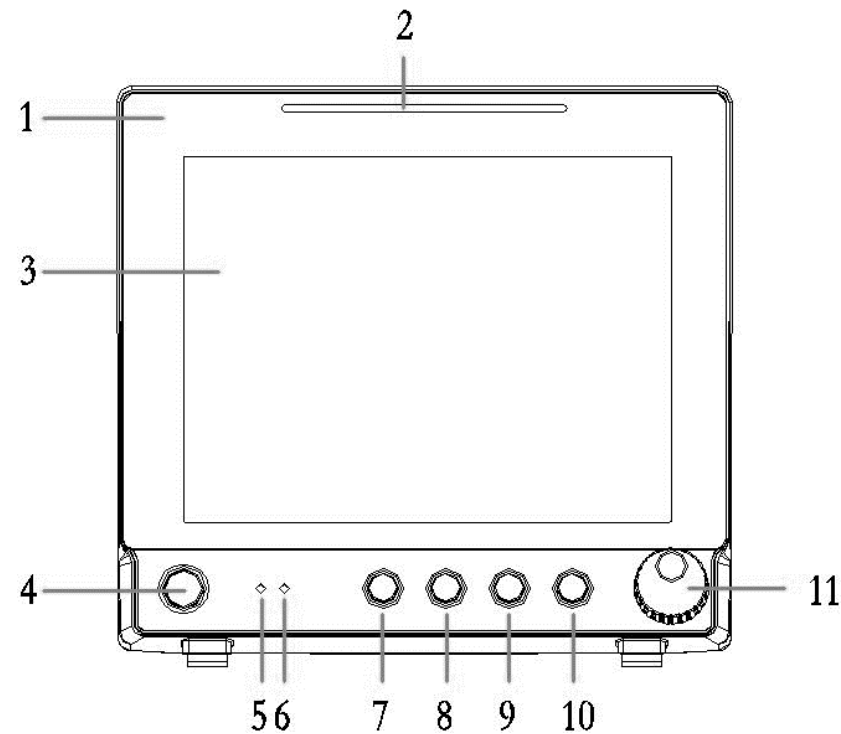


STANDARD OPERATING PROCEDURE (SOP)

Northern Patient monitor

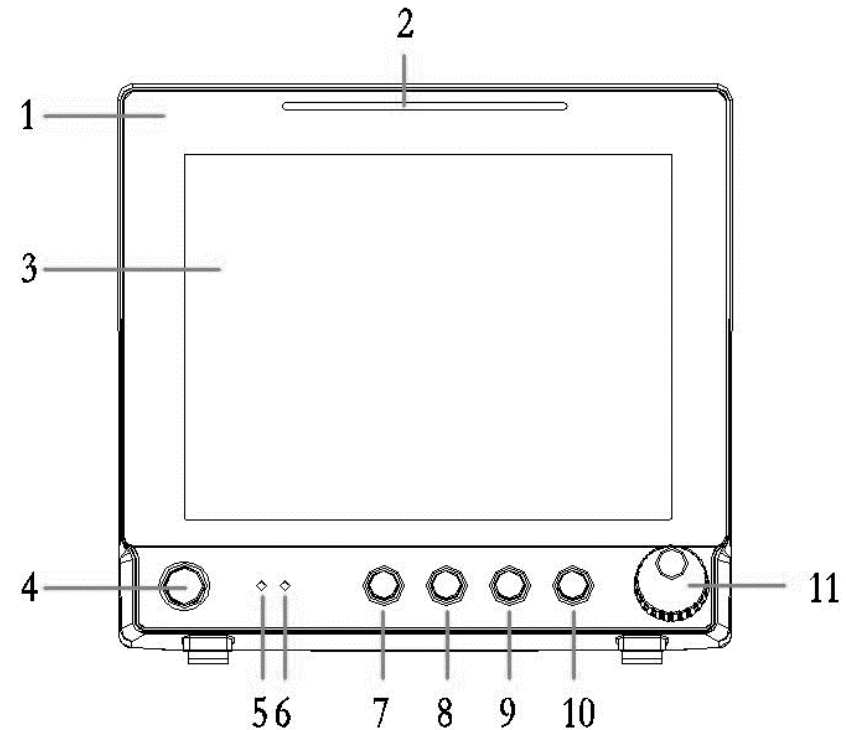
-Northern Meditec



Appearance Introduction

Front view

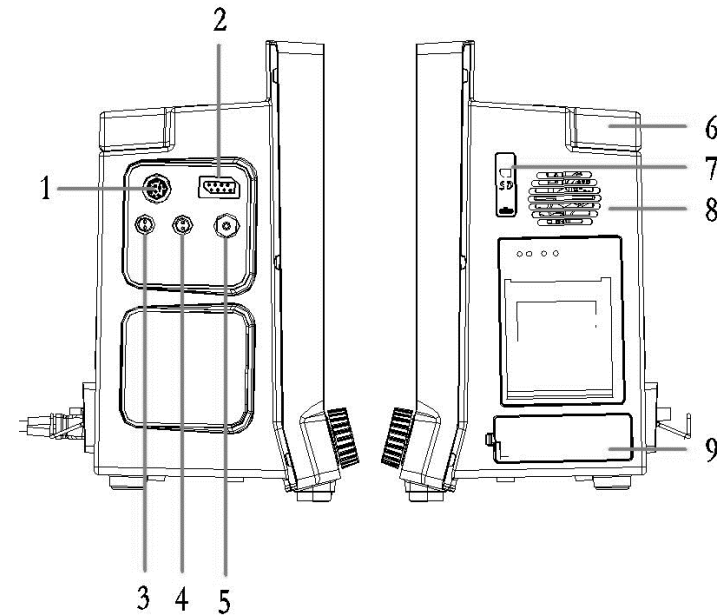
1. Logo.
2. Alarm light
3. Screen
4. Power button(press for 3 sec to switch off/on)
5. AC power inducator
6. Battery indicator
7. Silence Key
8. NIBP measurement start/stop key
9. Freeze key
10. Print key
11. Shuttle



