MODEL DEPICTION

The next generation of neurofeedback is here!

Imagine if you could observe events in the brain of a client at the same time as the client experiences total sensory immersion by seeing, hearing and feeling their brain waves throughout the body. Imagine offering couples training where one device can be used to synchronize and train two individual brainwaves at one time. What if you could offer high performance training where two peak performers could not only train independently, but could also learn to compete with each other by racing electrical toys, cars or trains while learning to maintain the inner stillness associated with "the zone"?

What could that mean to your ability to help your clients more quickly and more effectively?

Imagine clients who require home training having a home or remote training system that will continually monitor and record impedances, as well as collect the raw EEG and deliver specific protocol instructions specially designed by you for your client. Imagine seamless internet transmission of the encrypted training data from your clients email to your email address at the press of a button.

Now that BrainMaster has turned imagination into reality, you can do just that with Atlantis.

BrainMaster Technologies' new Atlantis series of biofeedback devices will expand with your clinical experience and needs for many years to come. With the introduction of 3.0 software, Atlantis will offer continuous real-time impedance monitoring, not merely checking, so that you can obtain results quicker and achieve your clinical goals faster.

The BrainMaster Atlantis series allows for quicker hook-ups, easier set-ups, higher efficiency, and state-of-the-art technology and assures you of cleaner data in a real-time environment.

Best of all, the new Atlantis models are each small enough to fit in a shirt pocket making them totally portable. And because they don't run on batteries, they require no charging and have no re-charging down time, so you get an endless use cycle. The Atlantis series uses USB connections and features our new Triamp[tm] bioamplifier for the ultimate in power and compatibility.

Atlantis

THE NEXT GENERATION OF NEUROFEEDBACK[sm]

The new Atlantis I and II systems by BrainMaster will allow you to see more clients each day with better results and higher accuracy. Because Atlantis is made by BrainMaster, you know you will get the highest quality possible, retain future expandability potential, and experience ease of use at an affordable price.

Atlantis comes in two state-of -the art models, the economical Atlantis 2+2 and the Atlantis I (4+4) which will offer future expandability to allow you to include virtually every peripheral modality considered essential by clinicians everywhere.

You've imagined biofeedback systems capable of meeting your training needs for a very long time. Let your imagination become reality. Let Atlantis, the next generation of neuro-feedback and biofeedback help you make your practice more efficient, effective and help you achieve your clinical goals for your clients more quickly.

MODEL DEPICTION

ATLANTIS: AN ENTIRELY NEW CONCEPT IN EEG AND BIOFEEDBACK SYSTEMS

Atlantis I (4+4) goes beyond the state of the art to define a new approach to high-quality and effective EEG and peripheral feedback. It includes an innovative Triamp[tm] bioamplifier that records and reports the EEG signal, the DC and slow cortical potentials, and the impedances of the sensors as well, all continuously, and in real time. In addition to 4 (24-bit) EEG channels, there are 4 (12-bit) Aux channels, also using Triamp[tm] inputs, ready to provide simultaneous AC, DC, and impedance recording for skin, muscle, heart, temperature, and other add-on peripheral modalities expected in the near future. In addition to high-quality bio-data recording, there are also new built-in feedback modalities. These built-in autonomous functions provide rapid (1024 events/second) real-time feedback for phase-sensitive photic, auditory, and vibrotactile stimulation, and will operate autonomously (stand-alone) without a PC as the hardware evolves and expands its capabilities through 2007.

THE KEY TO ATLANTIS IS SIMPLICITY

By integrating impedance sensing with high quality bio-potential recording, Atlantis makes it easy to ensure that connections are sound, and to focus on biofeedback, not the sensors. And the integrated stimulator and event inputs and outputs are available for use at any time without adding special hardware interfaces or software. Atlantis makes it possible to conduct multi-modality feedback and control for maximum effect, with a minimum of effort.

