

We have implemented a method to transfer ultrasound (US) images of the prostate from the US unit directly to the ADAC Pinnacle™ treatment planning system. This is done with the help of a video frame grabber installed on the treatment planning system computer's motherboard (SunSPARC™ 10). The S1V frame grabber from EDT Corporation provides video capture and output capability for the treatment planning computer. The images are fed from a Siemens Sonoline Prima US scanner and captured by the frame grabber in single frame acquisition mode. A sequence of images corresponding to different slice sections of the prostate can be acquired and stored in a SunRaster file format. A computer program converts the existing file format into the Pinnacle™ image file format enabling the images to be viewed using Pinnacle™. These images can then be used for treatment planning. This method was tested by acquiring images using a Nuclear Associates prostate phantom. No image distortion was observed with the video capture and signal intensity was preserved. Actual patients' ultrasound prostate images were also transferred to the 3D treatment planning system using this method. Implementation of this method has improved the efficiency of ultrasound guided prostate implants.