



Volume VII, No.3

# DAC DIGEST



June, 2000

**DIGITAL AUDIO CORPORATION**  
A DRI COMPANY

*"Principal Supplier of Audio Enhancement Technology to Law Enforcement and Security Agencies Worldwide"*

## NEWS

### **Craig Scates, New DAC GM!** **Craig will report to work 1 June . . .**



*Meet Craig Scates . . .*

Craig has an MBA from the University of Tampa, with concentration in Marketing and Management Psychology. He graduated cum laude from Florida Southern College with concentrations in Computer Information Systems and Finance. He has extensive knowledge of voice and data networking, computer hardware, and software, and has excellent aptitude for interfacing with DAC's types of customers.

Craig replaces the former GM, Mike Connor, who resigned on 4 January 2000 and now works for Signalscape, Inc.

Please join all the DAC employees in welcoming Craig and his family into the DAC/DRI team!



## PRODUCTS

### **Introducing SAM II Speech Activity Monitor!** **DAC's first audio collection product . . .**

**D**AC is pleased to announce the first member of its new line of audio collection products, the SAM II Speech Activity Monitor. Unlike most of DAC's other products, SAM's DSP processing does NOT filter the audio, but instead detects the presence of speech on a line-level audio signal and provides the operator with both audible and visual alerting. It has two modes of operation: AUTOMATIC and MANUAL.

In the MANUAL mode, once the operator has been alerted to the presence of speech on the line-level input signal, he/she can then press the START/STOP button, which can be used to activate an external tape recorder by closing the SAM's built-in relay. There is an inherent "minimize" feature, in that the audio will not be present on the SAM's line outputs until the relay is closed and the

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### **DAC DIGEST**

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For information, free subscription, and/or comments contact:

**DIGITAL AUDIO CORPORATION**  
5121 Holly Ridge Drive  
Raleigh, NC 27612  
Phone: 919 782 6767  
Toll Free Phone: 877 5DACAUD  
Fax: 919 782 6766  
Toll Free Fax: 877 5DACFAX

Email contacts:

General information:  
info@dacaudio.com

Sales & Marketing:  
sales@dacaudio.com

Technical inquiries:  
tech@dacaudio.com

Website:  
www.dacaudio.com

DAC is pleased to announce that Craig Scates has been named to fill the General Manager position at DAC. Craig will report to work on 1 June 2000, at which time Don Tunstall, DAC's Chief Engineer and General Manager (Acting), will begin turning over the reins and returning to his normal product development and customer support role (see "Message from Don", back page).

Craig and his wife, Susan, are the proud parents of 10-month-old TRIPLETS, and are presently relocating to the Raleigh area. Craig is presently Director, Public Safety and Law Enforcement Markets, at DynCorp in the Washington, DC area. Prior to DynCorp, Craig was with GTE Government Systems, where he was Marketing Development Manager and worked with customers such as the US Department of Justice. Throughout his experience, Craig has developed good relationships with major federal law enforcement agencies such as the FBI.

RECORD LED is illuminated.

In the AUTOMATIC mode, SAM does everything on its own, making it suitable for unmanned recording operations. Whenever it detects speech, it will automatically queue it in a 10-second internal solid-state buffer, then turn on the external recorder whenever either the buffer is full or the 15-minute timeout period has expired. In AUTO mode, pushing the START/STOP button will force any audio remaining in the buffer to be recorded to tape.

Key features of the SAM II include:

- Compact packaging – unit measures 1.5”H x 4”W x 4.4”D
- 9-18VDC powered (universal AC adaptor included)
- Balanced analog input and output
- QUIET/NOISY switch, which configures the unit for optimum performance on either quiet or noisy audio signals
- Audible “buzzer” activity alarm, which can be disabled by front panel switch
- High-intensity ACTIVITY LED
- 5kHz audio bandwidth
- Built-in delay to allow recorder time to start up after speech is detected

Please contact DAC or any of its dealers for further information and pricing.



SAM's front panel . . .

## **DAC School Raleigh x 2** **Two spring sessions this year.....**

**T**his year, two DAC Schools were held here in Raleigh, NC: one in April and one in May. Both schools were conducted at the Sheraton Four Points hotel near the DAC facility, and were taught by DAC's founder, Dr. Jim Paul. Assisting Jim in the lecture and laboratories was Don Tunstall, DAC's Chief Engineer and General Manager (Acting).


As in the two Australia DAC Schools that were held in March, the new instruction format was used. A complete PCAP II workstation was provided for each pair of stu-



The DAC School classroom . . .

dents, which guaranteed plenty of hands-on time. All the students seemed to be pleased with the material that was presented, and all left eager to go home and use what they had learned.

A total of 29 students, including DAC's newest engineer, Michael Erwin, attended the school. Following the first two rigorous days of lecture for each school, DAC provided a hospitality suite with wine, soda, beer, and snacks; just the thing for unwinding after a long day! On the third evening of each school, DAC provided its famous NC Barbecue "Pig Pickin," which was catered by Don Murray's Barbecue, a famous Raleigh landmark. All seemed pleased with the good food and conversation, and the weather cooperated in both cases!

Next year's Raleigh DAC School is planned for the week of April 2-6, 2001. This year, we are also planning a UK DAC School to be held at Northumbria Police Headquarters in Ponteland, near the Newcastle International Airport, the week of September 25-29 2000. Please contact DAC today for further information on the 2001 Raleigh DAC School. For further information on the UK DAC School, please contact our UK dealer, Greg Griffiths, at (44) 154 7 5 6 0112. 

