Getting Started with AudioPass

Do not install the USB dongle until the AudioPass software is installed.

1. If Praxis has not been previously installed and calibrated, read "**Getting Started with Praxis**" to complete the Praxis set-up. Once the main Praxis program is set-up and calibrated, you will be ready to set-up the AudioPass module.
2. Connect the AudPod and soundcard according to Figure 1. Connect ZBox and amplifier per Figure 1. If you do not have an AudPod, PRAXIS will not run the AudioPass module in the "Free" or "Demo" mode.
3. **Do not install the USB dongle until the software is installed.**
4. Check that Praxis and all other programs are closed before installing the AudioPass software. Insert the AudioPass CD into your CDROM. The install program should start automatically, but if it does not, use the Explorer to browse the CDROM and double-click on the file "PraxisInstall.exe". Newer versions of PRAXIS can be installed directly over older versions without uninstalling previous versions.
5. Install the USB dongle in a free USB port and start the main Praxis program.

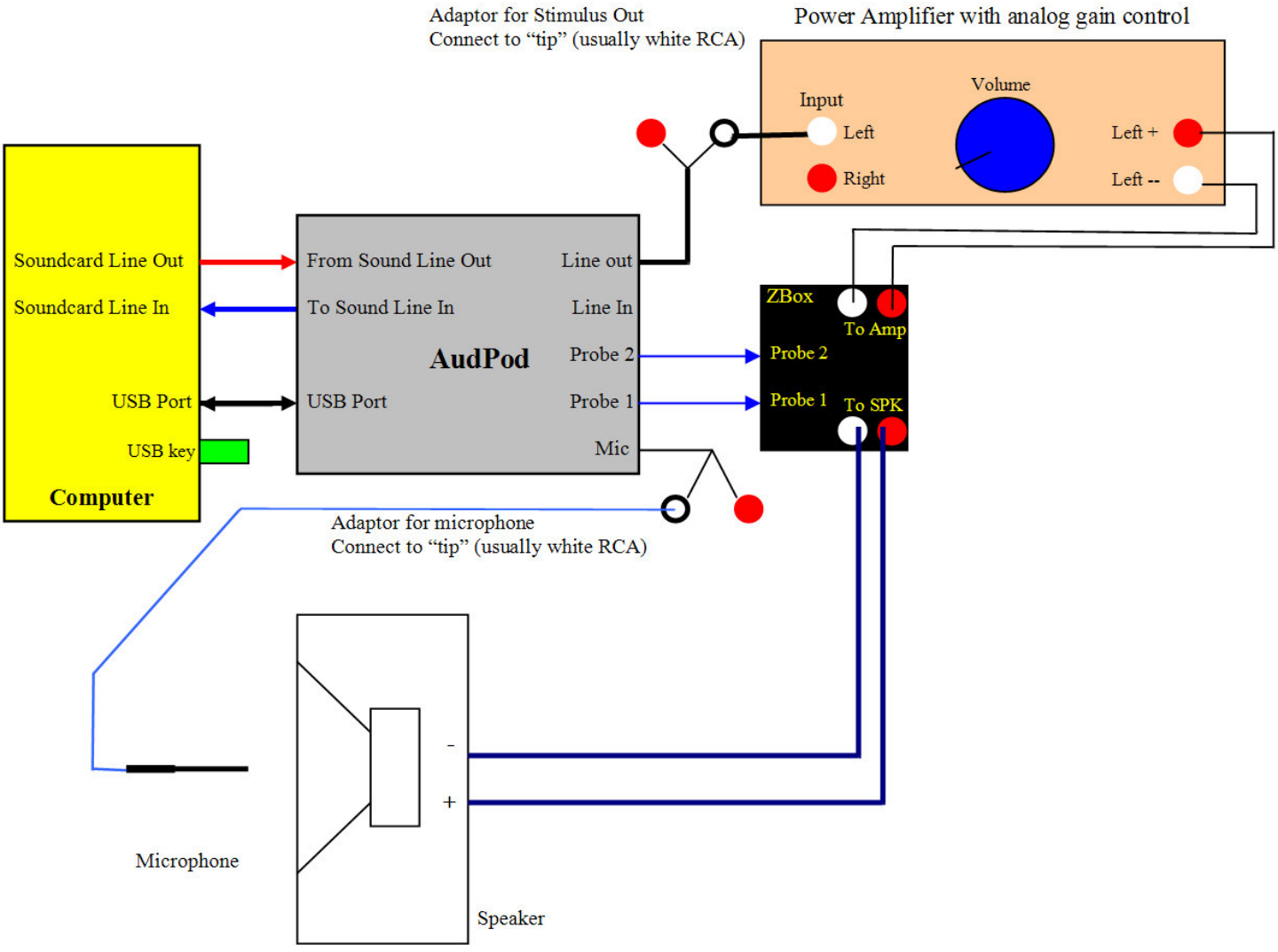


Figure 1
Praxis and AudioPass hardware set-up.

