



Revolutionizing  
Behavior Research



# TopScan Lite

## Features:

- Simple Top-View based Video Tracking software
- Cheapest basic video tracking system available in the market today!
- High-Throughput capability up to 32 simultaneously
- Real-time or offline
- Continuous lengthy recordings and analysis possible
- Easy plug-n-play functionality
- No user intervention required during experiment
- Detailed statistics about events that occurred during the experiment
- Automated Binned Data Output
- Automatic Graphing and Charting included!
- Validated to be more than 90% accurate with respect to human scoring
- Full color-analysis
- Automatic adaptation to changing environment, non-uniform lighting, etc.
- Result review, Visualization of Acquired Experiments
- Extensive Experiment Database Management included!
- Batch-mode allows user to run multiple videos successively without human intervention

## Events TopScan Lite can detect:

- Number of Visits to each Zone
- Time Spent in Each Zone
- Speed Measures in each Zone and over the entire arena
- Travel Distance Measures in each Zone and over the entire arena
- Latency to visit each Zone
- Motion
- Single point tracking (Center of Mass or Nose)

TopScan Lite is a product that can perform all the classic lab animal behavior analysis automatically, with the cheapest prices. It is a simplified top-view based product in PhenoScan Series for automatically analyzing rodent movements and patterns capable of being seen from above. TopScan Lite also integrates with *AnnoStar*, our manual scoring tool, allowing analysis of just about anything, since manual scoring can be performed in parallel while automated analysis is going on! Examples of applications include *Open Field*, *Novel Object Recognition*, *Maze Analysis*, *Morris Water Maze*, *Barne's Maze*, *Place Preference*, etc. TopScan Lite is a single point video tracking system. It uses the center of the mass of the animal and tracks it over the course of the experiment to determine where the animal went, how far and fast it traveled, etc. For many experiment tasks, this simple tracking is sufficient.

*TopScan Lite* allows automated analysis of locomotor activity. The system has the flexibility that the animal can be placed in an arena with or without bedding. *TopScan Lite* outputs statistics about locomotor behavior such as total distance traveled, average speed, etc. It also allows the user to divide the cage or arena into zones of any shape as they want and it will output zone-specific statistics including zone entry and exit statistics, average speed within each zone, length of stay in each zone, etc. For more detailed Locomotion behavior analysis including obtaining information such as Orientation to points, etc., purchase of *LocoScan* is recommended.

*TopScan Lite* can be used in Novel Object Recognition experiments as a rough tool for detecting the presence of the animal "near" an object. For accurate detection of Sniffing behavior based on the nose of the animal touching the object, purchase of *ObjectScan* is recommended.

*TopScan Lite* can automate the analysis of experiments conducted on all types of mazes including Elevated Plus Maze, Zero Maze, Radial Arm Maze, Y- or T- Maze, etc. It can detect traditional parameters like entries into each arm/area and time spent in each arm/area as events, etc. For detailed analysis of mazes including events such as body-across-two-zones, stretch-and-attend and head-dipping, the purchase of *MazeScan* is recommended.

*TopScan Lite* allows analysis of the popular Morris Water Maze experiment. The video is taken of the water maze experiment from the top, and it will analyze this video to give a variety of significant results, including latency time and distance traveled etc. For detailed analysis including, behaviors such as turning, orientation to a point, etc., purchase of our *WaterMazeScan* product is recommended.



## TopScan Lite

(Continued from front)

### Applications:

- Open Field, Locomotor Activity
- Novel Object Recognition
- Maze Analysis (Elevated Plus Maze, Zero-, Y-, T-, Radial Arm Maze)
- Morris Water Maze
- Place Preference
- Light/Dark Box
- And many more!

