Speech Commander

Contents

When the program is running, you will see the system tray icon. You'll want to click on that icon to access the configuration file. This document explains the changes you can make.
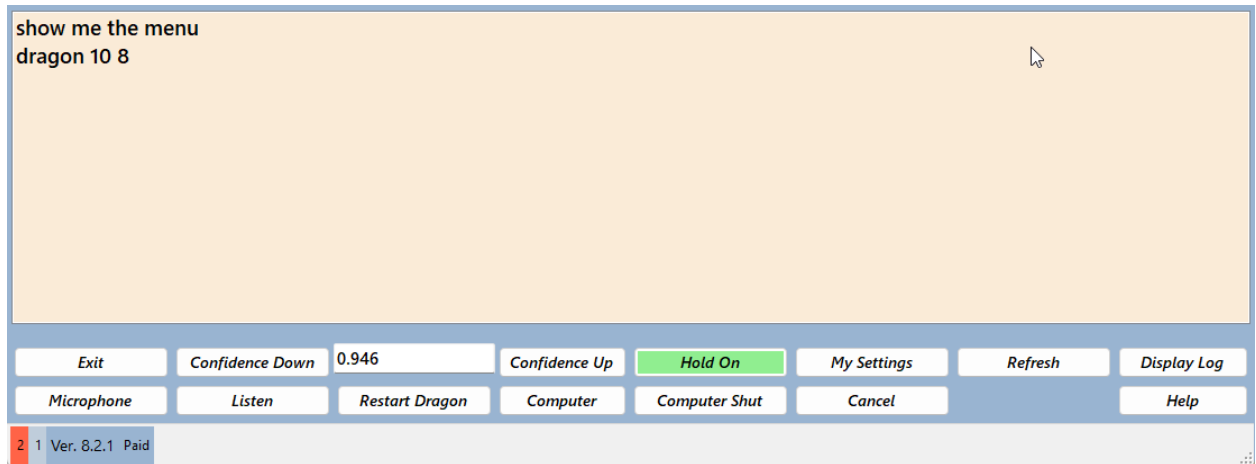
Caveat

Naturally, this program relies on the speech system within Microsoft operating. Sometimes, a system glitch caused by Dragon or some other runaway product will lock up, taking the speech system with it. If this is the case, you must restart your system manually. Additionally, there are times when restarting Dragon using this application may not get Dragon into a steady state. This, too, will require a system reboot.

This caveat is not the norm, but it does happen from time to time.

Updated Display

As with other programs, changes to Dragon caused its ability to recognize certain elements on an application necessitated a refresh view. This is the view as of version 8.2.1.

Exit	Confidence Down	0.946	Confidence Up	Hold On	My Settings	Refresh	Display Log
Microphone	Listen	Restart Dragon	Computer	Computer Shut	Cancel		Help

show me the menu
dragon 10 8

2 1 Ver. 8.2.1 Paid

Adjusting the confidence level

What is the confidence level?

Microsoft's speech system assigns a number representing how confident the speech engine "thinks" that what you said matches one of the entries found. This program is looking for a specific list of words to perform actions. This list of words is called the "grammar". The speech recognizer will constantly try to recognize any utterance. Non-grammar words will also be assigned a confidence level, but they should be a low number. However, sometimes they can fool the engine and appear as a high enough to trigger a "false positive." The system tries everything it can do to find a match. This, of course, can be useful or harmful.

Initially, the program only looks for the **wake phrase**, optional script **phrases, and one quick word/phrase. O**nce the 'wake phrase' is recognized, a second list of words/phrases is loaded and displayed. Occasionally, this list will pop up because of a **false positive. If it pops up often, you will know you need to increase the confidence level number in the configuration file.**

An utterance usually presents a number somewhere between 0.7 and 0.98. Numbers above 0.93 are usually quite a close match for what the system seeks. The higher the number, the more likely it is to match.

