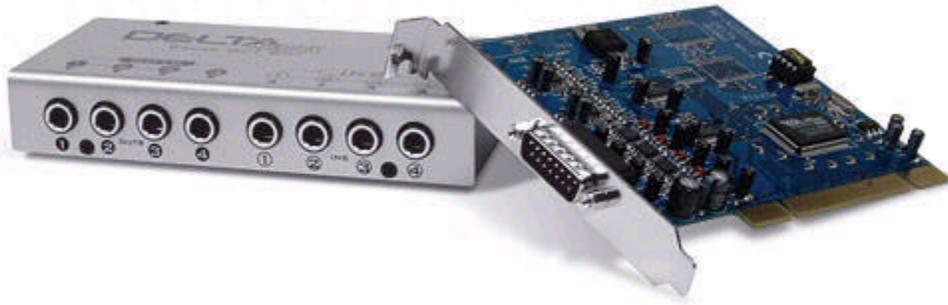


Delta 44 Quick Start Guide



The M-Audio Delta 44 is a high grade professional sound card. When setup properly for use with the SDR-1000, the results speak for themselves. Unbelievably high dynamic range and crystal clear audio with this card when combined with the versatile SDR-1000 results in an ear pleasing experience that is out of this world.

This page is designed to help you setup your new Delta 44 sound card for use with the SDR-1000. Below you will find a step-by-step guide (7 steps) along with tips for getting the fastest support. If you have questions that are not addressed in this guide, the [\[Flexradio\] Email Reflector](#) and the [Teamspeak Server](#) are available for fast, friendly support.

CAUTION: It is extremely important to use the settings in the Delta Control Panel as described below in order not to damage the SDR-1000 hardware due to overdriving the audio. Make sure the output is set to -10dBv as shown in the screenshots below. The software will attempt to ensure this setting is in the right position on startup.

The OEM version of the Delta 44 that FlexRadio ships comes with three components: A PCI card, the "breakout" box, and a cable to connect the two. We optionally provide the necessary cables to connect the sound card to the SDR-1000 (called Hosa Cable Set).



PCI Card

Step 1: Install the PCI card

While a complete discussion of installing PCI cards is outside the scope of this quick start guide, there are many resources available on the web just using a google search. For more specific help, use the support methods mentioned above.