6. **<u>Before starting the AudioPass module</u>** you need to load the microphone calibration file you will be using during production testing. Select <u>Config>Hardware Spacific>Mic/Accel 1>Load…</u> to load the microphone calibration file. If you do not have a calibrated microphone, skip this step. If a calibration file (normal calibration files end in Example.dat) was supplied with your microphone, copy it to the **C:\Program Files\Praxis** directory. Then load the calibration file into Praxis by going to the Main Form, select **Config> Hardware Specific> Mic/Accel 1> Load** and load your file (See Figure 2). **If your microphone doesn't have a calibration file, but you know its characteristics**, you can use Windows Notepad to open and edit the "Example.dat" file and resave it with your microphone's name. See http://www.libinst.com/example_mic_data.htm for details.

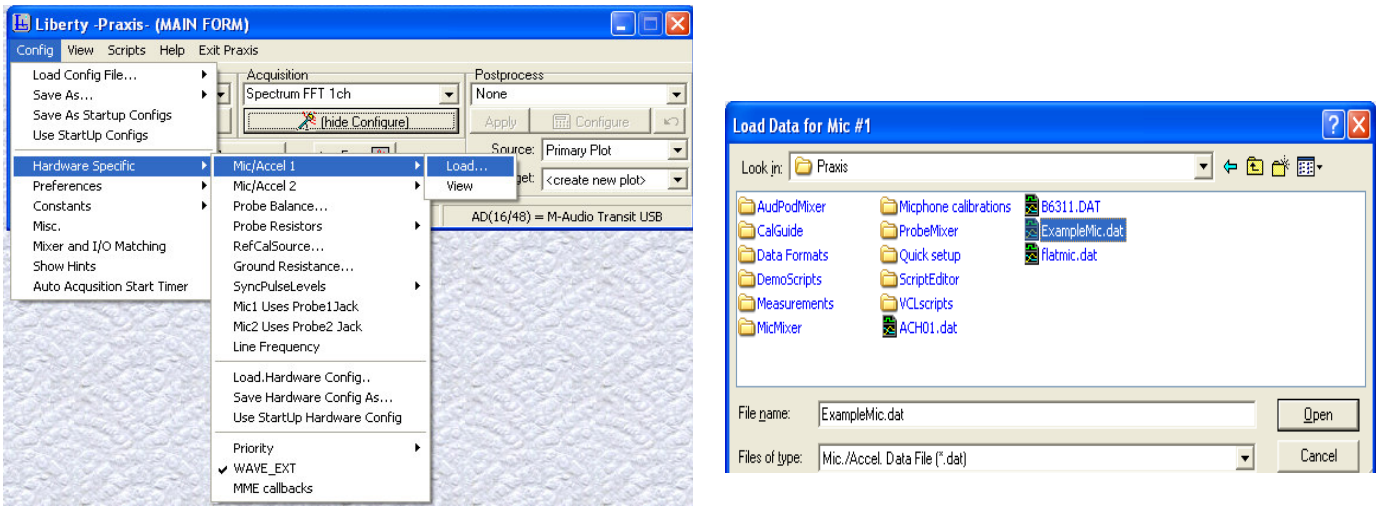


Figure 2: Load microphone calibration file.
The files in your folder may vary from this example.

7. Select default soundcard you will use for production testing. Go to the **(levels)** form (See Figure 3) and select **Setup> D/A&A/D>Devs=**.... Built-in sound on laptops or modem sound features are seldom, if ever, adequate for measurement purposes.

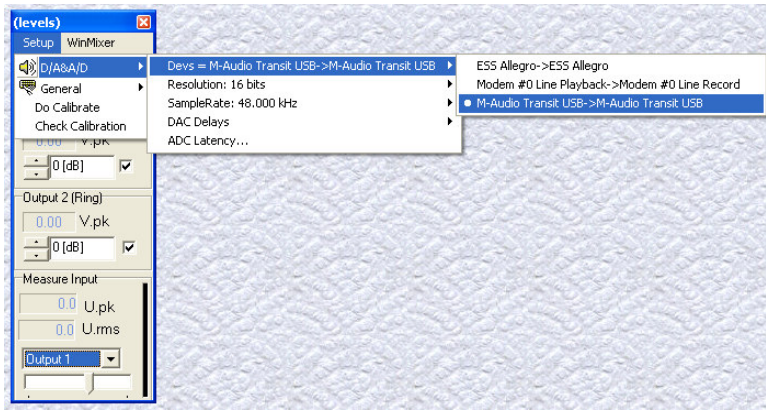


Figure 3: Select default soundcard.
The soundcards listed on your computer may vary from this example.

