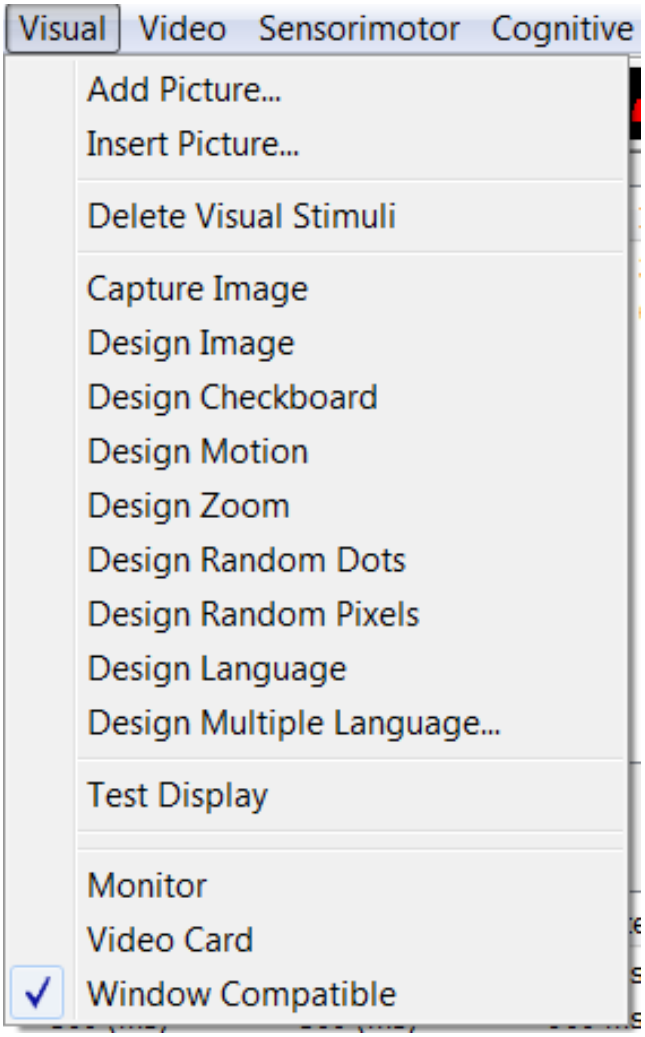
BrainX

Menu Visual



DISCLAIMER

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Features and specifications of this software program are subject to change without notice. This manual contains information and images about BrainX, its user interface, GUI and its other signal processing algorithms, publications that are protected by copyright.

Sending Your Comments and Critiques: We'd like to hear from you. Your comments and suggestions for improving this document are welcome and appreciated. Please e-mail your feedback to: BrainX@live.com

Thank you.

Contents

Warnings and Cautions

This software can be used to design paradigms for magnetoencephalography (MEG), electroencephalography (EEG) and functional resonance imaging (fMRI).

The following warnings and cautions appear in this guide. Please ensure you are aware of all the operations and interpretations.

General Information

The Visual menu includes all the functions for designing visual stimulation, such as check board, picture, spoken language and background sound or noise.

Add Picture

It adds a visual file (picture/image) to the end of the stimulus list.

Insert Picture

It inserts a visual file (picture/image) to the selected position of the stimulus list.

Delete Visual Stimuli

It deletes all the visual stimuli in the stimulus list or Design Panel.

Capture Image

It captures a selected area (or picture/image) on the computer screen and then adds the captured image directly to the stimulus list.

Design Image

It shows the dialog for designing image stimulus and adds the designed stimulus into the stimulus list.

Design Checkboard

It shows the dialog for designing checkboard (or pattern) stimulus and adds the designed stimulus into the stimulus list.

Design Motion

It shows the dialog for designing motion (or moving object) stimulus and adds the designed stimulus into the stimulus list.

Design Zoom

It shows the dialog for designing zoom (or sizing object) stimulus and adds the designed stimulus into the stimulus list.

Design Random Dots

It shows the dialog for designing random dot stimulus and adds the designed stimulus into the stimulus list.

Design Random Pixel

It shows the dialog for designing random pixel stimulus and adds the designed stimulus into the stimulus list.

