

USB 3-in-1 TableMike™ Desktop Microphone

(1) USB interface with Sound Ports, (2) Detachable Boom and (3) Speech Equaliser for Speech recognition, Voice or Music recording, and Wideband or High Definition VoIP in Win/Mac

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 new desktop microphone to exploit fully the challenge posed by these two nascent developments: **harness the full capability of this speech engine at long dictation distance; and provide unmatched voice clarity for VoIP users**. Moreover, the performance of this unique desktop 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 **USB 3-in-1 TableMike™**, the **basic award-winning model** from this family of desktop microphones by SpeechWare. Unlike competing conventional products merely adapted for PC or Mac; this microphone has been designed and engineered with the support of an international advisory committee with unparalleled experience in microphone technology and speech recognition. The team comprised of Mr. Larry Allen, Mr. James Carr, Mr. Peter Maddern, Mr. Lunis Orcutt, Mr. Enrique Padilla, Mr. Chuck Runquist, Mr. Thilo Voelter and Dr. Wahrenberger. We also encourage customer feedback.

This truly multipurpose device features **two different operational modes**. An industry first **Speech Equaliser mode (Green LED)**, which is optimised for **Long distance (25 cm to 50 cm / 10" to 20") Speech Recognition with low ambient noise**, and a **Normal or HD VoIP mode (Blue LED)**, ideal for:

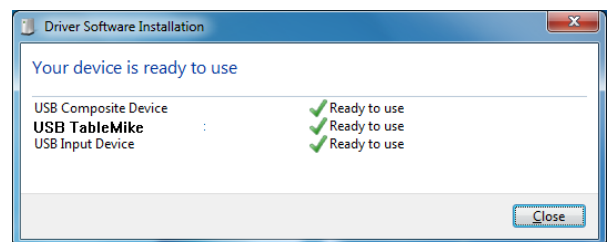
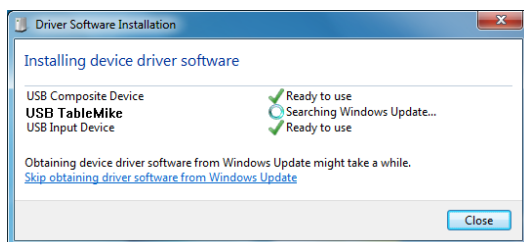
- **Close distance (5 cm - 10 cm / 2" - 4") Speech Recognition with moderate to high ambient noise;**
- Voice and Music recording;
- Full duplex (simultaneous Sound in and out) Wideband or High Definition (HD) Internet telephony (VoIP);
- Full duplex HD Video conferencing;
- HD Podcasting.

The TableMike™ has been consistently rated **Best in Class with a '5 Dragon' award by Nuance**, since its inception 5 years ago. It is fully compatible with *Windows*® 7, *Vista*®, *XP*®, *2000*, *MacOS*® 10, *Linux*® and *iOS*® as well as *Dragon NaturallySpeaking*® and other Speech engines. It can also be used with an iPad/iPhone (adapter needed).