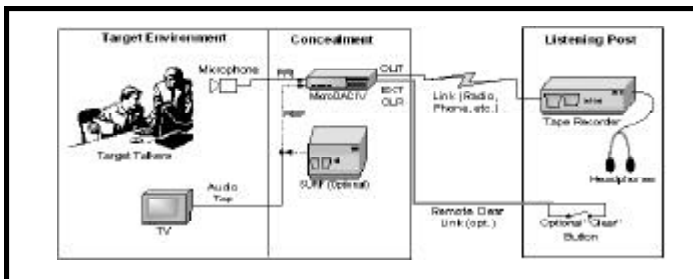


IntelliDAC Master Control Screen . . .

## ***“Sharp End” Processing with MicroDAC IV***

**D**AC's MicroDAC IV, which was first introduced in our Summer, 1999 newsletter, is designed to meet the specific requirements of “sharp end” surveillance processing. By sharp end processing, we mean that the unit is designed to be installed at or near the actual microphone, essentially becoming part of the microphone system, ahead of any special link that might be used to get the processed audio back to the listening post or central collection point.

Study the “Sharp End Processing Configuration” diagram; you will note that in most cases, the listening post needs



*Scenario using sharp end technology . . .*

only one wire pair (or other special link, e.g., radio) to get the 2CH-processed audio back for recording and monitoring. A second “dry” wire pair can be optionally used to remotely clear the MicroDAC IV's adaptive filter by contact closure, but with the special “crash detect” automatic clearing mechanism that is built into the unit, this will

generally not be needed.

For the 2CH “REF” input of the MicroDAC IV, there are two viable options for obtaining the signal: first, the actual TV/radio audio (or other interfering audio source) could be tapped into and fed directly into the unit. Alternatively, DAC's Sequential Unknown Reference Finder (SURF) product could be used to automatically determine the TV channel being viewed and provide the audio for that channel to the MicroDAC IV. Either way, the 2CH processor will automatically cancel the interfering audio source, leaving only the remaining signals (i.e., the people talking) to be output to the link.

Other features that make the MicroDAC IV ideal for this type of processing include:

- 9-18VDC power, allows for installation in vehicles to cancel audio from the stereo system
- Built-in Reference Compensation and AGC, makes input level adjustments non-critical
- Lockable panel controls, prevents accidental changes during installation
- Small, rugged packaging, and
- Lowest price 2CH processor DAC has ever produced

For further information on either the MicroDAC IV or the SURF, please contact DAC (or your in-country dealer) today, or visit our website at [www.dacaudio.com](http://www.dacaudio.com).



## ***INTRODUCING INTELLIDAC!***

***New approach, new capabilities . . .***

**D**ac has joined forces with Intelligent Devices, Inc. to create a revolutionary new forensic tool. With a similar control screen to DAC's popular PCAP and MCAP products, IntelliDAC is totally Windows™ software-based, and will run on any standard laptop or desktop PC with at least a 450 MHz Pentium™ processor and a sound card. (See photo, p. 2.)

IntelliDAC utilizes frequency-domain processing techniques, which allows it to implement special broadband noise reduction algorithms that are not practical to implement in the time-domain. These techniques are also computationally-efficient, which allows them to be implemented at real-time speed on today's desktop and laptop PCs. Both monaural and stereo processing are supported.

In a manner similar to the PCAP and MCAP products, all controls are logically organized on the Windows™ screen, and the effects of all control changes can be heard instantly in the output audio. Each filtering module can be clicked in or out as needed, and a special “Reject” feature allows the operator to hear the audio that is being removed by each module. As on the PCAP, complete filtering setups can be saved to disk files for later recall, and hard copy reports can be generated.

Special filtering modules include:

- Tone removal tool, which automatically identifies tonal noises based on their persistence in the signal and applies as many notch filters as necessary to remove them.
- 2048 Band Noise Reduction tool, with which the user can build a spectral profile of the background noise when speech is not present; then when speech is present, any spectrum that falls below that profile is considered noise and is attenuated, whereas any spectrum above the profile is considered speech, and is left intact.
- Intelligent Noise Reduction tool with which the user first utilizes simple controls to teach the IntelliDAC how to distinguish speech from noise; then an automatic algorithm makes intelligent decisions on how to separate the noise from the signal and leave, ideally, only the speech. Other controls specify the degree of noise reduction that the algorithm can apply.

Other included modules allows bandpass filtering, parametric equalization and automatic gain control. Contact DAC today for brochures and/or pricing.



## ***Message from Don***



As you all are aware, I have been acting General Manager here at DAC these past few months since Mike's resignation. In this time, I have been faced with several interesting challenges, including putting on THREE DAC Schools (1 in Australia, two in Raleigh) and planning DAC's exhibit for the upcoming NATIA show in Albuquerque (August 1-3 2000), which by the way, will be the best one yet. All while I have continued to be Chief Engineer and manage the development of six new product designs (stay tuned!) and several software upgrades....what a year so far!!

But now that the Executive Search is complete and Craig Scates has been named to the GM position, I'd just like to take this opportunity to thank both Dave Turney, CEO of Digital Recorders, Inc., and Dr. James E. Paul, DAC's Founder and Chief Scientist, for having the confidence in me to let me run the company these last five months. I greatly appreciate all the support that I have received not only from the employees and management of our company, but from you our dealers and customers as well. It has been a great learning experience that I will never forget.

Right now, though, I am looking forward to redevoting my energy to the job I do best, which is creating the next generation of DAC products and services. See you at NATIA!



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**A DRI Company  
5121 Holly Ridge Drive  
Raleigh, NC 27612**