Design Language

It shows the dialog for designing language stimulus and adds the designed stimulus into the stimulus list.

Design Multiple Language

It shows the dialog for designing multiple language stimuli and adds the designed stimuli into the stimulus list. It can handle multiple words/sentences and assign them to multiple stimuli.

Test Display

It tests the properties of the video card in the computer and the present system in the MEG/EEG/fMRI suite. Please note that, the display is not necessary to be a screen. It may include several items.

Monitor

It checks and displays the properties of the monitor.

Video Card

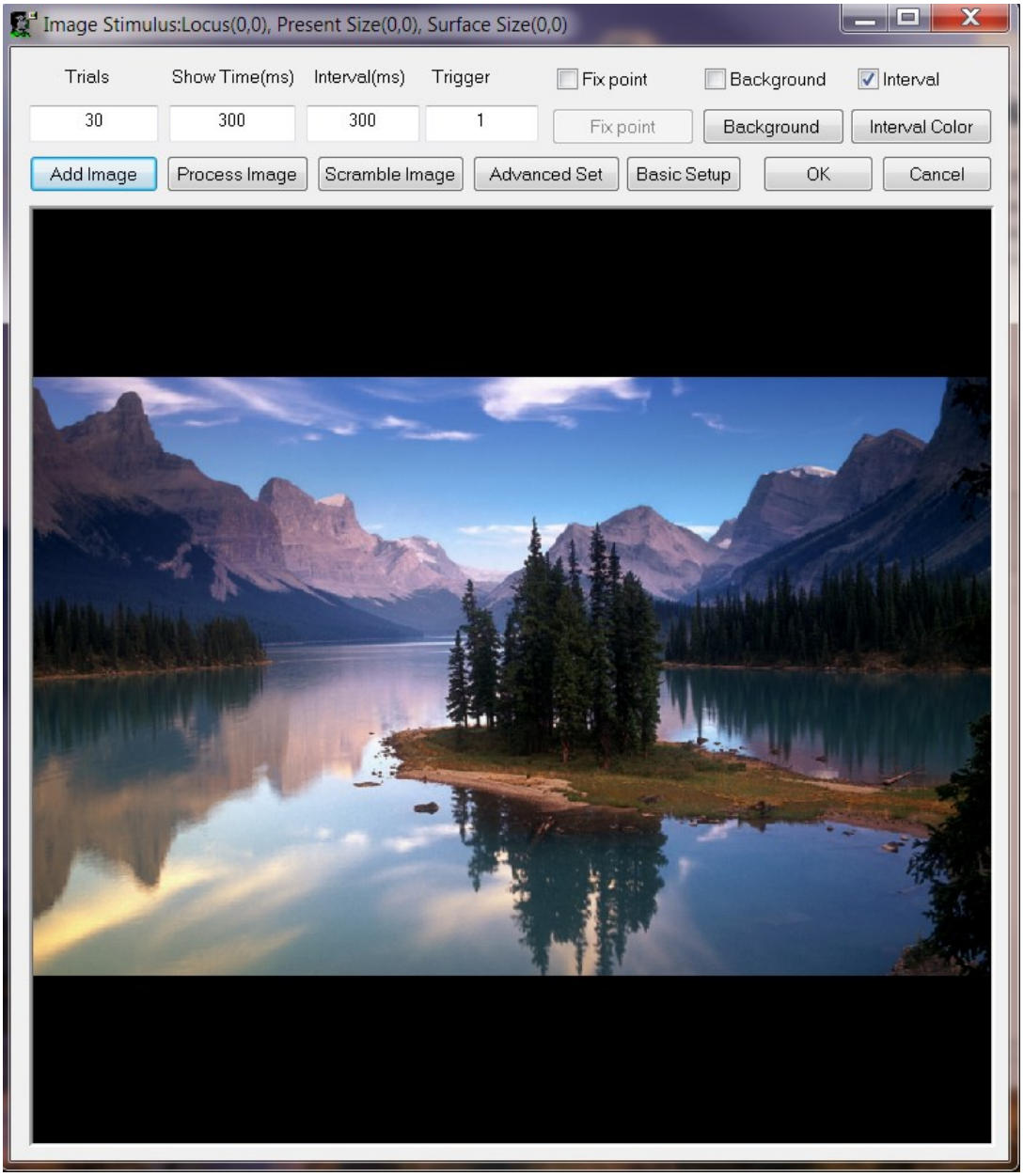
It checks and displays the properties of the video card.

