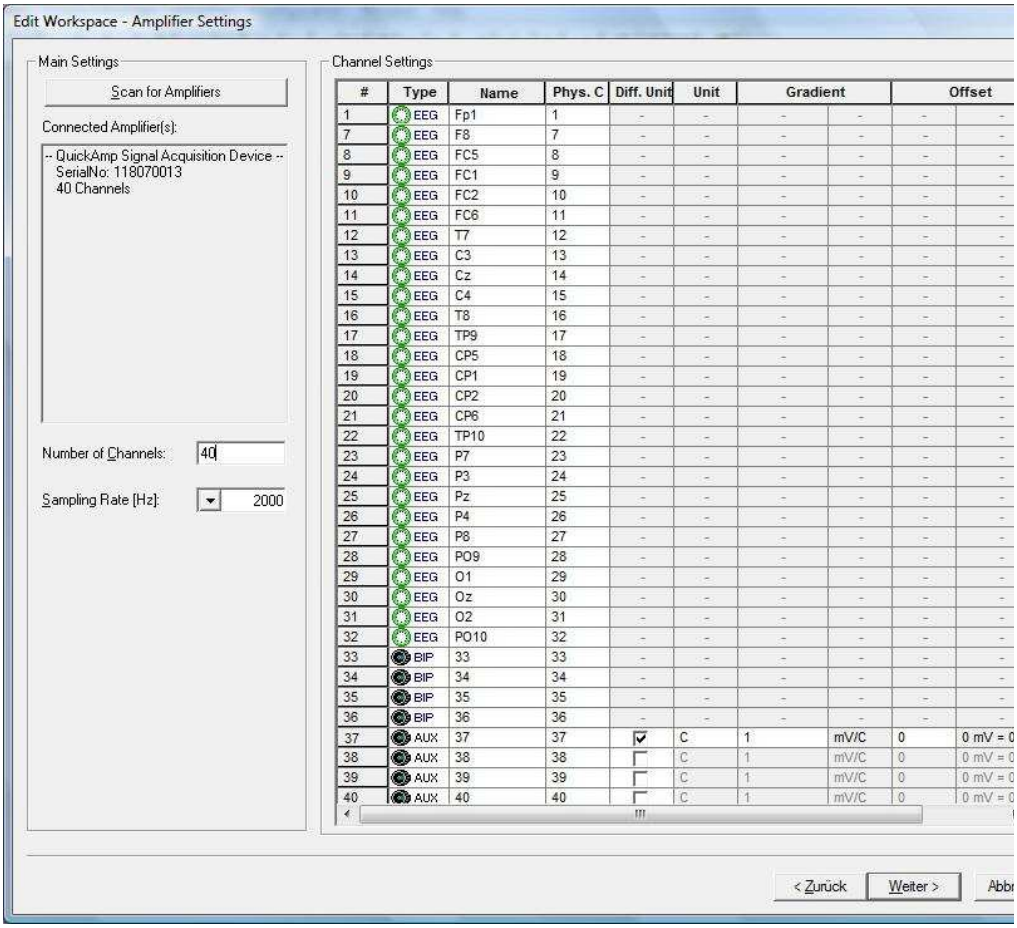

Figure 8-12. Editing a QuickAmp workspace

Click **Scan for Amplifiers**. The QuickAmp amplifiers connected to your computer are shown under *Connected Amplifier(s)*.

Enter the number of channels in the **Number of Channels** text box. Choose the sampling rate in the **Sampling Rate [Hz]** text box.

Adjusting the sensors for the AUX inputs of the QuickAmp

If you wish to use external sensors to measure temperature, skin conductivity etc. you can carry out the appropriate adaptations at this point. The AUX channels are always the last four channels of the amplifier. This means that for a QuickAmp40, you use the physical channels 37 through 40 (Figure 8-13), for a QuickAmp72 channels 69 through 72 and for a QuickAmp128 channels 125 through 128.

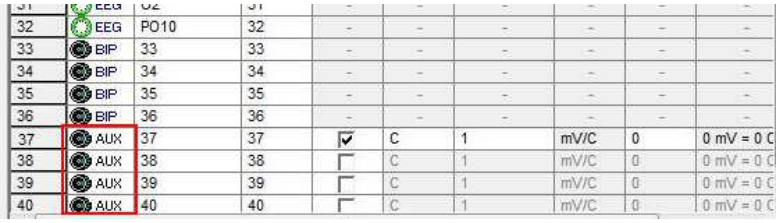

Figure 8-13. QuickAmp, AUX channels

Additional data entry columns are available for the AUX channels in the channel table:

- If you select the box under **Diff. Unit**, you can use a different unit such as “C” for Celsius.
- Enter the required unit in the **Unit** column.
- Enter the gradient in mV/unit in the **Gradient** column – for the unit C, for example, use mV/C. In this example, you describe the voltage difference in mV at a temperature change of one degree Celsius. This value can also be negative.
- The **Offset** defines the zero point. In our temperature example, this is the voltage in mV that the sensor returns at a temperature of 0 degrees Celsius.

