GSI AudioStar Pro:

New Features for Firmware v2.0





Course presented in partnership with





Agenda

- Overview
 - What's new with 2.0
 - Device Navigation
- Testing
 - Standard
 - Speech Testing
 - QuickSIN
 - BKB-SIN
- Configuration Application
 - Customize Default Settings
 - Customize Favorites







Learning Outcomes

After this course, participants will be able to:

- Explain how to load custom default test settings into the AudioStar Pro clinical audiometer.
- Explain how to quickly transition between standard audiometric evaluations (such as pure tone and speech) to special tests such as the QuickSIN.
- Explain how to perform efficient comprehensive diagnostic audiometric evaluations using the AudioStar Pro clinical audiometer.





GSI AudioStar Pro™ – Key Features

- Fast, accurate testing
- Color interactive display
- Integrated wave files
- Integrated special tests
 - TEN test
 - QuickSIN
 - BKB-SIN
 - Legacy Special Tests
- High frequency to 20 kHz
- Assistant monitor







2 Channel Audiometer

Full Routing Capacity

Routing	 1.5 Channel Audiometer 	AudioStar Pro
Channel 1 Narrow Band Noise	No:	Yes
Same Ear Speech Stimul and Speech Noise	No	Yes
Same Ear Tone and Narrowband Noise	No	Yes
Channel 1 Tone/Channel 2 Speech	No	Yes
Channel 1 Speecly/Channel 2 Tone	No	Yes
Masking Stimuli in Channel 1	140	Yes
Binaural Masking	No	Yes







AudioStar Pro v 1

- Current version is 1.5.X
- No more functionality updates will be released for this product
- ASP v 2.0 new features cannot be obtained for current (v1) ASP's
- Utilizes old format for loading integrated .wav files







What's New With the AudioStar Pro?

- AudioStar Pro firmware v2.0 is the newly updated 'model' of the AudioStar Pro.
- It encompasses hardware changes, control panel changes, new display, new firmware, new OS, new Config App.







ASP 2.0 is Fast

- Start Up—less than 1 minute
- Updating configuration? Seconds
- Transitions between test types, faster
- Word presentation, faster
- Auto Play faster





Hardware Changes

- High Resolution Display
- Control Panel







New Buttons

- No more High Hz Button
- Added a Monitor Speaker
- Center VRA added









What's New in Tone Test?

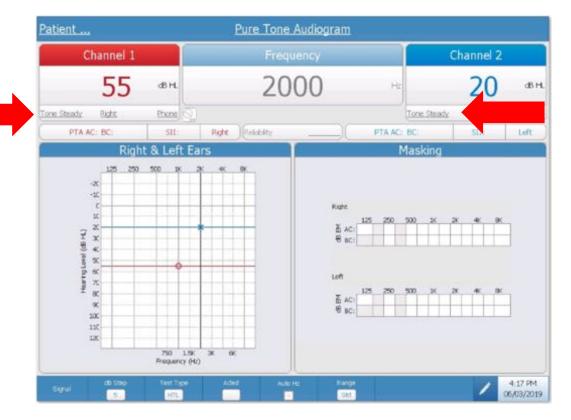






Color Coded Intensity Combined View

Tone – Tone selected



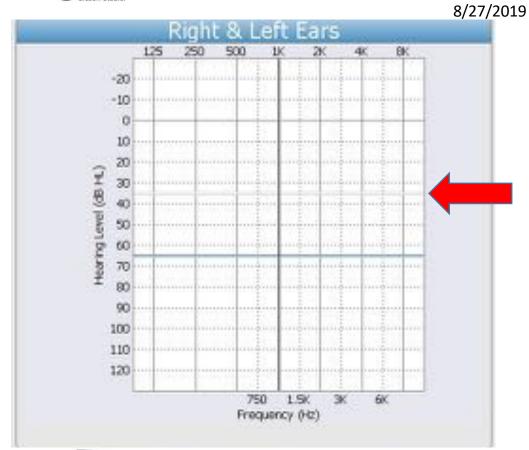






Masking Level Indicator

Tone - Noise selected





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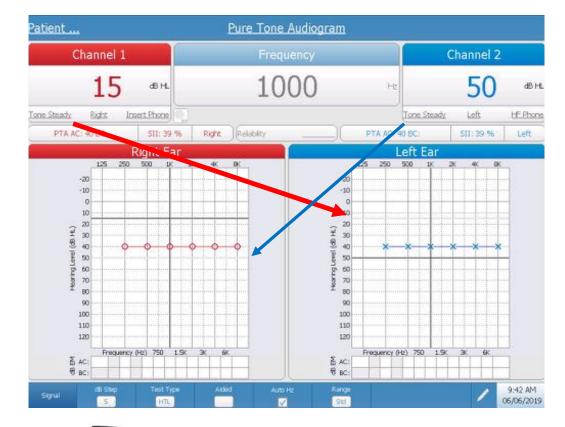




