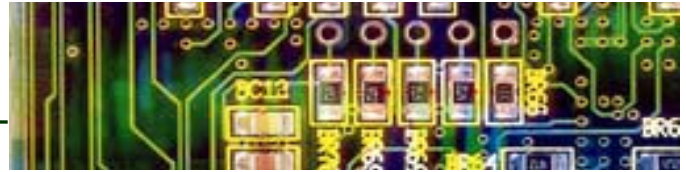


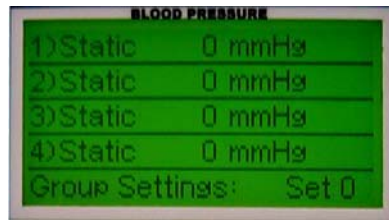
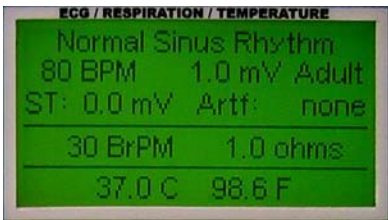
BC Biomedical PS-2200 Series



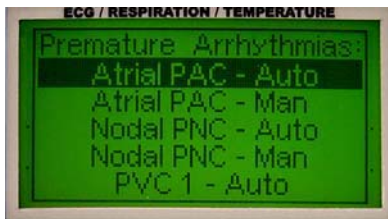
Full Featured Multi-Parameter Patient Simulator

LCD Graphical Displays

- Dual graphic displays allow for the simultaneous viewing of all operating parameters



- Settings are made by simply highlighting the parameter
- Alternatively, drop down choice menus provide an on-screen listing of all options for each parameter



BC Biomedical
PS-2200 Series

Basic Features

- Invasive Blood Pressure
- Simple to operate
- No codes to remember or enter
- Graphics display with simultaneous detailed status of parameters & scrolling control of options
- Drop down choice screens list all options for parameters
- Special power up feature allows the user to choose to use default, last or custom settings
- Auto sequences for BPM, static-pressure levels & performance
- 10 universal patient lead connectors
- Mini-DIN connector for BP cables (Optional cable adapters available)
- 9V battery power, % battery life display & low battery indicator
- Optional battery eliminator
- Display backlight
- Flash programmable for upgrades
- Full remote operation via RS232
- SpO₂, Cardiac Output & Fetal/Maternal Options Available
- Special Programmable Training Modes

Three models available:

- PS-2210 w/1 BP
- PS-2220 w/2 BP
- PS-2240 w/4 BP

BC Group International, Inc.
3081 Elm Point Industrial Dr
St. Charles, MO 63301 USA
314-638-3800
314-638-3200 Fax
1-888-223-6763

BC Biomedical 
A Unit of BC Group International, Inc.
www.bcgrouptl.com

PS-2200 Series Specifications

ECG FUNCTIONS

The unit can produce a wide variety of ECG simulations. The user simply selects the parameters that match the desired output.

- Rate: 30, 40, 45, 60, 80, 90, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300 BPM
- Amplitude: .05, .1, .15, .2, .25, .3, .35, .4, .45, .5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 mV (Lead II)
- S-T Segment Elevation: +/- 0, .05, .1, .2, .3, .4, .5, .6, .7, .8 mV
- Artifacts: 50 HZ, 60 HZ, Muscle, Baseline Wander, Respiration
- QRS Interval: Adult (80 ms) or Pediatric (40 ms)
- Automatic mode

ARRHYTHMIA FUNCTIONS

The unit can simulate 36 different arrhythmias. For ease of selection, they are grouped into four basic categories. Where applicable, both manual & automatic triggering of the waveform is available.

- 36 different arrhythmias
- Four general groups: Supraventricular, Premature, Ventricular, Conduction
- Manual & Automatic Triggering

PACEMAKER FUNCTIONS

Seven different pacemaker waveforms may be simulated. Additionally, the width & amplitude of the pacer pulse may be selected.

- Waveforms: Atrial, Pacer, Asynchronous, Non-Capture, Non-Function, Demand – Occasional, Demand – Frequent, AV - Sequential
- Pulse Height: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 mV
- Pulse Width: 0.1, 0.5, 1, 1.5, 2 ms

EGG-PERFORMANCE FUNCTIONS

The unit will generate Sine, Square, Triangular & Pulse waveforms with adjustable amplitudes for performance testing. A special Automatic mode is available to auto sequence through the entire range of waveforms. Also, an R-Wave (Havertrian) waveform may be selected with separate amplitude & width settings.

