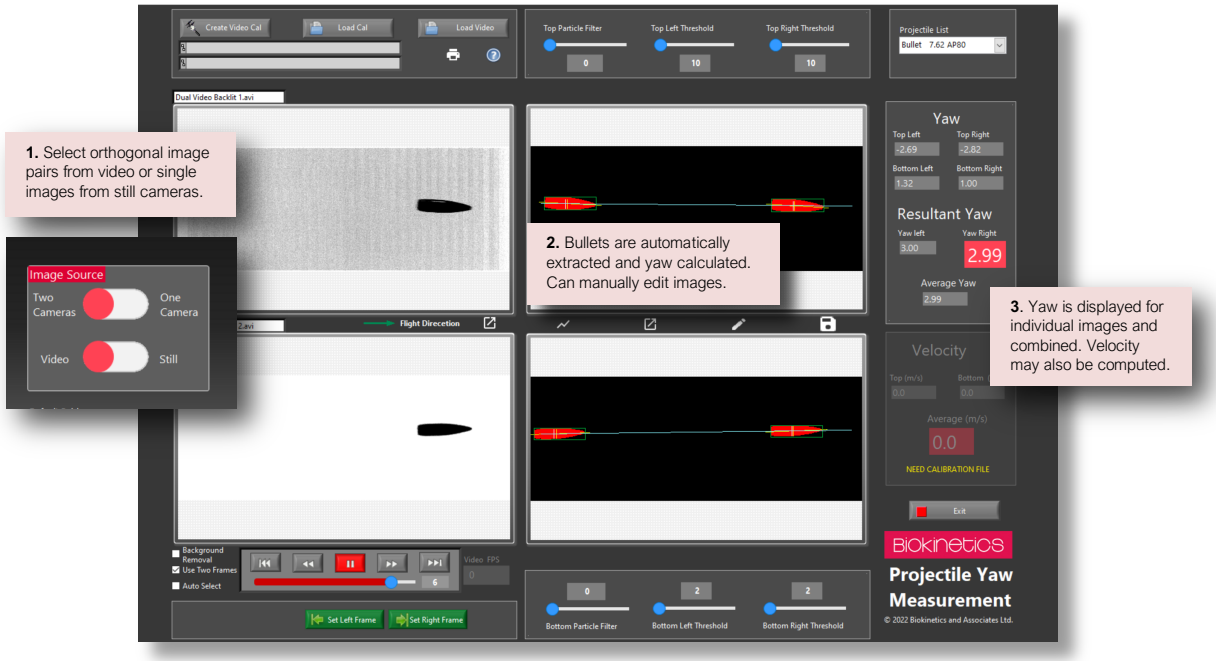
Yaw-HSV™ Pro 3.1 - Ballistic Yaw from Video or Still Images

Yaw analysis of ballistic projectiles and fragments from external high-speed videos or still camera images

Ballistic Yaw Analysis Software – Yaw-HSV™ Pro



Overview: The Yaw-HSV™ Pro module is part of Biokinetics' ballistics suite that increases confidence in your results while saving time by measuring the projectile yaw and speed. The software can process images collected by high-speed video or still camera systems configured to collect two orthogonal views. Processing is easy: **1)** load video/image file; **2)** select reference frame with patterned background for lens correction and parallax errors; **3)** select images, two sets for video; **4)** analyse the images. Additional features take care of background images, poor lighting, and projectile extraction. The yaw angle is calculated for bullets and cylindrical projectiles (e.g., FSP, RCC) without the use of templates or user input. The yaw angle is calculated instantaneously for the resultant and components with the results transferred to any application with the Clip Board. Projectile velocity can also be determined from multiple video images. The results of Yaw-HSV™ can be exported to Biokinetics V50 Assist™ for further analysis.

Features:

- The software determines yaw angles from two orthogonal still images obtained with two cameras or with only one high-speed video or still camera configured to use mirrors (optional OpenBox™ system with mirrors available).
- Yaw calculations optimized specifically for symmetrical bullets and for cylindrical projectiles that may include asymmetrical tips.
- For video systems, yaw is calculated relative to the actual flight trajectory. Accuracy depends on image resolution, quality, size and type of projectile. Accuracy of projectile velocity depends on image quality, frame rate and image separation.
- Flight trajectory is calculated using the centroid of the image or the centre-of-gravity of the projectile (requires CG location).
- Corrects for lens distortion and parallax errors with user provided grid or dot pattern images. Calibration files are saved for future use.
- Background imagery is removed automatically. Various threshold filters are available to improve quality of the extracted projectile image from poor quality videos. Images can be edited to remove artifacts or to fill in voids resulting from reflections.
- Start-to-finish processing times of less than 120 sec, including the time to load the video files. Reads AVI or PNG image files.
- Can be use with many ballistic resistance test standards that require yaw measurement (*e.g.,* NIJ 1010.06, MIL-STD-662F).

Specifications

Accuracy:	Typical accuracies better than ±0.5° are possible but is dependent on image quality, resolution, size and orthogonality.	Computer Requirements:	PC, Intel i5 or better, Windows 11
System Compatibility:	Can be used with the OpenBox™ mirror system or any user camera setup.	Part Number:	BYVP-001

(All specifications are subject to change)