Appearance Introduction

Side view

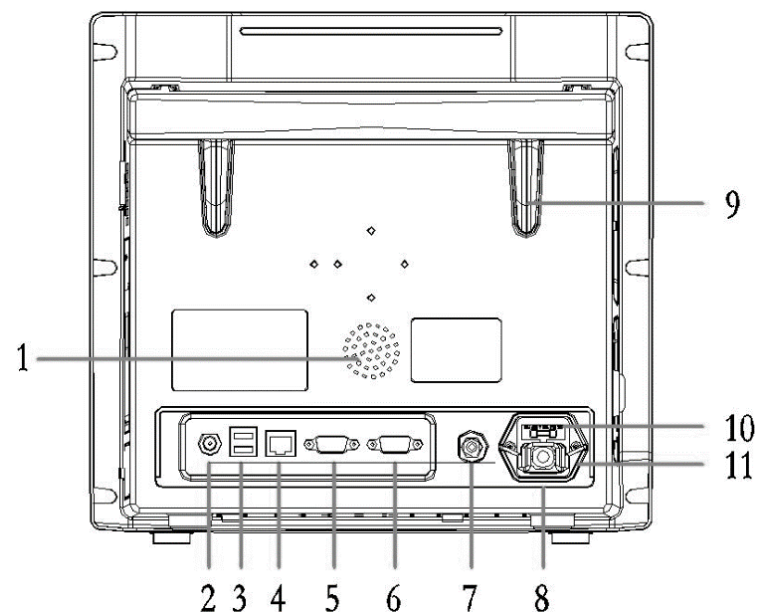
1. ECG——ECG cable interface (color coding accessory)
2. SpO2——SpO2 cable interface
3. T1——Temperature probe interface
4. T2 ——Temperature probe interface
5. NIBP ——NIBP cuff interface
6. Movable handle
7. SD card slot
8. Fan outlet
9. Battery cover



Appearance Introduction

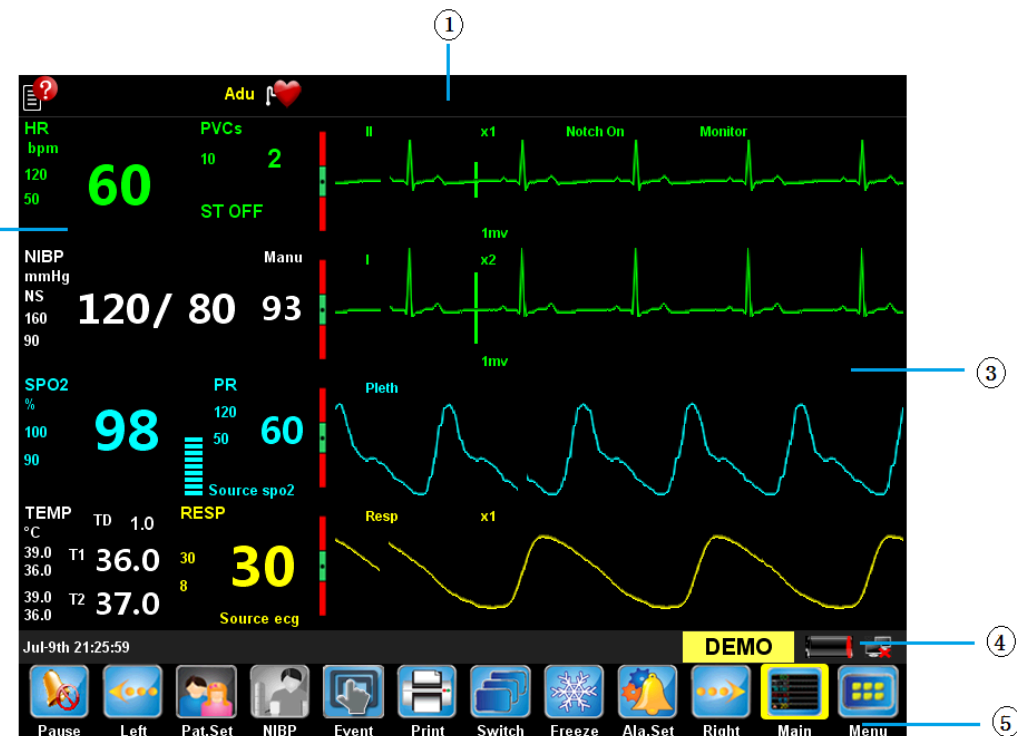
Rear view

1. Speaker holes
2. Auxiliary output interface (nurse call, unrealized)
3. USB interfaces(2)
4. Network interface
5. Signal input and output interface;
6. Display interface;
7. Equipotential terminal;
8. Power cord retaining hook
9. Hook
10. Fuse
11. AC power socket



Display

1. Introduction of info area
2. Introduction of parameter area
3. Introduction of waveform area
4. Introduction of info tip area
5. Introduction of smart hotkey area



Basic Operation

Before Operation

Environmental Requirements		
Working environment	Ambient temperature range	5°C~40°C
	Relative humidity range	≤80%
	Atmospheric pressure range	86kPa-106kPa
Supply voltage requirement	Supply voltage	a.c.100V~240V
	Power frequency	50Hz/60Hz
	Input power	FUSE 40VA-60VA
Transportation	Prevent severe shock, vibration, rain and snow splashing during transport.	
Storage	The packaged monitor should be stored in well-ventilated room with ambient temperature -20°C~+40°C, relative humidity lower than 80%, atmospheric pressure 50kPa~106kPa, and without corrosive gases.	

