Following this procedure will require you to switch between this document and other windows. If you find that difficult to do it is suggested you print the document for easier reference to it.

Simulation is not required until after Demo: *MAZE vectoring* and it is preferable to leave the actual speech training until then - after some familiarity with the format of the airspace and radar display has been attained. However, a New User should be added earlier (and your microphone configured) (Steps 1 and 2), because the security device will allow only a few lessons to be viewed without recording a User Name. You will be prompted when the device requires the current user to be recorded as the sole user. Before first using the simulator the Speech Engine should be trained for your voice (Step 3).

Step 1: Disable Global Speech Recognition.

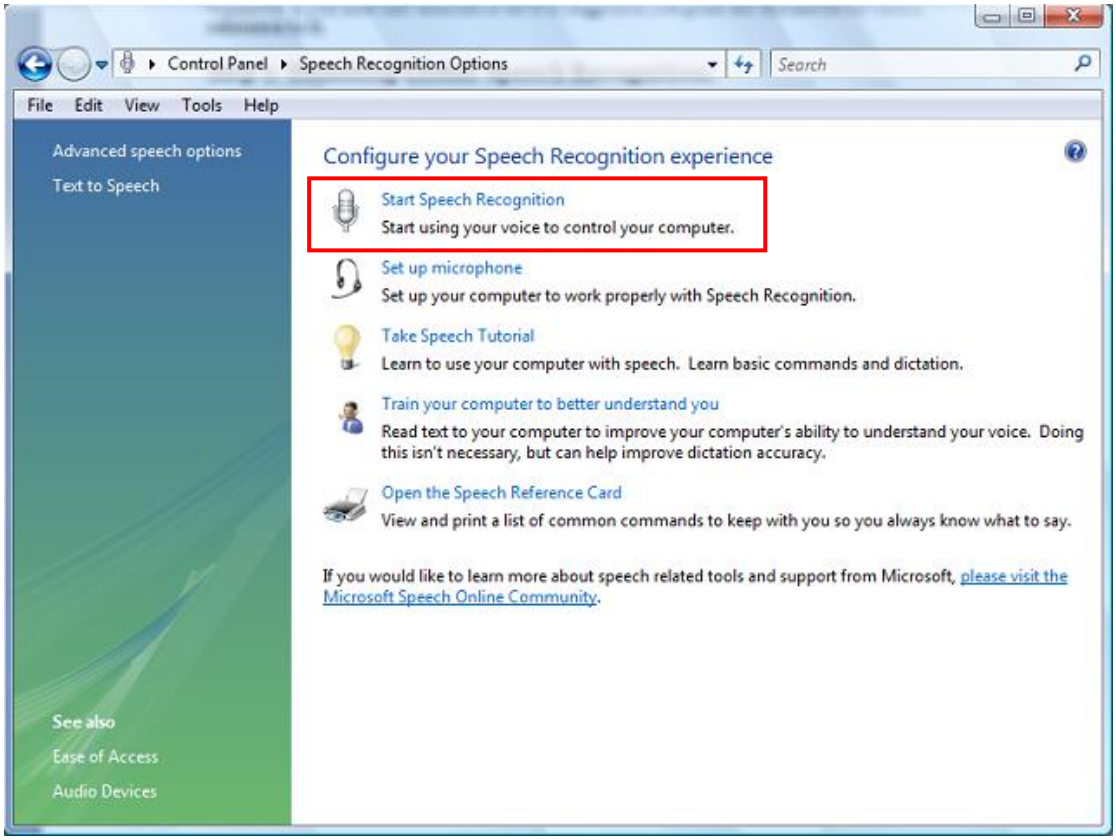
Speech Recognition is a feature of Microsoft Windows Vista, 7 and 8 and it can be used to control many software packages. Because *VV Enroute™* allows only specific instructions to be recognised, it is important that the global dictionary be turned off.

The Vista/7/8 Speech Interface Panel appears on the screen like this if the system is selected ON.

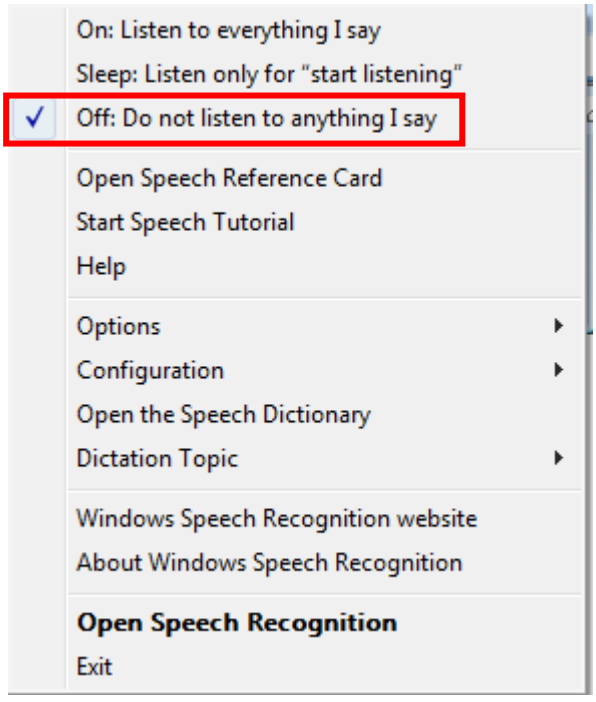


Microsoft Windows Vista/7/8 Speech Interface Panel

If it is not in view, open it in Vista from Start > Control Panel > Classic View > Speech Recognition Options > Start Speech Recognition.
In W7 from: Control Panel > Ease of Access>Speech Recognition > Start Speech Recognition.
In W8 from: Settings > Control Panel > Ease of Access>Speech Recognition > Start Speech Recognition



