

SpeakQ User Guide Contents

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Getting started

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Thank you for purchasing SpeakQ. Please read this section to get started using SpeakQ quickly.

Speak Q is a speech recognition software which works with WordQ to provide you with a writing tool that is sophisticated and powerful, yet clear and easy to use.

SpeakQ was researched and developed at the Bloorview Kids Rehab, one of the largest children’s rehabilitation hospitals in North America, in partnership with the Education Development Centre (Newton, MA) under a US Department of Education grant.

Your WordQ with SpeakQ combination offers several unique features: simplified training with speech prompting, speech feedback of recognized words and phrases, seamless integration with word prediction, a choice of discrete or continuous dictation and no voice commands (just text and punctuation). It benefits a wide range of users, from those with severe spelling and writing difficulties to those who simply have to write a lot. For some people it is a way of finally being able to communicate in writing, for others it is a simple tool for a busy life.

Please become familiar using WordQ before using SpeakQ.

SpeakQ features

SpeakQ is a simple-to-use speech recognition plug-in to *WordQ* Writing Software. With *SpeakQ* you can:

- Enjoy all of the existing benefits of *WordQ*
- Train speech recognition using training text of your choice
- Train using speech prompting if you have difficulty reading the training text
- Work directly within any standard application (e.g. Microsoft Word, Wordpad, Outlook)
- Dictate either continuously into a document or discretely into the word prediction box
- Dictate in phrases or individual words
- Hear what the computer recognizes
- Type, use word prediction, or speak-to-write at any point in your writing
- Make corrections using speech-enabled word prediction
- Back-up and restore your speech profile
- Use speech recognition without having to learn and memorize speech commands

What you need to get started

To install and use the *SpeakQ plug-in*, you need:

- ***WordQ 2 software pre-installed***
- A Windows PC with 1 GHz or higher processor speed (2+ GHz preferred)
- Windows® NT (SP 6+), 2000, XP, or Vista
- Sound card, noise-canceling microphone (headset or desktop), and headset or desktop speakers.

WordQ with *SpeakQ plug-in* software has been designed for individual PCs. Only one user may run a single copy at a time. However, that copy may be used by more than one user, each with a different user vocabulary file.

Make sure that your Windows user account has administrator privileges before proceeding with the installation.

WordQ software must be installed directly on an individual PC. However, if you are connected to a network and the user has a login account, then it is possible to configure the PC to store and retrieve *WordQ* user files from the user's network directory. For detailed information on configuring such network installations please refer to the **Support** page on www.wordq.com.

Note *If you have a current WordQ 2 with SpeakQ demonstration version installed, you can simply register it with the serial number provided.*

There will be no *SpeakQ* icon on your desktop – you will access the features of *SpeakQ* from within *WordQ 2*.

Using *SpeakQ*


Install *SpeakQ*

1. Put the *SpeakQ* software CD in your computer.
2. If the CD Autoplay feature is turned on, you will be asked to install *SpeakQ*.

If the CD Autoplay feature is turned off, open the CD from **My Computer** then double-click on **Install.exe**.

3. Follow the onscreen instructions.
4. The following software will be installed:
 - *SpeakQ*™ plug-in for Windows NT/2000/XP/Vista
 - Microsoft® Speech 5.1 Drivers
 - Microsoft® English (U.S.) v6.1 Recognizer (except Vista)

Register software

1. Double-click the *WordQ* 2 desktop icon  to run *WordQ*
2. You will be prompted to register the *SpeakQ* plug-in.

Type in your name, your organization (optional) and the serial number that is provided on the back cover of your *SpeakQ* CD case. This serial number is in three groups – 3, 6 and 3 numbers. The *WordQ* buttonbar will then appear with two new buttons as shown below:



What can I do with *SpeakQ*?

You can do everything that *WordQ* does, plus you can write by speaking. At any time you have the choice of typing with the keyboard, using word prediction, or speaking straight into your text. Speech recognition and word prediction are integrated to enhance the effectiveness of each other.

You can train *SpeakQ* to recognize your speech using texts provided that match your reading level or you can write your own training texts.

Once you have finished training, you can dictate words or phrases directly into your documents similar to other speech recognition software. You can also use *SpeakQ*'s unique *speech-enabled word prediction*. Here, spoken words are displayed as a list of choices enhanced by word prediction. You then choose from the prediction box using the keyboard or mouse, or type letters to further refine the suggestions.

