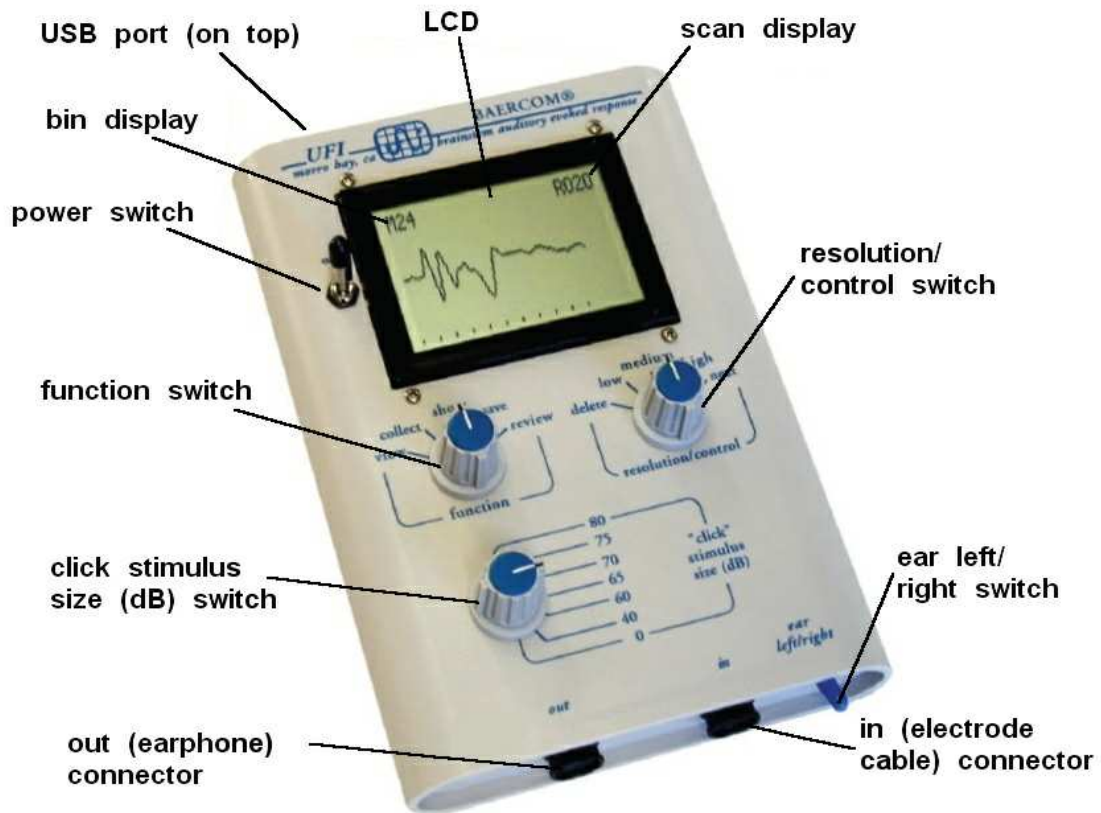


BAERCOM Quick-Start Lessons

Overview

These lessons are adapted from the BAERCOM™ instruction manual. If you do not yet have a BAERCOM™, these lessons can show you how easy it is to use the BAERCOM™. If you *do* have a BAERCOM™, use these lessons to supplement the information in the manual.



Lesson 1: Review sample BAERCOM™ data

In this lesson, you will test the BAERCOM™ and discover what typical BAERCOM™ data looks like. Terms in bold italics are keyed to the photo above.

1. Set BAERCOM™ switches; turn on BAERCOM™

- Set the **Function** switch to "View."
- Set the **Resolution/Control** switch to "Medium."
- You can leave the **Click Stimulus Size (dB)** switch at any setting for this lesson.
- Flip the **Power** switch, which is located just to the left of the **liquid-crystal display (LCD)**, to the "On" (up) position. This switch is a locking toggle type -- pull the handle away from the front of the BAERCOM™ to unlock it.
- Two "welcome" messages will be displayed, then a continuous flat line plot.