Right-click on the Speech Interface Panel to open this window and select "Off: Do not listen to anything I say":



Be sure you have turned the system off:

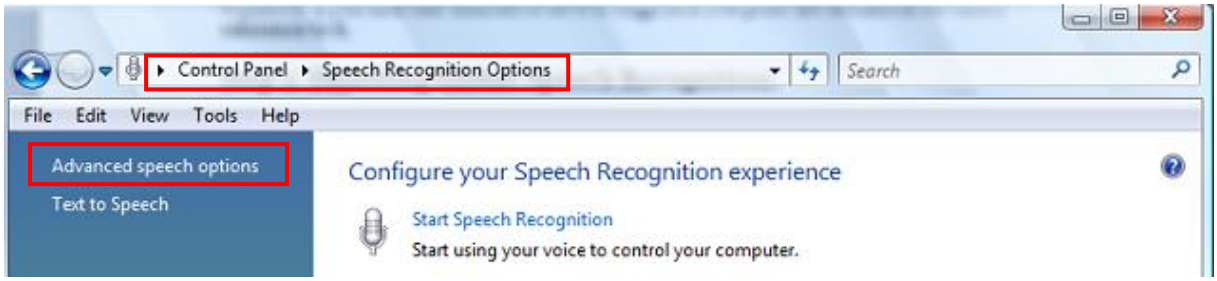


The Speech Recognition will be selectively turned on when the Press-to-talk button is pressed in the *VV* Simulator, but remain off at all other times. If it is required for other purposes on this computer the above procedure will need to be reversed.

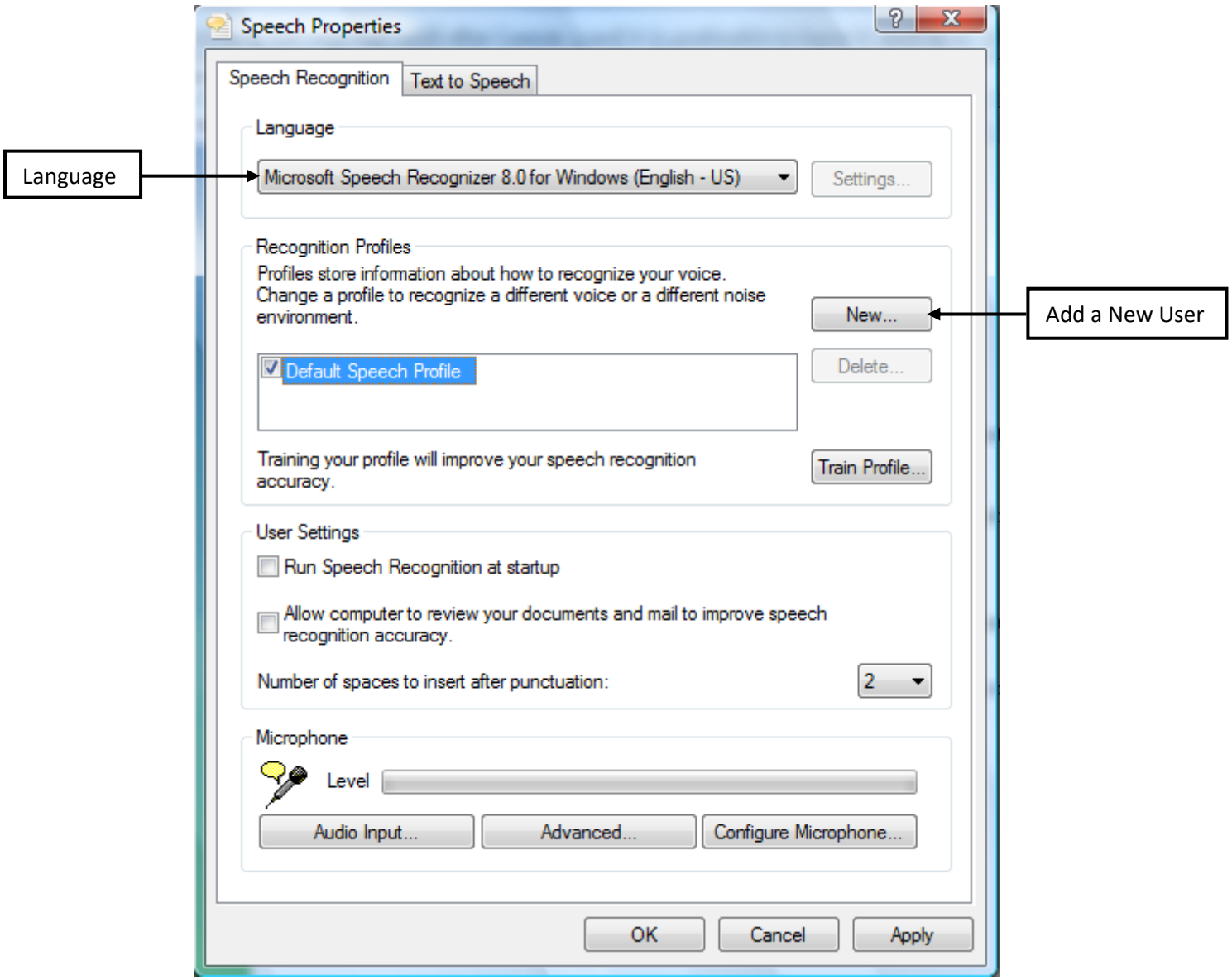
Step 2: Set up a Speech Profile for a new user.