Basic Operation

Starting Operation

- Press the power button for 3 sec to shut on/down.



Power button



Basic Operation

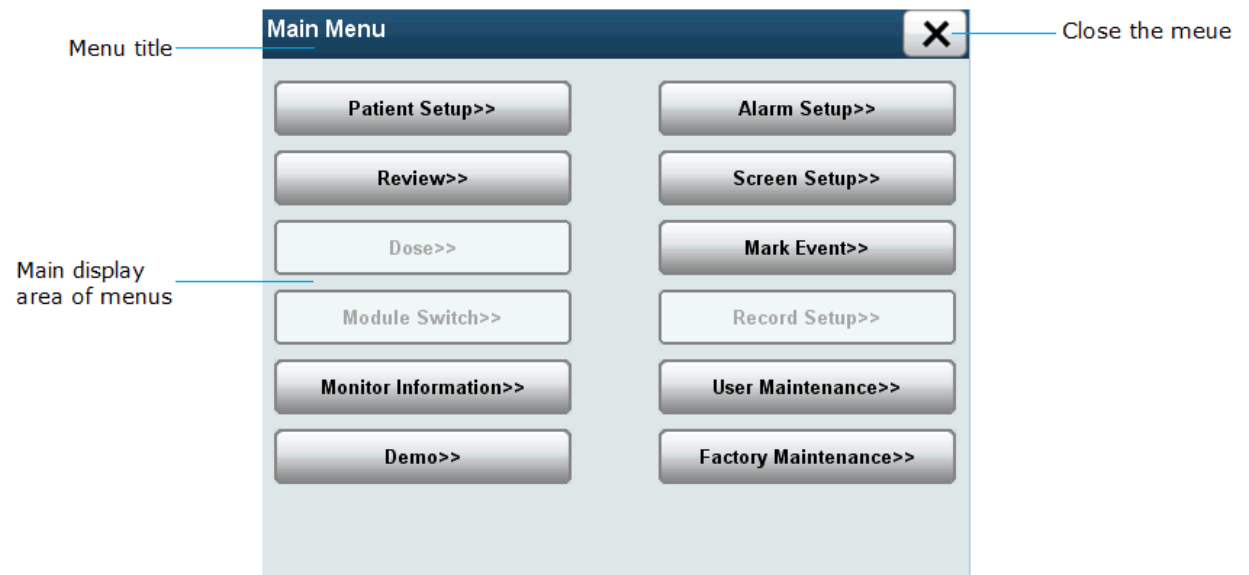
Using Menu

Close the Menu: 1. user can click the key to close the window ;

2. user can click other place out of the window, to close the window;

Clicking the key “close the menu” will enter the previous window;

Clicking other place out of the window will directly exit to home page

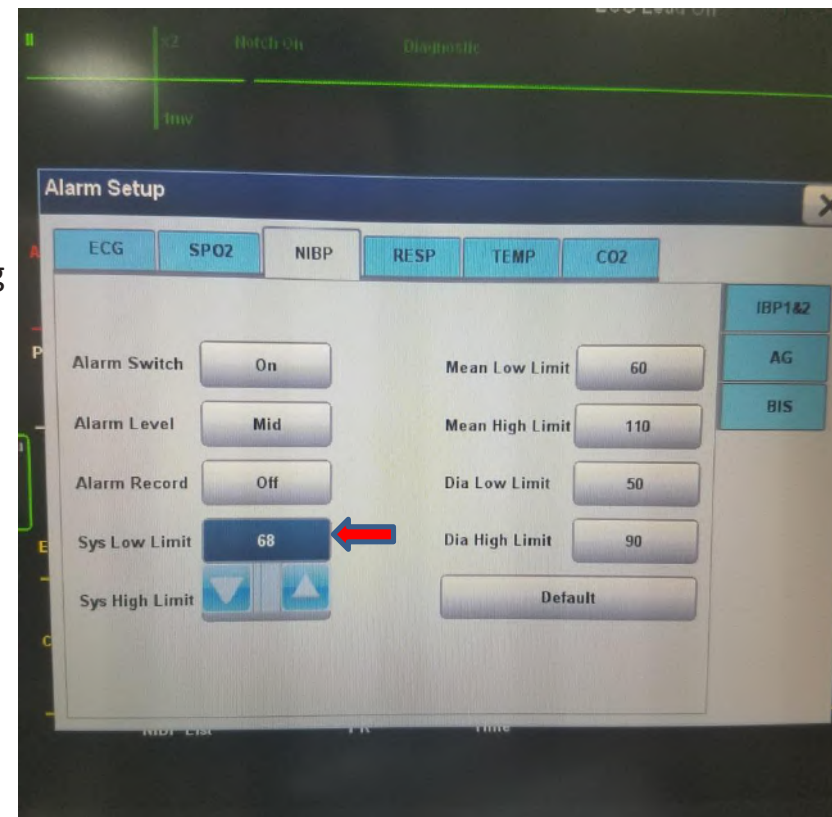


Basic Operation

Setting Numbers

Example:

- if setting the NIBP low limit to 68, the user needs to Click the number area again to assure the number after adjustment.
- this rule is applied to every parameter number setting



Basic Operation

Patient Information Management



Pat.Set

Patient Setup [X]

Quick Admit

Admit Patient

Patient Demographic

Discharge Patient

Quick Admit [X]

Patient Cat.