Opposite Channel Indicator

Audiogram in separated view

Tone – Tone selected









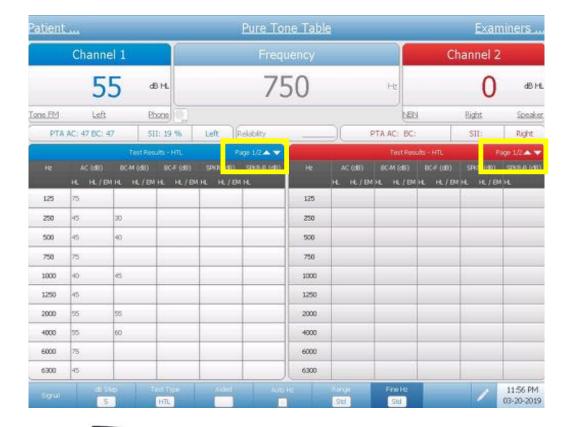




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New: Table View

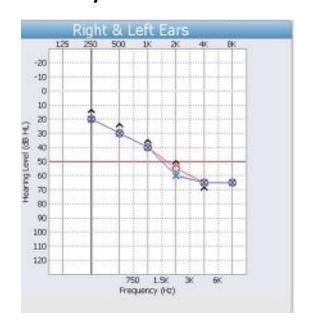
- Right and Left ear results on same screen
- Air, bone, SF results
- Frequencies appear when thresholds stored







New Symbol: Bone Unspecified ^















New Symbols: Vibrotactile (coming soon)

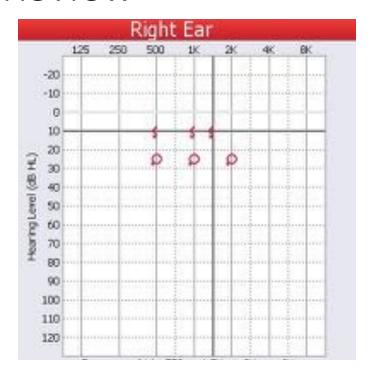








Review





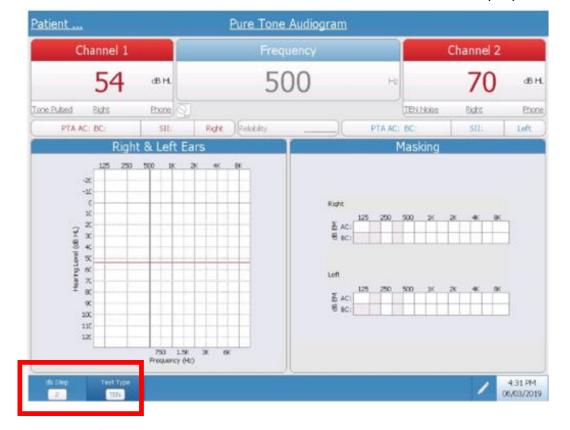




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TEN Test

- New Location
- High Freq headphones added
- Any transducer may be used







Ext in Tone

Useful in testing pediatrics



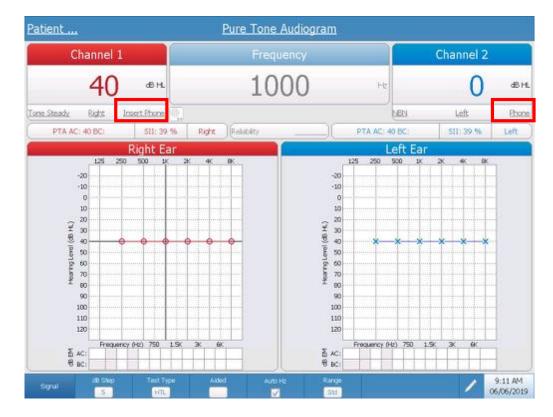






Inserts-Phone

Can now route Channel 1 and Channel 2 to different transducers simultaneously





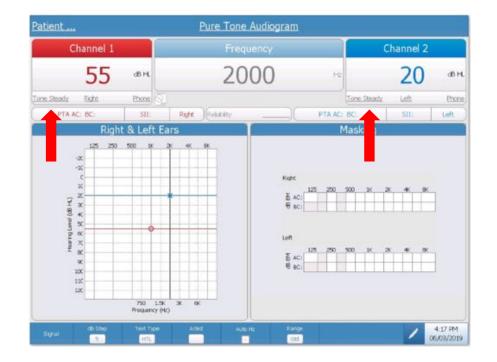




Independent store buttons

If one channel is set to Tone and other NBN pressing *either* Store button stores the same/appropriate Tone symbol.

