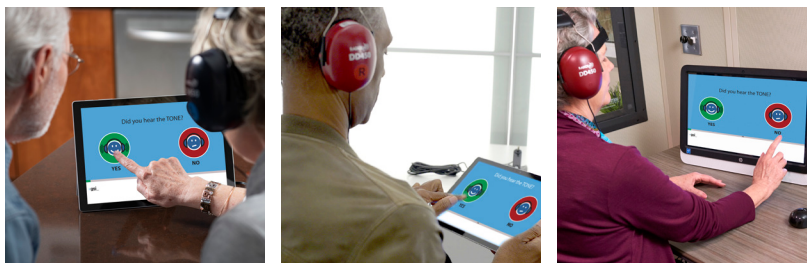




# AUTOMATED AUDIOMETRY TESTING



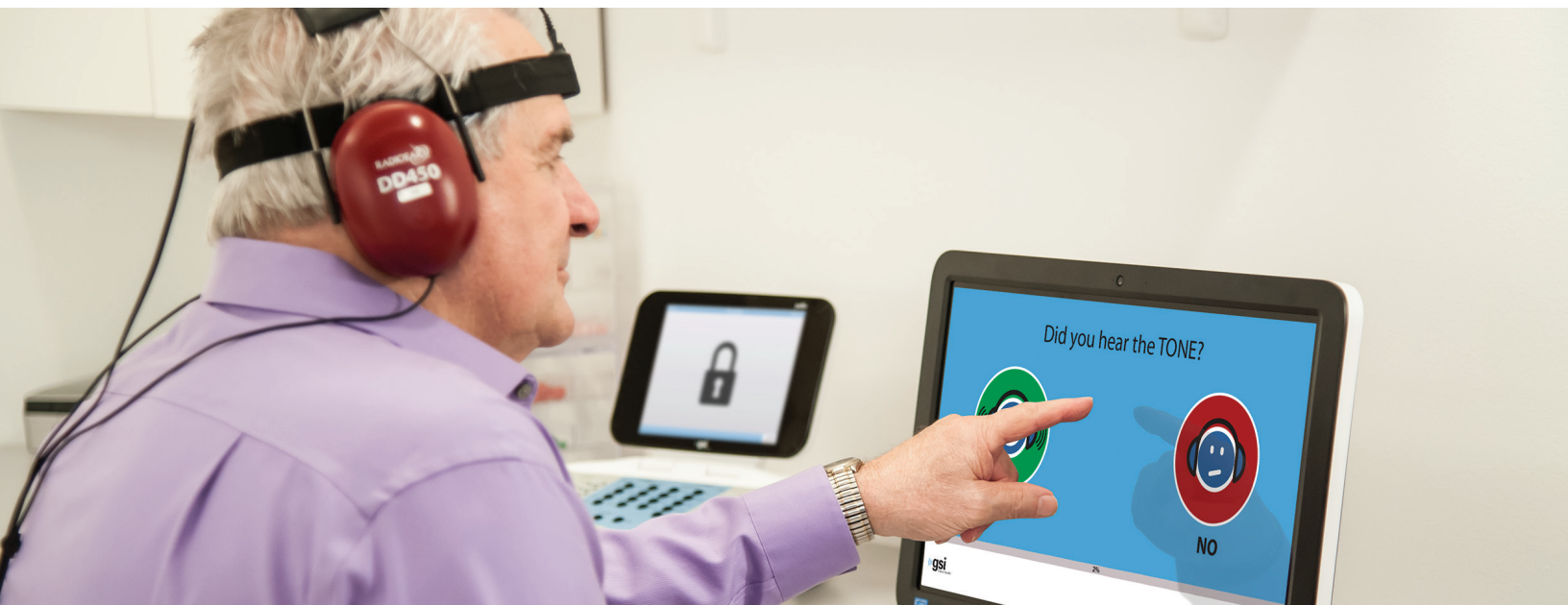
— GSI AMTAS —



# ■ BY AUDIOLOGISTS, ■ FOR AUDIOLOGISTS

## VALIDATED AND ACCURATE

GSI AMTAS™, or Automated Method for Testing Auditory Sensitivity, is a patient directed evaluation tool that uses patented test methods and accuracy algorithms to obtain diagnostic or screening audiometry. **With over 20 years of research and development**, the validity of GSI AMTAS has been proven through comprehensive studies.