8. Before starting the AudioPass module you need to set the soundcard sampling rate and bit resolution if different than the default values. Go to the **(levels)** form (See Figure 4) and select **Setup> D/A&A/D>SampleRate:** to select desired rate. Go to the **(levels)** form and select **Setup> D/A&A/D>Resolution:** to select desired bit depth.

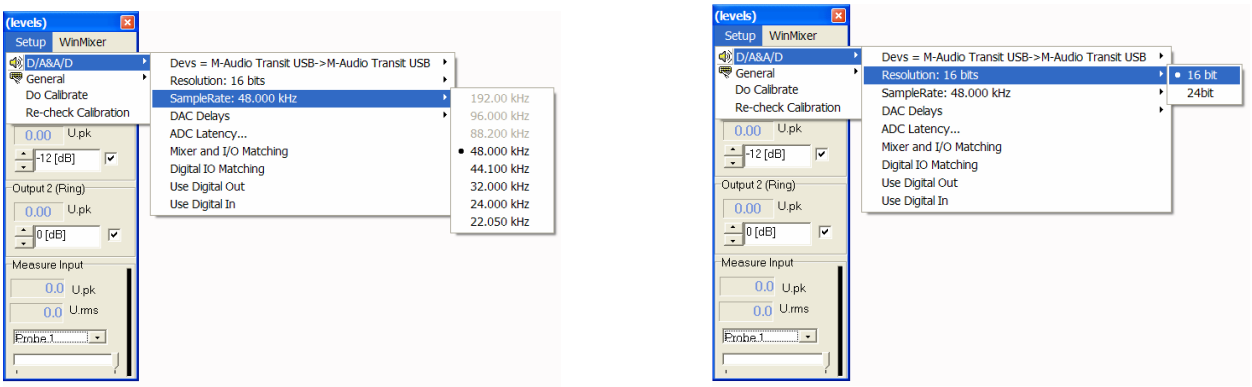


Figure 4
Select Sample rate and bit resolution.
The soundcard's sampling rates listed on your computer may vary from this example.

9. You are ready to start the AudioPass QC module. Go to the **(Main Form)** in Praxis and select Scripts. Then select "Run a Script"

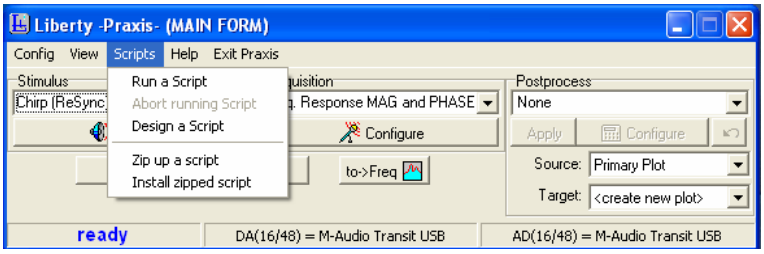


Figure 5

If an amplifier is connected to the speaker, turn the volume all the way down before you start Step 10.

10. Load **"Praxis QC for Loudspeakers"** script and press "LAUNCH SCRIPT" to start AudioPass module.

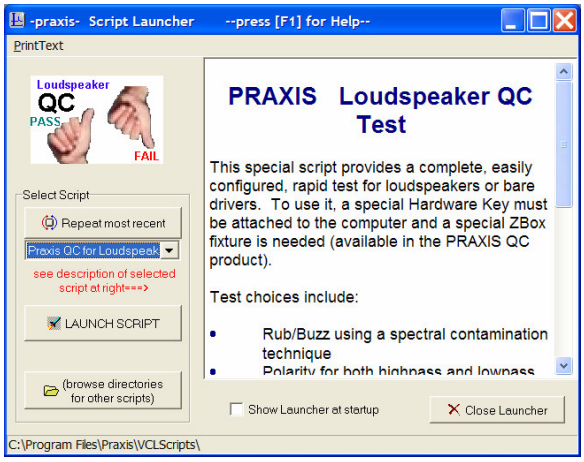


Figure 6.

11. After launching the "Praxis QC for Loudspeaker" script, the main AudioPass window will load. If the default YELLOW prompt appears at start-up, you can press the (End Tests) tab in the lower right corner to close the window. If a prompt window is present, you **<u>can not</u>** access the other control buttons, such as Set-up or Quit. Close the prompt window to gain control of the other controls.