If Both channels are set to Tone stimulus pressing Store in Channel 1 stores the Channel 1 result. Channel 2 store button stores the Channel 2 result.







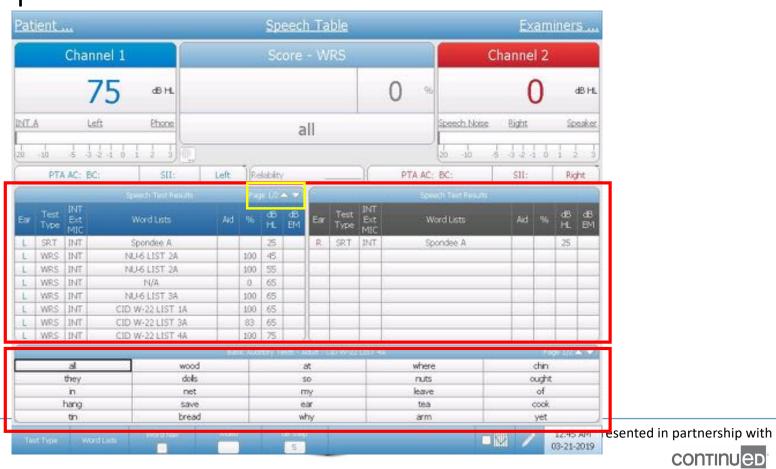
What's New in Speech?

- Store unlimited number for speech results
- Displays 8 results per ear
- 25 words displayed on screen
- Channel 2 can be primary channel for internal word lists
- Channel specific Store buttons
- SPEED
- New format for integrated.wav files





New Speech Screen





Channel 2 Int Wav Files







AudioStar Pro: Basic Navigation







Overview – Important Buttons

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Navigation Pad – "Nav pad"





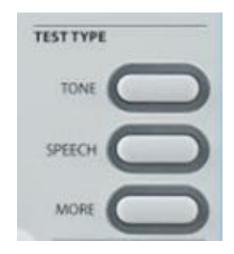
Allows you navigate the on screen menus
Used to navigate .Wav files and trigger some speech tests





Test Type Buttons

- Short cut keys to prepare for different audiologic tests
- Tone and Speech will set up the AudioStar Pro with default transducers, levels and routing with one button press
- More displays the special tests







Function Buttons



Data Erase

- Single data point
- The last curve
- Clear session data

Examiner

• Displays a list of examiners that may be assigned to each test session.

Patient

- Enter patient demographics
- Select a patient from the patient list
- Import a patient list
- Transfer, load and delete sessions

Monitor Speaker

 Independent patient monitor (can be used when mic monitor headset is plugged in)

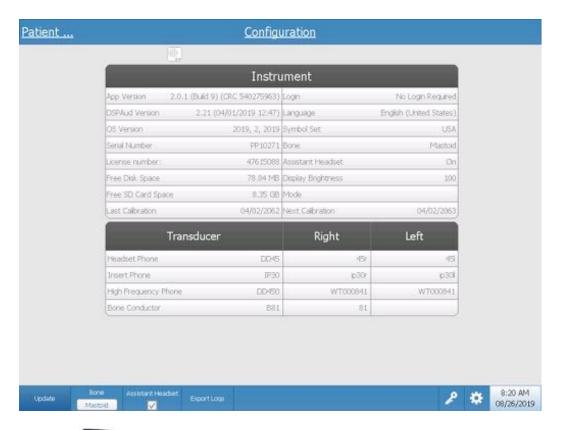






Configure

- View the instrument information
 - Serial number
 - Software version
 - Set the date and time
 - Configure bone conduction
 - Set the print format
 - Enable/disable the Aux Intercom
 - Adjust the screen brightness
 - Update sound files