Window Compatible

It enables users to stop (press “Esc” key) and start the paradigm easily. This function is necessary because BrainX is designed to control the video card, audio care, serial ports and parallel ports for better synchronization presentation and triggering. Consequently, it can be easily “locked” to ignore other input and users’ response. The selection of Window Compatible will make the running paradigm more responsible to user responses.

How to design image stimulus

The dialog of the Visual Stimulus – Image is designed for setup a visual stimulus with an image. User needs to add an image to be a stimulus.



Process Image

It provides a few functions for image processing.

Scramble Image

It scrambles a loaded image. It is commonly used as a control for a same image.

Fix Point

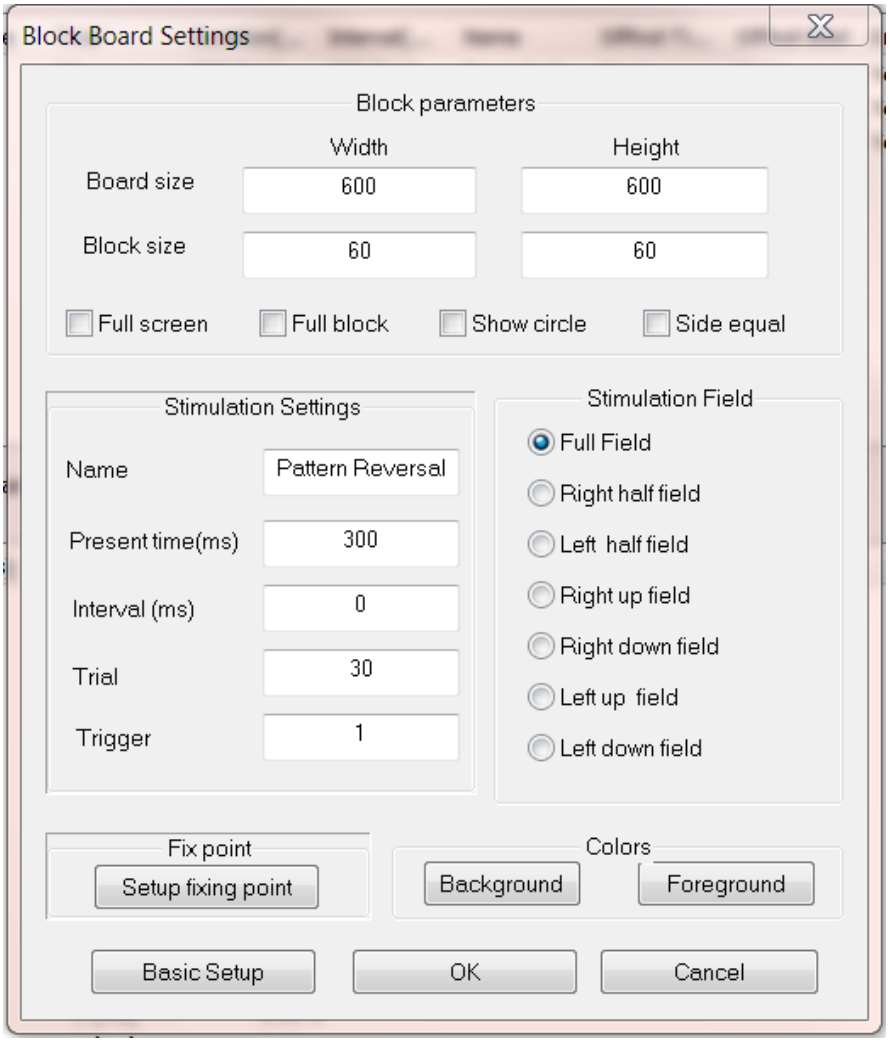
It provides a way to setup a fix point. It is optional.

Interval Color

If there is an interval between two images (two stimuli), the interval can present a background color. This is optional.

