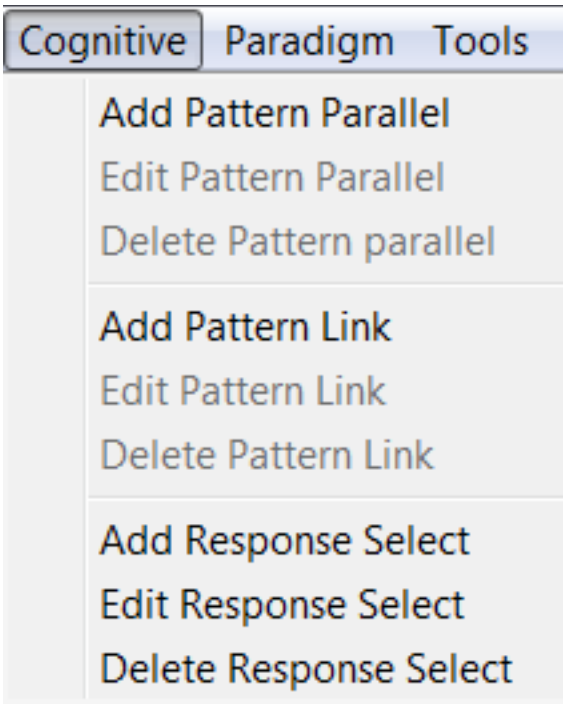
BrainX

Menu Cognitive



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 cognitive menu includes all the functions for delivering cognitive stimuli. Cognitive stimuli (task, paradigms) typically include auditory and visual stimuli (child stimuli or sub-stimuli). Those sub-stimuli can be arranged a parallel or sequential (link) manner. In addition, the presentation of sub-stimuli may depend on the response/selection of subjects. Therefore, there are several modules for designing cognitive tasks.

Add Pattern Parallel

It adds a pattern parallel stimulation to the end of the stimulus list.

Edit Pattern Parallel

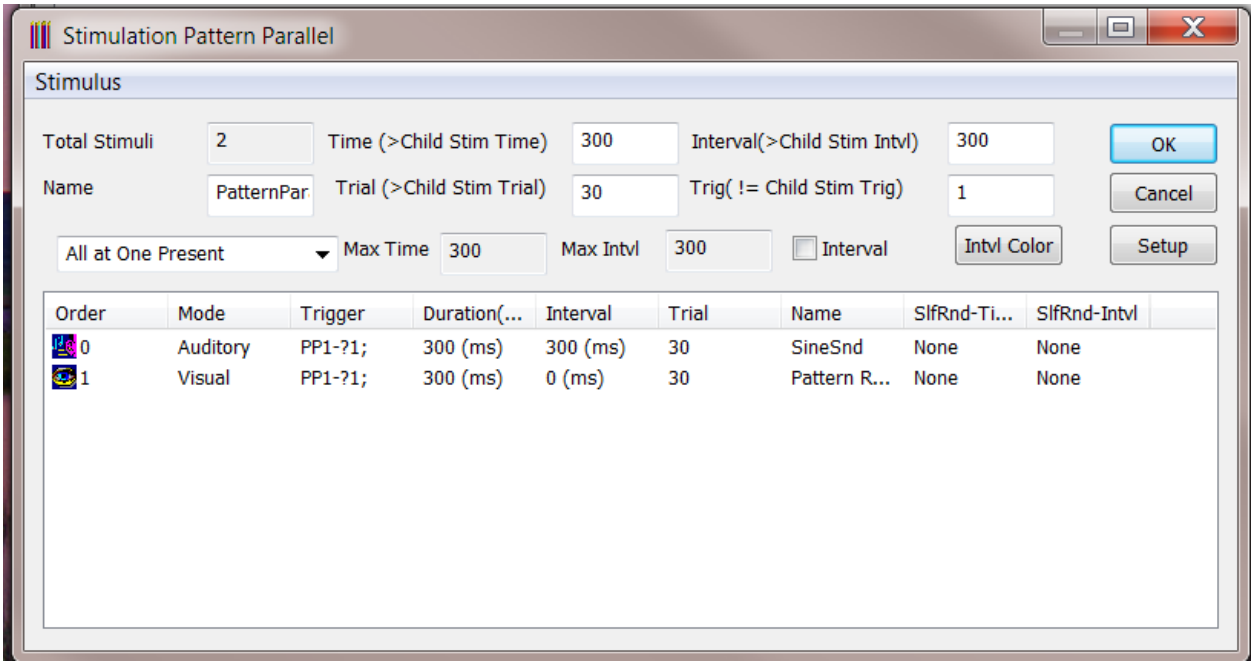
It edits a pattern parallel stimulation to the selected position of the stimulus list.

