



DATS V2

Quick Start Guide

DATS V2 runs under Windows (Vista • 7 • 8 • 10)
Software updates at: daytonaudio.com

*****VERY IMPORTANT SAFETY NOTE*****

NEVER connect the DATS V2 test leads to a speaker that is connected to any other equipment or to an equipment ground! Severe damage could occur to the DATS V2 unit or to the other equipment! Only connect the DATS V2 to an unconnected loudspeaker.

Congratulations on your purchase of the Dayton Audio DATS V2 Test System! The DATS V2 is the second generation of the popular DATS loudspeaker test system. Here are step-by-step instructions to get you going quickly. Later, as you wish to learn more about using DATS V2, you can **see the User's Guide under the Help menu.**

1) Install the DATS V2 software.

Download the DATS V2 software from the Dayton Audio web site.

<http://www.daytonaudio.com/index.php/dats-dayton-audio-test-system.html>

When the download is complete, open "DATS_setup.exe" to start the installation process. Follow the on-screen instructions to complete the software installation. **Don't launch the software yet.**

2) Connect the DATS V2 hardware unit to any convenient USB port on your computer.

Any USB port on your PC can be used with DATS V2 and normally no setup is required. Windows may take a moment to install a driver when the unit is connected for the first time.

3) Launch the DATS V2 application software.

From the Windows "Start" button select "All Programs" then select "DATS". The DATS V2 software will launch.

4) Calibrate the test leads.

From the DATS V2 "Impedance Analyzer" menu select "Test Leads Calibration...". Short the test leads by clipping them together and click OK to calibrate the software for the test lead resistance. The test lead resistance should be less than 1 ohm as seen at the bottom right of the typical DATS screen shown in Figure 1. If the test leads fail to calibrate select "Impedance Calibration..." under the Impedance Analyzer menu click on "Restore Default Calibration" and repeat the test leads calibration procedure.

5) Calibrate at 1k ohms.

Select "Impedance Calibration" under the "Impedance Analyzer" menu and follow the instructions to calibrate the system at 1k ohms using the supplied $\pm 0.1\%$ calibration resistor. The software will test the resistor and plot the results. Verify that the value displayed in the R_E field at the right side of the screen is very close to 1000 ohms. If not, repeat the calibration procedure. A measured value between 995 and 1005 ohms is normally expected.

6) Test a Speaker...connect the DATS V2 alligator clips to the terminals of a speaker.

The speaker **MUST NOT BE CONNECTED** to anything else such as an amplifier, other electrical equipment or ground. For best results clamp the driver in place and allow adequate clearance for any rear pole piece vents.

7) Click on the "Measure Free Air Parameters" button at the left of the DATS V2 window.

You should hear the sweep and then see the impedance response plotted on screen similar to Figure 1. The impedance magnitude is shown as a blue plot with the phase response shown in red. Several of the speaker's free air parameters are displayed in the Parameters Bar at the right side of the screen. The bar at the left side on the window is where you set the impedance and frequency limits for the current display.

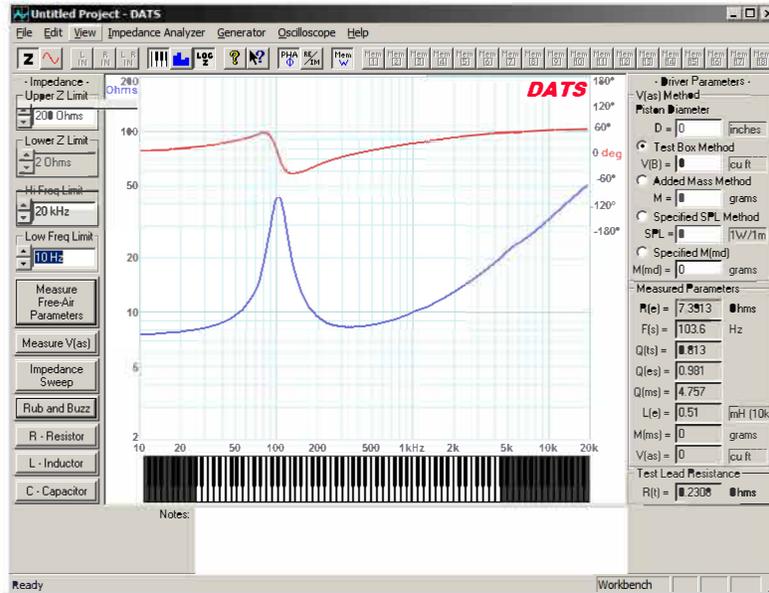


Figure 1: A Typical DATS V2 screen

8) Measure the driver's V_{as} .

