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Improvements CCD Preamplifier

In an effort to improve analog behavior of the DZA-S70xx series, several parts were replaced, and the circuitry could be optimized.

Signal-to-Noise:

Continuing effort work around the Sensor Board has led to further improvement of the Signal-to-Noise ratio of the video signal. Typical minimum value is a rms noise of 1.5 counts (2.2 counts so far) at 16 Bit. This value is retrieved with a sensor chip installed. Without such a chip the rms noise is lower than 1 count. We are now very close to the theoretical limit. The noise is influenced of course by the sensor type used and its operating conditions.

Distortion:

Some changes of components have led to more accurate reflection of signal levels at high dynamic changes. E.g. singularities have shown some minor "trailing" effects. The influence on those effects are practically not noticeable now.

Power dissipation:

The total dissipated power of the clock drivers could be reduced, so that the sensor board heats up less. This will improve cooling requirements and, therefore, reduce energy consumption and increase long term stability.

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