Open **Speech Properties:**

Vista: Start > Control Panel > Classic View > Speech Recognition Options > **Advanced Speech Options**.
W7: Control Panel > Ease of Access > Speech Recognition > **Advanced speech options**
W8: Settings > Control Panel > Ease of Access > Speech Recognition > **Advanced speech options**



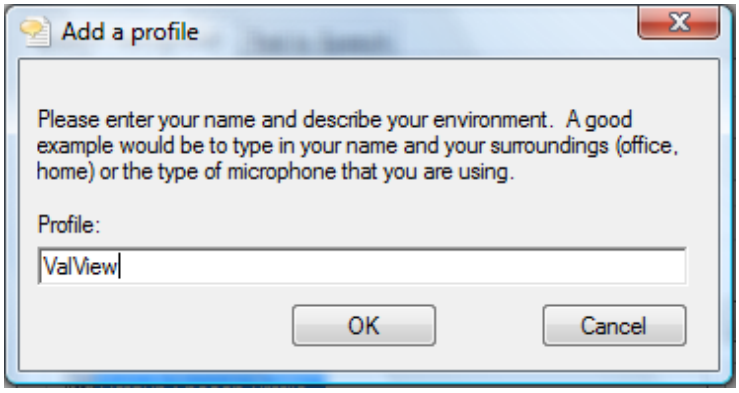
.



The Speech Properties Window (Windows Vista/7/8)

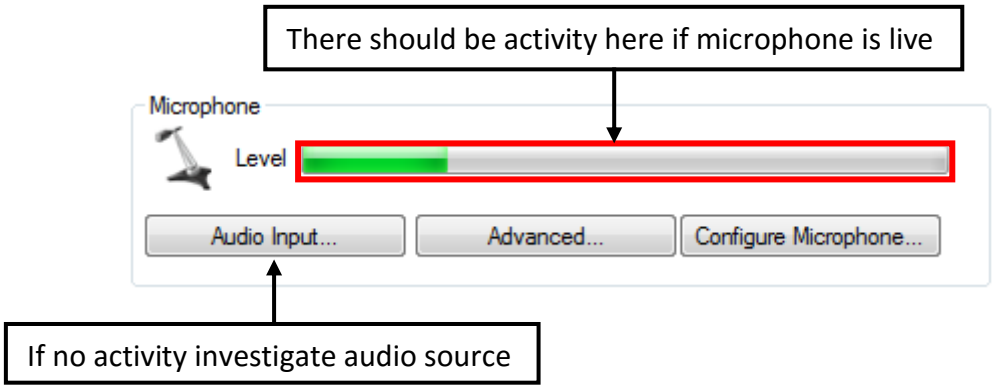
Check that the language selected is as shown: Microsoft Speech Recognizer 8.0 for Windows (English US or UK as appropriate). If that version is not available in the drop-down menu select one of the other English engines.

Click **New** to add yourself as a New User of the Speech Recognition program. This window will open:

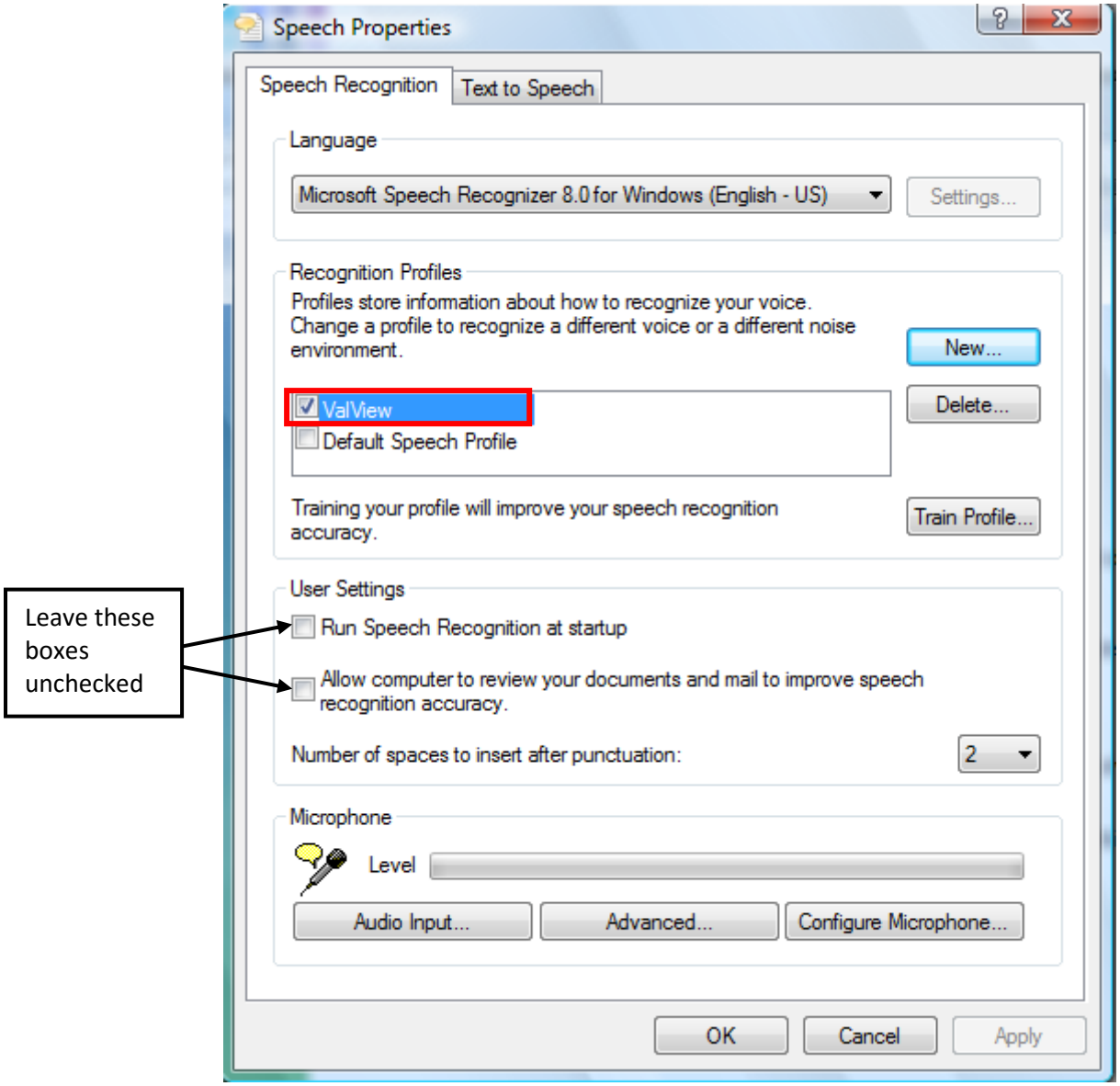


Type your name in the *Add a profile* window without spaces between names. **Please note that this name will be recorded on the security device and the *VV* Simulator, and later the entire program will operate only when this user of Speech Recognition is selected, so take care that the name entry is correct.** The maximum name-length the security device will accept is 20 characters. There is no necessity to describe your environment or microphone type.

Clicking OK will close the *Add a profile* window. Observe the **Microphone** dialog. Ensure the headset you will be using in simulation is plugged into the computer and carry out the **Configure Microphone** procedure; it is very brief. If no audio is reaching the system investigate the situation under the **Audio Input** dialog:



Your name should now appear in the *Recognition Profiles* list and be checked as the current user:

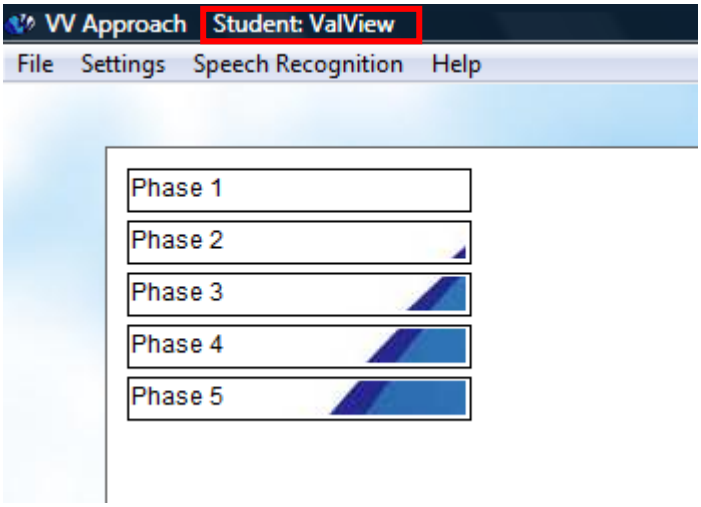


You are at this stage a user of the system, with the default recognition profile. It is a matter now of training your profile for your voice. This can done from the *VV Enroute™,* Main Menu in XP, but in Windows 7 and 8 is must be done In **Speech Properties** (above) **Train Profile**. Click **Apply** to save changes and **OK** to close this window.

The **Text To Speech** tab gives details of that program, which in *VV Approach™* is used to provide aircraft replies in synthesised voices. You should not need to refer to it.

Step 3: Train the Speech Engine.

Open the *VV Enroute*™ Main Menu with the *VV Enroute* icon on the desktop. Ensure your name appears at the top left of the window; this indicates your Speech Profile has been loaded.