- Sine: 0.1, 0.5, 5, 10, 40, 50, 60, 100 Hz
- Square: 0.125, 2 Hz
- Triangle: 2, 2.5 Hz
- Pulse: 30, 60, 120 BPM; 60 ms WIDTH
- Amplitude: .05, .1, .15, .2, .25, .3, .35, .4, .45, .5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 mV (Lead II)
- Automatic Mode
- R Wave Rate: 30, 60, 80, 120, 200, 250 BPM
- R Wave Width: 8, 10, 12, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200 ms
- R Wave Amplitude: .05, .1, .15, .2, .25, .3, .35, .4, .45, .5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5 mV (Lead II)

RESPIRATION

Respiration is simulated at 8 different rates, with the ability to select from 4 Baseline Impedances, the Lead in which it will appear, & the Delta Ohms (amplitude) of the signal. Additionally, an Apnea period may be selected.

- Rate: 15, 20, 30, 40, 60, 80, 100, 120 BrPM
- Baseline Impedance: 500, 1000, 1500, 2000 OHMS
- Lead: LA or LL
- Delta Impedance: 0.1, 0.2, 0.5, 1, 2, 3 OHMS
- Apnea: 12, 22 & 32 SEC Plus Continuous

TEMPERATURE

The unit will simulate seven temperatures. This is done by providing the necessary ohmic levels for both the YSI 400 & 700 Series thermistors.

- YSI 400 Series & 700 Series Simulation
- Selections: 0, 24, 30, 35, 37, 40, 42 °C (32.0, 75.2, 86, 95, 98.6, 104, 107.6 °F)

BLOOD PRESSURE

Blood pressure simulation varies between the members of the PS-2200 Family. There are models with 1, 2 & 4 blood pressure outputs.

Both static & dynamic invasive pressures are simulated. In the static mode, the BP outputs are fixed at the selected level or sequenced through the list using the Automatic mode selection.

In the Dynamic mode, the selected waveform is synchronized with the ECG & provides a continuous output. Additionally, a Respiration Artifact may be added.

A special Swan-Ganz mode is available that will allow Manual or Automatic simulation of that sequence.

Each channel has independent settings.

- Static: -10, -5, 0, 20, 40, 50, 60, 80, 100, 150, 160, 200, 240, 250, 300, 320, 400 mmHg
- Automatic Static Pressure Mode
- 8 Dynamic Waveforms
- Respiration Artifact: 0 to 16 mmHg
- Sensitivity: 5uV/V/mmHg & 40uV/V/mmHg
- Swan-Ganz Simulation
- 7 Preset Static Groups (Model PS-2240 Only)

TRAINING

The unit has a special training mode that aids users in practicing the identification of arrhythmias. A series of settings allows the feature to be customized to fit the exact training requirement.

- Timer: Manual, 10, 15, 20, 25, 30 SEC
- Randomizer: Off, On
- Arrhythmias: All, Subset

LEAD TEST FUNCTION

The unit provides a set of test terminals to quick check leads. It will determine if a lead has less than 1000 Ohms resistance.

FETAL/MATERNAL (Option)

This option provides a combination of fetal & maternal ECG waveforms with & without contractions. Additionally, it provides an Intrauterine-Pressure (IUP) waveform.

- Fetal Heart Rate: 60, 90, 120, 140, 150, 210, 240 BPM
- IUP Period: Single Contraction (Manual), 2, 3, 5 MIN (Auto)
- Fetal Heart Rate (During Contraction):
 - Uniform Deceleration
 - Early Deceleration
 - Late Deceleration
 - Uniform Acceleration

SpO₂ SIMULATION (Option)

When used with the MSP-2100 external module & FingerSim family of SpO₂ finger simulators, the system will provide a pulse synchronized SpO₂ output for all NSR rates.

- Rate: 30, 40, 45, 60, 80, 90, 100, 120, 140, 160, 180, 200, 220, 240, 260, 280, 300 BPM
- SpO₂ Output: 80, 90, 97%

CARDIAC OUTPUT (Option)

When used with the MCO-2100 External Module, this option provides both the hardware & software to simulate Cardiac Output waveforms for testing devices that utilize Baxter-Edwards type catheters.

- Injectate Temperature: 0, 24°C
- Injectate Flow: 2.5, 5, 10 L/MIN
- Other Outputs:
 - Faulty - Injectate
 - Left-to-Right Shunt
 - Calibrated Temperature Pulse