

The DrumTune system for accurate percussion tuning

The DrumTune system is the first professional acoustic analyser and tuning aid for percussion instruments, allowing users to maximise and customise performances to chosen benchmarks, through a unique interactive tuning process assistant.

Using DrumTune, users can access tuning features that allow higher accuracy, repeatability, and benchmarking to specific percussion sounds. In particular DrumTune allows users to:

- tune percussion instruments to a specific musical pitch
- achieve a uniform frequency response across and around the perimeter of the drum head
- manipulate attack and decay times of percussive sounds

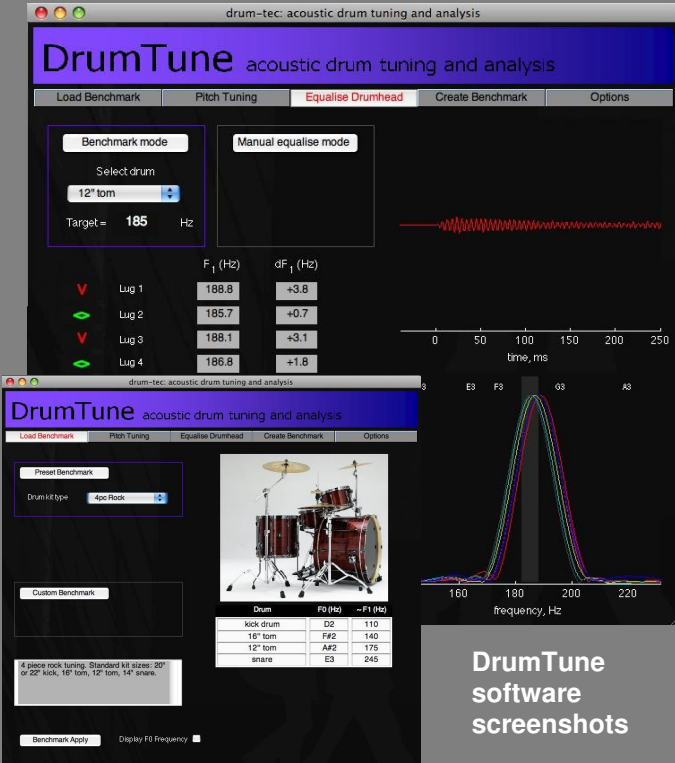
Tuning is based solely on the measured audible acoustics of the instrument, using scientific methods embedded within the tuning tool. Users can select a benchmark and utilise the unique and interactive tuning assistant to achieve the desired tuning, allowing musicians to capture and revisit tuning setups, tune to pre-defined settings and maintain a higher precision in their drum setup.

Market opportunity

The DrumTune technology has benefits for a number of commercial markets with an interest in accurate and repeatable drum tuning and drum setups. These include:

- Recording studios and record producers
- Drummers of all abilities from beginner to expert
- Orchestras, jazz groups, samba bands etc
- Music schools and departments
- Percussion instrument shops and technicians

Furthermore, the DrumTune technology can be packaged in a studio rack mount system, as a hand-held portable device, or as a software-only option. The present implementation is in the form of a software system which can give immediate benefits to music producers looking to enhance their control over drum setups in studio recording projects.



The top screenshot shows the 'Equalise Drumhead' mode. It features a table with the following data:

Lug	F ₁ (Hz)	dF ₁ (Hz)
Lug 1	188.8	+3.8
Lug 2	185.7	+0.7
Lug 3	188.1	+3.1
Lug 4	186.8	+1.8

The bottom screenshot shows the 'Preset Benchmark' mode. It includes a table of drum benchmarks:

Drum	F0 (Hz)	-F1 (Hz)
kick drum	D2	110
18" tom	F#2	140
12" tom	A#2	175
snare	E3	245

DrumTune software screenshots

Intellectual property

The intellectual property for DrumTune is owned by Anglia Ruskin University, who are exploring a number of options for commercialisation. Intellectual property protection across Europe and the USA has been applied for (PCT/GB2009/002017). We are currently looking for collaborators and business partners to bring this product to market

The DrumTune inventor is Dr Rob Toulson of Anglia Ruskin University. Dr Toulson is Director of the Sound and Audio Engineering Research Group and holds a PhD in the field of digital vibration analysis. Dr Toulson has a number of years experience in acoustic and vibration analysis research and software development for digital signal processing systems. He is also an active record producer and researcher in the field of record production, as well as a successful industry collaborator on a number of Knowledge Transfer Partnerships for Anglia Ruskin University. Dr Toulson is also a member of the Board of Directors for the Pleasurize Music Foundation whose aim is to enhance the awareness of dynamic range and over production in modern record production practice.

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