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Sound Samplers: Descriptions of Some Third-Party Products

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MacLab System from WPI Instruments, Inc.

ADC and DAC in a box that connects to modem port of any Mac.
Sample rates to 40k/sec.
Comes with wave display and wave statistics software.

LabMaster II from Scientific Solutions

NuBus board for Mac II.
12-bit ADC, Two 12-bit DAC's, 24 lines of digital I/O, Five 16-bit counter/timers. Sample rates to 40k/sec. (100k/sec. with TM-100 option). Comes with "device drivers for multi-language application development."

MacAdios 411 from GW Instruments, Inc.

Add-on box that connects to modem port of Mac 128, 512, Plus or SE.
12-bit ADC and DAC, with 8 differential input channels and 4 output channels. Sample rates to 20,833/sec. 16 digital input lines, 16 digital output lines. Interface code in Microsoft BASIC and Aztec C, library of data acquisition/analysis routines.

MacAdios II from GW Instruments, Inc.

NuBus board for Mac II.
12-bit ADC and DAC, with 16 single-ended input channels. (8 differential) and 2 output channels. Sample rates to 142k/sec.
8 digital input lines, 8 digital output lines. 3 15-bit counter/timers.
Up to 3 optional daughter boards can be added:
12-bit, 833k/sec ADC
12-bit, 142k/sec ADC
16-bit, 100k/sec DAC
16-bit, 16k/sec DAC
16-bit, 50k/sec ADC

Multiplexor card (additional 32 single-ended, or 16 diff. inputs)
Digital I/O (additional 16 digital inputs and 16 digital outputs)
Analog filter (programmable lowpass)
Prototype card

Interface routines callable from Aztec C, Consulair C, Microsoft BASIC, DCM FORTRAN, Lightspeed Pascal, Lightspeed C, library of data acquisition/analysis routines.

National Instruments NB-MIO-16 from National Instruments, Inc.

NuBus board for Mac II.

12-bit ADC with 16 single-ended input channels (8 differential).

2 12-bit DACs, 8 digital I/O lines, 3 16-bit counter/timers.

Sample rates to 40k/sec. Up to 111k/sec with optional convertors.

Can be set up for DMA if used with NB-DMA-8 controller card.

Strawberry Tree ACM2-12 and ACM2-16 from Strawberry Tree Computers

NuBus boards for Mac II.

Each has ADC and DAC. Number of analog and digital I/O channels depends on board option selected. Sample rates up to 500k/sec.

ACM2-12 is 12-bit, ACM2-16 is 16-bit. On-board counter/timer.

Strawberry Tree ACSE-12 and ACSE-16 from Strawberry Tree Computers

Plug-in boards for Mac SE.

ADC with 8 differential input channels. 10k/sec. sampling rate.

ACSE-12 is 12-bit, ACSE-16 is 16-bit.

8 digital I/O lines. On-board counter/timer.

Comments

The GW Instruments MacAdios 411 box which has MacSpeech Lab software and MacSpeech Lab II for the Mac II. The MacSpeech Lab II package is useful for analyzing and editing digitized waveforms, especially speech or animal vocalizations. It has time-domain waveform displays, FFT, LPC, envelope and energy displays, and a grayscale spectrogram display.

The GW hardware and the boards from National Instruments can be used with the LabView software package from National. LabView is a Macintosh-like system for configuring data acquisition systems by connecting icons in a dataflow diagram. Strawberry Tree has a somewhat similar software package called "Analog Connection Workbench" that works with their hardware.

One bit of warning for anyone considering the purchase of a 16-bit sampling device that plugs into a computer slot. Just because the board has 16 bits of resolution does NOT mean that you can obtain 16-bits worth of wideband signal-to-noise ratio from it. That takes some very careful design work. Often, designers of these products are not primarily concerned with this kind of compact-disc-like noise level.

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