

FORM 2
THE PATENTS ACT, 1970
(39 of 1970)
& The Patent Rules, 2003
COMPLETE SPECIFICATION

1. TITLE OF THE INVENTION:

A DEVICE FOR IMAGING, RECORDING AND SAVING THERMOGRAPHIC IMAGE, A SYSTEM OF THREE LIQUID CRYSTAL MATRICES USED BY THIS DEVICE AND ITS APPLICATION FOR THE DETECTION OF THERMAL ANOMALIES, AND A METHOD OF DIAGNOSING OF THESE ANOMALIES

2. APPLICANT:

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3. PREAMBLE TO THE DESCRIPTION:

The following specification particularly describes the invention and the manner in which it is to be performed:

- applying the infrared mapping liquid crystal matrix (2) combined in a detachable manner with the recorder (1), with the infrared mapping display (4) to the examined breast;
- turning on the light source (6);
- recording the colour image of the isotherms depicted on the infrared mapping matrix using the camera (7) equipped with the optoelectronic transducer (8) and the analog-to-digital converter (9) for a period of up to 20 seconds;
- recording the obtained digital video signal on the storage medium (11);
- transferring the recorded digital video signal to a computer or a mobile device equipped with a database of thermographic images of the breast and an artificial intelligence system or having established connection with such database and the artificial intelligence system via an intranet or the Internet;
- using the artificial intelligence system to carry out the analysis of the obtained infrared mapping images using the database of the thermographic images of the breast;
- as a result of the analysis, obtaining a guidance as to the most likely outcome of the thermographic examination in a binary system (positive / negative).

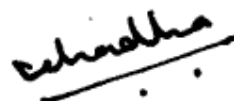
19. The method according to claim 18, characterised in that said sequence of the recording and saving the image is performed three times, by successively using three infrared mapping liquid crystal matrices (2) being comprised in the above mentioned system of the three infrared mapping liquid crystal matrices according to the claim 15.

20. The method according to claims 18 or 19, characterised in that the reading of the thermographic examination result is carried out in the binary system positive / negative based on the presence or absence in the infrared mapping image of a hypothermia marker visible as a delimited area of a different colour in relation to the dominant colour of the thermal background visible at the working area of the first passive contact infrared mapping liquid crystal display.

21. The method according to claims 18 or 19 or 20, characterised in that for detection there is used the thermographic three-interval scale comprising the range of the surface temperatures of the breast from 31.8 °C to 34.8 °C, and separated into three sub-ranges:

- the first sub-range from 31.8 °C to 32.8 °C with the thermo-optical separation of 0.5 °C, for the detection of the anomalies of the hypothermic expression,
- the second sub-range from 32.8 °C to 33.8 °C with the thermo-optical separation of 0.5 °C, for the detection of the anomalies of the hyperthermic expression of the lower temperature,
- the third sub-range from 33.8 °C to 34.8 °C with the thermo-optical separation of 0.5 °C, for the detection of the anomalies of the hyperthermic expression of the higher temperature.

Dated this 14th day of August, 2014.



(CHETAN CHADHA)
PATENT AGENT