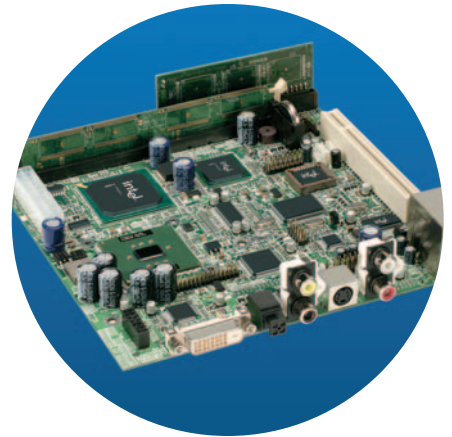




# Intel® 815 Chipset IP-Digital Set Top Box Reference Design

## Product Highlights

- Scalable performance, with support from the Low Voltage Intel® Celeron® processor at 733 and 866 MHz, the Ultra Low Voltage Intel® Celeron® processor, and the Mobile Intel® Celeron® processor at 1.26 GHz. With system bus (FSB) performance of 100 and 133 MHz.
- Intel® 815 chipset with integrated 3D graphics, providing a platform that meets the stability and reliability requirements of cost-sensitive customers
- Intel® 82801BA I/O controller (ICH2) for integrated LAN and ATA/100, which provide greater flexibility and a full-featured solution
- Support for up to 512 MB of PC133 SDRAM
- 16 MB – 640 MB IDE Flash Disk-on-Module (DOM)
- Fanless thermal solution using a heat pipe and a chassis-mounted heat exchanger
- Support for multiple form factors using the same main board: STB-type small form factor (approx. 12"W x 8"D x 2"H), and CE-type full-size form factor (approx. 17"W x 11"D x 3"H) suitable for including HDD and DVD-ROM drives
- Infrared receiver for remote control/keyboard



## Video Components

- Focus Enhancements FS454 PC-to-Video Scan Converter with Macrovision\* 7 support
- Optional DVD, MPEG, 1/2/4 and Windows\* Media\* 9 audio video decoder capability using mini-PCI module
- Wolfson\* WM9707 AC'97 audio codec

## Video Connectors

- Composite video out
- S-Video out
- Optional component video out
- Optional digital video out (DVI)

## Audio Connectors

- RCA L/R analog stereo audio out
- Optional S/PDIF out (RCA or optical)

## Board Peripheral Features

- Two USB 1.1 ports (headers) for human-interface devices such as IR, front-panel LCD and smart card reader
- Two USB 1.1 ports (rear) for accessories
- One RJ-45 10/100 Ethernet port
- Optional low-profile PCI slot
- Two optional mini-PCI slots, one with external I/O connector on rear panel for expansion

## Additional Options

- RF pass through mux
- Smart card reader
- Support for two ATA/100 drives
- IR Blaster\* interface
- Wi-Fi connectivity using mini-PCI module

## Other Features

- Support for Windows\* CE\* .NET\*, Windows\* XP Embedded\*, Linux\*
- Software-based video decode support for Windows\* Media\* Player 9, MPEG 1/2/4
- Energy Star\* compliant (ACPI 2.0)

## Product Overview

The Intel® 815 Chipset IP-Digital Set Top Box (IP-DSTB) Reference Design consists of a single-board computer, which when combined with BIOS, O/S, and application software will function as an IP-VoD digital set top box delivering TV out. The board is designed in such a way as to deliver the baseline features within a tight BOM target, but offer select expandability options to meet specific customer requirements (i.e., hospitality DSTB and HDD/PVR applications). Contact your Intel sales representative for information on obtaining a license to the board design schematics.

The compact motherboard (170mm x 170mm) supports LV and ULV Intel® Celeron® processors in the micro-FCBGA, 479 ball packaging; the Intel® 815 chipset and the Intel second-generation I/O controller. It utilizes industry-standard architecture to enable a host of options.

The Intel® 815 Chipset IP-DSTB Reference Design motherboard is designed to support: Windows CE .NET, Windows XP Embedded and Linux operating systems. It has been validated for Windows CE .NET 4.2 and Red Hat\* Linux 8.0.

More information on the Intel® 815 Chipset IP-DSTB Reference Design is available on Intel's Web site at <http://www.intel.com/go/815dstb>

## Benefits for Developers

### Time-to-Market

A comprehensive reference design solution can dramatically accelerate time-to-market. Intel works with independent hardware and software vendors to quickly enable the implementation of designs.

### Economical

The information on the Intel® 815 Chipset IP-DSTB Reference Design, including schematics and all documentation, is available at no cost. Developers can cut costs by utilizing the substantial amount of engineering work around development already done by Intel.

