As an associate editor of *IEEE Consumer Electronics Magazine*, I have been approached by many companies to provide reviews of their products. What I hope to do is provide an unbiased review of these products with my own tests and experiences for you to consider. These products, for the most part, were provided by the company at no charge to me, but I will not let that influence the reviews; they will be as positive or negative as I see fit. If there are any consumer electronics products that you would like me to review in the future, let me know, and I will try to get them to test.

**MXL AC-406 PROFESSIONAL SERIES**

The content list on the box of the MXL AC-406 Professional Series [USB desktop speakerphone (www.mxlmics.com)] includes the device (AC-406), a USB cable, and a microfiber cleaning cloth. My box did not include a cloth, but I did get a nice sticker that says “MXL” on it. Photographs of the product from two different angles are shown in Figures 1 and 2. The USB cable is 3-m long (9 ft 9 in). The test platform was a PC with Windows 7 Home Premium, 64-b i7-2630QM CPU at 2.00 GHz, and 8.0 GB of installed RAM. The test program was Skype 6.1.0.129. Skype found the new device, USB audio codec for the microphone, and USB audio codec for the speaker. I clicked “yes” for Skype to use both.

I found that other than the normal click–pop of using voice over IP (VoIP) on the landline side, the VoIP line was quite clear. There was roughly 500 ms of delay as would be expected from the USB-based physical layer technology, as the USB seems to be USB 2.0 full speed at 12 Mb/s. The mute button worked quite well.

I tried to speak with my team in India, but the amount of squeaks and pops made it difficult and was most likely attributable to the Internet connection, which can be sporadic sometimes when making calls to locales such as China, India, or third-world countries. Having said that, I didn’t get to try the mic on a call to someone in the United States. In other use scenarios, the AC-406 was quiet and did not have any squeaks and pops. When I tried using the device with WebEx, it worked fine as long as the device was at least 5 ft away from the hosting PC. The experience with the PC was a total failure, as its speaker and microphone caused an audio loopback effect. After further tests in the scenario where the AC-406 was placed immediately next to the computer, I found that muting the internal speaker via the computer audio control panel eliminated all feedback that occurred due to having the AC-406 too close to the speaker, as two speakers placed immediately next to each other typically will feed back. In another scenario, I found that the AC-406 performed well when placed on a conference table, where it can pick up several people sitting at chairs around the room with good sound quality both listening and being heard clearly by those on the other end of the call. I also experienced that, after muting the internal speakers of the computer and playing music, the AC-406 sounded very good for playback on the desktop compared to the lesser quality of the internal speakers.
As can be seen in Figure 2, there seems to be an option for an external microphone input and an external speaker/headphone output.

Overall, this product is good for a small office/home office (SOHO) or a medium-sized office application where four to eight people are sitting around a conference table and need a good quality and affordable boundary mic solution for Web conferencing or for someone who needs an accurate microphone for speech-to-text software. It’s also a good solution if you want to bypass the internal speakers of a computer and receive better quality playback sound for music. I found the AC-406 for US$119.95 at the Marshall Electronics Site (OEM for the product), though I found it for US$89.99 at the Staples Web site, which included free shipping. This does give SOHOs and medium-sized businesses a larger solution for a much smaller cost, as compared to some of the more expensive solutions available from Cisco or Polycom.

The views expressed in the article are those of William J. Lumpkins Sr. and do not reflect positively or negatively on the position of the IEEE Consumer Electronics Society.

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William Lumpkins (xillia@ieee.org) is the lead technical consultant for Wi2Wi, Inc. He is an associate editor of IEEE Consumer Electronics Magazine. He is a Senior Member of the IEEE and the IEEE Consumer Electronics Society Standards Committee chair.

FIGURE 2. The back view the MXL AC-406. (Image courtesy of MXL.)

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