Once you have measured the speaker's free air parameters the "Measure $V_{(as)}$ " button becomes enabled. Select one of the four methods to measure the V_{as} at the upper right side of the DATS V2 screen. The four V_{as} measurement methods are:

- | | |
|------------------------------|------------------------------------|
| 1) Test Box Method | - requires a suitable test box |
| 2) Added Mass Method | - requires you to add a known mass |
| 3) Specified SPL Method | - requires the SPL be known |
| 4) Specified M_{MD} Method | - requires the M_{MD} be known |

Enter the required data and then press the "Measure $V_{(as)}$ " button to start the measurement procedure.

9) After measuring the speaker you can:

- Save the data to one of 20 project memories (Alt+1 saves to Memory 1 for example)
- Save a DATS V2 project file (file extension .tzz) which includes your test setup and all 20 memories
- Export the parameters and impedance data in either .txt or .zma formats
- Overlay plots of various measured impedances from the 20 memories for detailed comparison
- Print a report showing the impedance and parameters of the displayed memories

10) Quit DATS V2.

Quit the DATS V2 application software by using "Ctrl+Q" from the keyboard or by selecting "Exit" under the "File" menu.

11) Future sessions with DATS V2.

In the future, when you want to use DATS V2 you only need to connect the DATS V2 hardware unit and launch the DATS V2 software. The software will retain its calibration and user settings from session to session, but it is still a good idea to verify the calibration occasionally using the supplied calibration resistor. For full details on using DATS V2, see the User's Guide under the Help menu.

DATS V2 Troubleshooting:

Normally the DATS V2 software automatically detects the DATS V2 hardware, and uses the default settings with no adjustments being necessary. However, if there is a problem, these are the settings you should verify. This guide assumes that you are using DATS V2 software with DATS V2 hardware.

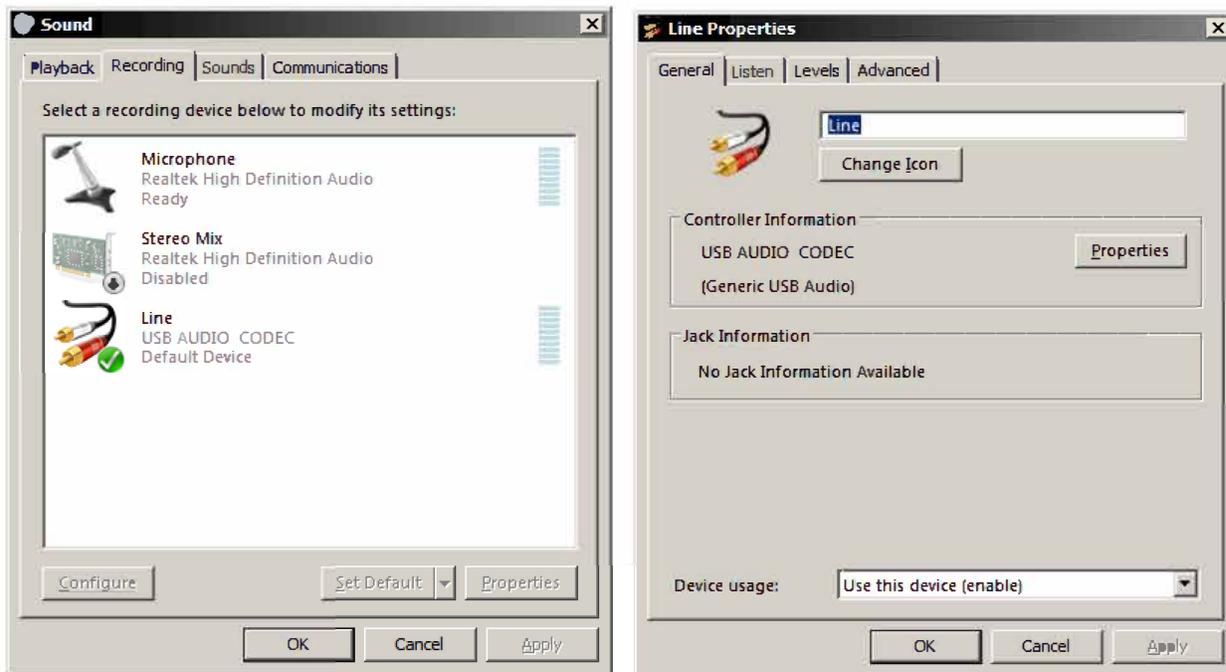
1. Make sure the correct hardware device is selected.

