The methods of 2D screening ultrasound image gathering and review were analyzed, and improvements were made to increase the cancer yield compared with handheld ultrasound breast screening. It was important to understand that recognition of an unexpected finding is made easier when the finding is in motion or appears to be in motion. It is a natural feature of ultrasound to be able to create this sense, since image generation is quick, harmless, and inexpensive. Thousands of images can be created and reviewed as a cine loop during the detection process by looking for an abnormality of motion. Once that abnormality is detected, the still images of that region can be reviewed for their diagnostic content. A number of problems were identified that potentially decrease the changes of recognizing subtle findings indicative of possible cancer: the speed and randomness of scanning, distraction of the reader by patient interaction, ambient lighting, impermanence of images, image spacing, image size, and contrast. These problems were mitigated by computer control of the scanning to ensure image generation every 0.8 mm and full coverage of both breasts with craniocaudad rows overlapping 7 mm, permanently recorded images allowing offline review in a darkened, non-distracting environment, a decrease of image size with high-resolution monitors, and expansion of the gray scale steps in the region of fat and cancer. A study of 6425 dense-breasted women with screening mammograms showed a doubling of cancer detection and a tripling of ≤ 1 cm invasive cancers with the addition of automated ultrasound with these improvements compared with screening mammography alone. The ACRIN 6666 study of handheld screening ultrasound found a 60% increase of cancer detection.