

μPD61151, 61152

MPEG2 AUDIO VIDEO ENCODER LSI

μPD61151 is a LSI of MPEG audio and video encoding , decoding and transcoding . μPD61151 has MPEG2 video encoder , MPEG audio encoding DSP, 32-bit RISC CPU, video input/output unit which contains a processing filter and a time base collector, and MPEG system layer which contains the multiplexer and de-multiplexer. It combines with 64M or 128 M bit SDRAM and it uses. μPD61152 has a Dolby Digital consumer encoder (DDCE) in addition to μPD61151.

μPD61151/2 is the optimal for portable consumer digital video recording replay equipment to process a MPEG.

Features

- MPEG2 video MP@ML, SP@ML standard , MPEG1 standard Video encoding
Picture size: max size: 720 * 480 pixel (NTSC) , 720 * 576 pixel (PAL)
- Single Pass Variable bit rate(VBR), Constant bit rate(CBR) Encoding
- 350 mW's Low Power Operation
- Support PCI bus interface which complies with PCI Local Bus Specification Rev.2.1
- MPEG1 audio layer 2 standard based encoding / decoding
- Dolby Digital standard based encoding (Only μPD61152)
- Multiplex: MPEG2-PS, MPEG2-TS and DVD-VR
- Partial TS generation
- Transcoding: MPEG2 format conversion (MPEG2 TS ⇔ MPEG2-PS)
bit rate conversion, VBR⇔CBR
- Pre analysis: inverse cinema, scene changing, and motion estimation assist
- Time base collector, VBI data slicer