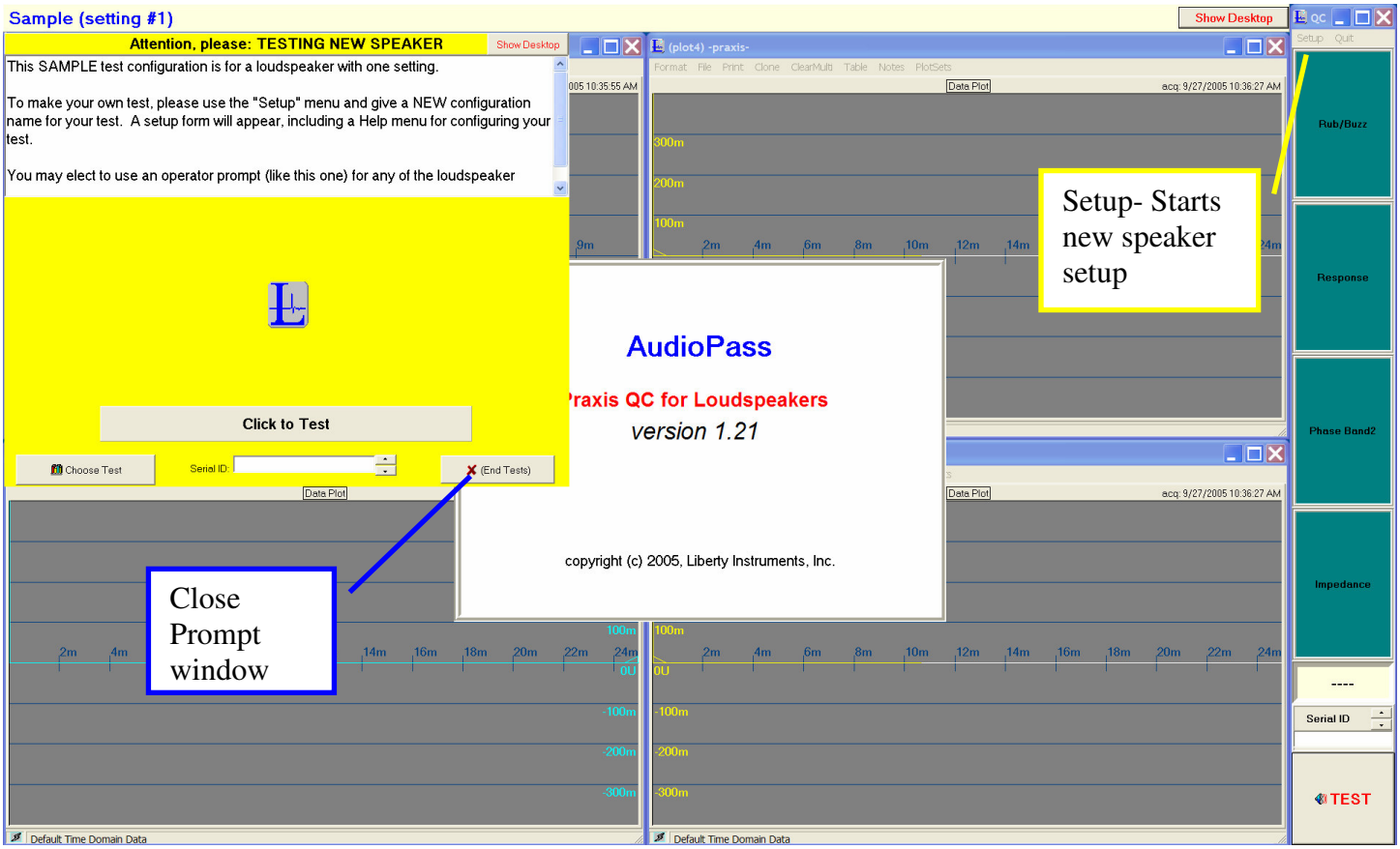


Figure 7
Example of main AudioPass window at start-up. The system will default to the previous test set-up, therefore the YELLOW prompt window may look different than this example.

12. After closing the Prompt window in Step 11, you are ready to gather your reference data to set-up a QC line. All QC data is referenced against a known Golden sample and all production tests will need to have the **exact amplifier, microphone placement and speaker location during production testing.** Press the "Set-up" menu (See Step 11) in the top right-hand corner. You will be asked to "SELECT an existing Set-up", "Create a NEW Set-up" or "EDIT an existing Set-up". To gather data for a new speaker, select "Create a NEW Set-up". Enter the name of your speaker or set-up file and press **Open**. The graphs will disappear and the "Intro" measurement guide will start.