Breakout Box

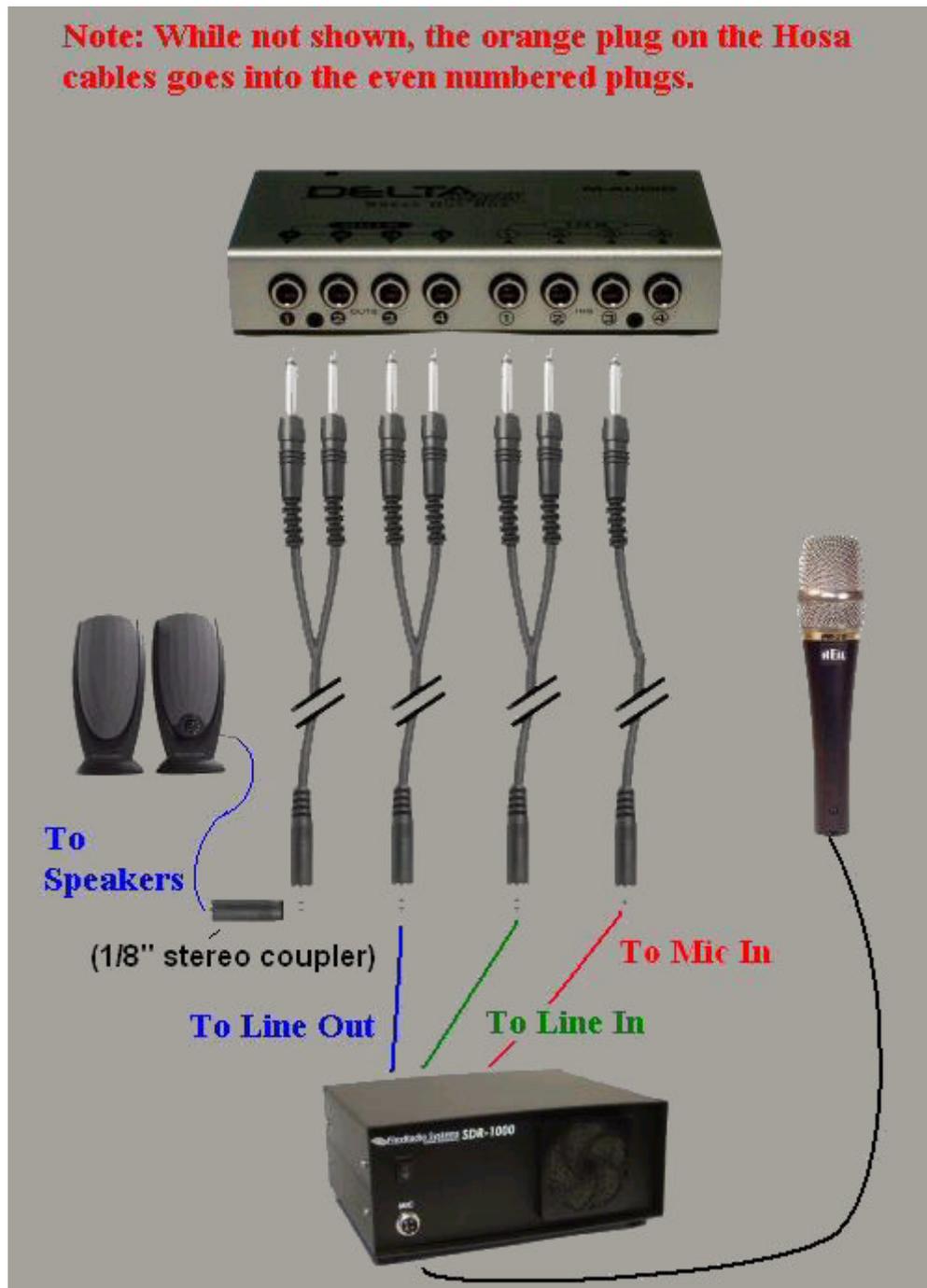
Step 2: Connect the breakout box

Use the included cable with D-style connectors to connect the breakout box to the Delta 44 PCI card.

Step 3: Connect the cables

Use the diagram below to connect the breakout box to the SDR-1000 and your speakers. If making your own cables, note that the 1/8" tip connects to the odd numbered plugs while the 1/8" ring connects to the even numbered plugs. If using the Hosa Cable Set from FlexRadio, the double 1/4" cables connect to Outputs 1-4 and Inputs 1-2. The orange cables go to the even numbered plugs. The single 1/4" Mic cable connects to Input 3.

Note: While not shown, the orange plug on the Hosa cables goes into the even numbered plugs.



Cabling Diagram

Note that the microphone can be connected either through the SDR-1000 enclosure (Mic to 4-pin connector on the front and the 1/8" stereo connector in the back going to the sound card Mic In) as shown -OR- it can be wired straight to the Delta 44 Input 3.

A 1/8" stereo coupler (included in the cable set) will be necessary to connect the speakers to Outputs 1/2 unless the speakers have a female 1/8" receptacle for the input. The same is true for connecting a PC microphone rather than using the front panel connector. When using the Delta 44, the plug marked "SPKR" on the back of the enclosure is not used.

For digital mode support see the VAC Setup and Use document on our Download page.

Here is a functional description of each input and output from the Delta 44 break out box:

Out 1 & 2: -10dBV nominal stereo speaker/headphone output. This will normally be connected directly to

either powered speakers or headphones. It will work also with un powered speakers but don't expect -10dBV to blow the doors off. We use headphones on this output with no problem. Windows sounds will play through this output if you have the Delta 44 set as the default sound card in the Windows Control Panel. You will need either a stereo coupler (barrel) or "Y" connector for this connection (provided in our Hosa Cable Set).

Out 3 & 4: -10dBV I and Q modulated audio going to the transmitter, which must be connected to the jack on the radio marked, "To Line Out." Failure to seat this connector properly will cause transmission of double sideband signals. Note that the speaker jack on the back of the radio is in parallel with the transmitter I & Q signals through a mute relay. This "SPKR" jack on the radio is ONLY to be used for consumer audio cards that do not have the number of outputs supplied by the Delta 44. It should NOT be used with the Delta 44.

