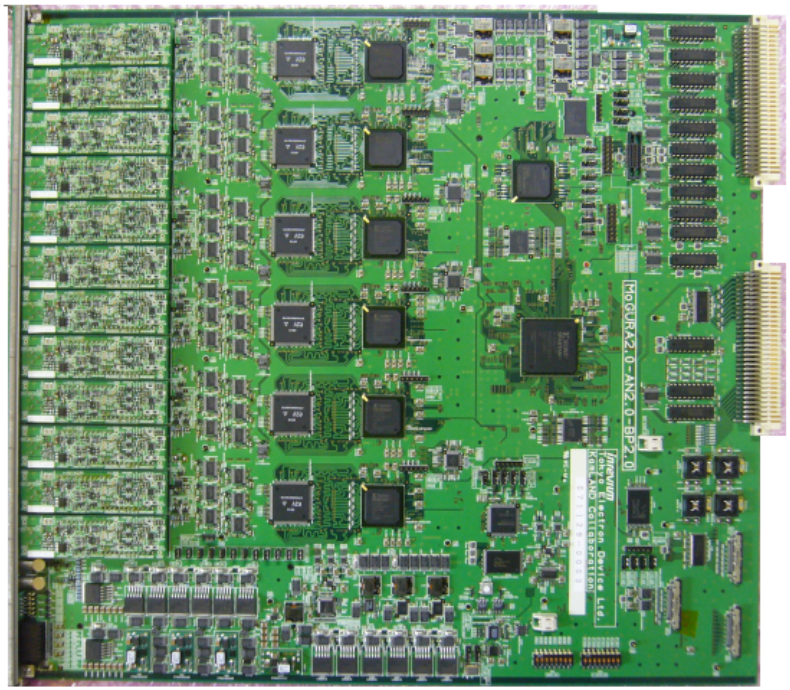
New KamLAND electronics

Main Features

- Deadtime free for ^{10}C tagging (serious background of 0vbb)
- Fast hit detection for on-board vertex reconstruction (future expand of KamLAND)
- Large memory for high event rate (from nearby SNe)
- Easy handing using TCP/UCP

Specification (FADC)

- Size:VME9U
- Number of input: 12 - 14 (not fixed)
- FADC
  - 8bit, 1GS/s: 0.1 - 25 mV (ADC08D1020)
  - 14bit, 250MS/s: 0.5 mV - 10V (ADS42LB69)
- SO-DIM: 4GB
- System CLK: 50MHz (or 250MHz not fixed)
- Ethernet port (100Mbps)
- Signal processing
  - Digital discrimination (Time resolution: 250MHz)
  - Self trigger and external trigger
  - Zero suppression
  - Data buffer: ~10us for trigger latency
  - Event buffer: >2x10^6 events for nearby SNe



Previous electronics

New KamLAND electronics

Time line