

SpeechWare SpeechMatic USB MultiAdapter

(1) USB audio card with standard Sound jacks, (2) Speech Equaliser (SQ) and Auto Gain Control (AGC) or Amplifier for professional Speech recognition, Voice or Music recording and Wideband or High Definition (HQ) VoIP with Windows®/MacOS®

1. INTRODUCTION

The release of *Dragon NaturallySpeaking® 11* containing the most powerful speech recognition engine ever --utilising a 22 kHz sampling rate to improve audio quality and recognition accuracy, coincided with the emergence of Wideband or High Definition (HD - 20 kHz) Voice over IP (VoIP) and other 'Unified Communications' accelerating the transition away from conventional low fidelity telephone technology.

SpeechWare aimed to develop a brand new portable microphone to exploit fully the challenge posed by these two nascent developments: **harness the full capability of this remarkable speech engine at long and variable dictation distance (up to an unprecedented 50 cm or 20")**; and **provide unmatched voice clarity for VoIP users**. Moreover, the performance of this unique portable microphone has to be comparable to that of the best very close range professional headsets; freeing users from the need to wear a headset or being physically tethered to a computer, while dictating or communicating over IP.

Welcome to the SpeechMatic USB MultiAdapter, the award-winning model from this family of unique analog audio to USB adapters by SpeechWare. Unlike competing conventional products merely adapted for PC or Mac use; this USB soundcard has been designed and engineered with the support of an international advisory committee with unparalleled experience in microphone technology and speech recognition. We also encourage customer feedback.

This truly “**multipurpose**” device features **two different operational modes**. An industry first **Speech Equaliser (SQ) and Auto Gain Control (AGC) or Amplifier mode (Green LED)**, which is optimised for **long and variable** dictation distance (30 cm to 50 cm / 12” to 20”) with **LOW ambient noise**, specially meant for use with our portable desktop microphone **TravelMike** or low sensitive headset microphones, and a **Normal or HD VoIP mode (Blue LED)**. This latter setting is ideal for:

- **Close and variable** distance (from 2.5 cm / 1” depending of your voice and the sensitivity of the headset microphone you use) Speech Recognition;
- Full duplex (simultaneous Sound in and out) Wideband or High Definition (HD) 20 kHz Internet telephony (VoIP);
- Full duplex HD Video conferencing;
- HD Podcasting;
- Voice and Music recording.

Besides, the SpeechMatic USB MultiAdapter incorporates a couple of standard Sound jacks to connect an external headset microphone (like the mini gooseneck of the TravelMike), speaker or earset. The card features the same award winning technology than our TableMike desktop microphone, in a smaller USB format, which has been consistently rated as the **Best in Class for Speech recognition with a “5 Dragon”** by Nuance Inc. –the editor of Dragon NaturallySpeaking, as well as by **MacWorld US**:

- http://www.macworld.com/article/163860/2011/12/choose_the_right_mac_microphone_for_speech_recognition.html
- http://www.macworld.com/article/1167380/usb_6_in_1_tablemike_great_for_mac_speech_recognition.html

In Europe, the German publication **MacWelt** explicitly highlighted the excellent accuracy of the TableMike with Dragon Dictate 3, along with the freedom of movement during dictation: <http://www.macwelt.de/produkte/Test-Speechware-USB-9-in-1-Table-Mike-7706095.html?redirect=1>

The SpeechMatic USB MultiAdapter is fully compatible with *Windows® 8, 7, Vista®, XP®, 2000, MacOS® X* and *Linux®* as well as *Dragon NaturallySpeaking®* and other Speech engines. It is the ideal companion for Notebooks, Ultrabooks and Tablet PCs.

2. OPERATING INSTRUCTIONS

2.1. Important setting up considerations

The SpeechMatic USB MultiAdapter is not a traditional USB soundcard like the ones currently available in the market, but rather a truly multipurpose one that can be configured to work as an innovative and practical portable desktop microphone (TravelMike kit) or a high performance USB soundcard.

