

Olympus DM-420 Digital Voice Recorder

Olympus DM-420 Digital Recorder
 Product number 140146
 Shipping Date: September 2009

Box Contents

- DM-420 Digital Recorder
- Stereo earphones
- USB 2.0 cable (KP-10)
- Carrying case
- Strap
- CD-ROM: Olympus Sonority software
- Instruction manual
- Warranty card
- Two AAA NiMH rechargeable batteries



Features and Benefits

Model	DM-420
Recording Format	MP3 (MPEG-1 Audio Layer 3) WMA (Windows Media Audio)
Recording Media	2 GB built-in Flash memory; microSD [®] card slot
Recording Time ¹	<p>MP3</p> <p>320 kbps mode: 13 hours, 45 minutes 256 kbps mode: 17 hours, 15 minutes 192 kbps mode: 23 hours, 00 minutes 128 kbps mode: 34 hours, 45 minutes</p> <p>WMA</p> <p>ST XQ mode: 34 hours, 00 minutes ST HQ mode: 68 hours, 00 minutes ST SP mode: 136 hours, 00 minutes HQ mode: 136 hours, 00 minutes SP mode: 268 hours, 00 minutes LP mode: 533 hours, 00 minutes</p>
Card Format	MicroSD (512MB – 16 GB)
Input Level	-60 dBv
PC Interface	USB

LCD	28 mm x 28 mm
LED	2 colors (orange = record/transfer/charging; green = playback)
Folder Messages	Voice: 5 folders / Up to 999 files per folder Music: 1 folder / Up to 999 files Podcast: 1 folder / Up to 999 files
Sampling Frequency / Bit Rate	MP3 320 kbps mode: 44.1 kHz / 320 kbps 256 kbps mode: 44.1 kHz / 256 kbps 192 kbps mode: 44.1 kHz / 192 kbps 128 kbps mode: 44.1 kHz / 128 kbps WMA ST XQ mode: 44.1 kHz / 128 kbps ST HQ mode: 44.1 kHz / 64 kbps ST SP mode: 22 kHz / 32 kbps HQ mode: 44.1 kHz / 32 kbps SP mode: 22 kHz / 16 kbps LP mode: 8 kHz / 8 kbps
Overall Frequency Response	MP3 320 kbps mode: 40 – 20,000 Hz 256 kbps mode: 40 – 20,000 Hz 192 kbps mode: 40 – 19,000 Hz 128 kbps mode: 40 – 17,000 Hz WMA ST XQ: 40 – 19,000 Hz ST HQ: 40- 15,000 Hz ST SP: 40 – 9,000 Hz HQ: 40 – 13,000 Hz SP: 40 – 8,000 Hz LP: 40 – 3,000 Hz
LP Mode	Yes
Voice Activation	Available, switchable ON/OFF
Demographic Data Input	Yes
Practical Maximum Output	320 mW
Write Protection	Yes
Speaker	23 mm diameter, round dynamic speaker
Microphone Jack	3.5 mm mini-jack, impedance 2.2 k Ω
Earphone Jack	3.5 mm mini-jack, impedance 8 Ω or more

Power Supply	2 AAA Alkaline or 2 AAA NiMH batteries (BR-401)
External Power Supply	AC Adapter (A-514), sold separately
Battery Life	<p>Alkaline</p> <p>Recording:</p> <p>MP3 128 kbps mode: Approx. 37 hours</p> <p>WMA ST XQ mode: Approx. 38 hours LP mode: Approx. 51 hours</p> <p>Playback:</p> <p>Speaker</p> <p>MP3 128 kbps mode: Approx. 19 hours</p> <p>WMA ST XQ / LP mode: Approx. 19 hours</p> <p>Earphone</p> <p>MP3 128 kbps mode: Approx. 57 hours</p> <p>WMA ST XQ / LP mode: Approx. 58 hours</p> <p>NiMH (BR-401)</p> <p>Recording:</p> <p>MP3 128 kbps mode: Approx. 30 hours</p> <p>WMA ST XQ mode: Approx. 30 hours LP mode: Approx. 41 hours</p> <p>Playback:</p> <p>Speakers</p> <p>MP3 128 kbps mode: Approx. 16 hours</p> <p>WMA ST XQ / LP mode: Approx. 16 hours</p> <p>Earphones</p> <p>MP3 128 kbps mode: Approx. 45 hours</p> <p>WMA ST XQ / LP mode: approx. 46 hours</p>