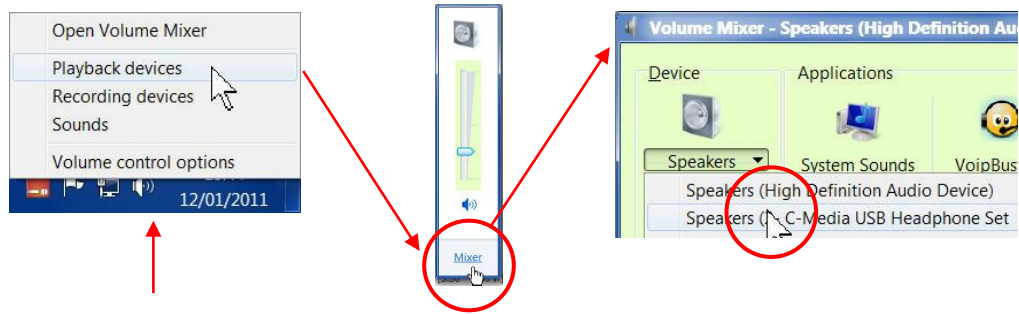
2. OPERATING INSTRUCTIONS

2.1. Installation procedures for Windows® 7, Vista®, XP®, 2000 & Mac OS® 10 or higher

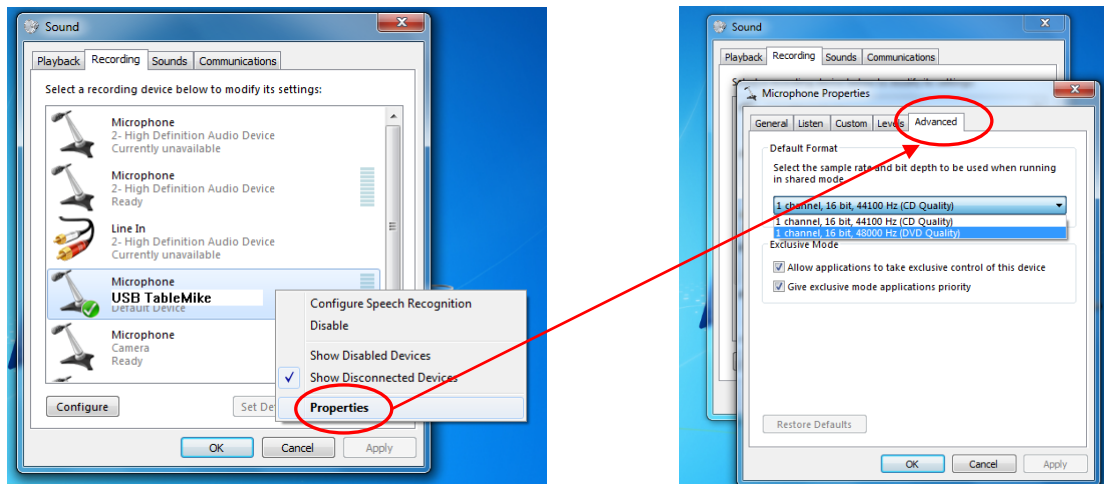
Carefully insert the gooseneck boom into the female mini-XLR connector of the base unit. Cover the microphone element with the windscreen provided to avoid unwanted speech degradation, and to offer it an additional layer of protection from dust and saliva. Plug the specially insulated USB cable to the USB ports of the microphone and the computer. Connect the cable to a **DEDICATED** USB port on the computer. **DO NOT USE** any other USB cable or a multiple USB Splitter or USB Hub device to connect to the computer. The Indicator Light (LED) of the base unit will light up in Red. If the unit does not initialise - check that the USB connectors are properly inserted at both ends. Wait a few seconds for Windows® to automatically install the corresponding USB sound drivers:



After completion of the installation, *Windows*® will select the '**USB TableMike**' as the Recording and the Playback Driver, and will make it the default device for **all** applications. Hence, **you will not hear any playback if a Speaker or Headset is not plugged in the Sound out port** (rear of the base unit). 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*® *Vista*®, *XP*® and *2000*.

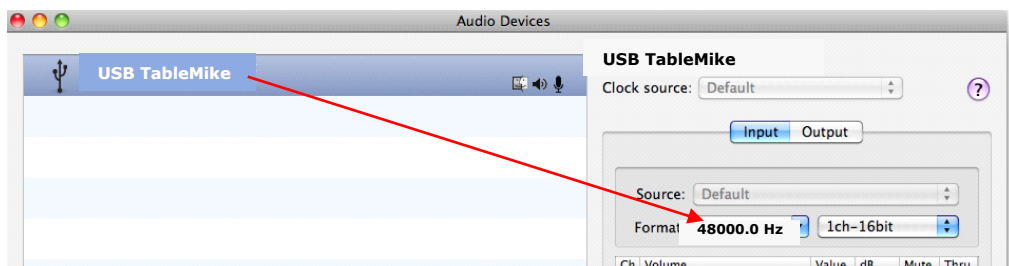


You can also go to 'Control Panel', 'Sound' and select the 'Playback' tab to achieve the same result. Also, in the 'Sound' window click the 'Recording' tab and check that the 'USB TableMike' is the 'Default Device'. Select and click-right on it. Click 'Properties', 'Advanced' and choose '1 channel, 16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



2.2. Additional instructions for Mac OS® 10 or higher

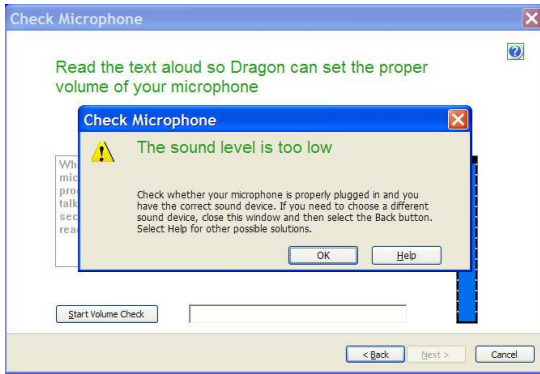
Open up 'Audio MIDI Setup' located in 'Utilities' under 'Applications'. Then select the 'USB TableMike' from the list of devices, if you have more than one. Select the 'Input' tab and choose '48000.0 Hz' and '1ch – 16 bits' from the pull-down menus under 'Format'. Adjust the Volume slider as required:



3. Working with NaturallySpeaking® 11 under Windows 7®, Vista® or XP®

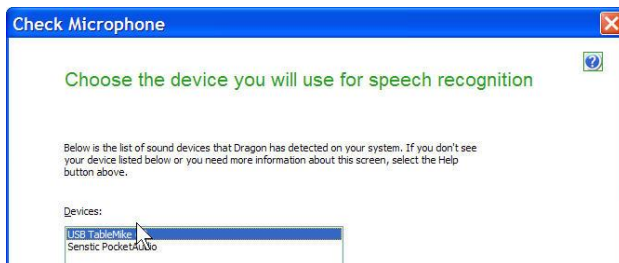
Due to the uniqueness of the built-in 'Speech Equaliser' for best performance and recognition accuracy at **long dictation distance (25 cm to 50 cm / 10" to 20")** and in an environment with **low to moderate noise we strongly recommend you create a NEW Dragon User Profile USB with the Green LED operational and use it for a few hours**, in this way:

- Check the position of the **Push Button** microphone switch **under the base** of the microphone. It has three different settings: 'Always On', 'Press to Lock' and 'Press to Talk'. The **Push Button** should be positioned in the middle. On the unit, **press the 'Push' button** and the **Red LED** in the base will change and remain **Green** - recommended Speech Recognition usage.
- In **Green LED Mode**, the microphone will substantially increase both voice pick-up and noise cancelling levels to deliver extremely high recognition accuracy from 25 cm up to an amazing 50 cm (10"-20") range, depending on your voice and ambient noise. Ideally, place and keep yourself at about 25 cm (10") 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 'Please say that again' or '???' messages from NaturallySpeaking®. These messages do not affect accuracy.
- Note that *NaturallySpeaking®* may also display the following Error messages if the aforementioned ranges and conditions are not observed. Occasionally, you may need to place yourself closer to the microphone during the '**Audio Check**' to pass the Audio Setup Wizard which is tuned for headsets -- then dictate at the recommended distance:

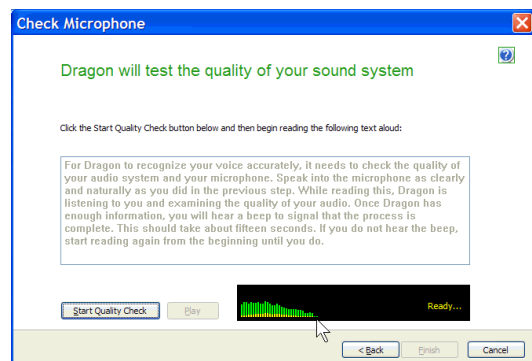


In case of moderate to high ambient noise (as well as VoIP) you are strongly recommend to shorten the dictation distance (about 5 cm to 10 cm / 2" to 4") and switch to Blue LED mode. The latter is available when pressing the **SPEECH REC. - NORMAL/VOIP** button again (the LED turns **Blue**). In this case, **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 soundcards. 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 '**USB TableMike**' and click '**Next**' in the first window. Position yourself within the recommended distance from the *TableMike™* microphone capsule depending on your voice level 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. This will ensure that your audio setup remains optimal. Occasionally, you may need to place yourself a bit closer to the microphone element during the '**Check Microphone**' to pass the Audio Setup Wizard, which is tuned for headset microphones -- then dictate at the recommended distance. If there is too much ambient noise change to the **Blue** Light Mode and even plug a high quality external headset microphone in the back of the unit, like our FlexyMike (www.speechware.be/en/hardwareFlexyMike.php).

