

# **babycom** Home Fetal Monitoring Device

## **Introduction**

Nano Medica has developed Babycom, a patented home fetal monitoring device that enables fast, easy, convenient detection of the fetal heartbeat and determines the fetal heart rate. Babycom's proprietary wide beam angle ensures accurate results simply and safely. Now, in the privacy of your own home you can monitor your baby's heartbeat with the same state-of-the-art devices used by your medical practitioner. Being able to share this special experience, creates a bond with you and your family, reassures you, gives you peace of mind, and connects you to your baby's world.

## **How It Works**

Babycom is based on the Doppler shift principle. The tip of the sensitive transducer contains two piezoelectric crystals. One crystal transmits very low ultrasonic waves; the other detects these reflected waves. As these waves reach moving tissue, such as the fetal heart, they bounce back and their pitch shifts slightly. This change in pitch is the Doppler shift. Babycom's wide ultrasonic beam angle and further algorithmic processing convert the shifted ultrasonic waves into the audible sound of the fetal heartbeat. (Since the sound waves do not travel through the air easily, a gel is applied between the transducer and the abdomen to conduct the sound waves.)

## **About Diagnostic Ultrasound**

Ultrasound in pregnancy has been used as a diagnostic tool for more than 25 years. It has long been considered one of the safest means available for obtaining information about the unborn baby. Global studies and tests conducted by manufacturers, government agencies, and research institutions have not indicated or revealed any adverse side effects of diagnostic ultrasound.



Manufactured by  
**NANOmedica**

# **babycom**

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## Instructions for Use

Before you begin, sit comfortably. (In early pregnancy a full bladder may improve sound detection. In later pregnancy the best signals are generally located higher on the abdomen.)



1. Apply a liberal amount of gel on the transducer head (1) or on the abdomen. The gel is necessary for efficient operation. Lack of a signal can be due to the absence or insufficient amount of gel.
2. Turn on the side-mounted roller switch (5) and adjust the volume control to the preferred level.



3. Place the transducer (1) directly against the abdomen, just above the symphysis pubis (the point where the two pelvic bones meet).
4. Search for fetal heart signals by slowly moving the handle across the abdomen. Tilt the handle slightly as you move the transducer (1) across and down the lower abdomen until fetal heart tones are heard. Adjust the handle position to obtain an optimal audio signal.



5. Once a clear fetal heart signal is established, Babycom automatically calculates the derived fetal heart rate (averaged over a 10-beat period) and displays it on the LCD (3) after approximately eight seconds (8sec).

### Note:

The fetal heart sounds like the hoofbeats of a galloping horse. (A rushing wind-like sound is audible from the placenta.)

The fetal heart rate usually ranges between 140 to 160 beats per minute, approximately twice the maternal rate. (The mother's heart rate can be checked by taking the pulse.)

**Repeat the procedure as often as you like making sure to add gel as needed.**

## The Babycom Unit



Babycom comprises two main parts: a handle and a base, that are connected by a cable

### Handle

The handle contains a sensitive transducer (1) together with sophisticated electronics and the battery compartment (2). With efficient battery use, the Babycom unit typically allows for a total of 250 minutes of monitoring time. Battery life varies according to duration of examinations, volume level, and battery type.

### Base

The base comprises an LCD display (3) and an audio system(4).

### Accessories

Ultrasound transmission gel (1 tube).

### Care

The base and the transducer should be wiped clean, with soft cloth or disposable wipe. Keep away from water.

### Important

1. Discharging the battery will lead to inaccurate or indeterminate results. If this occurs, replace the battery.
2. Babycom cannot determine the fetal heart rate if the signal is of poor quality due to handle position, fetal position, maternal position, fetal or maternal movement, lack of gel, noise or interference.
3. If the fetal heartbeat is audible but cannot be reliably calculated due to noise or low signal level, repeat step 4 above.
4. For best results, keep the handle as still as possible (to maintain a steady state signal).



Babycom should not be used by you in any way for diagnostic or other medical purposes. Babycom is not intended and should not be used as a substitute for regular prenatal care by medical practitioner. Any concerns about your pregnancy should be addressed to the medical practitioner. In no event shall Nanomedica Ltd. be liable for any direct, indirect, or consequential damages or losses resulting from use of Babycom.

### Specifications

Oscillator Frequency (MHz)	2.5
US Intensity, max (mW/cm <sup>2</sup> )	15
FHR Range (bpm)	50-210
Battery voltage	9V
Battery life	250 operation min
Operating temperature	0 to 40 C
Dimensions (mm)	130(W) x 105(D) x 220(H)
Current Consumption	70mA

### Warranty

Nano Medica Ltd. warrants defects for a period of one year from the date of purchase. During the warranty period the product will be replaced. This warranty does not apply if the product is modified, tampered with, misused, or subject to abnormal working conditions.

