

# CamTrak

CamTrak is used to find the nodal point and line of sight of a studio camera relative to the marker rig attached to it. By attaching a “marker array” on a studio camera, the system can record six degrees of freedom of the camera roving in areas 40’ x 50’. Tracking the set position of roving video cameras and performers, or establishing a “director camera’s-eye view” in real time computer graphic scenes, is simple with the Motion Analysis system.

CamTrak maps the studio camera lens distortions at different zoom positions and automatically aligns the optical axis of the virtual camera with that of the studio camera. This allows the virtual cameras to exhibit the same lens distortions and project the same field of view as the studio camera. The system is capable of tracking up to three cameras as well as the performers’ locations all at once while meeting industry’s high standard of better than 1/100th of a degree in rotational stability.

An additional feature of the CamTrak software is the ability to map the studio camera lens to calculate the the optical axis and nodal point of the studio camera. This dramatically shortens the camera calibration process in the studio graphics software by aligning the virtual camera with the studio camera for you. All calibrated studio cameras work from the same global coordinate system so there is never a problem with mapping multiple cameras so they all view the virtual data in the same way.

## Applications

The most obvious application is in virtual sets, where CamTrak will provide an economical method of tracking a wild camera and performers without using mechanical devices.

The bigger application is wherever computer graphics and video images are coming together. Directors working with computer generated characters are blind to how they will appear in a scene. Sometimes they do not see the final image until after a lot of money is invested in generating the graphics and then it is too late or prohibitively expensive to reposition the graphics. CamTrak provides the economical, efficient answer.

