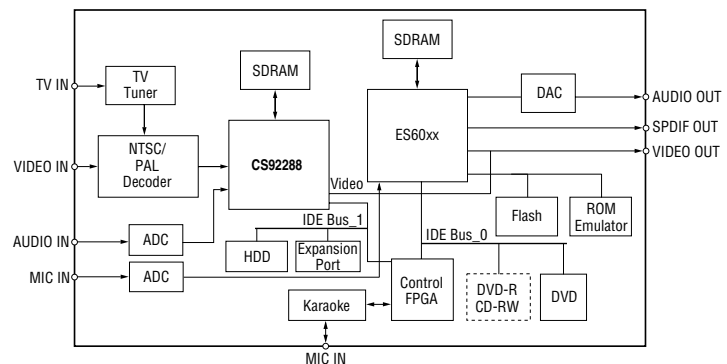


MPEG-2 Recorder/DVD Player Duo™ and Encore™ Reference Designs

Encore/Duo Features

- Complete standalone MPEG-2 Audio/Video Recorder and DVD Player Reference Designs
- Includes: hardware development platform, software, firmware, schematics, BOM, Gerber files, and documentation
- Compliant to VCD, SVCD, and DVD specifications
- Real-time encoding and decoding of digital video in either MPEG-2 ML @ MP or MPEG-1
- Record in VCD, SVCD, DVD, or CD-DA formats
- Playback of VCD, SVCD, Audio CDs, DVDs, and Audio DVDs
- Both NTSC and PAL video formats supported
- Real-time encoding and decoding of two channel digital audio in MPEG or CD-DA formats
- Decodes Dolby Digital and DTS, up to 5.1 channels
- Features the Cirrus Logic CS92288 MPEG-2 audio/video codec for high quality video recording
- Features the ESS Vibratto chip family (ES60xx) for DVD playback and system control
- Features separate analog and digital boards
- Complete OSD support for developing easy to use GUIs
- Reference design includes details on front-panel and infrared remote control interface
- Compatible with all ATAPI and IDE interfaces, allowing for a wide range of choices for storage: HDD, CD-RW, recordable DVD, or other removable storage
- Full duplex playback and recording



The Duo™ and Encore™ reference designs are platforms that enable fast development of cost effective consumer products that combine DVD playback with digital audio/video MPEG recording. Examples include: VCD/SVCD recorders, Personal Video Recorders, Time-Shift Digital VCRs, and recordable DVD and Audio-CD Players. Duo is targeted for optical recording products, such as SVCD recorders, while Encore is targeted for hard-disk based products, such as personal video recorders. Both designs have VCD, SVCD, and DVD playback capability.

Duo and Encore are joint reference designs by Cirrus Logic and ESS Technology. The design combines the power of the CS92288 MPEG audio/video codec with the flexibility of the ESS Vibratto™ chip family (ES60xx). These two chips provide a high quality, cost-effective solution.

Both systems consist of the CS92288 MPEG-2 audio/video codec, an ES60xx DVD processor, an FPGA for DMA and IDE interfaces, a TV tuner, memory, a/v interface logic, DVD drive, and an IDE-based optical recording medium, such as DVD-R, Hard Disk Drive, or CD-RW drive.

Functions

Play, Record, Pause
Reverse
Goto Time____
Goto Track____
1/2 or 1/4 Speed Slow Forward
2x, 4x, or 8x Fast Forward
A-B Repeat
Display Disc/Track Digest/Thumbnails
DVD navigation
Simultaneous record and DVD playback

Deliverables

Duo or Encore Hardware Platform
Applications Software
Firmware
Microcode
DVD Navigator
Device Drivers
Schematics
Bill Of Materials
Gerber Files
Technical Manual
CS92288 and FPGA Data Books
CS92288 Programming Guide
PVR API Programming Guide
ESS Documentation
Start Up Guide

Interfaces

NTSC/PAL Video In (Composite and S-Video)
NTSC/PAL Video Out (Composite, S-Video, Component)
Progressive Video support (ES6028 & ES6038 only)
Analog Audio In – Left, Right
Analog Audio Out – 6 Channels
SPDIF
I²C and I²S
Microphone Input
IDE Interface
Front Panel Interface
Infrared remote-control interface

ESS Vibratto Family

ES6008 – DVD decoder with built-in TV encoder and 2-channel Dolby Digital
ES6018 – DVD decoder with built-in TV encoder, 5-channel Dolby Digital, and DTS
ES6028 – ES6018 functions plus progressive scan output
ES6038 – ES6028 functions plus DVD audio playback

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