

## Title (en)

METHOD AND SYSTEM FOR USING BREAST ULTRASOUND INFORMATION TO FACILITATE BREAST CANCER SCREENING

## Title (de)

METHODE UND SYSTEM ZUR VERWENDUNG VON BRUSTULTRASCHALLINFORMATIONEN ZUR ERLEICHTERUNG VON BRUSTKREBSVORSORGEUNTERSUCHUNGEN

## Title (fr)

PROCEDE ET SYSTEME PERMETTANT DE SE SERVIR D'INFORMATIONS D'ULTRASONS MAMMAIRES POUR FACILITER LA VISUALISATION DU CANCER DU SEIN

## Publication

**EP 1347708 A4 20051214 (EN)**

## Application

**EP 01987010 A 20011119**

## Priority

- US 0143237 W 20011119
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## Abstract (en)

[origin: WO0243801A2] A breast cancer screening system having an ultrasound probe (202) that scans a breast (204) that is flattened along an ultrasound-absorbing plate (206). The ultrasound probe (202) takes ultrasound image slices from successive planes in the breast (204) volume substantially parallel to a plane of a predetermined x-ray mammogram view of the breast (204). The ultrasound image slices are preferably displayed adjacent to a display (406) of the x-ray mammogram view itself, such that a screening radiologist may elect to view the ultrasound image slices simultaneously with the x-ray mammogram view. Preferably, the predetermined x-ray mammogram view is a standardized x-ray mammogram view such as the craniocaudal view or mediolateral oblique view.

[origin: WO0243801A2] A breast cancer screening system having a display apparatus that simultaneously displays a succession of ultrasound image slices, the ultrasound image slices being taken from successive planes in a breast volume substantially parallel to a plane of a predetermined x-ray mammogram view of the breast, is described. The ultrasound image slices are preferably displayed adjacent to a display of the x-ray mammogram view itself, such that a screening radiologist may elect to view the ultrasound image slices simultaneously with the x-ray mammogram view. Preferably, the predetermined x-ray mammogram view is a standardized x-ray mammogram view such as the craniocaudal view (CC) or mediolateral oblique view (MLO). The screening system may also perform computer-aided diagnosis (CAD) algorithms on the ultrasound image slices and/or the x-ray mammogram view. A breast ultrasound adapter is also described for facilitating reliable acquisition of the breast ultrasound scans. The breast ultrasound adapter optionally comprises acoustic transducers for vibrating the breast tissue such that vibrational resonance information is acquired in addition to the primary ultrasound information. The vibrational resonance information is provided to the CAD system in conjunction with the primary ultrasound information and the x-ray mammogram information. Lesion features extracted from the vibrational resonance information are fed to a classifier, e.g. an artificial neural network, in conjunction with features extracted from the primary ultrasound information and the x-ray mammogram information. The x-ray mammogram, the ultrasound image slices, the vibrational resonance images, and the CAD output can be simultaneously displayed in selected combinations according to input commands from the user.

## IPC 1-7

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## IPC 8 full level

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## Citation (search report)

- [Y] US 5640956 A 19970624 - GETZINGER THOMAS W [US], et al
- [Y] US 5433202 A 19950718 - MITCHELL BRUCE C [US], et al
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- See references of WO 0243801A2

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