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M01P

Use of State-of-Art Technology in the Fitting of Digital Hearing Aids in Persons with Severe and Profound Hearing Loss

Linda Gottermier
Communication Studies and Services Department

The National Technical Institute for the Deaf at Rochester Institute of Technology, Rochester, NY 14623

R·I·T
NTID
Rochester Institute of Technology
National Technical Institute for the Deaf

ABSTRACT

Adaptability in the use of communication strategies among individuals who are deaf and hard of hearing has been shown to be an important asset in upward mobility on the job (Foster & MacLeod, 2003). As a strategy, some students choose to optimize their residual hearing with use digital hearing aids for both classroom and professional settings. Exact measurements must be made to ensure optimal benefit. Also, there is a need to establish if digital hearing aids are indeed beneficial to individuals with severe and profound hearing loss.

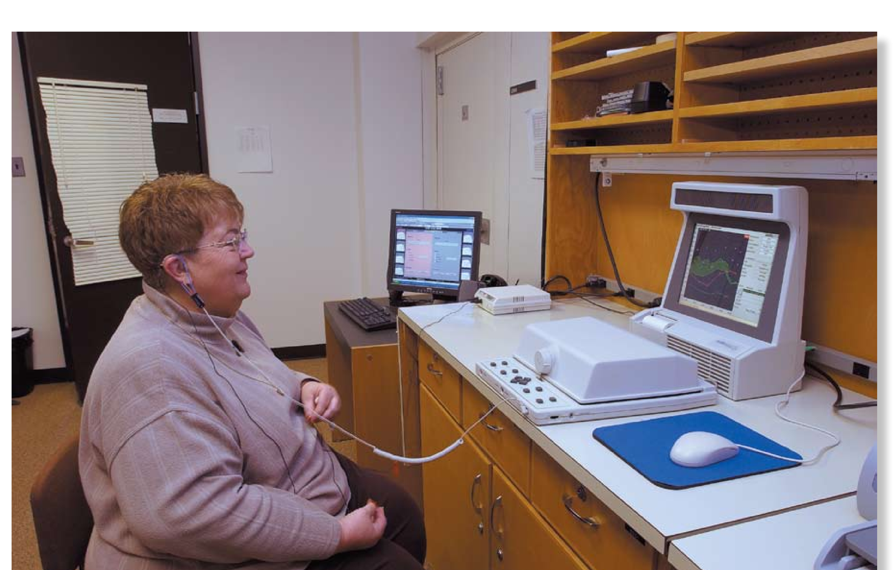
Important new technology, e.g. Verifit® and NOAH®, allow for precise measurement of hearing aid performance in an individual's ear. This poster session will show how these tools are used to make measurements of hearing aid performance in the ear for the following stimuli: quiet, average and loud speech; high level noise; and music. All performance measures can be viewed in the context of target prescriptions that can be seen by the user on a computer screen. The adequacy of the hearing aid's performance (n=10 subjects) can also be viewed to allow for better understanding of the capabilities and the limitations of the devices.

SUMMARY

All subjects were questioned six months after dispensing via e-mail. All subjects report a high level of user satisfaction. Most subjects were using aids every waking hour. For these experienced hearing aid users, the Verifit® seemed to be a useful tool in achieving a satisfactory hearing aid fit.

Foster, S. and MacLeod, J. (2003). Deaf people at work: assessment of communication among deaf and hearing persons at work. **International Journal of Audiology**: 42, S128-S139.

Audiologist position measuring microphone.



Client in position ready for probe microphone measurements.