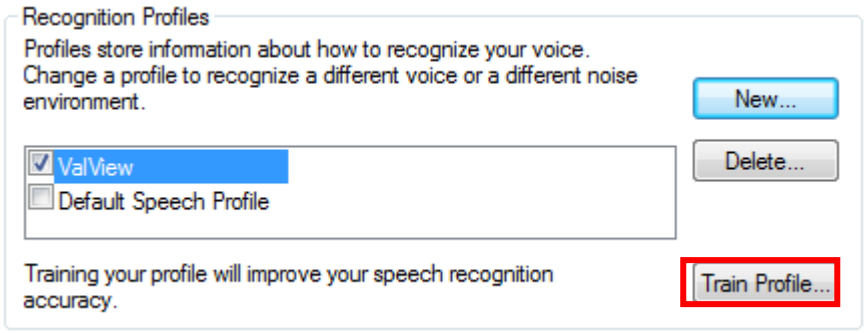


VV Approach Main Menu

Note: In some versions of Windows 7 and 8 microphone configuration and speech training are not available from the *VV* Main Menu:

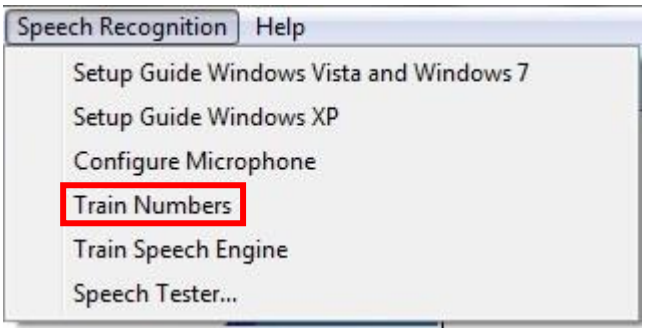


If this warning appears, carry out the **Configure Microphone** and **Train Profile** procedures in the *Speech Properties* window, then continue at Page 11 of this guide.

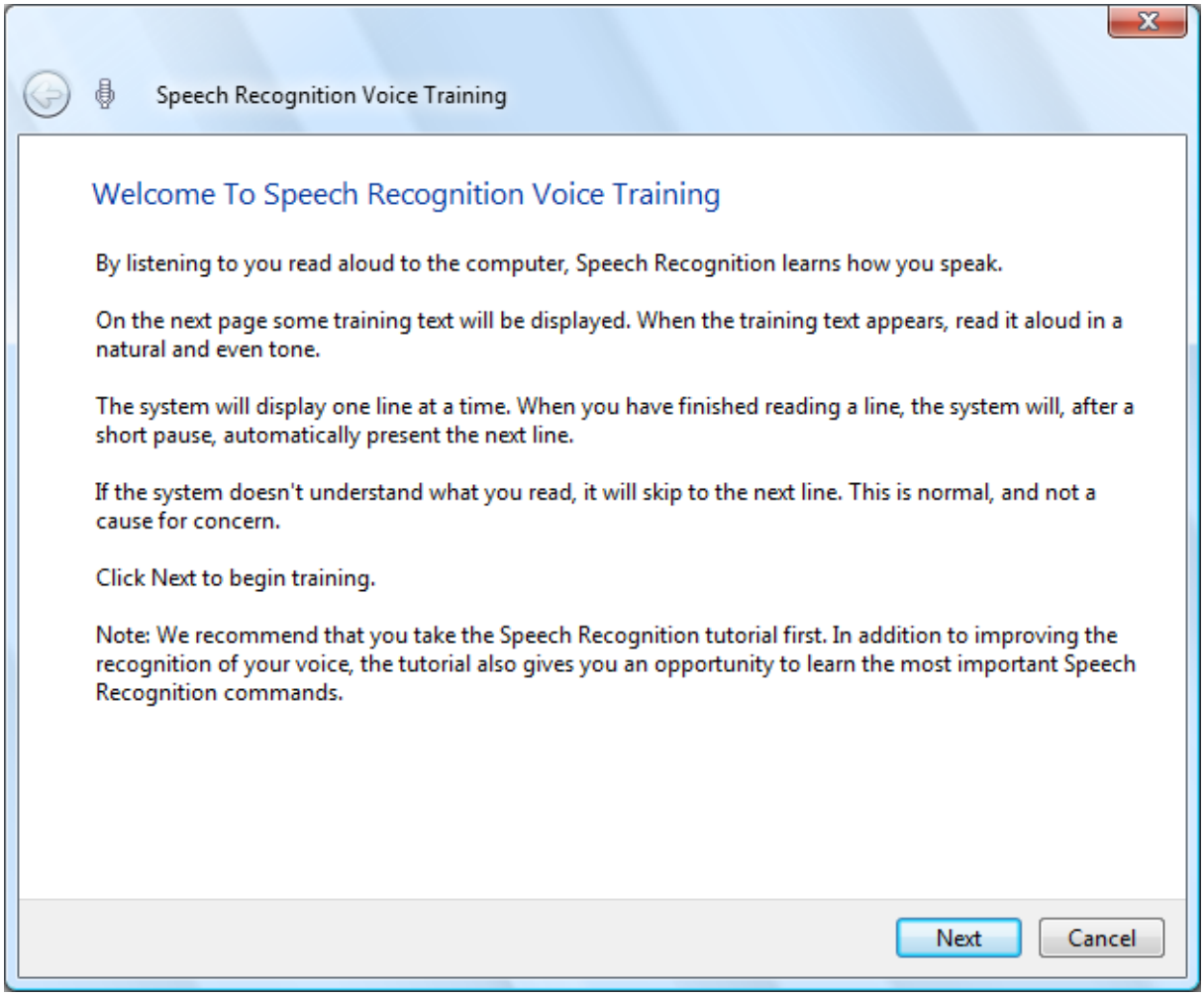

Recognition Profiles
Profiles store information about how to recognize your voice.
Change a profile to recognize a different voice or a different noise environment.
New...
ValView
Default Speech Profile
Delete...
Training your profile will improve your speech recognition accuracy.
Train Profile...