The trick is to find a number that is low enough to find the match even when you're speaking at less than an ideal breath volume or speed rate. If you make the **number too low**, you will get a "false positive." If you set the **number too high**, you will either never **see success or have to yell and/or annunciate "much more clearly**." So, you will want to set a number just above where it clears the false positive threshold.
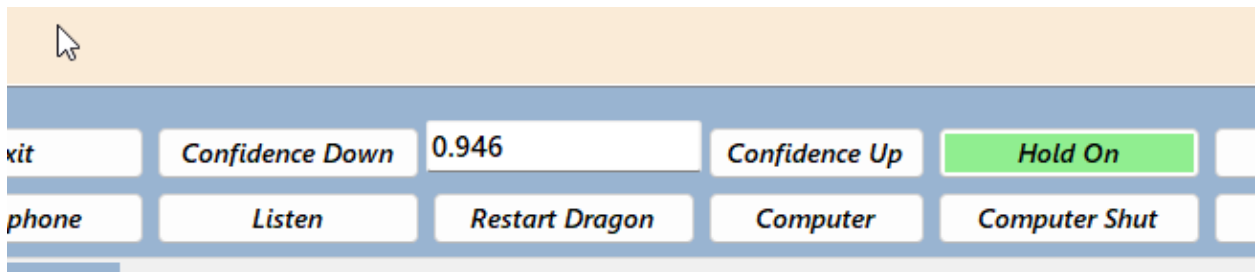
To adjust the confidence level, start by clicking on the system tray icon for this program.

This will bring up the following display. I would recommend that you use the confidence up and down buttons to get the program to recognize your request.
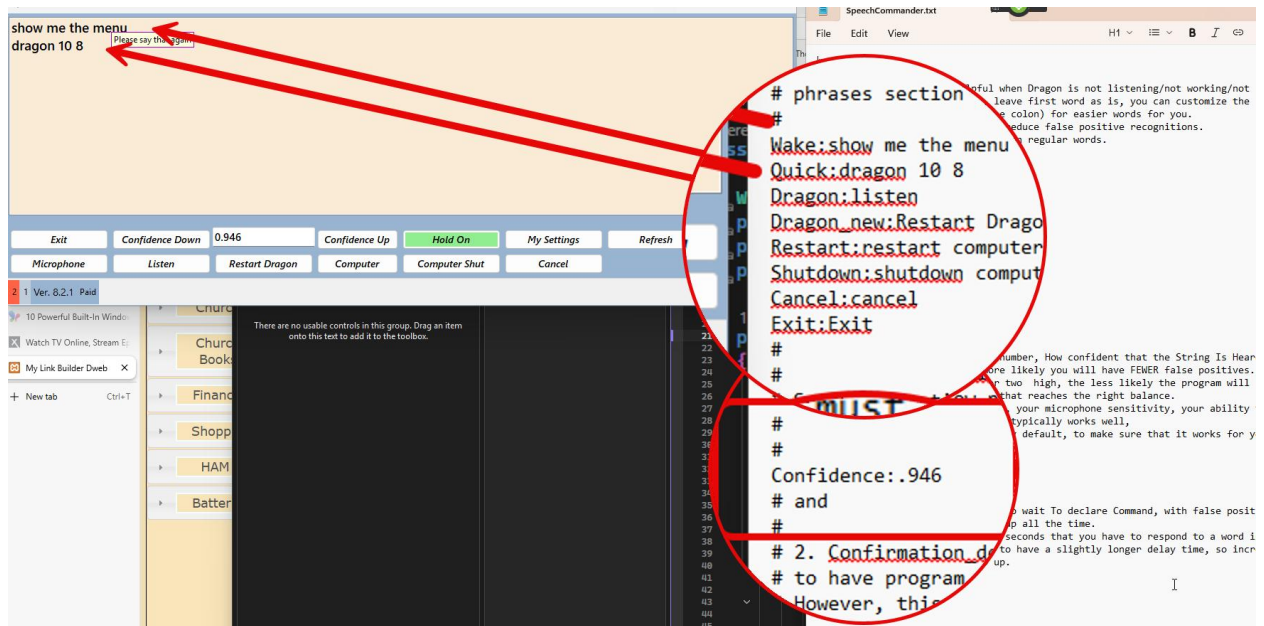
Remember, this tool is to help you primarily when Dragon is not running, or the Dragon microphone is off. You can do these tests with the Dragon microphone asleep to make it a little easier if you need to do something with Dragon while you're doing your configuration testing.

All of the buttons in this area can be controlled by Dragon, or by manual clicking. Only the items in the area in the beige region are in the "grammar" that can be controlled when Dragon is not running/listening.

So, I would recommend that you adjust your confidence level either up or down then tell Dragon to go to sleep. Then use the second phrase (quick) in the list above this area to try to turn the microphone back on. If the microphone turns back on from sleep during this phase, then it should also work to turn the microphone back on from a completely off state. So, go ahead and test that.