Application

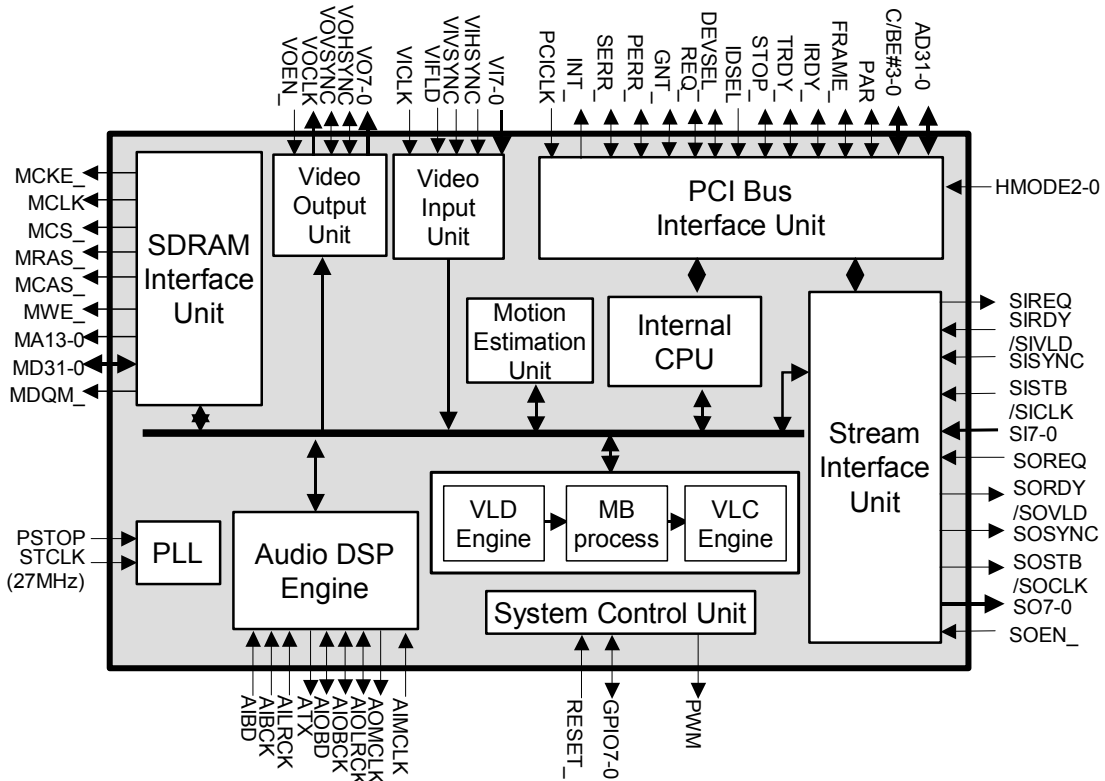
Camcorder, Note PC

**"Dolby" is a Trademark of Dolby Laboratories.
To use the "μPD61152", a license from Dolby Laboratories Licensing Corporation is necessary.**

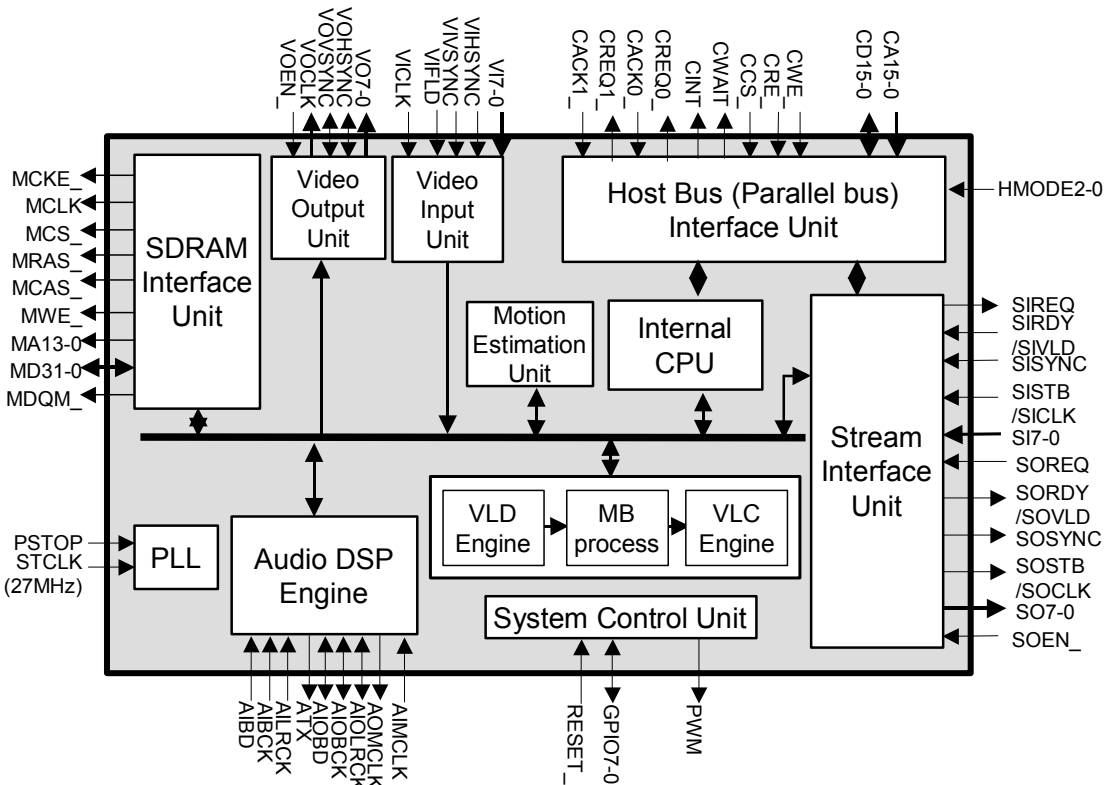
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Block diagram