If you have not yet carried out the **Configure Microphone** procedure you should do that now.

From the Speech Recognition Menu, select **Train Numbers**:

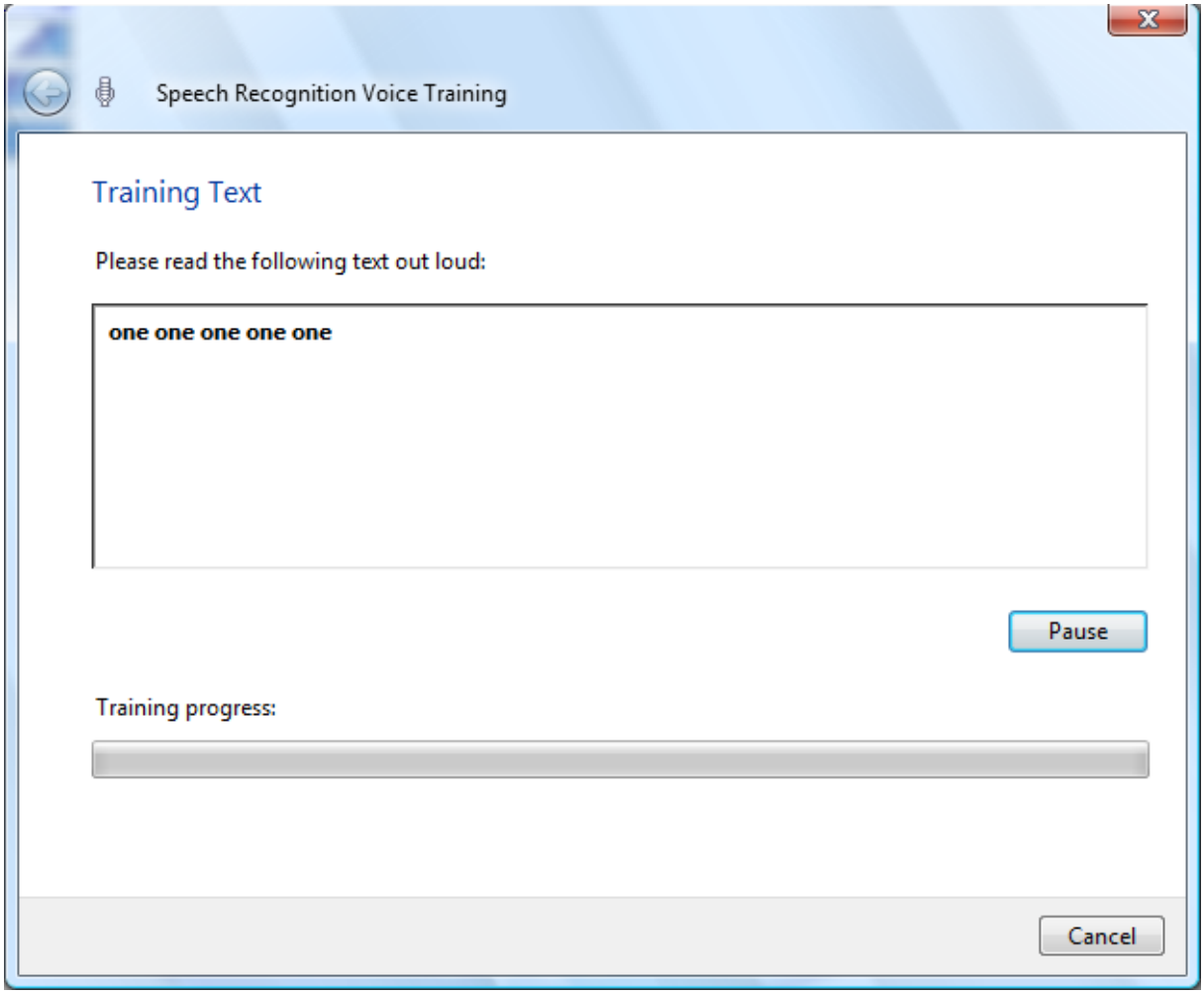


This window will open:



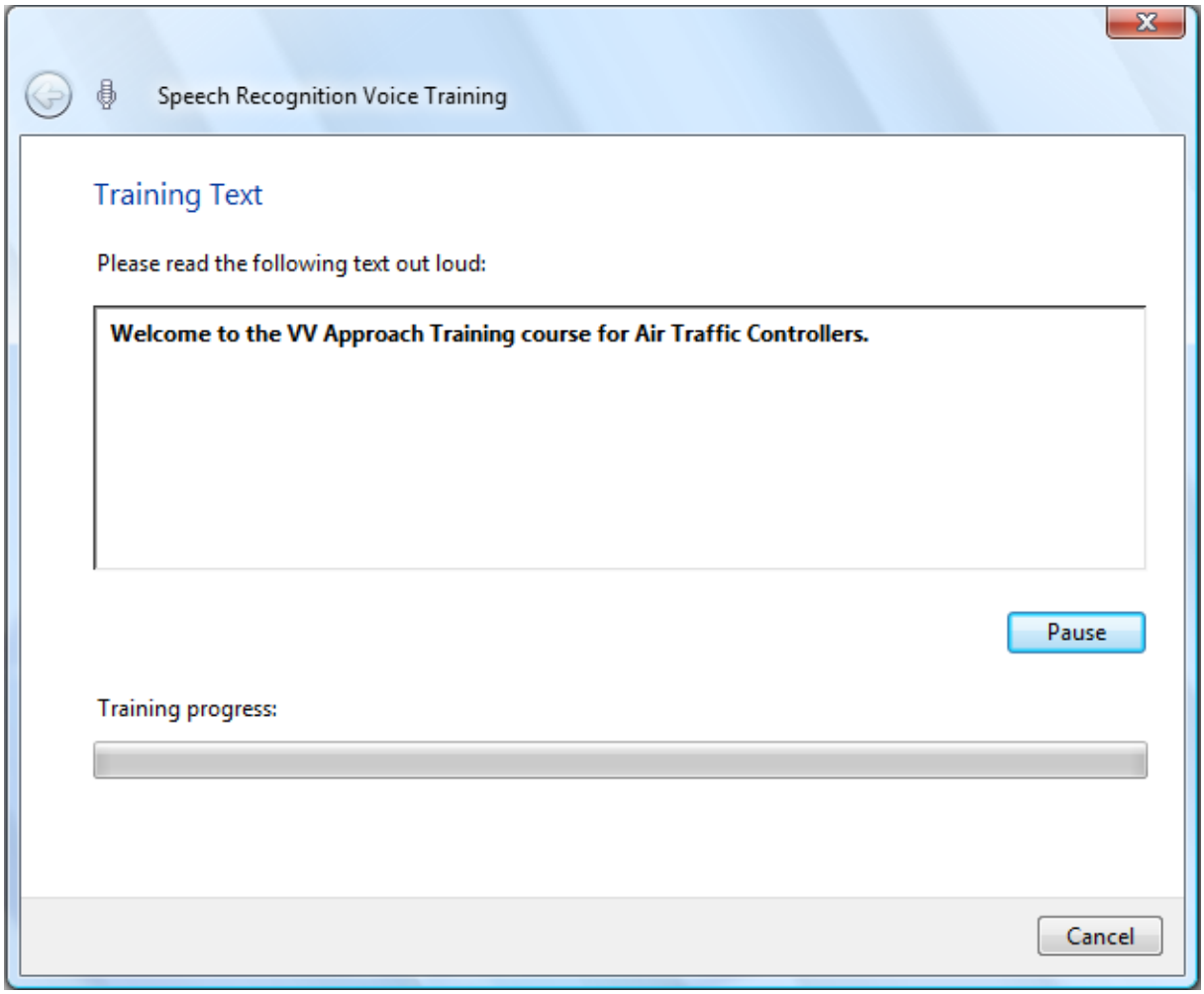
Read the instructions carefully. There is a Tutorial provided within the Speech Recognition program, accessed from the Speech Recognition Options page if you encounter difficulties.

Click **Next** to commence your training. In most cases this window will open. When training is done direct in the *Speech Properties* interface the *Train Numbers* step is not provided and training is done using a non-specific text (Page 11):

