

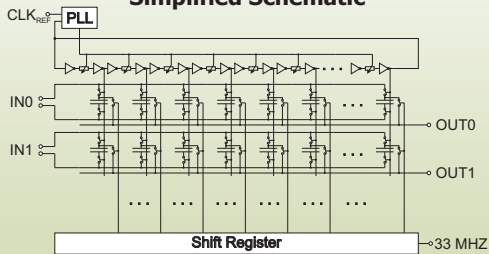
# Application of the 5 GS/s Waveform Digitizing Chip DRS4

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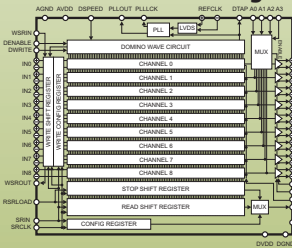
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## The DRS4 Chip

### Simplified Schematic

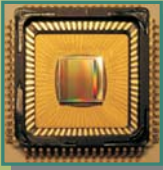


### Functional Block Diagram



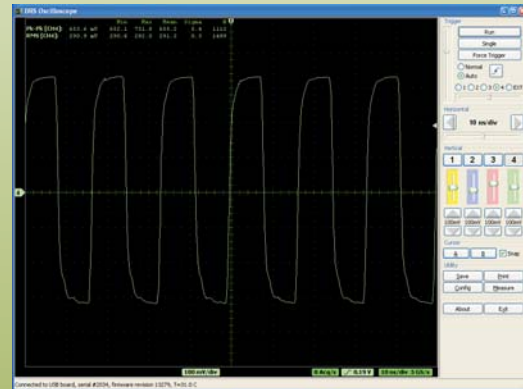
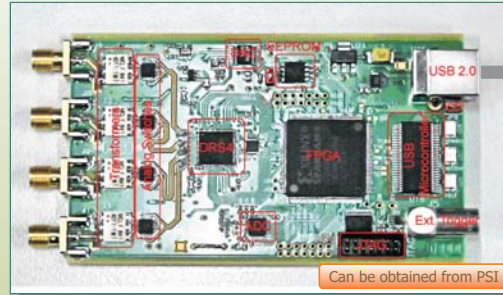
### Basic Parameters

**Technology:** UMC 0.25 $\mu$ m  
**Number of Chn.:** 9 with 1024 cells  
 cascadable up to 8192  
**Power:** 17.5 mW/chn. @ 2.5V  
**Sampl. Speed:** 200 MSPS to 500 MSPS



## Evaluation Board

Four Channel 5 GS/s Oscilloscope with USB power and readout



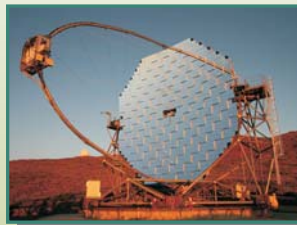
PC Oscilloscope Application (Windows and Linux)

## Experiments using DRS Chips

**MEG (PSI)**  
3000 Channels



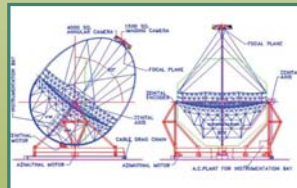
**MAGIC-II (La Palma)**  
400 Channels



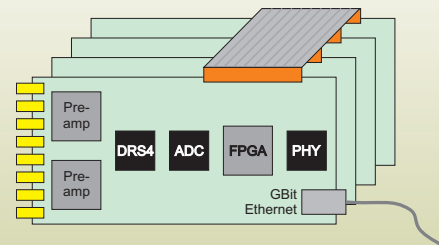
**XFEL BPM (PSI)**  
800 Channels



**MACE (India) 2400 Channels**



## Ethernet Board (planned)



- 8 Channel board to be mounted directly on detector electronics 50 mm x 100 mm
- Preamplifier for PMTs, APDs, SiPMTs
- Read out through Gigabit