

## 4 Channel Video Surveillance processor

### Description

AL37204 is a 4-CH video surveillance processor that empowers any surveillance system with rich set of features. They include: simultaneous monitoring-playback-recording operation, flexible video display mode, bitmapped and dynamic colored OSD, rich modes of recording, accurate motion detection (16X12 grids) with flexible threshold and trigger methods, replay on all input and playback Channels. One AL37204 chip can provide 4-CH real time surveillance system.

It can be combined with AverLogic's MPEG-4 encoder (AL9V576) and video decoders (AL240) to provide high quality surveillance systems with cost effective structure. Its 9 channel counterpart, AL37219, can be used for real-time 9-CH surveillance applications.

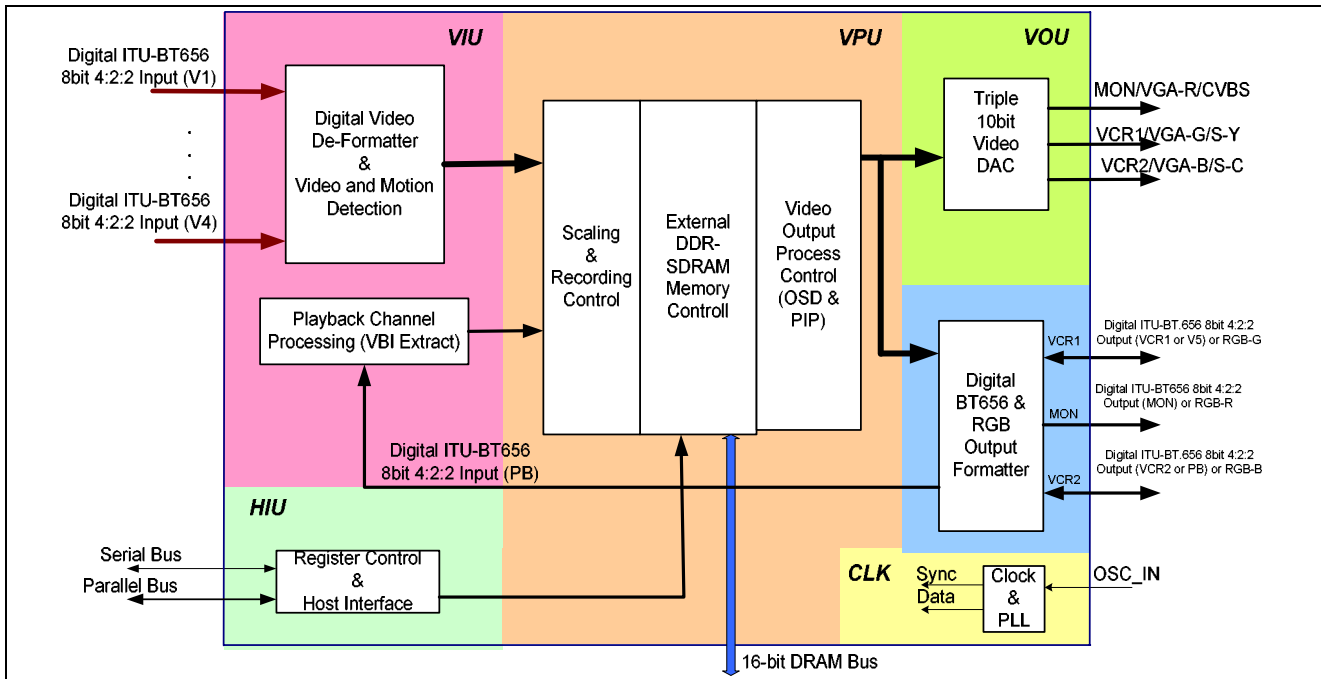
### Application

- ✓ Video surveillance Multiplexer/Processor
- ✓ DVR and POS DVR
- ✓ Video Server
- ✓ Highway traffic throughput surveillance
- ✓ Medical inspecting/surgery
- ✓ ATM machine surveillance
- ✓ Defense surveillance
- ✓ Recovery room monitoring in hospital
- ✓ Home stay monitoring
- ✓ Long hour monitoring in biological experiment laboratory
- ✓ Multiple channel IP camera
- ✓ Car rear vision system
- ✓ High end TV box with channle preview

### Features

- Support NTSC and PAL standards
- A single chip supports 4-CH real-time surveillance
- Support Triplex operation, (i.e., simultaneously real-time monitoring + recording + playback).
- Support (at least)1,2,4,6,7,8,9,10,13,16 and multi- windows display modes
- Support PIP /POP display modes
- Independent linear horizontal/vertical (H/V) scaling down factors (ex. 1/2, 1/3, 1/4, 2/3, 3/4)
- Programmable brightness, contrast and saturation
- Individual channel freeze
- Replay on individual channel (Max 10 sec per CH)
- Embedded OSD (On Screen Display)
- Programmable bitmap type font for OSD display
- Recording type: (D1 multiplexing/QUAD/PIP/as screen)
- D1 multiplexing Recording modes: weighted /regular/MPEG-GOP type
- Support DDR 16-bit interface up to 4G bit memory
- Support motion detection /video loss/blind detection
- Motion detection resolution: 16X12 grids
- Support channel-switching at front-end TV decoder
- VBI insertion and extraction
- Support external VCR/DMR/DVR signal triggered
- Built in de-interlacer for the RGB output
- Embedded three TV encoders with three DACs
- 1.8/3.3V power supply
- 216-pin 24x24 mm<sup>2</sup> LQFP package

# Functional Block Diagram



## Interface

1. 4 digital ITU-R BT. 656 inputs with another input for playback port that shares with the second digital output port
2. 3 independent digital ITU-R BT. 656 output ports
3. Digital output video formats: ITU-R BT. 656 or digital Progressive RGB formats

**Table 1 Digital Output Configuration Table**

| DOUT [23:16]    | DOUT [15:8]     | DOUT [7:0]     |
|-----------------|-----------------|----------------|
| B(MON)          | G(MON)          | R(MON)         |
| ITU-R 656(VCR2) | ITU-R 656(VCR1) | ITU-R 656(MON) |

4. 3 independent analog output ports for Progressive RGB, S-video, or Composite signals
5. The 3 analog outputs can have different configurations of composite CVBS, S-Video or analog RGB (or YUV) signal as described in the below table.

**Table 2 Analog Video Output Combination**

| MON(DAC1)              | VCR1(DAC2)             | VCR2(DAC3)             |
|------------------------|------------------------|------------------------|
| Composite <sub>1</sub> | Composite <sub>2</sub> | Composite <sub>3</sub> |
| Composite              | S-Video                |                        |
| *S-Video               | Composite <sub>2</sub> | *S-Video               |
| S-Video                |                        | Composite              |
| R                      | G                      | B                      |

6. HPI (Host Parallel Interface) and 2 wire serial bus
7. DDR Interface: 16-bit up to 4G bit memory

## Ordering Information

| Part Number     | Package  | Power     |
|-----------------|----------|-----------|
| AL37204C-LF-PBF | 216-LQFP | +1.8/3.3V |

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