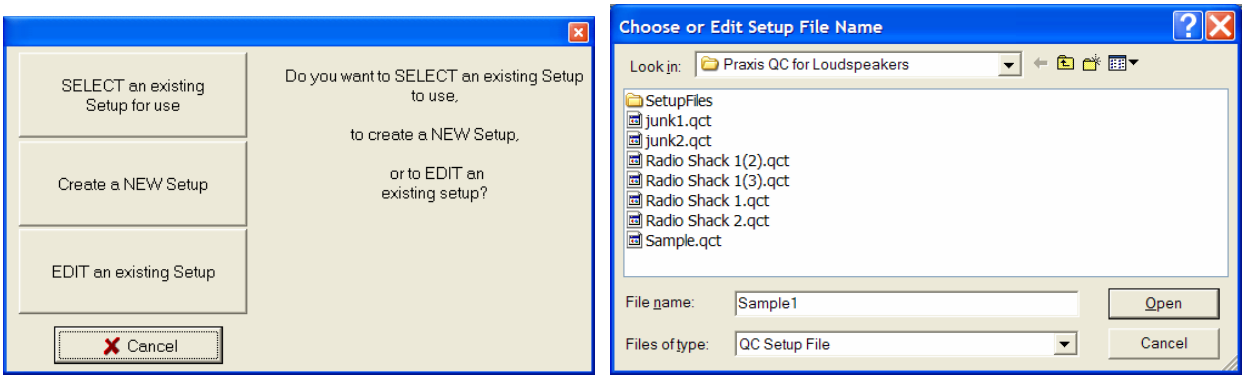


Figure 8
Select "Create a NEW Set-up" and enter a Name for the set-up file.
The example on your computer may vary from this document.

13. From this point, the Prompt windows will walk you step by step to gather the reference data. **Please take the time to read the instructions which will guide you through set-up in minutes**. Press the **Help** button in the top left corner if you need more set-up details.

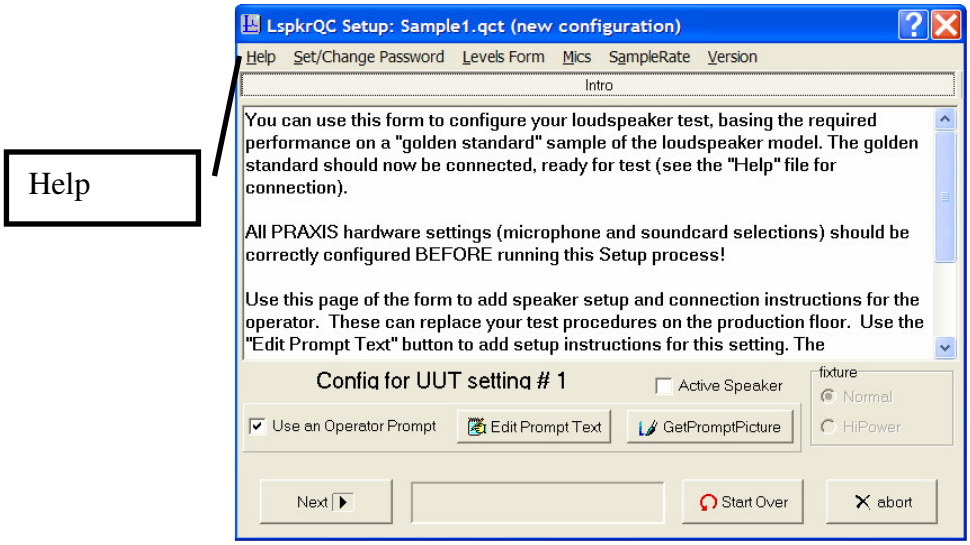


Figure 9
"Intro" prompt window to start set-up.

14. When you get to the frequency and impedance upper/lower limit curves, you will find it is very easy to edit these curves. If you enter only 1 setting in your "limits" table the entire curve will take on that value. If you take your mouse and click on the upper or lower curve in the graph, a new edit point will appear in the table to fine tune your requirements. Verify that the "Allow Sens Adj" **doesn't** have a

check mark in the box. Press “Next” when you are finished. The “Allow Sens Adj” will allow for slight microphone placement and adjust the upper/lower curves to accommodate the sensitivity variation.

