Experiment HP-16: Eriksen Flanker Test

Equipment Required

PC or Mac Computer

IXTA, USB Cable, IXTA power supply

2 - EM-220 Event markers

1 – RPD-320 4-button Response Pad - if not using the two event markers

Sensor Setup

1. Locate the EM-220 Event Markers and plug them into the Channel EM1 and EM2 inputs on the back of the IXTA.
    - Or locate the RPD-320 4-Button Response Pad. Plug the connector in the RPD and into the Digital Input on the back of the IX-TA.

Figure HP-16-S1: The left image shows the single event marker plugged into EM1, the 2nd one will be plugged into EM2 on the back of the TA. The right image shows RPD-320 plugged into the back of the TA.

Iworx Sample Lab

Experiment HP-16: Eriksen Flanker Test

Exercise 1: Reaction Accuracy Time – Test 1

Procedure

The center arrow is the one in the middle of the whole image.

Information for the subject:

- An image of arrows will pop up on the computer screen.
- If the center arrow is facing the **same direction** as all the other arrows, press the event marker in your **RIGHT** hand, or press the **"A" button** on the response pad.
- If the center arrow is facing the **opposite direction** as all the other arrows, press the event marker in your **LEFT** hand, or press the **"D" button** on the response pad.

Warning: In this exercise, it is important to remember to press the event marker in the correct hand for the congruent vs incongruent arrows.

1. Click on the Record button.
2. Click the EriksenFlankerTest Macro on the toolbar to begin the sequence of images with congruent and incongruent arrows. Mark the recording as "Test 1".
3. As the images show up, click the event marker in either the right hand (SAME direction) or left hand (OPPOSITE direction). If using the Response Pad, click "A" for SAME directions and "D" for OPPOSITE direction.
4. After the twenty images, the sequence will end. Click Stop to halt recording.
5. Click on the Save button to save the data file.

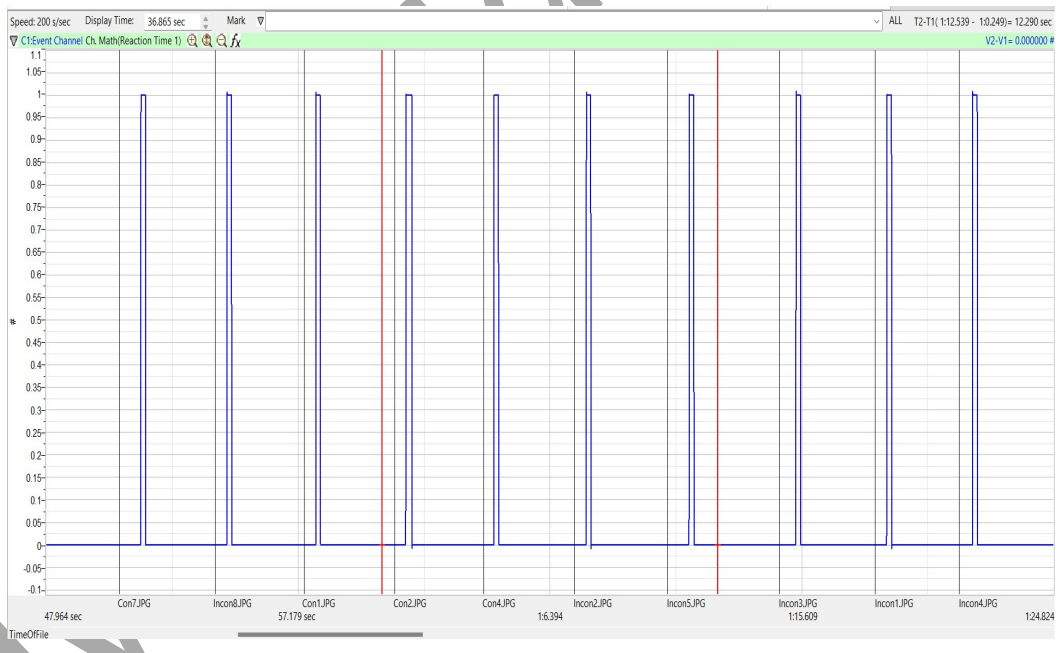

Figure HP-16-L1: Pressing the Event Marker for congruent images. Note that some are incorrect.