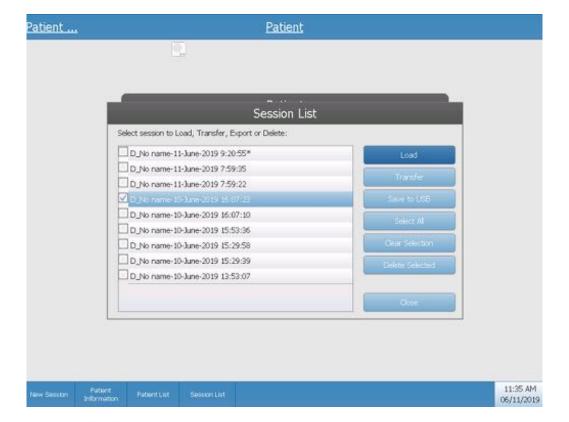






Patient Screen

- New: Load Previous Session
- Transfer sessions
- Save to a USB
- Delete





AudioStar Pro v 2.0

Navigating the user interface





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Tone Screen Orientation

3 view options

(press and hold 'Tone' button for 3 seconds to scroll through them)







Drop Down Menu-Screen Navigation

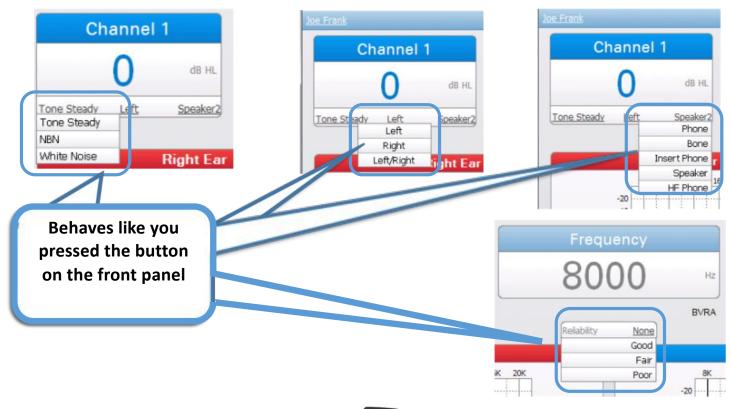
When using a mouse with the ASP













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Navigation Menu



Signal **Modifications**

- FM
- Pulsed
- FM / Pulsed
- **Ped Noise**
- PN / Pulsed
- Lock menu

dB Step Size

- 1

- TEN

Test Type

MCL

UCL

Tinn

• HTL

Aided

- Blank
- Aided (HA)
- Cochlear Implant (CI)

Auto Hz

- Active
- Manual

Range

- Standard
- High
- Full



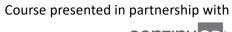


Signal Menu

- Can be selected with Nav Pad or Mouse
- Can be locked for easier access







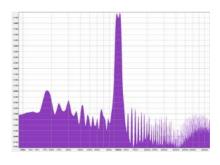




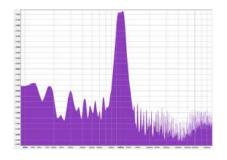
Pediatric Noise



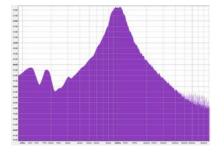
- New signal type that offers frequency specificity
- Narrow band noise with sharp slopes
- Presented at HL levels
- Alternative stimulus type for threshold testing



Frequency Modulated (Warble) Tone



Pediatric Noise



Narrow Band Noise



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Comments



- Must use external keyboard
- Can be viewed / edited in any screen
- Toggle Stenger results for Speech and tones
- Reliability







Range Standard / High / Full Ability to test full range with HF Phones (DD450)











Status Audiogram / Fine Hz

Displayed in a tabular format

Hz, dB HL, dB EM

Use Fine Hz for octave band frequency resolution and single Hz resolution







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Speech Testing





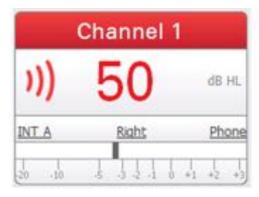
Course presented in partnership with



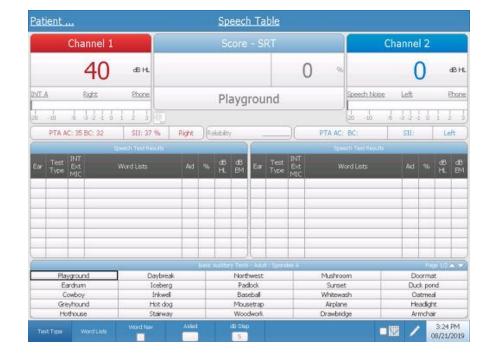


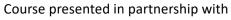
Speech Test Type Display

- Speech testing can be done via LMV or internal .Way files or external device
- Can store an **UNLIMITED** number of speech results