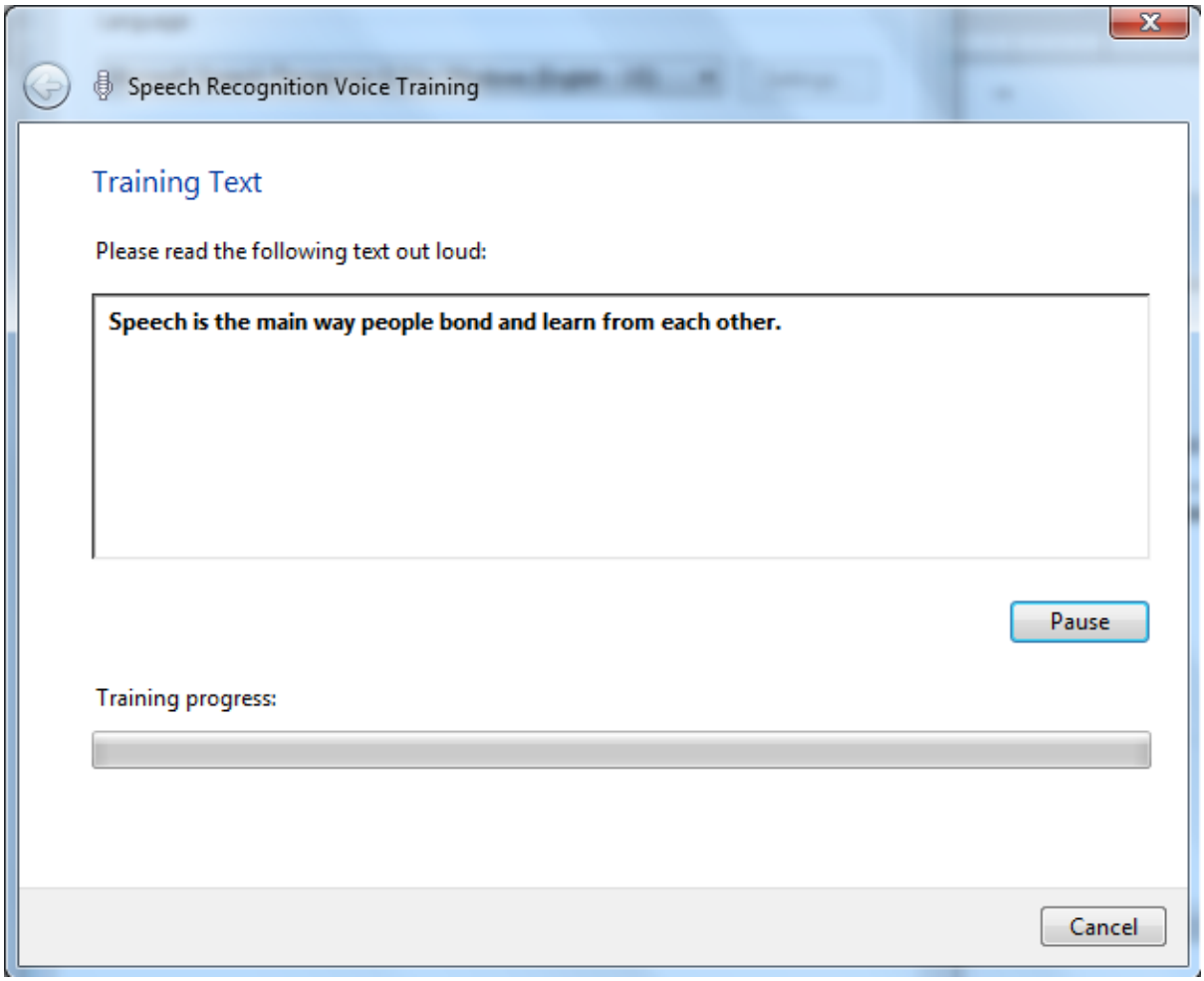


Read the lines of numbers as they appear. The Training Progress bar graph shows where you are in the procedure. When the numbers training is complete close this window and select **Train Speech Engine** from the menu.

This window will open:



If training is to be done on generic text in *Speech Properties*:



The training script is quite lengthy, so you may need to pause at times. It is advisable to repeat the training; your Speech Profile is refined with each re-read of the script, not replaced with a new one. So, the more the system is trained and used the better the recognition performance will be.

If the training has proceeded satisfactorily, you are ready to use the *VV* Simulator.
Do not expect perfect results at first; it takes time to learn what to say and how to say it.

In simulation, be aware that the Speech Recognition is not programmed to understand general English. It will recognise only the groups of words it has been programmed to interpret as an instruction to an aircraft. So, you MUST SAY THE CORRECT WORDS or you will not be understood. You will be taught those words and phrases in the lessons.

Also, be aware that a reply of **'Say again'** from the simulator is not an indication that you have not been understood. It is, in fact, a query of your instruction to the aircraft - the simulator has detected an irregularity in it. In this way, it acts like a human pilot. A failure to recognise an instruction is indicated by its failure to appear in the Speech Recognition Window at the top of the radar screen.

General tips for the use of the Speech Recognition program

- Speech Recognition Training is more a process of training yourself than it is one of training the system. Learn to speak clearly and steadily. Be patient and develop discipline in the way you speak into the microphone.

- Learn to be aware of the Speech Recognition Window (top right of Radar screen) in your peripheral vision during simulation. There is no need actually to read what has been recognised. If the aircraft has misunderstood an instruction it should become evident to you when it reads it back incorrectly (this is also very good training in monitoring pilot readbacks for correctness). The appearance of white text in the window is sufficient to tell you that you have been recognised; non-appearance of white text tells you you have not been understood and that you should repeat the instruction. This monitoring of the Speech Recognition program becomes subconscious after some practice.

- Eliminate pauses and extraneous sounds such as 'umm' and 'ahh'.

- You cannot correct yourself mid-transmission. If you make a mistake or stumble in delivering an instruction release the Press-to-talk button and start again.

- **Do not run words together**; pronounce each clearly. This is particularly important when a word with a 'soft' vowel sound at its end is followed by one that begins with a soft sound. For example: "Singapore two two zero Approach …." It is very easy to run the 'zero' into 'Approach' to make 'zeroapproach', which the Speech Recognition will attempt to interpret as one word. Also watch phrases like 'Descend to four thousand' - don't say 'Descen't'fourthousand'

- Be very careful to say the aircraft callsign clearly at the start of each transmission, that is what the program is listening for when the Press-to-talk is pressed.

- Position the microphone carefully – to the side of your mouth so you are not breathing directly into it.

- Eliminate ambient noise - find a quiet place to work. You will spend many hours using the simulator and the intensity of the training requires a favourable learning environment.

- Some modern laptop computers have sophisticated sound cards for entertainment applications, and this can affect Speech Recognition performance in simulation. The problem causes a small delay between when the system is activated (Press-to-talk pressed) and when it becomes fully operational. Using a **USB microphone** (or a USB adaptor) can assist greatly. Desktop computers rarely

display the problem. The simple solution is to be careful to pause very slightly after pressing the Press-to-talk button and actually beginning to speak.