Size	4.33" x 1.53" x .63" (110 x 38.9 x 16 mm), excluding protrusions
Weight	2.96 oz (84 grams), including alkaline batteries
OS Supported	Windows® XP/Vista Macintosh® OS X 10.4.11 ("Tiger") – 10.5 ("Leopard") ¹
CPU	Windows XP/Vista: 32 bits (x86) of 1 GHz and above or 64 bits (x64) processor
USB Port	One free port
Audio Output	Earphone output or speaker

¹ Total recording time for all files. Maximum recording time per file varies depending on quality mode. Available recording time may be less if many short recordings are made. All figures are approximate.

² Some functions of Olympus Sonority require QuickTime 7.2 or later, which can be obtained from Apple as a free download. For more information, click [here](#).

FREQUENTLY ASKED QUESTIONS

Features

What are the main features of this model?

The DM-420 is a high-quality, high-capacity digital recorder loaded with handy and intuitive usability features as well as support software that can run on both Windows PCs and Macs.

It can record and play files in the MP3 and WMA audio formats. It has 2 GB of built-in flash memory and a card slot that holds one microSD or microSDHC card of up to 16 GB capacity (sold separately). Files can be transferred from the card to internal memory and vice-versa.

The DM-420 introduces Recording and Playback "scenes" – configuration templates – that make it easy to enable an array of preferred settings via a single menu selection. Three of the Recording scenes are pre-set with optimal settings for specific recording conditions; another three can be customized by the user. Five Playback scenes are available.

There are five folders for organizing recordings and separate folders for storing Podcasts, Music files and audio content purchased from [Audible.com](#).[®] The Music folder holds WMA or MP3 music files transferred from Windows Media[®] Player or iTunes[®].

The ZOOM microphone incorporates DiMAGIC[®] Corporation's DVM (DiMAGIC Virtual Microphone) technology for directional recording, and DiMAGIC's Euphony psychoacoustic technology for enhanced playback in the recorder.

The DM-420 also includes accessibility features designed to help the visually impaired. The Voice Guide speaks aloud menu items as they are selected in any of 19 languages.¹ The recorder's buttons feature ridges and grooves to make them more identifiable by touch.

After transferring the files to a computer via the bundled USB 2.0 cable, the included Olympus Sonority software can be used to manage, archive and edit WMA files made with the recorder on Windows and Mac platforms. (The ability to edit MP3 files is available at additional cost via the Olympus Sonority Plus upgrade.) The software also enables subscription to and download from podcast URLs. The podcasts can be transferred to the recorder's Podcast folder for playback at the user's convenience.

The bundled NiMH batteries can be charged in the unit while it is plugged into a computer's USB port, so you can keep them conveniently topped off while you work with your files.

¹The default languages are English, French and Spanish; however, the others may be uploaded to the recorder from a computer by using the Olympus Sonority software.

What are Recording Scenes?

Recording scenes are essentially sets of recorder settings that can be enabled all at once by making a single menu selection. This function is located in the Rec Menu as **Rec Scene**.

The DM-420 has six recording scene options. Three are pre-set out of the box; each is optimized for recording in specific conditions. The other three are reserved for **User Settings**, allowing for customization to suit your preferences. To enable a **User Settings** scene, select one of the available **User Settings** options and then choose **Scene Save**. The recorder's current configuration will be saved as a scene.

The table below shows the menu settings that are applied in each of the preset Recording Scenes as well as the default settings when **Rec Scene** is set to **Off**. Only the listed functions are affected when a **User Settings** recording scene is saved.

Record Setting	Off	Dictation	Conference	Lecture
Mic Sense	Middle	Low	Middle	High
Rec Mode	ST XQ	HQ	ST XQ	ST XQ
Rec Level	Auto	Auto	Auto	Auto
Zoom Mic	Off	Off	Wide	Zoom
Low Cut Filter	Off	On	On	On
VCVA	Off	Off	Off	Off
Standby	On	On	On	On

What are Playback Scenes?