 Sound wave icon visible when .Wav file is playing, or mic is active









Select test type

- Pulls all "favorites" assigned to the various test types
- Access any list in library

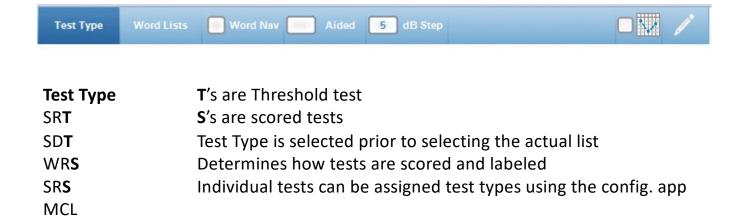






Navigation Menu

UCL







Word lists

- Favorites
 - Set up by config app
- Source
 - Internal A/B or external source
- CD name
- Word lists associated with selected CD







Integrated Speech Tests from the factory

AZ Bio

AZ Bio Pediatric

Auditec Basic Adult (I and II) and Child

Spanish Auditory Speech List

DOD/VA CDs (CD 1, 2, and 4)-

PBK Female

WIPI

Tonal/APD style







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Word Nav

Manual

- Moves cursor control to word lists
- Scroll to individual words for presentation

Auto Advance

 Moves to the next word in the list after the previous word is scored (Correct / Incorrect)

Auto Advance Wordlist

- Moves to the next test in favorites list (set by config. App)
- Will advance only to lists in the same test type

AutoPlay Timeout (sec)

- Time between word presentations
- Used with interrupt button
- Preferences set with config. app for scoring





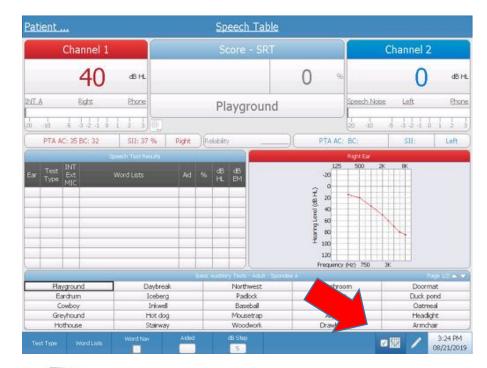




Display Pure Tone Audiogram



Helpful reference that eliminates switching back and forth between Tone and Speech screens





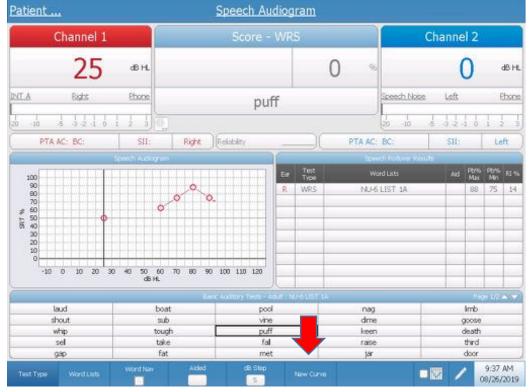




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Speech Audiogram

- Accessible by pressing Status / Audiogram hard key
- Graphic format that has the Rollover Index Table
- Replaces Speech Test Results with Speech Audiogram and Rollover Table
- New Curve added to menu.
- SRT plotted on Speech Audiogram at 50% on the corresponding level
- AudioStar will determine PIPB (Performance Intensity function for Phonetically Balanced words)
- Scored when 2 or more WRS test results stored at different intensities
- Results calculated in Rollover table (RI-Rollover Index)









Instructions for .Wav files with stimuli on both channels

- Select the speech word list to be presented to the patient.
- Ensure that Channel 1 stimulus is set to INT/EXT A
- Ensure that Channel 2 stimulus is set to INT/EXT B
- Select INTERLOCK to ensure that the two channels present simultaneously
- Press interrupt on Channel 1 to launch test







Special Testing with AudioStar Pro





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Special Tests

- QuickSIN
- BKB-SIN
- ABLB
- SISI
- Tone Decay







Special Tests

Legacy Tests

- ABLB
- SISI
- Tone Decay

Tone Decay









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TEN test

Clinical test that can detect the presence of one or more cochlear dead regions in an ear.

