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JPEG RS-232 Camera-2M

JPEG Compression 2M Camera Module

General Description

The JPEG compression module performs as a video camera or a JPEG compressed still camera and can be attached to a wireless or PDA host. Users can send out a snapshot command from the host in order to capture a full resolution single-frame still picture. The picture is then compressed by the JPEG engine and transferred to the host.

Block Diagram

2M Image Sensor

VCC TxD RxD GND

Features

- . Low-cost, & low-powered solution for high resolution image capture
- . Built-in down-sampling, clamping and windowing circuits for 1600*1200/1280*960/1024*768/800*600/VGA/QVQAF/160x120 image resolutions
- . RS-232: 1.209600 M bps for transferring JPEG still pictures or VGA preview @8bpp with 0.75~6 fps
- . JPEG CODEC with variable quality settings for different resolutions

System Configuration

Camera Sensors

DSP Serial Bridge

The DSP Serial Bridge is a controller chip that can transfer image data from CameraChips to external device. The camera interface synchronizes with input video data and performs down sampling, clamping and windowing functions with desired resolution, as well as color conversion that is requested by the user through serial bus host commands. The JPEG CODEC with variable quality settings can achieve higher compression ratio & better image quality for various image resolutions.

Program Memory

A serial type program memory is built-in for JPEG RS-232 Camera, which provides user-friendly commands to interface external control units.

Pin Description

VCC Power 5VDC

TxD Data Transmit

RxD Data Receive

GND Power Ground

Lens : CL4022IR (f3.6mm F/No 2.2) with IR Cut filter



General Description:

1. Small in size(32*32MM).low cost and low powered(3.3V or 5.0V).
2. Power on or reset,rs-232 baud rate is 115200.

Serial Interface

1. Single Byte Timing Diagram

A Single byte RS-232 transmission consists of the start bit,8-bit contents and the stop bit .Astart bit is always 0,while a stop bit is always 1.LSB is sent out first and is right after the start bit.

Command Set

1. Reset

56 00 26 00

Receiving ACK command

76 00 26 00

2. Snapshot

56 00 36 01 00

Receiving ACK command

76 00 36 00

3 Length of data of the Snapshot Picture

56 00 34 01 00

Receiving ACK command

76 00 34 00 04 00 Byte2 Byte1 Byte0

Byte0 Byte1 is Length of data of the Snapshot Picture

Byte2 Length High Byte

Byte1 Length Mid Byte

Byte0 Length Low Byte

4. Read Data of the Snapshot Picture

56 00 32 0c 00 0a 00 Addr2 Addr1 Addr0 00 Data2 Data1 Data0 00 0a

Addr2 Addr1 Addr0 is start Addr of the package

Data2 Data1 Data0 is package Size

package Size is a multiple of 8

Receiving ACK command

76 00 32 00 00 76 00 32 00 00

5. Snapshot Picture End

56 00 36 01 03

Receiving ACK command

76 00 36 00 00

6. JPEG Resolution

The JPEG preview mode can support following image sizes. It is different from normal preview mode.

command		returns
1.56 00 54 01 22	160*120	76 00 54 00 00
2.56 00 54 01 11	320*240	76 00 54 00 00
3.56 00 54 01 00	640*480	76 00 54 00 00

4.	56 00 54 01 1D	800*600	76 00 54 00 00
5.	56 00 54 01 1C	1024*768	76 00 54 00 00
6.	56 00 54 01 1B	1280*960	76 00 54 00 00
7.	56 00 54 01 21	1600*1200	76 00 54 00 00

7. **Set Baudrate:** 56 00 24 03 01 XX returns: 76 00 24 00 00

XX	Baudrate
0XAE	9600
0X2A	38400
0X1C	57600
0X0D	115200
0X7E	128000
0x23	230400
0X56	256000
0x58	460800
0x42	512000
0x9e	576000
0x13	600000
0x87	691200
0x39	921600
0x72	1152000
0x92	1209600

8. Serial port to manually adjust the exposure control

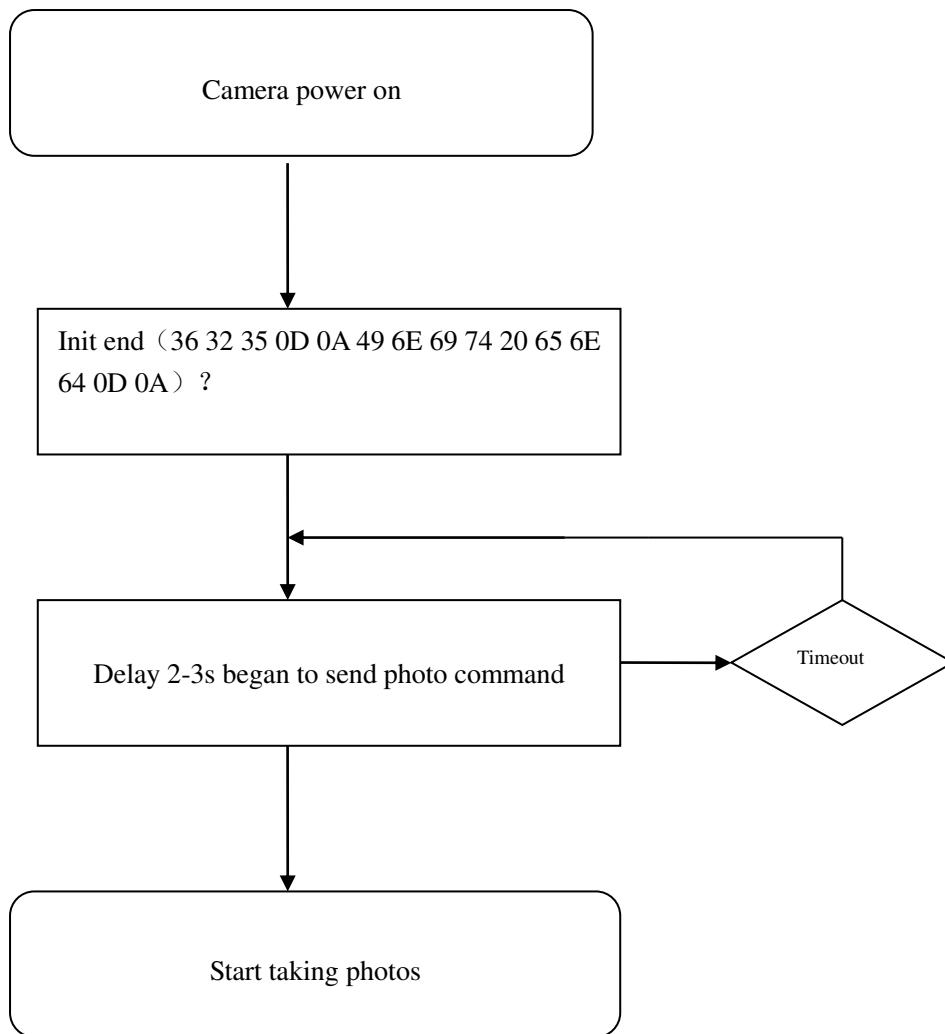
56 00 46 00 xx
 XX 00-0xff

9. The serial port to control the IR-CUT command

56 00 aa xx 00
 XX 0X00 ir-cut Day mode
 0x01 ir-cut Night mode

◆ Programming block diagram

DSP Detection function: bool ImgDsp_Check(Viod)



Read one frame JPG images: `bool CaputreImage(Void)`