ATLANTIS IS MORE THAN AN EEG OR BIOFEEDBACK ENCODER

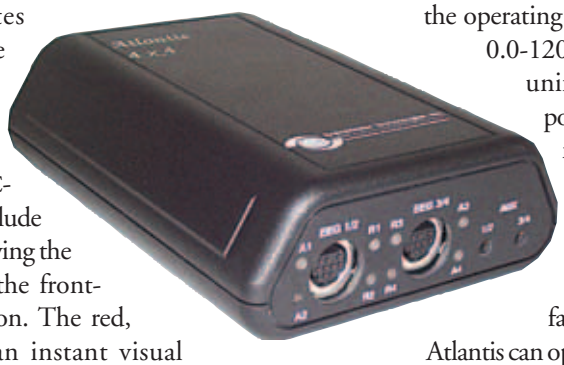
Atlantis incorporates powerful hardware and software technology to provide an integrated system that performs autonomous real-time EEG-controlled feedback without a PC, as well as providing real-time data for PC-based software*. The Atlantis is capable of recording and processing EEG in real-time (standard rate 1024 samples per second), and providing live feedback in the form of photic stimulation, auditory feedback, and vibrotactile feedback, all operating at 1024 samples (or events) per second. This provides rapid and accurate feedback for sensitive phase-based de-synchrony or inhibit protocols that depend on real-time EEG-controlled response. These response speeds are not possible with PC-based software, due to the various time delays inherent in PC and Windows-based systems. Only a dedicated, real-time hardware solution (analog or digital) can provide continual instantaneous feedback, with a guaranteed response time of less than 1 millisecond.

ATLANTIS CAN PROVIDE TOTAL IMMERSION

By providing simultaneous real-time feedback in the forms of photic, auditory, and vibrotactile stimulation, Atlantis produces an immersive sensory experience that is comprehensive yet simple. In its simplest form, the EEG signal is fed directly back to the trainee in the form of signals encoded into the LED glasses, the speakers or headphones, and the vibrotactile cushion. This feedback does not depend on specific protocols, and is more analog in nature than conventional discrete training (e.g. PC-based) paradigms. Feedback can be used to provide either reinforcement or inhibition of EEG or other biological rhythms via direct sensory feedback, based upon on the EEG connections used, and the details of the feedback settings. Those who have experienced and appreciate dedicated real-time analog or digital feedback systems will understand the value of this approach, and see it as an important component of a compre-hensive neurofeedback capability.

ATLANTIS INCORPORATES CONTINUOUS REAL-TIME IMPEDANCE MONITORING

In addition to its innovative autonomous functions, Atlantis incorporates continuous real-time impedance monitoring (not only impedance *checking*). All impedances on the EEG leads can be con-tinuously monitored via, the front panel LEDs, or via. PC-based software. The 4 EEG channels include 8 built-in tri-color LED indicators showing the impedance values continuously on the front-panel, throughout the training session. The red, yellow, and green lights provide an instant visual confirmation of sensor contact, while placing sensors, and also at any time during the session. This is superior to impedance checkers that only monitor impedance when requested, and which require data acquisition to stop during impedance checking.



Atlantis running with 3.0 software provides continuous monitoring of all EEG impedances, as well as the ability to send impedance data back to the PC for feedback, reporting, and intervention, when needed. This capability virtually eliminates the need for a separate impedance-checking step, and ensures that all impedances are within desired ranges, at all times during the feedback session, and may be continually recorded.

AUX CHANNELS MONITORED

The AUX channels are also continuously monitored for both potential (millivolts) and impedance (ohms), and are also sampled at the standard rate of 1024 samples per second. These channels are thus immediately useful for bio-potentials or bio-impedance feedback including skin resistance or conductance, galvanic skin response, EMG, EKG, or other signals. Four single-ended inputs are provided, bringing the total channel count of the Atlantis I to eight channels. The Atlantis I is thus a 4 + 4 device, providing four channels of EEG and four channels of other bio-potentials all with continuous impedance monitoring.

DC AND SCP PROVIDED

The Atlantis system also provides direct current (DC) and slow cortical potential (SCP) measurement, using our innovative Triamp[tm] amplifier design. With this system, you will be able to simultaneously and continuously measure, on each EEG channel, the EEG signal, the impedances of both the active and reference leads, the DC potential, and the SCP potential, all at the same time. This opens important new avenues for research and clinical work with DC and SCP potentials, as well as with conventional (now wideband 0.0 – 120.0 Hz) EEG signals.