Recognized words and phrases are immediately read aloud to help you identify mis-recognitions. To help you make any corrections, highly accurate word predictions are suggested by combining speech with predictive information. As a result, the desired word can be selected with a minimum number of keystrokes.

It may take you some time to work out for yourself how to balance typing with speaking. Everyone is different.

Training *SpeakQ*

It's a good idea to read the whole of this section before you start the training – that way you will know what to expect and your training will be more successful.

Note Please review the vocal hygiene recommendations provided in **Appendix A** at this time.

Before using *SpeakQ* you must create a speech recognition profile and train it so that *SpeakQ* recognizes your speech. You will read several training texts aloud. Each involves speaking for about 2 – 5 minutes. You will need to do several of these, with breaks in between, so that *SpeakQ* can work more accurately. (You need to train at least 800 – 1,000 words, or about 15 minutes of your speech for best results.) If you find that recognition is poor when you come to dictating, then do some further training, preferably with text that is similar to what you want to write (see **Appendix B: Custom training text**).

Note The *SpeakQ* speech training interface described below has been designed for a user who has difficulty with reading. If this is not your case, you can use the standard Microsoft speech training wizard located under **Start>Control Panel>Speech**. This wizard allows somewhat faster training without speech prompting.

Step 1: Connect your microphone

You must connect to your computer a quality noise canceling microphone (certified for speech recognition). A USB microphone is often best. Consider using a headset

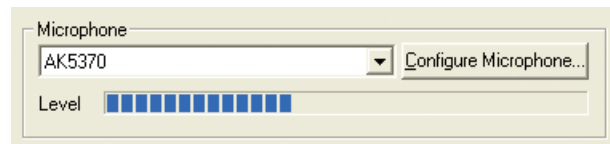
microphone with earphones that allows you to hear the speech feedback privately without disturbing others. You may also use a directional desktop microphone and desktop speakers if you are using the computer in a quiet environment. (In a classroom, it is suggested that you sit at the back facing the front of the class so that the microphone does not pick up sounds from the teacher or other students.)

You should not change your microphone once you have trained *SpeakQ* with it. If you do change microphones, or change places where you use *SpeakQ*, then you should create a new speech profile for each situation and repeat training in each. There are no limits on the number of speech profiles that you may create.

Step 2: Do a quick test of your microphone.

Choose **Speech recognition...>** from the **Options** menu.

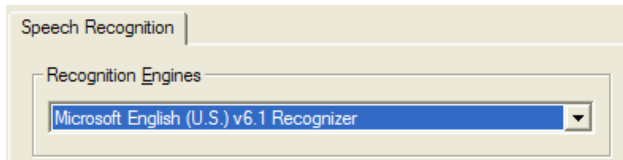
Speak a phrase. You should see a moving horizontal green bar displayed in the microphone section. If you do not see this moving bar while speaking, make sure that your microphone is connected and that the correct microphone is selected from the drop-down list in this section. (You may have several possible microphones listed.)



Step 3: Choose the recognition engine

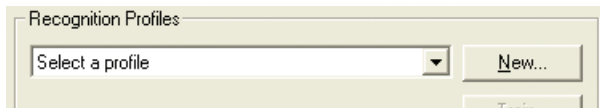
Ensure that only a **Microsoft English Recognizer** is chosen.

- NT/2000/XP: choose **Microsoft English (U.S.) v6.1 Recognizer**
 - Vista: choose **Microsoft Speech Recognizer 8.0 for Windows**
- SpeakQ* will not work with any non-Microsoft recognition engine that may be displayed.



Step 4: Create a speech recognition profile

Click the **New** button in the **Speech recognition** dialog to create a new recognition profile.

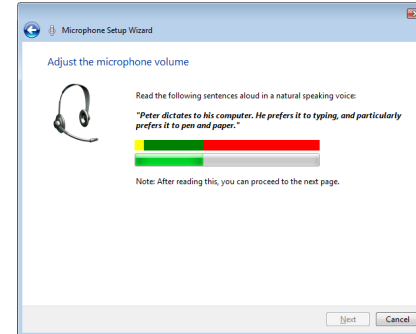


Enter a name for your profile, such as your personal name (e.g., Tom) and click **OK**. This name will now appear in the list of recognition profiles.