Delete Sensory

It deletes all pattern parallel stimuli in the stimulation list.

How to setup Pattern Parallel stimuli

The dialog for setup pattern parallel stimuli allows defining the parameters for pattern parallel data.



Total Stimuli

It indicates the number of total sub-stimulus.

Name

It indicates the name of the stimulus.

Trial

It indicates the trials of stimulations.

Time

It indicates the time for stimulation.

Interval

It indicates the interval between two consequent stimuli.

Hint: since a pattern parallel stimuli typically include more than 1 sub-stimuli (or child stimuli), the time (duration) and interval are typically larger (longer) than that of any sub-stimulus.

Basic Setup

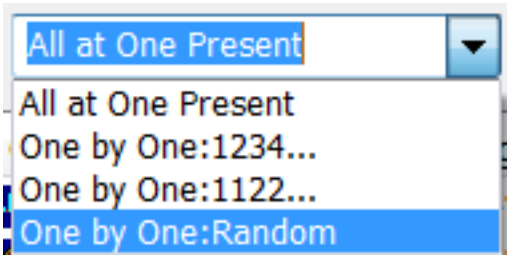
It shows a dialog to define the basic parameters of the stimulus (e.g. trigger, self-random).

Triggers

The trigger associated with the stimulation that will be sent to the MEG/EEG/fMRI systems (which is optional).

Presentation Type (module)

In the parallel pattern, the sub-stimuli can be presented in at least four ways.



All at One Present (simultaneous)

All the sub-stimuli will be presented at the same time.

One by One: 1234

All the sub-stimuli will be presented one by one. Each time will present one. The next time will present next one, in a sequential order.

One by One: 1122

All the sub-stimuli will be presented one by one. Each time will present one. The next time will present the same one until reach the total number of trial of the sub-stimuli.

One by One: Random

All the sub-stimuli will be presented in a randomized order. Each time will present one.

Max Time

It indicates the maximum time of all sub-stimuli.

Max Intvl

It indicates the maximum interval of all sub-stimuli.

Max Intvl

It indicates the maximum interval of all sub-stimuli.

Check Interval

It indicates if there will be interval presentation.

Interval Color

If there is interval visual stimulus, interval color can be set.

Add Pattern Link

It adds a pattern Link (sequential) stimulation to the end of the stimulus list.

Edit Pattern Link

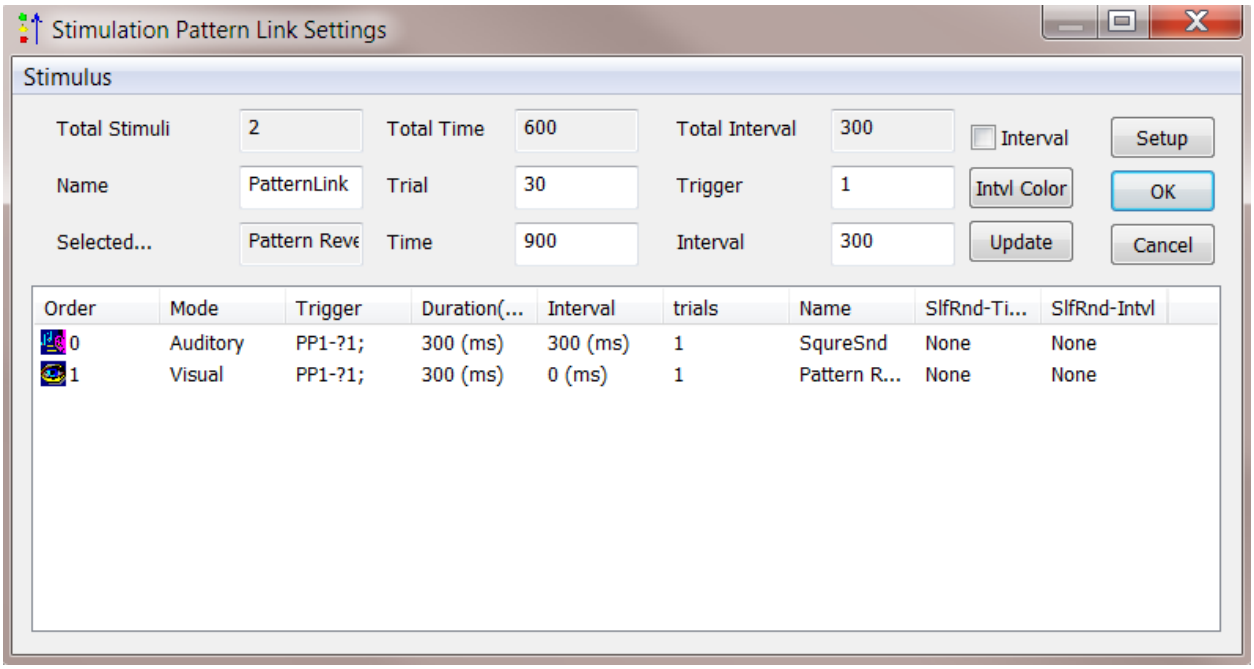
It edits a pattern Link (sequential) stimulation to the selected position of the stimulus list.

