



USB Soundcard FACE-OFF

[SpeechWare SpeechMatic MultiAdapter](#) & [Andrea PureAudio USB-MA](#)

March 11, 2023

Introduction:

While preparing to review the new SpeechWare SpeechMatic USB MultiAdapter soundcard, it occurred to me that the most effective way to do so would be in the context of all the top rated speech recognition USB soundcards.

The following review consists of 3 parts:

- (1) My personal take on the [evolution of speech recognition soundcards](#)
- (2) The [Pros and Cons](#) of what a general consensus of many top speech recognition experts believe to be the *top four USB soundcards*
- (3) My personal [assessment](#) of what the numbers mean

If you wish to skip past the brief USB soundcard history, click [Pros and Cons](#). If you wish to skip further ahead to my conclusions, click [recommendations](#).

Note: that while only one of these USB soundcards could achieve the 1st place overall rating, each is still an excellent choice for speech recognition.

Evolution of USB Soundcards

When we first began using DragonDictate speech recognition software in the 1980's, it seemed to be incredibly impressive technology. Never minding the very deliberate pause after each and every word, we waited with baited breath to see another (hopefully correct) word miraculously appear on our somewhat blurry little screens. It was fun! It was frustrating! It was not very

practical. Back then, the couple of wired analog headset microphone choices available to us were more than adequate.

In 1996, NaturallySpeaking continuous speech recognition was released. With the emergence of this new technology, we had a viable tool for professional as well as personal use. That being the case, we needed microphones and soundcards designed to better utilize this increasingly more sophisticated software. Microphone manufacturers responded, with USB soundcard manufacturers following close behind. The 1st USB soundcard was a large black plastic contraption, manufactured by Telex. While great in theory, in practice it was actually worse than most integrated soundcards. In 2000, Telex released the H-531 USB headset microphone. This was much smaller but included a substandard (consumer grade) microphone element which was not much bigger than the head of a pin and produced barely acceptable accuracy. While Telex stopped producing USB soundcards before the release of Windows XP, they had at least gotten the ball rolling. Companies like Andrea Electronics and VXI then picked up the slack and additional companies have since jumped on the bandwagon. They've come a long way since the 1st USB microphone came out in the late 90s.

Today, a USB soundcard just might be your best option if:

- Your desktop computer doesn't have a Sound Blaster PCI soundcard
- Your desktop computer is one of the 99.9% of computers that includes an integrated soundcard (which we don't recommend using)
- You are using a tablet or notebook computer (as they all have integrated soundcards)
- Getting the highest possible accuracy from your speech software is of the utmost importance to you
- You are using a Mac computer
- You are using one of many of the latest notebook computers, which no longer support standard microphone input

Below are the pros and cons of what a general consensus of many speech recognition experts believe to be the top 5 desktop microphones. This is followed by our recommendations (rated from 1st through 5th place).

Pros & Cons

Andrea Electronics PureAudio



MSRP: \$45

Noise Floor: Low (lower is better)

Noise Filtering: None

Overall Rating: 9 out of 10



Andrea Electronics PureAudio Pros:

- Lowest priced
- Smallest profile
- Choice between SA Model Full-duplex (both sound in and sound out) and MA Model Half-duplex (sound input only)
- 1 year manufacturer warranty

Andrea Electronics PureAudio SA & MA Cons:

- None

SpeechWare SpeechMatic MultiAdapter



MSRP: \$139

Noise Floor: Exceptionally Low (lower is better)

Noise Filtering: Broad Band Noise Filtering

Overall Rating: 10 out of 10



SpeechWare SpeechMatic MultiAdapter Pros:

- 3 Color Dual indicator lights for on, muted and bypass
- **Auto-Volume Input Gain**
- **Auto-EQ**
- **De-Clicking Algorithm**
- Circuit board with NaturallySpeaking 11/12 built-in algorithms

- Detachable USB Extension cable
- 90° USB elbow extension
- **2 year manufacturer warranty**

SpeechWare SpeechMatic MultiAdapter Cons:

- Expensive

Conclusions:

1st Place ~ SpeechWare SpeechMatic MultiAdapter ([Click to See](#))

With the exception of adding (various) LED indicator lights and high fidelity stereo playback, USB soundcards remained unchanged over the past decade. In the past, if you had a Turtle Beach or Sound Blaster PCI soundcard, it was the same quality as a USB soundcard. With the introduction of the innovative SpeechMatic MultiAdapter, that is no longer the case. We can finally say that one USB soundcard is better than any other PCI or USB soundcard. The SpeechMatic MultiAdapter literally broke new ground by introducing several new technologies. SpeechWare prefers not to refer to the SpeechMatic MultiAdapter as a USB soundcard because it is so much more. Besides the usual USB soundcard amenities, the MultiAdapter also includes a number of unique and exclusive features including:

- *Auto gain control*
- *Auto EQ*
- *Dedicated circuit board with NaturallySpeaking algorithms*
- *De-clicking algorithm*
- *Detachable USB extension cord*
- *90° USB elbow extension*
- *Broadband noise filtering*
- *Bypass mode*

When you run the NaturallySpeaking Audio Check, you can see the blue bar bouncing up and down even as you do your best to maintain a steady volume level. Simply put, maintaining a steady volume level is not possible. Because of this, NaturallySpeaking measures your highest and lowest volume levels and averages the two scores for a less-than-perfect estimate. The SpeechMatic MultiAdapter auto gain control is similar to the auto volume

control found on cassette recorders as far back as the early 70s. It is extremely fast and effective. To give you some idea of how effective it is, when using the MultiAdapter with most headset microphones, you can actually remove the headset, place it on your desktop and continue dictating from about 12 inches away. Your accuracy won't be quite as high as wearing the headset, but trying that with any other soundcard would likely result in unacceptable accuracy. Because of built-in amplification, the SpeechMatic MultiAdapter auto gain control is ideally suited to soft voices. It can double or even triple the pickup range of short range microphones such as the Sennheiser MD431 II.