How to design check-board stimulus

The dialog of the Visual Stimulus – Check-Board is designed for setup a visual stimulus with an check-board.



The dialog of the Visual Stimulus – Check Board is designed for setup a check board pattern.

Board Size

It indicates that the size of the entire board. This board includes many small squares or blocks or checkers.

Block Size

It shows the width and height of the size of the small blocks (square).

Full Screen

It will take the entire screen as the check board.

Full Block

It indicates that all block will be full size.

Show Circle

It makes the check board as a circle.

Side Equal

It makes the width and height the same.

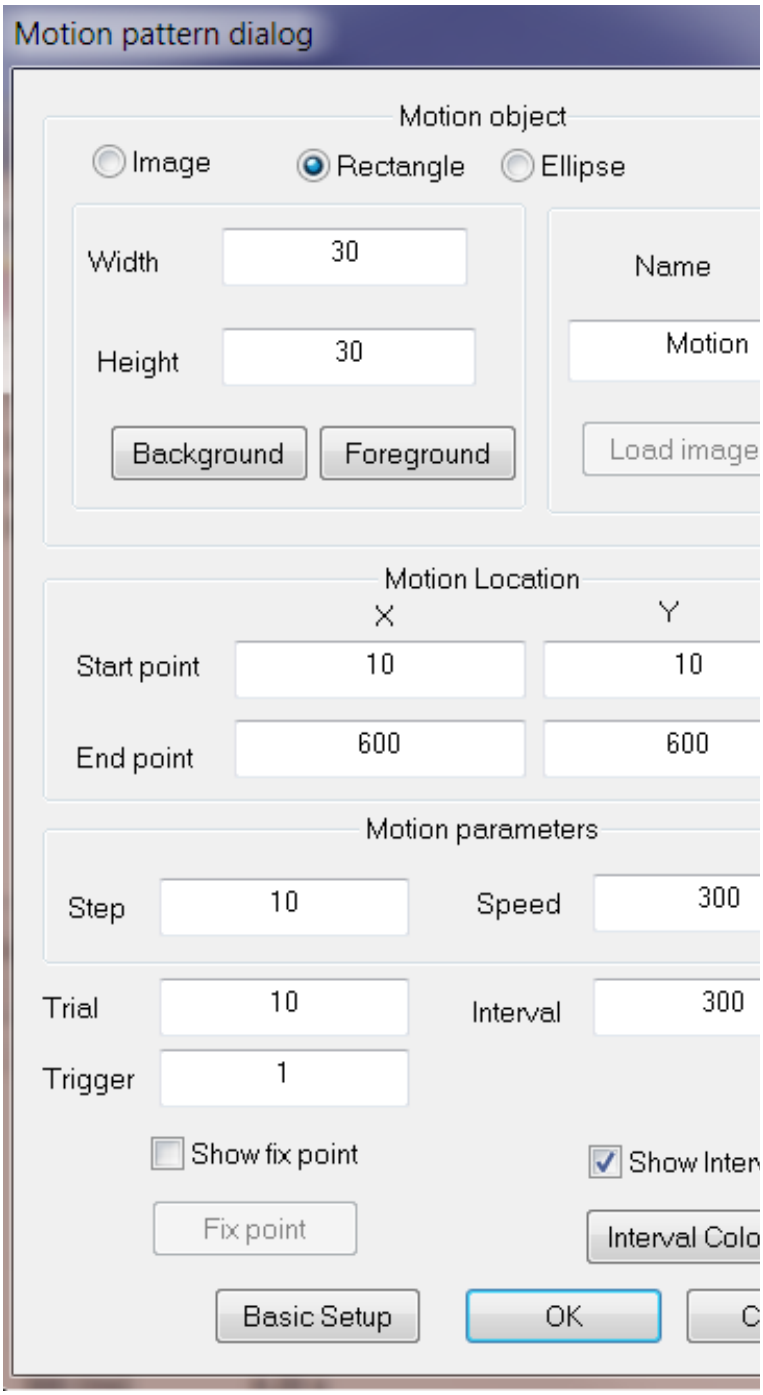
Background and Foreground

It is used for setup the background and foreground colors.

