Philips SpeechMike Air: A Review

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Overview:

The Philips SpeechMike Air is an extremely high-quality hand-held microphone that will work with all versions of Dragon. It is highly accurate, very simple to use and average in noise canceling ability. Its retail price is a substantial $499 but for those needing the unique qualities of this microphone, it may be worth every penny.

Introduction:

Although head-mounted microphones have been the general standard in interfacing with a personal computer, increasingly users have sought a microphone that does not need to be repeatedly attached and removed. In addition, many users prefer not to be "tethered" to the computer with a wired set-up. To date, only the Grundig CordEx has filled the wireless hand-held microphone category.

The Philips SpeechMike Air is the latest entry to this category and clearly sets itself apart in terms of appearance, functionality, and quality when used with speech recognition software. It is manufactured in 3 versions depending upon the desired button interface. For speech recognition users, the LFH-3000 (which includes only button and not a slide switch) appears to be the most practical model and is reviewed here.

Form:

Physically, the SpeechMike Air broadcasts a strong feeling of quality. In your hands, the microphone has a solid and substantial feel to it.

Functionality:

Beyond the basics of an on-board microphone and speaker (described in more detail in the section describing use with speech recognition software), the hand-held unit includes several key components including:

- Trackball
- Left and right click buttons
- 10 additional buttons which can be programmed
- Battery status indicator light
- Microphone transmission indicator light
- Bluetooth connection indicator LED
- 3.5 jack for insertion of an external microphone
- Battery compartment (hold 2 AAA batteries – either standard or provided rechargeable nickel metal hydride batteries)
- Connection point for hand or neck strap
- Power jack for optional direct 6VDC charging of the mic
- Synchronization slot on bottom of mic for connection with base station

The base station includes the following:

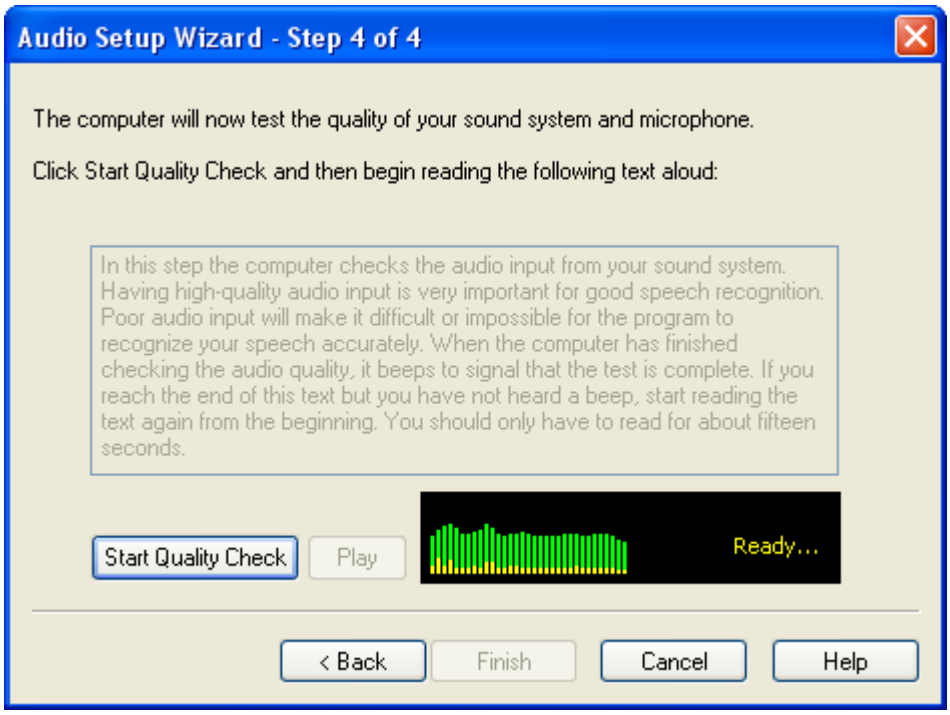
- A large slot for accepting the hand-held microphone
- A smaller slot for accepting the "SpeechMike Airbridge" which is responsible for the wireless connection with the microphone (and which can be detached, interfaced with the PC via a short included USB cable and used free of the base station if desired)
- A power jack for connection with the AC adapter
- A small USB jack for connection via cable to the PC USB port

