

VISUAL DATA ACQUISITION

AR1783

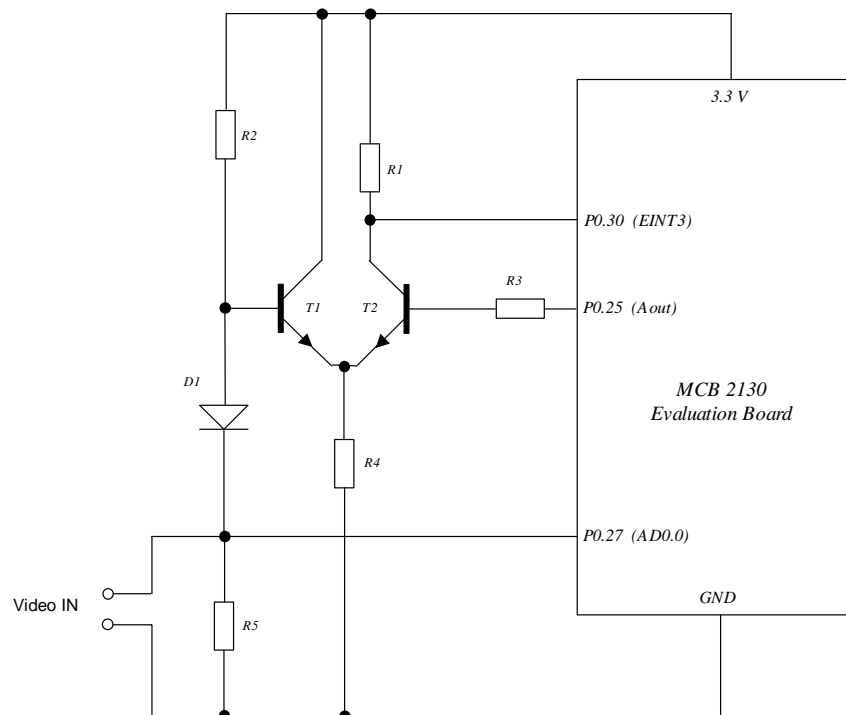
Abstract:

System for capturing semi-static images from TV cameras or other TV signal sources using one internal ADC of LPC2138.

Presented system is a simple implementation of frame capture unit of video processing system build using Philips ARM LPC2138 micro-controller. The idea is to use internal A/D converters. They are not fast enough to deal with video signal with full resolution but using simple workarounds it is possible to capture low quality frames (in this implementation: 168 pixels horizontal, 122 pixels vertical). Captured frames should be semi-static. Dynamic pictures will be slightly distorted. As an example system for seven-segment display recognition is presented. This can be used in all the control and measurement equipment which does not have external data interface but must be monitored or analyzed automatically.

The system has been built over the MCB2130 evaluation kit from Keil with LPC2138 on board. The system has only small circuitry addition: simple comparator. This comparator is build from 2 transistors in differential amplifier configuration. This works fine but of course any analog comparator can be used here (in fact it is a pity that LPC2138 does not have one).

Schematic diagram:



Sample pictures captured by described system:

