

Use of Respirometer with BrainMaster Atlantis Devices

It is possible to monitor Respiratory Effort using the BrainMaster Atlantis equipment, along with a standard Respiratory Effort Sensor. One suitable sensor is the Braebon Model 0522 Ultima Double-Buckle Respiratory Effort Sensor.

This sensor can be obtained from standard industry sources, for example, www.mvapmed.com. MVAP refers to this device as the Item Code 0522 BRAEBON Ultima Respiratory Belt. The list price is \$235 per sensor belt, found at:

<https://secure.mvapmed.com/mvap/AMAZING/itemdesc.asp?ic=0522&eq=&Tp=>

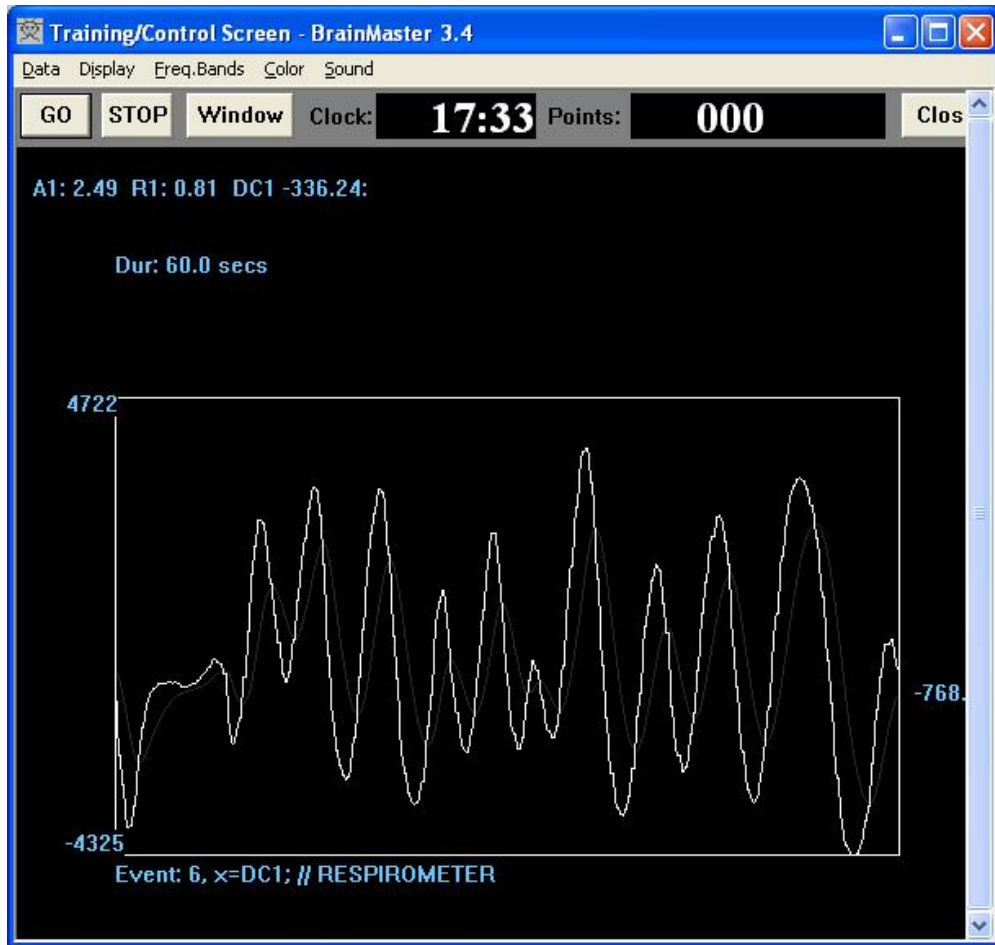


This Respiratory Effort Sensor includes a transducer with two standard “touch-proof” connectors. The device produces an output voltage that is proportional to respiratory effort, and which can be read into the Atlantis device using the “DC” mode of the amplifiers. It is possible to plug this sensor directly into the Atlantis EEG inputs, and use its output for training, as described below.

Using a standard Atlantis input cable, plug the red plug from the belt into the active input of any channel, and plug the white plug from the belt into the reference input of the same channel. This will produce a differential voltage that can be used in the Event Wizard to reflect respiratory effort.

A simple protocol to demonstrate this is shown, and is saved by the name “Testing Respirometer”. Using this protocol design, the respirometer is plugged into Active 1 and Reference 1 of the Atlantis input.

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Designs can be easily configured to produce sound output, train optimal respiratory patterns, etc. Using this approach, protocols can be designed to combine respirometer data with EEG, HRV, TEMP, or other modalities. Simply plug the respirometer into the selected EEG inputs, and use the corresponding DC term in the Event Wizard (e.g. “DC1”, “DC2”, etc.) to access the respirometer data.

In the near future, we will introduce protocols that use respirometer data along with EEG and other peripheral data, to provide comprehensive brain and physiological training in the Atlantis and Discovery systems.