Delete Pattern Link

It deletes all pattern Link (sequential) stimuli in the stimulation list.

How to setup Pattern Link stimuli

The dialog for setup pattern Link (sequential) stimuli allows defining the parameters for pattern parallel data.



Total Stimuli

It indicates the number of total sub-stimulus.

Total Time

It indicates the total time of all sub-stimuli.

Total Interval

It indicates the total interval of all sub-stimuli.

Name

It indicates the name of the Pattern Link stimulus.

Trial

It indicates the trials of stimulations.

Triggers

The trigger associated with the stimulation that will be sent to the MEG/EEG/fMRI systems (which is optional).

Time

It indicates the interval between two consequent stimuli.

Interval

It indicates the interval between two consequent stimuli.

Hint: since a pattern link stimuli typically include more than 1 sub-stimuli (or child stimuli), the time (duration) and interval are typically larger (longer) than that of any sub-stimulus.

Basic Setup

It shows a dialog to define the basic parameters of the stimulus (e.g. trigger, self-random).

Check Interval

It indicates if there will be interval presentation.

Interval Color

If there is interval visual stimulus, interval color can be set.

Add Pattern Response Select

It adds a pattern response select stimulation to the end of the stimulus list.

Edit Response Select

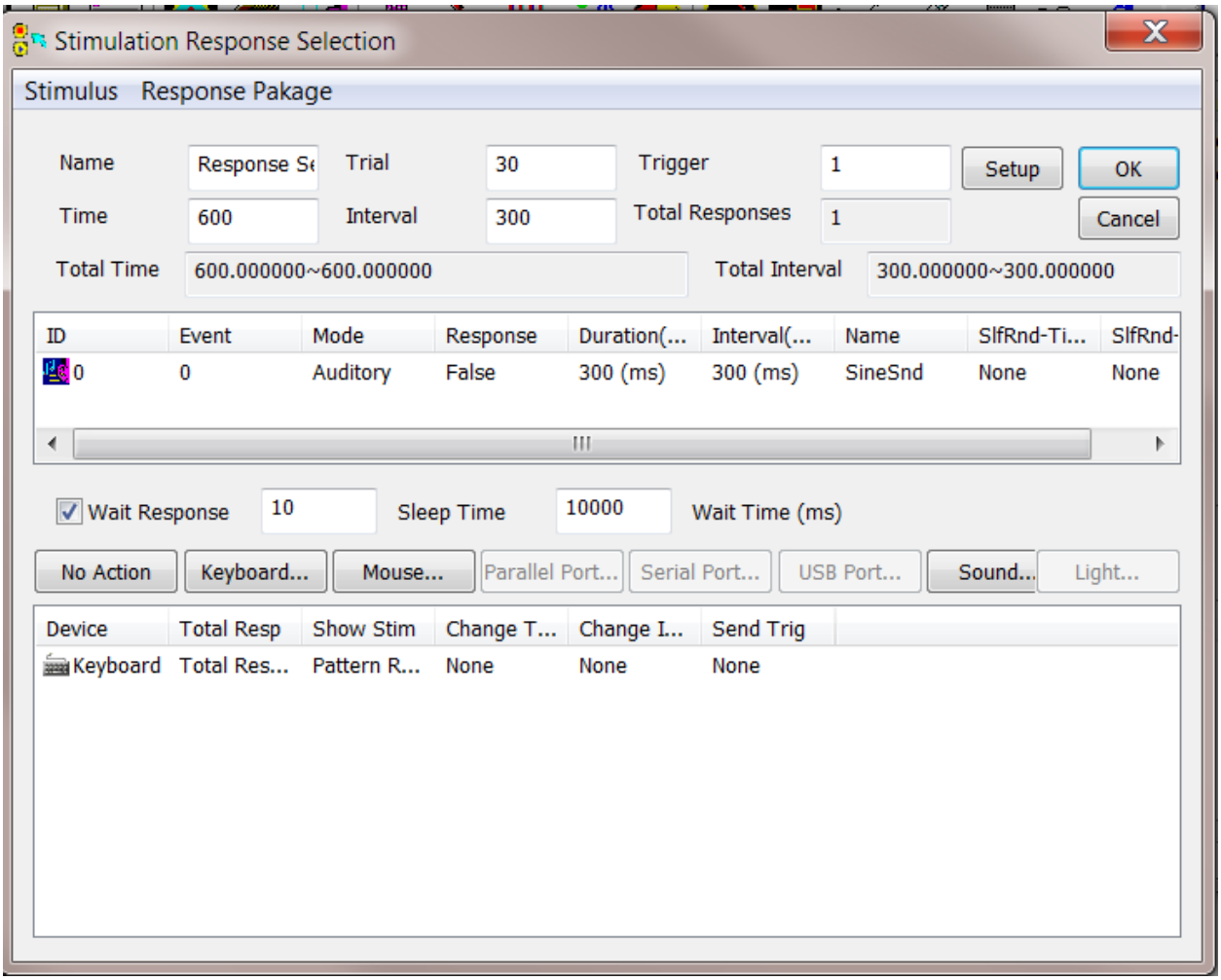
It edits a pattern response select stimulation to the selected position of the stimulus list.