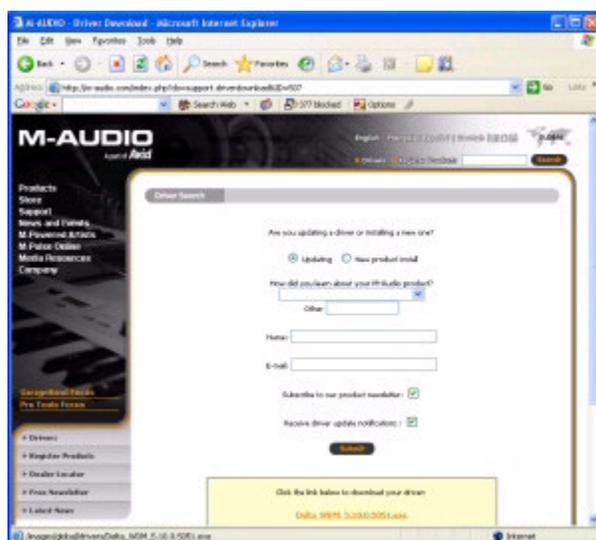
In 1 & 2: +4dBu level I and Q from the down converted baseband receiver audio. This cable must be connected to the jack marked, "To Line In." Failure to fully seat this connector will cause loss of image rejection on the receiver.

In 3: -10dBV nominal microphone/digital mode input port. For normal operation it should be connected to the jack on the back of the radio which is just ABOVE the words, "To Mic In." The jack is a DIRECT connection to the front panel 4-pin microphone connector. The wiring table can be seen in the Operating Manual in Chapter 3: Pinouts. We have used this with a Heil Pro series microphone with success. If preferred, you can connect the microphone directly to Input 3, bypassing the front panel connector.

In 4: This channel is not used.

Step 4: Download the drivers

Now that you have the sound card hardware installed, it is time to help the operating system understand how to talk to it. Use the following link to get to the driver download page on the M-Audio website: [Link](#) Optionally fill out the requested info (not necessary) and then click on the link in the yellow box to download the driver. Once downloaded, run the file to install the drivers. It may be necessary to reboot after the installation is complete.