The DM-420 has an option for the user to create up to five Playback Scenes to setup the recorder to preset playback scenarios. The settings that can be saved as a Playback Scene are **Property, Noise Cancel, EUPHONY, Voice Filter, Play Mode, Play Speed, Skip Space, Backlight and LED**.

To create a Playback Scene, first configure the recorder with the desired settings. Then, in the menu, go to **Play Scene > Scene Save** and select a **User Setting** option. Finally, press the **[OK/MENU]** button to save the scene. The recorder will save the settings of the functions listed above as a Playback Scene. To create another scene, create a new mix of menu settings and repeat the process.

To select a saved Playback Scene for use, in the menu go to **Play Scene > Scene Select** and choose the desired **User Setting**. Press the **[OK/MENU]** button to activate the scene.

What is the function of Noise Cancel?

Noise Cancel can be enabled to reduce background noise in recordings made in noisy surroundings. In effect, the function treats the loudest sounds as the most important and reduces other sounds to make the dictation clearer.

The Noise Cancel options are **OFF, LOW** and **HIGH**. The options are set in the recorder's menu. The LOW or HIGH settings remain valid until Noise Cancel is set to OFF. Noise Cancel is not available while the Voice Filter is set, and it cannot be used during **Slow Playback** or **Fast Playback**.

What is EUPHONY?

The DM-420 features EUPHONY MOBILE – a psychoacoustic surround sound system that combines bandwidth correction, expansion technology and virtual acoustical source processing technology to allow the listener to alter the audio dynamics when playing back recordings through earphones. EUPHONY creates a natural, expansive feel so listeners are less prone to experience a closed-in feeling or to grow tired over extended listening sessions, such as when playing audio books. The options are: **OFF**, **Natural**, **Wide** and **Power**.

EUPHONY is only applied during playback and cannot be used when recording.

What is VCVA?

Variable Control Voice Actuator (VCVA) is a function that configures the recorder to record automatically only when sound is detected at a pre-set level, and stop when the sound drops below the threshold level. The purpose of the function is to eliminate “dead air” during recordings, thereby conserving memory and shortening file times.

VCVA is enabled in the recorder’s menu. In the DM-420, the VCVA can be set to any of 15 different values. The higher the value, the more sensitive the recorder is to sounds. At the highest level, even the faintest sound will activate recording.

What is the function of the LowCut Filter?

The recorder has a **Low Cut Filter** function to minimize low-frequency sounds and record voices more clearly. This function can reduce noise from air conditioners, projectors and other types of “white noise.”

What is the function of the Voice Filter?

The **Voice Filter** cuts low- and high-frequency tones to create a playback frequency range encompassing the tones in the human voice, thereby making the playback of dictation recordings clearer. Voice Filter works in all playback speeds.

What enhancements do the upgrades to Olympus Sonority offer?

Purchasing the upgrades adds the following features to the version of Olympus Sonority that is bundled with the DM-420:

Plus Edition

- **MP3 Editing** – Adds the ability to output and convert to an MP3 file. With the MP3 format, output and conversion at 320 kbps, 256 kbps, 192 kbps and 128 kbps as well as ID3 tag editing are possible.
- **Create a Music CD** – Allows an audio CD to be easily created by specifying in the browsing screen the files to write to a CD. If the total size of the specified audio files exceeds the capacity of a CD, the files can be divided onto multiple CDs.
- **Configuring the Recorder Menu** – The built-in device settings (advanced settings such as the recording mode, alarm setting and timer recording) can be configured using Olympus Sonority.

Music Editing Plug-in

- **Effects** – Over 20 types of advanced effect functions.
- **Spectrum Analyzer** – Displays in real time the frequency distribution of a sound being played in the Waveform Editing screen.
- **Unlimited Track Editing** – Eliminates the limitation on the number of tracks that can be edited simultaneously.

To add the Music Editing Plug-in, Olympus Sonority must first be upgraded to the Plus Edition.

What are Index Marks and Temp Marks?

Index Marks are digital tags that can be inserted while recording or during playback. They are used to skip forward or backward in recordings to pre-selected points. Up to 16 Index Marks can be added to a single file.

Index Marks cannot be placed in files created on machines other than Olympus digital voice recorders. This means that they cannot be placed in podcasts. Instead, Temp Marks can be placed in podcasts to temporarily remember desired locations. Up to 16 Temp Marks can be added to a single file.