## FOCUS ON PATIENT CARE

GSI AMTAS was created as a resource for clinicians to help manage their busy schedules and promote an efficient office environment. Most importantly, GSI AMTAS frees up the clinician, allowing more time to focus on patient care.

GSI AMTAS is available in two versions, GSI AMTAS Pro™ and GSI AMTAS Flex™, which give the hearing professional options to best fit specific clinical needs. With numerous comprehensive studies backed by years of research and development, GSI AMTAS is different from other automated audiometric tests. GSI AMTAS provides up to nine quality indicators, classification of audiometric findings, and two report formats.





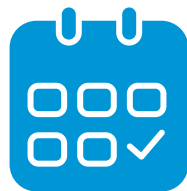


## 3 KEY BENEFITS



### **WALK-IN PATIENTS**

In a busy practice, GSI AMTAS helps the clinician manage more than one patient at a time. Basic diagnostic testing can be completed with one patient using GSI AMTAS while the clinician can tend to the needs of other patients.



### **APPOINTMENTS ARE STREAMLINED**

When a patient returns for an annual evaluation, the clinician can get them started with GSI AMTAS while a clean and check of hearing aids is completed.



### **PATIENT COUNSELING**

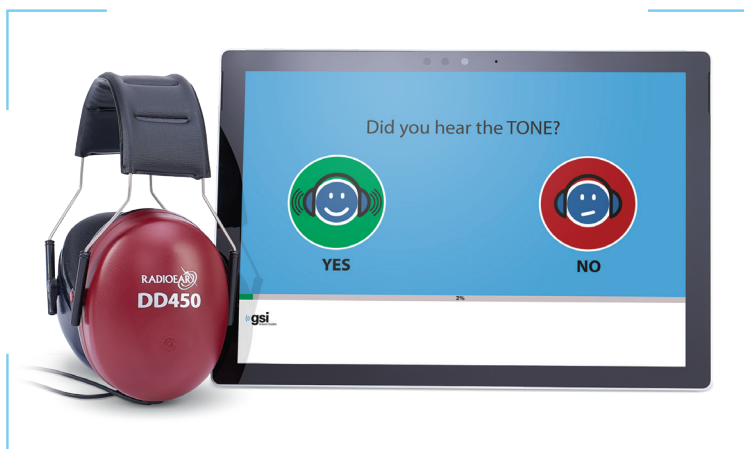
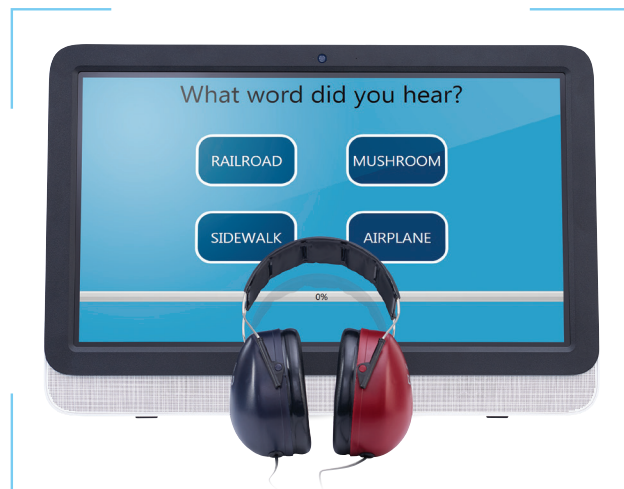
Quality indicators and the classification of audiometric findings give clinicians the tools required to determine the most appropriate next steps in testing and follow up.