This quick phrase will only attempt to turn the microphone on, the first phrase is the wake phrase, and it will bring up a more complete list of menu items for use when you don't have Dragon readily available.

Then click on the My Settings button. This will open your configuration file where you will see the default settings. In the phrases section, DO NOT change the words on the left of the colon. The phrases that you can adjust are on the right. You can change those phrases to whatever, within reason, you want. Your phrases will appear in the beige area upon refreshing the program after you save your configuration file.

The Confidence Setting

About two-thirds of the way down the file, see the Confidence tag. This is a decimal number. **Notice the period at the front of the number.**

Now that you have a fairly accurate confidence level, make that change to the following line:

Confidence:.930   *(or whatever the number, change just the number)*

Save the file. Then, press the Refresh button to restart the program and allow it to read your new settings.

Here are a few more details regarding this settings file.

```
#
# Settings Section
#
#
# 1. Confidence Level:A decimal number, How confident that the String Is Heard.
# The higher the number, the more likely you will have FEWER false positives.
# However, if you set the number two  high, the less likely the program will
respond to you.
# You must find that sweet spot that reaches the right balance.
# It's all about your environment, your microphone sensitivity, your ability to
enunciate the words, etc.
# Typically,Something around .943 typically works well,
# An unusually low number is set by default, to make sure that it works for you.
#
#
Confidence:.943
#
```

The configuration file will be automatically built within a folder called "\U4D\U4D_data\Speech Commander," found in your **documents folder**. The confidence factor initially will be a number that will start at **".930".**

Once you have finished editing the configuration file and saving it, you will need to click or say "Refresh." This will restart the program to take in the new settings.

For me, .945 or slightly above works very well. However, your system/condition may be a little different.

False positive reactions are always possible depending on the minimum recognition value you configure. Again, it's a trade-off. Too low, and it pops up all the time; too high, and it will be extremely difficult to get it to pop up.

The Phrases

```
#
# phrases section
#
Wake:X-ray 3
Quick:dragon 10 8
Dragon:listen
Dragon_new:Restart Dragon
Restart:restart computer
Shutdown:shutdown computer
Cancel:cancel
Exit:Exit
Script:This Testing:launcher.ahk
#
#
# Settings Section
```

Lines with a # at the beginning are comment lines that the program ignores.

Note that the first line in this section is the "**wake phrase**." You are welcome to change that phrase to anything you want. Providing distinctive words and number(s) helps to reduce "false positives." Speech recognition recognizes numbers extremely well, so I **recommend having at least one number**. Longer phrases also help to reduce false positives.

The "**Wake**" phrase is designed to display the menu.

The "**Quick**" tag is designed to automatically bring the Dragon microphone back on from an **OFF** state to an **ON** state. You will not see the full menu display.

"Dragon" will also bring the microphone to a full **ON** state.

"**Dragon_new**" is used to restart Dragon.

"**Restart**" is used to restart the computer.

"**Shut down**" will shut down the computer.

"**Cancel**" will drop the display and reset the menu back to just listening for the initial set of words.

"**Exit**" will stop the program from running. Note: if you have the mic level program configured to automatically restart this program, the program will be restarted. If you really want to quit the program you will also need to turn it off if you haven't turned on using the Mike Level program.

"Script" is a special case where you can launch scripts of your choice. Each of the above commands are hardcoded as far as which function will be called. However, here, you can launch any program or script of your choice.

The lines explained

Each line is broken into two parts (except for the script line, which has three components), divided by a **colon**. **The first part must not be changed.** The word or phrase following the colon can be anything you want. The second part, which you can change, is then mapped to the first part. The program needs the first part to know which command to run. Notice that using upper or lower case in the second part doesn't matter. Also, **do not remove the colon**. The second part is what appears in the list when the program pops up when the wake phrase is recognized, and they are your commands to dictate.

Script line explained

This line is like the others; the script tag has a special meaning, so it can't be changed. However, you can have multiple script lines, unlike the others. The word between the "Script" tag and the actual script name is the word that you will dictate to invoke the script.