Paced

Patient Info [X]

SurName

Name

Case

Gender Height (cm)

Patient Cat. Weight (kg)

Paced Blood Type

Admit date (yyyy-mm-dd) - -

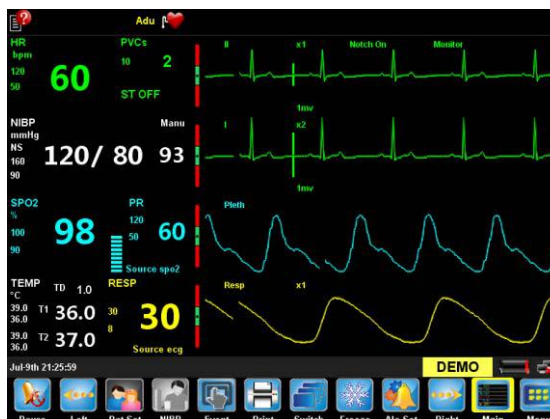
Birthday (yyyy-mm-dd) - -

Basic Operation

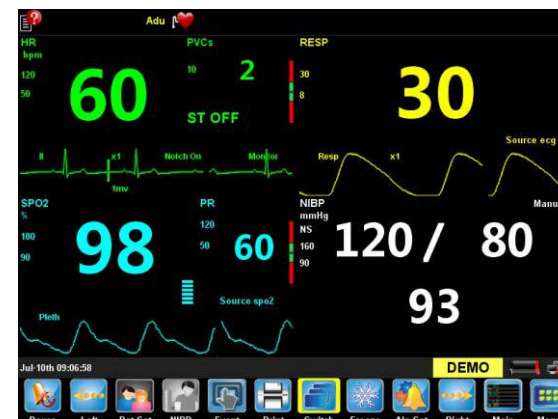
User Interface



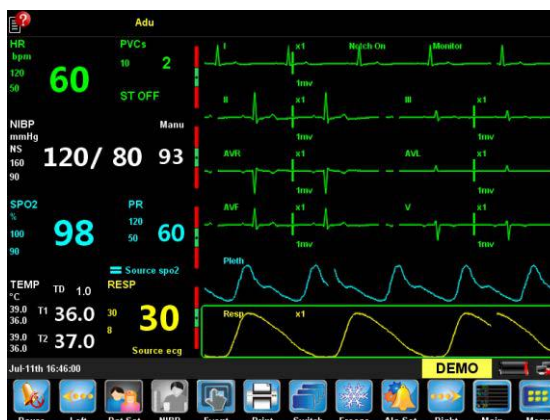
Switch



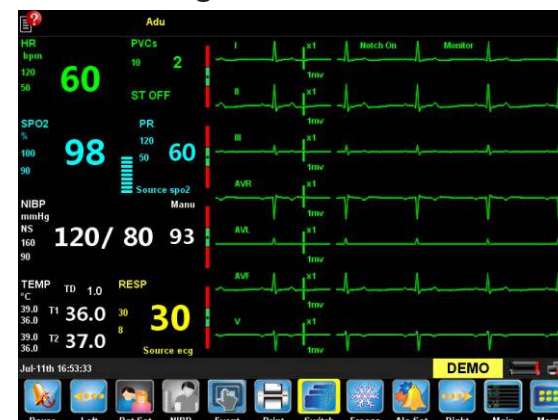
Normal screen



Big Numerics Screen



ECG 7-Lead Half-Screen

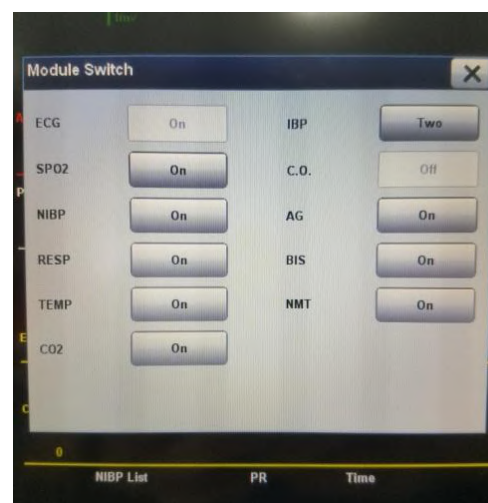
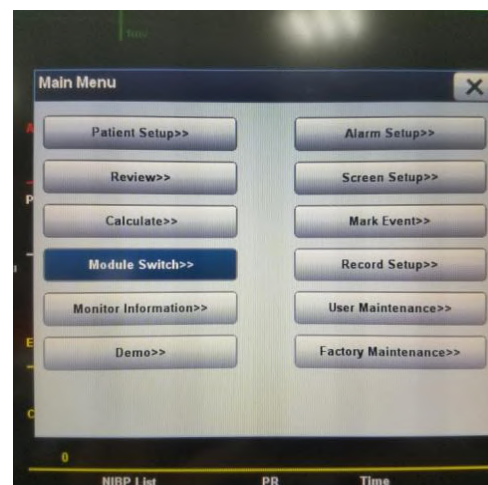