# GSI AMTAS PRO & GSI AMTAS FLEX

## DIAGNOSTIC AUDIOMETRY

GSI AMTAS Pro offers diagnostic air conduction, bone conduction, and speech (SRT and WRS) testing with masking. This self-directed test typically takes about 15 minutes to complete and the report provides quality indicators to assist the clinician in determining the accuracy of the test. AMTAS Pro is operated through a computer connected to a compatible GSI Audiometer.



## SCREENING AUDIOMETRY

GSI AMTAS Flex is tablet-based and does not require an audiometer. This version offers air conduction screening and threshold audiometry. The screening test is configurable and displays a Pass or Refer at the completion of the test. The threshold test provides six quality indicators and the AMCLASS audiogram classification.

## REPORTING

GSI AMTAS generates two report formats. The Audiologist Report includes the audiogram and the quality assessment table with the quality indicators, AMCLASS™ audiogram classification, and a comprehensive speech audiometry table. The Patient Report includes an easy to understand description of hearing loss and the audiometric findings.

## AUDIOGRAM CLASSIFICATION

GSI AMTAS includes a patented method of classifying audiometric findings, called AMCLASS, which summarizes the audiogram based on configuration, site of lesion, and severity. This provides further insight to the clinician on how to proceed with counseling and follow up testing if needed.



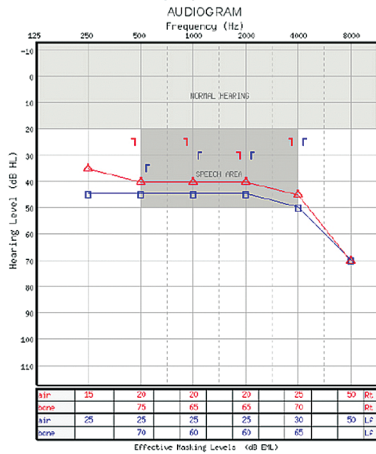


# REPORTING OPTIONS

## GSi AMTAS PRO



### GSi-AMTAS™ Hearing Report



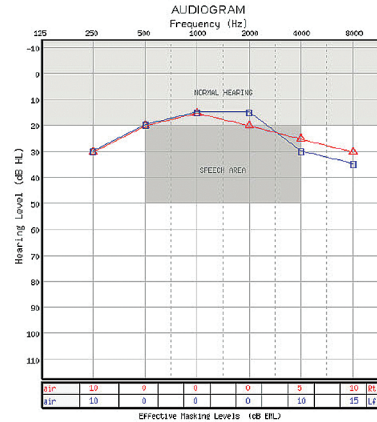
QUALITY ASSESSMENT (Air & Bone)	
Predicted Accuracy	GOOD
Quality Indicators	Value Title
Predicted Avg. Abs. Diff. (dB)	5.287 6
Flasher WERT (%)	9.000 6
Time per Trial (s)	2.698 6
False Alarm (s)	3.846 35
Avg. Test Retest Diff. (dB)	0.000 45
QC Fail (%)	0.000 6
ABR > 35	0.000 6
ABR < -10	0.000 6
LEGEND	Right Left
Masked Air	△ 6
Masked Bone	□ 6

AMCLASS® Audiogram Classification									
Ear	Severity	Configuration		Site of Lesion		Bilateral Symmetry			
Right	MODERATE	Flat Hearing Loss		HEARD		Symmetric			
Left	MODERATE	Flat Hearing Loss		HEARD					
Speech Recognition Report									
Ear	Pure Tone		SDT	Word Recognition (0dB sloped set)			Word Recognition (0dB sloped set)		
	HL	dB HL		Level	Rank	List	Level	Rank	List
Right	40	45	75	67	42	N/A-1	84	68	N/A-3
Left	45	45	75	67	47	N/A-2	92	73	53

## GSi AMTAS FLEX



### GSi-AMTAS™ Hearing Report



QUALITY ASSESSMENT (Air Only)	
Predicted Accuracy	GOOD
Quality Indicators	Value Title
Predicted Avg. Abs. Diff. (dB)	2.077 25
Time per Trial (s)	4.768 36
False Alarm (s)	0.000 6
Avg. Test Retest Diff. (dB)	0.000 6
QC Fail (%)	0.000 6