Also included with the product are the following:

- A stiff leather case which for the mobile user can hold the microphone, the Airbridge, and a short USB connecting cable to attach the airbridge to a PC USB port
- A software disk(including the Philips Device Control Center software for programming the device for functionality in a variety of software environments; it also includes the user manual in many languages
- A variety of power adapters for use of the product worldwide

Use with Speech Recognition Software

We have tested this product only with Dragon NaturallySpeaking and hope others will report on experience with ViaVoice and Windows Speech Recognition. We have been very favorable impressed with the accuracy of this microphone with Dragon. Although we take the numbers with a gain of salt, we get very favorable results when running the basic Audio Set-up Wizard, with a very low noise floor (see below). Typical speech to noise ratios are in the 24-26 range.



Actual results when dictating have been extremely favorable and essentially as good as we see with any high quality microphone. On 5 readings of the Rainbow Passage, we get an average accuracy of 99%. We saw slightly lower results with general medical dictation, although this was conducted in a louder environment with considerably more external noise (see discussion below on external noise rejection). Accuracy will clearly fall as you increase the distance from the AirBridge, but within a 10 ft. range or so, we saw nearly flawless operation.

Examples of dictation with the SpeechMike Air can be viewed at these two links:

General Medical Dictation
General (non-medical) Dictation

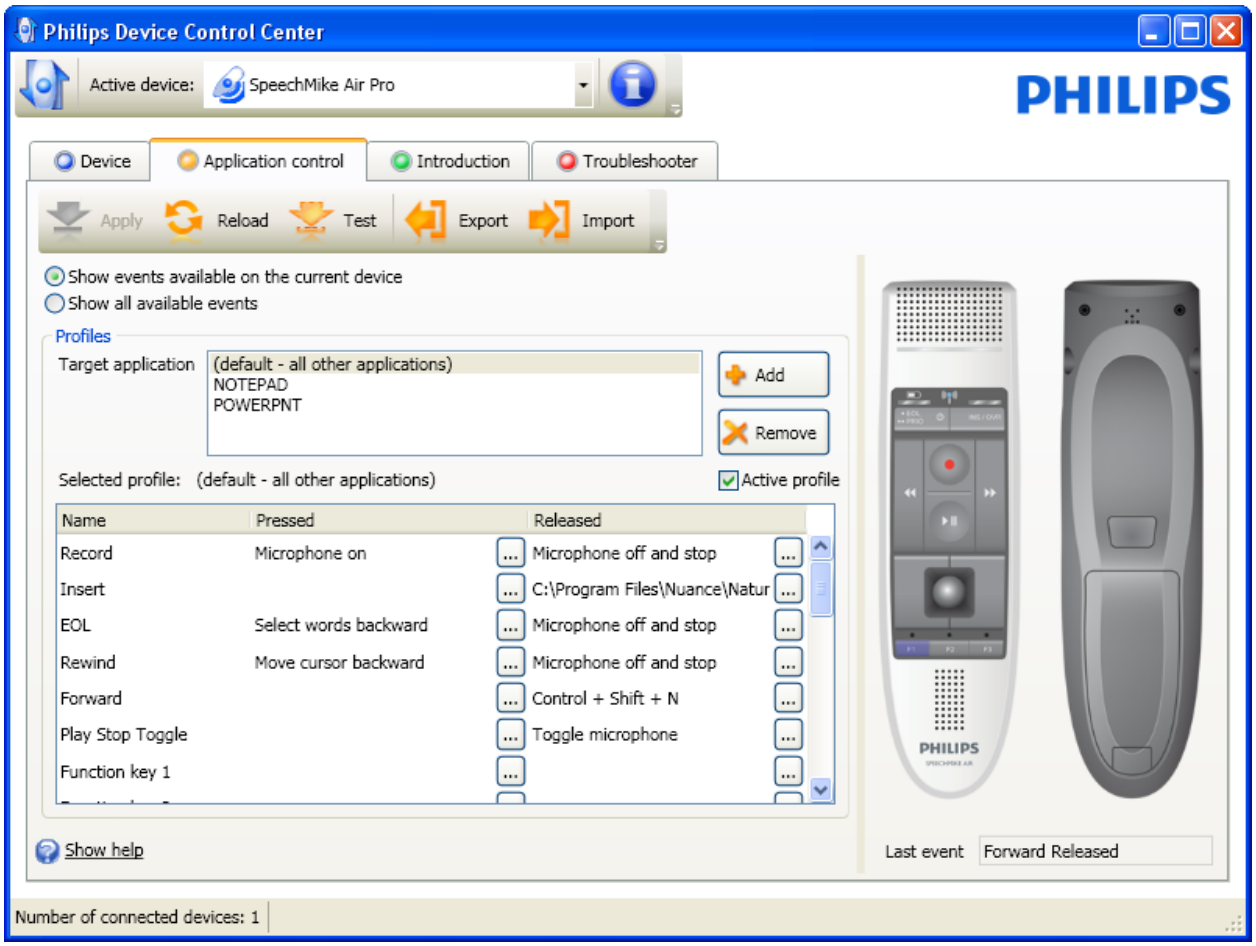
Noise Canceling Qualities: If this microphone has any weakness, it is the noise canceling qualities. While we consider the noise cancelation entirely adequate and better than that seen in the wired SpeechMike microphones, we wish it were a bit more robust. This having been said, with one of the keys programmed in the “push-to-talk” mode to prevent the microphone from staying on when not actively

dictating, we have had no problems using this microphone in real-life dictating on a fairly loud hospital ward.

Programming Keys on the SpeechMike Air:

Using the included Philips Device Control Center software, you can program each of the buttons on the SpeechMike air to do a variety of things. The included software allows you to create specific programming profiles to allow different functioning in different software environment. So for instance when in PowerPoint, the fast-forward button can be used to advance slides, while in other applications (default setting) it can emulate the ctrl + Shift + N to advance through navigation fields in a document. The ability to have application-specific programming is a significant plus for this product.

Overview of the Philips Device Control Center:

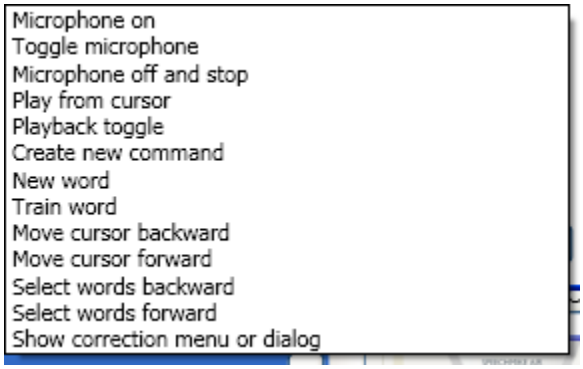


What are the possibilities for programming of the buttons? Here are the basic categories you are provided:

- Hotkey (including ability of adding modifiers such as ctrl, alt, shift and windows key)

- Text (maximum of 37 characters during our testing)
- Start application
- Mouse button
- Dragon NaturallySpeaking Command
- Delay

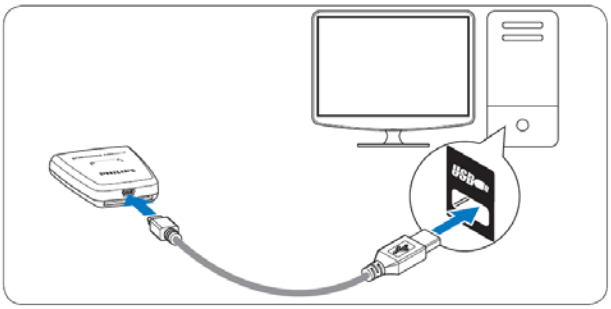
The specific options with the “Dragon NaturallySpeaking Command” category are shown below:



For each key, you can assign a command for either depressing or releasing the key. Further, for each key, your may add more than one of the above and may include a sequence of operations. A unique functionality is the ability to save your configuration settings and import them into another device or share these with a colleague.

