

Physicist George Blamar, Director of the LeCroy Research Systems (LRS) Product Group.



FERA ADCs. This taught us to reach beyond present limits in speed, precision and cost - the new detector-mounted 17-bit dynamic range charge ADC was originally developed for both CLEO at Cornell and BELLE at KEK and the ground-breaking new 25 ps common-stop time-of-flight TDC came from studying the needs of BELLE.

Oscilloscopes make up the bulk of LeCroy's business today. Where did the idea come from?

Our experience with digitizers began with our early TDCs and integrating ADCs for particle physics. We saw very early the applicability of this technology to digital oscilloscopes, and in 1970 we introduced a very basic 1 Gs 8-bit digital oscilloscope, just a digitizer with a display and no input conditioning. This instrument, the WD2000, boasted a record length of 20(!) samples, and we sold just 20 of them before they succumbed to scan-converter competition that offered more samples. We resisted

the urge to make more competitive oscilloscopes and opted instead to put our limited resources on a new line of high energy physics products, and did not introduce another scope until the famous 9400 - an 'oscilloscope gap' of nearly 15 years.

Who designed the 9400 and the very popular, even today, 9450?

Geneva - the same group that started out on streamer tube electronics and then precision spectroscopy TDCs. This was in the early to mid-80s, just after we had done all that work for LEP and were ready for a new major project. Our newest scope, the 584, is up to 8 GS/s with 8 MS of memory. These are very powerful, general-purpose instruments with broad applicability.

How many physicists work at LeCroy and what do they do?

Physicists are our "secret weapon" We employ over 25, a few in marketing and sales but mostly leading project groups in engineering hardware and software. Physicists tend to assimilate new ideas quickly and are used to solving problems in innovative ways instead of just trying to upgrade existing techniques. A taste for the unconventional seems to be a part of their make-up, and we like that.

What is the role of the LeCroy Research Systems Group?

They continue to play a vigorous role supplying high density custom ADC and TDC components, NIM, CAMAC, FASTBUS, VME, and now VIPA modules to high energy, astro, nuclear, heavy ion, atomic and medical physics customers. Of late, we have been discussing applying our unique talents in manufacturing high density SMT printed circuit board assemblies for experiments

that could not get the quality from other vendors. With decades of FASTBUS, 9U VME and now VIPA instrument production, we have this experience. We also are planning a new line of multiple input, fast waveform digitizer modules this spring and expanding the ViSyN high voltage system product line for new detector systems.

In which direction do you see your company going?

Still doing physics instrumentation. We'll be doing scopes faster and with longer memories and more features to make them even better tools. We'll also be entering other market areas such as LAN diagnostics and telecommunications. The common link is the technology, which is still based on the high-speed, low-noise multi-channel techniques developed for particle physics.

The dark side of the Moon

Assignment: To look for traces of solar neutrinos

Position: Paraguana Peninsula, Eastern Venezuela

Date and time: 14.04 local time, 26 February

The appointment was very precise, because time, tide and total eclipses of the sun wait for no man.

But what does an eclipse have to do with neutrinos? The sun produces neutrinos in gigantic quantities - theory predicts 60 billion per sq cm per second at the earth's surface. The puzzle is that experimentalists only see a fraction of them.

The generally accepted interpretation is that the electron-type neutrinos generated in the sun oscillate, spontaneously changing