CRADA Final Report
CRADA No. BG02-348

1. Parties:

   Dakota Technologies, Inc.

   The Regents of the University of California
   E.O. Lawrence Berkeley National laboratory

2. Title of the Project: "Flash Capture AD" - Phase I

3. Summary of the specific research and project accomplishments:
   (Were the goals of the CRADA achieved? Include relevant information but do not include proprietary or protected CRADA information.)
   The goal of this Phase I proposal was to study architectures and technologies suitable for a high-speed, multi-channel digitizer. LBNL has produced such circuits and circuit elements in the past, and has studied switch structures, digitizer elements and packaging. We believe that we have shown the feasibility of the technical solution proposed, and are proceeding to a Phase II proposal, in which we would build the circuit.
   The final report and review took place at LBNL in May, 2003 and details can be found at http://www-eng.lbl.gov/~prairie/.

4. Deliverables:

Deliverable Achieved	Party (LBNL, Participant, Both)	Delivered to Other Party?
Architecture Definition Report and Design Specification	LBNL	Yes
Technology Evaluation Report	LBNL	Yes
Phase I Report to DARPA	Both	Yes

5. Identify publications or presentations at conferences directly related to the CRADA? –none -

6. List of Subject Inventions and software developed under the CRADA:
   (Please provide identifying numbers or other information.) –none -

7. A final abstract suitable for public release:
   (Very brief description of the project and accomplishments without inclusion of any proprietary information or protected CRADA information.) One of the most common electronic circuits is an analog-to-digital converter (ADC). There is continual interest in improving the speed, resolution and power consumption of ADCs. Very high speed ADCs

present particular challenges, but there is a class of problems which require very fast acquisition of the signal, yet can tolerate slower rates of quantization. The circuit proposed is designed for precisely those types of problems, and extends our existing capability by an order of magnitude.

8. Benefits to DOE, LBNL, Participant and/or the U.S. economy.
The circuit which would be developed in Phase II would be an enabling technology for homeland security applications, as well as having several industrial applications in chemical detection. At the same time, this technology would enhance existing detector capabilities in many physical and biological science application of interst to LBNL.

9. Financial Contributions to the CRADA:

DOE Funding to LBNL	$0
Participant Funding to LBNL	$60,538
Participant In-Kind Contribution Value	$5,000
Total of all Contributions	$65,538

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