By Gordon Eng

Evaluating the Use of Digital Voice Recorders for the Law Office

For some attorneys these devices will be indispensable—others may rely on more familiar tools

A major part of the workday of many legal professionals is expended in the production of written documents. The evolution of faster, more efficient, and cost-effective methods to produce the written word continues with developments in handheld digital voice recorders (DVRs) and voice-to-text computer software. The current crop of DVRs may afford a step up in functionality and efficiency for those who use tape recorders for dictation, and the latest versions of the speech-to-text computer software may add some efficiencies to the document production process when used in conjunction with a DVR or when used directly for dictation transcription. Speech-to-text software, however, still requires an investment of time that may not be acceptable for some attorneys. These innovations, when implemented together or separately, will benefit some but not all practitioners.

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DVRs capture sound—such as dictation—and convert it into digital computer files. (Tape recorders, on the other hand, use analog technology.) The recording of sound in digital form makes it possible to treat files created with a DVR in much the same way as other computer files. For example, digital audio files may be transmitted via e-mail. DVRs store dictation on a memory device, such as a smart media card or memory stick, rather than on tape. The latest crop of DVRs also provide more functionality than traditional tape recorders, a factor that may be compelling enough to convince people who currently use tape recorders to switch. However, the current cost of a DVR that is suitable for the office will likely be higher than that of a similar tape recorder. Additionally, when dictation is transcribed manually there are other costs to consider. The software provided with each DVR allows a typist to advance, stop, rewind, and search the audio file while transcribing. A person who performs a large amount of transcription will likely desire a foot pedal to navigate the audio file. The manufacturers of DVRs offer foot pedal devices, but that is another cost to consider before implementing DVR dictation.

The four DVRs I reviewed are the Olympus DS-3000, the Phillips Pocket Memo LFH 9300, the Sony IC ICD-MS 515, and the Voice It VTR 3200. These DVRs store recordings in a proprietary format that compresses the sound file so that it uses less memory. This compression allows each unit to hold at least half an hour of recorded speech with the amount of memory that is provided at purchase. Unfortunately, the proprietary format requires the use of manufacturer-provided software to transfer the voice file from the handheld to a computer and to convert the proprietary format into a standard format. It is necessary to convert the file in order to share it with a person who does not have software that can read the proprietary format. Because of the lack of a standard interface, it is not yet possible to plug a DVR into any computer and download or open a voice file.

Good at the Basics

The DVRs all performed well, however, in delivering basic dictation functionality. In other words, these devices allow an attorney to dictate a file and edit it (by overwriting portions), add additional dictation at a particular place in the dictation without overwriting (a feat not possible with a tape recorder), erase segments, navigate through the file, identify the location of something in a file (for example, with a time counter), and adjust the volume and speed of the playback.

The recorders also offer a variety of more advanced file management and editing features. These include indexing; templates for assigning client, matter, and author to a file; assigning key words for certain file-creation functions; prioritizing files; and locking files. Also, each unit allows users to upload files from their computer to the handheld. Users can also adjust the recording quality of each unit. Higher quality sound produces larger files, which consume more memory. Lower quality recordings take less memory but can be more difficult to transcribe.

Whether basic or advanced, the functions of these DVRs depend on general ease of use. In evaluating this, I considered a number of factors, including the location and labeling of buttons and switches, access to the various functions and capabilities, size, download software, and ability to operate the unit without having to memorize the instruction manual.

The Voice It DVR is the most basic of the group. Its simplicity makes it generally easier to use. Most of its features are accessed through buttons on its face. It has a relatively small LCD display of basic information and status, and it is about the same size as the Olympus and Phillips models. The Sony, Olympus, and Phillips units all have a greater number of features, and some of them may be indispensable for some users. Of the units reviewed, the Voice It was the only one that requires a serial port connection to transfer files to the computer. The others use a USB connection.

The Sony is the smallest unit of the group. Many of the Sony's features are accessed through a five-way switch and menu system. Many will find the switch to be a marvel of engineering; others will find it difficult or confusing to navigate the menu with the switch. This unit is not likely to be a good choice for a user with large hands. For example, I found it easy to accidentally divide one dictation into multiple files.

In a similar fashion, the Olympus DVR uses buttons and

a menu. The buttons are somewhat larger than they are on the Sony unit, and there is more direct access to the various functions through the buttons rather than the menu. It is larger than the Sony, but the LCD screen is larger as well. The combination of the location of the buttons and the microphone on this unit may lead users to accidentally press buttons during recording and activate unexpected features.

The Phillips DVR also makes greater use of buttons than the Sony, and it is about the same size as the Olympus. Its LCD screen is large and, like the Sony and Olympus, provides a wealth of status information. The Phillips unit uses a sliding switch to record, play, stop, and rewind, which is similar to traditional tape recorders. Because the Phillips makes significant use of buttons to access features, rather than a menu, some may find this unit easier to operate.

Each DVR comes with software that allows for basic manual transcription, but there are differences among the advanced features. The Olympus and Sony units come with the most feature-rich software, while the Phillips and Voice It have more basic software. For example, the Olympus software allows the user to connect the DVR to the computer for use as a microphone. The Olympus and Sony software allows files to be converted to the common .wav format, which facilitates transfer of files by e-mail. With the Sony software, files can be divided, combined, and converted to a variety of formats, including MP3.

No attorney who advises clients to always read the contract will be so devil-may-care as to try to use one of these units without first reading the instruction manual. If, however, you attempt on behalf of a friend to operate a DVR while relying on nothing more than your familiarity with traditional tape recorders, you will probably have to glance at the instruction manual at least once in order to be able to operate even the basic features of these units. Once you have familiarity with the basic features of one unit, however, you have a good chance of being able to handle basic dictation tasks with any of the others. The advanced features, although useful, will likely require additional time and practice.