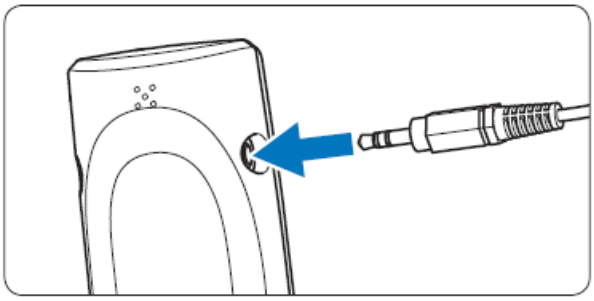
Portable Usage:

Although the fixed base user will likely prefer to use the included base-station attached to a PC using the USB cable, it is possible to use this microphone without the base-station, using only the “Airbridge” attached to your pc as shown below. In this arrangement, your microphone will communicate with our pc via the Airbridge. In fact, the leather case which comes with the SpeechMike Air includes compartments for the microphone, the Airbridge, and the short USB cable. If mobile in this fashion, you cannot charge the microphone by means of USB alone. You will either need to carry 2 AAA batteries or bring the AC adapter (which can plug into the base station or directly into the microphone. Interestingly, though, when using the microphone



Using the SpeechMike Air with other Microphones

A unique feature of the SpeechMike air is the presence of a microphone input jack on the left side near the top. Plugging another microphone into this jack will cut off the built in microphone and allow you to wireless transmit using the SpeechMike air to your PC. We have only tested this set-up with a few microphones and have found it to work fine.



Comparison to other Products:

1. Grundig CordEx: we like the look and feel of this product compared with the CordEx. We prefer the Philips Device Control Application over the Grundig "Adapter Server" for programming keys. Both microphones behave similarly in terms of accuracy and noise cancelation. The presence of a track ball is a huge advantage for the SpeechMike Air.
2. Dictaphone PowerMic II: The main advantage of this microphone over the PowerMic II is the fact that it is wireless. Another advantage of the SpeechMike Air is that it will work with any version of Dragon whereas the PowerMic allows full functionality only in the Dragon Medical 10.0 and beyond. We find the external noise rejection of the PowerMic II to be slightly superior. Although Philips has clearly taken a step in the direction of integration with Dragon NaturallySpeaking, it doesn't compare with the high level of integration the PowerMic has with Dragon. As an example, it is not possible to program the SpeechMike Air to emulate any Dragon command with a single button push, and yet this is a simple process with the Dictaphone PowerMic II.
3. Other wired SpeechMike: Although the main advantage of this microphone over its predecessors is being wireless, we also feel that the noise cancelling ability of this microphone is better than previous wired versions of the SpeechMike.

Our Overall Take on this Microphone:

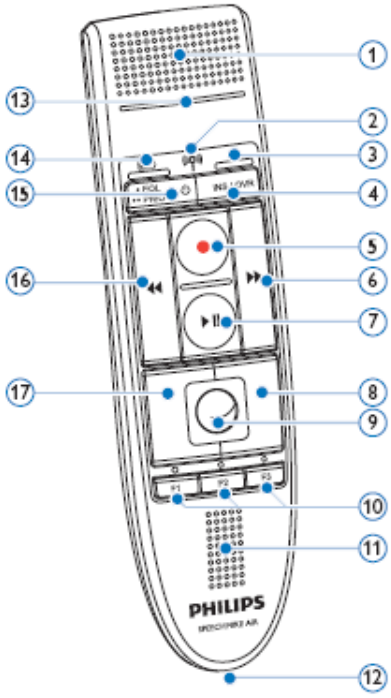
Overall, we consider this an excellent product and congratulate the engineers at Philips for putting it together. For the user of non-medical versions of Dragon and any user demanding a wireless interface with your pc, this microphone deserves serious consideration. It is fast becoming our personal favorite.

