

New responsive click-track software lets drummers set their own pace

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New software has been developed that gives drummers the freedom to speed up or slow down the pace of the music with any pre-programmed material following their lead.

It means that drummers will no longer have to keep time with a click track and the set beat of pre-recorded tracks that are used during many live performances and studio sessions.

The [software](#) has been developed by Dr Andrew Robertson at Queen Mary, University of London. Dr Robertson's work has been funded by the Engineering and Physical Sciences Research Council. He is a Royal Academy of Engineering/EPSRC Research Fellow at the university.

Called B-Keeper (short for Beat-Keeper), the software will give drummers the ability to add much more 'feel' and spontaneity to performances.

Used by many bands in the studio and at gigs, click tracks consist of metronome-like clicks fed to the drummer via earphones.

They are needed because many bands now integrate significant amounts of pre-programmed music (e.g. created by sequencers) into their songs. Unless the drummer keeps a precise, predetermined rhythm, the pre-programmed material will not synchronise properly with the rest of the music.

But by providing a rhythmic straitjacket, a click track gives the drummer no freedom at all to vary the rhythm and means they can't speed up or slow down, e.g. in response to the mood of a crowd at a gig or because he/she 'feels' the music differently from a previous performance.

But B-Keeper allows the drummer to speed up or slow down by around 5% and still keep pre-programmed parts of the music in line with the beat.

You can find out more about the research from the team involved on our YouTube channel.

The drums are linked to the software via microphones, with both the kick and snare drum miked up. The software automatically adjusts the tempo of any pre-programmed music. By using a sequencer that incorporates a pitch-tracking algorithm, the tempo of the pre-programmed music can be changed without affecting its pitch.

"Usually, the drummer follows the click track, but with B-Keeper the click track follows the drummer," says Dr Robertson, who wrote the software from scratch. "The software follows the beat of the kick and snare drum and uses that information to make sure everything stays synchronised by changing the replay speed of the pre-programmed parts.

Dr Robertson is a keen guitarist and B-Keeper has now been successfully trialled by his own 'space rock' band, Higamos Hogamos.

"We've used B-Keeper at gigs in the UK, Belgium and Luxembourg, and it makes a noticeable difference in terms of helping to create a better atmosphere and letting the band feed off and bond with the crowd", says Dr Robertson. "Our studio work is also benefiting from the flexibility B-Keeper gives us when we're recording our material."

But there is also an important socio-economic dimension to this breakthrough. Lots of young people are looking to make a profitable career out of music. However, these days many musicians make more of a living from live performances than [music](#) sales. The spontaneity that B-Keeper adds to performances therefore gives them more scope to build up a loyal live following who will get to see a different performance every time. It will also help them to produce studio recordings that have more 'soul' than is possible using a traditional click track.

Dr Robertson now aims to simplify the software with a view to making it commercially available within the next 12 months.

More information: The current version of B-Keeper is available for download, free of charge, at www.b-keeper.org

Provided by Engineering and Physical Sciences Research Council

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