

NEW from Amptek Digital Multichannel Analyzer



The MCA8000D is a full-featured digital multichannel analyzer intended to be used with a wide variety of detector systems.

The easy to use 'Pocket MCA' can fit in a shirt pocket.

FEATURES OF THE MCA8000D

- Compatible with traditional analog pulse shaping
- MCA and MCS modes
- High speed ADC (100 MHz, 16 bit) with digital pulse height measurement
- 8k data channels
- Minimum pulse peaking time 500 ns
- Conversion time 10 ns
- Sliding-scale linearization
- Differential nonlinearity $<\pm 0.6\%$
- Integral nonlinearity $<\pm 0.02\%$
- Two peak detection modes for nuclear spectroscopy or particle counter calibration in clean rooms.
- Two TTL compatible gates for coincidence and anticoincidence
- USB, RS-232, and Ethernet communication interfaces
- USB powered
- Dimensions: 125 x 71 x 20 mm
- Weight: <165 g

Free Software

Free Software Development Kit (SDK). Complete protocol and example code for custom software applications.

Free Display and Acquisition software.



in the article's figure 2, was published in May 1951 by engineers at the Air Force Cambridge Research Laboratories (AFCRL).¹ The Department of Defense was interested in using what would become the world's largest antenna to better understand the ionosphere for long-range radar and communications. Thus in 1959 officials from the AFCRL and Cornell University, home to Arecibo designer William Gordon, signed a contract to build the observatory. The project was funded by the Advanced Research Projects Agency, with Philipp Blacksmith of the AFCRL named as the project officer.

Reference

1. R. C. Spencer, C. J. Sletten, J. E. Walsh, *Correction of Spherical Aberration by a Phased Line Source*, Air Force Cambridge Research Laboratories, Cambridge, MA (1951); <http://www.dtic.mil/dtic/tr/fulltext/u2/a800275.pdf>.

Paul H. Carr

(paul.carr2@comcast.net)
Bedford, New Hampshire

■ The article on the Arecibo Observatory did not properly credit the facility's origins. The authors briefly discuss research concepts by William Gordon, whose brainchild became the Arecibo Ionospheric Observatory (AIO); however, most of the work of its first 10 years under Gordon and his colleague Gordon Pettengill is not mentioned.

Initial sponsorship by the Advanced Research Projects Agency (ARPA) made construction of the AIO—and the ability to aim it—possible. In the early 1960s, the Department of Defense needed a detailed map of the ionosphere throughout a sunspot cycle to understand the background in which space and missile assets operated. The Arecibo Observatory accomplished that and several other unanticipated objectives during the period of its initial operation, from 1964 to 1970.

Under the guidance of a select advisory committee chaired by Ronald Bracewell of Stanford University, ARPA shared the AIO with radio and radar astronomers. After AIO had completed the mapping of the ionosphere through a sunspot cycle, I worked out its transfer to NSF through the advisory committee. That transfer was made after ARPA had finished plans for the first upgrade of the AIO reflector.

R. Michael Dowe Jr

(r.michael.dowe@raytheon.com)
Raytheon Ktech
Albuquerque, New Mexico

■ Altschuler and Salter reply: We thank both correspondents for their in-

teresting comments. To Michael Dowe we note that the directors of the Arecibo Observatory through the 1960s were William E. Gordon (1960–65), John W. Findlay (1965–66), Frank D. Drake (1966–68), and Gordon H. Pettengill (1968–71). We emphasize that our article concentrated on major astronomical contributions from the observatory over its 50 years of operations. For an excellent account of its contributions to atmospheric and ionospheric physics, we recommend John Mathew's article "A short history of geophysical radar at Arecibo Observatory."¹

Reference

1. J. Mathew, *Hist. Geo. Space Sci.* **4**, 19 (2013).

Daniel Altschuler

(danuchko@hotmail.com)
University of Puerto Rico
Rio Piedras

Chris Salter

(csalter@naic.edu)
Arecibo Observatory
Arecibo, Puerto Rico

Venerable Virginia science academy welcomes new one

This letter is in response to the news of a new Virginia Academy of Science, Engineering, and Medicine (VASEM), which has recently been formed in the Commonwealth of Virginia (see PHYSICS TODAY, January 2014, page 22). That new academy is not affiliated with the Virginia Academy of Science (VAS), an organization that has been in place for the past 92 years. The membership of VAS is open to all scientists and people interested in science in Virginia, from faculty and research scientists to postdocs and graduate and undergraduate students, as well as business professionals and others who support our mission. We also welcome middle school and high school students and their teachers as members of our Virginia Junior Academy of Science.

The mission of VAS is to promote research and education in science, technology, engineering, math, and health (STEMH) in Virginia through grants, publications, and meetings. We welcome VASEM as a new academy in Virginia and look forward to working with them to increase STEMH activities in the state.

Deborah A. O'Dell

(dodell@umw.edu)
Virginia Academy of Science and
University of Mary Washington
Fredericksburg, Virginia ■