Delete Response Select

It deletes all pattern response select stimuli in the stimulation list.

How to setup Response Select stimuli

The dialog for setup pattern response select stimuli allows defining the parameters for pattern response select data.



Name

It indicates the name of the Pattern Link stimulus.

Trial

It indicates the trials of stimulations.

Trigger

The trigger associated with the stimulation that will be sent to the MEG/EEG/fMRI systems (which is optional).

Time

It indicates the interval between two consequent stimuli.

Interval

It indicates the interval between two consequent stimuli.

Hint: since a pattern link stimuli typically include more than 1 sub-stimuli (or child stimuli), the time (duration) and interval are typically larger (longer) than that of any sub-stimulus.

Total Responses

It indicates the number of total sub-stimulus.

Total Time

It indicates the total time of all sub-stimuli.

Total Interval

It indicates the total interval of all sub-stimuli.

Setup

It shows a dialog to define the basic parameters of the stimulus (e.g. trigger, self-random).

Check Interval

It indicates if there will be interval presentation.

Interval Color

If there is interval visual stimulus, interval color can be set.

Wait Response

If it is checked, the program will wait for responses.

Sleep time

It indicates the sleep time during the wait period of time. Longer sleep time indicates rapid response; shorter sleep time indicates slow response.

Wait time

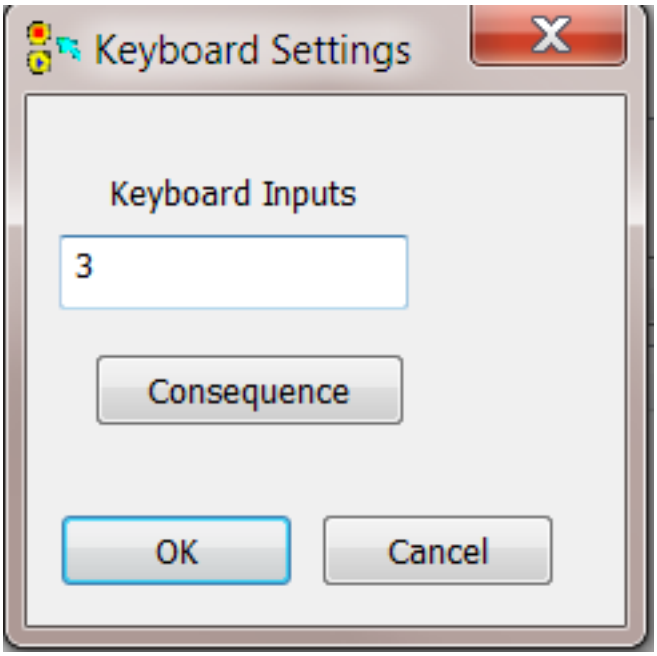
It indicates the time for waiting subject's response.

No Action

It indicates what will show or delivery if there is no action.