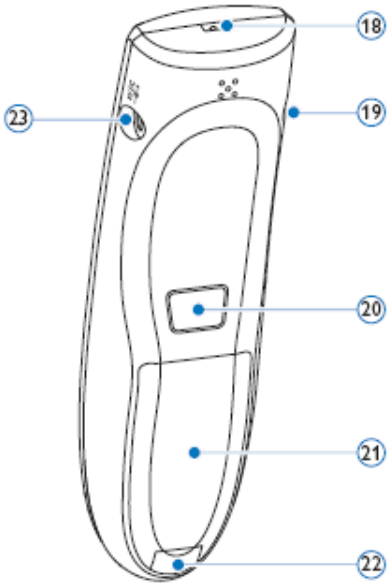
Additional Information about the SpeechMike Air

[View the Owner's Manual]

[View the Speech Recognition Solutions page on the Philips SpeechMike Air]

Review of Button Functionality (Borrowed from the User Manual):





1. Microphone
2. Wireless connection indicator light
3. Insert indicator light
4. INS/OVR Insert/overwrite key
5. ● Record key
6. ▶▶ Fast forward key
7. ▶II Play/pause key
8. Right mouse button
9. Trackball
10. F1, F2, F3 Programmable function keys
11. Speaker
12. Docking station connector
13. Record indicator light
14. Batterie charge level indicator light
15. ⏻ On/Off, • EOL end-of-letter key, •• PRIO priority key
16. ◀◀ Rewind key
17. Left mouse button
18. Strap hole
19. Headset connector
20. Left mouse button
21. Batterie cover
22. Batterie cover release button
23. Charger connector

Technical Data (Borrowed from the User Manual):

Connectivity
- Wireless connection with operating range up to 10 meters (33 feet)
- USB: Mini-USB 2.0
- DC in: 6 V
- Headset: 3.5 mm

Microphone
- Microphone type: electret condenser microphone
- Microphone cartridge: 10 mm
- Characteristic: uni-directional
- Frequency response: 100 – 7500 Hz
- Microphone sensitivity: -37 dB @ 1 kHz
- Signal-to-noise ratio: > 70 dBA

Speaker
- Built-in 30 mm round, dynamic speaker
- Acoustic frequency response: 300 – 7500 Hz
- Output power: > 200 mW

Specifications
- Product dimensions (W x D x H): 45 × 165 × 30 mm / 1.8 × 6.5 × 1.2 inch
- Weight: 125 g / 4.4 oz (including batteries)

System requirements
- Pentium III, 500 MHz and 512 MB RAM; Recommended: Pentium IV or similar, 1 GHz and 1 GB RAM
- 100 MB hard disk space for SpeechExec, 250 MB for Microsoft .NET Framework
- One free USB port
- Recommended minimum transfer rate for LAN: 100 Mbit/s
- Windows Vista (with Service Pack 1), Windows XP (with Service Pack 3)

Power
- Battery type: two Philips AAA Ni-MH rechargeable batteries (LFH9154) or two AAA batteries (LR03 or R03)
- Power supply: 6 V DC / 850 mA
- Up to 7 hours of recording (with Philips rechargeable batteries LFH9154)
- Typical time for a full charge: 2.5 hours

Green specifications
- Compliant to 2002/95/EC (RoHS)
- Lead-free soldered product

Operation conditions
- Temperature: 5° – 45° C / 41° – 113° F
- Humidity: 10 % – 90 %

Optional accessories
- Philips noise-canceling headset LFH3090
- Philips SpeechMike Air docking station LFH3050
- Philips AAA Ni-MH rechargeable batteries LFH9154
- Philips power supply LFH9146