Robotic voice effects

From Wikipedia, the free encyclopedia

Source : http://en.wikipedia.org/wiki/Robotic_voice_effects

"Robot voices" became a recurring element in popular music starting in the late twentieth century, and several methods of producing variations on this effect have arisen. Though the vocoder is by far the best-known, the following other pieces of music technology are often confused with it:

Sonovox

This was an early version of the talk box used to create the voice of the piano in the Sparky's Magic Piano series from 1947. It was used as the voice of many musical instruments in Rusty in Orchestraville. It was used as the voice of Casey the Train in Dumbo and The Reluctant Dragon[*citation needed*]. Radio jingle companies PAMS and JAM Creative Productions also used the sonovox in many stations ID's they produced.

Talk box

The talk box guitar effect was invented by Doug Forbes and popularized by Peter Frampton. In the talk box effect, amplified sound is actually fed via a tube into the performer's mouth and is then shaped by the performer's lip, tongue, and mouth movements before being picked up by a microphone. In contrast, the vocoder effect is produced entirely electronically. The background riff from "Livin' on a Prayer" by Bon Jovi is a well-known example. "California Love" by 2Pac and Roger Troutman is a more recent recording featuring a talk box fed with a synthesizer instead of guitar. Steven Drozd of the The Flaming Lips used the talk box on parts of the groups eleventh album, At War with the Mystics, to imitate some of Wayne Coyne's repeated lyrics in the "Yeah Yeah Yeah Song".

Pitch correction

The vocoder should also not be confused with the Antares Auto-Tune Pitch Correcting Plug-In, which can be used to achieve a robotic-sounding vocal effect by quantizing (removing smooth changes in) voice pitch or by adding pitch changes. The first such use was in 1998 on *Believe*, a song by Cher, and the radical pitch changes became known as the 'Cher effect'.[1] This has been employed in recent years by artists such as Daft Punk (who also use vocoders and talk boxes), T-Pain, Kanye West, the Italian dance/pop group Eiffel 65, and the Japanese group Perfume.

Linear prediction coding

Linear prediction coding is also used as a musical effect (generally for cross-synthesis of musical timbres), but is not as popular as bandpass filter bank vocoders, and the musical use of the word *vocoder* refers exclusively to the latter type of device.

Ring modulator

Although ring modulation usually doesn't work well with melodic sounds, it can be used to make *speech* sound robotic. As an example, it has been used to robotify the voices of the Daleks in Dr Who.

Speech synthesis

Robotic voices in music may also be produced by speech synthesis. This does not usually create a "singing" effect (although it can). Speech synthesis means that, unlike in vocoding, no human speech is employed as basis. One example of such use is the song *Das Boot* by U96. A more tongue-in-cheek musical use of speech synthesis is MC Hawking. Most notably, Kraftwerk, who had previously used the vocoder extensively in their 1970s recordings, began opting for speech synthesis software in place of vocoders starting with 1981's *Computer World* album; on newer recordings and in the reworked versions of older songs that appear on *The Mix* and the band's current live show, the previously vocoder-processed vocals have been almost completely replaced by software-synthesized "singing". Vocaloid is a singing synthesizer application software developed by the Yamaha Corporation that is designed to synthesize singing by entering lyrics and melody.

Comb filter

A comb filter can be used to single out a few frequencies in the audio signal producing a sharp, resonating transformation of the voice. Comb filtering can be performed with a delay unit set to a high feedback level and delay time of less than a tenth of a second. Of the robot voice effects listed here, this one requires the least resources, since delay units are a staple of recording studios and sound editing software. As the effect deprives a voice of much of its musical qualities (and has few options for sound customization), the robotic delay is mostly used in TV/movie applications.

References

1. **^** *Sound On Sound*, February 1999. Sue Sillitoe. "Recording Cher's 'Believe'". Historical Footnote by Matt Bell: "Cher's 'Believe' (Dec 1998) was the first commercial recording to feature the audible side-effects of Antares Auto-tune software used as a deliberate creative effect... As most people are now all-too familiar with the 'Cher effect', as it became known..."