### Power with Flexibility

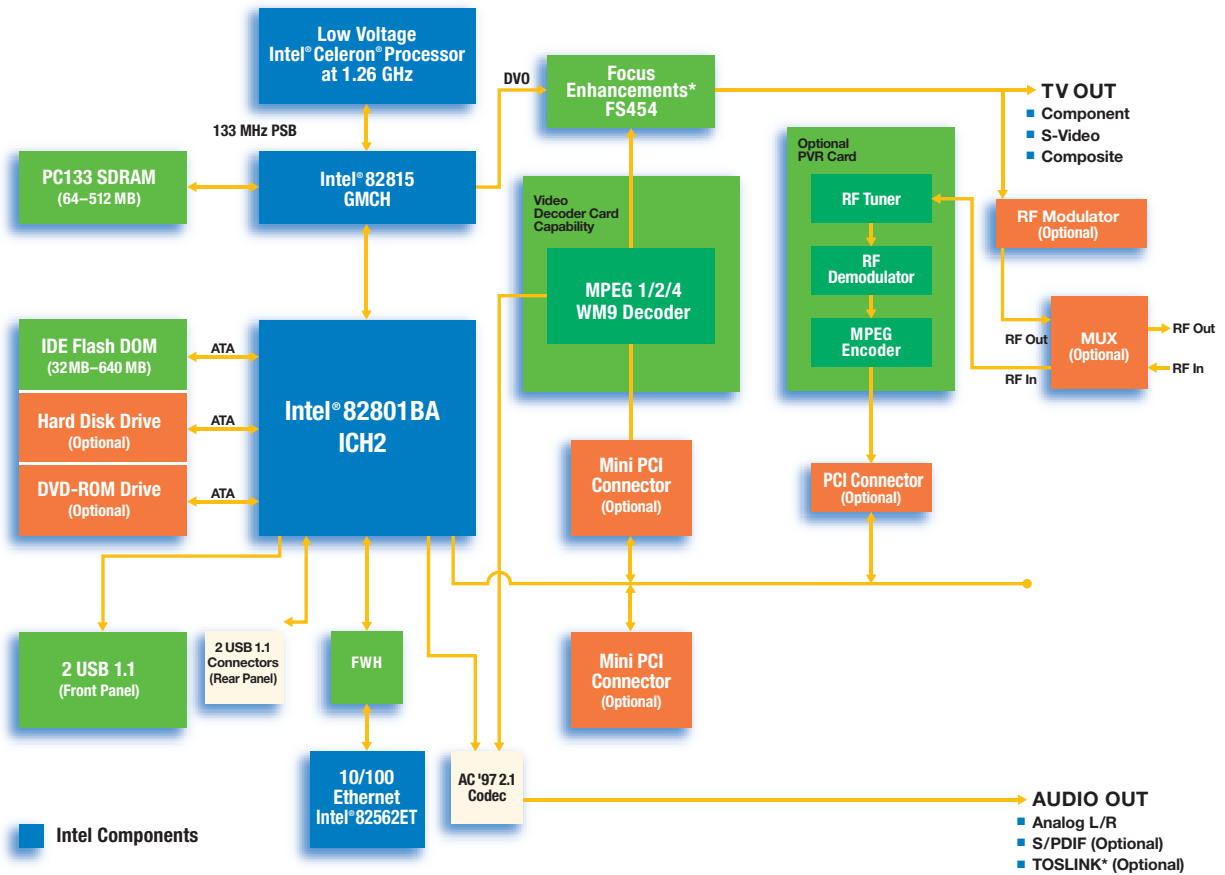
The Intel® 815 Chipset IP-DSTB Reference Design is well-suited for the video-over-IP DSTB market segment; it is designed to meet low-cost-and-high-performance product target. Support of multiple operating systems and expandability options enables developers to better meet customer requirements.

### Quality

Intel's manufacturing capacity and quality requirements help ensure CPU and chipset reliability and customer satisfaction.

### Broad Application Support

The platform is based on open Intel® Architecture, familiar to a majority of programmers. Moreover, the platform has been validated with the Microsoft Windows CE .NET operating system, giving reference design adopters a significant boost in taking a product to market quickly.



Intel® 815 Chipset IP-DSTB Reference Design Main Board Block Diagram

## Intel Access

<b>Developer's Site</b>	developer.intel.com
<b>Intel® Celeron® Processor Home Page</b>	developer.intel.com/design/mobile/celeron/
<b>Intel Products – Intel® 815E Chipset Page</b>	developer.intel.com/design/chipsets/815E/
<b>Intel® Technical Documentation Center</b>	www.intel.com/go/techdoc (800) 548-4725 7 a.m. to 7 p.m. CST (U.S. and Canada) International locations please contact your local sales office.
<b>General Information Hotline</b>	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST

**For more information, visit the Intel Web site at: [developer.intel.com](http://developer.intel.com)**

### US AND CANADA

Intel Corporation  
Robert Noyce Bldg.  
2200 Mission College Blvd.  
P.O. Box 58119  
Santa Clara, CA 95052-8119  
USA

### EUROPE

Intel Corporation (UK) Ltd.  
Pipers Way  
Swindon  
Wiltshire SN3 1RJ  
UK

### ASIA-PACIFIC

Intel Semiconductor Ltd.  
32/F Two Pacific Place  
88 Queensway, Central  
Hong Kong, SAR

### JAPAN

Intel Kabushiki Kaisha  
P.O. Box 115  
Tsukuba-gakuen  
5-6 Tokodai, Tsukuba-shi  
Ibaraki-ken 305  
Japan

### SOUTH AMERICA

Intel Semicondutores do Brazil  
Rue Florida, 1703-2 and CJ22  
CEP 04565-001 Sao Paulo-SP  
Brazil

Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. THIS DOCUMENT AND RELATED MATERIALS AND INFORMATION ARE PROVIDED "AS IS" WITH NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION, OR SAMPLE. INTEL ASSUMES NO RESPONSIBILITY FOR ANY ERRORS CONTAINED IN THIS DOCUMENT AND HAS NO LIABILITIES OR OBLIGATIONS FOR ANY DAMAGES ARISING FROM OR IN CONNECTION WITH THE USE OF THIS DOCUMENT. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice.

\*Other names and brands may be claimed as the property of others.

Intel, the Intel logo and Celeron are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States or other countries. Copyright © 2004, Intel Corporation. All rights reserved.

Printed in USA.

0704/MB/RN/IL/4K

Please Recycle

300223-003