Step 5: Adjust the microphone/speaker volume

A microphone wizard will then be displayed to adjust the volume of your microphone.

Click **Next>** on the first page to display the page below.



When you are ready, speak a sentence. (You can read the sentence shown, or you can make up your own.) Speak normally. The system will automatically adjust the volume of the microphone as you now speak.

Pause after you speak and the **Next>** button should become available which you should now click. If it is not available, speak another sentence and pause.

The next step in the wizard tests your speakers/headset.

In this step, speak a sentence and then pause. You should hear whatever you said through the speakers/headset. If you don't hear anything, check to make sure they are plugged in, powered and turned on (if necessary), and the volume adjusted. Click **Next>** when satisfied.

Step 6: Train your speech

Click the **Train...** button in the **Speech recognition** dialog to begin training your recognition profile.

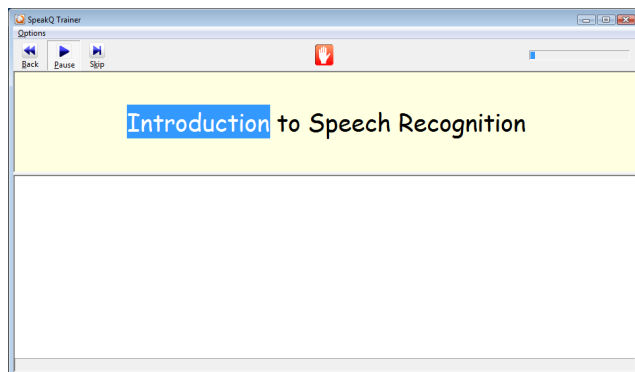
You will first be prompted to choose a training text. Choose a text that is at an appropriate level (beginner,


intermediate, or advanced) and in an area of interest to you. (See **Appendix B** for creating your own training texts.)

A training window will now be displayed. The upper portion of the window will display the training text, one phrase at a time.

Click on the **Train** button to begin your training.

You will see a short piece of text at the top of your screen. It will be read to you and highlighted word-by-word.



When the highlighting stops and the 'go' icon  appears at the top of the training window, say the phrase into your microphone.

Note *It is necessary to wait for the highlighting to stop before you speak – the microphone automatically turns off while SpeakQ is highlighting the text so it won't 'hear' you. Speak in your normal voice – not too fast, slowly, loud, or quietly.*

After you speak, the computer will write down what you have said in the bottom section of the training window. Once the complete phrase is recognized, you will be

prompted with the next phrase. After a while you should find that you develop a rhythm of reading/listening and speaking – your training should then go quite smoothly.

If you do not say everything or the computer does not recognize your voice, do not worry. After a short pause, the computer will say any remaining words again.

Take a break whenever you need one by clicking on **Pause**. Click **Train** to continue with training. If you get stuck on a word and it is not recognized, just click on **Skip** to skip that word.

If you happen to say the wrong word, and the computer thinks it is correct, do not stop. Just continue with the training. You do not have to make any corrections now.

Along the bottom of the window you will notice a progress bar that indicates your progress through the training. When all of the text is trained the *SpeakQ* training window will close and save your trained profile.

Step 7: Repeat training

Repeat this training procedure with more training texts. At least three of the full training texts (i.e., all parts) provided should be trained. This is about 800 – 1,000 words, or about 15 minutes of your speech. You can take a break between trainings or do them on different days. The recognition will improve with more training.

Things to know

New WordQ Buttonbar buttons

The following buttons are added to the *WordQ* buttonbar after *SpeakQ* is installed:



Mic Turn the microphone on and off.
Click or press *F8* (or assigned hot key).



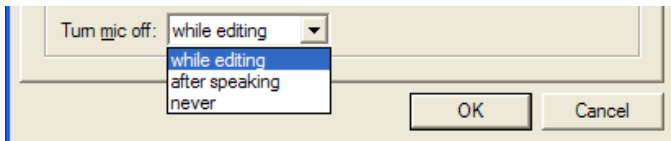
RePlay Replay a recording of your (selected) text to hear your own voice.
Click or press *F6* (or assigned hot key).

Dictation Options

SpeakQ offers two dictations modes, **Speak and select** and **Speak continuously** which are described in the next two chapters. Associated with these is an option to limit single-word recognition to only words from your *WordQ* vocabulary.

Microphone on/off settings

From the **Options>Speech Recognition...** dialog you can choose to have the microphone automatically turn off while editing, after every recognition, or never.