Stimulation Field

It is designed for setup a special check board for stimulating a partial visual field.

How to design motion stimulus



The dialog of the Visual Stimulus – Motion is designed for setup a motion stimulus. The motion object can be an image, rectangle or ellipse.

Motion Object

Currently, three kinds of motion objects are supported,
they are image, rectangle and ellipse. User can load an image as the motion object. Or, designing a rectangle or ellipse use the Width, Height, background and foreground function to define the object.

Motion Location

It includes the start and end positions for the motion object.

Motion Parameters

It defines the step and speed of the motion.

Show Fix Point

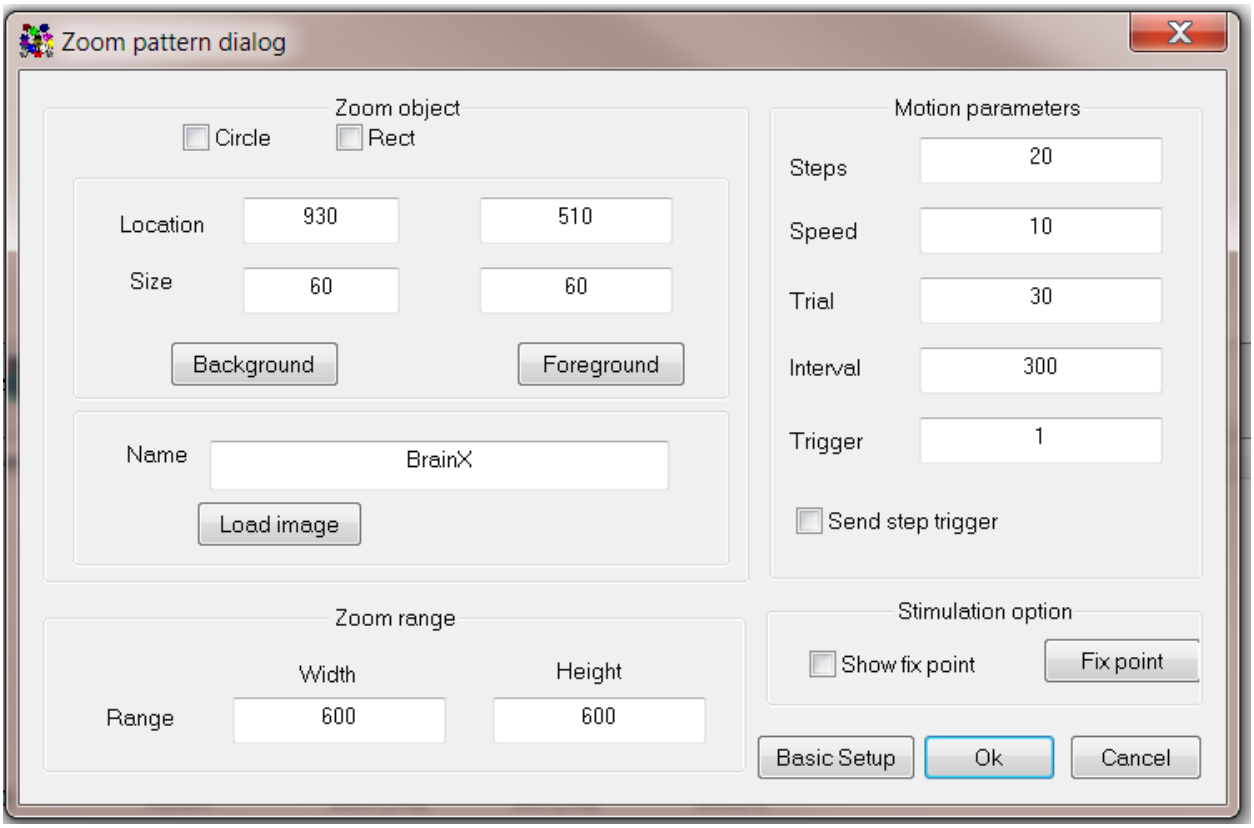
It indicates if the fix point will be shown. It is optional.

Show Interval

It indicates if there is interval between two stimuli. It is optional.

