Cypress’s PSoC 3 Device Powers Griffin Technology’s Family of Digital Audio Accessories Connecting Musical Instruments to Apple iOS Devices

Cypress Semiconductor

Solution delivers pristine digital audio interface and manages proprietary MFi protocol; provides compatibility with Apple’s Lightning and 30-pin connectors

SAN JOSE, Calif., July 30, 2013 – Cypress Semiconductor has announced that Griffin Technology has selected the PSoC 3 [1] programmable system-on-chip for four of its music-creation accessories [2]. The StudioConnect, StudioConnect with Lightning, MIDIConnect, and GuitarConnect Pro each provide a digital audio interface that enables users to connect musical equipment to their iOS devices to create and edit music on the go. The PSoC 3 device manages the digital audio interface and handles Apple’s proprietary MFi (Made for iPod | iPhone | iPad) protocol to communicate with devices using Apple’s iOS operating system via both Apple’s 30-pin and new all-digital Lightning connectors.

Griffin’s StudioConnect combines digital audio and Musical Instrument Digital Interface (MIDI) capabilities to be used for recording and editing music on the iPad, and StudioConnect with Lightning adds compatibility with the new iPad (4th generation) and iPad mini. MIDIConnect provides industry standard MIDI input and output ports to an iOS device. GuitarConnect Pro connects guitars, violins or keyboards to an iPhone or iPad, enabling the user to record digital audio while practicing, composing or performing.

Cypress’s PSoC 3 MFi digital audio solution [3] delivers bit-perfect audio streaming into and out of Apple’s GarageBand and other Core Audio and Core MIDI apps for Griffin’s accessories. With Cypress’s patent-pending USB audio clock synchronization and recovery scheme [4], PSoC 3 ensures no samples are dropped, delivering the highest quality digital audio with minimal external components at multiple audio sample rates (at standard intervals up to 24-bit audio, 48 KHz sampling rate). Cypress’s recently announced CY8CKIT-033A PSoC 3 MFi Digital Audio Development Kit for Lightning [5] supports the solution with license-free reference hardware, firmware, and iOS app software, providing the tools to quickly develop MFi digital audio accessories that are fully compatible with Apple’s all-digital Lightning connector.

“Griffin Technology was one of the first companies to create accessories for Apple’s mobile devices, and today we are a market leader in MFi accessories,” said Scott Naylor, Vice President of Product Development at Griffin Technology. “Our Nashville roots give us strong ties to the music industry, and PSoC delivers a best-in-class MFi

digital audio solution that meets the audio-quality requirements of today's musicians."

"Griffin Technology's four music-creation products leverage the PSoC 3 MFi solution to turn an iOS device into a portable recording studio," said Leon Tan, marketing manager for Cypress's MFi and consumer solutions. "These products are excellent examples of how PSoC 3 and our comprehensive CY8CKIT-033A reference and development kit provide a flexible platform for customers to quickly develop an entire series of high-performance music accessories, helping to optimize development time and costs."

PSoC -- Because Change Happens

PSoC devices employ a highly configurable system-on-chip architecture for embedded control design, offering a flash-based equivalent of a field-programmable ASIC without lead-time or NRE penalties. PSoC devices integrate configurable analog and digital circuits, controlled by an on-chip microcontroller, providing both enhanced design revision capability and component count savings. A single PSoC device can integrate as many as 100 peripheral functions saving customers design time, board space and power consumption while improving system quality and reducing system cost.

The new PSoC 3 and PSoC 5 architectures include high-precision programmable analog capability (up to 20-bit resolution for an Analog to Digital Converter) and expanded programmable digital resources integrated with powerful, industry-standard MCU cores and ample memory and communications peripherals. PSoC 3 devices are based on a high-performance 8-bit 8051 processor, while PSoC 5 devices include a powerful 32-bit ARM Cortex-M3 processor. The products provide designers with a seamless, programmable design platform, enabling easy migration from 8 to 32 bits. The robust features of these new solutions dramatically expand the applications and markets that PSoC can address, including automotive, portable medical, industrial and many more. The PSoC 1 family is based on a cost-optimized 8-bit M8C core.

For more information, visit www.cypress.com/psoc [6].

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