Verifit® Measurement of a Digital Hearing Aid

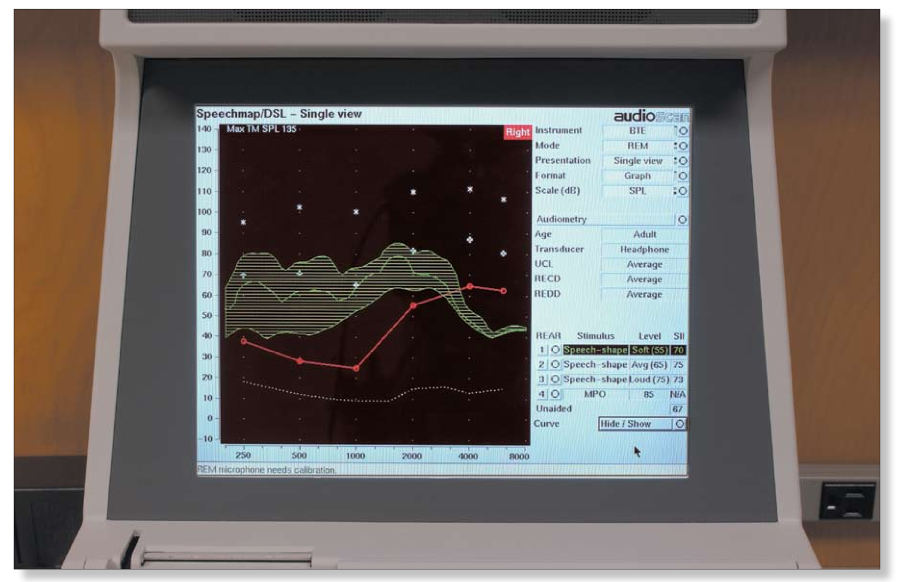


Figure 1 Measure of soft speech. Green area shows output at the ear canal. White stars show target (prescribed) fitting area.

Figure 2 Measure of average speech. Purple area shows output at the ear canal. White stars show target (prescribed) fitting area.

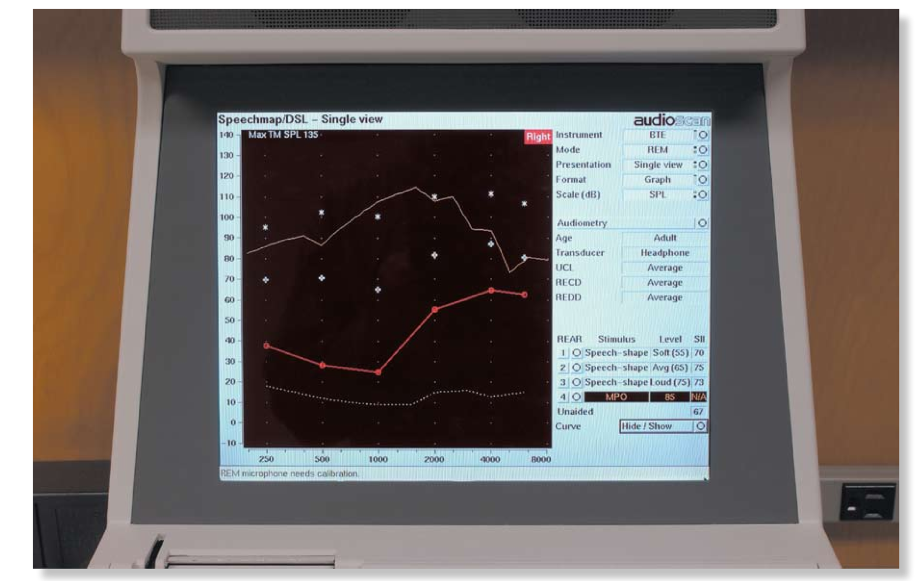


Figure 3 Orange shows maximum output. Maximum output should not exceed top line of white stars.