8.2.2 Using the test signal for the QuickAmp

To display and record a test signal, attach the supplied signal tester to the *QuickAmp* via the electrode input socket. In the toolbar, click the *Test Signal* button. A square wave signal is generated and displayed.

Note

The test signal is not calibrated. It is only an approximate value.

To configure the test signal for the *QuickAmp*, choose **Amplifier › Test Signal Values...** from the menu.

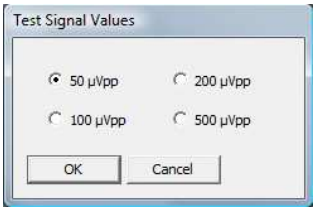

Figure 8-14. Configuring the test signal for the QuickAmp

8.2.3 Configuring the digital port (marker port) for the QuickAmp

Use the digital ports DIO0 through DIO7 for recording events that are synchronous with the EEG such as stimuli or test subject responses. The designations DIO0 through DIO7 relate to the bit number, with the first bit being designated with 0.

You make the settings for the digital port by choosing **Amplifier › Digital Port Settings...** from the menu.

Note that the contents of the dialog box differ in respect of the debouncing parameters with the *QuickAmp PCI* and *QuickAmp USB*.

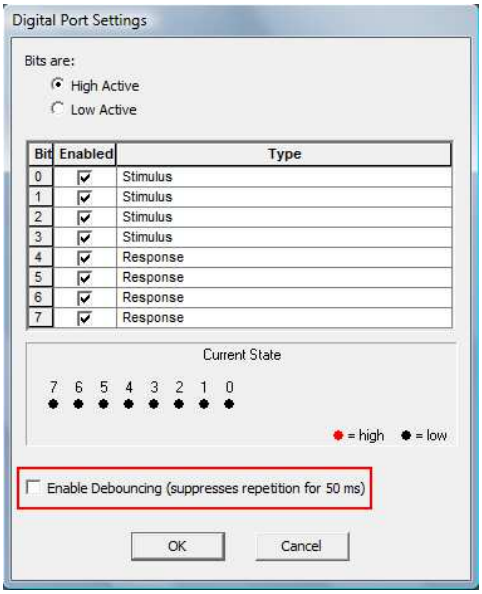

Figure 8-15. Configuring the digital port for the QuickAmp PCI

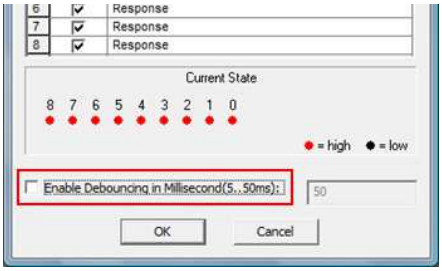

Figure 8-16. Configuring the digital port for the QuickAmp USB

You can choose whether the signals are interpreted as high-active (5 V = active) or low-active (0 V = active).

In the *Enabled* column of the table, you can specify whether the associated bit is to be evaluated or not. In the *Type* column, you can specify what time marker type each bit represents. It is also possible to assign the same type to several different bits.

In principle, you can freely select the name of the type. You should, however, note that the Recorder and Analyzer use color coding for certain types. For this reason, it is advisable to choose “Stimulus” and “Response” for stimulus and response inputs respectively.

The description of the markers is encoded automatically. The following procedure is used: The first occurrence of the type in the table is weighted with value 1, the second occurrence with value 2, the third with value 4 etc. For every data point, all set bits of a type are added together according to this pattern. The resultant number is combined with the initial letter of the type, resulting in the description.

Example Bit 4 through bit 7 are of the type “Response”. If bits 5 and 7 are set, this results in a marker of the type “Response” with the description “R 10”. Bit 5 has a value of 2 and bit 7 a value of 8. The total is 10. The consequence of this logic is that only markers of different types can be detected at any one time. If you want to record different responses simultaneously, you can do so by decoding the number values subsequently in the analysis, by assigning a separate marker to every bit. Alternatively, you can assign a separate type to every bit in the table.

You can view the current state of the digital port for test purposes in the **Current State** box.

Another option available in the *Digital Port Settings* dialog box is debouncing.

- *QuickAmp PCI*. If you select the **Enable Debouncing (suppresses repetition for 50 ms)** box, repetition of a marker of the same type and same description is ignored for a period of 50 ms.
- *QuickAmp USB*. If you select the **Enable Debouncing in Millisecond (5..50 ms)** box, repetition of a marker of the same type and same description is ignored for a period of 5 through 50 ms.

Note

Trigger signals must be present at least for the extent of a sampling point. This means, for instance, that at a sampling rate of 1,000 Hz, the minimum length of the trigger signal is 1 ms and that at 500 Hz the minimum length is 2 ms, etc.