2. Review sample BAER data

- Turn the **Function** switch to "Review."
- Turn the **Resolution/Control** switch to "Next."
 - Watch as the BAERCOM™ steps through its BAER data storage "bins" (memory locations).
 - A **bin display** field in the upper left corner of the LCD counts M01, M02, M03, etc. (These are the bins.)
 - The LCD should show a flat line, since no BAER data have been stored yet.
- When the **bin display field** shows "M24," turn the **Resolution/Control** switch back to "Medium". Bin M24 contains actual BAER data collected from a dog.
- Turn the **Function** switch to "Show."
- The **LCD** now displays the data in bin M24 using the "Medium" resolution (plot size) setting.

3. Adjust resolution setting

- Turn the **Resolution/Control** switch to "Low;" the BAER data plot should become smaller (compress vertically).
- Now turn the **Resolution/Control** switch to "High;" the sample BAER data plot should become larger (expand vertically). The spike you see towards the plot center is an artifact due to signal clipping.
- Finally, turn the **Resolution/Control** switch back to "Medium" to prepare for Lesson 2.

Lesson 2: Acquire BAER data

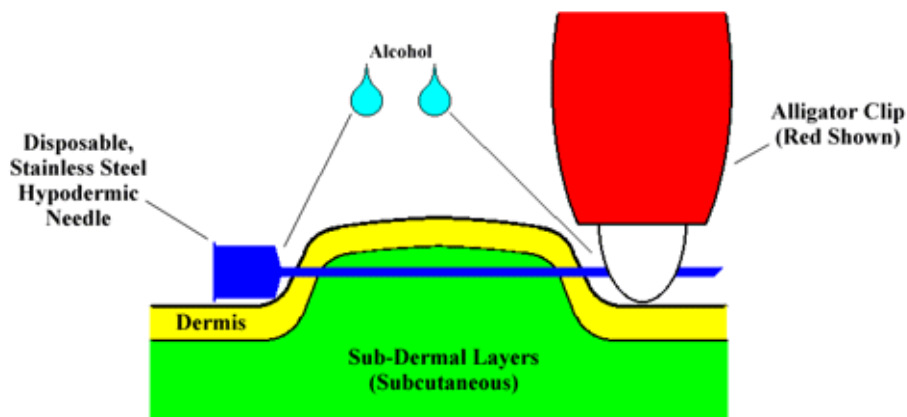
This lesson is taken from Section 1.3.2 of the BAERCOM™ instruction manual, and demonstrates the three-electrode approach to collecting BAER data.

1. Place electrodes on your subject

- You will attach needle electrodes to the crown (top of the head) and adjacent to each ear as shown in the photo below:



- The text and diagram below show how to attach the electrodes, which consist of sterile, disposable stainless steel hypodermic needles. For each of the three electrodes, follow these steps:
 - Gently pinch the skin, then push the needle through the skin nearly parallel to the subject's body.
 - The needle tip should travel just below the outer layers of skin for about 1/4" to 3/8," then out the other side of the pinched skin.
 - Find the lead of the color appropriate to the needle you've just attached.
 - Fasten the alligator clip at the end of this lead over the exposed *pointed* end of the needle.
 - Drip a few drops of alcohol onto the skin over the exposed portions of the needle in order to sterilize the small punctures you've made.



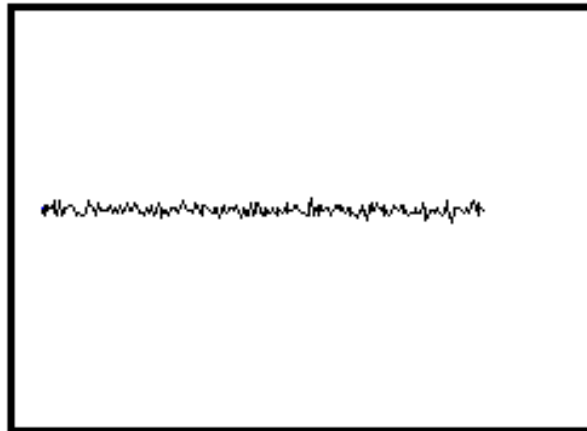
Suggested Electrode Placement for the UFI BAERCOM
using Disposable Hypodermic Needles

2. Attach earphone to your subject

- Push the earphone *gently* into the subject's **left** ear canal (*not* into the right ear as show in the photo).
- Try to seal off the ear canal from the outside world with the earphone's rubber cone. This ensures that the only auditory stimulus is from the BAERCOM™ itself, not extraneous noises.

