

Technical Note

Product: Jade 2

Differences Between Jade 1 and Jade 2

This document lists the main differences between Jade 1 and Jade 2.

Input

Jade 1 used a proprietary hardware unit to sample data from the DC output of a sound level meter. Jade 2 uses a standard PC sound card interface to sample data from the conditioned AC output of sound level meter (that is, an AC output with the frequency weighting applied).

The changes in hardware mean that capture and calibration is very different – particularly calibration.

Sampling and Recording Rates

Jade 1 sampled at up to 10 or 20 times per second and stored Lp levels in the Jade measurement file. Jade 2 samples from the sound card at up to 44100 times a second to generate Lp, Leq and Lpk samples that it records in the Jade measurement file. All three types of samples are stored in the file at up to 50 times a second. For more information on how Jade 2 samples and generates the recorded values, see the Capturing Data topic in the Capturing Data section of the *Jade 2 User Guide*.

Data in the Jade Measurement File

Jade 1 recorded Lp values only in the Jade measurement file. Jade 2 records Lp, Leq and Lpk values in the Jade measurement file, thus allowing future versions of Jade 2 to calculate a wider range of statistics (e.g. dose).

Calibration

Jade 2's calibration facility has been totally redone to accept input from the sound card. Calibration in Jade 2 means finding the best volume level on the sound card's input. In most cases, Jade 2 can perform an automatic calibration (that is, Jade 2 checks each volume level in turn) – all the user has to do is sit back and watch!

Marking Events

Jade 1 allowed nested events (that is later events had to be turned off before earlier ones). Jade 2 has an improved event bar that allows events to be overlapped (i.e. staggered), with the ability to turn the events on and off independently in any order.

Libraries

The profile and event libraries are unchanged in Jade 2 from the Jade 1 implementation (in fact, the same libraries are distributed). The calibrator and meter libraries have some changes, particularly the meter library due to the use of the AC meter output. These changes are:

- ◆ The calibrator library stores the calibration frequency used by each calibrator.
- ◆ The DC output fields have been removed from the meter details.
- ◆ No filter bands are stored for the meters.
- ◆ Time weightings are not stored for the meters as these are not used by Jade 2.

Time Weighting

Jade 2, unlike Jade 1, does not use the time weighting setting on the meter. The reason for this is that Jade 2 samples raw voltage levels directly from the meter which it then converts into actual data samples for recording in the file. Instead, a time weighting is applied to the Lp samples when these are generated (note that Leq and Lpk samples have no such time weighting applied).

As a result, Jade 2 does not record time weightings in the meter library. However, users are asked for the time weighting to be applied to the Lp data samples during data capture.

Statistics

Jade 1 offered up to five Lns and an Leq. Jade 2 currently offers up to five Lns, an Leq and an Lpk. In addition, because Jade 2 stores Lp, Leq and Lpk values in the Jade measurement file, future updates to the program should be able to offer additional statistics, such as dose. In the meantime, users can export the data to generate their own additional statistics from the Lp, Leq or Lpk data. If you have a particular statistic you would like to see, please email Ptolemy Services on dev@ptolserv.com with your suggestion.

Usability

Jade 1 was supplied as two programs: Jade Capture and Jade Viewer. Users had to capture data using Jade Capture and then run Jade Viewer to view the data. Jade 2 combines the functionality of both programs in one program. However, there is one restriction: the capture facility in Jade 2 is accessible only when there are no open chart or note windows. The main reason for this is that data capture is a processor-intensive task, so doing this prevents the user from attempting other processor-intensive tasks at the same time (such as zooming in and out of a chart).