ECG 7-Lead Full-Screen

Basic Operation

Module Switch

- Select “Module Switch” in “Menu” to Adjust parameters display



Basic Operation

Alarm



Ala.Set

Alarm Level	Low Level	Medium Level	High Level
Light	Yellow, lit without flashing	Yellow, slow flashes	Red, fast flashes
Audible	Beep	Beep -beep -beep	Beep -beep -beep --beep -beep ---- beep -beep -beep --beep-beep
Info	*	**	***

Basic Operation

ECG

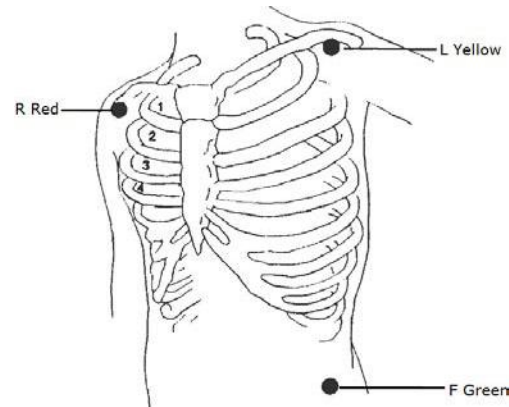
- Lead Name&Corresponding Colar

European Standard(IEC)		American Standard(AHA)	
Lead Name	Color	Lead Name	Colar
R	Red	RA	White
L	Yellow	LA	Black
F	Green	LL	Red
N	Black	RL	Green
C	White	V	Brown

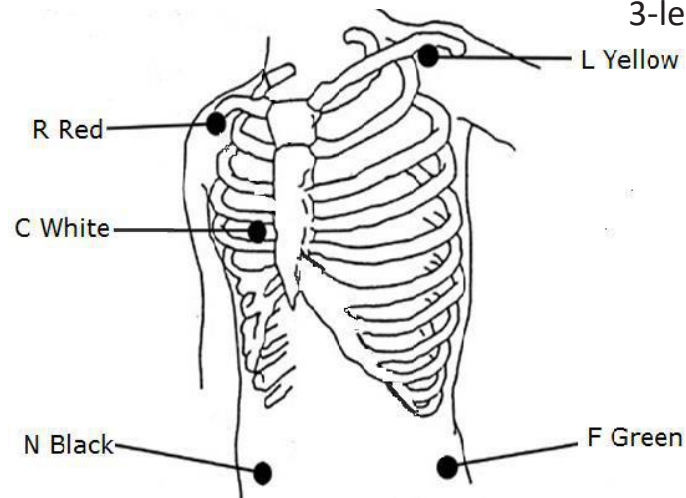
Basic Operation

ECG

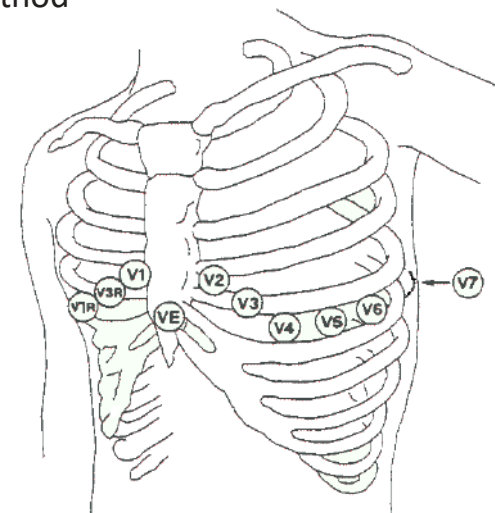
- 3-Lead & 5-Lead



3-lead Connection Method



European 5-lead Connection Method

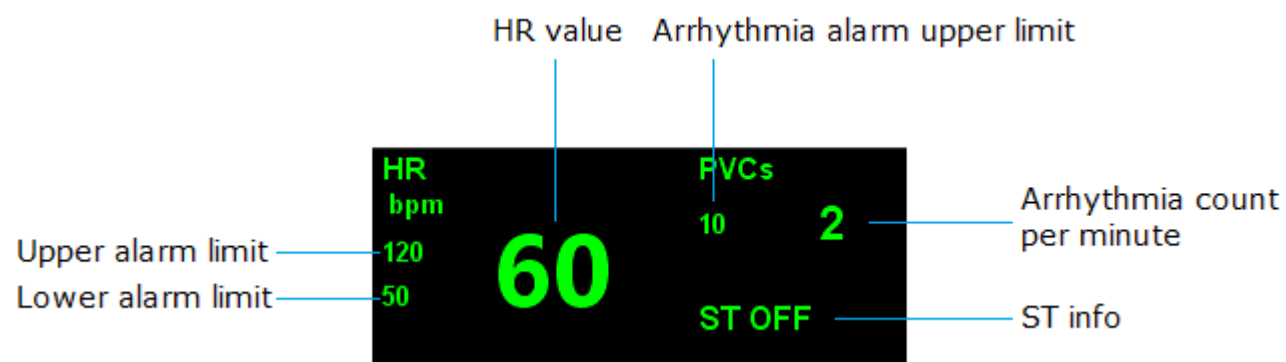
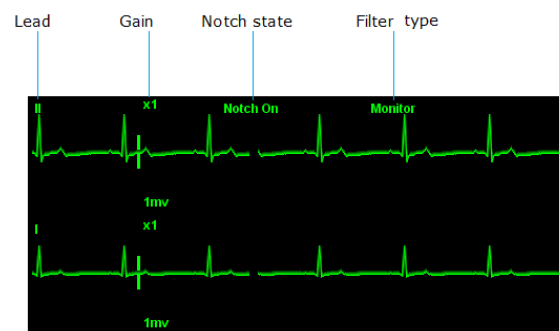


