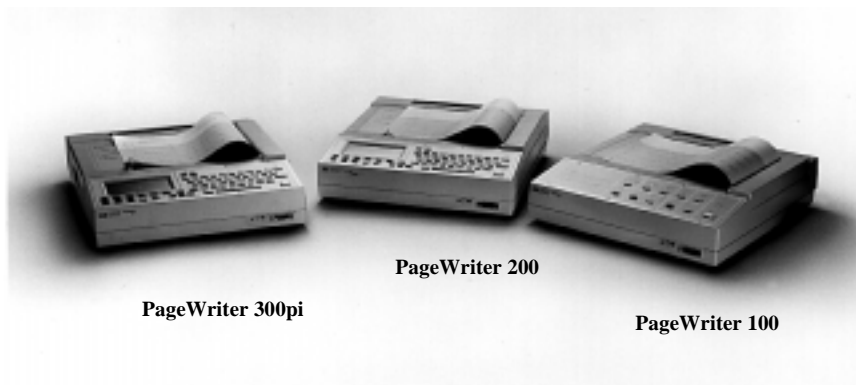


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# Model M1770A/M1771A/M1772A PageWriter 300pi/200/100 Cardiographs

## Technical Data



### Description

HP offers an economical family of cardiographs which include the M1772A PageWriter 100, M1771A PageWriter 200, and M1770A PageWriter 300pi.

The PageWriter 100 with simple, easy-to-use operator controls generates reports in seconds. Additional copies are also available at the push of a button.

The PageWriter 200 and 300pi cardiographs print 12-lead ECGs in different formats and over extended periods for different clinical tests or applications. The PageWriter 300pi is HP's economical interpretive cardiograph.

All three provide printed traces that use a continuous-feed, high-resolution digital-array printer. This provides crisp, easy-to-read electrocardiograms on standard page lengths that require no cutting or mounting.

Using an alphanumeric keyboard, records are clearly labeled with ECG data and patient information.

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### Improved ECG Quality

The PageWriter 100 provides extensive ECG quality-control features including AC noise filtering.

Additionally, the PageWriter 200 and 300pi cardiographs provide baseline wander correction as standard, and configurable filters that can be turned on from the keyboard to further suppress noise.

Their displays allow preview of any three leads at a time to verify ECG quality before recording.

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### ECG Measurements

HP ECG measurement software is standard in the PageWriter 200 and 300pi cardiographs. Measurements of 12 simultaneously acquired leads result in ECG morphology and rhythm parameters.

A short table is printed with the HR, PR, QRSD, QT, QTc, and the axis values P, QRS, and T.

If desired, an extended measurements table may also be generated.

## Cardiography

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### ECG Interpretation

The PageWriter 300pi contains HP's clinically-proven Adult and Pediatric Analysis Programs. With these programs, pediatric ECGs can be analyzed for patients from one hour to 15 years old. For both peds and adults, original reports and copies may be configured to include or exclude ECG measurements, interpretive statements, and reasons.

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### Predictive Instruments

The PageWriter 300pi provides Acute Cardiac Ischemia-Time Insensitive Predictive Instrument (ACI-TIPI) and Thrombolytic Predictive Instrument (TPI) applications. ACI-TIPI calculates a predicted probability of acute cardiac ischemia. TPI predicts the probability of patient outcome for short term mortality, long term mortality, cardiac arrest and risk associated with thrombolytic therapy.

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### ECG Storage and Transmission (M1770A, M1771A) Optional

Using non-removable flash memory, the PageWriter 200 and 300pi cardiographs can store up to 30 ECGs at a time.

ECGs can be faxed directly (via modem) from the cardiograph, or transmitted to an HP compatible ECG management system for review and editing.

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## Specifications

Unless otherwise noted, the following specifications apply to PageWriter 100, 200 and 300pi cardiographs.