If you wish to use the USB TableMike™ with your current User Profile, you may find that it may be necessary to **perform an additional General Training session**. This is because the audio characteristics of the SpeechWare 3-in-1 TableMike™ 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 previously getting with your previous microphone and current User Profile. In this case, it is necessary to conduct an additional General Training session in order to teach your User Profile to most accurately recognize your dictation using the TableMike™. It is also important to understand that it may take a little time for your current User Profile to adjust to your previous expectations for performance and accuracy. In addition, each user is different and some users may not require additional training, while others may. However, do not over train. Rerun the General Training only once. Otherwise, your User 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 USB TableMike™ 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 a free recording application such as *Audacity* <http://audacity.sourceforge.net> Save your recording in a standard sound format such as: wav, MP3 or wma with at 16 bits, 11,025 Hz, mono. *NaturallySpeaking® 11* will transcribe more effectively recordings made with a 22,000 Hz sampling rate. You may also want to download and evaluate our *Transcription Aid* application to transcribe and edit your recordings, as well as our Free of charge *DictaLaw Notes for iPhone and BlackBerry*. **The first application contains enhanced transcription traits to complement** *NaturallySpeaking®*: <http://transcriptionaid.net/download/index.php>

4. Summary of recommendations for best use and performance of the multipurpose TableMike™

Usage	Recommendation	Comments
1. Speech Recognition with a New User Profile and low to moderate ambient noise	<ul style="list-style-type: none"> Set the SPEECH REC. mode [Green light] Calibrate and Train the new Profile 	Keep the dictation distance at about 25 cm [10"] for maximum accuracy. Occasionally, you may need to place yourself closer to the microphone during the 'Check Microphone' to pass the Audio Setup. Train...
2. Speech Recognition with an Existing User Profile and low to moderate ambient noise	<ul style="list-style-type: none"> Set the NORMAL/VOIP mode [Blue light] Calibrate Microphone and Run General Training once with the existing Profile 	Keep the dictation distance at 5 cm - 10 cm [2" - 4"] for maximum accuracy. You may also use the SPEECH REC. mode at about 25 cm [10"] for this purpose...
3. Speech Recognition with high ambient noise	Set the NORMAL/VOIP mode [Blue light]	Keep the dictation distance at 5 cm - 10 cm [2" - 4"] for maximum accuracy
4. Speech Recognition with very high ambient noise	Set the NORMAL/VOIP mode [Blue light] and plug a noise cancelling headset microphone in the back of the base, such as the SpeechWare FlexyMike	Connecting a headset automatically disables the microphone boom [no need to disassemble the unit]. The headset impedance must be adequate
5. Telephony and HD Voice over IP, as well as recording	Set the NORMAL/VOIP mode [Blue light] and keep the unit at the recommended 5 cm - 10 cm [2" - 4"]	Using the SPEECH REC. mode [Green light] for this purpose may generate echo

5. Optional recommended accessories to complement your working experience with the TableMike™

- The Fix-to-table or Wall-Mount-Adapter for safety and convenience purposes.
- The SpeechWare Telescopic microphone boom 380 mm to 580 mm for more flexibility and range.
- The FlexyMike: the lightest and most comfortable microphone headset on the market to connect into the back of the TableMike™ for very noisy environments: www.speechware.be/en/hardwareFlexyMike.php

Specifications (major innovations highlighted in blue)

Main features:

- USB interface (v.1 and 2.0 compliant) with audio output **and input Sound ports**
- **Detachable boom** with professional **hi-fi mini-XLR connectors** for easier removal, portability and storage
- **Speech Equaliser** for optimum Speech recognition performance and **Normal or HD VoIP mode**

Operating System: Windows® 7 / Vista® / XP® / 2000 / MacOS® 10.0 or higher / Linux / iOS without additional USB Sound drivers

Compatible voice applications: Dragon NaturallySpeaking®, Microsoft Speech for Windows®, ViaVoice®, etc.

Capsule type: Back Electret Condenser with Cardioid Polar Pattern

Control Panel: **Digital buttons to avoid unwanted noise 'clicks'**

Push Button modes: **Always On / Press to Lock / Press to Talk**

ADC sample resolution and rates: 16 bit mono and up to an **exceptional 48 kHz for both Recording and Playback** (maximum of 22 kHz in competing devices)

Sensitivity: -37 dB@1kHz, SPL=1Pa

SNR: an exceptional 92 dB, 1kHz at 1 Pa

Frequency response and Output Impedance: 80 - 20,000 Hz and 1700 ohms

Sound ports: Standard 3.5 mm mono mic-in and 3.5 mm stereo out with 2 Watts

Power supply: from the USB port of the PC (no need for batteries)

Other unique features: **Automatic Gain Control (AGC), High and Low Pass filters**, Digital Signal Process (DSP)