7-3 Chest Lead Electrode Placement for 5-lead

Basic Operation

ECG

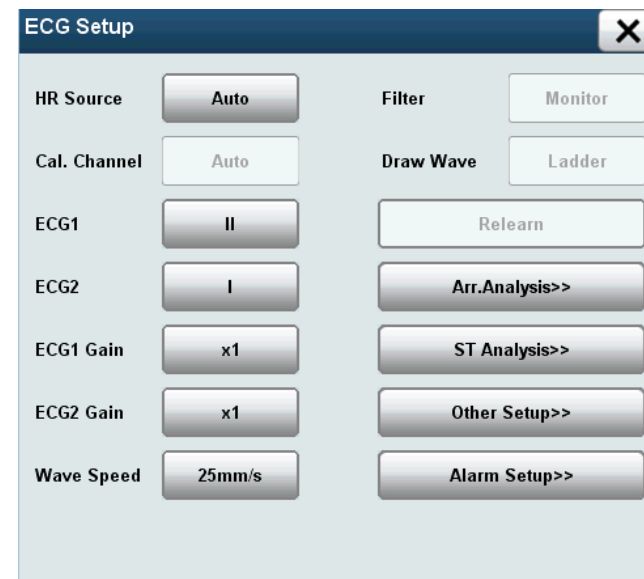
- Display



Basic Operation

ECG

- ECG Setup
- Directly click the ECG waveform area or ECG Parameter area to set up all parameters related to ECG;



The ECG Setup dialog box contains the following controls:

Parameter	Value
HR Source	Auto
Filter	Monitor
Cal. Channel	Auto
Draw Wave	Ladder
ECG1	II
ECG2	I
ECG1 Gain	x1
ECG2 Gain	x1
Wave Speed	25mm/s

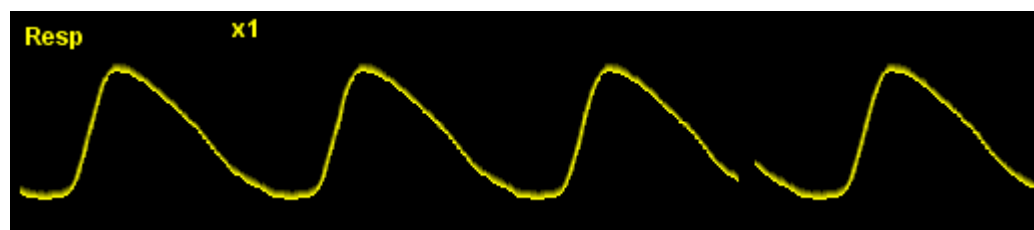
Additional buttons on the right side of the dialog:

- Relearn
- Arr. Analysis>>
- ST Analysis>>
- Other Setup>>
- Alarm Setup>>

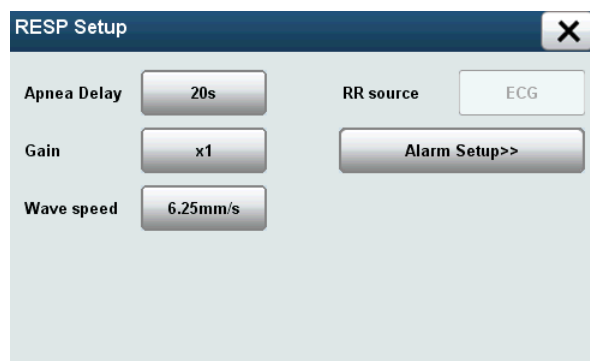
Basic Operation

Respiration

- Display
- Setup
- Click the ECG parameter zone or ECG wave area, which is shown below:



Resp Wave



A software window titled "RESP Setup" with a close button (X) in the top right corner. It contains the following controls:

- Apnea Delay: 20s
- Gain: x1
- Wave speed: 6.25mm/s
- RR source: ECG
- Alarm Setup>> button

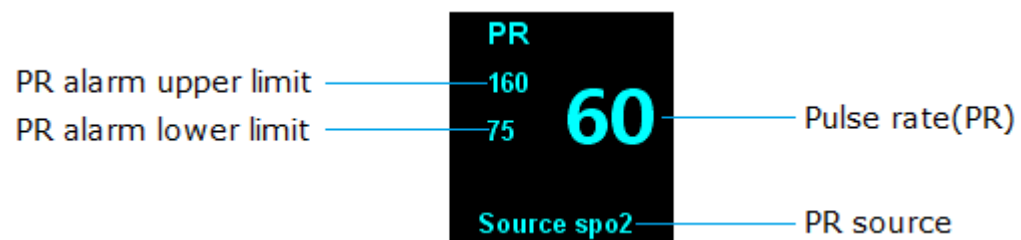


Resp Parameter Area

Basic Operation

PR

- Display
- The color of PR parameter area is same as Spo2 Parameter color if PR source;

