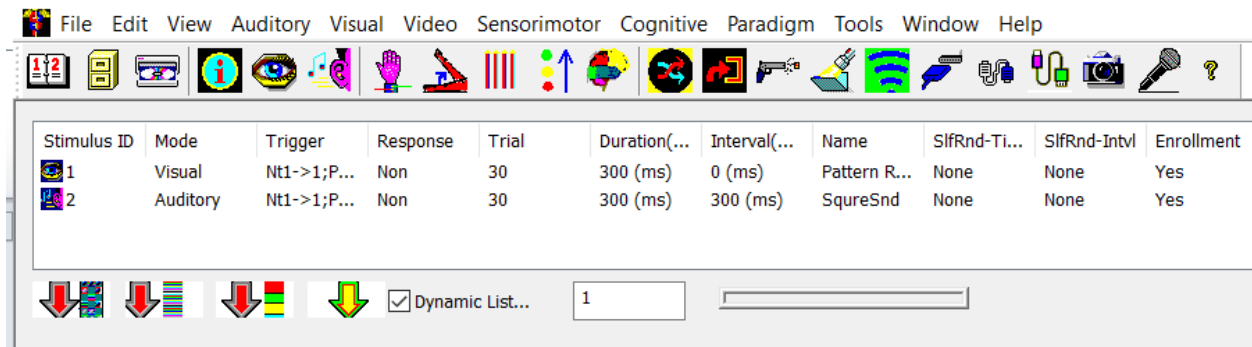


BrainX

Main Toolbar (*Stimuli and Presentation Item*)



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.

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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.

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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.

Preface

The Main Frame is one of the core windows of BrainX software. It is used as the primary tool to view the stimuli and presentation orders. Importantly, the Main Frame provides graphic user interface (GUI) for access other function. In other words, it is also often used to launch other windows such as adding pictures.

This guide describes the operation of the BrainX application for designing auditory, visual, somatosensory, and motor paradigms. Paradigms for high-frequency functions can be designed with the parallel, link and response modules. Since the response module can link to another parallel/link/response module, BrainX enable researchers/clinicians to design very sophisticated paradigms.

Determining the Software Version

In the Main Frame: select Help -> About.

The About Dialog will show the version of the software.

Intended Audience

This guide is intended for anyone needing to view or design stimuli, paradigms, questionnaire and response tasks using a computer. It assumes the reader is familiar with functional brain test procedures and with the Windows operating systems.

Document Structure

Documents are generally provided in both Microsoft Word® format and Adobe® Acrobat® PDF (Portable Document Format). All editions are distributed on Flash Driver, CD or websites with the related software, and include bookmarks and hyperlinks to assist navigating the document. Please feel free to send your critiques, corrections, suggestions and comments to BrainX@live.com.

Conventions

Numeric: Numeric values are generally presented in decimal but in special circumstances may also be expressed in hexadecimal or binary. Hexadecimal values are shown with a prefix of 0x, in the form 0x3D. Binary values are shown with a prefix of 0b, in the form 0b00111101. Otherwise, values are presumed decimal.

Units: Units of measure are given in metric. Where measure is provided in imperial units, they are typically shown in parenthesis after the metric units. Time is measured in milliseconds (ms) or microsecond.

Using Main Toolbar

The Main toolbar allows for easy access to the frequently used functions.



New Paradigm

To setup a new paradigm or stimulation pattern, just click this button.



Open a Used Paradigm

To open an existing paradigm, click this button.



Save the Paradigm

To save the active paradigm as a file, click this button.



Add a Visual Stimulus

To add a visual stimulus, in most of cases, a picture into the paradigm, click this button.



Add an Auditory Stimulus

To add an auditory stimulus, in most of cases, a sound file into the paradigm.



Add a Somatosensory Stimulus

Add a somatosensory stimulus. To do somatosensory evoked potential, you need a corresponding hardware, such as an electrical stimulation device, to stimulate nerve. In this case, this function will communicate with the hardware by either parallel or serial ports, and then synchronize the hardware with the EP recordings.



Add a Parallel Stimulus (pattern)

Add a parallel pattern stimulus. The parallel pattern enables to present multiple stimuli simultaneously.



Add a Link Stimulus (pattern)

Add a link pattern stimulus. The link pattern enables to present multiple stimuli sequentially.



Add a Response Stimulus (pattern)

Add a response pattern stimulus. The response pattern will present stimuli according to subject's response.



Randomizing Interval of all enrolled stimuli

Randomize the interval of all enrolled stimuli. Please note that, stimuli with self-random may keep consistent interval.



Triggers Setup

Setup triggers for all stimuli. Though the trigger values are typically unique for each stimulus, the trigger ports are typically shared by all the stimuli. Consequently, the setup of the triggers may affect all the stimuli.



Start Run

Once a paradigm is designed, clicking this button to run the whole paradigm.



Refresh the Stimulus Item

This function will update or refresh the display items.



Setup Network (Wi-Fi) Pipe

This function can be used to setup the network pipe for triggering the evoked potential or magnetic field recordings.

Setup Serial Port



This function can be used to setup the serial port for triggering the evoked potential or magnetic field recordings.



Setup Parallel Port

To connect the parallel port triggering system, use this function.



Setup USB Port

To connect the USB port triggering system, use this function.



Capture Image

This function allows user to capture an image as a visual stimulus.



Record Sound

This function allows user to record a piece of sound as an auditory stimulus.