



TRANSCRIPTION DIGITAL RECORDER FACE-OFF

[Philips DPM8000](#), [Philips SpeechAir PSP2100](#),
[Olympus DS-9500](#)

February 24, 2019

Introduction:

While preparing to review the new Philips SpeechAir and Olympus DS-9500, it occurred to me that the most effective way to do so would be in the context of the other top rated transcription digital recorders.

Note that when you purchase a [digital recorder](#) from KnowBrainer Inc., you additionally receive a PDF of our exclusive Digital Recorder User Guide which includes pictorial step-by-step instructions on how to transcribe your recordings and setting up the Dragon AutoTranscribe Folder Agent for effortless batch file transcription of multiple recordings; with no end-user intervention other than effortlessly connecting your recorder to a USB port. Note that this feature is only available in Dragon Pro, Medical (DMPE), and Legal.

The following review consists of 3 parts:

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

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

Evolution of Speech Recognition Recorders

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!

In 1996, Dragon 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 something better than the usual classic cassette recorder to better utilize this increasingly more sophisticated software and several manufacturers responded. The 1st digital recorder we were able to test was called the VoiceIt which was manufactured directly for DragonSystems (previous owner of Dragon). Olympus released the DS-1000 on the heels of the VoiceIt and followed up a year later with the DS-2000. We found the DS-2000 to be fair but the VoiceIt and DS-1000 fell below our level of acceptability. Eventually, Olympus took a decisive recorder lead when they introduced what we considered to be the 1st serious professional recorder, the DS-3000 and the consumer grade DS-330. Both units featured DSS algorithms which were designed for speech recognition but limited to 5 kHz frequency response. Philips eventually improved on this technology by releasing the 1st DSS Pro (DS2) algorithms with an 8 kHz frequency response in the Philips DPM 9600 recorder. Olympus didn't get around to releasing the DS-5000, featuring DS2 algorithms, until 9 months later. A few years later, Grundig introduced their Digta 7 series and on April 17, 2012, Olympus released their 5th generation professional digital recorder, the DS-9500. On July 5, 2018.

There are literally several hundred digital recorder choices on the market, including some that are recommended by Nuance. Although most Nuance recommendations work okay for consumer use, All [Nuance recorder recommendations](#) should be taken with a healthy grain of salt. For example, Nuance gives the Sony ICD MX20 (which comes bundled with some versions of Dragon) a Dragon rating of 6 but we consider it to be more of a consumer grade toy than a professional dictation tool. By contrast, the superior Olympus DS-7000 originally scored a 4 Dragon rating and the Philips 9600 scored 3 Dragons. The Philips DPM8000 has not yet been rated.

If a digital recorder and speech recognition play a major role in your workflow, we can only recommend "non-jack of all trades recorders" that are designed exclusively for

transcription and utilize DS2 algorithms which reduce the error rate and include a lossless 12 to 1 compression ratio for quick and secure file transfer. You might think that a stereo 96 bit HD quality digital recorder would be excellent for speech recognition use but the recordings are huge (not easy to e-mail or FTP) and as amazing as it sounds, can produce as much as twice as many errors. Additionally, the controls on these types of recorders are simply not designed for dictation. HD digital recorders are intended for recording live music and don't feature professional transcription amenities like cue/review, seamless glitchless punch in, double speed playback (without the Mickey Mouse effect), main functions located under a convenient slider control, along with other standard transcription features. Professional recorders also include specialized transcription assisting applications for encrypting recordings and secure FTP and e-mail transfers along with Dragon support. If you are a physician or an attorney handling sensitive materials, only professional digital recorders, such as those in this review, include 256 bit AES encryption. If you are a physician, don't even think about using most Nuance recommendations because they are not HIPPA compliant.

This review only covers professional transcription digital recorders that utilize DS2 algorithms which Philips, Olympus and Grundig agree that the DS2 algorithms are most ideally suited for speech recognition and transcription. This is also why we only carry [digital recorders](#) that feature DS2 algorithms on our website.

A professional digital recorder just might be what you need if:

- You realize that your Apple/Google/Microsoft speech-enabled smart phone app doesn't live up to the hype.
- You don't have time to wait for your computer to boot up.
- You don't have the space or budget for a mobile computer.
- You need to make verbal notes on the go that you can transcribe at a more convenient time.
- You need to quickly e-mail or FTP recordings for someone else to transcribe.
- You require 256 bit AES encryption for security reasons.
- You need to be able to make quick noiseless edits/changes (punch-in) to your digital recordings without introducing an audible click.
- Need to make hands-free recordings as you drive (recorder in pocket please)
- Pushing the shopping cart while your spouse reads expiration dates and the contents of every item

Pros & Cons

Philips SpeechAir

MSRP Map Price: \$539 - \$569 (with SpeechExec software)
1 Year Warranty



Philips SpeechAir PSP2000 Pros:

- 2 way tie for best accuracy with Olympus DS-9500
- Supports not only DSS and DSS Pro (DS2) but also supports MP3.
- Built-in Wi-Fi, LAN, Bluetooth and USB connections
- Wear free light sensor slide switch contrl (impossible to wear out).
- 3 separate microphones for varying environments and ranges.
- Built-in Barcode Reader
- Built-in 5 megapixel autofocus camera
- 16 Gb of internal memory
- Antimicrobial surface
- End-user customizable function buttons
- Earphones for playback and built-in speaker
- Largest HD color backlit display in the industry with touchscreen controls (think smart cell phone look and feel)
- Built-in Li-ion battery life 12 hours
- Real-time (as you record) 256 AES encryption
- Android OS
- Vibration mode
- Improve SpeechExec workflow software (rivaling the Olympus Dictation Module)
- Most ergonomic design
- A dedicated button to prioritize recordings and prevent accidental deletions
- Gorilla glass touch screen and shockproof, antimicrobial housing
- Can be dropped from 5 feet onto a concrete floor without interrupting the recording (do not try this at home)
- Includes AC adapters for nearly every country

Philips SpeechAir PSP2100 Cons:

- No included SpeechExec utility
- Non-replaceable battery
- One year warrantee
- USB cradle is a bit loose and can easily drop its USB connection

- Battery depletes fairly quickly even when shut down (only good for a few days)
- A little heavy for a digital recorder
- Android OS includes lots of additional features such as email, calendar, Internet browsing but you probably already have better versions of these features on your cell phone

Philips Digital Pocket Memo 8000

MSRP Map Price: \$499

2 Year Warranty



Philips Digital Pocket Memo 8000 Pros:

- Supports not only DSS and DSS Pro (DS2) but also supports MP3 and PCM.
- 1st wear free light sensor slide switch contrl (impossible to wear out).
- 1st 3-D microphone system including 360° sound pickup.
- Automatically chooses between conference mode and close mic (dictation) mode depending on the position of the recorder via a built-in gyroscope
- 1st digital recorder to offer cassette recorder style like classic interface
- Longest Li-ion battery life of any digital recorder (typically 23 hours) and 200 days standby mode.
- 256 AES encryption
- Impressive looking stainless steel case
- Best docking station in the industry
- Improve SpeechExec workflow software (rivaling the Olympus Dictation Module)
- 1st recorder to produce acceptable results in Dragon using the auto voice activation mode
- Fastest boot time of any transcription digital recorder (typically 2 seconds)
- Most ergonomic design
- A dedicated button to prioritize recordings and prevent accidental deletions
- Can't miss red LED light, on top of unit, when recording
- 1st dedicated fast-forward button
- Electrostatic resistant
- Stainless steel scratch resistant case
- Can be dropped from 5 feet onto a concrete floor without interrupting the recording (do not try this at home)
- Does not include a case

Philips Digital Pocket Memo 8000 Cons:

- Charger only supports US AC

Olympus DS-9500

MSRP Map Price: \$499.99/399.99 (DS-9000) as of 3-1-19
2 Year Warranty



Olympus DS-9500 Pros:

- Wi-fi connectivity (not available in DS-9000).
- Adjustable microphone input and impressive noise cancellation via dual microphones that can be used in very noisy environments.
- Automatic directional microphone pickup pattern
- The best tactile feel pushbuttons of any recorder.
- Tandem dual microphones which work together to reduce noise
- Optical slide switch (no mechanics which can wear out)
- 3 end-user programmable buttons.
- Improved Ver. 7 Dictation Module application includes more features.
- Alcohol wipe resistant
- A choice of Real Time or Background Dragon transcription.
- 256 AES Encryption (HIPPA compliant).
- 2 Gb internal memory with the option to use a 32 Gb SD card.
- Workgroup and Server install options.
- 9 hour rechargeable built-in battery
- Shockproof from a distance of 5 feet
- DS2, DSS, MP3 and PCM recording capabilities
- Microphone and speaker (headphone) jacks relocated to the top of the recorder

Olympus DS-9500 Cons:

- Smaller screen than SpeechAir
- AC adapter only good in the US
- Traditional digital recorder controls

Conclusions:

All 3 units utilize the same DSS Pro (DS2) algorithms but depending on your needs, the SpeechAir is #1 In features, Wi-Fi/Bluetooth connectivity, decent noise canceling (via 3 microphones) and the added ability to record in MP3 or PCM but the DS-9500 is slightly more accurate in moderately and excessively noisy environments.