Both Index Marks and Temp Marks are inserted using the [**SCENE**] (**INDEX**) button on the recorder. Index Marks and Temp Marks cannot be added to files in the Audible folder.

What is the purpose of the Audible folder?

The **Audible** folder (a subfolder of the **Music** folder) is present to receive and play audio content purchased from the Audible.com® Web site (<http://www.audible.com/>).

Audible.com is a source for audio books and audio newspaper and magazine articles. Audible also has Web sites for the United Kingdom, France and Germany for content in other languages.

Audible files are not managed by the Olympus Sonority software. When users purchase a subscription to Audible.com, they receive Audible Manager software. The DM-420 is listed in the **Mobile Device** listing in Audible Manager. Audible Manager is used to download audio content from the Audible.com Web site and transfer files to the recorder's **Audible** folder.

When the **Audible** folder is selected on the recorder, the recorder automatically switches to the Audible mode. The Audible mode is able to play the downloaded Audible files in any of the three formats used by Audible. When a content file is transferred to the recorder, a **.pos** file is created to record the playback position of a file. This allows the recording to take up where it had left off during a prior listening session.

Specifications

What music file formats does the DM-420 support?

The DM-420 can store and play WMA (Windows Media Audio) files with bit rates of between 5 and 320 kbps and mp3 files with bit rates of between 8 and 320 kbps. Variable bit rate mp3 files may not play properly.

The DM-420 is compatible with Microsoft Corporation DRM 9 but not with DRM10.

What operating systems support the DM-420 digital voice recorder?

The DM-420 is supported by Windows XP Home Edition service packs 2 and 3, Windows XP Professional service packs 2 and 3, Windows XP Professional x64 Edition service pack 2, and the 32-bit and 64-bit versions of the following Windows Vista editions: Home Basic, Home Premium, Business, Enterprise and Ultimate (all at service pack 1).

The DM-420 is supported by Macintosh Mac OS X 10.4.11 ("Tiger") – 10.5 ("Leopard").

How much dictation recording time is available in the DM-420?

The amount of potential dictation recording time available in the DM-420 depends on several factors, including the selected quality mode and whether the recorder is configured to use internal memory or a removable memory card (sold separately).

When a quality mode is selected, several audio file properties are put into place. These properties determine the level of detail of the saved file data. A higher-quality recording saves more-detailed information and creates a larger data file that uses more memory. A lower-quality recording makes a less-detailed data file, so the memory lasts longer. Podcasts and Audible files use up portions of the recorder's built-in flash memory, as do files saved on the recorder when it is used as a USB flash drive (aka "thumb drive"). This usage will reduce the amount of memory available for recording new files.

The table below shows the maximum dictation recording times possible using the built-in memory (assuming there are no other files saved in the recorder).

Recording Mode	Maximum Dictation Recording Time (Internal Memory)
MP3 320 kbps mode	13 hours, 45 minutes
MP3 256 kbps mode	17 hours, 15 minutes
MP3 192 kbps mode	23 hours, 00 minutes
MP3 128 kbps mode	34 hours, 45 minutes
ST XQ mode	34 hours, 00 minutes
ST HQ mode	68 hours, 00 minutes
ST SP mode	136 hours, 00 minutes
HQ mode	136 hours, 00 minutes
SP mode	268 hours, 00 minutes
LP mode	533 hours, 00 minutes

Using removable memory media can expand the recording capacity of the DM-420. The table below shows the potential recording capacity of the recorder with different sized microSD and microSDHC memory cards.

Recording Mode	Maximum Dictation Recording Time (memory card)		
	1 GB	2 GB	4 GB
MP3 320 kbps	6 hrs. 30 min.	13 hrs. 30 min.	27 hrs. 00 min.
MP3 256 kbps	8 hrs. 00 min.	17 hrs. 00 min.	34 hrs. 00 min.
MP3 192 kbps	11 hrs. 00 min.	23 hrs. 00 min.	45 hrs. 00 min.
MP3 128 kbps	16 hrs. 30 min.	34 hrs. 00 min.	68 hrs. 00 min.
ST XQ	16 hrs. 00 min.	33 hrs. 00 min.	66 hrs. 00 min.
ST HQ	32 hrs. 00 min.	67 hrs. 00 min.	133 hrs. 00 min.
ST SP	65 hrs. 00 min.	135 hrs. 00 min.	266 hrs. 00 min.
HQ	65 hrs. 00 min.	135 hrs. 00 min.	266 hrs. 00 min.
SP	128 hrs. 00 min.	267 hrs. 00 min.	524 hrs. 00 min.
LP	255 hrs. 00 min.	531 hrs. 00 min.	1042 hrs. 00 min.