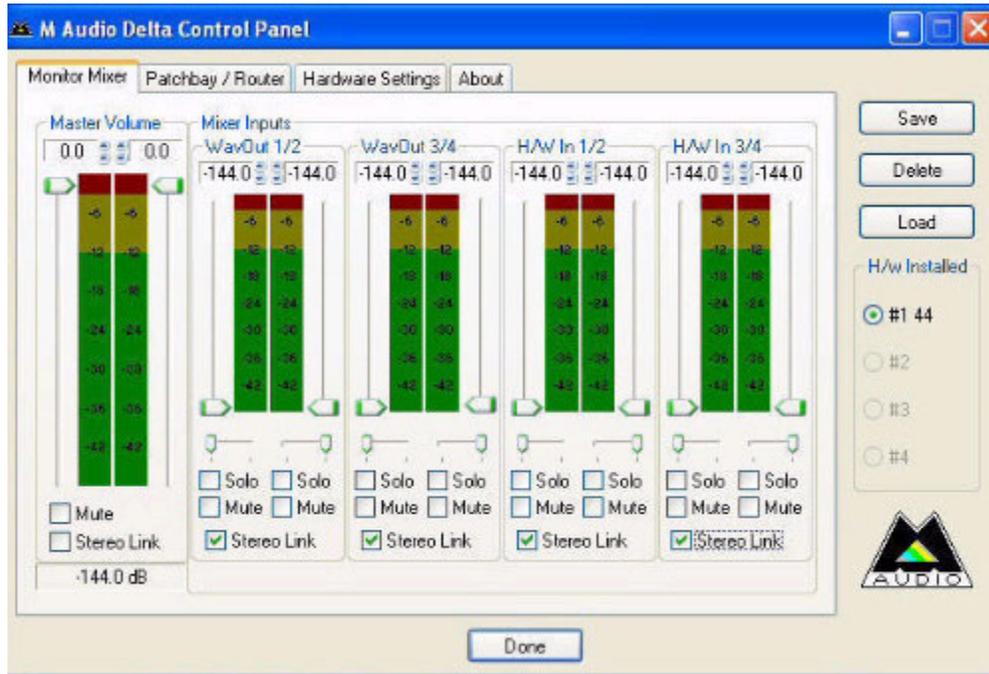
M-Audio Website

Step 5: Setup the Delta 44 Control Panel

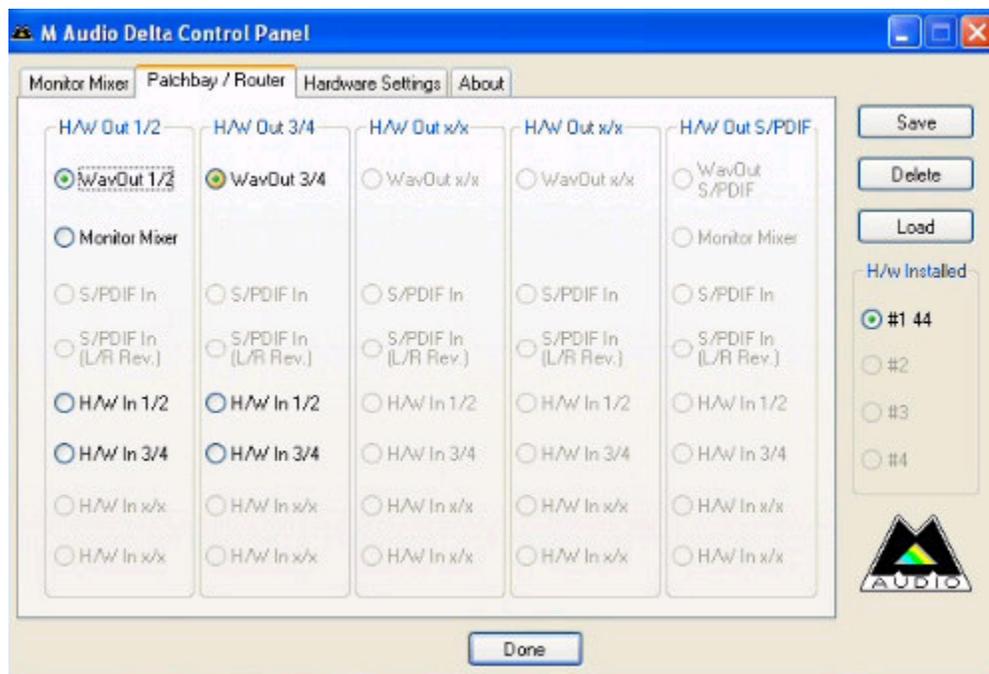
Once the driver has been installed, the Delta 44 Control Panel will show up in the taskbar (lower right hand side of the screen). Click on the icon (shown below) to open the control panel and use the following screenshots to setup the controls.