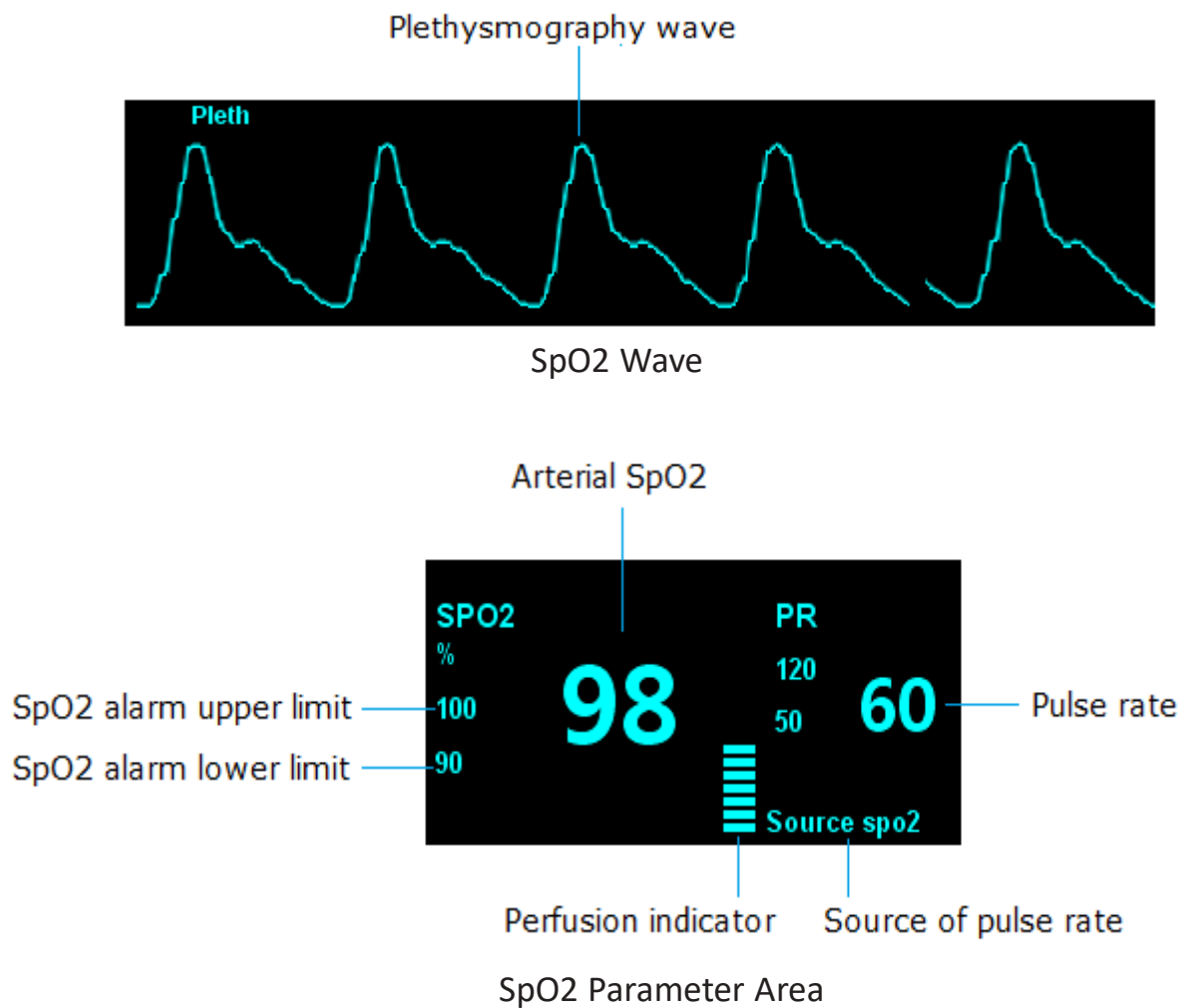


PR Parameter Area

Basic Operation

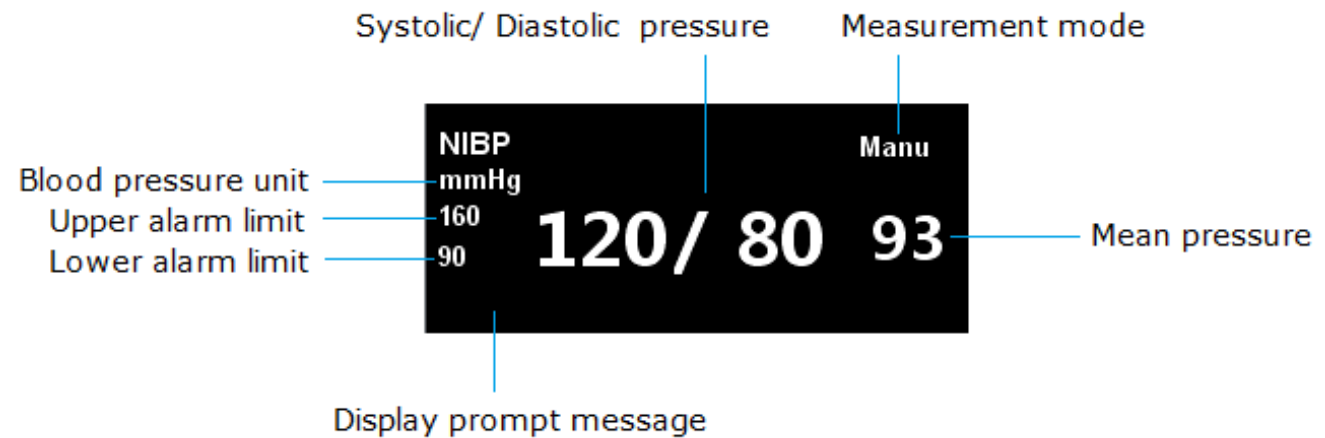
SpO2

- Display

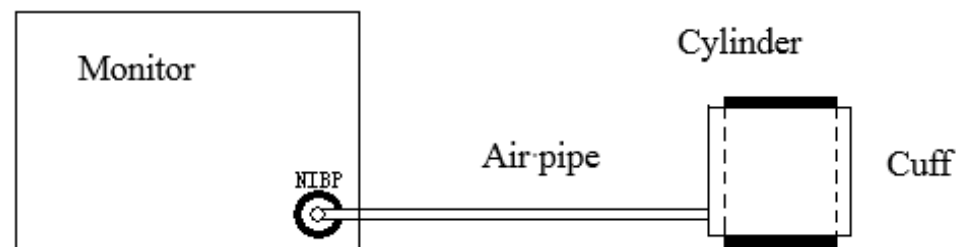


Basic Operation

NIBP



NIBP Parameter Area



NIBP Leakage Test Connection Diagram

Basic Operation

Temp(2 Types, compatible)

- Normal Type:
- Two channels (T1&T2), shown as below:

Temperature unit	TEMP °C	TD 0.1	Temperature difference
Temperature alarm limits (T1)	39.0 T1 36.0	36.5	Temperature (T1)
Temperature alarm limits (T2)	39.0 T2 36.0	36.6	Temperature (T2)

Basic Operation

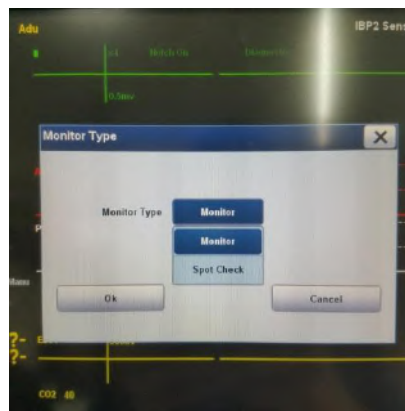
Temp

- Quick Temp
- Features:
1 sec to test temp;
transmit data to Central Monitor System

Procedure:



Accessory: Ear Thermometer



Enter "Menu", click "Monitor Tpye" to choose Spot Check

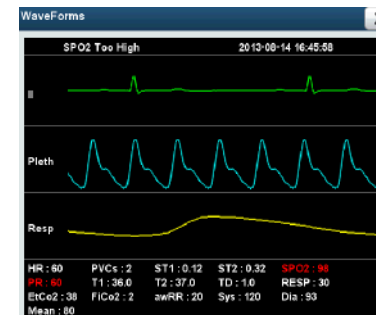
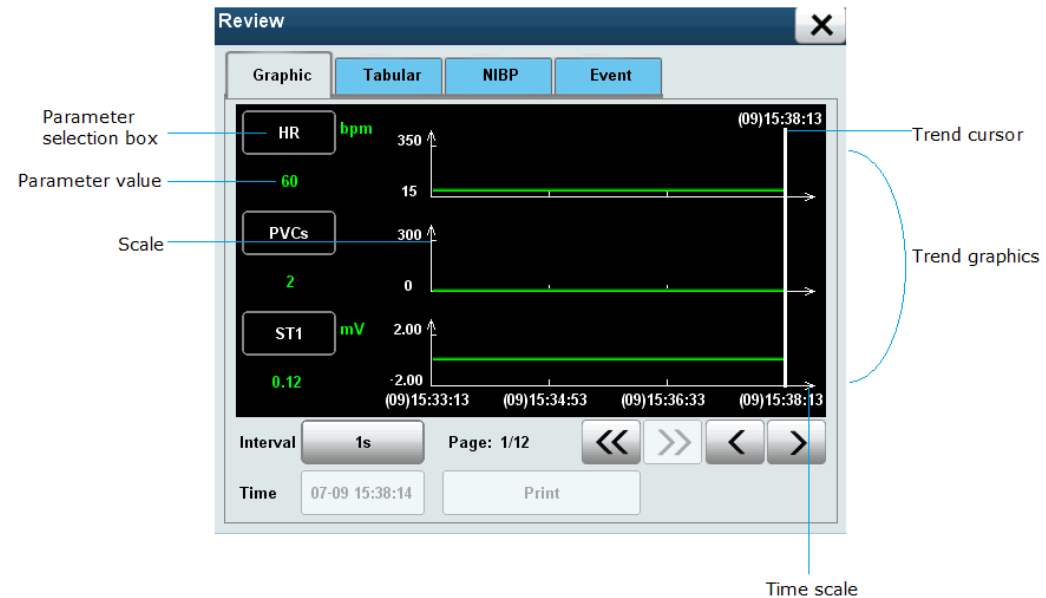
Basic Operation

Review

- Features:
Graphic & Tabular printing are in Review window

With SD card

- 48hours Holographic waveform
- 1000 NIBP measurements
- 200 alarm events
- 120 hours long trend
- 60 Mins short trend



Basic Operation

Battery



Battery full charged (3-4 hours uninterrupted working time)



Battery not full



Battery power low



Battery not installed



Battery being charged

Maintenance

- Password on patient monitor:
- Demo: 8888
- User Maintenance: Contact Zone Medical

For other Maintenance, please refer to User's Manual