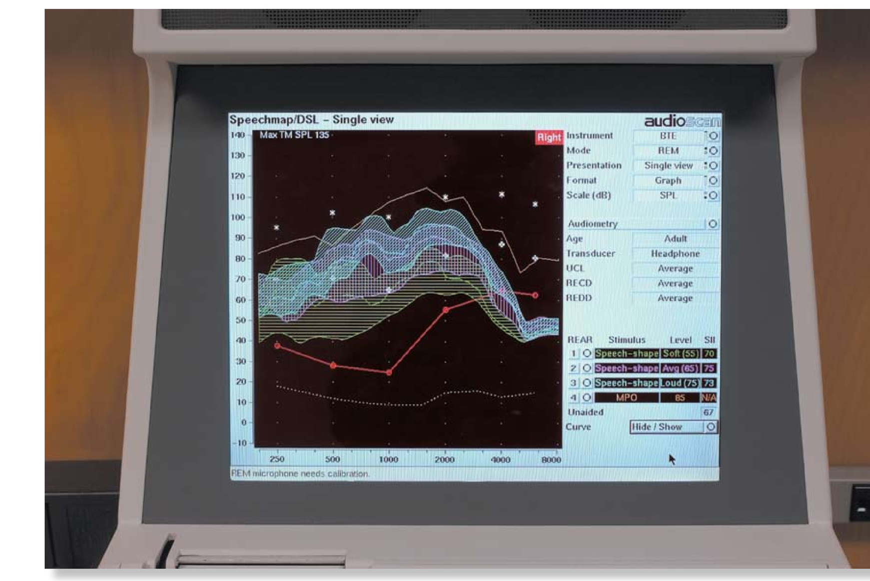
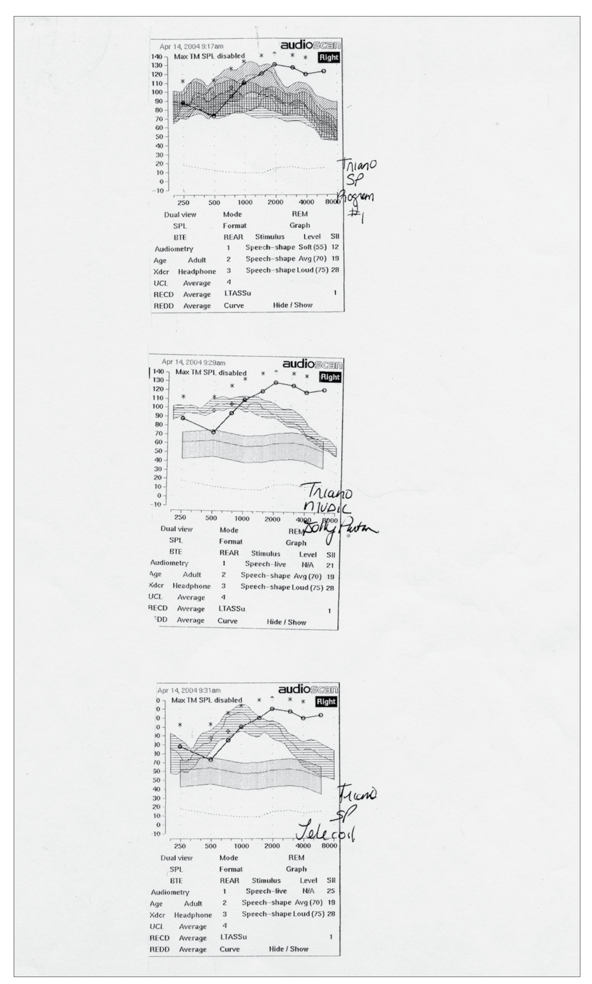
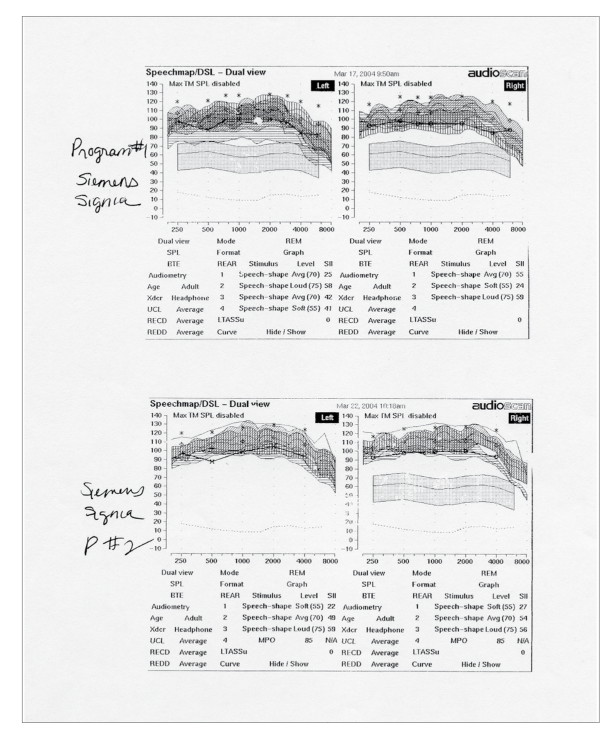


Figure 4 Composite graph of soft, average and loud speech matched to hearing aid prescription (DSL/IO).

