



BIOPAC
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Physiology Lessons for use with the Biopac Student Lab

PC under Windows® 98SE, Me, 2000 Pro
or Macintosh® 8.6 – 9.1

Manual Revision
PL3.6.7-ML3.0.7/061903

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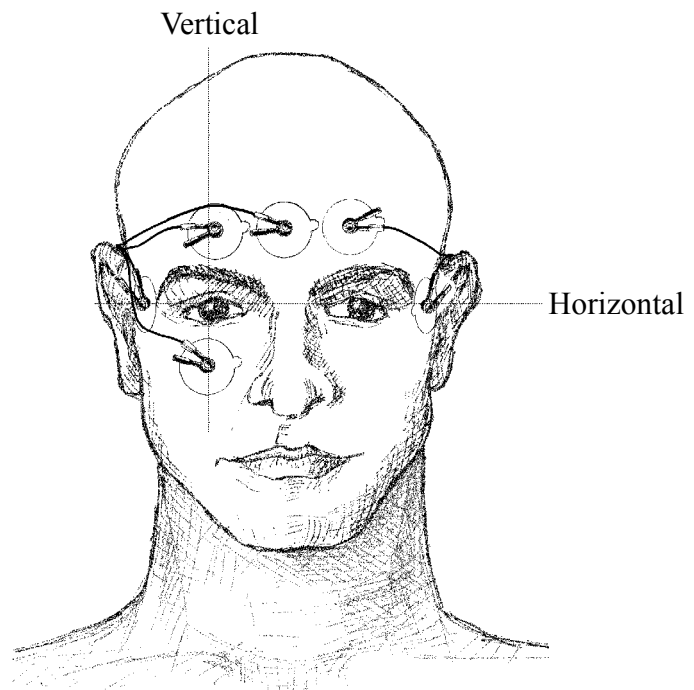
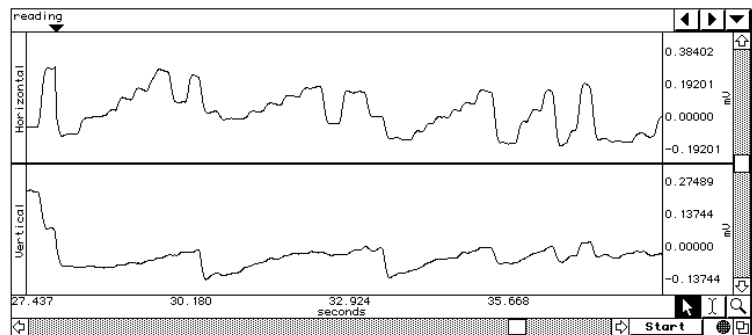
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Lesson 10 Data Report

ELECTROOCULOGRAM (EOG) I

Eye movement

Saccades and Fixation during reading



ELECTROOCULOGRAPH

EOG

DATA REPORT

Student's Name: _____

Lab Section: _____

Date: _____

I. Data and Calculations

Subject Profile

Name _____ Height _____

Age _____ Weight _____

Gender: Male / Female

A. Complete Table 10.1 using *Segment 1* data.

Be careful to be consistent with units (msec vs secs).

Note: You only need to select one example of a flicking movement.

Table 10.1 Segment 1 Data of Eye Orientation with Object Movement

Object Position → Eye Orientation →	<i>Stationary Object</i> <i>Fixation</i>	<i>Moving Object</i> <i>Tracking</i>		
Measurement [CH #]	Flicking	Left	Right	Left
ΔT [CH 40]				
p-p [CH 40]				
slope [CH 40]				

Note: Velocity may be represented with a negative ("-") value because velocity vectors have a magnitude and direction.

B. Complete Table 10.2 using *Segment 1* data.

Table 10.2 Flicking Movements

Time	Number of Flicking Movements
0-1 sec	
1-2 sec	
2-3 sec	
3-4 sec	

C. Complete Table 10.3 using *Segment 2* data.

Note: You only need to select one example of a flicking movement.

Table 10.3 Segment 2 Data of Eye Orientation with Object Movement

<i>Eye Orientation</i> →	<i>Stationary Object</i> Flicking	<i>Moving Object</i> Tracking		
		Up	Down	Up
Measurement				
ΔT [CH 41]				
p-p [CH 41]				
Slope [CH 41]				

D. Complete Table 10.4 with Segment 3 data. (*Note:* You may not have seven saccades per line.)

Table 10.4 Segment 3 Reading data

Measurement		<i>First Line</i>	<i>Second Line</i>
Number of saccades			
Duration of saccade:	#1		
	#2		
	#3		
	#4		
	#5		
	#6		
	#7		
Total duration of saccades/line			
Total reading time/line			
% time of saccades/total reading time			

II. Questions

E. Refer to Table 10.1 data and compare duration (T), relative changes in eye position (Δ), and speed of eye movement (slope) of flicking and tracking movements.

F. What is the stimulus for reflex flicking movements?

G. Refer to Table 10.3 data and compare duration (T), relative changes in eye position (Δ), and speed of eye movement (slope) of flicking and tracking movements.

H. Refer to Table 10.3 data and compare your results with at least three others in your class. What is the range of variation in % time of saccades per line?

I. Describe three types of involuntary movements during fixation on a stationary object.

J. Explain how an **electrooculogram** is recorded.

K. Define **visual field**.

L. Define **saccade**.

Sample Reading

Saccadic movements jump from place to place.

Alas, poor Yorick, I knew him well.

What do these three things have in common?

Two young lovers whose eyes meet across a crowded room.

A Michael Crichton novel.

The final scene of Casablanca.