

Monitoring on a regular basis...



Ischaemic heart disease or arrhythmia can be transient. ECG performed and read at a hospital clinic or doctors surgery is the normal investigation to establish if cardiac conditions are present. Due to the transient symptoms, abnormalities are not always detected, although disease is actually a problem in daily life. The Holter ECG is an alternative in these circumstances, but involves a minimum of 24 hours with the patient wearing the device and its attached electrodes and leads. It is also costly and time intensive for staff and still does not always record an event occurring. Sometimes the worsening of heart condition (increasingly repetitive pattern of transient abnormalities) can alert and allow taking corrective treatments before a potential heart attack or stroke. The HeartScan ECG monitor can detect the waveform and provide to the doctor relevant data on the heart condition of the patient in daily life.

HeartScan intended use

User-friendly screening and monitoring device, immediately available at any time to manually record transient cardiac events, suitable for patient and professional use. Helpful in determining cardiac aetiology of symptomatic events. Monitoring of heart condition for ambulatory patients exposed to stroke, MI and sudden death risk. Monitoring of efficacy and tolerance to medication regimen.

The HeartScan ECG Monitor should only be used by patients following consultation with a medical professional.

Patients with transient or paroxysmal events of

- Brady- and Tachycardia
- Atrial Fibrillation (AF)
- Arrhythmia
- Syncope

Patients with complaints of suspected cardiac origin

- Dizziness
- Palpitations
- Chest / arm pain
- Shortness of breath

Patients on medication

- Medication tolerance
- Medication efficacy
- Medication compliance

Patients after medical cardiac intervention

- Checking frequency of AF and Arrhythmia
- Checking severity of AF and Arrhythmia

Patients with high risk scores on CVD (e.g. ESC SCORE card)

- Diabetes
- Hypertension
- Hypercholesterolemia
- Obesity
- Smoking etc.



Keep it simple software

You can import ECG data into your computer and use it for diagnosis.



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ECG Viewer is software, which allows importing data from the HeartScan ECG Monitor into a computer so that it can be examined and printed. The software allows changing of the scale and range of the ECG to better observe specific events. This makes it very useful for doctors in making their diagnosis.

The software allows changing the display scale freely in order to confirm details.

This feature can be used to display a detailed screen for close observation of a certain period.



Comparison between electrocardiograph complexes is possible.

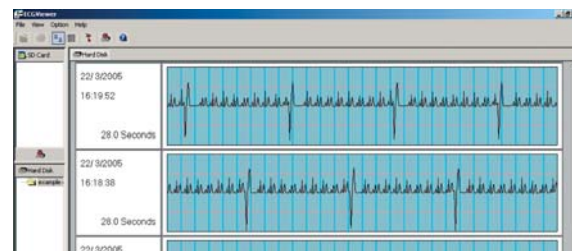
Different measurements can be compared according to day or time using the electrocardiogram data list. Display of multiple detail screens to compare details is also possible.

Printing of ECG data.

It is possible to set printing details such as the scale of the ECG data. In addition, it is possible to select and print multiple ECG data, or print all ECG wave data in a folder.

Managing ECG data.

Recorded ECG data can be copied from the SD memory card to hard disk and redundant data can be deleted.

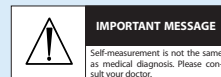


Hardware Requirements

Operating System	Windows 2000 Professional (Service Pack 4) Windows XP Professional (Service Pack 1) Windows XP Home (Service Pack 1)
CPU	600 MHz or faster Intel Processor
Memory	128 MB or more
HDD Free Space*	32 MB or more
Other	Port for SD Memory Card Reader (for reading SD Memory Cards)

* This refers to your computer free space. Free space is necessary for saving electrocardiogram data separately.

This medical equipment is meant only as a reference in assisting doctors make a diagnosis. It is not a diagnosis in itself. Self-diagnosis and treatment based on measurement results is very dangerous. Please ask your doctor to analyze the measurement results (electrocardiogram) and do not make a self-diagnosis based on displayed messages. Self-diagnosis based on measurement results can cause more serious symptoms.