Keyboard

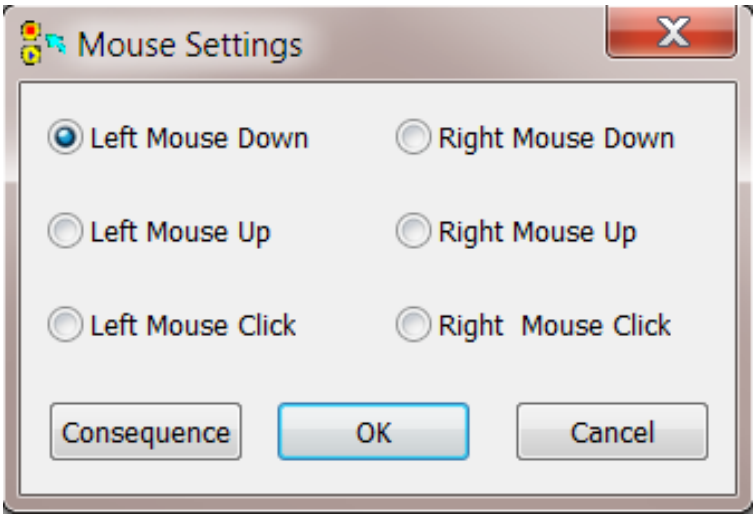
It indicates what will show or delivery if there are keyboard responses. The keyboard responses can be generated by response boxes or response pad.



The Consequence enables users to setup a response stimuli.

Mouse

It indicates what will show or delivery if there are mouse responses. The mouse responses can be generated by response boxes or response pad.



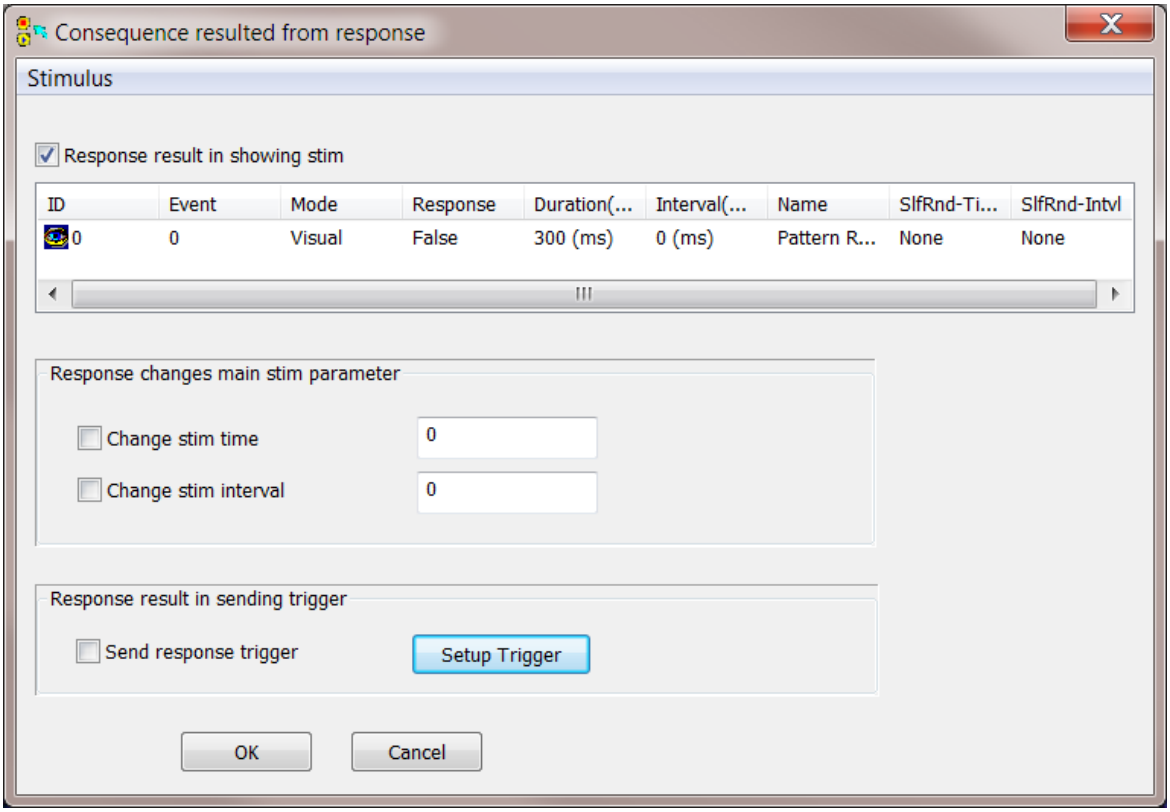
The dialog of Mouse Settings enables users to define the type of mouse response. The Consequence allows users to select the response stimulus.

Sound

It indicates what will show or delivery if there are sound (speaking) responses. The sound responses can be obtained from microphones.

Consequence Resulted from Response

It shows a dialog to setup the response results. Users can select response.



The response can also change the stimulation parameter such as stimulation time (Change stim time) or stimulation interval (Change stim interval).

The response can also result in sending trigger. If it is checked, the response will send a specific trigger.