



# JEILIN Technology Co., Ltd.

## JL4209A Multimedia Controller

### General Description

The JL4209A is a highly integrated multimedia controller targeted for Digital Photo Frame with digital LCD panel. It is capable of reading/playing the photo (JPEG), video (Motion JPEG), and audio (MP3) from memory cards and internal NAND Flash. All of your favorite digital photos can be played back in slide show or in still display while MP3 music is playing back. There are various slide transition effect are added between each photo slide. All of above playback doesn't need the use of PC. Besides photo frame function, the JL4209A has High Speed USB 2.0 Device port to transfer data to PC (MassStorage). It can read/write the files from/to different kinds of memory card such as CF/Microdrive, SD/SDHC, MMC/MMCplus, MS/MS PRO, XD, NAND Flash, and HDD (optional).

### Features

- ◆ Embedded Turbo 8051 MPU
- ◆ Hardware JPEG Codec
- ◆ IMA ADPCM Audio Codec
- ◆ MP3 Decoder
- ◆ NOR Flash Boot
- ◆ In-system Programming
- ◆ 208-pin PQFP (28x28mm)

#### Memory card and storage:

- ◆ CF & Microdrive
- ◆ SD/SDHC/MMC/MMCplus
- ◆ MS (Duo)/MS PRO (Duo)
- ◆ XD
- ◆ NAND Flash or Hard Disk Drive

#### Playback:

- ◆ Photo: JPEG up to 268 mega pixels
- ◆ Video: Motion JPEG up to 30fps@VGA
- ◆ Audio: PCM/ADPCM/MP3
- ◆ Combo Playback: JPEG+MP3

#### Video:

- ◆ Composite Video Output
- ◆ Include TCON (LCD Timing Control)
- ◆ Digital (RGB565/666/888) TFT Panel
- ◆ Digital (Memory Bus) TFT/CSTN Panel
- ◆ CCIR601/656 Output Interface

#### USB:

- ◆ High-Speed USB 2.0 Device port
- ◆ MassStorage Class

#### Peripheral:

- ◆ Interface for RTC
- ◆ IR Remote Control, Buttons
- ◆ I2S Interface
- ◆ ADC for battery monitoring or MIC

### Applications

- ◆ Digital Photo Frame (DPF)
  - Viewing Photos (JPEG)
  - Viewing Movie (Motion JPEG)
  - Listening to MP3 music
- ◆ USB2.0 Card Reader
- ◆ DPF with Clock/Calendar/Alarm

### Functional Diagram