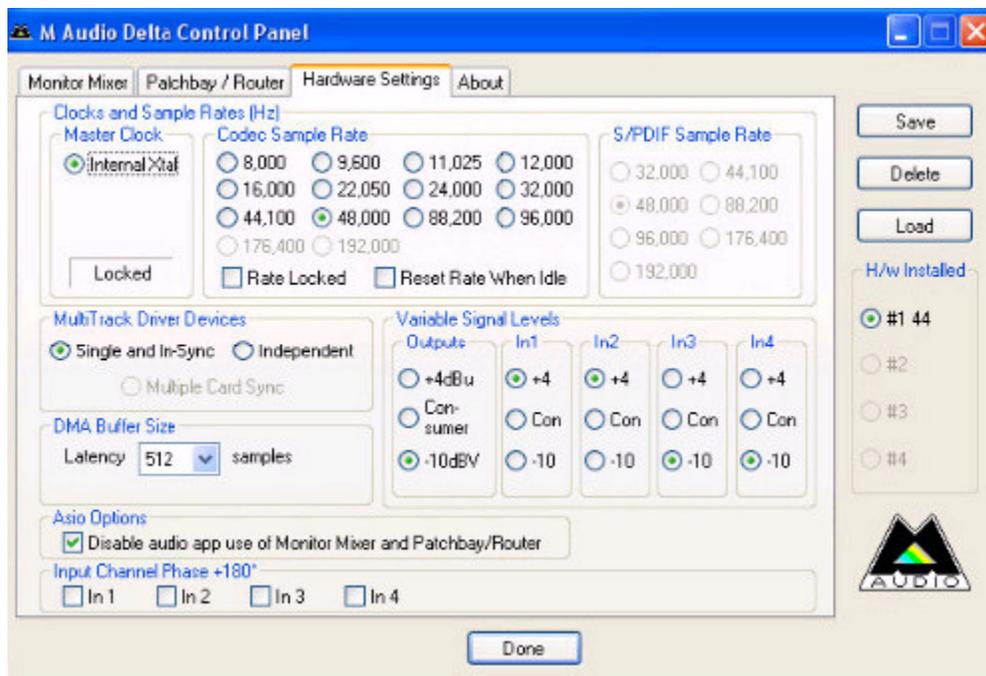
Taskbar Icon



Delta 44 Control Panel - Monitor Mixer Tab



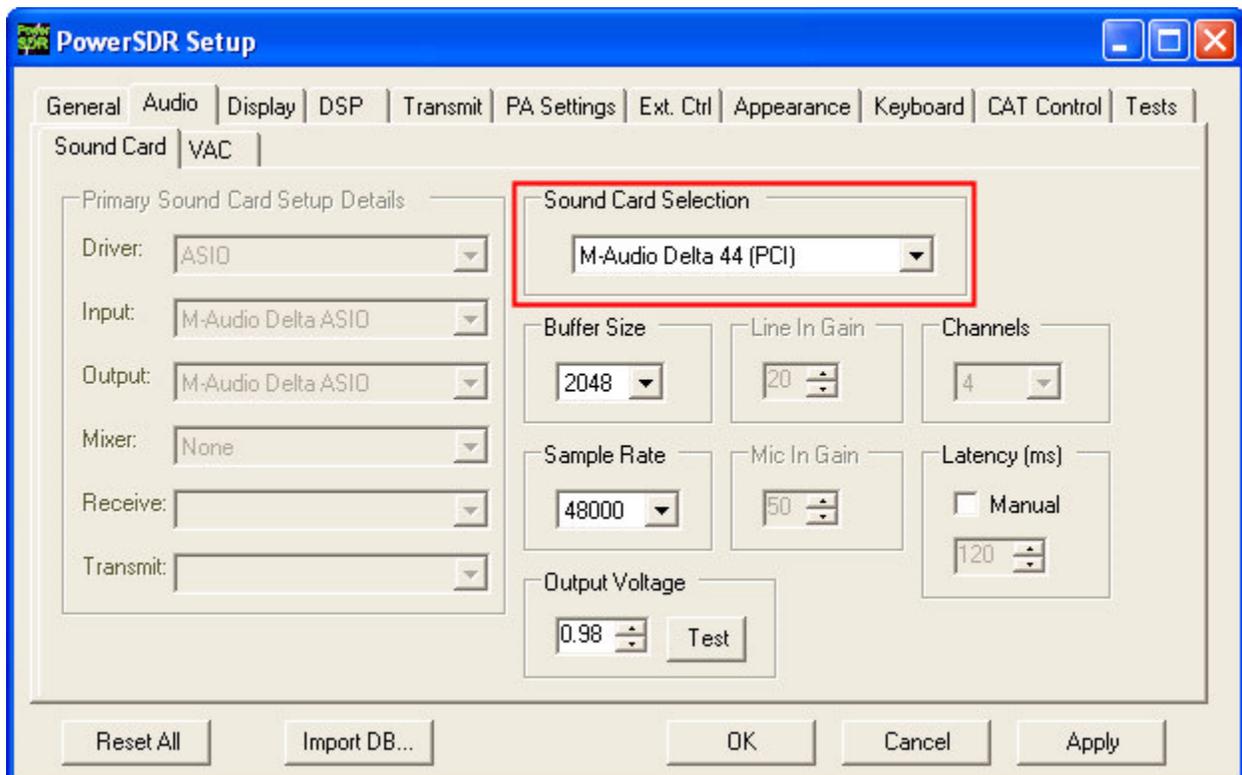
Delta 44 Control Panel - Patchbay / Router Tab