Useful for counseling about the benefit of hearing aids, hearing aid selection or cochlear implant candidacy











QuickSIN BKB-SIN

- Fast and efficient Speech in Noise Testing
- Fully integrated





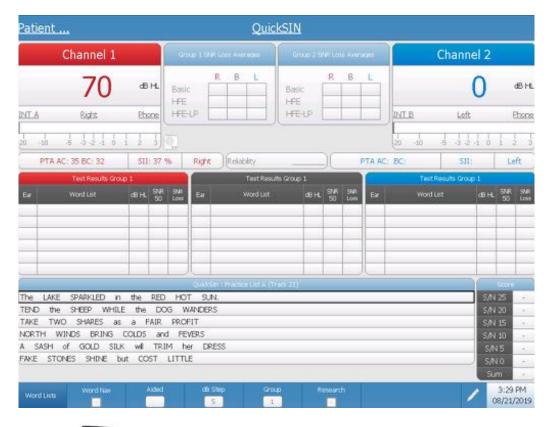






QuickSIN

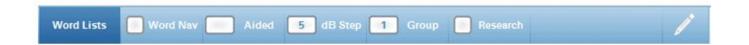
- Tests Speech-in-Noise
- Scored using "Incorrect" and "Correct" buttons (configurable with config. App)
- Must use a mouse or Nav Pad to trigger sentences. Interrupt is disabled during testing







Navigation Menu



Group

 Acts as a toggle to indicate 'group' for testing under different conditions (i.e. aided v. unaided / directional mic v. omnidirectional mic)

Research

- Designed for research and special applications
- Output for Channel 1 and Channel 2 can be controlled independently
- Separated tracks should be used in this mode





BKB-SIN

- Designed for Children and Cochlear Implant Users
 - Also ideal for patients with memory issues (sentences are shorter)
- SNR Normative Data based on age range and binaural presentation
- Specific lists for CI patients
- Sentence structure written at first grade level







BKB-SIN

- Normed for children and adults, age 5 and up
- Scored using "Incorrect" and "Correct" buttons (configurable with config. App)
- Must use a mouse or Nav Pad to trigger sentences. Interrupt is disabled during testing









Navigation Menu



Group

 Acts as a toggle to indicate 'group' for testing under different conditions (i.e. aided v. unaided / directional mic v. omnidirectional mic)

Age

• Must be filled in to score test

Research

- Designed for research and special applications
- Output for Channel 1 and Channel 2 can be controlled independently
- Split tracks should be used in this mode







Results and Interpretation

- The SNR Loss will be calculated automatically
- Results can be transferred to GSI Suite
- Included on direct print





Objective Recommendations

SNR LOSS	DEGREE OF SNR LOSS	EXPECTED IMPROVEMENT WITH DIRECTIONAL MIC
0-3 dB	Normal / near normal	May hear better than normals hear in noise
3-7 dB	Mild SNR loss	May hear almost as well as normals hear in noise
7-15 dB	Moderate SNR loss	Directional microphones help; consider array mic
>15 dB	Severe SNR loss	Maximum SNR improvement is needed; consider FM system





Pediatric testing features

- VRA Trigger
- Assistant monitor
- Remote keyboard
- Mic stimulus in tone screen
- Pediatric Noise
- EXT stimulus in tone screen







VRA

- Ability to trigger most commercial systems
- New centering button added to device











Assistant Monitor

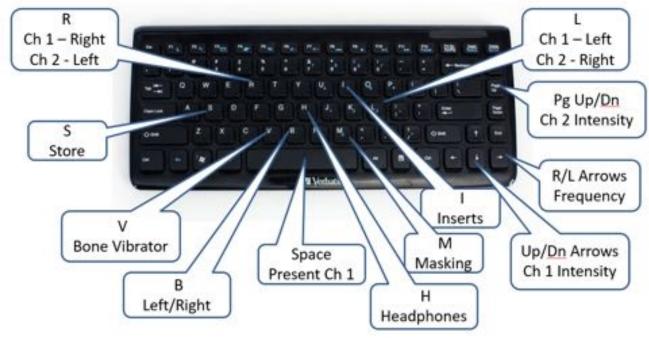
- Allows direct communication between Operator and Assistant
- Testing stimulus is delivered to Assistant mirroring the Operator Mic / Monitor headset







Remote Keyboard: Play Audiometry







Mic / EXT stimulus in Tone Test Type

- When obtaining results on a difficult to test patient, it is desired to have tone in one channel and mic / EXT in the other.
- Things to remember: When on the tone test type and mic is the stimulus in the non-test channel, you will not get a VU meter





