

echo-screen®

**the truly
automated
all-in-one
hearing screener**



**ONLY THE ECHO-SCREEN® HEARING SCREENER COMBINES
ADVANCED TEOAE, DPOAE AND AABR® TECHNOLOGIES WITH
FULLY AUTOMATED RESULTS AND COMPLETELY STANDARDIZED,
PRE-SET SCREENING PARAMETERS.**

FULLY AUTOMATED RESULTS WITH FIXED SCREENING PARAMETERS

All results are based on the same standardized, objective criteria:

- Automatic pass/refer results that require no interpretation
- Preset screening parameters that cannot be adjusted

Minimizes the risk of user error and test variability

TEOAE, DPOAE AND AABR® TECHNOLOGIES WITH PATENTED BINOMIAL STATISTICS ALGORITHM

Transient Evoked Otoacoustic Emissions (TEOAE)

Trusted by clinicians for more than ten years:

- Able to screen for even a mild hearing loss
- Testing frequency range: 1.5 to 3.5 kHz
- Performance validated in numerous clinical studies:
 - High sensitivity & specificity
 - minimizing false pass & false refer results

Distortion Product Otoacoustic Emissions (DPOAE)

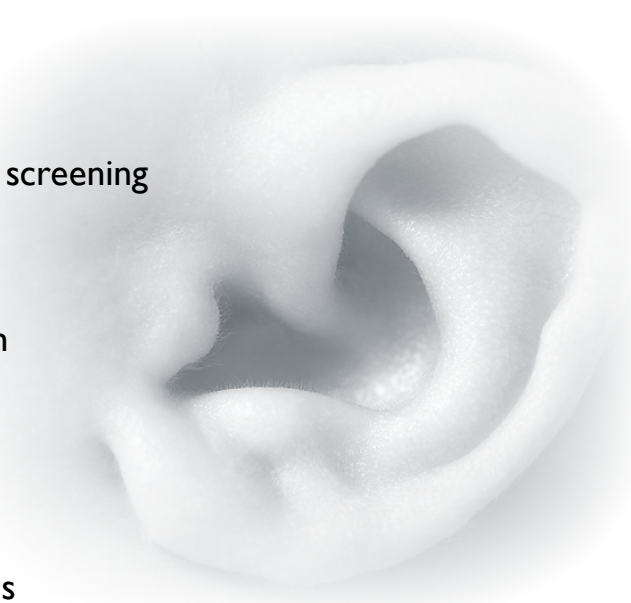
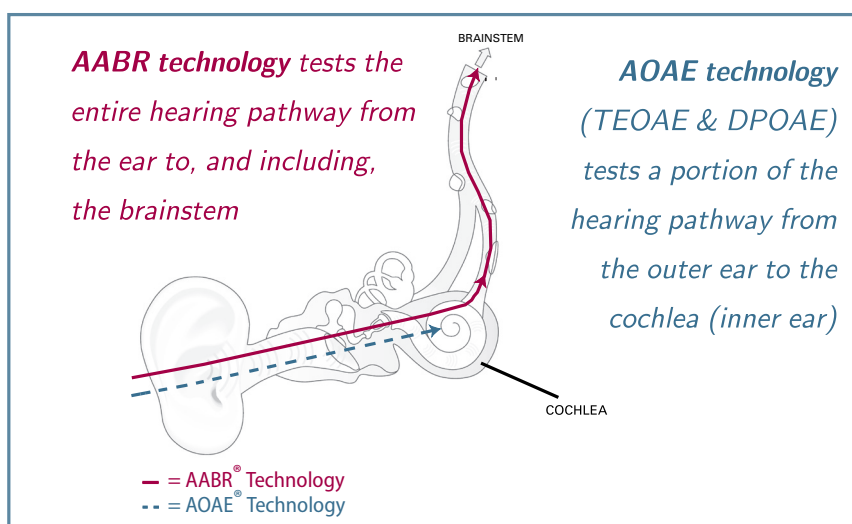
- Frequency specific screening: 2, 2.5, 3.2, and 4 kHz

AABR® Technology

- Necessary for detecting auditory neuropathy¹
- Choice of ear tips or ear couplers available for screening
- Testing frequency range: 2 to 4 kHz

Robust signal detection

- Artifact rejection system distinguishes between external noise and actual patient response
- Fast test times
 - TEOAE: approximately 20 seconds
 - DPOAE: approximately 30 seconds
 - AABR technology: approximately 2 minutes



The Echo-Screen system utilizes proprietary AOA[®] & AABR[®] technologies

Automated Results for TEOAE, DPOAE & ABR Screening Techniques

The Echo-Screen system meets all of your hearing screening requirements:

PERFECT FOR ANY PROTOCOL & BUDGET

- 17-key design provides convenient entry of patient information
 - Multiple T (TEOAE), D (DPOAE), and A (AABR) technology combinations available
 - Included Natus data management software allows data transfer to a PC
- 5-key design provides simple screening with no data entry
 - TEOAE or DPOAE technology options are available
 - Natus data management software allows transfer of results to a PC
- Ideal for one or two-step screening protocols
- Meets JCIH, AAP, and NCHAM requirements for surveillance screening of newborns and infants¹

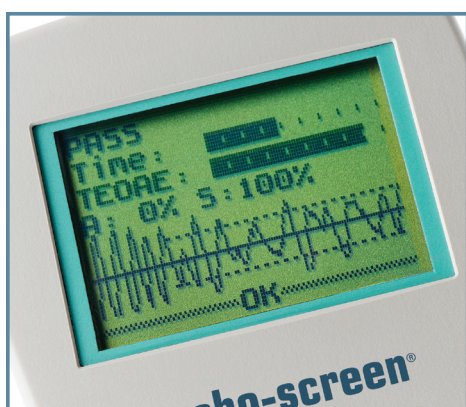
**Echo-Screen
Plus (17-key)
configuration**



