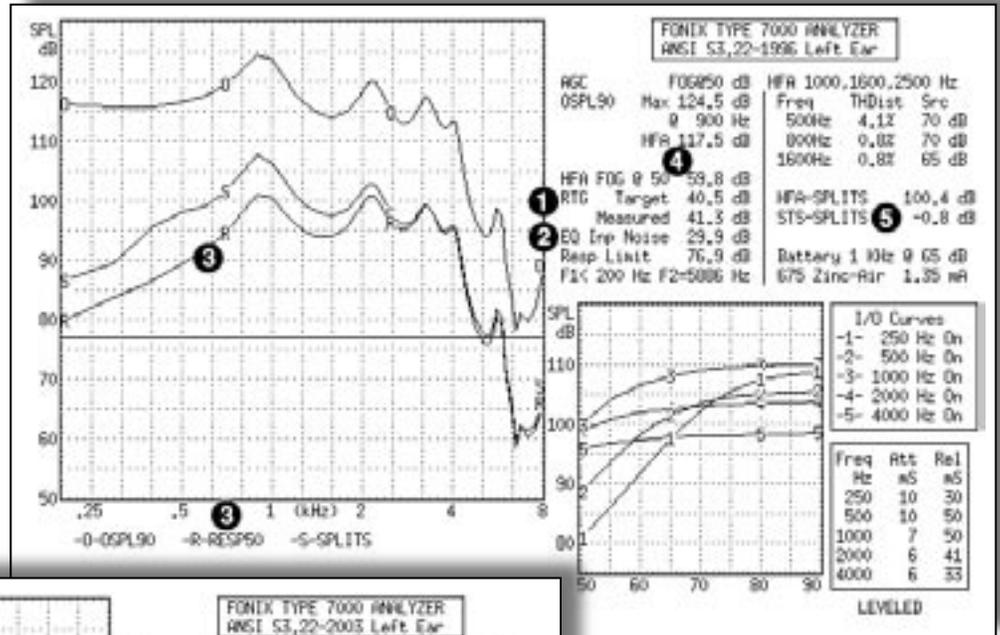


# One Hearing Aid—Two Standards

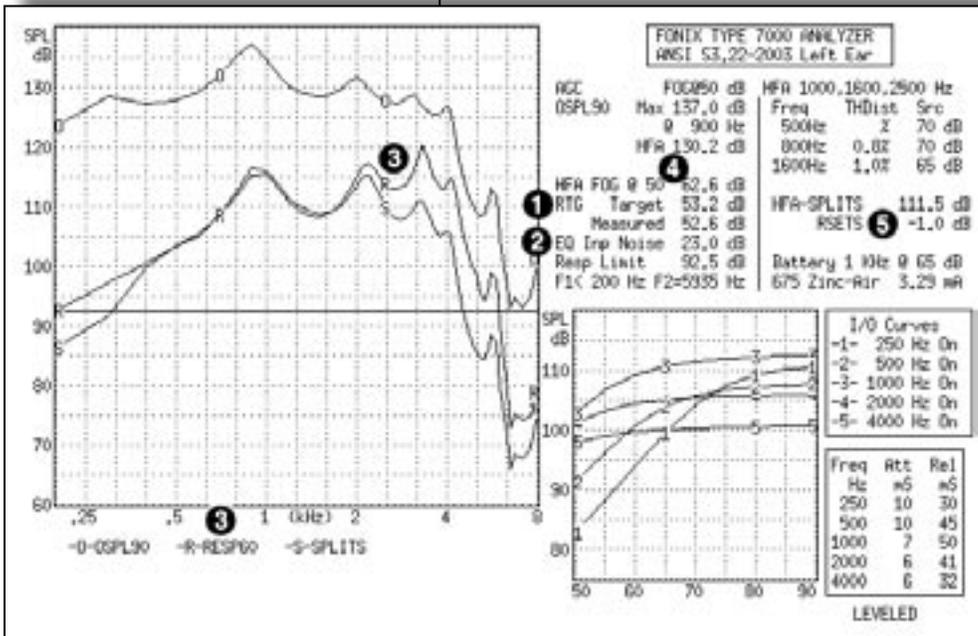
## Comparing ANSI S3.22-1996 and ANSI S3.22 2003

### ANSI 96

Here is an example of what one hearing aid looks like when tested with test sequences based on the old and new standards. Many of the differences are pointed out on these test strips.



### ANSI 03



The ANSI 96 test was done with the AGC controls of the aid set to maximum compression for the entire test. The ANSI 03 test was done with the compression set to minimum for most of the test but set to maximum for the attack & release and I/O curves. This partially explains the differences in the measurement results.

- 1** Reference test gain with 1.0 dB with ANSI 96 and 1.5 dB with ANSI 03.
- 2** Equivalent input noise measured at 60 dB SPL with ANSI 96 and 50 dB SPL with ANSI 03.
- 3** Frequency response curve measured at 50 dB SPL for AGC aids in ANSI 96 and 60 dB SPL for all aids with ANSI 03.
- 4** Full-on gain measured at 50 or 60 dB SPL for linear aids with ANSI 96 and 50 dB SPL for all aids with ANSI 03.
- 5** Telecoil difference measurement called STS -SPLITS with ANSI 96 and RSETS with ANSI 03.

# Changes in the ANSI S3.22 Standard

1996	2003
AGC aids should have their compression set to have maximum effect for all measurements.	AGC aids should have their compression set to have minimum effect for all tests except for I/O and attack & release measurements. For those tests, the compression should be set to have maximum effect.
Measured reference test gain must be within 1 dB of the reference test setting target.	Measured reference test gain must be within 1.5 dB of the reference test setting target.
Frequency response curve measured at 60 dB SPL for linear aids and 50 db SPL for AGC aids.	Frequency response curve measured at 60 dB SPL for all aids.
Equivalent Input Noise (EIN) formula uses an input value of 60 dB.	EIN formula uses an input value of 50 dB.
Full-on gain measured at 60 or 50 dB SPL for linear aids, and 50 dB SPL for AGC aids.	Full-on gain always measured at 50 dB SPL.
Simulated Telephone Sensitivity (STS)—the difference between the microphone response curve HFA and the telecoil response curve HFA.	Same measurement, but it is now called Relative Simulated Equivalent Telephone Sensitivity (RSETS).

## Highlights:

- When you set up an AGC aid for an ANSI test sequence, you will start with its compression controls set to minimum (with the compression knee point set as high as possible). Just before the input/output and attack & release measurements, the test sequence will pause to allow you to set the compression controls of the aid to maximum (with the compression knee point set as low as possible).
- When you adjust the gain control of the hearing aid midway through the automated test sequence, the measured reference test gain value will now only have to be within 1.5 dB of the target value instead of within 1 dB.
- The EIN formula uses a 50 dB SPL input instead of a 60 dB SPL input. With ANSI 96, any aid with a compression knee point below 60 dB SPL showed artificially high EIN results. This means that ANSI 03 EIN test results should be better (lower) for AGC aids.



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