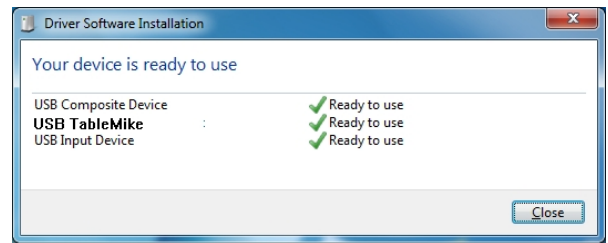
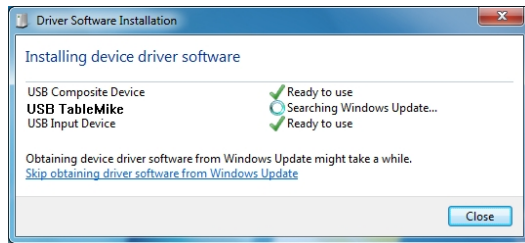
- a) Unlike most other USB soundcards, the SpeechMatic USB MultiAdapter does not automatically turn on when inserted into a USB port. When waking up your computer from hibernation, booting up your computer or simply inserting the MultiAdapter, the power button will turn **Red** to signify that is simply receiving power while remains in muted position.

Hence, press the button one time to power the MultiAdapter in the long range **Green LED** mode (with all built-in features like Speech Equalizer - EQ, Auto Gain Control - AGC, etc.). A second push and hold for a couple of seconds of the button will trigger the short or normal range **Blue LED** mode (which turns the unit on but bypasses all aforementioned features).

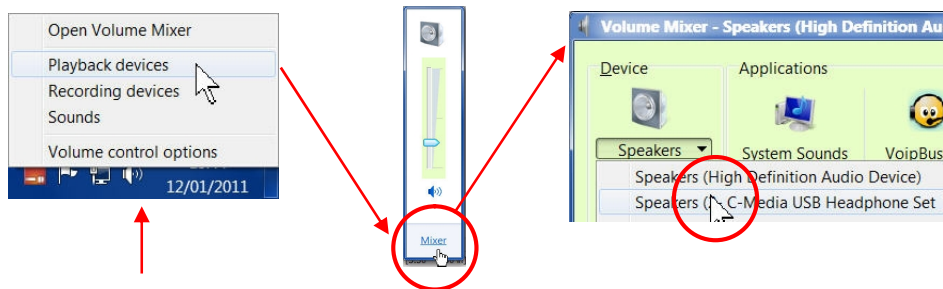
- b) Whether you choose **Green** or **Blue** modes depends on the use of the device and is discussed in detailed hereunder. Normally, **Green LED** is meant for the mini gooseneck boom of the TravelMike positioned at 30 cm or 12" or more from the user; while **Blue LED** is designed for the TravelMike at shorter distances, VoIP (echo cancellation) and overly sensitive headset microphones. Whatever the case, as with all new USB soundcards and microphones, **run the Dragon Audio Check or create a brand new user Profile for maximum performance, specially if using the Green LED.**

