Hearing Testing
Audiometers

RA500

Microprocessor Audiometer

- User customized set-up includes hearing threshold levels and test questions.
- Unit automatically retrieves stored baselines for comparison to current test.
- Quiet, ultra-high speed printer provides archive-quality records.
- Built-in microphone allows talk-over communication with test subject.
- Baselines can be downloaded from computer via RS232C communications.
- Multi-level security system protects data and instrument calibration.

TRE METRICS®

For over 30 years, Tremetrics (formerly Tracor Instruments) has set the standard in industrial/occupational screening audiometers. From the ARJ - 4 Series to the RA400s, our reliable audiometeric equipment has proven its value throughout the world.

Tremetrics premier audiometer, the RA500 Advanced Microprocessor, continues to be at the forefront of audiometric technology – giving you the ability to easily customize your audiometer to fit your individual testing requirements. True multi-tasking programs allow the RA500 to process data and conduct tests simultaneously. Extra value features such as a built-in talk-over microphone, dual RS232C communications ports and internal storage of up to 1200 audiograms are all standard.

New proprietary Notch Adjuster™ test paradigms present an appropriate level tone at higher frequencies upon evidence of precipitous, high frequency hearing loss. Hearing threshold levels are continuously analyzed so that successive presentations are not uncomfortably loud.

RA500

An advanced audiometer to meet your unique testing requirements

Build a custom testing program with a few keystrokes

A unique, menu-driven program format makes it easy to customize the RA500. Functions such as storing a company name, printing on command, turning the keyboard response tone on/off and entry of up to 25 test questions can be instantly programmed – from the keyboard, and they can just as easily be updated or revised when your requirements change.

Full OSHA compliance with time-saving advantages

The RA500 fully complies with all the latest OSHA testing requirements but includes valuable time-saving features that you'll appreciate

- System flexibility to enter data before, during or after a test
- Instant printouts of your daily functional check with the OSCAR™ electro-acoustic ear
- Automatic calculation of PBI (Percent Binaural Impairment) and STS (Standard Threshold Shift) with or without correction for contribution of aging (presbycusis)
- Fast switching among automatic, manual and semi-automatic modes

A system designed for operator convenience

The RA500's unique, "tactile-feel" alphanumeric keyboard groups keys by function and frequency of usage. The "alpha" or letter keys allow character as well as numeric entry. Words and numbers can be easily entered where necessary giving you the ability to input questions and key in answers for the audiogram printout.

The bright Liquid Crystal Display (LCD) features super-twist technology which allows the readout to be adjusted to the most convenient viewing angle. This large screen format lets you monitor an entire test at a glance. Tone presentations, subject responses and test results are all clearly displayed while the test is in progress.

Advanced telecommunications software speeds data transfer

The RA500 can communicate via an AT command set compatible modem to a PC or mainframe computer.

(Note – special software may be required. Contact Tremetrics for further information.)

U.S. Patents #5,811,681; #6,416,482; #6,644,120

Proven data management for any hearing testing program

FOSHM™, our comprehensive occupational safety and health software package, can link the RA500 with most Windows® PCs. Audiogram records are readily accessible and summary test results may be analyzed by department, shift and location to identify problem noise areas.

Administer a valid test—every time

Self-prompting instructions make it easy to conduct a valid hearing test. Automatic, pure-tone air conduction hearing threshold testing is performed in accordance with accepted audiometric procedures.

During the test, a subject responds by pressing a handswitch. The audiometer will present a pulsed or continuous tone and record the subject's response to determine an accurate Hearing Threshold Level. Automatic validity checks are built in. Tones are presented randomly at 1-3 second intervals to discourage anticipated responses. The unit also compares the Hearing Threshold Level (HTL) of a 1000 Hz test to that of a 1000 Hz re-test tone. The two responses must match within ±5 dB for testing to continue.

After a threshold is established, the starting tone level for the next frequency is determined by the previous test result. This insures faster testing times by allowing subjects to respond to levels closer to their established thresholds. For hard to test subjects, the RA500 also features a selectable "adaptive mode." The audiometer automatically determines when subjects are slow to respond and "lengthens" the response window. This saves time by permitting more automatic tests to be performed rather than switching to more time-consuming manual retests.

Complete test results are printed out on archive quality paper. A failed frequency, manually tested frequencies, and those not tested are clearly marked on the audiogram. STS and PBI calculations can also be included if desired. The RA500 will also store up to 1200 audiograms* in non-volatile memory. The data is then available for baseline retrieval or batch transfer to a computer.

* Based on how many custom questions are programmed.