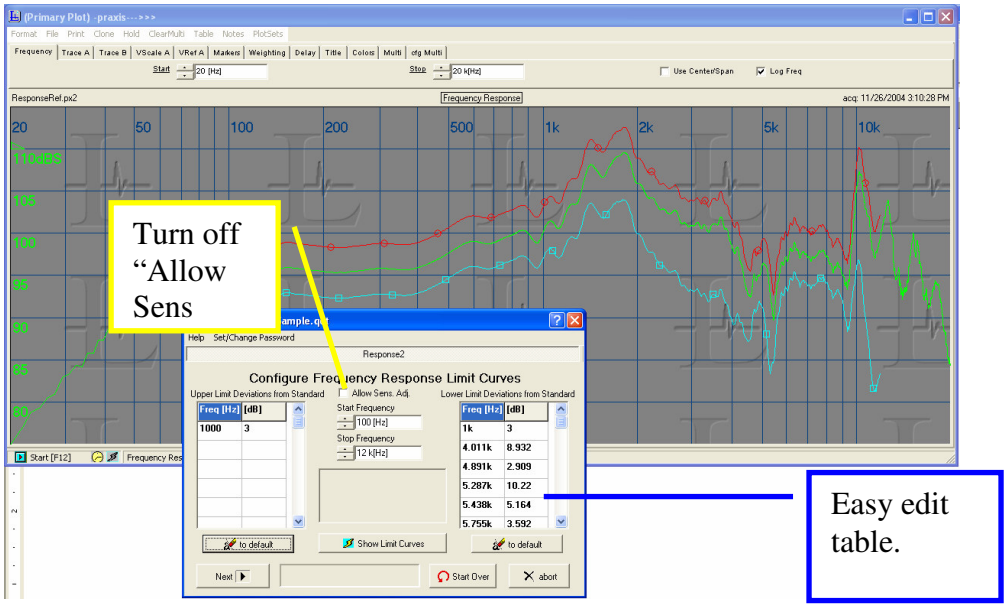


Figure 10
Frequency response upper/lower limits graph editing.
The frequency response on your screen may look different than this example.

15. After gathering all your reference data, you can save the production test data for further failure analysis. Select your data logging if desired and press “save Set-up file and return to Test Mode”.

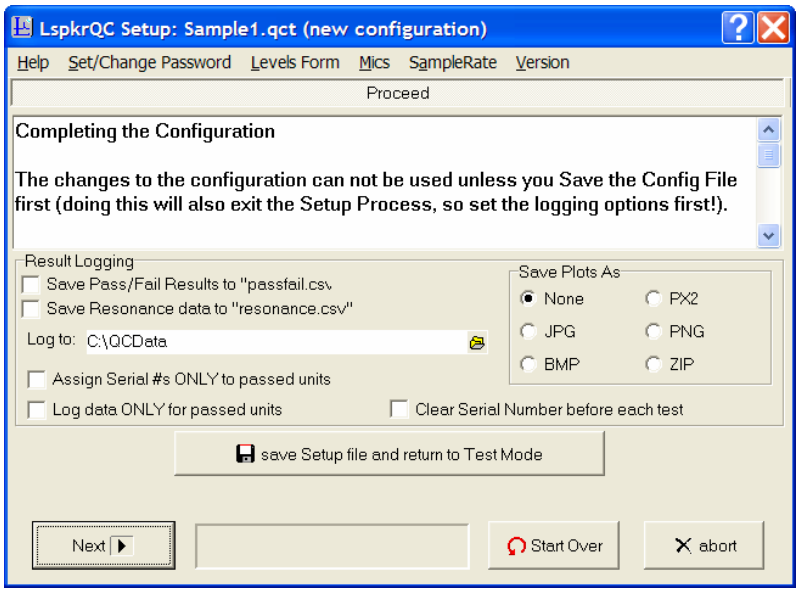
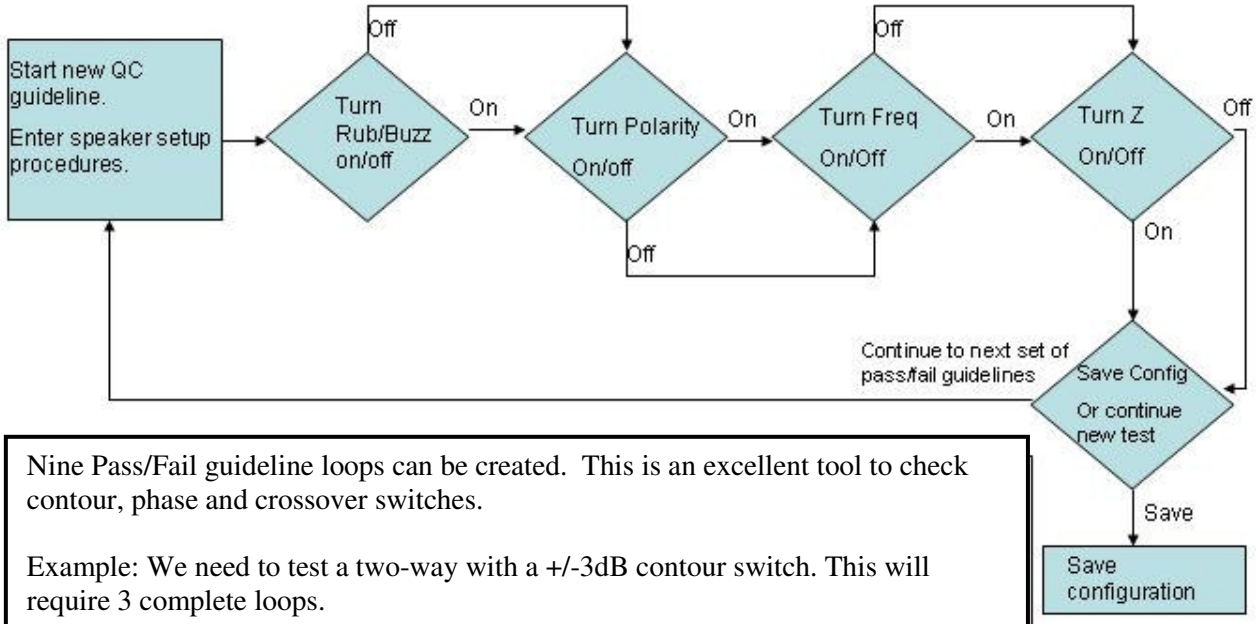


Figure 11
Select desired data logging method and save Set-up to return to Test Mode.
When you save your set-up files, you will be asked if you wish to create another set-up file for the speaker under test. We call this our **Loop Function**. This allows you to gather data on the same speaker for contour, crossover and phase switches. This feature allows you to test every aspect of your speaker.