2.2. Installation procedures for Windows® 8, 7, Vista®, XP®, 2000 & Mac OS® X or higher

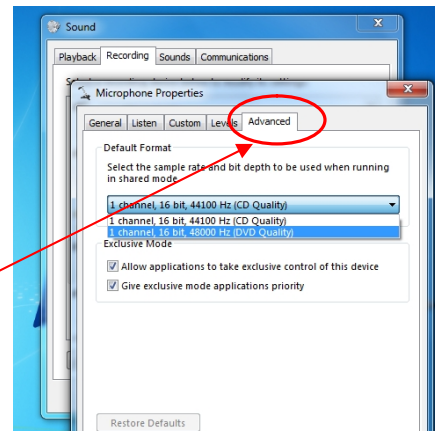
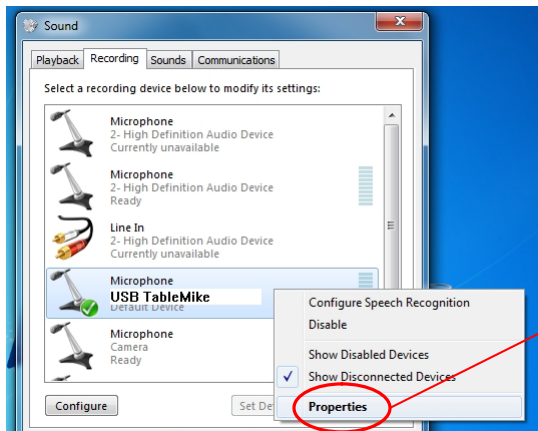
Directly insert the SpeechMatic USB MultiAdapter to a USB port of the computer with care. **DO NOT USE** any multiple USB Splitter or USB Hub device to connect to the computer. The special USB extension cable is provided in case it is needed. The Indicator Light (LED) of the base unit will light up in **Red**. If the unit does not initialise - check that the card is properly inserted in the USB port. Wait a few seconds for Windows® to automatically install the corresponding USB sound drivers:



After completion of the installation, Windows® will select the '**SpeechMatic USB MultiAdapter**' ('USB TableMike' in the images above) as the Recording and the Playback Device, and will make it the default for **ALL** applications. Hence, **you will not hear any playback if a Speaker, Headset or Earset is not plugged in the Sound out or Headset jack** of the card. To change this setting, with Windows® 7, right-click the **Speaker Icon** in the lower right hand corner of the Windows® System Tray (Systray) and choose '**Playback devices**'. Click the '**Mixer**' link to open the '**Volume Mixer**'. Select '**Speakers**' and choose another available Device to be used (normally the built-in PC Speaker). The procedure is similar under Windows® 8, Vista®, XP® and 2000.

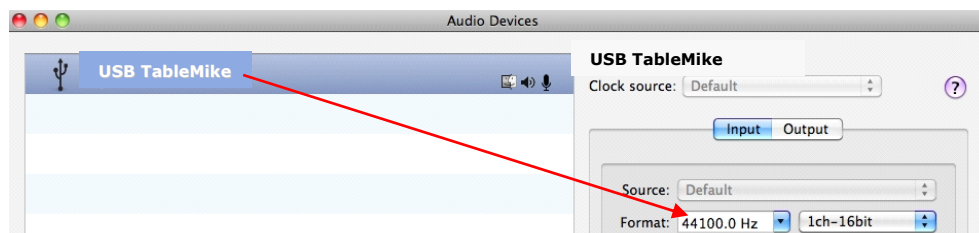


You can also go to '**Control Panel**', '**Sound**' and select the '**Playback**' tab to achieve the same result. Also, in the '**Sound**' window click the '**Recording**' tab and check that the '**SpeechMatic USB MultiAdapter**' ('USB TableMike' in the image hereby) is the '**Default Device**'. Select and click-right on it. Click '**Properties**', '**Advanced**' and choose '**1 channel, 16 bit, 44100 Hz --or 48000 Hz (DVD Quality)**':



2.3. Additional instructions for Mac OS® X or higher

Go to the **Utilities** folder in your **Applications** folder, and launch '**Audio MIDI Setup**'. Select '**SpeechMatic USB MultiAdapter**' from the list of devices. Click on the '**Input**' tab, then choose '**44100.0 Hz**' and '**1ch-16bit**' from the **Format** menu. Quit the Setup.