Configuration Application v2.0

Customizing Default Settings and Favorites





Configuration Application v 2.0

- Every AudioStar Pro comes with a computer program called the Configuration Application
- The "Config App" is how defaults are defined and assigned
- It is an "extra." It is not necessary for testing hearing with the AudioStar Pro
- Makes startup settings customized adds to efficient testing







Config Ap Menu



Download: Sends the "new" configuration to the device (restart required after download for settings to take effect

Upload: Pulls the current configuration from the AudioStar Pro when connected to a PC

New: Starts a new configuration

Default: Resets config. app to default settings

Revert: Reverts changes made to default settings

Load: Loads a previously saved configuration

Save: Saves a current configuration. App will prompt for file location to save

Configure: Change Language (11 languages supported)

About: Config App info and version number





Instrument / Set Up

Date and time

Instrument Regional Settings / Symbol Set

AUX Intercom Button

Patient Response Button

4-Speaker Settings

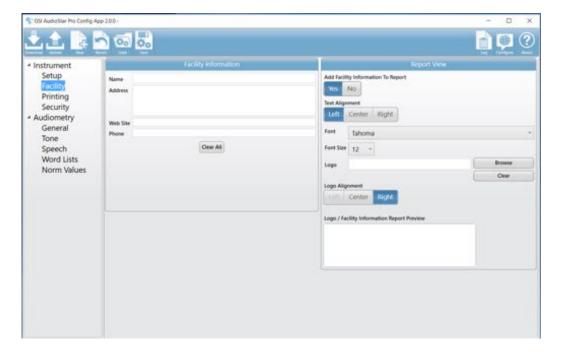






Instrument / Facility

- Facility info (for direct printing)
- Report View (font and logo)

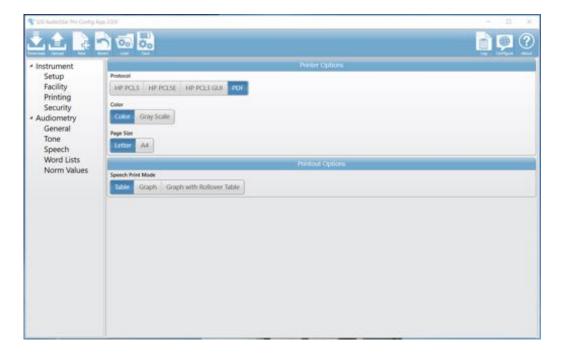






Instrument / Printing

- Printer protocol (printer language)
- Speech Print Mode







GSI vetted printers

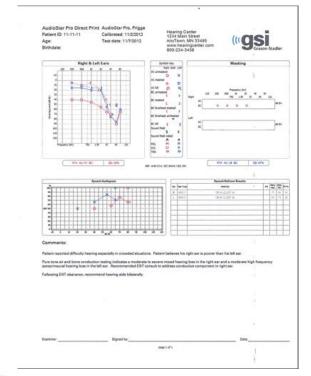
Brand	Model	Protocol	
HP	Officejet 200 mobile	HP PCL3 GUI	
HP	Officejet Pro 6230	HP PCL3	
HP	LaserJet Pro M402n	HP PCL5e	





Report template





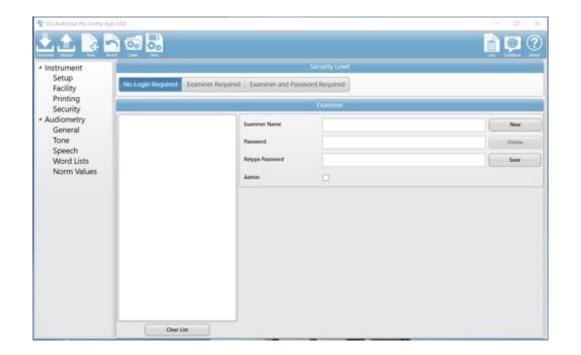




Instrument / Security

Login

Add Examiners

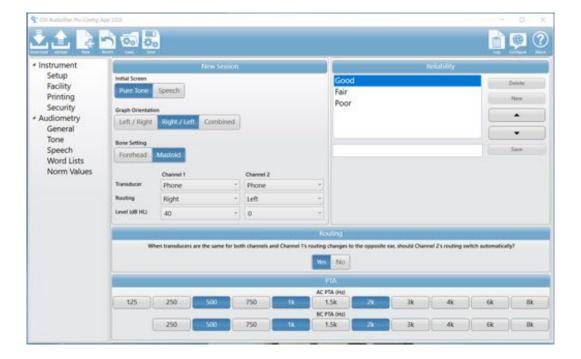






Audiometry / General

- Settings for a new session
- Reliability
- Default routing
- PTA (AC and BC)









