VPixx ™
Visual Testing Software

Testing Software for the Vision Sciences

VPixx Technologies develops visual testing software and hardware solutions for researchers and teachers in the fields of psychophysics, electrophysiology, cognition, and fMRI. The VPixx program, a result of over twenty years of experience in vision science programming, is the easiest way to generate and present frame-synchronized animated stimuli within the context of a testing paradigm. VPixx supplies you with powerful features to easily manage complex dynamic stimuli and experimental designs, all within a single user-friendly Macintosh application.

Product Highlights

Scripted Stimuli – A single VPixx document contains a list of all the stimuli for an experiment. Each stimulus is a list of region definitions and executable commands. Each region contains a list of the patterns which combine to fill the region.

User Friendly Dialogs – Double-clicking on a stimulus, region, pattern, or command name will open up a parameter dialog. This layout makes it very easy to navigate and modify your design's stimuli.

Function Buttons – Immediately preview a modified stimulus animation.

Intuitive Design Window – Supports copy/paste and drag-and-drop, allowing you to instantly duplicate stimuli, or even copy stimuli from one design file into a second design file for a new experiment.

You can be collecting data for a new experiment within hours, instead of weeks or months.

Testing Paradigms

VPixx supports the following testing paradigms:

- method of constant stimuli
- method of adjustments
- classical n-down/1-up staircases
- maximum-likelihood adaptive staircases
- interactive receptive field probing

The experimenter has full control over condition blocking and randomization, as well as which events initiate trials and which events are logged as subject data. Long tests can be stopped, then continued during another session.

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* **Export VPixx stimulus animations as a PICT file or QuickTime® movie.** Handy for publishing your stimuli on your web site, emailing stimuli to collaborators, or preparing teaching materials.
* **VPixx stimulus can contain multiple regions** which appear/disappear at specific video frames within the animation. Multiple regions can be presented simultaneously, with front regions occluding or "masking" back regions. Each region can contain a single pattern, or multiple patterns which are combined additively, or multiplicitively. Makes second-order stimuli easy.
* **Comprehensive support for most stimulus patterns** currently used in vision research. Stimuli can include recorded sound files.
* **Custom patterns** can be imported or specified as a general mathematical function of x and y.
* **Calibrated region colors** can be specified in LMS (cone response), and the CIE spaces XYZ, Lxy, Lu'v', L*u*v*, and L*a*b*.
* **Over 10 bits of luminance resolution** gives accurate contrast thresholds.
* **Supports VPixx Graphics Adaptor (VPGA) for full 14-bit video DAC resolution**.
* **Stimulus parameters can be specified in many different units** (eg: a region's size can be specified in degrees of visual angle, centimeters, inches, or pixels).
* **Position parameters can be specified in rectangular or polar coordinates.** Each parameter functions as a mini-calculator, automatically converting values as you change the parameter's units or coordinate space.
* **A receptive field mapping mode** allows stimuli to animate while they are being dragged around the display. You can also resize the stimuli and change their orientation.
* **All of an experiment's stimuli are stored in a single VPixx document.** Makes it easy to move an experiment to another machine, or email an experiment to a colleague.
* **Stimulus animations are scriptable.** All of the stimulus scripts are listed in a single easy-to-use window.
* **The stimulus window supports copy/paste and drag-and-drop,** for easy duplication of stimuli. No need to recreate similar stimuli from scratch. You could even maintain a single VPixx document as a library of your most often used stimuli, then just drag the stimuli into a new design.
* and many more... Contact VPixx with your questions or feature requests.
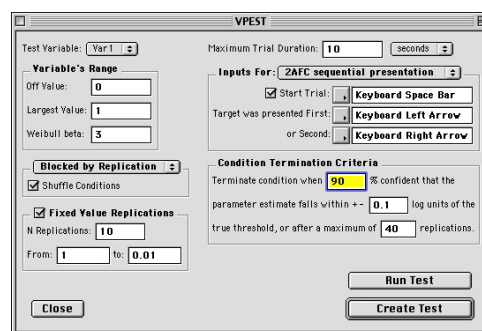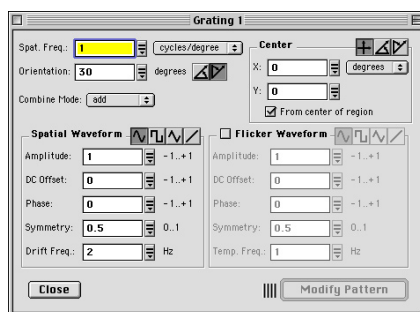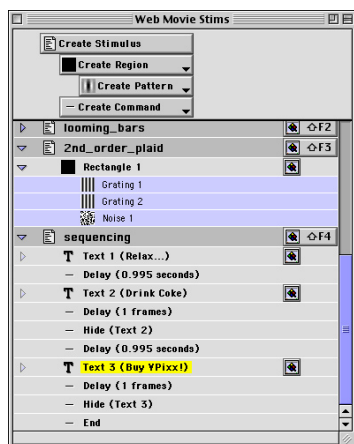
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