The Delay

Here is another trade-off. How long do you want to see the program pop up? You want it to appear long enough to dictate the command. You also want it short enough that if there's a false positive recognition of the wake phrase it's not too annoying. You can dismiss the pop-up by saying "cancel" or whatever word you have chosen to correspond to the Cancel command.

```
#
#
Confirmation_delay:3
```

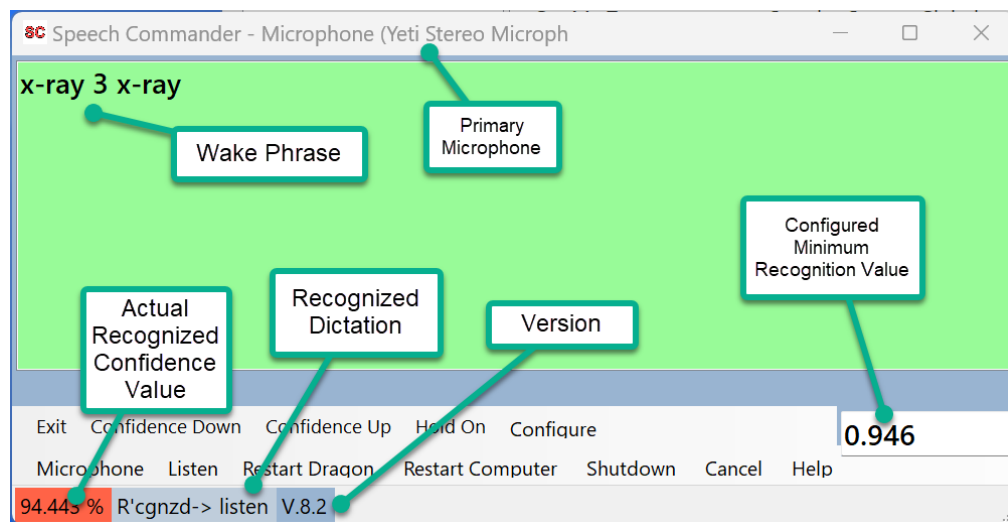The very last section of the configuration file contains a "confirmation delay."

This is **the number of seconds** that the pop-up will display. Remember, your commands will only be recognized while the pop-up is displaying. Once the pop-up closes, the wake phrase becomes the only thing that the program is listening for.

The Display Explained

Notice that when you successfully invoke the window, the following (less information captions) is displayed. Notice, in the far-left bottom corner, you can see the actual confidence level that was successful in calling up the display. The only way the display will pop up is if it **exceeds** the minimum confidence level that you set in the configuration file.

The following shows a slightly out of date user interface, but the functions are still the same. So, in the interest of time, I will leave this image here for the moment.

It is often difficult to read everything on the display when the pop-up disappears so quickly. You can always click on the icon in the taskbar after a pop-up, you'll then be able to see some of the information displayed as indicated in the above illustration.

The **primary microphone** is critical because the program can only listen to it. The same is with Dragon. If you have multiple microphones (web cameras, other USB microphones, etc.) make sure that you are aware of which microphone is your primary. If the program does not appear to be working, click on the "microphone" menu item and check out which microphone is set as primary. Specific upgrades to your system will interfere with previous settings. One obvious possible issue is that your primary microphone has been changed in your window settings. Go to your control panel, then the sound device manager, and make sure that your desired microphone is your primary microphone.

Again, you configure the minimum recognition percentage for the program to work with. The part in red at the lower left corner of the display is **the actual confidence level** recognized. This can help you adjust your minimum levels. If you see a roughly consistent value, then you can change your minimum value to a number just lower than that.

You will also see what the program thought it recognized in the "**recognized dictation**" section. This is just before **the version number** of the program.

Menu Items Explained

There are also convenience menu choices where if you can, you may be able to click, or if Dragon is listening, you can dictate the same menu choices available in the program. This may not be very useful because you can do most things via Dragon anyway. Naturally, the program will help when Dragon is not running or the Dragon microphone is turned off. The choices are to:

- Microphone (see the discussion on the previous page regarding "primary microphone")
- Listen (to turn on the Dragon microphone)
- Restart Dragon
- Restart Computer
- Shutdown (the computer)
- Cancel (closes the pop-up)
- Help (to retrieve this file)
- Exit (to shut down this program)
- Confidence Down and Up (to **temporarily** adjust the confidence levels).
- Hold On (there may be times when you get into a telephone conversation, for example, and suddenly you're getting lots of false positives that cause the program to pop up and down. By clicking/dictating "hold on", the program will stop listening (well, ignoring anyway) to anything you say. Then, you can click on "resume" to return to normal operation.