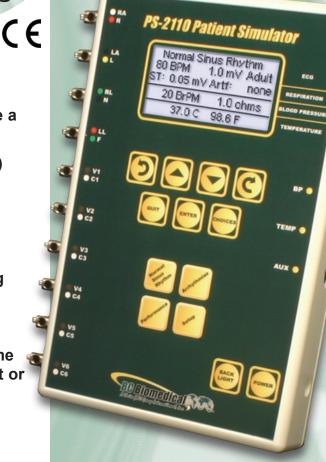# Patient Simulator Series

Metphil Medical

CE

Features - PS-2100 Series

- ◈ **Simple to Operate**

- ◈ **Independent Lead Outputs Produce a True 12 Lead ECG Signal**

- ◈ **One Invasive BP Channel (PS-2110)**

- ◈ **Arrhythmia Selections**

- ◈ **Resp & Temp Simulation (PS-2110)**

- ◈ **ECG Performance Waveforms**

- ◈ **Graphical Display with Backlighting**

- ◈ **Drop Down Choice Screen 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 AHA & European Color Coded Universal Patient Lead Connectors (with Enough Space Between Posts for the Large Diameter Connectors)**

- ◈ **Mini DIN Connectors Compatible with Standard BP Cables (Optional Mini DIN-M to DIN-F Cable Adapter)**

- ◈ **% Battery Life Display & Low Battery Indicator**

- ◈ **Powered by Two 9V Batteries or Included Universal Battery Eliminator**

- ◈ **Full Remote Operation via RS-232**

- ◈ **Flash Programmable, Field Upgradeable**

- ◈ **Battery Eliminator**

Optional

- ◈ **SpO$_2$ Simulation**

PS-2110

The PS-2100 Patient Simulator Series offers cost effective simulation with many features. If you only need ECG simulation, the PS-2105 offers all of the features you need. If you want basic Multi-Parameter simulation, the PS-2110 is the right choice. It provides ECG, Blood Pressure, Respiration and Temperature Simulation, plus limited Fetal/Maternal Simulation.

The PS-2100 Series makes viewing and selecting the desired waveforms and parameters quick and intuitive, with all operational information being available at the same time on the cursor-based graphic display, allowing for easy maneuvering through parameters and scrolling through available options.

PS-2105 SPECIFICATIONS

ECG Functions	
Rate	30 to 300 BPM
Amplitude	0.05 to 5mV
S-T Segment Elevation	± 0.05 to 0.8 mV
Artifacts	50 Hz, 60 Hz, Muscle, Baseline Wander, Respiration
QRS Interval	Adult (80 ms) or Pediatric (40 ms)

Arrhythmia Functions	
Arrhythmias	49 different
General Groups	Supraventricular, Premature, Ventricular, Conduction
Triggering	Manual & Automatic

Pacemaker Functions	
Waveforms	Atrial, Pacer, Asynchronous, Non-Capture, Non-Function, Demand - Occasional, Demand - Frequent, AV - Sequential
Pulse Height	1 to 10 mV
Pulse Width	0.1 to 2 ms

ECG-Performance Functions	
Sine Waves	0.1 to 100 Hz
Square Waves	0.125, 2 Hz
Triangle Waves	5, 2.5 Hz
Pulse Waves	30, 60, 120 BPM; 60 ms Width
Amplitude	0.05 to 5 mV (Lead II)
Automatic Mode	Yes
R Wave Rate	30, 60, 80, 120, 200, 250 BPM
R Wave Width	8 to 200 ms
R Wave Amplitude	0.05 to 5 mV (Lead II)

Training	
Timer	Manual, 10, 15, 20, 25, 30 s
Randomizer	Off, On
Arrhythmias	All, Subset

SpO$_2$ Simulation (MSP-2100 & FingerSim™ Req'd.)	
Rate	30 to 300 BPM
SpO$_2$ Output	80, 90 & 97%

PS-2110 SPECIFICATIONS

ECG Functions	
Rate	30,60,80,120,180,240,300 BPM
Accuracy	± 1%
Amplitude	0.5, 1.0, 1.5, 2.0 mV
Accuracy	± 2% @ Lead II
High Level	200 times Amplitude

ECG Performance	
Sine Wave	0.1,0.5,5,10,40,50,60,100 Hz
Square Wave	0.125, 2.000 Hz
Triangle Wave	2.000 Hz
Rate Accuracy	± 1%
Amplitude Accuracy	± 2% @ Lead II

Blood Pressure	
Static Pressure	0,20,40,80,100,200,250,300 mmHg
Accuracy	± (2% of Reading + 2 mmHg)
Impedance	300 Ω
Accuracy	± 10%
Excitation Range	2 to 16 V RMS
Excitation Frequency	DC to 5 kHz
Sensitivity	5 or 40 µV/V/mmHg

Respiration	
Rate	Apnea,15,20,30,40,60,80,100,120 BrPM
Accuracy	± 1%
Impedance delta	0.1,0.2,0.5,1.0,2.0,3.0 Ω
Accuracy	± 10%
Baseline	500,1000 Ω
Accuracy	± 5%
Lead	LA or LL

Temperature	
Temperature	30,37,40 °C (86.0,98.6,104.0 °F)
Accuracy	± 0.1 °C (± 0.1 °F)
Type	YSI Series 400 and 700

SpO$_2$ Simulation (MSP-2100 & FingerSim™ Req'd.)	
Rate	30 to 300 BPM
SpO$_2$ Output	80, 90 & 97%

Patient Simulator Series

Metphil Medical

PS-2105

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PS-2110
with (optional)
MSP-2100
& FingerSim™