PCI bus mode



Using Address/Data separate parallel bus



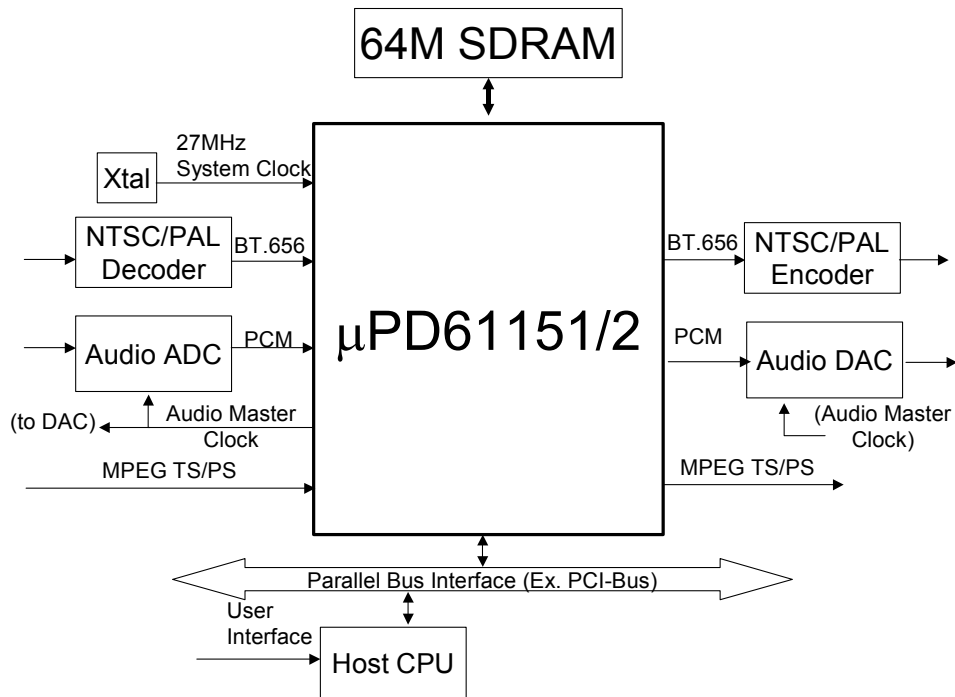
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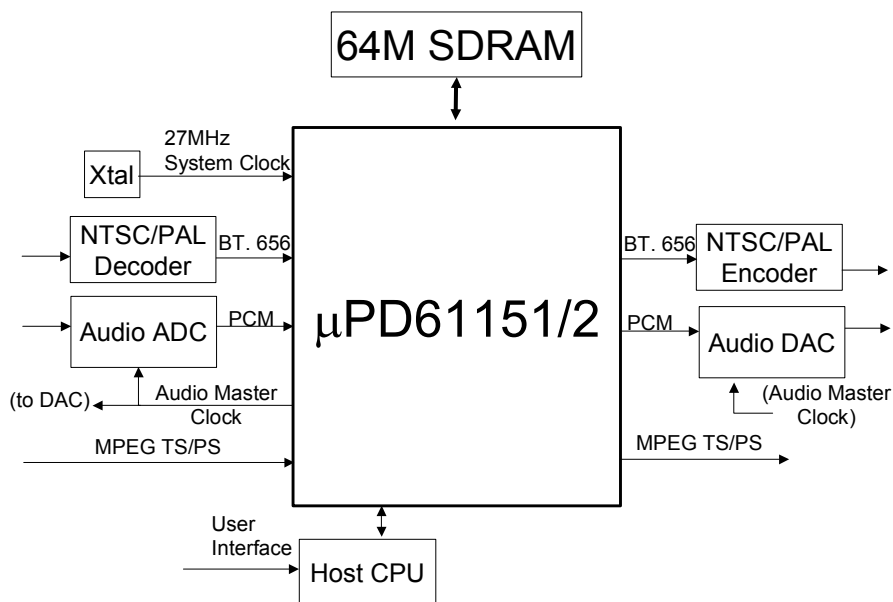
Connections

