



6 November 2014

User release notes for HearID 5.1.9

Who is HearID 5.1.9 for?

HearID 5.1.9 provides minor updates to all measurement modules (MEPA3, DP, TE, and SF). It also includes the first release of the MOCR module for research users. We recommend upgrading if you use the TEOAE module – it provides significant performance improvements and it now includes tone-burst tests. It is optional to upgrade if you are using DPOAE, MEPA, or SFOAE modules – you only need to upgrade if you would benefit from the minor changes described below. If you currently use the CAS add-on to the TEOAE or SFOAE module, or you are interested in testing the medial-olivocochlear reflex (MOCR), you should consider acquiring the MOCR module.

HearID 5.1.9 is intended:

- For new HearID systems running with the Mimosa Acoustics USB-connected Audio Processing Unit.
- As an upgrade to HearID systems currently running v5.1.8.
- As an upgrade to HearID systems running earlier versions, excluding the TEOAE module.
- Older HearID systems with the TEOAE module should only be upgraded after consultation with Mimosa Acoustics. It is usually possible to run old and new systems side-by-side on the same computer, so we recommend installing a new version rather than upgrading an older version.

TEOAE v3.5.4 release notes

- **NEW:** Tone-burst protocols for 0.5, 1, 2, 4 kHz. These protocols are starting point examples for people wishing to test “tone-burst” TEOAEs where stimulus energy is concentrated into narrow frequency regions. Response windows and filters are set to optimize signal-to-noise ratio without impacting on the TEOAE content in the target frequency region.
- The factory-default protocols: SheraChirp47, Click47, DauChirp47, and SOAE50_lowNF now include a 5 kHz lowpass response filter. The SOAE50 protocol was removed. If you wish to use the previous versions, ensure you copy the TEOAE_parsets_h.mat file before upgrading. Or modify the protocols to turn the LP filter off (in the Measurement parameter window) and resave the protocol.
- A 10 kHz lowpass filter was added to the beginning of the TEOAE signal-processing chain. This filter removes high frequency noise that is emphasized by the microphone equalization. For protocols without a lowpass response filter, the time domain response is no longer occluded by irrelevant noise.

- Change to the stimulus level due to probe slippage is now evaluated approximately every second. The test will stop if the deviation is greater than 2 dB from target. False alarms at the beginning of a test and misses near the end of the test are both reduced. Consistently high noise levels just below the noise-rejection cut-off may still trigger the warning. If this is a problem, lowering the noise-rejection threshold will help. If automatic noise rejection is turned on, edit the ARparam.cfg file to reduce the highest threshold level.
- To enable narrow-band and tone-burst protocols, some warnings were modified or disabled. Leak detection is not enabled for stimuli with no content below 1 kHz. Spectral nulls are not evaluated if the stimulus has the same cutoff for the low and high pass filter.
- The unprocessed but averaged TEOAE buffers are now included in the Matlab export files. This allows research users to reanalyse the TEOAE measurement anyway they wish.
- Automated noise rejection adjustment is now turned on by default.

SFOAE 3.1.40 release notes

- Minor changes to improve performance when running in MOCR mode.
- Null detection modified to widen frequency range of check; will now work if just one frequency is tested.

MEPA 4.5.0.10 release notes

- MEPA protocols can now set the minimum and maximum test times, and SNR for early termination.
- The default test protocols now include stopping rules.

DPOAE C.1.1.0.2 release notes

- DPOAE I/O functions may now be viewed and printed. For each frequency tested, DPOAE level is plotted as a function of the L2 stimulus level.

MOCR 2.2.1 release notes

- This is the first commercial release of the MOCR module, which was developed in conjunction with Lynne Marshall from the Naval Submarine Medical Research Laboratory. It is available to research users only. It includes a user interface to enable fast, automated testing with a real-time display and reporting for MOCR assays using the Marshall et al. (2014) paradigm.¹ It also includes the earlier CAS add-on for users needing greater flexibility and who are happy to do their own data analysis.

¹ Marshall, L., Lapsley Miller, J. A., Guinan Jr., J. J., Shera, C., Reed, C., Perez, Z., Delhorne, L., and Boege, P. (2014). "Otoacoustic-emission-based medial-olivocochlear reflex assays for humans," J. Acoust. Soc. Am, 136(5), 2697-2713.