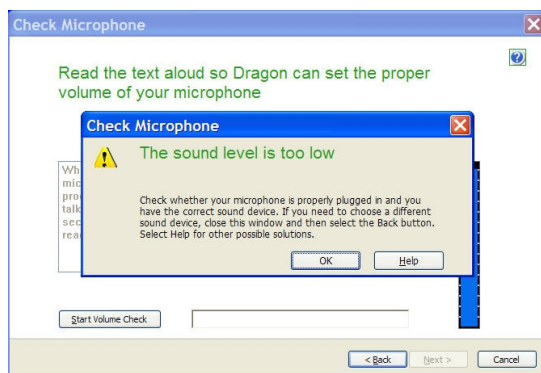


When you use *Dragon Dictate*®, choose **Tools > Microphone Setup** to calibrate the SpeechMatic USB MultiAdapter. When you do this, click on the red icon to enable the microphone, **then wait for about 30 seconds in silence until the gain setting reaches the maximum level of 99**. At this point, start reading the text to have *Dragon Dictate*® adjust the SpeechMatic USB MultiAdapter's volume properly.

3. Working with NaturallySpeaking® under Windows® 8, 7, Vista® or XP®

Due to the uniqueness of the built-in Speech Equaliser (SQ) and Auto Gain Control (AGC) or Amplifier for best performance and recognition accuracy at **long dictation distance (30 cm to 50 cm / 12" to 20") with a microphone gooseneck or a very low sensitivity microphone headset and in an environment with low noise**, we strongly recommend you create a **NEW Dragon User Profile USB with the Green LED operational and use it for a few hours**, in this way:

- Press and Hold** the '**Push**' button on the body of the SpeechMatic USB MultiAdapter and the **Red LED** will change and remain **Green** - Speech Recognition usage at long and variable range or dictation distance with **LOW ambient noise**.
- In **Green LED** Mode, the microphone will substantially increase both voice pick-up and noise cancelling levels to deliver high recognition accuracy from 30 cm to 50 cm (12" to 20") range, depending on your voice and ambient noise. Ideally, place and keep yourself at about 30 cm (12") from the microphone element. Note that the Automatic Gain Control (AGC) will automatically adjust the signal output volume depending upon your distance from the microphone element. As the distance increases, the volume output increases. However, this can cause a problem because the AGC is an amplification process and amplifying the output also amplifies any background noise or sounds, which may provoke some '*Please say that again*' or '???' messages from NaturallySpeaking®. These messages do not affect accuracy.
- Note that *NaturallySpeaking*® may also display the following two Error messages if the aforementioned ranges and conditions are not observed. In the first case, place yourself closer to the microphone during the '**Check Microphone**' which is tuned for headsets, whereas in the second positioned the microphone farther away –or switch to **Blue LED**:



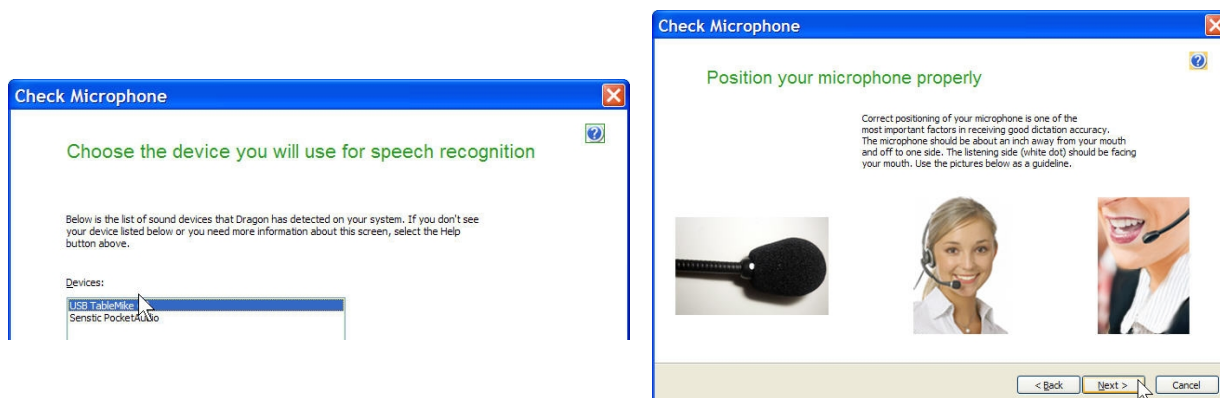
Position yourself closer to the microphone