Audiometry / Tone

- Preferences for tone screen
- Auto Hz option



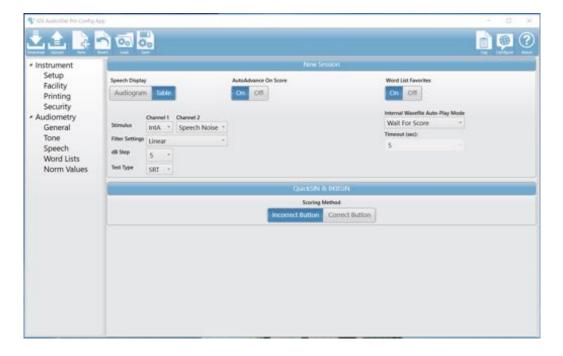






Audiometry / Speech

- Speech Preferences
- Quick SIN and BKBSIN scoring preferences



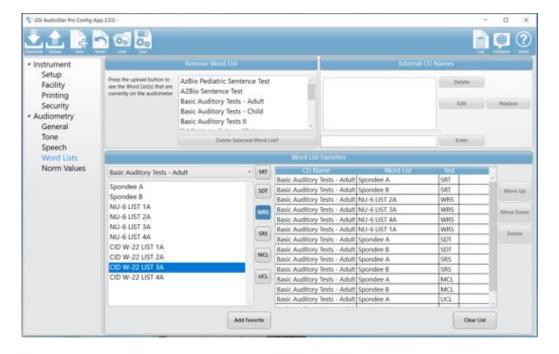






Audiometry / Wordlists

- Remove Word Lists
- Word List Favorites
 - Assign test type to each list
 - Arrange in preferential order



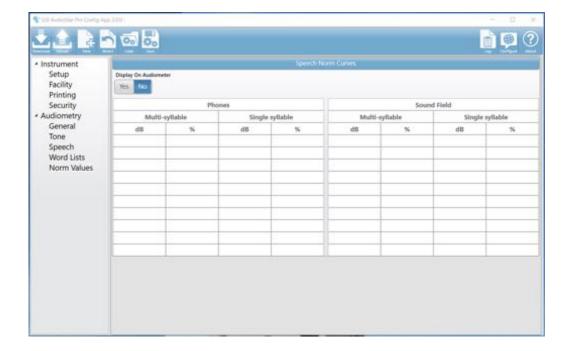






Audiometry / Norm Values

- Speech norm curves
- More commonly used in other countries





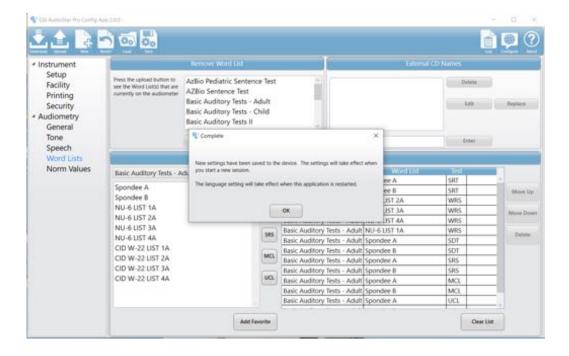




Download

Restart or clear session to have settings take effect

Use "save" to save a file that can be reloaded through the Config App or with a USB drive









Data Transfer

GSI Suite









GSI Suite Summary

- GSI Suite is included with compatible GSI equipment
 - AudioStar Pro v1 and v2, Pello, Tympstar Pro, GSI 39, Corti
 - Legacy Products: GSI 61, GSI TympStar v1 and v2
- GSI Suite offers flexibility in data management for the following:
 - Reporting (pre-defined comments)
 - Hearing aid fitting/counselling (Noah compatible)
 - EMR/HER (PDF, JPEG, TIFF, Public Data)
- GSI Suite may be customized to fit the needs of your facility
 - Multiple referral sources
 - Multiple testing protocols
 - Multiple examiner preferences





Conclusion

- GSI is committed to efficient and accurate clinical evaluations
- While there is operational consistency with legacy products, it's important to be aware of the differences
- Updated technology has allowed a number of features that were not available before
- Knowing the ins and outs of your equipment will ensure confidence when testing all patients!





Questions/Discussion





Thank you!

