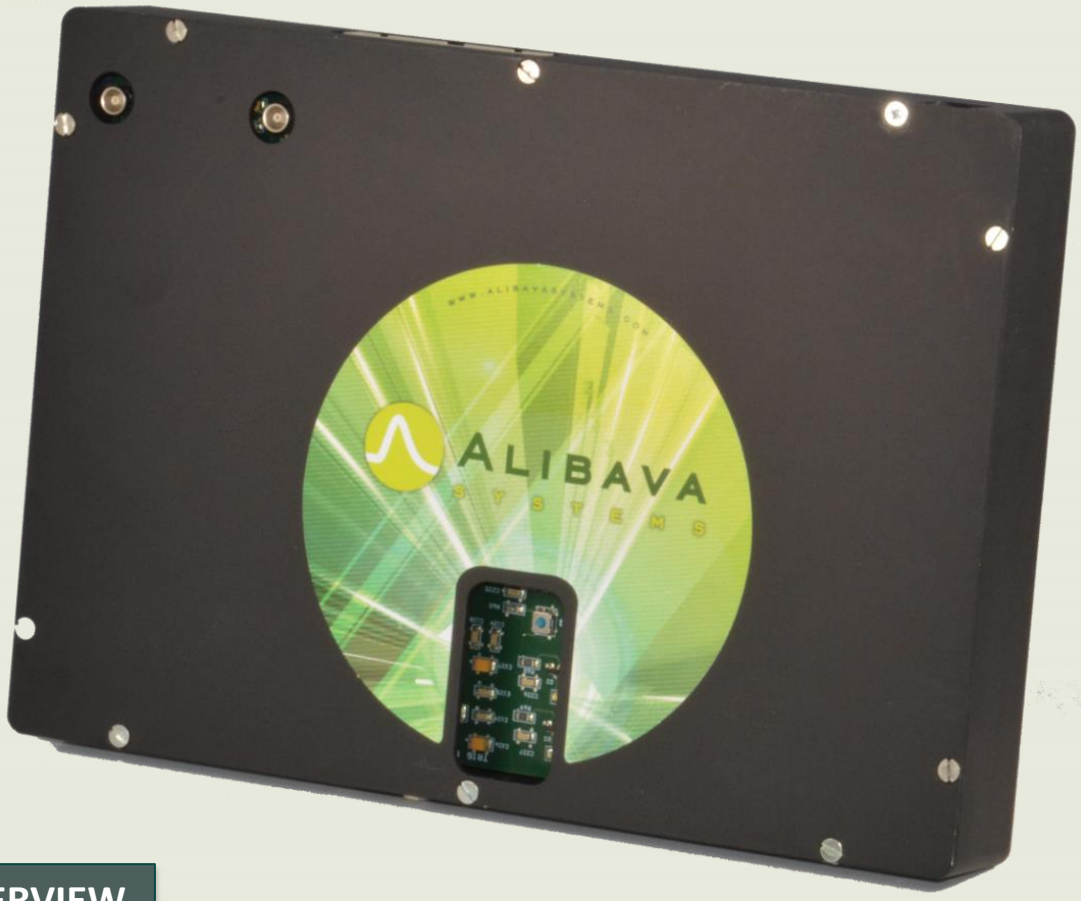
Alibava System



OVERVIEW

ALIBAVA SYSTEM is a **portable and compact** readout system for microstrip sensor characterization.

ALIBAVA uses the front-end readout Beetle chip, developed for CERN/LHC experiments, and enables the user to characterize **each individual strip** of silicon microstrip sensors beyond CV and IV curves. It provides information such as the **Charge Collection Efficiency** (CCE), **time profile**, real time display of the **events in each channel**, temperature, and many more.

FEATURES

- Calibration, laser or radiation source modes
- N-type and p-type microstrip detectors supported
- Up to 256 channels
- Chip BEETLE at 40 MHz
- Energy resolution: 3 to 6 KeV
- Energy range: up to 330 KeV
- Trigger mode: 3 external inputs and 1 output. External trigger and autotrigger boards available.
- Connectivity USB 2.0
- Acquisition software for Windows, Linux and Mac
- Data stored in custom binary and HDF5 files
- Example macros for further in-depth analysis provided
- Mother Board dimensions: 250x175x33 mm^3
- Daughter Board dimensions: 70x85 mm^2
- Voltage supply: +5 V

This product is sold under license of Spanish National Research Council (CSIC) and University of Valencia (Spain)

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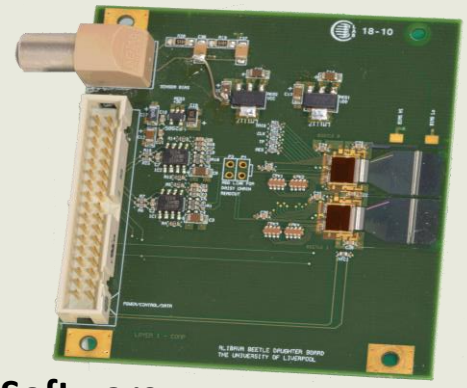
Alibava System

Mother board

Processing of the sensor data and trigger signals
Control of the acquisition process
Communication with computer software via USB

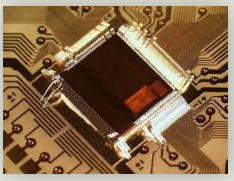
Daughter board

2 Bettle read-out chips
2 pitch adapters to connect to the user's sensors
Pitch 80 µm (50 µm available)



Beetle Chip

Developed for a CERN/LHC experiments
Low noise ASIC
128 input channels
Clock speed 40MHz



Software

Acquisition software controlled by GUI.
Selectable modes of operation: Electronic calibration, Laser and Radioactive Source.
Data provided: noise, gain, pulse shape, collected charge, single events per channel and more.
Results stored in binary and HDF5 files.
Example analysis software (macro) in ROOT, Python, Matlab and Octave. Users can further analyse the data from the acquisition output files.

Timing and trigger modes

Time stamp register for individual events.
Three trigger options:

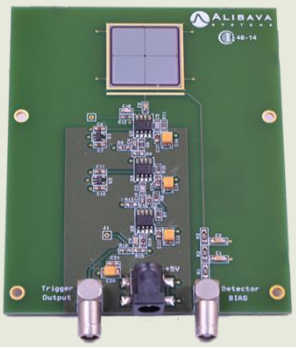
- External trigger, 2 inputs (silicon detector trigger board available).
- Beetle generated trigger (autotrigger board available).
- Synchronised trigger: measurement trigger and output to an external excitation source (laser system optional).

"Busy" output signal for easy integration in larger systems.

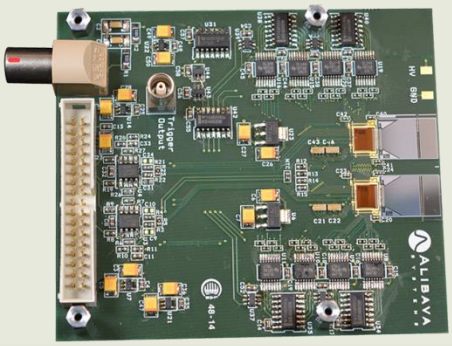
System contents

- 1 Mother Board
- 1 Daughter Board, pitch adapters included
- 2 detector boards
- 6 extra pitch adapters (80-80 µm)
- 1 power supply (+5 V AC/DC adaptor)
- 1 USB cable and 1 flat cable
- 2 LEMO connectors for sensor bias
- Software and documentation downloadable from web

Trigger Board (Optional)



Autotrigger Daughter Board (Optional)



Custom Daughter Boards (Available)