DSP Research, Inc.

VIDEO SOLUTIONS

Data Sheet

DS-4004H
H.264 / MPEG4-AVC Encoder

When it comes to Video Compression, no other board comes close the video quality and compression ratio of the DS-4004H from DSP Research, Inc.
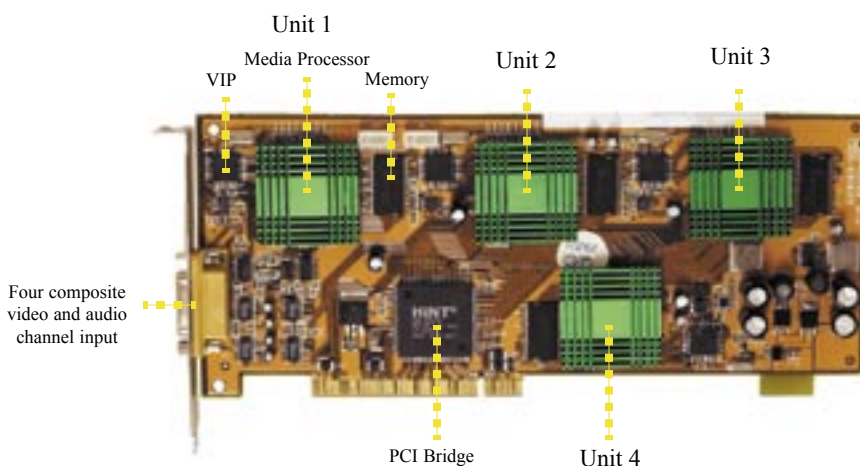
The new H.264 / MPEG-AVC standard

The new H.264 / MPEG4-AVC video compression standard is the first to be ratified by both the ISO/IEC and ITU-T. It raises the bar considerably compared to MPEG4-ASP and yields better picture quality while significantly lowering the bit rate. This allows lower overall system cost and enables new video applications. H.264 / MPEG4-AVC is considered the greatest achievement in video compression in the past 10 years and is already finding its way into many mainstream video applications.

DS-4004H

The DS-4004H board from DSP Research, Inc. is the very first implementation of this new exciting standard. It is the result of intense research and development in video compression over the last 10 years.

The DS-4004H uses four media processors, each with its own video input, VIP (Video Input Processor), memory and PCI interface. On each processor runs our heavily optimized H.264 / MPEG4-AVC codec.

The codec yields higher picture quality and about 40% lower bit rate than is possible with MPEG4-ASP, and even greater improvements when compared to MPEG4-SP or MPEG2. The board is the ultimate, most efficient and flexible in CIF video compression today.

Software Upgradable

The compression codec in DS-4004H is implemented in software running on the optimized media processors. This means that it is possible to upgrade the codec through new firmware without any hardware changes.

The Ideal Video Encoding Board

The many features and flexibility of the DS-4004H along with the power of H.264 / MPEG-AVC make this board the perfect choice for security and surveillance applications as well as many other video tasks. Come see why people are switching to the DS-4004H.

Unit 1 — Media Processor — VIP — Memory — Unit 2 — Unit 3 — Four composite video and audio channel input — PCI Bridge — Unit 4

DS-4004H Hardware/Firmware

Video

Input	4 composite video channels
Compression	H.264 / MPEG4-AVC
Type	PAL, NTSC
Resolution	QCIF, CIF, 2CIF (interpolated to 4CIF)
Frame rate	25 f/s for PAL, 30 f/s for NTSC
Bit rate	CBR & VBR (70-1,500 Kbps)

Audio

Input	4 channels
Compression	G.722
Sample rate	16 KHz
Bit rate	16 kbps

Interfaces

Board interface	DB15 with 4 composite video and 4 audio channels. Converter cables included
PCI interface	PCI 2.2 compliant

Features

Timestamp/logo overlay	Yes, OSD
Frame rate adjustable	Yes. 1-25 for PAL, 1-30 for NTSC
Picture structure preset	I, B, P frame order (#B frames adj)
Picture quality control	Yes, VIP control
Motion detection	Yes, with alarm trigger
Watermark support	Yes. Unique security feature
Auto detect	Yes
I picture capture	Yes. bmp format available

Cascading of boards

# of DS-4004H boards	Many DS-4004H boards can run simultaneously in your PC. All boards share one interrupt.

Power Requirements

Power Consumption	Approximately 30W

DS-4004H Hardware/Firmware

Physical & Environmental

Size	Single PCI card; 250 mm (10") by 99 mm (4") not including bracket, edge connector and retainer
Weight	228 g
Operating Temperature	0 to 85 C

DS-4004H Included Software

Encoder application	Allows full control of encoding parameters of all four channels as well as video preview displays. Windows application (XP, Win2K)
PC Decoder application	A high performance H.264 decoder for Windows is included at no additional charge. Uses very little CPU power. For example, on 800 MHz PentiumII, only 20% is used. Windows application (XP, Win2K, WinME, Win98)
MM Player Plugin	Plugin for the Microsoft Multimedia Player. This allows you to play H.264 compressed video in the MM Player from either a stream or file. Windows application (XP, Win2K, WinME, Win98)

Optional Board Support Pkg

DS-4004H-BSP	Includes all you need to develop your own applications with the DS-4004H
OS Support	LINUX, XP, Win2K, WinMe (only decoder), Win98 (only decoder)
SDKs	Complete Software Development Kits (SDK) for Encoder, Decoder and Client-Server Networking application. Standard C library
Example Code	Source code included as example for: Encoder application, Decoder application, streaming media server & client example

Kane Computing Ltd

7 Theatre Court, London Road,
Northwich, Cheshire, CW9 5HB, UK
Tel. +44 (0)1606 351006
Fax +44 (0)1606 351007/8
Email: sales@kanecomputing.com
Web: www.kanecomputing.com