Voice Dictation Software

A possible compliment to DVRs is software (sold separately) that converts sounds to text. The challenge has been and continues to be accuracy. Along with the DVRs, I tested ScanSoft's Dragon Naturally Speaking 6 and IBM's ViaVoice 10, USB Edition. The software makers claim that accuracy above 95 percent can be obtained. Assuming that the user's computer meets the specifications for operating the software, and depending on the qualities of the user's voice and microphone, this level of accuracy is possible.

The challenge for the software is daunting. It has to determine how to spell a spoken word by comparing the sound to a library of sound files that the user creates. As a result, the software will probably have great difficulty differentiating among "to," "too," and "two," for example. Also, the software attempts to spell all sounds, so a person who says "um" or "ah" between thoughts will see the software try to add these sounds to the document.

Any person contemplating using a speech-to-text program must be prepared to invest time in customizing the software. This is called training and initially entails reading selected text to the program, which takes about half an hour. But the improvement of accuracy is a continuous process. The claims that accuracy increases with use appear to be

DVR Comparison

	Olympus Digital Voice Recorder (DS-3000)	Sony IC Recorder (ICD-MS 515)	Phillips Pocket Memo (LFH 9300)	Voice It (VTR 3200)
Base Memory	16 MB	8 MB	8 MB	4 MB
Base Mem. Rec. Time (SP high-quality mode) Minutes	2 hr 35 min	1 hr 4 min	1 hr 20 min	30 min
Base Mem. Rec. Time (LP lower quality mode) Minutes	5 hr 30 min	2 hr 51 min	1 hr 52 min	1 hr 14 min
Expandable Memory	Up to 128 MB	Up to 128 MB	Up to 8 MB	Up to 8 MB
Removable Media Type	Smart Media Card	Memory Stick	Smart Media Card	Smart Media Card
PC Connectivity	USB	USB	USB	Serial
Includes Voice Recognition Software	No	Yes	No	No
Number of Folders	3	Up to 340	N/A	Up to 99
Overwrite Function: Insert Dictation to an Existing File, Partial File Erase	Yes	Yes	Yes	Yes
Playback Speed and Volume Control	Yes	Yes	Yes	Yes
Move Messages into Other Folders	Yes	Yes	N/A	Yes
Indexing: 1. Can add transcription comments automatically to the beginning of the file 2. Can add comments to index marks	Yes	Yes	1/No	2/Yes
Proprietary Native File Format	Yes/.dss	Yes/.msv	Yes	Yes/.sri
Time/Date Stamp on New Files	Yes	Yes	Yes	Yes
File Lock Capability	Yes	Yes	Yes	Yes
Earphone and Microphone Jack	Yes	Yes	Yes	Yes
Hi/Lo Microphone Sensitivity	Yes	Yes	Yes	Yes
Voice Activated Recording	Yes	Yes	Yes	No
Priority Function	Yes	Yes	Yes	No
Erase One Message or Folder	Yes	Yes	Yes	Yes
Alarms with Message	Yes	Yes	No	No
Cable and File Transfer Software Included	Yes	Yes	Yes	Yes
Power (Battery/AC)	2 AAA/AC	2 AAA/AC	2 AAA/AC	2 AAA
Battery Power Indicator	Yes	Yes	Yes	Yes
Price	$395	$330w/Dragon $50 less w/o	$349	$185
Software Compatible	Win 95, 98, 2000, ME, NT	Win 95, 98SE, 2000, ME, NT 4.0, XP Home, XP Pro	Win 98SE, 2000, ME, NT 4.0, XP Home, XP Pro	Win 95, 98
Ease of Use without Reference to Manual (1 Being Easiest)	3	3	2	1
Accuracy of Conversion of Speech File to Text Using Dragon Naturally Speaking (1 Being Easiest)	2	1	2	2

true, provided that users correct misspellings and, in some cases, adjust their style of speech. The consistent pronunciation of words, avoidance of slurring words together, and use of complete sentences will all help to improve overall accuracy.

Each voice dictation program provides various commands for formatting a document and text. These commands allow for capitalization, new paragraphs, and punctuation. Moreover, the user can add commands and templates of documents to speed up document production. It also appears that advances in computing power have greatly benefitted speech-to-text software. The latest versions are able to keep pace with a normal speaking voice.

Another plus is that advances in hard drive capacity have made proofreading easier. On most office computers, hard drive space is abundant, and the current professional versions of both products take advantage of this by saving a voice file as well as a text file with each dictation. This allows the user to play back the voice file in order to resolve garbled portions of the text file. Often, the speech recognition software's translation is so confusing that the author may find it difficult to recall the word or words that were intended. Playing the voice file back is a simple way of discovering what the software missed. Voice files are substantially larger than word processing files, so users need to have considerable hard drive space if they want to preserve their voice files for later use.

Even with the improvements in speech-to-text software, however, it is not likely to be beneficial for all users. The total time necessary to produce a document includes the time spent to input the document as well as edit and proofread it. Assuming a user has spent the time to train the software and learn the various formatting commands, then the inputting can be at the speed of average speech, which is roughly 70 words per minute. Users who correct as they go, however, lose speed. Moreover, the proofreading time may also be significant. A person who accurately types over 60 words per minute will probably not benefit from speech-to-text software. However, someone who types at around 30 words a minute or less could benefit—if the person is prepared to invest the time to work with the software.

Both speech-to-text products can be used to transcribe voice files that are generated by the DVRs. Combining a DVR with either speech-to-text program is probably beneficial if the user would gain from using speech-to-text software alone. On the other hand, using a DVR alone or as a replacement for a tape recorder may benefit any office in which dictation is used to create documents. ■