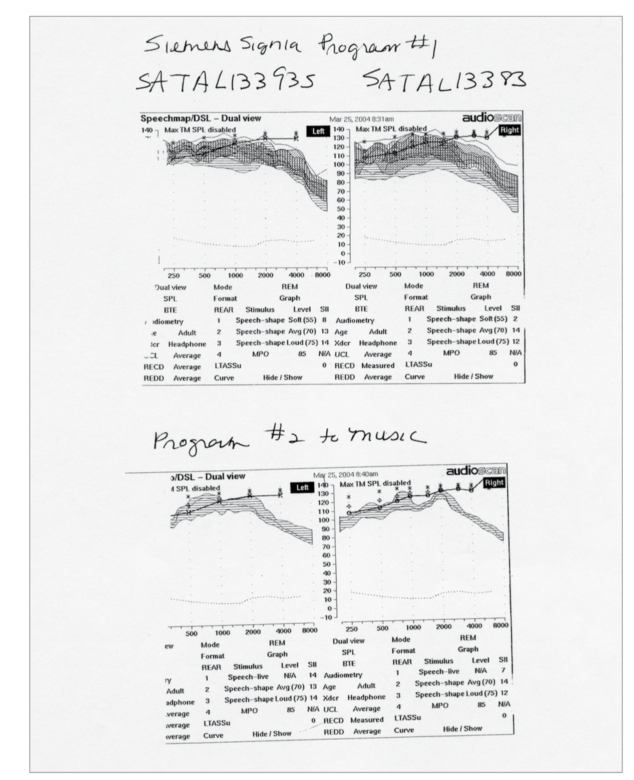
Case Studies and Data from Individuals (n=10) Who Reported Enhanced Performance in Educational and Professional Settings is Shown as Follows:



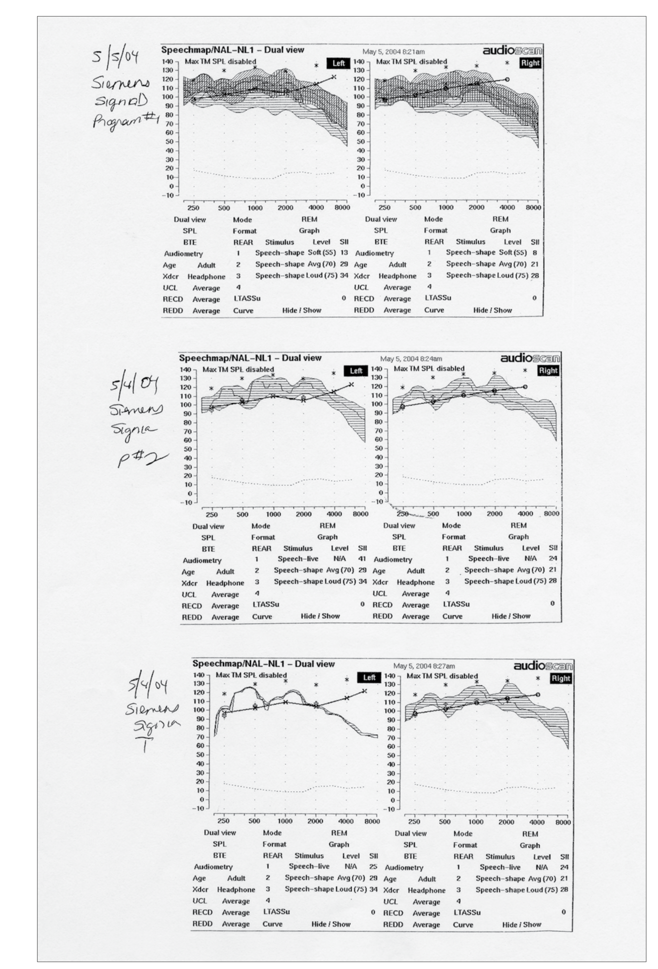
S1: Etiology: Unknown; Hearing aid user since age 5; Aided left only with digital technology.



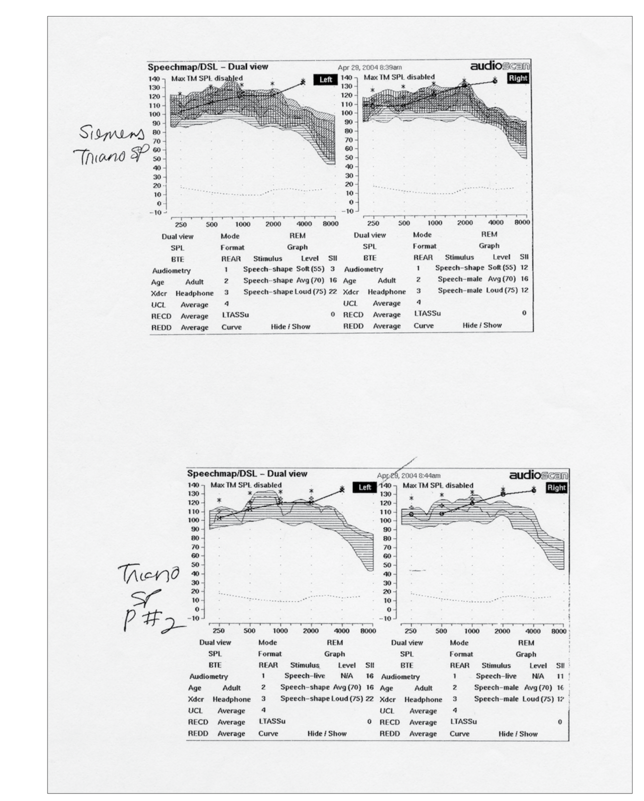
S2: Etiology: Possible genetic; Hearing aid user since age 9; Aided binaurally with digital technology.