Turn mic off: while editing (default)

The microphone automatically turns off whenever you: click with the mouse; use the ←, ↑ or → keys; or press *Esc*. This allows you to make edit without worrying about unwanted recognitions being inserted. Click on the **Mic** button or press *F8* to turn the microphone on again when needed.

Turn mic off: after speaking

This is useful when you occasionally use speech recognition. Turn on the microphone when you want to insert a word or phrase and then the microphone turns itself off.

Turn mic off: never

The microphone will stay on until you manually turn it off.

Immediate undo

Press *Esc* to immediately undo any text entered in your document through speech recognition.

No speech commands

SpeakQ focuses on recognizing words for writing only. There are no speech commands (e.g., command and control, selection, correction, editing, selection, navigation, capitalization) to get confused with your writing. However, a limited set of punctuation marks can be used (see **Appendix C**).

Recognition speech feedback

When first installed *SpeakQ* will speak back whatever is recognized. You can turn this off by unchecking **Speak words** in the **Options>Speech Feedback...>Feedback** dialog.

Speak and select

Speak and select is one of two available speech recognition modes with *SpeakQ*. Here, spoken words are displayed as a list of choices enhanced by word predictions. You then select from the list of words or phrases (using the keyboard or mouse), or type letters to further refine the suggestions.

When *SpeakQ* is first installed, **Speak and select** mode is automatically chosen. You can manually choose this mode by choosing **Speech Recognition...** from the **Options** menu and then select it under **Dictation**. This dialog also includes an option to limit single-word recognitions to only words from your vocabulary.

Step 1: Start a writing application

Start a writing application such as Microsoft Word. The prediction box will appear as you normally have it set.

Step 2: Turn on microphone

Turn on the microphone by clicking the **Mic** button or by pressing **F8**.

Step 3: Speak a word or phrase.

Speak a word or short phrase. Notice that while the computer is recognizing your voice, an ellipsis (...) is shown in the prediction box. After you pause, your recognized text is displayed and the most likely recognition will be spoken.

If you speak a single word, you may see several similar sounding words. If you speak a short phrase, you may only see a single recognized phrase. It is suggested that you speak in short phrases (3 – 5 words).

At this point, it is suggested that you simply practice speaking and reviewing the recognized words or phrases.

You can hear each word or phrase in the prediction box by using the usual *WordQ* method of pressing the **↓** key or mousing over the words. When listening to the words, you can select them with the **Enter** key or by clicking them.

Note Only words contained within your *WordQ* user vocabulary are suggested in the **Speak and select** mode.

You can increase the accuracy of recognition by typing a single letter to limit the suggested recognized words to those beginning with that letter.

Step 4: Select a word or phrase

If the word or phrase that you want is in the prediction box, you can select it as you would with any predicted word. If your word or phrase is not shown, speak again.

As soon as you select a word or phrase, it will be typed into your application. It will also be spoken aloud.

Step 5: Correcting within a recognized phrase

SpeakQ temporarily remembers whatever you just said and makes those words available for you to use as word predictions. You can then quickly re-create the original phrase in a few keystrokes when changing/adding/deleting one or two words.

Speak continuously

For example, consider having to change the word “is” to “was” if the phrase “this is going to be difficult” is shown in the prediction box.

Instead of selecting the phrase in the prediction box, begin typing, i.e., start with the letter “t.” The word “this” will be at the top of the predicted list. Select it and “is” will be at the top of the next predicted list. At this point, select “was” from the list instead of “is.” (If your desired new word is not shown, type one or more letters until it is shown and select it.) Then the words “going; to; be; difficult” will be at or near the top of each subsequent list.

Step 6: Adding punctuation

In the **Speak and Select** mode, you must type punctuation marks rather than speak them.

Step 7: Additional training

At first, you may be disappointed with recognition in comparison to the training where the training text is known in advance and your recognition appears perfect. In actual use, the computer does not know what you are saying in advance. With practice, the recognition will improve. You will also learn how to dictate more comfortably leading to better recognition.

Additional training may be required if you are not satisfied with the recognition, preferably with text that is similar to what you want to write (see **Appendix B: Custom training text**). Further, with time, you will work out your own strategy for combining speech with typing and word prediction.

Speak continuously is the second of two available speech recognition modes with *SpeakQ*. Here, your spoken words are typed directly into your document as you say them.

