

THE CAMTOUCH TECHNICAL STANDARD

The industry standard for touch screen hardware and software.

All Bussey-Saksida Touch Screen Tasks, developed at the University of Cambridge, are performed on hardware conforming to the following technical standard. This standard defines all aspects of the animal's interactions.

Due to the complexity of touch screen system hardware, electronics, and software this standard ensures conformity. Comparisons are valid and simple to carry out.

Display of the Stimulus

Display Type

- TFT

Screen Size

- Mice: 12.1 inch (landscape)
- Rats: 15.0 inch (portrait)

Screen Resolution

- Mice: 800 x 600
- Rats: 768 x 1024 (rotated)

Screen Refresh Rate

- 60Hz

Image Format

- Bitmap

Image Size and Shape

- Task specific (based on grid size – scaled or cropped to fit)

Mask Dimensions

- Relates to image size and shape (task specific)

Software Image Presentation

- Whisker® www.whiskercontrol.com
- ABET II Touch® (Whisker Client) Lafayette Instrument
images held in cache memory for presentation timing and concurrent display



Standard Touch Screen Task Paradigms are available by arrangement with the University of Cambridge. **Full descriptions of our standard paradigms are available upon request or by visiting our website.**

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Chamber Environment

Bussey Trapezoidal Walls

- Mice: 185mm
- Rats: 345mm

Environment Square Area

- Mice: 188 cm²
- Rats: 368 cm²

Perforated Floor

- Mice: 6mm diameter with 9mm pitch
- Rats: 10mm square with 14mm pitch

Mask Dimensions

- Task specific (as above)

Recording of the Response

Touch Array and Sensitivity

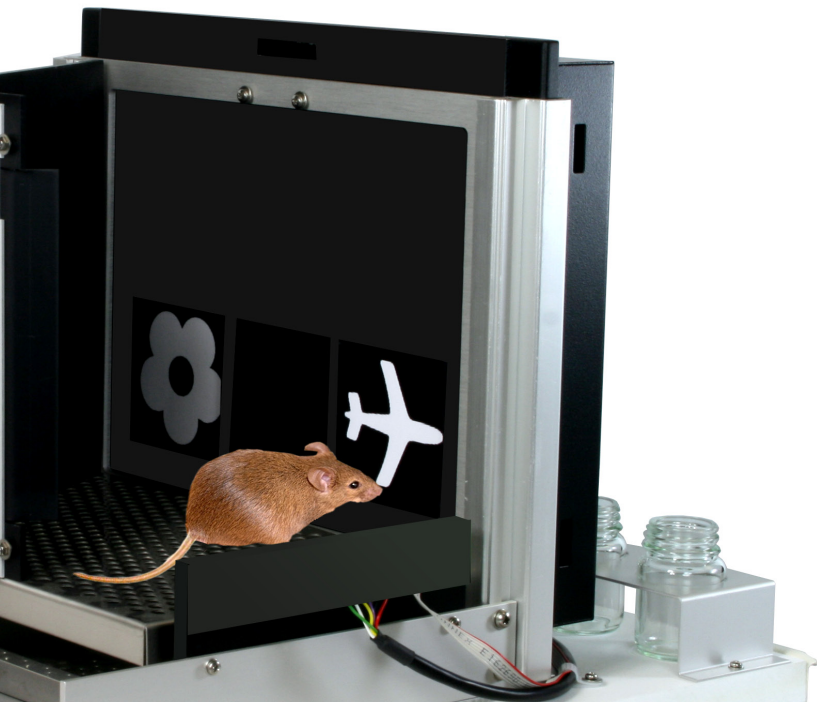
- Infra-red with increased sensitivity

Touchscreen Computer Specifications

- 2.5GHz Pentium Dual Core
- 4GB RAM
- Configure for multiple IR array and Multiple SVGA
- Network system (if installed) to be free from interference by running of other applications, especially anti-virus and other security software scanning

Software for Touch Capture

- Universal Pointer Device Driver (UPDD)
www.touchbase.com
- Whisker® www.whiskercontrol.com
Cardinal RN, Aitken MRF (2010). Whisker: A client-server high-performance multimedia research control system. Behavior Research Methods 42: 1059–1071
- ABET II Touch® (Whisker Client)
Lafayette Instrument Company



Reward Systems

Rat

- 45mg grain based food pellet

Mouse

- Sweet liquid reward calibrated to 7ul



Evolving Standards

We anticipate that The CamTouch Standard will evolve as more tasks are developed.

Currently under development

- Visual acuity test
- Moving images tasks

Other chamber configurations that have already been developed, include

- Grid bar floor
- Plain floor
- Square smooth-sided walls
- Square modular walls



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