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OMRON

Heart Scan

Screening & Self-Monitoring of cardiac events

Portable, cordless, single-channel ECG Monitor HCG-801-E

Compact - Cordless - Simple operation
Fast - Discrete



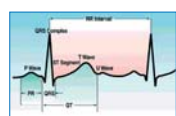
Records about 30 seconds heart rhythm and waveform
Automatic measurement evaluation
Direct on-screen display of rhythm strip
PC-download/ECG-viewer software available
300 measurement memory on SD-card

A Good Sense of Health

Taking a closer look at Cardiovascular Risk Monitoring

In Europe the main cause of mortality is cardiovascular disease or CVD (e.g. stroke, heart attack, heart failure). A major risk factor for CVD is high blood pressure. Omron has an established reputation on monitoring of BP in home as well as hospital settings. Now Omron has applied their traditional expertise in sensor technology to take the next step in CVD monitoring in the homecare situation.

According to the company philosophy, Omron has developed a new home monitoring device. The new HeartScan ECG Monitor senses the heart waveform and indicates potential ECG abnormalities.



The ECG waveform from the heart shows when the heart contracts and relaxes and gives the heart rhythm of consecutive heartbeats. In a healthy heart the waveform pattern shows a regular shape and rhythm. In case of heart disease, abnormalities can be detected.

Symptoms such as heart pain, palpitations, and shortness of breath may be signs of heart diseases such as angina or cardiac infarction. With the OMRON Portable HeartScan ECG Monitor, a recording of about 30 seconds can be made when symptoms occur whether at home or away. These recordings can then be shown for information to the doctor, who can examine it and use it for correct diagnosis. From analysis of the waveform some information can be obtained on the presence of arrhythmia or ST-level deviations related to ischaemic heart disease.

Taking the condition of the user into consideration, the user-friendly and ergonomic design allows the user to take a reading instantly and discretely. The design of the pick-up sensor system provides a sufficiently clear signal for further evaluation in the ECG device.

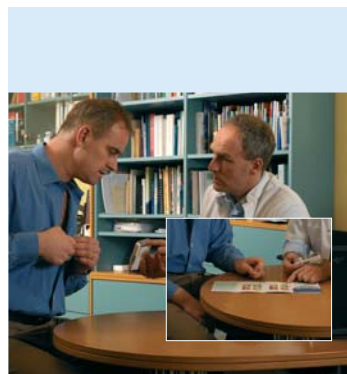
By comparing your electrocardiogram rhythm and shape with normal waves, various heart diseases can be diagnosed.

Arrhythmia

For example, problems between RR's indicate a problem with your heartbeat rhythm.

Problems with Heart Shape & Functions

For example, increases or decreases in the ST portion are shown if there is a cardiac infarction or angina. This ST portion is also used to determine ischemic heart disease.



Basic Functioning Principle Omron HeartScan

Actual Heart rate
Detail ECG
30 second ECG recording with window indication.

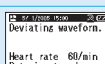


ECG analysis result on:

- Heart rate
- Heart rhythm
- Heart waveform

30 seconds average heart rate

- Store data Yes/No?
- (None or slight deviations from normal)
- Data is stored.
- (Moderate deviations from normal)
- Data is stored. Please show to your doctor.
- (Significant deviations from normal)



Date and time of measurement

- ECG analysis result indicator**
- A. Stable waveform
 - B. Fast heart rate
 - C. Fast and irregular heart rate
 - D. Fast heart rate and deviating waveform
 - E. Fast and irregular heart rate, deviating waveform
 - F. Slow heart rate
 - G. Slow and irregular heart rate
 - H. Slow heart rate and deviating waveform
 - I. Slow and irregular heart rate, deviating waveform
 - J. Irregular heart rate
 - K. Irregular heart rate and deviating waveform
 - L. Deviating waveform
 - M. Analysis impossible. Please measure again.



30 seconds wave form

30 seconds average heart rate

1. European cardiovascular disease statistics. British Heart Foundation / European Heart Network February, 2005 edition.
2. European guidelines on cardiovascular disease prevention in clinical practice European Society of Cardiology European Heart Journal (2003) 24.



Where can HeartScan be used?

Office

In primary care the HeartScan ECG Monitor offers a fast way to pre-screen patients in the office on possibly CVD related complaints. Instead of palpitation, the device can give a clear picture of the heart rhythm in only 30 seconds. The device can show events such as extra systoles, premature ventricular contractions, supraventricular premature contractions and ST-level deviations.

Outpatient visit

The portability of the device makes it very suitable to use in the outpatient visits. The direct on-screen display makes it possible to evaluate the ECG without first printing or downloading the reading.