RA500

Check the extra value features

- U.L. approved power line filter protects audiometer from power fluctuations
- Choice of OSHA or Canadian categorization criteria
- Multiple baseline entry/storage of older audiograms, independent of testing sequence
- "Memory gauge" to display % of memory storage remaining
- Print screen function for hard copy record of audiometric test and menu displays
- System configuration data printed on command
- User-defined levels for "quick screening" mode
- Automatic return to main test screen if error condition occurs
- Visual error messages in plain English text
- Elapsed test time printed on the audiogram strip
- Bar graph printout for rapid visual screening of test performance
- Raw data printout — valid, legally accepted audiogram record of subject's response for threshold evaluation
- Data transmission monitoring on display screen
- Fast audiogram tagging mode for selective record transfer
- Single audiogram transfer to PC without storing test in memory
- Selectable Flo/Gemini™ communicating mode

Specifications

Calibrated to ANSI S3.6 - 1996

Test frequencies: 500, 1000, 2000, 3000, 4000, 6000, 8000 Hz

Frequency accuracy: Better than 1%, crystal controlled

Distortion: Total harmonic distortion below 40 dB (1%)

HL attenuator: Selectable from -10 dB to 100 dB in 5 dB steps

HL accuracy: ±1 dB

Calibration: Non-volatile EEPROM memory provides for electronic calibration. Date displayed on screen and printed on each audiogram

Rise/Fall time: Meets ANSI specifications

Earphones: Telephonics TDH-39, 10 ohm earphones in Model 41 cushions

Mechanical: High impact GE Noryl® U.L. approved plastic housing, "touch sensitive" panel with super-twist LCD

Physical: 17 1/2" W, 12 1/4" D, 4" H; weight 9 1/2 lbs

Power: 120 VAC ±10%, 60 Hz, 30 Watts; 240 VAC, ±10%, 50 Hz, 30 Watts (user selectable)

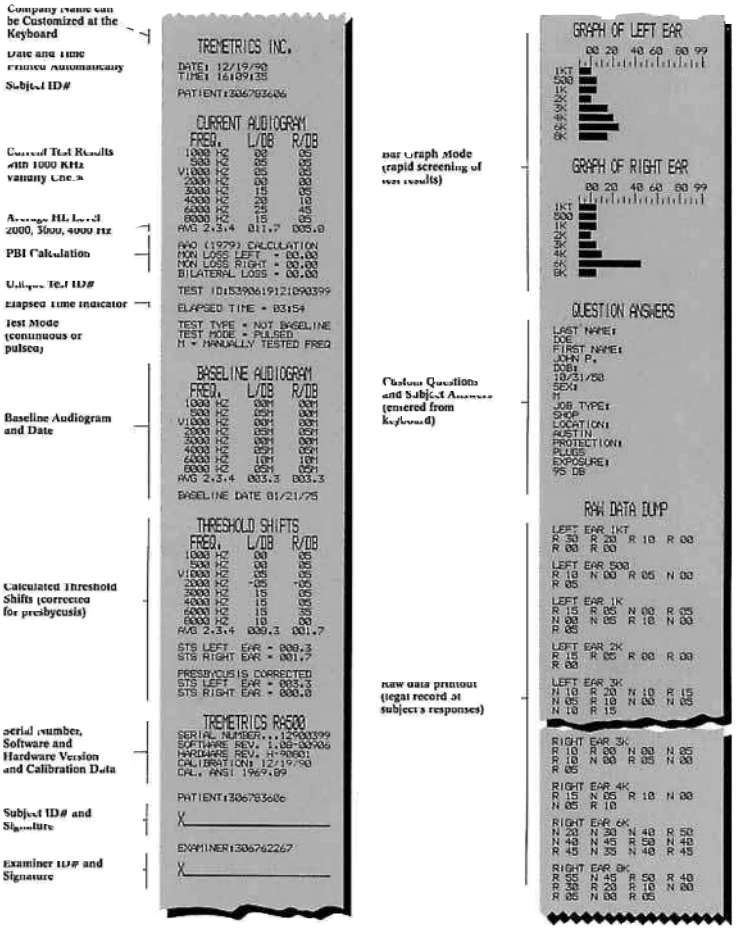
Computer interface: Two RS232C ports

Data output: 300-19200 baud; selectable

Printer: High speed graphics printer, avg. 6-8 seconds/audiogram

Clock: Real-time, battery backed

The complete audiogram – "Full OSHA compliance"



ONE YEAR LIMITED WARRANTY:

This warranty is extended to the original purchaser of the instrument, by Tremetrics, through the distributor or manufacturer from whom it was purchased. The warranty covers defects in material and workmanship for a period of one year from date of delivery of the instrument to the original purchaser. Accessories which are purchased from Tremetrics at the same time as the instrument are warranted for one year from the date of purchase. For additional information, contact Tremetrics.

TREMETRICS®

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