### Results:

- Objective Simple Single-point based Video Tracking Results
- Automatic Export to Excel
- Complete Experiment Database Management
- Summary of All Zone Entries, Time Spent, Distance Traveled, & Latency to entry
- Binned data at user-defined bin intervals

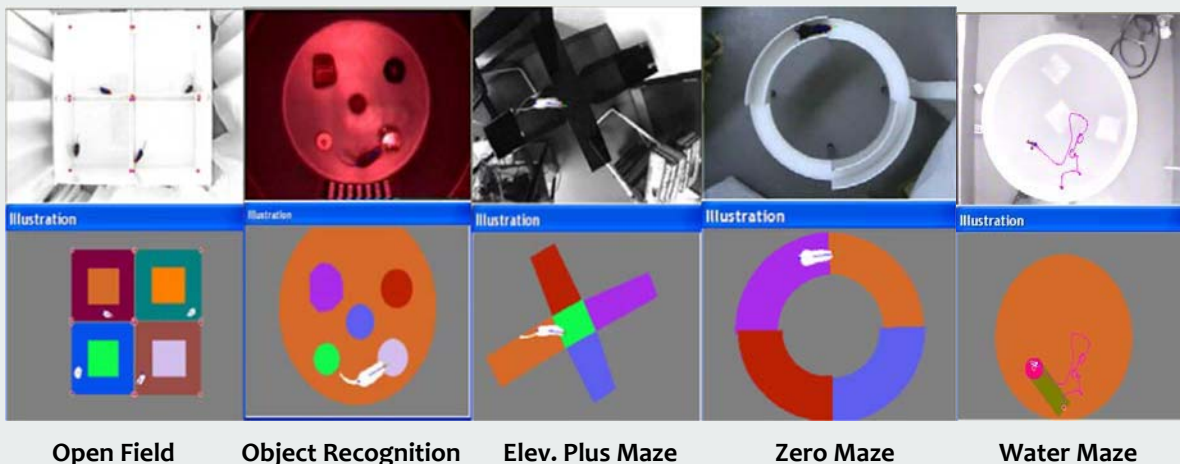
### Product Options:

- High-Throughput Option (H Option)
- Realtime Option (R Option)
- High-Throughput Realtime Option (HR Option)

### Requirements:

- Windows-based PC
- Intel High-speed Processor
- Special Videocard for realtime analysis
- Large HDD space for storage
- Good lighting conditions
- IR-switchable camera or red-light for night
- Video-multiplexer for multi-camera feed

TopScan Lite can be applied in Place Preference test, Barnes Maze, and many other experiments where the animal needs to be tracked. It has several advanced features, including ability to automatically review each event that is detected by playing back that specific video segment, and displays how the software finds the animal and tracks it accurately in a separate window so that user can monitor the performance of the system.



All components of TopScan Lite can be applied to achieve high throughput screening as well. System architecture for high throughput screening has been designed that involves analysis of up to 32 arenas on a system, depending on how large the arenas are. Such high levels of throughput are possible as we can integrate multiple cameras together into the TopScan Lite system. The High-Throughput product option is necessary to analyze more than a single arena simultaneously. The Realtime Option is necessary to perform realtime analysis where the live video feed into the computer is compressed, encoded, saved to the hard drive while simultaneously full analysis of the video is performed.

Many advanced features are incorporated, including supporting full color analysis, automatic adaptation to non-uniform or changing environment, automated handling of light/dark areas, variable speed playback of specific video segment for specific detected behavior, etc.

Complete Turn-key systems including all necessary Hardware and Software are available. Custom design of your environment to facilitate analysis, including lighting condition setup, IR/red light setup, cage enclosures, video integration, and video-feed to computer is also available.

**All of these capabilities at a price that just cannot be beat! TopScan Lite basic version is only \$3450. Options such as High-Throughput and Realtime Options are only \$1000 each. If all you need is basic tracking functionality, why look anywhere else! We offer the best tracking technology and features at the best price anywhere!**

### Unique Capabilities:

- Complete Hardware and Software Solution
- Lite version of the Full TopScan version allowing single point (center of mass tracking of the animal)
- Analyzes 720x480 at 30 frames per sec
- Detects animals in low contrast also!
- Works with rodents of all colors/sizes
- Integrates with 3<sup>rd</sup> party devices/bio-signals
- Controls other hardware devices via I/O ports