Delta 44 Control Panel - Hardware Settings Tab

Step 6: Setup the PowerSDR Software

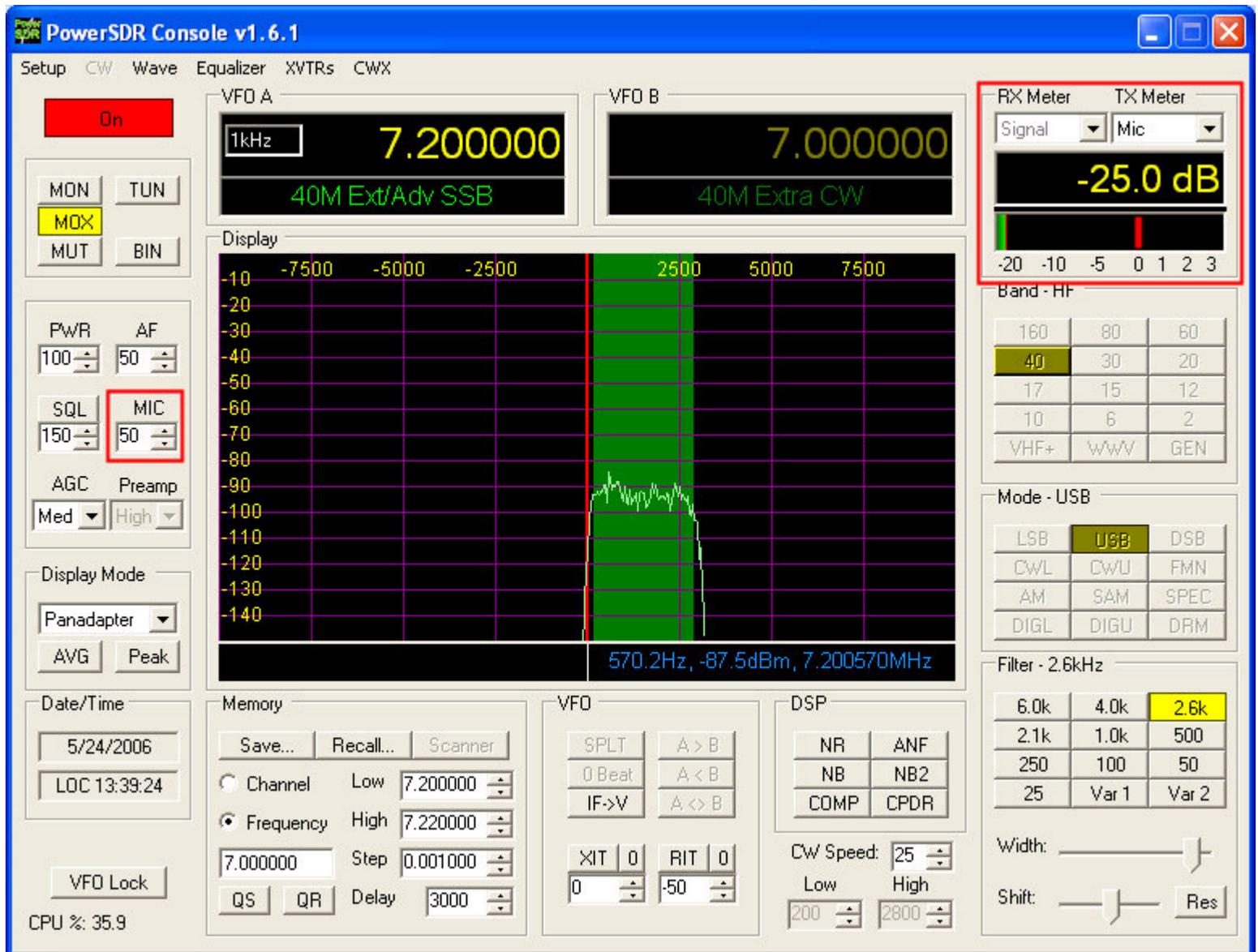
Now that the Delta 44 sound card is completely setup, it is time to setup the PowerSDR software to use it. **We recommend that Delta 44 owners use PowerSDR v1.6.1 or later.** Click the Setup menu to pull up the Setup Form and click on the Audio Tab. Select the M-Audio Delta 44 (PCI) from the Sound Card Selection combobox (see the figure below). Once selected, click the Apply button and then click OK to close the Setup Form.



PowerSDR Setup Form - Audio Tab

Step 7: Calibrate the Microphone Input Level

Refer to the image below for a reference to the front panel for this calibration. Select Mic on the TX Meter (upper right). Click the MOX button to begin transmitting. Speak in a normal voice and adjust the Mic control (left, middle) until the voice peaks are right at 0dB on the multimeter (figure below). If you are unable to modulate to the 0dB point, it may be necessary to use a hardware preamp to bring the input levels up for the Delta 44.



PowerSDR - Mic Setup

This concludes the Delta 44 Quick Start Guide. At this point you should be able to receive and transmit with the Delta 44. If you are still having problems, please refer to the support links mentioned at the top of this guide.

Updated 05/24/06