**Echo-Screen
Basic (5-key)
configuration**



**Automated
TEOAE
PASS
Result**



LOW REFER RATES

- Reduces the number of repeat tests
- Eliminates unnecessary follow-up and tracking

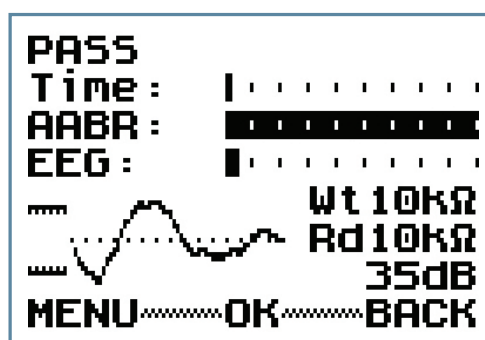
FULLY AUTOMATED RESULTS AND SCREENING PARAMETERS

- Minimizes risk of user error and test variability
- Reduces training time for new users

FAST, FLEXIBLE & EASY TO USE

- Graphic display shows statistical result pattern
- Keypad allows fast data entry
- Ear probe is lightweight and easy to clean
- Battery is exchangeable – provides approximately ten hours of testing
- Many language options are available

¹References on file at Natus



**AABR
Test
Display**

WIRELESS DATA TRANSFER & DATA MANAGEMENT

- Echo-Screen Plus (17-key) configuration:
 - Stores up to 250 screening records
 - Wireless printing of screening results
 - Data transfer to and from a PC via Natus data management software
 - Export compatibility with a variety of third party data management systems
- Echo-Screen Basic (5-key) configuration:
 - Stores up to 50 screening records
 - Printing of screening results via serial cable
 - Transfer of screening results to a PC via Natus data management software

**Printout
of DPOAE
Result**

```
ECHO SCREEN TDA +  
NoID 04/14 02:10  
No Name 04/14 02:10pm  
  
00.00.0000      OUT-Pat.  
Examiner:  
  
DPOAE Result  
Right ear  
  
06.05.04  12:34  
PASS  
(L2=50dBSPL)  
2000Hz: PASS  
2500Hz: PASS  
3200Hz: PASS  
4000Hz: PASS  
  
Comment :
```



The Echo-Screen Plus System (17-key) includes*:

- Echo-Screen device
- Carrying case
- Ear tip accessory box
- Ear probe cable
- ABR cable (AABR configurations only)
- Two rechargeable batteries and charger
- Instructional materials (on CD)
- Natus data management software (on CD)

**Y Probe cable and label printer purchased separately. Y Probe cable designed for use with Echo Couplers (AABR configurations only)*



The Echo-Screen Basic System (5-key) includes*:

- Echo-Screen device
- Hard top carrying case
- Ear tip and accessory box
- Ear probe cable
- One rechargeable battery and charger
- Instructional materials (on CD)
- Natus data management software (on CD)

TECHNICAL SPECIFICATIONS

WEIGHT	Echo-Screen incl. battery pack and probe: 550g (1.2 lbs)
SIZE	Echo-Screen incl. battery pack: 230 x 95 x 53 mm (9.06 x 3.74 x 2.09 inches)
BATTERY	6V 1500mAh NiMH, exchangeable
CHARGER	charge time approx. 2 hrs.
POWER CONSUMPTION	1.2 W max
POWER MANAGEMENT	auto backlight control, auto switch off, 2-level battery voltage sense, battery saver
DISPLAY	H x W = 3.96 x 5.87 cm (1.56 x 2.31 inches)
DATA MEMORY	128 KB built-in flash memory, unlimited storage time
INTERFACES	RS232 up to 115 kbps, infrared (optional modem feature available)
OPERATING TIME	> 10 hrs with fully charged battery
STORAGE TEMPERATURE RANGE:	0 – 40°C (32 – 104°F)
OPERATION TEMPERATURE RANGE:	5 – 35°C (40 – 95°F)
HUMIDITY:	20-80 % REL.
DEVICE CLASS	2a (according to Council Directive 93/42/EEC Appendix IX)
APPLIED STANDARDS	Council Directive 93/42/EEC concerning medical devices (1993) German “Medizinprodukte Gesetz” (MPG) (2002) EN ISO 9001 (2000) EN 13485 (2000) EN 60601-1 + A1 + A2 (1996) EN 60601-1-2 (2002)

Note: Specifications are subject to change without notice.

Ordering Information

ITEM	PART NUMBER
ECHO-SCREEN PLUS (TEOAE)	010127T
ECHO-SCREEN PLUS (DPOAE)	010127D
ECHO-SCREEN PLUS (AABR)	010127A
ECHO-SCREEN PLUS (TEOAE & AABR)	010127TA
ECHO-SCREEN PLUS (TEOAE & DPOAE)	010127TD
ECHO-SCREEN PLUS (DPOAE & AABR)	010127DA
ECHO-SCREEN PLUS (TEOAE, DPOAE, & AABR)	010127TDA
ECHO-SCREEN PLUS (TEOAE) WITH AABR HARDWARE	010127TSA
ECHO-SCREEN PLUS (DPOAE) WITH AABR HARDWARE	010127DSA
ECHO-SCREEN PLUS (TEOAE & DPOAE) WITH AABR HARDWARE	010127TDSA
ES TS SET (TEOAE)	010127TS
ES DS SET (DPOAE)	010127DS

**Choice of different language configurations are offered with each Echo-Screen system.
Contact your local customer service representative for more information.*



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