Nine Pass/Fail guideline loops can be created. This is an excellent tool to check contour, phase and crossover switches.

Example: We need to test a two-way with a +/-3dB contour switch. This will require 3 complete loops.

Loop1: 1.Enter speaker setup requirements
2. Rub/Buzz=On, Polarity=On, Freq=On, Z=On Continue to new test

Loop2: 1.Enter speaker setup (Set contour switch to +3dB)
2. Rub/Buzz=Off, Polarity=Off, Freq=On, Z=Off Continue to new test

Loop2: 1.Enter speaker setup (Set contour switch to -3dB)
2. Rub/Buzz=Off, Polarity=Off, Freq=On, Z=Off Continue to new test

Figure 12
Example of Loop Function to test selection switches on a speaker.

16. When saving your set-up configuration, you have the option to add additional test features using the Loop Functions. If you do not have additional features to test, press **"No, I am done with the Set-up for testing this device"** to start your production testing. You can create up to 9 Loop Functions.

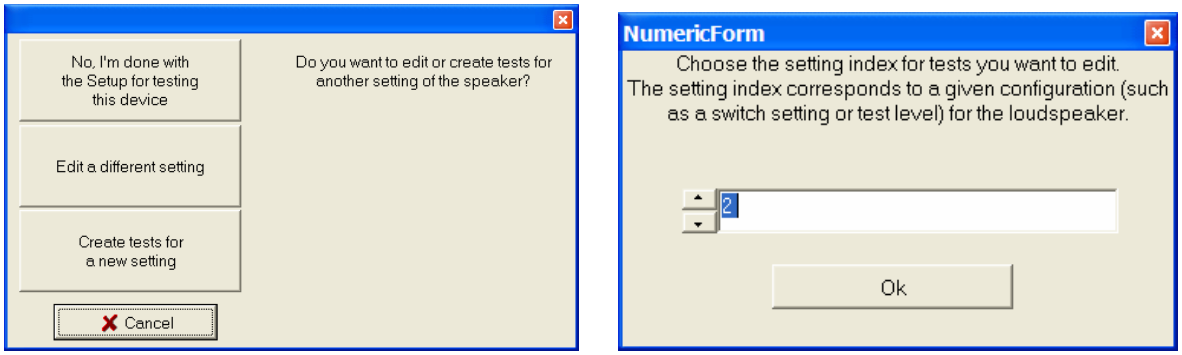


Figure 13

17. The last step allows you to create a Desktop icon for easy access.

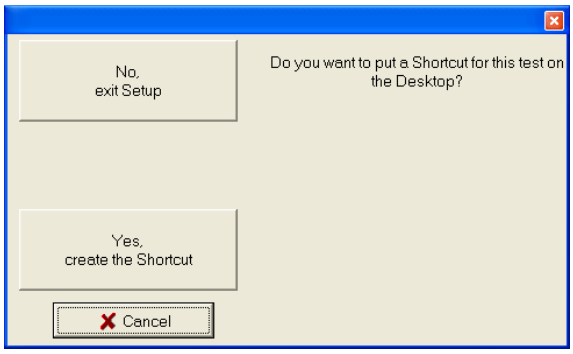


Figure 14

18. The graphs will rescale to your screen and you are ready to start testing. Enter your first serial number. Press the "TEST" button to start testing.

