

Bringing you the news at the heart of healthcare technology

## Ambulatory blood pressure monitors An indispensable tool in managing hypertension

In recognition of the importance of ABPM, the British Hypertension Society and the European Society of Hypertension have both published guidelines for the use and interpretation of ABPM in clinical practice.

Traditionally, hypertensive patients have been assessed using clinic based blood pressure readings by a Nurse or Doctor. It has been proven that this snapshot approach to blood pressure measurement can give inconsistencies and over estimate a patient's blood pressure by anything up to 30mmHg.

The so called "White Coat Hypertension" phenomenon can lead to elevated blood pressure due to stress or anxiety and is well documented. It can lead to unnecessary prescription of hypertensive medicines which

has a profound clinical and financial relevance to Primary Care and can lead to inappropriate diagnosis and treatment, especially if a patient's clinic or surgery blood pressure measurement is on the 140/90 threshold. Ambulatory Blood Pressure Monitors like the ABPM-05 and AND TM-2430 provide much more consistent readings over a 24-hour period and give multiple measurements throughout the day and night.

### Which Monitor?

The ABPM-04, ABPM-05 or TM-2430 from P.M.S. (Instruments) Ltd are all suitable for professional

clinical use and have been independently clinically validated to either the British Hypertension Society Protocol or the European Society of Hypertension Protocol. They all use PC based software, are easy to programme and are supplied with rechargeable batteries and adult and large adult cuffs. The ABPM-04 and ABPM-05 use our own CardioVisions software which means it is possible to attach reports to popular Clinical Management Systems, such as EMIS and Torex.

The report should include, as a minimum, daytime and night time averages, a list of BP data and trend graph. Normal mean levels for ABPM in adults are daytime 135/85 and asleep 120/70. It is also important to ascertain the level of after sales care and service available from a supplier.

### Which Patients Can Benefit From Ambulatory Blood Pressure Monitoring?

- Borderline/high blood pressure
- White Coat hypertensives
- Resistant hypertensives
- Elderly patients who may be hypotensive
- Pregnant women
- Diabetic patients
- Patients switching medication



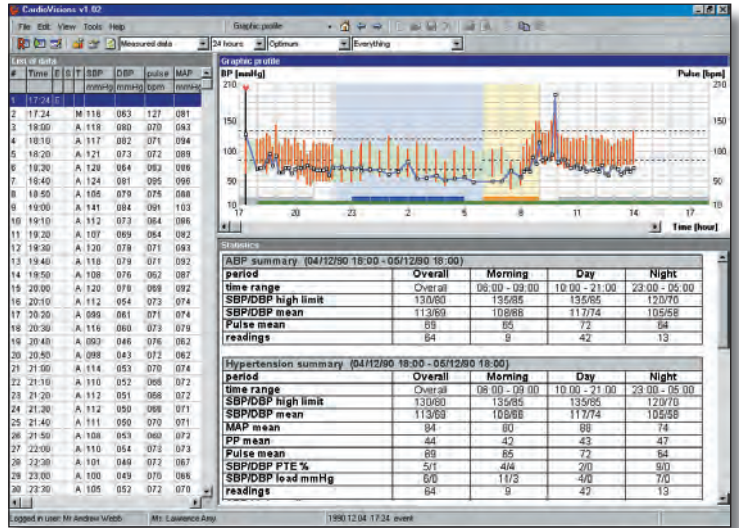
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Monitors require regular servicing and testing to ensure accuracy and this should be available in the U.K. from the supplier to minimise downtime.

The introduction of 24-hour monitoring into General Practice is gaining pace and although its use is not yet recommended by NICE, there is a growing body of evidence that suggests its introduction can greatly improve hypertensive management and prevent the unnecessary prescription of hypertensive medication to patients.

Prices start from £1,200 for ABPM-0 shown on model.



# New Product CardioMERA 24 Hour ECG Monitoring

Patients often complain of repeated chest pain or palpitations at different times of the day but when a 12 lead ECG in surgery is undertaken nothing abnormal is reported. The 12 lead ECG provides a "snapshot ECG" but what is really needed is ECG recorded over 24 hours. The heart typically beats over 100000 times over 24 hours and you need a device that can rapidly screen out normal and abnormal beats and classify them into different beat groups.

