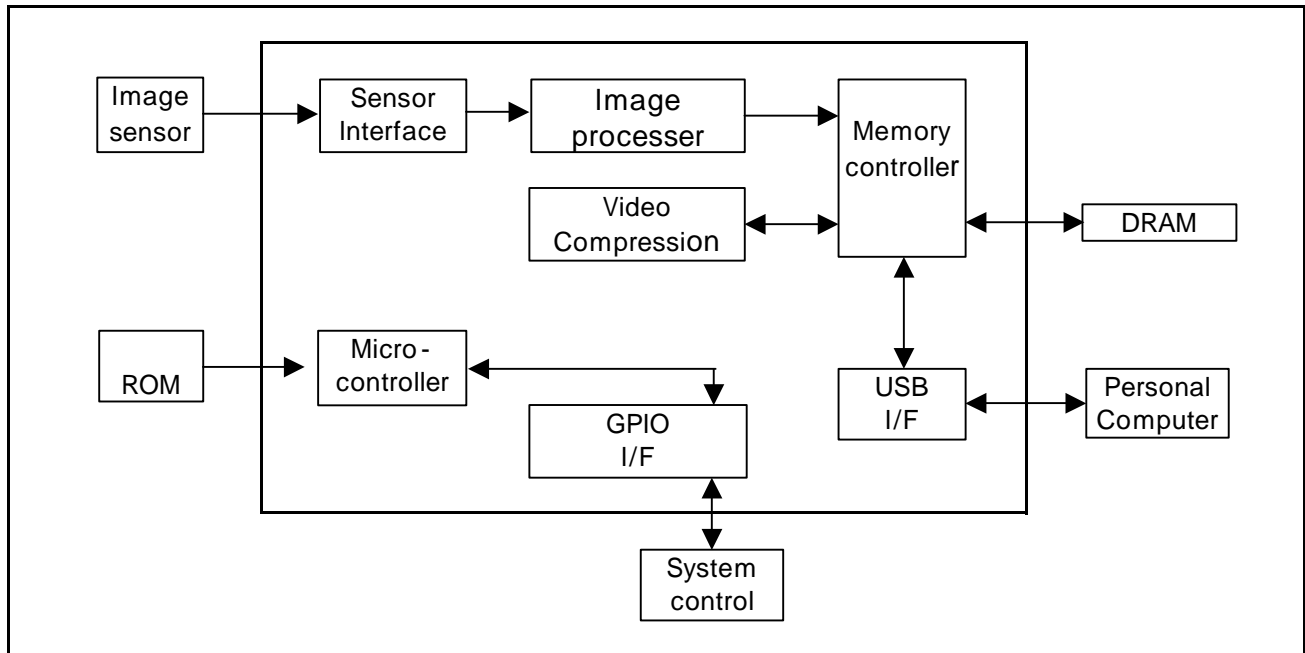


BLOCK DIAGRAM for I - JOA



Sensor Interface

The sensor interface provides all the control signals and synchronization signals to either external device or internal blocks. It is very flexible and can be programmed to interface with a wide range of CMOS sensors.

Image Processor

The image processor uses a high performance proprietary algorithm to transfer raw data to true color image data, and provides many flexible parameters to output high quality pictures with different features

Memory controller

The memory controller performs the tasks issued by the micro controller. It grabs data from the image processor and communicates with the compression unit to perform video/image compression. The compressed data are stored either in DRAM or flash memory or transferred to the USB interface, according to the commands issued by the micro-controller. The memory controller also does the DRAM and flash memory file system management according to the micro-controller commands.

Video/Image Compression

Due to the limited USB bandwidth and the portable feature of this device, compression is a must for decent real time capture and storage. However, good compression algorithms like MPEG and JPEG give good compression result but they are expensive. To reduce cost, power and host decompression complexity, we develop a proprietary compression algorithm suitable for this application. The compression algorithm supports both video and image compression with good quality/compression ratio.

USB

The USB interface block handles USB protocol between the micro-controller/memory controller/USB host for control transfer and data transfer.

Micro-Controller Unit

The micro-controller coordinates the modules in the device and communicates with peripheral components.

