

# Practical performance

## for quality without compromise

The PageWriter Trim II cardiograph offers fast-paced clinical environments a unique blend of cost-effective, practical and exceptionally versatile performance.

This compact, easily transportable unit enables you to conveniently view an exceptionally high-resolution monochrome display. The PageWriter Trim II is configured with a cart, complete with tray to easily transport supplies and accessories, as well.

### **Expedite operation and distribution**

To optimize clinical efficiency, patient information can be quickly entered on a real alphanumeric keyboard or optional bar code scanner. Also, a trim knob allows users to quickly move through data screens.

The new digital Patient Interface Module (PIM) incorporates a color-coded lead diagram on the module, with leads intuitively arranged for quick, easy identification. In addition, each lead wire can be individually removed and replaced to help minimize maintenance costs.

And streamline information sharing with options which include a magnetic card scanner, SMART card scanner, ECG storage card and modem card. The PageWriter Trim II's native XML implementation also establishes an open ECG standard to facilitate information sharing throughout the enterprise ... and beyond.



ECG records can be previewed prior to printing and storage to ensure quality.

## Features

### ECG Acquisition

- ECG signal acquisition of up to 12 leads for both adult and pediatric patients
- Real-time display, with patient name and ID
- Automatic and configurable pacemaker detection

### Metronome

- Metronome feature with configurable options to be used with the Master's Two-Step Stress Test

### ECG Quality Monitor

- Real-time ECG signal quality indicators provide instant user feedback on the location of loose or inoperable electrodes
- Artifact, AC, and low and high pass frequency filters

### ECG Memory and Transfer

- The PageWriter Trim II cardiograph provides storage memory for 50 ECGs, with easy transfer by optional modem, optional CF card, or optional LAN connection

### Print Preview Capability

- Full-screen preview of ECG reports exactly as they appear when printed allows for quality assessment checks prior to printing

### Mobile Cart Integral Part of Cardiograph

- The mobile cart provides convenient transport for the PageWriter Trim cardiographs and accessories from bedside to bedside

## Technical Specifications

### ECG Acquisition

- R/T (real-time) ECG (12 leads)
- AUTO (12 leads)
- RHYTHM (up to 12 leads)
- DISCLOSE (1 lead)

### Keyboard

- Full alphanumeric keyboard

### Display

- 640 x 480 pixel resolution
- Monochrome display



The Philips PageWriter Trim II Cardiograph/Cart System.

## Signal Processing/Acquisition

### Sampling Rate

- 2000 samples per second per electrode/lead.  
24-bit A/D conversion provides 5 $\mu$ V resolution.

### Auto Frequency Response

- 0.05-150 Hz, 0.15-150 Hz, 0.5-150 Hz,  
0.05-100 Hz, 0.15-100 Hz, 0.5-100 Hz,  
0.05-40 Hz, 0.15-40 Hz, 0.5-40 Hz

### Rhythm Frequency Response

- 0.05-150 Hz, 0.15-150 Hz,  
0.05-100 Hz, 0.15-100 Hz,  
0.05-40 Hz, 0.15-40 Hz

### Filters

- AC noise
- Artifact
- High and low pass

**Printer Resolution**

- High-resolution, digital-array printer using thermal-sensitive paper
- 200 dpi (voltage axis) by 500 dpi (time axis) at 25 mm/sec

**Report Formats**

- 3x4 (1R, 3R)
- 6x2 (Standard, Cabrera)
- Rhythm (up to 12 selected leads plus Cabrera)
- 12-Lead Extended Measurements
- Disclose (1 minute of continuous waveform data for 1 selected lead)
- Pan-12 (Cabrera)
- 12x1 (Standard, Cabrera)

**Battery Capacity**

- Typically 40 ECGs on a single charge or 30 minutes of continuous rhythm recording
- No fail operation during ECG printing

**Battery Recharge**

- Eight hours to full capacity

**Network Connection (optional)**

- 10 Base-T IEEE 802.3 Ethernet LAN card

**FAX Capability**

- Group 3, Class 1 or 2 fax modem protocol
- Support for PCMCIA fax modem

**Modem (optional)**

- V.90, K56flex, enhanced V.34, V.32bis, V.32, V.22bis and below

**Barcode Reader**

- Reads Code 39 Symbology

**ECG Storage**

- Storage for 50 ECGs
- 150 ECGs typical per 128 MB PCMCIA card (optional)

**ECG File Formats**

- XML and XML SVG
- Stored at 500Hz

**Power and Environment****Line Power**

- 100-240 Vac, 50/60Hz, 65 VA max

**Environmental Operating Conditions**

- 10° to 40°C (50° to 104°F)
- 15% to 80% relative humidity (non-condensing)
- Up to 4,550 m (15,000 ft.) altitude

**Environmental Storage Conditions**

- 0° to 50°C (0° to 122°F)
- 15% to 90% relative humidity (non-condensing)
- Up to 4,550 m (15,000 ft.) altitude

**Cardiograph Dimensions**

- 388 x 310 x 176 mm (15.3 x 12.2 x 6.9 in)

**Cardiograph Weight**

- 7.38 kg (16.3 lb): Includes battery, patient module, lead wires, alligator clips, electrode pack and paper pack.

**Patient Interface Module**

- Remote, microprocessor-controlled, high-resolution module

**Safety & Performance**

Meets the following requirements for Safety and Performance:

- IEC 60601-1: 1988 +A1:1991 +A2:1995 General Requirement for Safety
- IEC 60601-1-2: 2001 General Requirements for Safety for Electromagnetic Compatibility
- IEC 60601-2-25: 1993 + A1:1999 Safety of Electrocardiograms
- UL 2601-1: 1997 US General Requirements for Safety
- CAN/CSA-C22.2 No. 601.1-M90 S1:1994 B:1996
- AAMI EC11 1991: Diagnostic Electrocardiographic Devices
- CISPR11: 1997 + A1:1999 + A2:2002 Radio Frequency Disturbance, Limits and Methods of Test Group 1 Class B
- JIST 1202: 1998 Japanese Industrial Standard for Electrocardiographs

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**Philips Medical Systems**

**Global Information Center**

**I.B.R.S./C.C.R.I. Numéro 11088**

**5600 VC Eindhoven**

**Pays-Bas/The Netherlands**

(no stamp required)

*Asia*

Tel: +852 2821 5888

*Europe, Middle East, Africa*

Tel: +31 40 27 63005

*Latin America*

Tel: +55 11 2125 0764

*North America*

Tel: +1 800 934 7372

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