You can manually choose **Speak continuously** by choosing it under the **Dictation** section of the **Options>Speech Recognition...** dialog. This dialog also includes an option to limit single-word recognitions to only words from your vocabulary.

Step 1: Start a writing application

Start a writing application such as Microsoft Word. The prediction box will appear as you normally have it set.

Step 2: Turn on microphone

Turn on the microphone by clicking the **Mic** button or by pressing **F8**.

Step 3: Speak a phrase

It is recommended that you speak in short phrases. While you can speak individual words, recognition accuracy is better with short phrases. Notice that while the computer is recognizing your voice, an ellipsis (...) is shown in the prediction box (if visible) and in *WordQ*'s titlebar. After you pause your recognized text is immediately written down in your document and spoken out.

Step 4: Correcting within a recognized phrase

There are three ways to make corrections:

- use the keyboard and type over any errors;
- press *Esc* to quickly undo the recognized phrase and speak the phrase again; or
- press *Esc* to quickly undo the recognized phrase and use speech-enabled word prediction.

In this last method, *SpeakQ* temporarily remembers whatever you just said and makes those words available for you to use as word predictions. You can then quickly re-create the original phrase in a few keystrokes when changing/adding/deleting one or two words.

For example, consider having to change the word “is” to “was” if the phrase “this is going to be difficult” has been recognized and typed out.

After pressing *Esc* to quickly undo the recognized phrase you will notice that the word “this” is immediately at the top of the predicted list. Select it and “is” will be at the top of the next predicted list. At this point, select “was” from the list instead of “is.” (If your desired new word is not shown, type one or more letters until it is shown and select it.) Then the words “going; to; be; difficult” will be at or near the top of each subsequent list.

Step 5: Inserting punctuation

You may speak common punctuation marks rather than type them (see **Appendix C**).

It is generally easier to type punctuation on the keyboard. *WordQ* then automatically adjusts spacing around

punctuation marks and capitalizes the first word in a sentence if this option is checked under **Options>Prediction...>Prediction**.

Step 6: Correcting within your document

Begin by taking advantage of *WordQ*'s proofreading features to review your document for any errors. Exit proofreading to make corrections.

You can review a small phrase by highlighting it and pressing the **Read** button to hear it spoken. You can also hear what you actually said in your own voice (if you used speech recognition for that phrase) by pressing the **RePlay** button. This voice replay feature is available as long as your document has not been closed.

Note *The quality of your own voice recording is limited.*

You then have a choice of typing over or inserting new text by voice or by keyboard with the help of speech-enabled word prediction. Whenever speech information is available, it will be combined with word prediction when editing individual words.

Step 7: Training new words

You can add new words with unusual spelling and/or pronunciation, such as proper names.

Choose **Train Word...** from the **Options** menu.

Type in your word.

Click the **Record Pronunciation** button and speak the word clearly. Once recorded, the word will be added to the Dictionary list. You may add as many new words as you wish now or at a later time. Close this dialog when done.

Note Training new words does not add those words to your prediction vocabulary if they are not already included. Manually add them to your vocabulary through the Options>My Words... dialog if necessary.

Step 8: Additional training

At first, you may be disappointed with recognition in comparison to the training where the training text is known in advance and your recognition appears perfect. In actual use, the computer does not know what you are saying in advance. With practice, the recognition will improve. You will also learn how to dictate more comfortably leading to better recognition.

Additional training may be required if you are not satisfied with the recognition, preferably with text that is similar to what you want to write (see **Appendix B: Custom training text**). Further, with time, you will work out your own strategy for combining speech with typing and word prediction.

Hint It is always a good idea to make sure that you know exactly what you want to say before you start speaking. It is helpful to say a phrase in your head first before speaking out loud.

Backing up and restoring

It is recommended that you back up your recognition profile immediately after you have completed training it. This profile is separate from your user vocabulary, although the name of your current profile is recorded with your vocabulary. You should also back up your recognition profile on a regular basis.

Hint Consider using a different file name each time that you back up your recognition profile (e.g., Tom1, Tom2, Tom3). Then, if something goes wrong with your recognition profile, you can then recover to a time when it was working without having to redo all of your training.