Home-care situation

Worried patients without obvious CVD risk factors in daily practice can be lent the device for home monitoring. By having these patients monitoring themselves the complaints can be confirmed to be related to a cardiac condition.

The device can help assess the necessity to refer the patient to secondary care.

Primary Care

Clinic

When after 12-lead ECG, exercise and Holter/event the complaints cannot be explained due to the transient character, the HeartScan ECG Monitor can be a valuable addition. Instead of discharging these patients the device can be lent out for a longer period of time to use when symptoms occur. Alternatively the patient can be instructed to measure at regular intervals to assess circadian influences.

In situations where patients refuse implantation of an event recorder, this device can be a substitute. The decision to suggest the implanted recorder could be preceded by a period using the HeartScan ECG Monitor.

After diagnosis is established and the patient is prescribed to take medication the HeartScan ECG Monitor can be used to check medication tolerance, efficacy and compliance. When the medication is properly dosed and the patient is complying with the medication regimen the use of the device can be stopped.

Wards

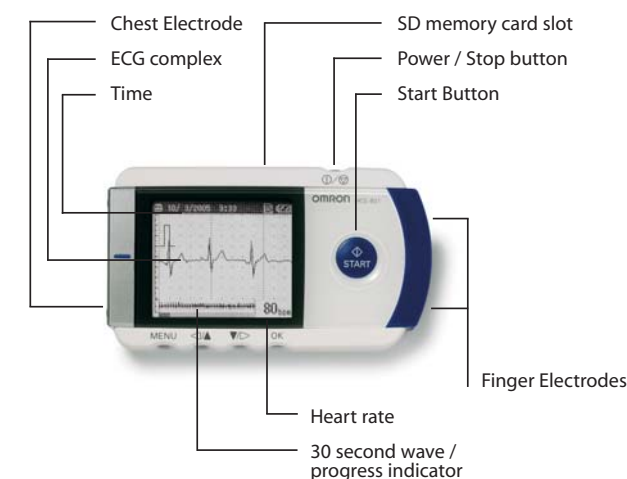
When hospitalized not all patients are under 24-hour surveillance for heart monitoring. There are several circumstances where the HeartScan ECG Monitor would be a valuable tool for a quick scan of heart function.

- Before and during dialysis
- Patients after operation
- Patients in emergency room

The unique features of the HeartScan ECG Monitor make this a versatile multi-purpose tool for medical professionals. The cordless operation and direct on-screen display allows a quick-scan of the heart condition. Due to the compact design the device fits in a white-coat pocket or doctor's bag.

Secondary Care

Product features



Portable and compact

Direct review of results on clearly readable, high resolution screen with backlight

Cordless (no need to wear electrodes, no difficulties with cables)

Very user-friendly

Economically priced

PC download through SD memory for 300, date & time stamped, measurements

Low power consumption (works on rechargeable batteries)

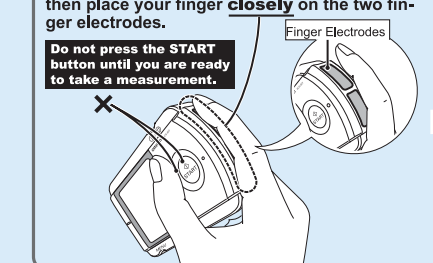
Includes analysis software to inform the user directly on results with clear recommendation on the results

Quick Start Guide for Correct Measurement

How to use the unit

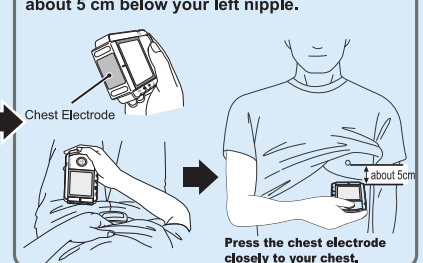
Press the button to switch on the power, then place your finger closely on the two finger electrodes.

Do not press the START button until you are ready to take a measurement.



Appropriate Posture

Place the chest electrode on bare skin about 5 cm below your left nipple.



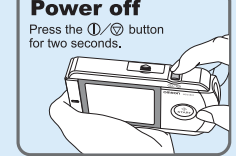
Press the chest electrode closely to your chest.

Taking a Measurement

Start Press the START button while maintaining the same posture.



End The measurement ends automatically, indicated by 4 rapid beeps.



Power off

Press the button for two seconds.