



## Key Features

- Precision ECG R-wave peak detection
- Synchronized ECG trigger outputs
- 4 lead ECG configuration with auto lead selection
- Built-in ECG simulator
- On-screen color coded trigger pulse indication
- Ethernet communication interface
- X-Ray on interface
- Analog ECG waveform output
- Digital ECG waveform output & storage
- Multi-Language user interface
- Optional strip chart recorder
- Patient isolation/protection
- Universal power supply/voltage
- FDA 510(k) & CE Mark

## Product Description

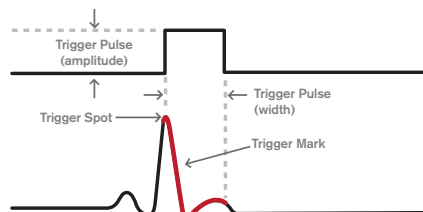
The Ivy Biomedical Systems' Model 7800 is our fifth generation of cardiac gating monitors. It is ideal for use in applications requiring precision ECG R-wave synchronization, such as computed tomography (CT) imaging systems for cardiac studies.

Value added features include: auto ECG lead selection ensures the best trigger vector will be used; built-in ECG simulator for pre-scan testing of the entire system; electrode impedance check for reliable scans; X-Ray on signal input enables ECG waveform file capture for post scan analysis; two channel, electrically isolated Ethernet port allows for data interface to both the console and gantry display. An optional strip chart recorder is also available for hardcopy documentation of ECG rhythms.

Ivy Biomedical System's renowned high quality and reliability ensure consistent uptime and long operational life.

### Synchronized ECG Trigger Output\*

Trigger Delay	< 2ms
R-to-R Accuracy	$\pm 75\mu\text{s}$ dither (typ.) @ 1mV input
Pulse Width**	1, 50, 100 or 150 ms
Pulse Amplitude**	0V to +5V or -10V to +10V
Pulse Polarity**	Positive or Negative
Output Impedance	< 100 $\Omega$



\* Input signal test conditions: 1/2 sine wave, 60ms width, 1mV amplitude, 1 pulse/sec;

\*\* Pre-configured at the factory only

## ECG

Configuration	4-Lead system
Trigger Lead Selection	I, II, III, or AUTO
Second Lead Display	I, II, III
ECG Simulator	Integrated
Patient Isolation	>4 kV rms, 5.5 kV peak
Frequency Response	0.67 - 100Hz unfiltered 1.5-40Hz Filtered
Notch Filter	50/60 Hz (auto)
CMRR	≥ 90dB
Tall T-wave Rejection	≤ 1.2 * R-wave
Pacer Rejection (user on/off)	0.1 to 2ms pulse width @ ±2 to ±700 mV
Defibrillator Protection	360 J discharge; < 5 sec recovery time (Type CF)

## Cardiotach

Adult	10-300 bpm
Pediatric/Neonate	10-350 bpm
Accuracy	$\pm 1\% \pm 1$ bpm
Resolution	1 bpm
Sensitivity	300 $\mu$ V peak
HR Averaging	Exponential @ 1Hz; 2 or 8 sec max response time

## Alarms

High HR Limit	15-250 bpm (5 bpm inc.)
Low HR Limit	10-245 bpm (5 bpm inc.)
Asystole	R-to-R interval > 6 sec
ECG Lead Off	Each detached lead
Check ECG Lead	Lead imbalance > 0.5V

(Specifications subject to change without notice)

## Display

Waveform	Dual trace; Freeze
Type	Active Matrix TFT Color Touch Screen LCD
Resolution	640x480 pixels
Size	8.4" (21.3 cm) diagonal

## Input/Output Interface

Synch Output	BNC; Provides trigger pulse output synch to ECG R-wave peak
ECG Output	1/4" stereo jack; Provides trigger pulse output synchronized to ECG R-wave peak as well as analog ECG waveform output
Aux Conn	DB-9; X-Ray On interface; ECG trigger pulse
RS-232 Comm	Micro DB-9; device interface
Ethernet Comm	RJ-45; 10BaseT, IEEE 802.3 (2 channels)
Data Storage	USB 2.0 Type A 200 ECG Events (FIFO)

## Mechanical

Size (HxWxD)	22.1x23.5x15.5 cm (8.7x9.25x6.1 inches)
Weight	2.54 kg (5.6 lbs.)
Case Material	Lexan®

## Electrical

Input Voltage	100-120Vac; 200-230Vac
Frequency	50/60 Hz
Power Consumption	45 VA (max.)
Power Recovery	Auto if power restored within 30 seconds

## Environmental

Water Resistance	IPX1
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## Operating

Temperature Range	5°C to 40°C
Relative Humidity	0% to 90% non-condensing
Altitude	-100m to +3,600m

## Storage

Temperature Range	-40°C to +70°C
Relative Humidity	5% to 95% non-condensing
Altitude	-100m to +14.000m

## Options

Integrated Recorder	2 trace, direct thermal
Mounting Plate	3" adaptor for rollstand
Roll Stand	with 3" receiver plate

## Accessories

Electrodes	Low impedance; 10% KCl wet gel sponge type
ECG Leads	4-lead carbon (radio translucent) with pinch clips; AHA or IEC color code; 30" or 36" lengths available
Patient Cable	10' cable with 6-pin AAMI connector

## Globalization

User Interface	12 selectable languages
Operator's Manual	33 languages on CD
Registrations	Multiple countries

## Compliance & Certifications

ANSI/AAMI ES60601-1:2005  
CAN/CSA C22.2 No 601.1-M90:2005  
CAN/CSA C22.2 No 60601-1:2008  
CDN MDR (CMDCAS)  
CE 0413  
EAC  
IEC 60601-1 2nd edition  
IEC 60601-1 3rd edition  
IEC 60601-2-27  
ISO 13485:2003  
FDA  
MDD 93/42/EEC  
RoHS 2011/65/EU  
UL 60601-1 1st edition  
WEEE 2012/19/EC

### Notified Body

Intertek Semko AB  
Identification Number 0413  
MDD Classification IIb

**Authorized Representative**

Emergo Europe



For additional specifications,  
refer to Operator Manual



Manufactured by:



Ivy Biomedical Systems, Inc.  
11 Business Park Drive  
Branford, Connecticut 06405 USA  
Toll Free 800 247 4614  
Main 203 481 4183  
Fax 203 481 8734  
[www.ivybiomedical.com](http://www.ivybiomedical.com)

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