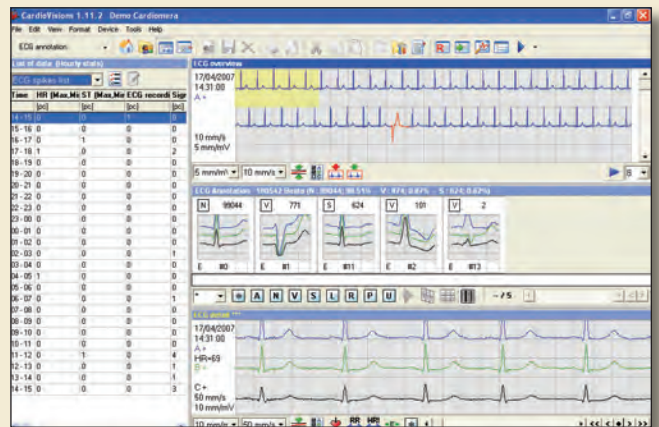
## Welcome to CardioMera

The CardioMera is a compact 24 hour ECG monitor weighing just 49g. It records full disclosure high resolution ECG onto a digital SD memory card. The CardioMera is programmed using the same CardioVisions software platform we use with our ABPMs and real time ECG monitoring ensures optimum electrode positioning and signal quality before the patient leaves.

When the patient returns, data from the SD card is transferred to the PC where CardioVisions performs analysis and report generation.



**The CardioMera 24 hr ECG recorder set with full ECG analysis (FC1-S012)** will classify beats into different classes including normal, ventricular



and supraventricular, before then identifying whether beats fall into one of over 20 different types including bigeminy, couplets, atrial fibrillation and tachycardias

Reports can be generated automatically by Nurses and the software algorithm is extremely accurate. As with all products using our CardioVisions software, reports can be emailed or attached to patients notes if required.

The CardioMera 24 Hour ECG Holter System is proving very popular with customers and in particular GP practices looking to introduce Practice Based Commissioning schemes or ECG screening programmes. It costs £4995 + VAT for a recorder and software licence and £1095 for additional recorders thereafter.

# New Irregular Heartbeat Feature On TM-2655P Waiting Room Monitor

## The original just got better!

The latest version of the TM-2655P now features a new Irregular Heartbeat Indicator which is printed if present during a measurement. This alerts the clinician to the existence of a possible intermittent arrhythmia.

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SYS	DIA	PUL
112	76	80
[ mmHg ] [ b p m ]		

It is discreet enough not to worry the patient but provides useful

additional information on a patient's heart rhythm which can be followed up with an ECG if appropriate. An irregular heartbeat is defined as a heartbeat that varies by 25% from the average of all heartbeats during the measurement.



The latest version will also give the total number of measurements recorded by the product, a weekly count and a monthly count

which is useful for audit purposes.

**The TM-2655P is used exclusively by G.P. surgeries and is regarded by many as the "Gold Standard" waiting room monitor. It has the following key features:**

- Patients record their own blood pressure which frees up Nurse/Doctor time and allows the patient to be involved in their treatment.
- The slip of paper is handed to the Nurse/Doctor or, in some cases, the receptionist.
- The TM-2655P has been independently clinically validated for accuracy, has an AA grade and is featured on the British Hypertension Society website as suitable for professional clinical use.

- The monitor is supplied with a stand, security cable, paper, patient instruction card and a comprehensive 2 year warranty.
- The monitor automatically adjusts to the patients arm circumference and will accommodate large arms.
- It will allow you to record patient's blood pressure when they first arrive, or switch medication again saving clinical consultation time.
- It gives fast, accurate, reliable, repeatable measurements and is designed for high volume use for example when screening at flu clinics.

Many practices use it when operating a 'drop in' clinic where a patient does not need to make an appointment for routine blood pressure screening.

These results are reviewed later by clinical staff and an appointment is only made if a patient's blood pressure is high or low. Some practices save up to 100 appointments per week!

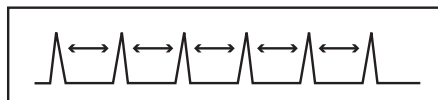
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Chair not included.



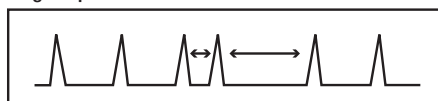
### Does your pulse beat regularly?

#### Regular pulse



The distance between the spikes are the same size. The pulse is regular.

#### Irregular pulse



The intervals between the pulse beats vary. The pulse is irregular.

