Digitize Without Compromise – Signal Integrity from A to D

Agilent Digitizers lead the market in performance and breadth of offering

High-Speed Digitizers provide a range of 500 MS/s, 1 GS/s, 2 GS/s, 4 GS/s and 8 GS/s high-speed digitizer cards with 8-, 10- and 12-bit resolution, wide bandwidths and large acquisition memories. These products, in PCI, PXI, cPCI, and VME formats, are used in research, ATE and OEM applications in industries as wide spread as Biotechnology, Semiconductors, Aerospace, Physics, and Astronomy. Configured together into a data acquisition system, the high-speed digitizers deliver essential multichannel oscilloscope capabilities in a compact modular package, providing a wide range of functionalities that can not be matched by monolithic instruments. The whole system includes a fast PC connection and all the necessary software for a simple integration into any automated test system.

High Resolution Digitizers provide mid-range sample rates that compliment instruments in test systems such as DMMs, function generators, switch systems and counters. The digitizers provide high resolution for accurate waveform acquisition and on-board measurements in a new stand-alone LXI format. These digitizers are used in Automotive, Aerospace/Defense, Medical and Electronic Test applications.

U2500A Series USB Simultaneous Sampling Multifunction Data Acquisition gives you the choice and flexibility to create standalone or modular solutions that expand and evolve according to your test requirement needs. These modules provide from 250 kS/s up to 2 MS/s with additional Analog Output and Digital IO functionality that is simple enough for academic application and yet robust and versatile enough for use in applications in Medical, Consumer Electronics, Electronic Test, Construction, and Automotive industries.

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Digitizer Application Examples

Frequency Domain
- Communication (4G)
- Audio test
- Ultrasound & Life Sciences
- Hard disk drive and semiconductor testing
- Astrophysics
- Electronic warfare

Time Domain
- Electromechanical device (motors, solenoids, drives, printer heads) testing
- Product characterization (ECU's, ...)
- Semiconductor characterization (diode, MOSFET)
- Synthetic instrument with small form factor for A/D
- Time of flight measurement (Radar, Lidar, Ultrasound, Particle acceleration)

Scanning Digitizers (slow sampling, long test durations)
- Data logging
- Physical test, mechanical test
- Data acquisition (thermal, strain)

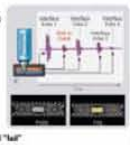
DVD Players and Recorders
- Measurement of fast rise times, pulse widths and peak heights in the DUT
- High speed data acquisition technology provides flexibility and low operational cost

Signal Integrity → measure less and increase test speed

Neutron Capture for Nuclear Waste Reduction (CERN)
- Neutron detectors connected to digitizers (8 synchronized channels at 1 GS/s)
- Measurement of neutron detection

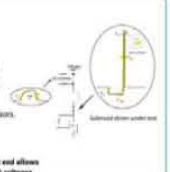
Signal Integrity → increased measurement resolution by 10X

Non-destructive Testing within Microelectronic Packages
- High frequency ultrasound is used to detect voids, cracks and delaminations
- Measurement of time of flight, velocity and magnitude of the ultrasound on the DUT



Signal Integrity → fewer false "pass" and "fail" increasing yields and lowering production costs

ECU Testing
- Front end isolation and high voltage input needed to test electro-mechanical DUTs
- Measurement of current sensors, solenoid fly-back voltages



Signal Integrity → isolated front end allows accurate current sensing at high voltages