



# Harp Basic - Plus

ADVANCED DIAGNOSTIC AUDIOMETER

**CLASSIFICATION**

EN 60645-1 / ANSI S3.6: Type 2  
 EN 60645-2 / ANSI S3.6: Type A or A-E

**AVAILABLE SIGNALS**

Stimulus: pure tone, warble tone  
 2 external inputs for speech audiometry  
 MIC input for live speech audiometry  
 Internal input (flash memory) for speech audiometry (Harp Plus only)  
 Masking: NBN, WN, SN

**SIGNALS SPECIFICATION**

Attenuator step: 1 and 5 dB  
 Presentation: Continuous, Pulsed (0.5, 1 and 2 Hz)  
 Warble: 5 Hz sin wave modulating signal

**AVAILABLE OUTPUTS AND TRANSDUCERS**

AC: TDH-39 / DD45 headphones, ER-3 / ER-5 insert earphones  
 BC: B-71 bone vibrator  
 Free field  
 Insert masking earphone: IME-100

**AVAILABLE TESTS**

- Pure Tone audiometry
- Auto threshold (modified Hughson-Westlake)
- Speech audiometry (2 channels)
- ABLB

Only on Harp Plus:

- SISI: automatic score; 1 dB increment (5 dB for familiarization)
- DLI, with increments between 0 and 5 dB
- Tone decay, with 60 or 120 sec. duration
- Stenger, with pure tone or speech stimulation
- 2 independent channels Master Hearing Aid
- TEN test (optional)
- QuickSIN® test (optional)

**PURE TONE: FREQUENCIES AND MAXIMUM LEVELS (dB HL)**

Freq. (Hz)	AC TDH-39 DD45	AC ER-3	AC ER-5	BC	FF (*)
125	80	90	90	-	75
250	100	105	100	45	85
500	110	110	110	65	95
750	115	115	120	70	95
1.000	120	120	120	75	95
1.500	120	120	120	80	95
2.000	120	120	115	80	95
3.000	120	120	115	75	95
4.000	120	110	110	75	95
6.000	105	95	100	55	90
8.000	95	90	90	50	85

(\*) The values refer to "normal" range; add 10 dB to each value in case of "extended range" option selected

**SPEECH AUDIOMETRY: MAXIMUM LEVELS (dB HL)**

AC TDH-39 DD45	AC ER-3	AC ER-5	BC	FF
100	100	100	55	Normal: 75 Extended: 85

**PATIENT – OPERATOR COMMUNICATION**

Talk over: built-in or external microphone  
 Talk back: through built-in speaker or monitor headset (included); patient microphone included  
 Patient response trigger

**MONITOR SIGNAL**

Both channels monitored through the built-in speaker or monitor headset (included)

**INTERNAL FLASH MEMORY (only Harp Plus)**

Used to store the speech material (.wav format)  
 Capacity: 2 GB (more than 3 hours of speech)  
 Speech material upload: through ATIT software (incl.)

**PRINTER**

Optional integrated thermal printer  
 Paper size: 112 mm

**INTERNAL DATABASE**

Up to 100 patients both AC and BC thresholds (only pure tone exams)

**CALIBRATION**

Validity: 12 months  
 All the parameters set through the device software

**COMPUTER INTERFACE**

Connection: USB (driverless)  
 Compatible software: - Inventis Daisy with Maestro module  
 - Noah with "Maestro for Noah" module

**HYBRID TECHNOLOGY**

Description: Harp can be controlled either as a stand-alone or as a PC-controlled audiometer  
 It requires Daisy or Noah Maestro module

**DISPLAY**

Live display of the graph of all the tests  
 Type: Graphical colour TFT LCD  
 Size: diagonal 4.3", 95 mm x 54 mm  
 Resolution: 480 x 272

**POWER SUPPLY**

*Without integrated printer:*  
 Maximum consumption: 9 Watts  
 Power supply: 6V, 2A cont., through an external medical grade 100-240 Vac 50/60 Hz power supply

*With integrated printer:*  
 Maximum consumption: 25 Watts  
 Power supply: 6V, 4,16A cont., through an external medical grade 100-240 Vac 50/60 Hz power supply

### MECHANICS

*Without integrated printer:*

Size (WxDxH): 32 x 32 x 9 cm / 12.6 x 12.6 x 3.5 in

Weight: 1.8 Kg / 4.0 lbs

*With integrated printer:*

Size (WxDxH): 32 x 39 x 9 cm / 12.6 x 15.4 x 3.5 in

Weight: 2.3 Kg / 5.0 lbs

### FREIGHT PACKING

Size (WxDxH): 47 x 40 x 35 cm / 18.5 x 15.8 x 13.8 in

Gross weight (without printer): 4.2 Kg / 9.3 lbs

Gross weight (with printer): 4.7 Kg / 10.4 lbs

### APPLICABLE STANDARDS

Pure tone audiometry: EN 60645-1, Type 2

Speech audiometry: EN 60645-2, Type A or A-E (depending on the equalization filter status)

Calibration: EN ISO 389-1 (TDH 39), EN ISO 389-2 (ER-3 and ER-5), EN ISO 389-3 (B71), EN ISO 389-7 (FF), data from the manufacturer (DD45)

Electrical safety: EN 60601-1, Class I type BF

EMC: EN 60601-1-2

### CE CERTIFICATE

93/42/EEC classification : Class IIa

Classification rule [Annex IX, 93/42/EEC]: 10

Notified body: TÜV SÜD Product Service GmbH (0123)

Number of CE certificate: G1 12 09 65346 006

### PRODUCT CODES

10145: Harp model Basic – Diagnostic audiometer

10162: Harp model Basic – Diagnostic audiometer – with integrated thermal printer

10146 Harp model Plus – Diagnostic audiometer

10163: Harp model Plus – Diagnostic audiometer – with integrated thermal printer

### INCLUDED PARTS

- TDH-39 or DD45 supra-aural headphones
- B71 bone vibrator
- Patient response switch
- Monitor headset with boom microphone
- Clip-on microphone for patient-to-operator communication
- Plastic cover sheet
- Medical grade power supply
- USB connection cable
- User manual
- Inventis Software Suite CD

### OPTIONAL ACCESSORIES (with order code)

- 10166: ER-3A insert earphones
- 10833: ER-3C insert earphones
- 10172: ER-5A insert earphones
- 10177: IME-100 insert masking earphone
- 10181: Desktop, battery operated microphone for live speech tests
- 10179: Amplivox Audiocups noise excluding enclosures for TDH-39 / DD45 headphones
- 10180: Cable set for sound booth
- 10182: Soft carrying case
- 10541: Trolley for audiometers / tympanometers
- 10293: Thermal paper for Harp and Piano audiometers (box of 5)
- 10266: One active speaker FBT J-5A
- 10534: TEN test license

- 10533: QuickSIN® test license

Harp is developed by:

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