

ASIC Solution for 4-Channel Color Video Processor With 4-Channel Video Decoder and 2-Channel Video Encoder

NVP1004MX

NVP1004MX is a 4-channel color video processor for the DVR and multiplexer applications. NVP1004MX accepts 4 analog camera inputs and 1 digital PB input, and produces 2 outputs; 1 output for normal display path and 1 output for record path. Its digital input/output interface accepts ITU.R BT656 4:2:2 8-bit format. NVP1004MX supports high quality of H/V scaler, field/frame freeze, linear zoom, edge enhance, motion tracing, graphic OSD, mouse interface and overlay functions for display. Furthermore, It also supports field switching, frame switching, CIF, etc. with time scheduling function for record. In addition, NVP1004MX supports PS/2 keyboard, PS/2 mouse and key pad(6×6), remote controller interface for user's conveniences.



Features

Interface

- Input : 4-ch normal analog camera+1-ch playback digital
- Output
 - : 1-ch digital display + 1-ch CVBS display + 2-ch S-video display
 - : 1-ch digital record + 1-ch CVBS record
- Single 64Mbit, 32-bit bus SDRAM interface
- Peripheral interface : PS/2 mouse, PS/2 keyboard, 6×6 keypad, remote controller
- I2C serial interface for 4-CH AFE and decoder
- Parallel host interface for display engine and record engine
- 208-QFP, 3.3V/1.8V dual power supply

Decoder

- Accepts NTSC-M/J/4.43, PAL-M/N/B/D/G/H/I/60
- On Chip Analog CLAMP/AGC and Anti-aliasing Filter
- High-performance 3H/5H 2D adaptive comb filter
- Robust Sync detection for weak and non-standard signal
- Vertical Peaking filter
- Programmable brightness, contrast, saturation and hue
- White Peak Detection & Peak AGC

- CTI (Chrominance Transient Improvement)
- IF compensation filter

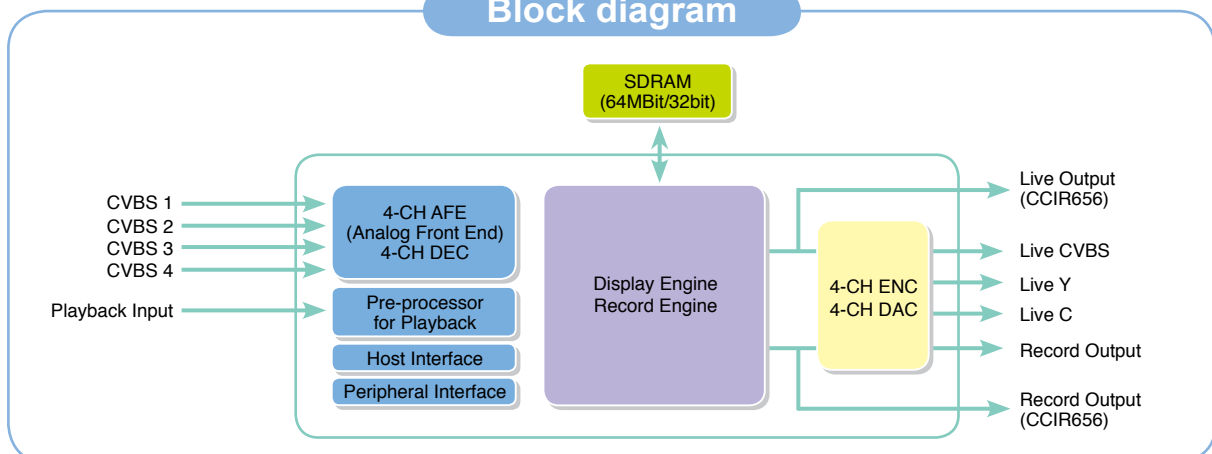
Display

- Programmable picture size and position
- High quality H/V scaler (3/4, 2/3, 1/2, 1/3, 1/4, 1/5, 1/6)
- PIP/POP/Freeze/Linear zoom function (max. × 128)
- H/V edge enhance function
- Support graphic OSD
- Motion detection and tracing (30X24 windows)
- 16 single box overlay function for various applications
- Horizontal mirror function
- Various playback display format

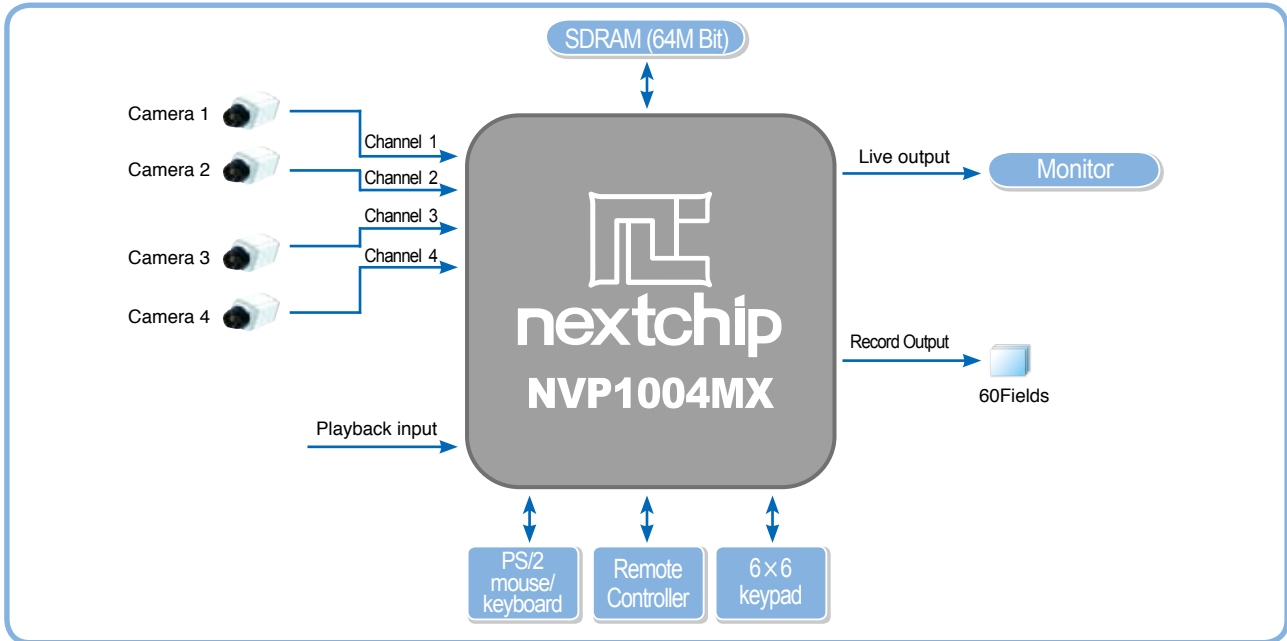
Record

- Full/DVR/QUAD field/frame switching with gray mode
- Dual 128 camera buffer (queue) for each record channel
- Mixed mode support (full, H-CIF, QDVR, QUAD switching)
- External trigger interface and internal mode operation
- 3-type OSD support t (360-pixel/24-line), 7-palette support

Block diagram



Application type 1 : Color 4-ch Multiplexer



Application type 2 : Color 4-ch DVR