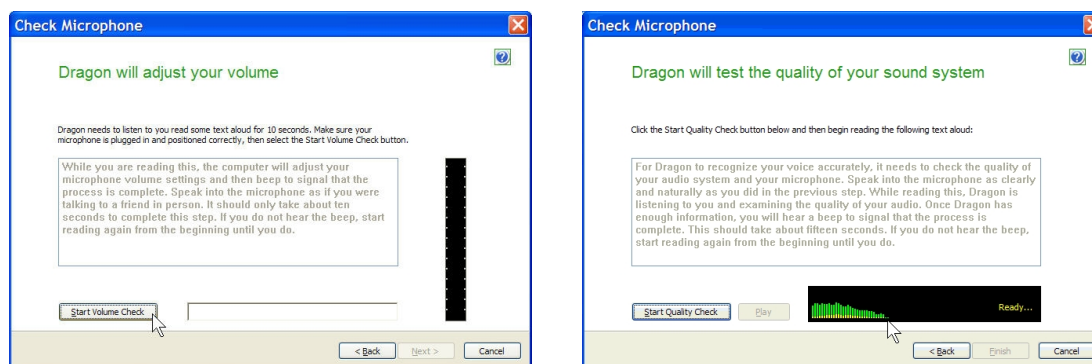
Position yourself farther away or switch to **Blue LED**

In case of **MODERATE** ambient noise (as well as VoIP use) or **with most common normal sensitivity headset microphones you are recommended to switch to Blue LED mode and shorten the dictation distance (from 2.5 cm / 1" depending of your voice and the sensitivity of the headset microphone you use)**. The latter is available when **pressing and holding** again the '**Push**' button on the body of the card (the LED turns **Blue**). In this case, simply **calibrate the microphone** (open the existing User Profile, click in the '**Audio**' menu and then select '**Check Microphone...**'). Whatever procedure you choose *NaturallySpeaking*® will present you with the following windows:

- a) First, *NaturallySpeaking*® will check your sound devices. If you only have one in your PC, you will not get the first window because you do not need to make a selection. If you have more than one soundcard installed, it will ask you to choose which one you wish to utilise. Select '**SpeechMatic USB MultiAdapter**' ('USB TableMike' in the image hereby) and click '**Next**' in the first window. Position yourself within the recommended distance from the SpeechMatic USB MultiAdapter microphone capsule depending on your LED color mode and ambient noise. Click '**Next**' again:



- b) Click the '**Start Volume Check**' button and read the text until it turns grey. **Read at your normal pace and voice level, making short pauses (3 to 5 seconds) at each punctuation sign.** In this way, both your voice and pauses (silence) will be sampled. **DO NOT SHOUT OR YELL** if the '**Gain**' bar at the right hand side of the first window does not move or moves very little. After the text turns grey again, click '**Next**'. Repeat the previously outlined process in the second window by clicking '**Start Quality Check**' and then '**Finish**':



To ensure that you get the most optimal signal-to-noise ratio, run the '**Check Microphone**' process in the environment in which you will be dictating. That is, if you are going to be dictating into a low or moderate noise environment, **be sure that you run it under those conditions**. If your background environment changes during the course of the day, always rerun it again. Also, it is recommended that you rerun the process **periodically** if you are continuously dictating for long periods of time because both your environment and voice tend to change. You are recommended to use our unique FlexyMikes Single or Dual Ear which are optimised for maximum performance with the SpeechMatic USB MultiAdapter:

- <http://www.tablemike.com/en/flexymike-single-best-headset-speech-recognition.php>
- <http://www.tablemike.com/en/flexymike-dual-best-headset-speech-recognition.php>