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|                                    |   |
|------------------------------------|---|
| <b>Regulatory Standards</b>        | IEC 601-1, IEC 601-2-25.  |
| <b>Basic Controls</b>              | ECG Controls: On/Standby, Auto, Manual, Chart Speed, Size, Copy, Filter, Page Advance, ECG Format Selections.<br>Manual Lead Group, V Leads (PageWriter 100).<br>Rhythm Lead, ID (PageWriter 200 and 300pi).<br>ECG Format Selections: Auto (3x4 IR, rhythm lead fixed as Lead II);<br>Manual (with 3 leads) (PageWriter 100).<br>ECG Format Selections: Auto (with 0, 1 or 3 rhythm leads);<br>Manual (with 3, 6 or 12 leads) (PageWriter 200 and 300pi).<br>Keyboard with full alphanumeric capability (PageWriter 200 and 300pi). (PageWriter 100 has LED indicators for constant status display; no alphanumeric keyboard). |
| <b>Patient Safety</b>              | Patient Isolation: IEC type CF isolated patient connection.<br>Defibrillator Protection: Protected against damage from 400 joule defibrillation discharges (when using HP-specified patient cable).   |
| <b>Instrument Test</b>             | Self-test performed each time cardiograph is turned on.<br>Extended tests for main instrument, printing and display functions.<br>Displays fault message to operator (PageWriter 200 and 300pi).  |
| <b>Power and Environment</b>       | Line Power: 100-120 or 220-240 V ac selectable; 50/60 Hz, 50 VA.<br>Environmental Operating Conditions: 10° to 40°C (50° to 104°F), 15 to 80% relative humidity, non-condensing, to 4,550 m (15,000 ft) altitude.<br>Environmental Storage Conditions: 0° to 50°C (32° to 122°F), 15 to 90% relative humidity, non-condensing, to 4,550 m (15,000 ft) altitude.   |
| <b>Physical Specifications</b>     | Cardiograph Dimensions: 115 mm H by 437 mm W by 392 mm D<br>(4 in. H by 17 in. W by 15 in. D).<br>Cardiograph Weight: 8.5 kg (<19 lb).  |
| <b>Signal Processing/Recording</b> | Frequency Response: Selectable as follows: (PageWriter 100)<br>Auto: 0.15-150 or 0.15-40 Hz<br>Manual: 0.05-150 or 0.05-40 Hz<br>Frequency Responses: Selectable for both auto and manual from these ranges: (PageWriter 200 and 300pi)<br>0.05-150, 0.15-150, 0.5-150 Hz<br>0.05-100, 0.15-100, 0.5-100 Hz<br>0.05-40, 0.15-40, 0.5-40 Hz<br>Filters: Noise filter. On/off capability.<br>Power line filter always enabled.<br>Configurable baseline wander, noise, and artifact filters (PageWriter 200 and 300pi).   |

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|--------------------------------------|--|
|                                      | <p>Standardization: 1 mV <math>\pm</math> 50 <math>\mu</math>V, 200 ms <math>\pm</math> 4 ms at 10 mm/mV, 25 mm/sec.<br/> Common Mode Rejection: 110 dB or greater at power line frequency in any lead with 51 KOhms in parallel with 0.047 <math>\mu</math>F electrode impedance imbalance and up to <math>\pm</math>300 mV dc offset in any lead wire.<br/> DC Offset Capability: <math>\pm</math> 300 mV dc at patient input.<br/> Input Bias: Less than 40 nA per input wire; less than 500 nA for Right Leg drive output.<br/> Input Impedance: Greater than 15 MOhm at dc; typically greater than 100 MOhm at dc.<br/> Recording Technique: High-resolution, digital-array printer using thermal-sensitive paper, 200 DPI (voltage axis) by 500 DPI (time axis) — 250 DPI (time axis) at 50 mm/sec.</p>  |
| <b>Battery</b>                       | <p>Capacity: 40 auto ECGs and 40 copies on a single charge or 40 minutes continuous rhythm recording.<br/> Recharge: Typically seven hours to 90% capacity and 16 hours to full capacity.</p>  |
| <b>Storage (option)</b>              | <p>Capacity: 30 ECGs (PageWriter 200 and 300pi).<br/> Type: 2 MB of non-removable flash memory.</p>  |
| <b>Transmission (option)</b>         | <p>Serial Port: 1 RS232.<br/> Modes: Direct Connect, Modem (PageWriter 200 and 300pi).<br/> Modem Command Interfaces:<br/> Data: Hayes standard AT command set<br/> Fax: EIA/TIA – 578 Service Class 1</p>   |
| <b>Standard Accessories Supplied</b> | <p>Patient cable<br/> Power cord<br/> 200 sheets of Z-fold paper<br/> Starter kit of adapter clips and electrodes (U.S. only)<br/> User's guide<br/> Training video<br/> Interpretive Physician's Guide (PageWriter 300pi)<br/> Predictive Instrument Physician's Guide (PageWriter 300pi only)<br/> Quick Reference Guide (PageWriter 300pi only)</p>   |
| <b>Accessories Available</b>         | <p>M1705B Mobile cart for M177xA cardiographs<br/> M2463A Carrying case for M177xA cardiographs<br/> M2460A Replacement battery for M177xA cardiographs<br/> M2461A Replacement patient cable (AHA)<br/> M2462A Replacement patient cable (IEC)<br/> M1706B Data communications package<br/> M1706B opt ABA:<br/> Data communications package (modem)<br/> Modem cable<br/> Modem/TraceMaster cabling<br/> Direct Connect cable<br/> M2482A 200 sheets, Z-fold thermal paper without header (8.5" x 11")<br/> M2483A 200 sheets, Z-fold thermal paper (metric)<br/> M2485A 200 sheets, Z-fold thermal paper anti-fade (8.5" x 11")<br/> M2486A 200 sheets, Z-fold thermal paper anti-fade (metric)<br/> M2468A Reusable electrode kit for 4 mm posts (IEC)<br/> 40494E Electrode, limb clamp (4/bx)<br/> M2253A/B Disposable tab electrodes<br/> M2254A Adapter clips for disposable tab electrodes<br/> M13943B Disposable tab electrodes<br/> M13946B Adapter clips for disposable tab electrodes<br/> M1770-90900 Service manual (English only)</p> |

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**Visit our educational web site for information on sudden cardiac arrest: [www.chainof-survival.com](http://www.chainof-survival.com)**

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