Look under the Edit menu and open the Audio Device Selection dialog. Make sure that "USB AUDIO CODEC" is selected for both input and output as shown below.

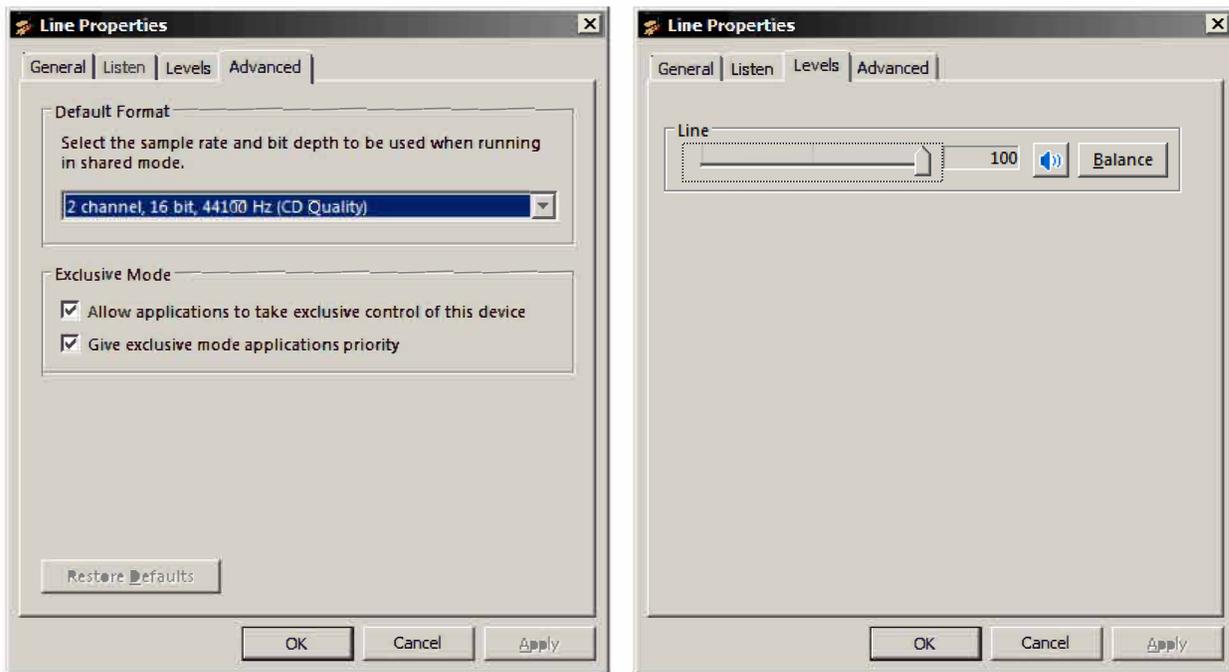


2. Examine the USB port settings to verify 2-channel input at 44.1 kHz. Verify the input level.

From the Windows "Start" button select "Control Panel/Sound". Once the Sound control panel opens select the "Recording" tab as seen below (left). Next, double-click on the Line device "USB AUDIO CODEC" to open the Properties window seen below (right).



Switch to the "Advanced" tab and select "2 channel, 16 bit, 44100 Hz (CD Quality)" as seen below (left). *Now click Apply.* Next, select the "Levels" tab set the level is set to maximum as seen below (right) and that it is not muted. DATS V2 will not operate correctly with 1 channel input or at sampling frequencies other than 44.1 kHz.



Click the "OK" button once to close the Properties window and then click "OK" again to close the Sound Control Panel.

3) Raise the Windows volume control to maximum.

From the task bar, raise the Windows master volume control to maximum.

The DATS V2 Setup Chart

	WT3 or DATS			DATS V2		
Windows Version	Sampling Rates (input/output)	Input Channels	Record Level (1 to 100)	Sampling Rates (input/output)	Input Channels	Record Level (1 to 100)
7	44.1k/ 44.1k	change to 2	change to 1	44.1k/ 44.1k	2	100
8	44.1k/ 44.1k	change to 2	54	44.1k/ 44.1k	2	100
10	44.1k/ 44.1k	change to 2	54	44.1k/ 44.1k	2	100
WT3 and DATS require setup changes for the record level and the number of channels to record. Setup changes are required because the older WT3/DATS hardware unit appears in Windows as as microphone.				The new DATS V2 hardware requires no setup changes. The new DATS V2 hardware appears in Windows as a stereo line-level device so the default settings are correct.		

