



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

Only on Harp Plus:

- 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

(*) Reduce by 20dB in case of free field equivalent filter activation.

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 Maestro

HYBRID TECHNOLOGY

Description: Harp can be controlled either as a stand-alone or as a PC-controlled audiometer
 It requires Inventis Maestro software

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: 8 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]

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

OPTIONAL ACCESSORIES (with order code)

- 10833: ER-3C 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
- 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:

INVENTIS s.r.l.

CORSO STATI UNITI, 1/3

35127 PADOVA – ITALY

PHONE: +39.049.8962 844

FAX: +39.049.8966 343

info@inventis.it

www.inventis.it

Follow us on Twitter

<http://twitter.com/inventissrl>



The Inventis Quality System complies with ISO 9001 and ISO 13485 standards.

Inventis® is a registered trademark of Inventis s.r.l.