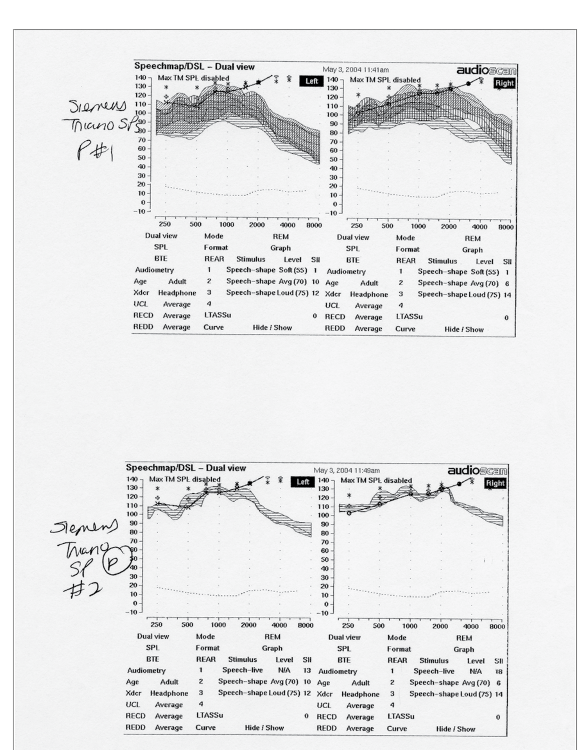
S3: Etiology: Unknown; Hearing aid user since age 3; Aided binaurally with digital technology.



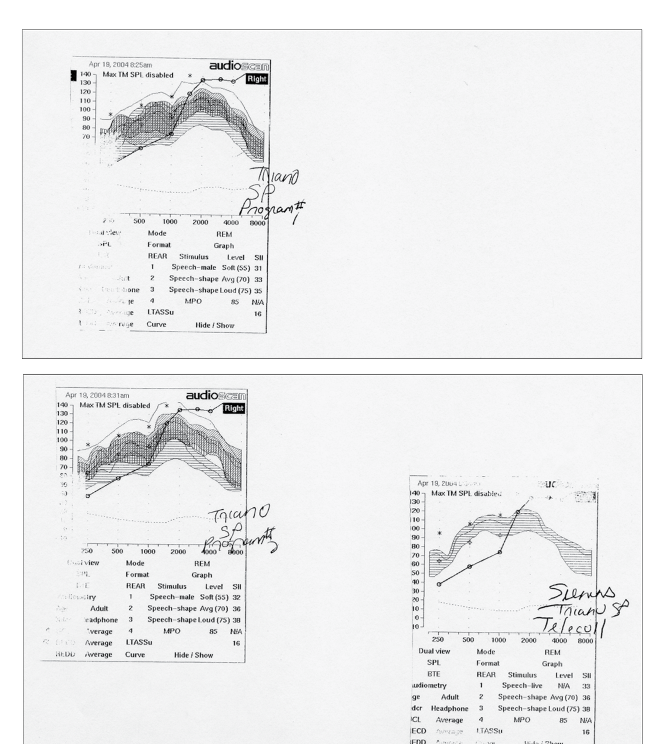
S4: Etiology: Unknown; Hearing aid user since age 2; Aided binaurally with digital technology.



