



## CEC Solutions Suite

Consumer Electronics Control (CEC) is part of the HDMI interface and can be defined as a bi-directional communication channel between all devices, which enable components to automatically control and configure each other, greatly simplifying end user operation. In theory, this allows for the “one remote” concept.

CEC functionality is a great way to differentiate your products, but implementing it can involve a major commitment of time and resources. That is why Simplay Labs has put together the industry’s first and only end-to-end CEC Solutions Suite, with all the tools and resources you will need to quickly and effectively integrate CEC into your products. Like all Simplay Labs Solutions, it is designed to deliver maximum interoperability and ease-of-use; a consumer-focused CEC approach that can help you ship better products and do it more efficiently.

- CEC Technology Software Package – Drop-in software and evaluation platform for rapid deployment of CEC functionality.
- Simplay CEC Explorer and Pre-test Tools – Debug and pre-test tools to help streamline CEC development.
- SimplayHD™ CEC Testing Services – Performance and interoperability testing to ensure flawless customer experience.
- Consulting Services – CEC experts on tap to help with complex implementations and advanced feature sets.

### CEC Technology Software Package

Simplay Labs has developed a CEC software stack that provides a high-level Application Programming Interface (API) for every CEC function defined in the HDMI™ 1.3 specification, with full support for all commands, opcodes, and operands. This is a standardized implementation of CEC for maximum interoperability with other products, while allowing you to integrate your own proprietary commands and facilitating support for your legacy products. It is delivered in

the form of ANSI standard “C” code with extensive documentation and a well-defined programming guide. Function call-back and software error-handling are built-in, and you can interface with the physical layer either via CPI or through  $\mu$ Controller IO (bit-banging). With Simplay Labs’ CEC IP, even the most complex CEC operations become drop-in simple, allowing you to speed up the development process and better allocate your engineering resources.

*Bundled with the CEC technology software is a “try-before-you-buy” evaluation and development platform giving design engineers a chance to thoroughly preview the software before committing to purchasing the entire package. This ARM9 based hardware unit can be used in two ways. First, as a customizable top-level system application that interfaces with the CEC software. Second, as a CEC firmware development platform for ARM9 based systems.*

## Simplex CEC Explorer Development and Pretest Tools

The Simplex CEC Explorer Development Tool is designed to help you simulate, analyze and debug CEC functionality quickly and accurately in real time. The software includes a powerful GUI-controlled frame generator where you can conveniently create and manipulate complete CEC frames and interact with your product prototype or CEC development board via a hardware connection that allows you to exercise and monitor CEC performance. Commands and operands can be issued through drop-down menus or entered manually. A frame parser interprets incoming and outgoing pulse sequences in real time and provides a detailed analytical display of all activity on the CEC bus, including commands sent and information received, message history and timing, as well as a pulse graph display of the CEC bus. Command hex-codes are translated automatically into

speaking names, thus dramatically improving the transparency of command generation and analysis. The CEC Development Tool is able to emulate CEC devices of any kind, including emulation support for several devices at the same time.

A CEC Pretest Tool will allow you to thoroughly test the CEC functionality in your product and is a compact, self-contained system for CEC protocol and commands testing. It enables you to identify performance and interoperability issues early in development and increases the likelihood of passing the full compliance test done in the Lab facility the first time. The CEC Pretest Tool is designed to cover most of the performance criteria specified in the Simplex Labs CEC Specification, and ensures maximum interoperability with other products.



Interact with your CEC product prototype with this powerful GUI-controlled frame generator.

## Simplex HD™ CEC Testing Services

Simplex HD CEC testing provides you the confidence that your products are going to meet or exceed customer expectations. It is one of the industry's most rigorous programs of performance and interoperability testing, and our test labs are fully equipped

to evaluate CEC functionality, including real-world usage scenarios and a thorough program of plug-testing to verify compatibility with other CEC-enabled devices.



## Consulting Services

CEC product development consulting provides system-level application engineering, and software porting and integration services to help design and troubleshoot your CEC-enabled

products. Our experts are ready to assist with CEC implementations of virtually any scale or complexity, and to help you ensure maximum performance and interoperability.



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