Accuracy Scores in quiet environment:

Philips SpeechAir - Quiet Environment = **99.5%**

Olympus DS 9500 - Quiet Environment = **99.5%**

Philips SMP 8000 - Quiet Environment = 98%

Accuracy Scores in background noise environment:

Philips SpeechAir - Background Noisy Environment = **98.5%**

Olympus DS 9500 - Background Noisy Environment = **98.5%**

Philips SMP 8000 - Background Noisy Environment = 98%

Accuracy Scores in moderately noisy environment:

Philips SpeechAir - Moderate Noisy Environment = 94.5%

Olympus DS 9500 - Moderate Noisy environment = **95.5%**

Philips SMP 8000 - Moderate Noisy environment = 94%

Accuracy Scores in very noisy environment:

Philips SpeechAir - Very Noisy Environment = unacceptable

Olympus DS 9500 - Very Noisy Environment = **92%**

Philips SMP 8000 - Very Noisy Environment = unacceptable

The Final Score:

1st Place Tie Philips SpeechAir ([Click to See](#)) & **Olympus DS-9500** ([Click to See](#))

The Philips SpeechAir took 1st Place in Android features such as email, calendar and Internet browsing, Wi-Fi and Bluetooth connectivity. It also takes 1st place in ease of functionality and is truly a pleasure to use; especially when compared to the traditional DS-9500 controls. The SpeechAir also includes numerous perks such as around the world AC adapters, email, calendar scheduling and Internet access but you probably already have better versions of these utilities in your current cell phone. Of course being able to email your recording is a definite plus.

However the SpeechAir has some drawbacks which include, no included carrying case, more than \$39 to \$69 more expensive, poor battery life (even when turned off; lasts less than a week), considerably heavier than the DS-9500, larger sized a loose connection with the USB cradle that sometimes loses its connection and a disappointing one year warrantee; unlike most other professional digital recorder manufacturers. The SpeechAir is literally as accurate as directly dictating into Dragon and as accurate as the DS-9500 in quiet environments and moderate background noise environments but falls behind the DS-9500 in louder environments (where it is unusable), unlike the DS-9500.

By comparison, the Olympus DS-9500 also includes Wi-Fi (no Bluetooth or Internet) connectivity, much smaller/lighter, includes a rugged leatherette case (that gives you access to the major controls), costs \$139 to \$169 less, includes a Dictation Module utility (at no extra cost) includes a 2 year warrantee, is clearly less fragile, battery lasts longer, can accept a replacement/backup battery but has a smaller screen with traditional digital recorder controls (which take longer to utilize). Possibly the DS-9500's best feature is its higher accuracy, than the SpeechAir, in normal and excessively noisy environments. This is the primary reason we believe the DS-9500 ties with the SpeechAir. Additionally, if \$500 seems like too much to pay for the DS-9500, the DS-9000 is \$100 less but doesn't include Wi-Fi or USB cradle. Although the Olympus DS-9500 and Philips SpeechAir are tied for 1st place, our personal preferences the Olympus DS-9500, which we use and carry. Additional manufacturer information available at www.olympusamerica.com

2nd Place ~ Philips DPM8000 ([Click to See](#))

Every time one of these 2 manufacturers release a new recorder (approximately every 5 years), they typically leapfrog the competition. While the Philips DMP-8000 is very impressive, we found the Olympus DS-9500 to feature higher accuracy (most notably in noisy environments), impressive large high-resolution backlit color display, also

featuring laser sensor wear free slider control, a gorgeous stainless steel case, dedicated fast-forward button and dedicated recording protection button. The DPM 8000 is a top line professional speech recognition recorder but slightly outdated when compared to the DS-9500. Additional manufacturer information available at www.dictation.philips.com

Our Final Notes:

1. In our opinion, the DPM 8000 shouldn't be considered an option because it has been surpassed.
2. If you work in a moderately or very noisy environment, the DS-9500 is your only real choice because other digital recorders simply can't handle the volume. If you don't require Wi-Fi a connection or cradle, the \$400 Olympus [DS-9000](#) is your best value
3. If cost isn't important, the [Philips SpeechAir](#) is literally the bomb with all of the extra features and friendliness of a smart phone (minus the ability to call out). Frankly, we were surprised they left that out.

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 Telephone Microphone 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 microphones, USB soundcards and digital recorders that we consider to be #1 in their respected categories:

Best Wireless Microphone = [Sennheiser MB Pro1 UC](#) & [MB Pro2 UC](#) (Bluetooth)

Best Combo Telephone Wireless Microphone = [Sennheiser SD Pro1](#)

Best Handheld USB Microphone = Philips [SpeechMike Premium \(LFH-3500\)](#)

Best USB TableMike = [SpeechWare 3-in-1](#), [6-in-1](#) & [9-in-1](#)

Best Wired Headset Microphone = [FlexyMike DEC](#)

Best USB soundcard = [SpeechWare MultiAdapter](#)

Best Mobile Bluetooth Microphone = [Sennheiser Presence UC](#)

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

Best Speech Recognition Application = [Dragon Professional 15](#)

Best Dragon Command Utility = [KnowBrainer 2017](#)

[Lunis Orcutt](#) - Developer of KnowBrainer 2017 (see [What Is KnowBrainer](#)) and founder of [KnowBrainer Speech Recognition Forums](#) (the world's largest speech recognition forum) [Chat Live](#) w/ a Nuance Gold Certified Speech Recognition Solutions Provider