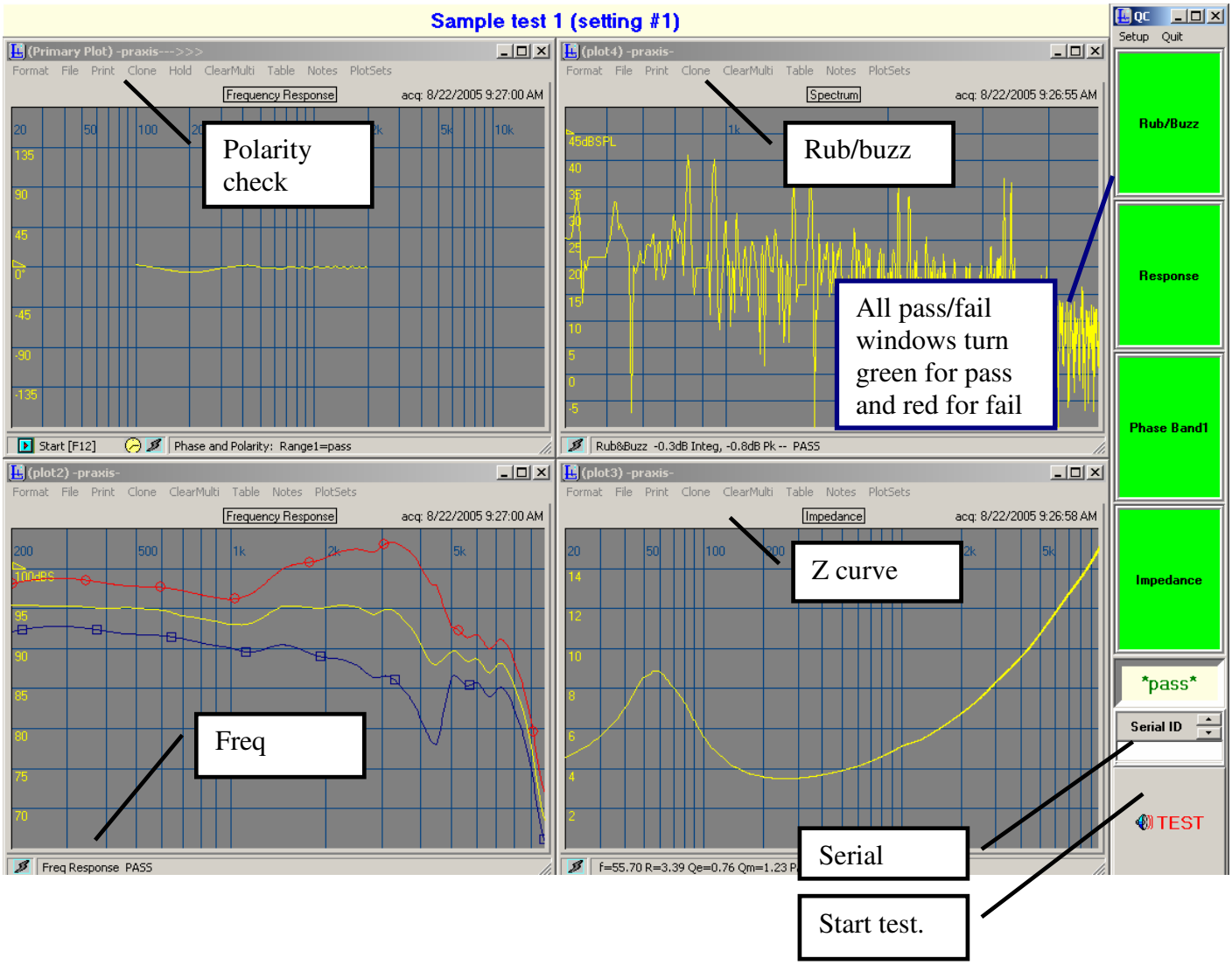
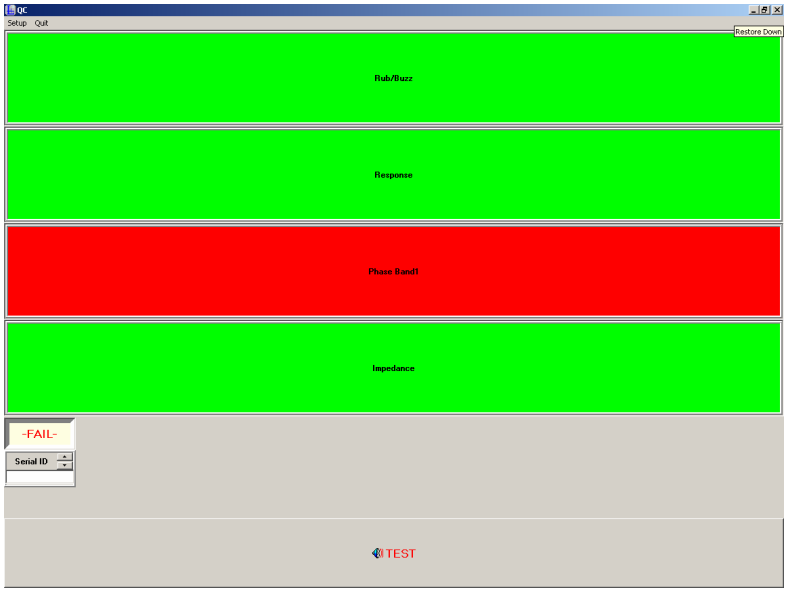


Figure 15
Main AudioPass window.

19. You can expand any of the windows to fill the screen for easy viewing.



Enjoy!

If you have technical questions contact your local dealer for assistance. You can find your local dealer on the Liberty Instruments, Inc. webpage at www.libinst.com.

Check the webpage for software updates.