ASIC Solution for 1-channel DVR application using HDD

NVP3000

NVP3000 is an ASIC solution to fit for 1-Channel DVR application.
It integrates pre/post processor, M-JPEG CODEC, hard-disk controller, and key/jog-shuttle interface.
In addition, it supports time-laps recording mode with flexible image compression rate to save disk usage, watermark encoding, and easy interface to most video multiplexer and CIF application.
Therefore, it provides cost-effective solution for real-time full duplex video/audio record and play back system.
At play back mode, search, fast-forward, rewind, and pause functions are supported.
NVP3000 also includes internal buffer to communicate with external CPU for network application, and it supports HDD user accessible area as well as extra pins for key and jog-shuttle interface.

Features

Interface

- Video input/output : CCIR656 4:2:2 format
  (1-CH CIF or field switching)
  NVC1XXX series interface compatible
- Audio input/output : 1-CH mono 64-Kbit/sec
- Embedded IDE controller
  (real-time full duplex record/play back function)
- Direct SDRAM/HDD interface
- Direct key(6x6) and jog-shuttle interface
- Host interface (Intel CPU type interface)
- 208 QFPH

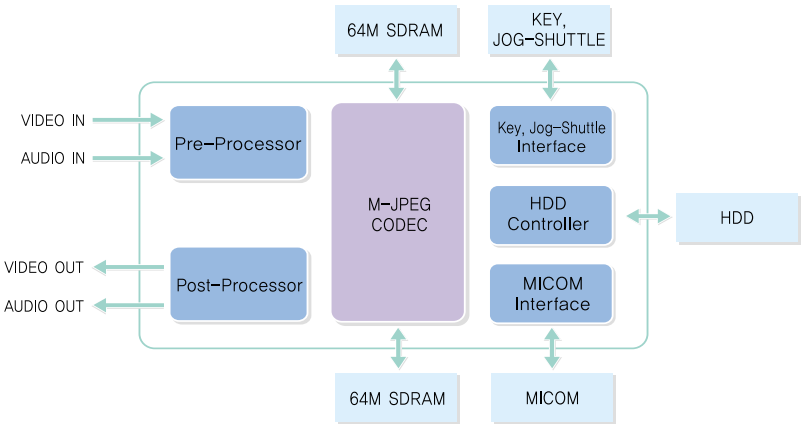
Record path

- Index decoding for MUX input signal
- YUV 4:2:2 or 4:2:0 mode recording
- Horizontal scaling (720/640/360/320 pixels)
- Watermark encoding
- Pre-alarm recording
- Time-laps mode recording
- Quality control
- Built-in Motion Detector

Play back path

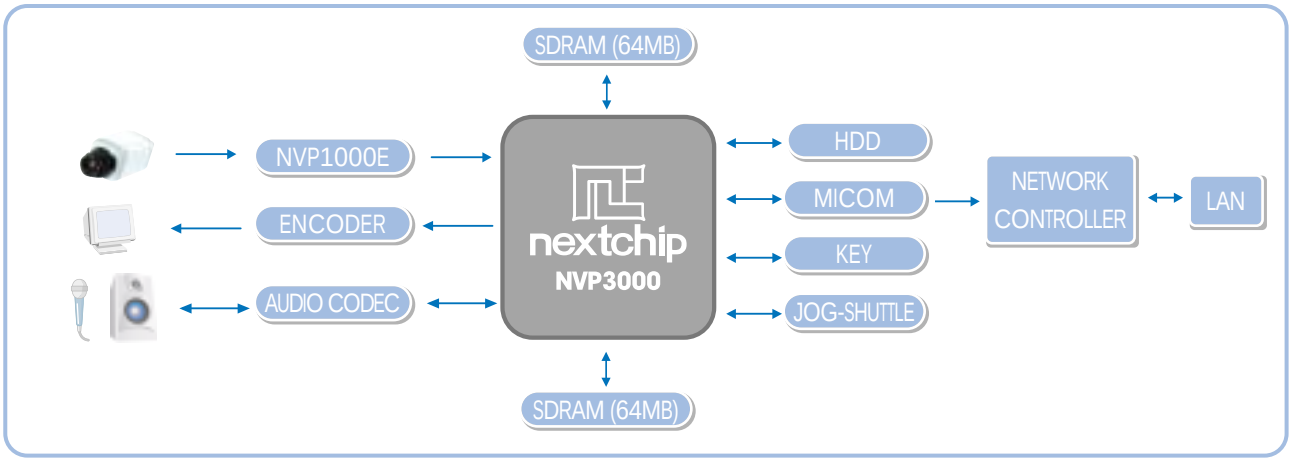
- Simple play back command
- Simple search command (time/event search)
- FF/REW/PAUSE operation
- Watermark decoding
- Index encoding for MUX play back function
- Audio/video synchronization
- Digital 2X zoom
- Graphic OSD

Block diagram

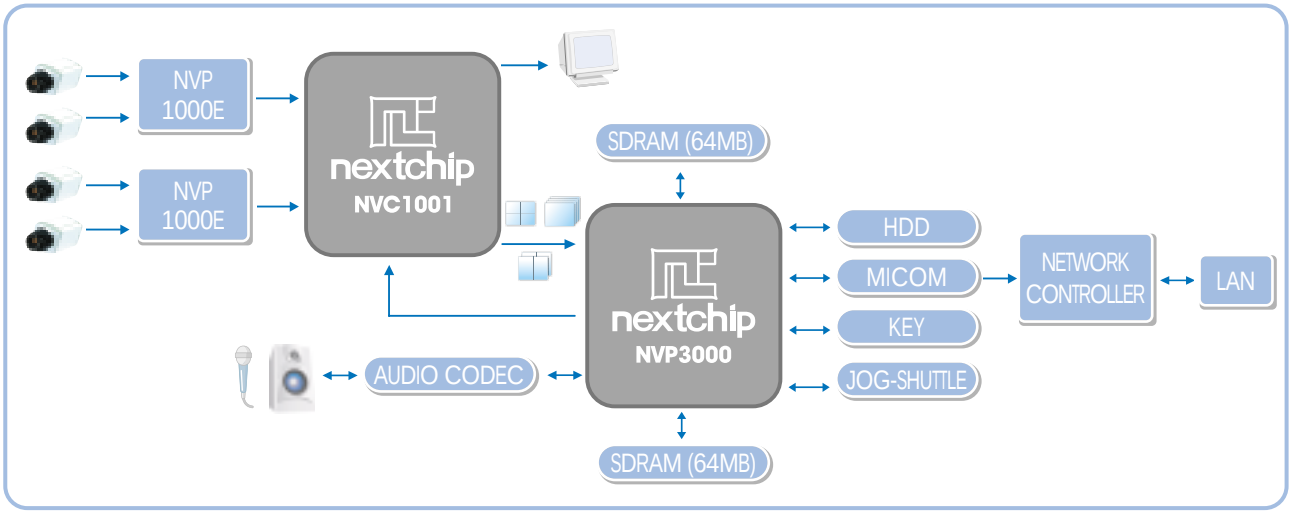


Application Diagram

1-CH DVR Application



4-CH DVR Application



9-CH/16-CH DVR Application