Which recording quality mode should I use?

Different quality modes save the digital record of a signal with different levels of faithfulness to the original sound. The ST XQ and ST HQ modes are recommended for music, drama or interviews that may be made for broadcast because they make very detailed digital records of the sound and use a very wide frequency range.

Lower-quality modes, such as SP (Standard Play) and LP (Long Play), make a less-detailed digital record of the signal and use a narrower frequency range so they will use up the available Flash memory much more slowly. These modes are best used for audio note taking or for recording college lectures or seminars – situations in which large content capacity is more important than high audio quality.

What are the maximum recording times per file?

A maximum recording time per file is set for each quality mode. Even if a recorder's memory is not exhausted, a single recording cannot be continued beyond the limit.

Maximum Recording Time Per File

Quality Mode	Recording Time
MP3 320 kbps mode	29 hours, 40 minutes
MP3 256 kbps mode	37 hours, 10 minutes
MP3 192 kbps mode	49 hours, 40 minutes
MP3 128 kbps mode	74 hours, 30 minutes
ST XQ mode	26 hours, 40 minutes
ST HQ mode	26 hours, 40 minutes
ST SP mode	53 hours, 40 minutes
HQ mode	26 hours, 40 minutes
SP mode	53 hours, 40 minutes
LP mode	148 hours, 40 minutes

Usage

How is the recorder turned off?

The recorder is turned off by sliding the [**POWER/HOLD**] control on the right underside of the recorder downward and then releasing it. The switch should then be moved upward to the **HOLD** position to prevent accidental activation of button functions.

How do I select which type of memory to use?

The selection of built-in memory or removable memory card is made in the menu. When a microSD or microSDHC card is inserted in the card slot for the first time and the recorder is turned on, the option to select the memory mode is displayed on the start-up screen. Thereafter the selection needs to be made in the **Device Menu** through the **Memory Select** function.

The available options are **Built-in Memory** and **microSD Card**. microSD and microSDHC cards from 512MB to 16 GB can be used. For optimum performance, it is advised to format the card the first time it is put in the recorder. If the card is being used for dictation and files are frequently erased, it is advisable to routinely download all of the files to a computer and format the card to keep it free of a build up of artifacts of previous files. Occasional formatting of the built-in memory using the menu **Format** function is also advised.

One advantage of recording to removable media is that multiple cards can be used to organize content (e.g. one can hold podcasts and another can hold a music library).

How is recording volume controlled?

By default, the DM-420 records automatically at 100% volume level to prevent accidentally recording with the volume set too low.

The recorder has three levels of microphone sensitivity:

- **High:** The highest recording sensitivity, it is suitable for conferences with large crowds and recording audio at a distance or low volume.
- **Middle:** Ideal for recording meetings and seminars with a small number of people.
- **Low:** The lowest recording sensitivity, it is suitable for close-up dictation.

Microphone sensitivity is set via the **MIC SENSE** option in the recorder's menu.

How is playback volume controlled?

The playback volume is controlled during playback by using the [**+**] (plus) and [**-**] (minus) buttons on the circular pad on the face of the recorder. Pressing [**+**] increases the playback volume. Pressing [**-**] reduces the playback volume.

How is the playback speed controlled?

The playback of files in the DM-420 can be changed to between 50% and 150% of the default playback speed in increments of 0.05. The tone of the file will be adjusted digitally without changing the pitch so that the recording sounds natural.

The play speed is changed in the recorder's menu, under **Play Speed**. The options are:

- **S. Play** (Slow Play): x0.50 to x0.95 of normal speed in x0.05 increments
- **F. Play** (Fast Play): x1.05 to x2.0 of normal speed in x0.05 increments

S. Play and **F. Play** are not available while **Noise Cancel** is enabled. During fast/slow playback, files will be played in monaural even if they were recorded in stereo.