3. Set BAERCOM™ switches and turn on power

- Turn the **Function** switch to "View."
- Make sure the **Resolution/Control** switch is still set to "Medium."
- Turn the **Click Stimulus Size (dB)** switch to the "70 dB" position.
- Flip the **Ear Left/Right** switch, located at the right side of the bottom panel, to the "Left" position.
- Turn the **Power** switch to the "On" (up) position.
- Just as in Lesson 1, the two welcome messages are displayed.
- You should then see a fairly stable, flat baseline with just a small amount of "noise" disturbing it. (See illustration below.)



4. Collect and display BAER response data

- Turn the **Function** switch to “Collect.”
- You’ll hear a faint, rapid clicking sound from the earphone and the BAER response plot will build up on the **LCD**.
- Wait until the **scan display** in the top right corner of the **LCD** shows “L020” as shown below.



- Turn the **Function** switch to “Show.”
- The clicking sound will stop, and the BAER data compiled from 20 scans will be shown on the **LCD** as above.

Lesson 3: Save BAER data to the PC; print data form

Before attempting this lesson, be sure that the BAERCOM-PC software is installed as detailed in Section 3.0 of the instruction manual. Also ensure that a local printer is connected and turned on.

Before beginning Step 7 below, perform Steps 1 through 6 from Lesson 2.

7. Download left-ear BAER data to your PC

- The **Function** switch should still be in the “Show” position from Step 6, and the **LCD** should still show 20 scans of left-ear data.
- Connect one end of a standard USB cable (supplied) to the **USB jack** on the left side of the BAERCOM™ top panel.
- Plug the other end of the cable into a USB port on your PC.
- Start your BAERCOM-PC software (supplied with each new BAERCOM™ unit).
- On the software main screen, press the "Locate BAERCOM" button. The software now scans the available USB ports to determine which one is attached to the BAERCOM™ unit.
- If you have connected everything properly, you'll get a message telling you that the software has connected the PC to the BAERCOM™ successfully.
- Again on the software main screen, press the "(L) Get BAER Data" button.
- After 3 to 5 seconds, the data is loaded from your BAERCOM™ into your PC.

8. Collect right-ear BAER data

- Remove the earphone from the subject's left ear and push it *gently* into the right ear canal.
- Flip the **Ear Left/Right** switch to the “Right” position.
- As for the left ear, the **LCD** should display a fairly stable, flat baseline with just a small amount of noise.
- Turn the **Function** switch to “Collect.”
- Again, you'll hear the faint clicking sound as the BAER response plot builds up on the **LCD**.
- Wait until the **scan display** in the top right corner of the **LCD** shows "R020."
- Turn the **Function** switch to “Show” to stop data collection and display the BAER data compiled from 20 right-ear scans.

9. Download right-ear BAER data to your PC and save data file

- On the software main screen, press the "(R) Get BAER Data" button.
- After 3 to 5 seconds, the right-ear data is loaded into your PC.
- You can append text notes to your data by moving the cursor to each data field in turn, then entering any desired information with the keyboard.
- To save the BAER data to a PC file, press the "Save" button on the software screen, then supply a file name consisting of 6 to 12 letters and/or numbers.
- Make sure that your file name ends with the extension ".bcd." Your file name should look something like this: BaerTest1.bcd.
- Once you've entered the name, press the "OK" software button to actually create the file.

10. Print BAER data form

- Press the "Print Form" software button.
- The BAERCOM-PC software will capture your BAER data screen, rotate it, size it for your printer, and then print it out.

This concludes your quick lessons in how to use the BAERCOM™. For more information, please contact UFI.

Telephone and fax

- **Telephone: 805-772-1203**
- **Fax: 805-772-5056**
- **Office hours: Monday - Friday, 8:00am - 5:00pm, Pacific Time**

Email

- **mail@ufiservingscience.com**

Postal and delivery address

- **545 Main Street, Suite C-2**
- **Morro Bay, CA 93442**