Backing up a recognition profile

1. Select **Speech Recognition...** from the **Options** menu.
2. Choose the recognition profile that you wish to back up.
3. Then click the **Back-up** button. A **Save As** dialog will be displayed.
4. Enter a name for the back-up file. It will then be saved in a compressed format with a ".pfr" extension under **...(My) Documents\WordQ 2 Users**. You can transfer a back-up file to another computer by copying it to a USB "thumbdrive" or by burning it onto a CD.

Restoring a recognition profile

1. Select **Speech Recognition...** from the **Options** menu.
2. Choose the recognition profile that you wish to back up.

Then click the **Restore** button. An **Open** dialog will be displayed.

4. Locate and select the desired back-up file (with a ".pfr" extension).

You will then be prompted to enter a name for the profile to restore.

5. You can:
 - accept the default name which is the same as the file name
 - type an existing name in the recognition profile list; or
 - type a new name

Note *Be aware every computer is different and that a recognition profile may not work as well if restored on a different computer than the one on which it was created.*

It is very important to take care of your voice when you are using speech recognition.

If you have frequent hoarseness, loss of speech, sore throats, pain or discomfort when speaking, or if speaking starts to require significant effort, do not use speech recognition. If these problems persist and are not associated with a cold or other illness, please contact a speech-language pathologist or an ear, nose and throat specialist.

We recommend the following when using speech recognition:

- *Speak in your natural speech.* Speak the same way you would to a person sitting right in front of you. Do not whisper, speak extra loudly or put extra emphasis on words.
- *Relax.* Stay relaxed when using the system. Make sure that you are sitting comfortably and able to maintain good posture.
- *Breathe in through your nose.* This helps prevent dryness. Do not breathe too shallowly or exaggerate your breathing. Keep your shoulders down.
- *Take frequent breaks.* Take a break of at least 10 minutes every 30 to 60 minutes, or more often if required. During your breaks drink water, and relax.

Appendix B: Creating training texts

- *Drink water frequently.* Drink water throughout use of speech recognition, not just during breaks. Small sips of water help prevent dryness.
- *Speak with varied intonation.* Using intonation (i.e., a sing-song pattern in your voice) will help you vary your pitch and avoid speaking in a monotone, which can stress your voice.
- *Humidify the room.* Ensure that the environment in which you are speaking is not too dry. Use a humidifier if necessary.
- *Keep dust to a minimum.* Dust can irritate your throat.
- *Limit use when feeling ill.* Don't do too much speech recognition if you have a cold or are feeling ill. Pay extra attention to how your speech sounds and how your throat feels. Take more breaks and drink more frequently. Try not to speak as much as usual.

AVOID

- *Smoking.* Speech recognition should be used in a room that is free of smoke. Smoking is not recommended for speech recognition users.
- *Throat clearing.* Many people are not aware that they frequently clear their throat when talking. When you feel the need to clear your throat, take a drink of water and swallow hard instead.
- *Excessive coughing.* If coughing is unavoidable, do this as gently as possible.

You can create your own training text files from samples of your own writing or from any other source. Training texts are simply text files, created in the word processor of your choice, using text characters only (i.e., no numbers) and simple punctuation. These are then saved in text-only format with a “.txt” extension.

1. Find or write your piece of text. Press **Enter** after each sentence to separate it from the next.
2. Break each sentence into ‘chunks’ (5 or 6 words per chunk is a good average but you can choose how many or how few you have).
3. Type out your text, inserting the # symbol after each chunk.

This is an example of how a training text file might look:

```
Introduction to Speech Recognition
Please repeat what the computer says.
Speak clearly in your normal voice.
Do not talk too fast,# or too slowly.
After you speak,# the computer will write down# what
you have said.
If you do not speak everything,# do not worry.
The computer will speak# any remaining words again.
This speech training# will help the computer# better
recognize your voice.
```

4. Save your training text in a text-only format in a folder such as ...(My) Documents\WordQ2 Users.

Appendix C: Punctuation marks

To write	Say
.	Period
,	Comma
:	Colon
;	Semi-colon
?	Question mark
!	Exclamation point
&	Ampersand
@	At sign <i>or</i> at
\	Backslash
/	Slash
-	Hyphen
--	Dash
=	Equals
+	Plus sign
#	Pound sign
%	Percent sign
\$	Dollar sign
"	Quote

Service and support

Whichever way you use *SpeakQ* and *WordQ*, we hope you enjoy it.

If there's any way we can help you with any questions, please feel free to get in touch, by phone, fax, email or regular mail.

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