Host bus connections

Parallel bus interface



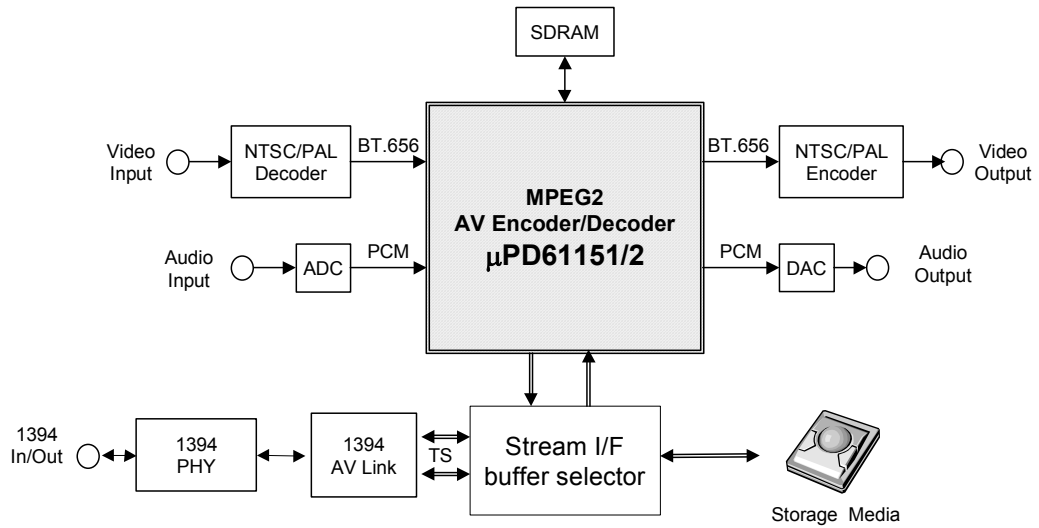
Serial bus interface



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Example for making MPEG Codec system



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Specification Overview

- Video encoding/decoding
 - Format: MPEG2 video MP@ML, SP@ML standard , MPEG1 standard
 - Single Pass Variable bit rate(VBR), Constant bit rate(CBR) Encoding
 - Picture size: horizontal: 720,704,640,544,480,352,320 dots/line
Vertical: 480,240,576,288 line/frame
 - Transcoding: bit rate conversion, VBR↔CBR
 - Video input/output
 - Format: 8 bits Y/Cb/Cr 4:2:2(ITU-R BT.656)
8 bits Y/Cb/Cr 4:2:0
 - Pre analysis: inverse cinema, scene changing, and motion estimation assist
 - Time base collector, VBI data slicer

- Audio encoding / decoding
 - MPEG1 audio layer 2 standard based codec
 - Dolby Digital standard based codec (Only μPD61152)
 - Elementary stream and PCM audio input/output
 - MP3, WMA, AAC(2ch) decode with the extension of the audio firmware
 - PCM input/output format
 - Bit length: 16 bits, 20 bits , 24 bits
 - Sampling rate: 32 kHz, 44.1 kHz, 48 kHz

- Connected Memory 64/128Mb SDRAM (16bit bus) × 2
64/128Mb SDRAM (32bit bus) × 1
3.3/2.5V interface

- MPEG system processing
 - Multiplex: MPEG2-TS、MPEG2-PS 、DVD -VR
 - De-multiplex: MPEG2-TS、MPEG2-PS
 - Partial TS generation
 - Transcoding
 - MPEG2 format conversion (MPEG2 TS ↔ MPEG2-PS)

Physical

- Power supply: 360 mW (TYP)
- Power supply voltage: 3.3±0.3 V, 1.5±0.15 V (internal circuit power)

Package

- 273 pin FPBGA (15mm□ , 0.65mm pitch)

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- Product release schedule
- Availability of related technical literature
- Development environment specifications (for example, specifications for third-party tools and components, host computers, power plugs, AC supply voltages, and so forth)
- Network requirements

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Tel: 408-588-6000
800-366-9782

NEC Electronics (Europe) GmbH

Duesseldorf, Germany
Tel: 0211-65 03 01

NEC Electronics Hong Kong Ltd.

Hong Kong
Tel: 2886-9318

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Taipei, Taiwan
Tel: 02-2719-2377

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Tel: 6253-8311

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