Example Lab

Data Analysis

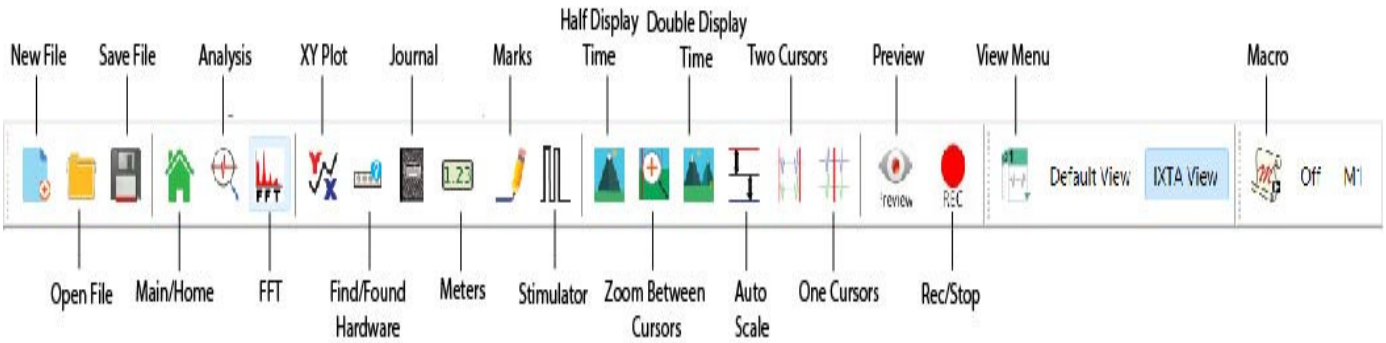

Figure HP-16-L2: LabScribe Toolbar

1. Click the Double Display time button until 10 trials show on the screen, Or adjust the display time by placing cursors in between the first 10 trials and clicking *Zoom between Cursors*.
2. Move the first cursor line to the first mark and the 2nd to the start of the first click of the event marker. Make a notation if the image was congruent (Con#) or incongruent (Incon#).
3. Look at T2-T1 (upper right corner) and record that number.
4. Repeat for the next 9 images.
5. Repeat the procedure for the next 10 images.
6. Enter the data into the table on the next page.

Exercise 2: Reaction Accuracy Time – Test 2 (switch hands)

Procedure

Information for the subject:

- An image of arrows will pop up on the computer screen.
- If the center arrow is facing the **same direction** as all the other arrows, press the event marker in your **LEFT** hand or press the **"D" button** on the response pad.
- If the center arrow is facing the **opposite direction** as all the other arrows, press the event marker in your **RIGHT** hand, or press the **"A" button** on the response pad.

Warning: In this exercise, it is important to remember to press the event marker in the correct hand for the congruent vs incongruent arrows.

2. Click on the Record button.
3. Click the EriksenFlankerTest Macro on the toolbar to begin the sequence of images with congruent and incongruent arrows. Mark the recording as "Test 2".

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4. As the images show up, click the event marker in either the left hand or "D" button (SAME direction) or right hand or "A" button (opposite direction).
5. After the twenty images, the sequence will end. Click Stop to halt recording.
6. Click on the Save button to save the data file.

Data Analysis

1. Repeat the same procedure as above to measure the reaction times to the images.
2. Enter the data into the table below.

Table HP-16-L1: Reaction Times for Flanker Test

Image	Congruent (msec)		Incongruent (msec)	
	Right "A"	Left "D"	Left "A"	Right "D"
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
Mean				

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Questions

1. How does the subject's mean reaction time to congruent images cues compare to their mean reaction time to incongruent images?
2. What would cause a longer reaction time to one type of image as compared to another?
3. How do your subject's mean reaction times compare to those of other subjects?
4. Do all subjects respond more quickly to the same type of image?

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