How to design motion stimulus

The dialog of the Visual Stimulus – Zoom is designed for setup a zoom stimulus. The zoom object can be an image, rectangle or ellipse.



Zoom Object

Currently, three kinds of zoom objects are supported; they are image, rectangle and ellipse. User can load an image as the zoom object. Users can also design a rectangle or ellipse with the Width, Height, background and foreground function to define the stimulation parameters.

Zoom Location

It includes the start and end positions for the motion object.

Zoom Parameters

It defines the step and speed of the motion.

Show Fix Point

It indicates if the fix point will be shown. It is optional.

Show Interval

It indicates if there is interval between two stimuli. It is optional.

How to design random dots stimulus

The dialog of the Visual Stimulus – Random Dots is designed for setup a random dots stimulus. The dots are visually and spatially randomized.

Dot objects

The dot objects can be circular or rectangle. Users can also design a rectangle or ellipse with the Width, Height, background and foreground function to define the stimulation parameters.

Center or other Location

If the "Center" is checked, the cluster of dots will show at the center of the screen/project. Otherwise, it will show at the location defined by the location (x,y).

Full Screen or defined regions

If the "Full Screen" is checked, the dots will show on the entire screen. Otherwise, the dots will show in the defined area.

Show Fix Point

It indicates if the fix point will be shown. It is optional.

Show Time

It indicates the time of presentation.

Show Interval

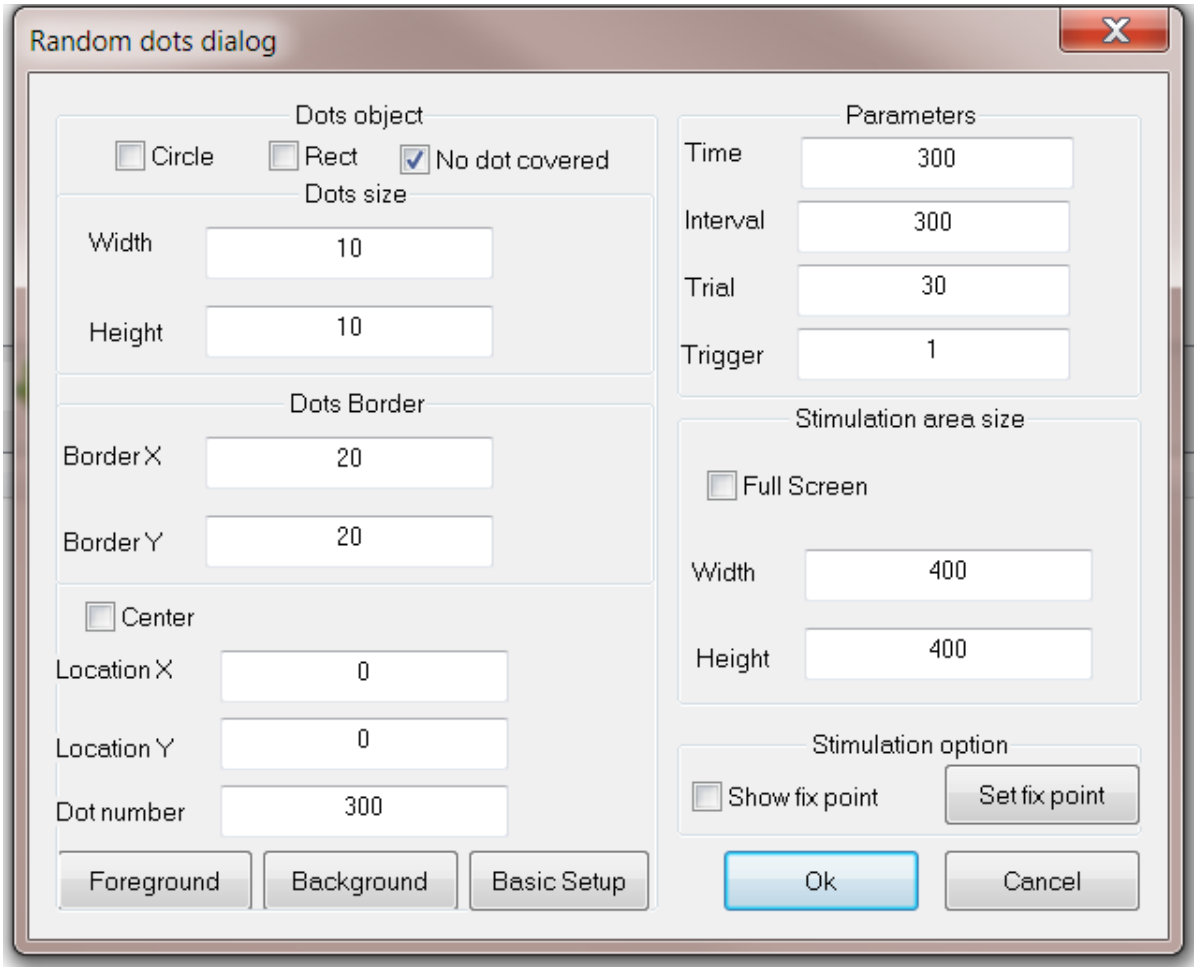
It indicates the interval between two consequent stimuli.

