

Haptics controller delivers real-time touch feedback



Cambridge, UK, August 8th, 2011: HiWave

Technologies announces its first haptics controller integrated circuit. The device is designed for use with the company's haptic exciters to deliver real-time touch feedback to users' fingertips. HiWave's haptic solutions utilize the company's patented bending wave technology to create and position tactile sensations on conventional flat panels.

Dubbed HIHS9002, the new device has extremely low latency when receiving co-ordinates and vectors from a host system processor and delivering stored haptic signals to the transducers. The timing of the tactile response, with reference to the user's anticipation of mechanical feedback, is critical to the successful deployment of haptics. HiWave's signal library comprises a range of haptic clicks and textures that allow straightforward implementation of button, trackpad and scroll features. In addition, it contains audio cues that can be delivered through the same transducers, which turn the flat panel or display into a loudspeaker. Multiple haptic signals and audio cues are stored in the chip's non-volatile memory, enabling appropriate feedback to be generated to accompany the key-press or gesture being invoked by the user.

HiWave's real-time rendering algorithms are fundamental to the implementation of bending wave haptics and are embedded in the controller. One of their key functions is to compensate in advance for the signal dispersion and interference that occurs between the actuators and the point of finger contact. The processing is parametrically tuned to the given panel or screen implementation. It optimizes for size, shape, material characteristics and mounting. The HIHS9002 dynamically generates bespoke waveforms, tailored to the prevailing touch co-ordinates, for

Haptics controller delivers real-time touch feedback

Published on Electronic Component News (<http://www.ecnmag.com>)

feeding into a pair of haptic exciters. In this way, the sensation is refined for the application.

Applications for HiWave's haptics controller chips include hand-held computing and communications, data entry terminals, keypads, chip/pin readers, industrial control and home appliances.

James Lewis, HiWave's CEO commented, "Low latency and localization of response are key to meaningful haptics. Human sensitivity to tactile, audio and visual cues when using smart phones or tablet computers demands that the haptic function is independent of the system processor and operating system. HiWave is the first company to deliver such comprehensive haptic control in a single device."

The HIHS9002 is comes in 48 pin LQFP and 64 pin BGA packages, and samples are available now. It will be priced at \$4.00 in 1,000pc quantities.

Source URL (retrieved on 04/19/2015 - 5:51pm):

<http://www.ecnmag.com/products/2011/08/haptics-controller-delivers-real-time-touch-feedback>