If you wish to use the SpeechMatic USB MultiAdapter under **Green LED** and **LOW** ambient noise with your current User Profile, **you MUST ALWAYS perform an additional Extended Training**. This is because the audio characteristics of the SpeechMatic USB MultiAdapter are significantly different from any other type of USB microphone, as you can easily hear when playing back your dictation. In principle, it may happen that the overall accuracy degrades slightly from what you were getting with your previous microphone and current Profile. It is also important to understand that it may take a little time for your current Profile to adjust to your previous performance and accuracy. In addition, each user is different and some may not require this Extended Training and period of use, while others may. However, **DO NOT OVER TRAIN**. Otherwise, your Profile can become excessively large which can effect overall performance (i.e., increase latency) and will not gain you any improvement in accuracy. **DO NOT SHOUT OR YELL** either when training or dictating...

If you wish to use the SpeechMatic USB MultiAdapter as a high quality voice recorder; instead of a digital one, to automatically transcribe your recordings, configure it under Normal mode (**Blue LED**) for close dictation and download our free and forthcoming *TableMike Recorder* application or any other from the web. Save your recording in a standard sound format such as: wav, MP3 or wma with at least 16 bits, 11,025 Hz, mono. *NaturallySpeaking*® 12 or higher will transcribe more effectively

recordings made with a 22,000 Hz sampling rate. Save your recording in a standard sound format such as: wav, MP3 or wma with at least 16 bits, 11,025 Hz, mono. You may also want to download and evaluate our demo *QuickTypist* application to transcribe and edit your recordings, as well as our free *Apps for iPhone, Android and BlackBerry*. **The former application contains enhanced transcription traits to complement *NaturallySpeaking*®: <http://www.quicktypist.com>**

4. Summary of recommendations for best use and performance of the SpeechMatic USB MultiAdapter

Usage	Recommendation	Comments
1. Speech Recognition with a NEW User Profile and either the mini gooseneck boom of the TravelMike or a LOW sensitivity headset - LOW ambient noise	<ul style="list-style-type: none"> Set the LONG-RANGE Mode [Green LED] Calibrate and always run a General and Extended Trainings 	Keep the dictation distance at about 30 cm [12"] for maximum accuracy. Create the new Profile and Run an additional Extended Training
2. Speech Recognition with an EXISTING User Profile and normal sensitivity headset - MODERATE to HIGH ambient noise	<ul style="list-style-type: none"> Set the NORMAL/VOIP Mode [Blue LED] Calibrate Microphone and Run an additional Extended Training with the current Profile 	Keep the dictation distance from 2.5 cm / 1" and depending of your voice and the sensitivity of the headset microphone you use
3. Telephony and HD Voice over IP , as well as Voice recording with a NEW or EXISTING Profile	Set the NORMAL/VOIP Mode [Blue LED] and keep the unit at the recommended distance as stated above	Using the LONG-RANGE Mode [Green LED] for this purpose may generate undesirable echo!

5. Optional recommended accessories to complement your working experience with the SpeechMatic USB MultiAdapter

- Optional 90° elbow fixed and 180° pivoting USB connectors (the latter connector under development)
- Optional 18 cm or 7" mini gooseneck boom with sensitive microphone, as included with the TravelMike
- Optional thumb sized and pivoting microphone boom, ideal for Voice over IP (VoIP) or Internet telephony (under development)
- Optional USB base or docking station offering two additional USB ports and universal Flash memory reader (easier transfer of digital recordings for transcription)
- Optional USB speaker for the base (under development)
- SpeechWare FlexyMikes, the lightest and most comfortable microphone headset range in the market to connect into the built-in Sound out jack for HIGH noisy environments: <https://www.tablemike.com/en/flexymike-single-best-headset-speech-recognition.php> and <https://www.tablemike.com/en/flexymike-dual-best-headset-speech-recognition.php>