## The UM-101 independent clinical validation



The UM-101A Mercury Free Manual Sphygmomanometer had an independent clinical validation published recently in the journal Blood Pressure Monitoring vol 13 No 1 Feb 2008.

The authors of the paper commented that "In fact, the device appeared to be nearly perfect and more accurate than recently validated oscillometric devices".

The UM-101 has the look and feel of a traditional mercury sphygmomanometer without any of the disadvantages or Health and Safety issues.

The UM-101 allows the user to record manual blood pressures accurately using the Korotkoff auscultatory technique with a stethoscope. The large, easy-to-read LCD display mimics the falling of a mercury column and can be viewed from multiple angles. The UM-101A costs £99 + delivery and VAT and a stand model the UM-101B is also available.

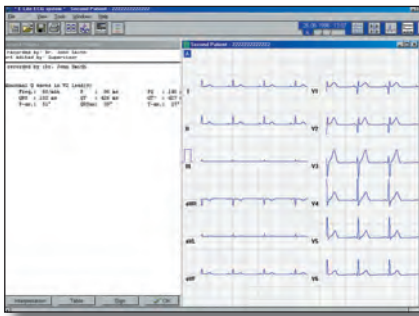


## Other News And Tips

### DABL Educational website

The ABPM-05 and UM-101 are now recommended for clinical use on the DABL Educational website. The DABL website [www.dableducational.org](http://www.dableducational.org) is updated regularly and provides listings of different types of blood pressure monitors and their validation status.

### Can I attach patients ECGs using Elite?



The latest version of the Elite ECG software 6.92, available free from [www.pmsinstruments.co.uk](http://www.pmsinstruments.co.uk) will allow you to record electronically and then attach Elite ECG files to popular third party clinical management systems like EMIS and SystemOne. ECG files

need to be stored on a network drive accessible to all users and are then "attached" to a patients notes.

Anyone wanting to view the attachments will need to have the Elite software installed which takes seconds. Unlike some systems, which just create a picture of the ECG, with Elite you have complete control of the record and can take measurements and reprint as if you had just recorded the ECG. No more paper ECGs just high resolution electronic ECGs. The Elite costs £1195 plus delivery and VAT.

### Is there a network version of CardioVisions?

There is a network version available but at additional cost. For customers wanting to share ABPM or 24 hour ECG recordings, we recommend the Personal Edition is installed. Patient reports can be exported to a network drive and attached to a patient's notes either as a Rich Text File, in which case CardioVisions does not need to be installed on all PCs, or a CardioVisions format where it does.

### What is the largest size cuff available for the ABPM-04 and ABPM-05?

Using the correct cuff size with any blood pressure monitor is essential. A cuff that is too large will produce a reading that is lower than the correct blood pressure; a cuff that is too small gives a measurement that is higher. With your arm hanging at the side of your body, measure the circumference of your upper arm at the midpoint between shoulder and elbow.

There are practical limitations on the size of cuff available for the ABPM-04 and ABPM-05. The largest cuff size currently available will fit an arm from 32-42cm.

Larger cuff sizes are available for our monitors that are manually inflated. The UM-101A which costs £99 plus delivery and VAT has a cuff available that will measure an arm from 41 to 66cm. These cost £30 including connectors and inflation bulb.



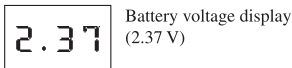
## CardioVisions Error Codes For The ABPM-04/ABPM-05

Occasionally the ABPM-04 /05 may report an error during measurement. The table below lists the error codes which may be displayed on the recorder LCD. They can easily be viewed from CardioVisions.

Don't forget when logged in as the administrator you cannot programme the recorder or access data!

### Do your batteries need replacing?

Two sets of rechargeable batteries are supplied with the ABPM-04 and ABPM-05. These monitors briefly display the battery voltage after you put the last battery in. With fully charged rechargeable batteries the voltage in the ABPM-04 should be >5.1 volts and with the ABPM-05 it should be >2.5 volts.



Battery voltage display (2.37 V)

Code	Explanation	Code	Explanation
1	Aborted measurement	31	Cuff missing or loose
2	Manually interrupted	32	Cuff tubing clogged
3	Batteries rundown	33	Cuff leaking or loose
4	Batteries changed	34	Cuff not on arm
8	Pressure limit exceeded		
9	Temporary disturbance	90,99	Device error

If you need replacement batteries please call our sales line on **01628 773233**.



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