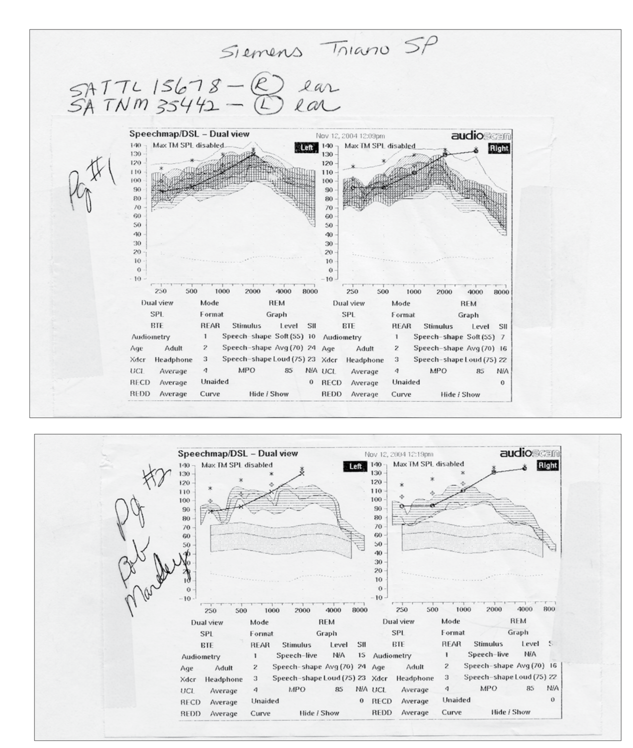
S5: Etiology: Genetic; Hearing aid user since age 2; Aided binaurally with digital technology.



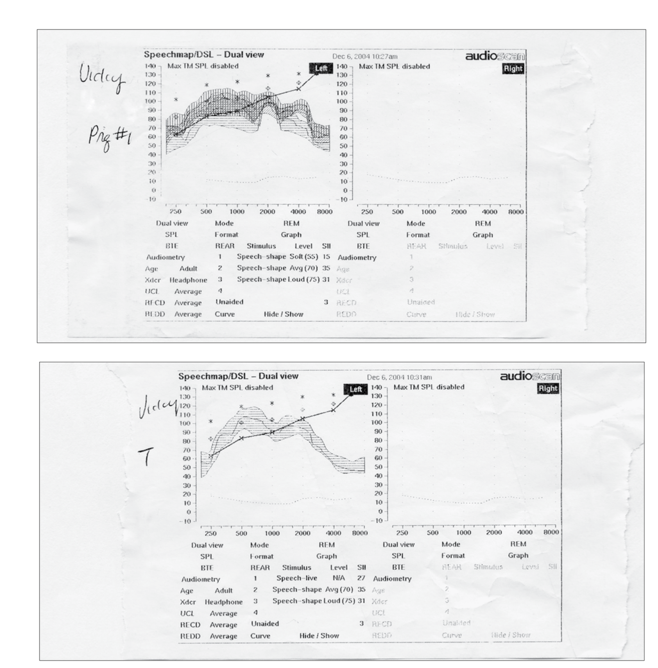
S6: Etiology: Unknown; Hearing aid user since 18 months; Aided binaurally with digital technology.



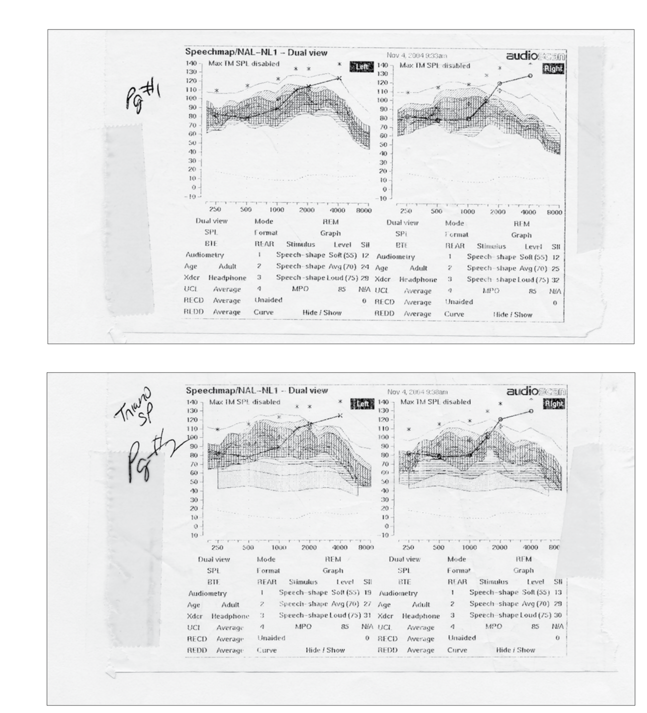
S7: Etiology: Unknown; Hearing aid user since age 12; Aided right only with digital technology.



S8: Etiology: Unknown; Hearing aid user since age 3; Aided binaurally with digital technology.



S9: Etiology: Unknown; Hearing aid user since age 5; Aided left only with digital technology.



S10: Etiology: Unknown; Hearing aid user since age three; Aided binaurally with digital technology.