Trial

It indicates the trials of presentation.

Trigger

It indicates the trigger associated with the presentation that will be sent to the MEG/EEG/fMRI systems.

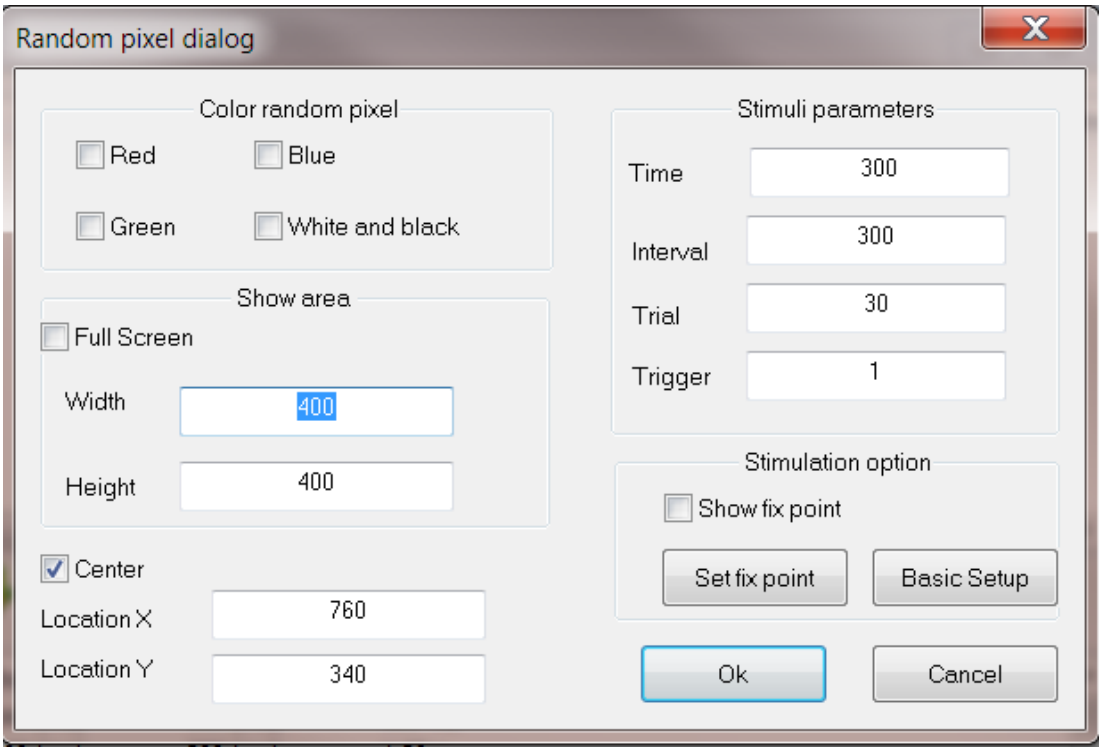


How to design random pixel stimulus

The dialog of the Visual Stimulus – Random Dots is designed for setup a random dots stimulus. The dots are visually and spatially randomized.

Pixels

The pixels can be in any color or black/white. Users can also combine some of the color to define the stimulation parameters.



