Stepwise Sweep VEP
Visual Acuity Assessment Module

diagnosys
leading the wave

The Diagnosys Stepwise Sweep VEP (ssVEP) module is an automated method to assess visual acuity objectively using visual evoked potential (VEP) techniques. The Diagnosys ssVEP module is based on methods developed and published by Bach, et al[1,2,3] and runs on the Diagnosys E3 and Profile systems.

Features

Method
- Automatic noise-corrected response amplitudes
  - LaPlace channel and fourier transforms used
- Utilizes a pattern onset VEP methodology
- Utilizes a high-performance monitor
  - Same monitor used for pattern VEP and mfERG testing
- System and VEP techniques utilize standard ISCEV VEP methods

Process to use
- Protocol takes about 4 minutes per eye
- Easy to follow instructions, similar to ISCEV pattern VEP
- Visual acuity estimate and confidence limit

Applications

- Patients aged 5 or older, within a range of acuity from 20/20 to 20/400 (6/6 to 6/120)
- Unexplained visual loss
- Non-organic visual loss assessment
- Functional neurological symptom disorder
- Objective assessment when subjective is questionable

Sweep VEP protocol running on Diagnosys systems at 40% contrast

1. Bach, M, Maurer, JP, Wolf, ME; "Visual evoked potential-based acuity assessment in normal vision, artificially degraded vision, and in patients;" Br J Ophthalmol 92:396-403, 2008.
2. Hoffman, MB, Brands, J, Behrens-Baumann, W, Bach, M; "VEP-based acuity assessment in low vision;" Doc Ophthalmol 135:209-218, 2017.
3. Bach, M, Farmer, JD; "Evaluation of the 'Freiburg Acuity VEP' on Commercial Equipment;" Doc Ophthalmol (2020) 140:139–145

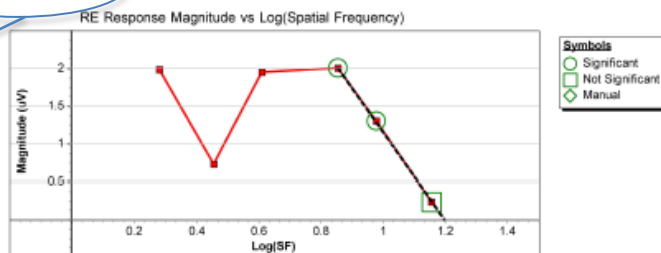# Visual Acuity Assessment Report

Stepwise Sweep VEP Report

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Clear Eye Clinic, Lowell, MA

Patient:
Hospital #:

DOB: 1994
Age: 24 Years

Gender:
Test date: 8/3/2018

Right Eye (OD)

Snellen 20ft	97.5% Conf.	Calculation	SFo (CPD)	Log(SFo)
20/22	> 20/45	Auto	15.71	1.20

Estimated visual acuity value and the 97.5% confidence level is automatically presented for each eye

RE Response Magnitude vs Log(Spatial Frequency)

Symbols
- ○ Significant
- □ Not Significant
- ◇ Manual

Left Eye (OS)

Snellen 20ft	97.5% Conf.	Calculation	SFo (CPD)	Log(SFo)
20/24	> 20/48	Auto	14.66	1.17

LE Response Magnitude vs Log(Spatial Frequency)

Symbols
- ○ Significant
- □ Not Significant
- ◇ Manual

VEP amplitude data, automatically noise-corrected, plotted over the range of tested check sizes
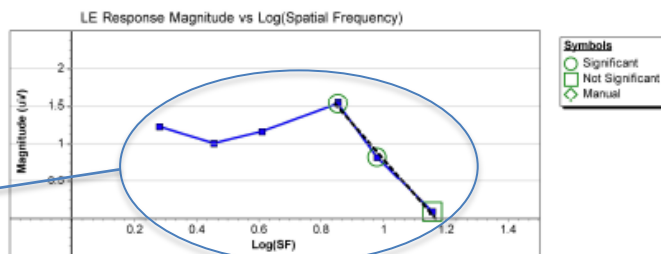
Test comment: bare eye

Test type: Sweep VEP Normal Vision 27in.Rev B.2 [15777]
Pupil diameters (OD/OS) mm: 0.0,0.0
Software S/W: 6.59.18505.9, Espion S/N: 0-999

Field of view: 32 wide x 18 high (degrees)
Electrodes: Gold Cup Gold Cup
Examiner:

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Stepwise Sweep VEP Module ordering information

D370   Sweep VEP Add-on Module
     D370-1: for use on 27" monitors
     D370-2: for use on 32" monitors
     D370-3: for use on 23" monitors

Available as an add-on module for the following systems:

- Diagnosys E^3 desktop systems
- Diagnosys *Profile* cart-based systems

Note: Diagnosys controller must be an ARM type, and Espion software must be v6.63 or later.

Doc: 15174 **Rev:** D ECN 1900 **Date:** 2 December 2022