LEGEND	Right Left
Masked Air	△ 6

AMCLASS® Audiogram Classification					
Ear	Severity	Configuration	Site of Lesion	Bilateral Symmetry	
Right	HL 0	Flat Hearing Loss	Cannot determine	Symmetric	
Left	HL 0	Flat Hearing Loss	Cannot determine		
PTA					
Ear	Pure Tone Avg. dB HL				
Right	48				
Left	17				





# QUALITY INDICATORS

- ✓ **PREDICTED ACCURACY**  
Summary measure that categorizes the accuracy of the audiogram as Good, Fair, or Poor.
- ✓ **PREDICTED ABSOLUTE AVERAGE DIFFERENCE**  
The predicted difference between automated and manual thresholds based on research studies.
- ✓ **MASKER ALERTS\***  
The thresholds where masking may have been too high or too low.
- ✓ **TIME PER TRIAL**  
The average time it took the patients to respond to the stimulus.
- ✓ **FALSE ALARM RATES**  
The number of times the patient responded "yes" when no stimulus was presented, divided by the total number of times no stimulus was presented.
- ✓ **AVERAGE TEST-RETEST DIFFERENCE**  
The average difference between the initial 1000 Hz threshold and the second (retested) 1000 Hz threshold obtained for the right and left ears.
- ✓ **QUALITY CHECK FAIL RATE**  
The number of times the patient did not respond to stimulus above threshold, divided by number of measured thresholds.
- ✓ **NUMBER OF AIR/BONE GAP >35 DB\***  
The number of air/bone gaps that exceed 35 dB.
- ✓ **NUMBER OF AIR/BONE GAP <-10 DB\***  
The number of air/bone gaps that are less than -10 dB.

