



# SYNAPSYS VHIT

## VIDEO HEAD IMPULSE TEST

### DESCRIPTION

Synapsys Video Head Impulse Test (VHIT) allows to test the response of each semi-circular canals separately by performing fast head movements.

Resulting from years of collaboration between Dr Ulmer, Synapsys and research institutes, Synapsys VHIT system is a breakthrough tool for the evaluation of vestibular system.

Differently from all the other video-HIT devices available on the market, Synapsys VHIT does not require the patient to wear any goggles: all the measurements and results are given by the analysis of the head and eyes movements, captured by a remote camera placed at 1 meter from the patient.

Synapsys VHIT is available in 2 scalable software versions:

1. **Screening:** for the analysis of the lateral canals only
2. **Evolution:** for the analysis of all the six canals

### TECHNICAL SPECIFICATIONS

- **Camera:**
  - Resolution: 752 px x 480 px (Horizontal x Vertical)
  - Sensor: CCD 1/3"
  - Sensitivity: < 0,005 lux
  - Sampling rate: up to 100 Hz
- **Lighting system:**
  - Infrared lighting
  - Wave length: 830 nm
- **Power supply:**
  - Input: 100-240 VAC, 50-60 Hz, max. 0.9 A
  - Output: 13.2 VDC – 3A
  - Max. Output Power : 40W
  - Insulation class: II
- **Electric device:** Class II
- **Weight:** 6 Kg (without cables)
- **Medical device (Directive 93/42/EEC):** Class I

#### INVENTIS S.R.L.

CORSO STATI UNITI, 1/3  
35127 PADOVA - ITALIA

TEL: +39 049.8962 844  
FAX: +39 049.8966 343

C.F./P.IVA: IT03957810280  
R.E.A. PD 350789

INFO@INVENTIS.IT  
WWW.INVENTIS.IT

- **Standard:** EN 60601-1 / EN 60601-1-2 / IEC 62471-1

## SOFTWARE

- **Available exams:**
  - Lateral canals only (for the **Screening** version)
  - Lateral, anterior and posterior canals (for the **Evolution** version)
- **Adjustments:** computer-controlled camera settings on 3 axes (horizontal and vertical alignment of the patient in image and image sharpness), interpupillary distance, acceleration threshold
- **Protocol examination guide:** visual indicators, synthetic voice message
- **Auto detection of head movements** (Manual correction available)
- **Analysis:** VOR (Vestibulo-Ocular Reflex), overt and covert saccades
- **Patient manager:** possibility to store both patient details and test results
- **Available results:**
  - Head and eyes movements: position and velocity
  - VOR gain for each maneuver and mean value for each canal
  - VOR gain as function of the impulse velocity
  - Automatic analysis of overt and covert saccades (apparent gain after cover saccade)
  - Canalogram Ulmer and results table
  - Video recording and playback of each maneuver

## MINIMUM SYSTEM REQUIREMENTS

- **Operative system:** Windows 7, Windows 8.1 – 64 bit, Windows 10
- **Processor:** Intel I5-3xxx (3<sup>rd</sup> generation)
- **Free space on hard disk:** 300 Gb
- **RAM:** 4 Gb
- **Connection:** one free USB 2.0 or 3.0 port

## PRODUCT CODES

**Code 10738:** Synapsys VHIT Screening - SY.VHITIII\_SCREENING

**Code 10740:** Software upgrade from VHIT Screening to VHIT Evolution - SY.VHITII\_UP3

**Code 10739:** Synapsys VHIT Evolution - SY.VHITIII\_EVOLUTION

## MANUFACTURER

**Synapsys S. A.**

2, rue Marc Donadille

13013 Marseilles (France)

### INVENTIS S.R.L.

CORSO STATI UNITI, 1/3  
35127 PADOVA - ITALIA

TEL: +39 049.8962 844  
FAX: +39 049.8966 343

C.F./P.IVA:IT03957810280  
R.E.A. PD 350789

INFO@INVENTIS.IT  
WWW.INVENTIS.IT