CAN YOU HEAR ME NOW? – CLEAR VOICE INPUT with ADI DSPs
Acoustic Magic makes 8 channel array microphones that enhance user productivity, provide freedom and improve voice recognition quality

Clear Voice Performance - More Important Than Ever Before
With today's communication devices operating at the highest levels of usage and complexity ever known to man, "voice performance" has become at the least a concern and at the most an obsession. From "smart" homes with voice command & control to better teleconferencing devices for long distance group meetings, higher quality voice technology is making a début if not taking up a permanent residence. As voice recognition software accuracy improves, those who use it are demanding an easy way to fit it into their lives. This is the vision behind Acoustic Magic's Voice Tracker™ array microphone which is designed to maximize voice performance and give the user freedom from headsets and handheld microphones.

An Eight Channel Array at a Reasonable Price
In June of 2000, Acoustic Magic licensed the basic array technology from Brown University with a vision to create a family of superior "far talking" microphones optimized for specific applications from speech recognition to teleconferencing to voice over IP. They started with the prototypes built at Brown and then called in engineering experts to help them make their vision a reality. The ADI and Acoustic Magic engineers were challenged with porting from a floating point to a fixed point DSP and to write the program so that it fit in the memory of the ADSP 2185. They also faced a goal to hit the market with a development timetable of six months. "ADI provided excellent application support in terms of also helping us choose the correct A to D converters and getting them to work with the DSP", explains Bob Feingold, Acoustic Magic's CEO. "This kept costs in line and more importantly, decreased our time to market."

ADI DSP Technology and Headset –Like Performance
With the help of Analog Devices DSP technology, the Voice Tracker™ improves signal-to-noise ratios in two ways. First, the digital signal processor creates a listening beam (like a search light) that focuses on the talker and spatially filters noise from other directions. Second, its proprietary noise reduction algorithms filter out background noise and reverberations that are present in the acoustic environment. The Voice Tracker™ also contains the largest number of array elements available today, which, when combined with its two stage noise reduction algorithms, give it the longest effective range of any array microphone. When making their technology decisions and comparing the leading technologies available, Acoustic Magic made a number of careful considerations. In the end, they chose the ADI products because "we believe ADI is the leader in DSP. With their family of products you can move up and down the product line for the right mix of memory, speed and price"

Future Integration – Array Microphones Inside Application-Specific Devices
In the future, the Acoustic Magic team, along with Analog Devices, look forward to integrating the array microphone inside application-specific devices. In these "embedded" products, the ADI DSP might be shared with other functions. "ADI is a good partner for this as we move forward" added Feingold, "some of the features we may want to add to our microphone, such as acoustic echo cancellation for videoconferencing, already exists in the ADI algorithm/product portfolio, and can easily be added to our product. Or, other products using ADI DSPs can "drop in" our array mic algorithms and improve their Voice Performance. Together we plan to continue to lead this market"