*\*Additional indicators only available on AMTAS Pro.*

# ■ WHAT YOU SHOULD EXPECT FROM OUR DEVICES

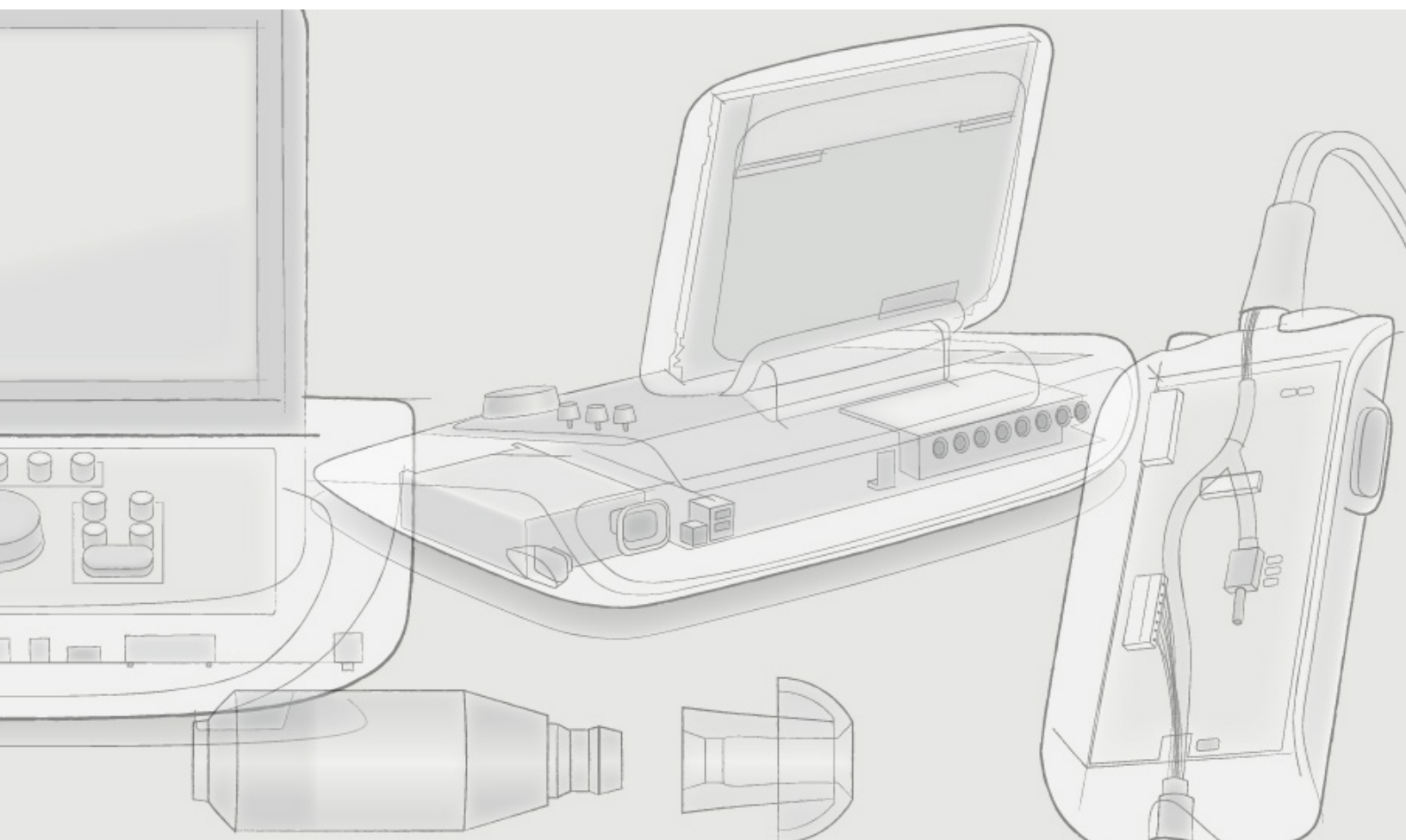
## WORLD LEADER IN AUDIOMETRIC SOLUTIONS

GSI is a world leader in audiometric assessment instrumentation and carries a full line of audiometers, tympanometers, otoacoustic emissions (OAE), and auditory evoked potential instruments. From research facilities to school screenings, GSI instruments have been the equipment of choice for audiological assessments throughout the world for over 75 years.

## DESIGNED SMART, BUILT STRONG

Our motto is Designed Smart, Built Strong. GSI devices are Designed Smart with the audiologist in mind, providing superior ergonomic design and navigation with one button, one function accessibility. Built Strong, our devices can take on the most routine to complex testing scenarios in any environment.

**Quality, Reliable, and User-Friendly** are the three core attributes that are the backbone of the GSI brand. These attributes are what you should expect from any GSI product.



# ■ GSI AMTAS

## TECHNICAL SPECIFICATIONS

- **Air Conduction Diagnostic Frequencies:** 250, 500, 750, 1000, 1500, 2000, 3000, 4000, 6000, 8000 Hz
- **Bone Conduction Diagnostic Frequencies:** 500, 1000, 2000, 4000 Hz
- **Air Diagnostic Level Range:** -20 to 100 dB HL
- **Bone Diagnostic Level Range:** -20 to 75 dB HL (frequency dependent)
- **Masking:** Narrow band noise, speech noise
- **Air Conduction Screening Frequencies:** 500, 1000, 2000, 4000 Hz
- **Air Conduction Screening Level:** 20 or 25 dB HL
- **Speech Testing:** Speech Recognition Threshold (SRT), Word Recognition Score (WRS)

	GSI AMTAS FLEX	GSI AMTAS PRO
Air Conduction Diagnostic	✓	✓
Air Conduction Screening	✓	✓
Masking	✓	✓
Bone Conduction Diagnostic		✓
Speech SRT		✓
Speech WRS		✓
Connect to Audiometer		✓
VA Quasar Integration		✓
dB HL Range	10 to 80	-20 to 100
Quality Indicators	✓	✓
Audiogram Classification	Limited	Comprehensive