Center or other Location

If the "Center" is checked, the cluster of pixels will show at the center of the screen/project. Otherwise, it will show at the location defined by the location (x, y).

Full Screen or defined regions

If the "Full Screen" is checked, the pixels will show on the entire screen. Otherwise, the pixels will show in the defined area.

Show Fix Point

It indicates if the fix point will be shown. It is optional.

Show Time

It indicates the time of presentation.

Show Interval

It indicates the interval between two consequent stimuli.

Trial

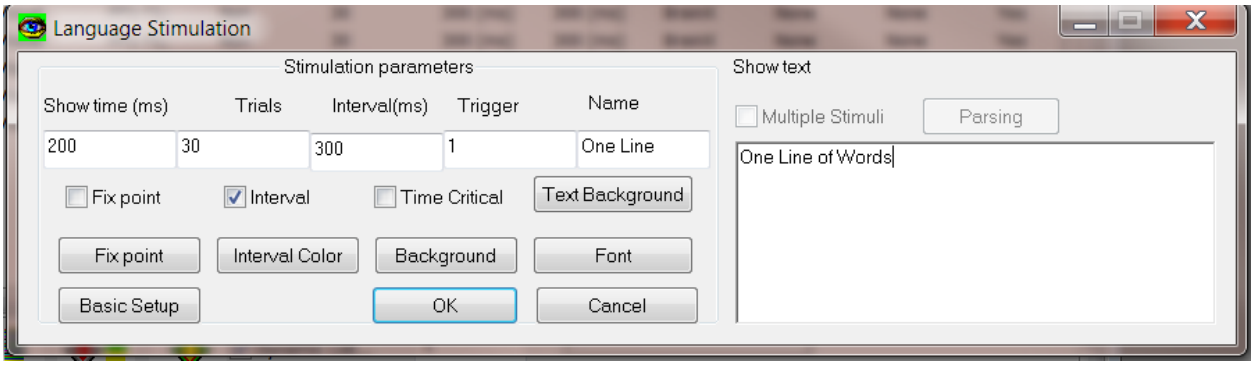
It indicates the trials of presentation.

Trigger

It indicates the trigger associated with the presentation that will be sent to the MEG/EEG/fMRI systems.

How to design language stimulus (one stimulus at a time).

The dialog of the Language Stimulation dialog is designed for setup a language stimulus. The language (words or sentence) will be displayed at the center of the screen.



Show Time

It indicates the time of presentation.

Show Interval

It indicates the interval between two consequent stimuli.

Trial

It indicates the trials of presentation.

Name

It indicates the name of the stimulus.

Trigger

It indicates the trigger associated with the presentation that will be sent to the MEG/EEG/fMRI systems.

Show Fix Point

It indicates if the fix point will be shown. It is optional.

Interval Color

It indicates the color will be presented between two stimuli.

Background (Color)

It indicates the background color will be presented during the task.

Font (Color)

It allows user to setup the font of the language presentation.

How to design multi-language stimuli at one time

The dialog of the Multi-Language Stimulation dialog is designed for setup multiple language stimuli at one time. The each line of words or sentence in the Edit box will be divided into one language stimulus (parsing). IN other words, the dialog of the Visual Stimulus – language is designed for setup a visual stimulus with one or more language stimuli.

Hint: the language stimuli are parsed with new line character. In other word, one line is one stimulus in the text box.

Multiple Stimuli

It indicates that the text edit box includes more than one stimulus. This is a powerful feature for designing language paradigms. User can paste hundreds of words or sentence into the text box, and the parsing function will automatically parse all text into stimuli with one click.

Please note that all the settings will apply to each parsed stimulus.

Background

It is used for setup the background of the screen; by default, it is black. Please note that the screen background is different from the text background.

Text Background

The text background indicates the background for drawing text. It is an area around the text presentation.

Font

It is used for setup the font of text stimuli.

Fix Point

It provides a way to setup a fix point. It is optional.

Interval Color

If there is an interval between two images (two stimuli), the interval can present a background color. This is optional.

The settings of other parameters in the designing multi-language stimuli are similar to that of the designing single language stimulus.