Can I rename my files when they are displayed on my Computer?

Files in the DM-420 should not be renamed when displayed in a computer's file-browsing software (e.g. My Computer) because the recorder's file-management software may not be able to find a renamed file.

How does the Zoom Mic option work?

The **Zoom Mic** menu option employs the DiMAGIC Virtual Microphone™ (DVM) audio pickup system that allows more dynamic recording by focusing on sound from selectable directions. It enables expansive stereo recording to high directivity recording using the DM-420's built-in microphones.

The options available in **Zoom Mic** are: **OFF**, **Wide**, **Narrow** and **Zoom**.

The **Zoom** option has the narrowest angle of reception and records only in monaural.

Because the DVM technology is tailored to the recorder's microphone, **Zoom Mic** is incompatible with Olympus accessory microphones and third-party microphones.

How are files erased from the recorder?

Dictation, Audible, Podcast and Music files can be erased from the recorder by selecting the file and pressing the **[ERASE]** button. The LCD screen will highlight **Cancel**. While **Cancel** is highlighted, press the **[+]** button to select **File Erase**, and then press the **[OK]** button. The LCD screen will display the **File Erase** screen with **Cancel** highlighted. Press the **[+]** button to select **Start** and then press the **[OK]** button. The LCD will then display **Erase Done**.

To erase all of the files in a folder, use the same procedure, but select **Erase in Folder** instead of **File Erase**.

Note: Locked files and files that are set as read-only cannot be erased using this function.

I want to clear my recorder of all loaded files. How do I format the recorder?

The recorder should be formatted only by using the internal **FORMAT** function found in the menu. Formatting using the computer may corrupt system files needed to run the recorder and may delete the Voice Guide Data and Audible system files. When the recorder is connected to a computer, individual files can be deleted using My Computer without negative effects.

How do I charge the recorder's rechargeable batteries?

The two bundled BR-401 NiMH batteries can be charged in the recorder via a USB connection to a computer. The USB cable should be plugged directly into a computer USB port and not into a USB hub. USB hubs split up the USB current and the battery may not fully charge through a hub connection.

To charge the batteries through a USB port, first connect the USB cable bundled with this recorder to a computer. Next, press the **[STOP]** button on the recorder while plugging the other end of the USB cable into the recorder. Charging will be displayed in the charging indicator at the top of the LCD screen and the orange LED will be lit. The LED will go out when charging is completed.

The batteries can also be charged using the optional [AC Adapter A-514](#), which has a USB plug on its cable. To set up the recorder to charge from the AC adapter, in the menu go to **USB Settings > USB Connect > AC Adapter** and press the **[OK/MENU]** button.

How should the recorder be disconnected from a Windows computer?

Any USB device should be disconnected from a Windows® computer using the [**Safely Remove Hardware**] icon located in the Taskbar in the lower right corner of the Desktop screen. The icon features a green arrow suspended above a device and pointing to the lower left.



Any open files should be closed before starting the disconnect process. Simply removing the device from the USB port without using the recommended disconnect procedure can result in corruption of files or firmware.

Double-clicking on the [**Safely Remove Hardware**] icon opens a dialog box to shut down the USB connection so that the device can be safely disconnected. Select the device to be disconnected by clicking once on its name, and then click on the [**Stop**] button.



Clicking on the [**Stop**] button launches another dialog box to confirm the devices that are to be stopped. Clicking the [**OK**] button closes the USB connection.

The desktop screen will display a message balloon above the taskbar indicating that it is safe to disconnect the hardware.



How should the recorder be disconnected from a Macintosh computer?

Any USB device should be disconnected from a Macintosh computer either by clicking on the **EJECT** button or dragging the drive icon that represents the recorder to the **Trash**.

Accessories

Will using an accessory microphone with an extended frequency range improve the quality of my recordings?

Using an accessory microphone with an extended frequency range may not improve the quality of the recordings in a DM-420. The recorder has an overall frequency response of 40 – 20,000 Hz, but the different quality modes modify the detail of the saved file data by saving some frequencies and discarding others. This is how the recorder is able to vary the potential recording time and use the built-in flash memory more efficiently.