DATA TRANSMISSION

Because the Atlantis EEG inputs are sampled with 24 bits at 1024 samples/second and reconstructed for data transmission to the PC, the EEG channels can be used to monitor EMG, EKG, or other *fast* signals without aliasing errors due to under-sampling. When data are transmitted at 256 samples per second, the operating bandwidth of the system becomes 0.0-120.0 Hz. The ability to go cleanly and uniformly to 120 Hz provides new possibilities in EEG as well as EMG and related signal training. Thus, useful high-resolution biofeedback training can be done on muscle, heart, and other biological signals without loss of accuracy. When faster signal training is required, the Atlantis can operate in its native mode, and acquire and send data as fast as 8192 samples/second. Thus, research and clinical training can be done with signals ranging in bandwidth from DC to 4096 Hz, in selected modes.

ISOLATED REAL-WORLD INTERFACES

The Atlantis I also provides isolated real-world interfaces in the form of a dual event-button input, and a dual relay switch with inputs and outputs. These interfaces can be used to provide event signals (trainee-pressed button, other switch closure) that signal the BrainMaster system to place markers, or take actions based on the events. In addition, the two relay outputs provide the ability to use *make or break* connections to control devices such as lights, electric toys such as trains and cars, DVD players or controllers, or any other devices that need an external control signal. With this event input and output capability, the Atlantis I can be used as an interface controller for virtual reality, psycho-physiological research, simulators and test environments, audience reaction research, or other real world electrophysiological applications.

ATLANTIS SERIES (I AND II)

State-of-the-art technology. EEG inputs sampled with 24 bits. Maximum EEG sampling rate (1 channel) 8192 samples/second. Presently emulating 2.5Wideband. Continual impedance checking and Total Immersion feature (photic, vibrotactile, auditory) internal autonomous functions presently functioningw/2.5W.

Continuous real-time impedance checking and monitoring of both EEG and AUX channels for additional biofeedback modalities; Direct Current (DC) and Slow Cortical Potential (SCP) measurement, using Triamp™ amplifier design; (*using 3.0 software release availability approximately 4Q2006 –4Q 2007). Standalone power with battery and wireless connection to PC to become available at a future date.

ATLANTIS I 4X4 DESIGN

Atlantis I is a 4+4 design (with four channels of EEG and four channels of AUX signals) ideal for additional biofeedback modalities or *monitoring two people at one time* for a variety of applications.* These include clinical work and research in couples interaction, energy medicine, peak performance, synchrony training, and the healing arts. The Atlantis I system is capable of recording bio-potentials from two individuals. For example, two channels of EEG plus one channel of skin potential/impedance, plus one channel of temperature, could be recorded from each person. 2 Relay switches for use with EEG driven electrical devices; Dual Event-detection button inputs included. *(using 3.0 software available 4Q2006 –4Q 2007).

MODEL DEPICTION

ATLANTIS II 2 X 2 DESIGN

Atlantis II is a 2 + 2 design, with two channels of EEG and two channels of AUX signals for additional biofeedback modalities. Includes continuous real-time impedance checking and recording; Total Immersion with photic, vibratory and audio feedback. Direct Current (DC) and Slow Cortical Potential (SCP) measurement, using Triamp amplifier design; Stand alone device (using 3.0 software updates projected availability 4Q 2006 – 4Q 2007).

(Note: Atlantis I and II series initially introduced emulating 2.5W software and hardware capabilities. Certain Atlantis software related capability to become available as new 3.0 software release evolves throughout 2006-2008.)

ATLANTIS IS THE FIRST:

- Fully Integrated
- Advanced
- Technology
- Local
- Autonomous
- Neurofeedback
- Total Immersion
- Training Interface
- System

BrainMaster Technologies Inc. biofeedback devices are labeled as medical equipment and as such are "sold to or on the order of a licensed practitioner only."

Atlantis

THE NEXT GENERATION OF NEUROFEEDBACK sm

BrainMaster Technologies, Inc.

From the Decade of the Brain, Into the New Millennium

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