As you move away from a microphone, the volume level of your voice doesn't just drop. Your voice also begins to sound thin, or less robust (for lack of a better term). Auto EQ boosts your vocal midrange as you lower your voice or move away from the microphone. In other words, simply amplifying your voice as you speak lower isn't quite enough. Auto EQ and auto gain control work hand-in-hand.

With other soundcards, leaving your microphone on while clearing your throat or setting a drink down on the table can result in unwanted dictation because NaturallySpeaking interprets those sounds as words.

NaturallySpeaking 11 introduced a "Nothing But Words" algorithm that works fairly well at differentiating dictation from noise. Unfortunately, it can take up to 4 seconds to process that information. The MultiAdapter de-clicking algorithm works in much the same way, but only takes about 1/10 of a second and can prevent unwanted noise from even reaching NaturallySpeaking.

The SpeechMatic MultiAdapter isn't the first USB soundcard to introduce noise filtering. That distinction belongs to the Buddy 7G. But while the Buddy 7G is unbeatable at filtering out machine noise, the MultiAdapter incorporates Broadband noise filtering which is more effective at blocking out music and typical day-to-day environmental noise.

Unlike other USB soundcards, the SpeechMatic MultiAdapter actually changes the characteristics of your voice. If you play back a recording of your voice in the greenlight mode, with all the specialty effects, it will sound a bit thin because the sound of your voice is being altered (tweaked) to increase your NaturallySpeaking accuracy. While this is effective for speech

recognition, it is not ideally suited to uses such as VoIP and gaming. For this reason, the MultiAdapter additionally includes a [blue light bypass mode](#). This, as the name implies, bypasses the special effects. Note that for the purposes of speech recognition, most of our tests were performed exclusively in the greenlight mode which is also perfect for end-users with soft voices and can even extend the pickup distance on short range microphones like the Sennheiser MD431 II.

Bottom line: The SpeechMatic MultiAdapter is significantly higher priced than other USB soundcards because it is unlike any other USB soundcard and **not just a USB soundcard**. You might not be able to justify the expense for consumer use but if speech recognition plays a significant role in your workflow and you're not already using a SpeechWare TableMike or [TravelMike](#) (which includes this technology), this is a must-have soundcard. While each end-user will experience different results, our tests, showed accuracy improved by a full **1%** over other USB soundcards. That may not sound like much, but it's the difference between 97% and 98% accuracy (a noticeable improvement). **These results actually meant more than 25% fewer errors for our testers!** Additional manufacturer information available at www.TableMike.com

This review was dictated with the new SpeechWare [FlexyMike DE](#) microphone (due to be released on September 1, 2013) and the [SpeechWare MultiAdapter](#) USB soundcard (due to be released on August 22, 2013). By the time I finished testing the SpeechMatic MultiAdapter, it had become my soundcard of choice ☺

2nd Place ~ PureAudio ([Click to See](#))

The 2 PureAudio models are the best bang for the buck, with the half duplex MA model coming in at under \$40. The PureAudio models also place high for smallest profile/most portable; although all USB soundcards are relatively small. Additional manufacturer information available at <http://www.andraeelectronics.com/>

Previous Reviews:

If you would like to see some of our previous reviews check out the following:

[KnowBrainer TableMike Face-Off](#)

[KnowBrainer Handheld Microphone Face-Off](#)

[KnowBrainer Headset Microphone Face-Off](#)

[KnowBrainer Digital Recorder Face-Off](#)

[KnowBrainer Digital Recorder Face-Off](#)

[KnowBrainer Wireless Headset Face-Off](#)

[KnowBrainer USB Soundcard Face-Off](#)

Current Gold Standards:

The following is a list of speech recognition add-ons that we consider to be #1 in their microphone categories

Best Wireless Microphone = [Shokz OpenComm UC](#) *Bone Conduction Bluetooth headset*

Best Handheld USB Microphone = [Philips SpeechMike Premium SMP3710](#)

Best USB TableMikes = [SpeechWare](#) (*TravelMike, 3-in-1 & 6-in-1*)

Best Wired Headset Microphone = [Addasound](#) (*single ear & stereo*)

Best USB soundcard = [SpeechWare MultiAdapter](#)

Best Digital Recorder = [Olympus DS-9500](#)

Best Speech Recognition Application = [Dragon 16](#)

Best Dragon Command Utility = [KnowBrainer 2022](#)

[Lunis Orcutt](#) - Developer of [KnowBrainer 2022](#)

Founder of [KnowBrainer Speech Recognition Forums](#) (*the world's most popular speech recognition forum*)

[Chat Live](#) w/a Microsoft/Nuance Certified Speech Recognition Solutions Provider or call (615) 884-4558 x1 to speak with the world's most insufferable egotistical "so-called" speech recognition expert

Edited by Big Haired Lady (barefooted shotgun wedding wife since 1977)

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