The table below shows the overall frequency response in each recording quality mode:

Quality Mode	Overall Frequency Response
MP3 320 kbps mode	40 Hz – 20,000 Hz
MP3 256 kbps mode	40 Hz – 20,000 Hz
MP3 192 kbps mode	40 Hz – 19,000 Hz
MP3 128 kbps mode	40 Hz – 17,000 Hz
ST XQ mode	40 Hz - 19,000 Hz
ST HQ mode	40 Hz - 16,000 Hz
ST SP mode	40 Hz - 9,000 Hz
HQ mode	40 Hz - 13,000 Hz
SP mode	40 Hz - 8,000 Hz
LP mode	40 Hz – 3,000 Hz

Is there an AC adapter available for the DM-420?

The DM-420 is compatible with the optional A-514 AC Adapter. The adapter can be used to power the recorder and also to charge the rechargeable batteries bundled with it.

The A514 AC Adapter can be purchased directly from The Olympus Store by clicking [here](#).

Troubleshooting

I formatted the recorder using my computer and the Voice Guide Data is gone. Can I restore it?

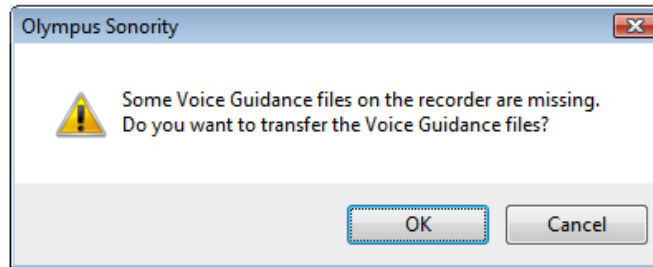
If you format the recorder and erase the Voice Guidance data by mistake, or if you want to change its language, the Voice Guidance Data can be copied from the Olympus Sonority software to the recorder via either of the following procedures:

- **Uploading Voice Guidance Automatically**

Olympus Sonority automatically detects the languages supported by a connected recorder and uploads the corresponding files not stored in the recorder. Voice Guidance languages that can be downloaded into the DM-420 are Japanese, English, French, German, Italian, Spanish, Russian, Finnish, Czech, Norwegian, Swedish, Portuguese, Greek, Danish, Polish, Dutch, Hindi and Urdu.

Connect the recorder with Voice Guidance capability to the computer and open Olympus Sonority.

With the built-in Voice Guidance of the recorder turned on in the menu, Olympus Sonority will automatically check the state of the Voice Guidance files in the recorder. If the recorder lacks any of the required files, the **Upload File** dialog box will appear.



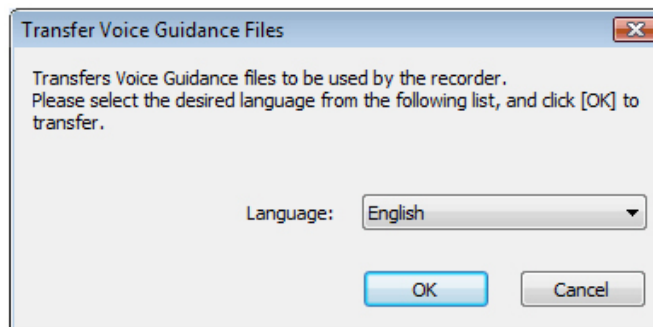
Click the [OK] button. The Voice Guidance files will be uploaded.

- **Uploading Voice Guidance Manually**

To manually upload the Voice Guidance in a desired language, perform the following steps:

Connect the recorder with the Voice Guidance capability to the computer and open Olympus Sonority.

Select the [Device] > [Upload Voice Guidance Files] menu option. The **Transfer Voice Guidance Files** dialog box will appear.



Voice Guidance files that can be uploaded are listed in the drop-down list. Select the desired Voice Guidance language to upload and click on the [OK] button.

The Voice Guidance in the selected language will upload to the recorder. The Voice Guidance file set to the primary supported language in the recorder will be overwritten with the new Voice Guidance file in the selected language.

The battery ran out while I was recording a file, and now I can't find or play the file. Why?

If the battery runs out of power during the recording of a file, the recording in progress will be lost because the file header will be unable to close. It is crucial to change or charge the battery once the battery indicator shows only one hash mark of power remaining.

Removing the battery while the recorder is in use may also corrupt a file.