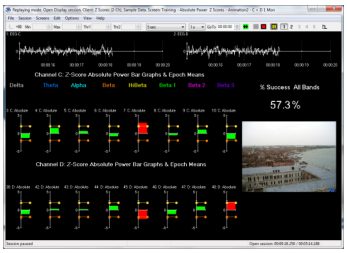
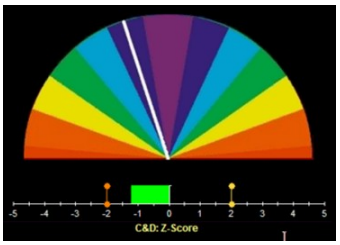
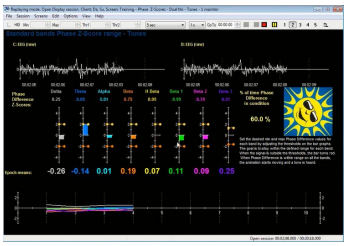
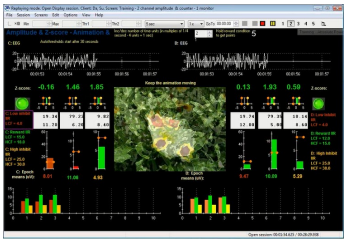
Z-Scores Suite









Limited Edition Software Suite

The Z-Scores suite was designed by a team of clinicians and co-authors of the Biofeedback Federation of Europe (BFE), so that clinicians could monitor and train clients with a variety of Z-Score and biofeedback measures. The suite enables its users to record date with 1, 2 or 4 channels of EEG using the Z-Score algorithm, which functions by taking the client's EEG data measure and comparing it to a database, called NeuroGuide DLL. The database compares the client's value to a mean value from a similar population based on the type of statistical measure, active electrode recording site, sex of the client, age of the client or whether the session is with eyes open or eyes closed. This is a real-time comparison of EEG data to a normative database. The algorithm expresses the client's data measure as a difference from NeuroGuide's mean value for that similar population, in units of standard deviation.

Professionals, educators and researchers who want to use Z-Score neurofeedback with a general treatment population will benefit from this suite. The BFE's Z-Scores suite differs from Thought Technology's Z-Scores suite because more elaborate statistical combinations are included, and monitoring of physiology data is simultaneously possible. The suite includes:

- Over 50 monitoring, training and review screens for various Z-Score statistics. Screens are split according to measuring a single Z-Score index measure (such as amplitude asymmetry, coherence, absolute power, relative power or power ratios) or set as a global statistic simultaneously tracking all measures.
- Data from the following physiology sensors can also monitored: BVP (heart rate), respiration, EMG, skin conductance/GSR and temperature. (ProComp Infiniti encoder supports use of physiology sensors; ProComp 2 encoder only records data from 2 EEG sensors)
- Screens for 1 or 2 monitor setups, so that clients can focus better on the visual feedback without getting distracted by unnecessary statistics.
- Suite documents containing references for Z-Score training and understanding, as well as practical training tips, give the clinician a good foundation for taking advantage of this suite.

Feel free to refer to Dr. Bob Thatcher's website to learn more about Z-Scores and Neuroguide: **http://www.appliedneuroscience.com**

Note: use of the Z-Scores Suite requires the purchase of the Z-Scores NeuroGuide DLL License. The BFE does not set this license. Contact Thought Technology or one of its dealers.

Education & Training Opportunities

The BFE currently offers one type of online lesson/meeting designed to meet your diverse education and training needs. All sessions provide continuing education (CE) credits to psychologists.

- 6-Hour **Z-Scores Online Class**: online instruction from a qualified instructor on the use of Z-Score statistics for assessment and training a general client population. This class is well suited for beginners or experienced practitioners that want to make use of Bob Thatcher's Z-Scores NeuroGuide DDL database with the BFE's Z-Scores Suite in their practice. All aspects of using the software will be covered in great detail, and recorded data will be reviewed to ensure proper recording. Use of the Biograph Infiniti's Developer Tools (software editing program) may also be used in order to show the clinician how to customize statistics and screens. Interpretation of data by the instructor will occur, however focus is maintained of being able to successful use all aspects of the software and equipment.

For more Information or Questions:

bluezscore@gmail.com

To purchase the suite and/or education & training, go to the BFE Shop:

www.bfe.org/buy

Z-SCORES SUITE

BioGraph Infiniti Software

BioGraph Infiniti Software is the core of all current and future Thought Technology Biofeedback and Psychophysiology products. It provides a multimedia rich graphical experience, while capturing and analyzing raw data. It includes all the features and functions required to run our specialized application Suites and offers the ability to customize your own screens and suites using the Developer Tool . **BioGraph Infiniti version 5.1.4** is designed to provide full compatibility with the latest Windows 7 operating system.

Choose the Encoder to Meet Your Needs

You only need one of the encoders to run the software:

- **ProComp Infiniti encoder** is the eight-channel, multi-modality encoder that has all the power and flexibility you need for real-time, computerized biofeedback and data acquisition in any clinical setting. It records data from up-to eights sensors simultaneously.
- **ProComp2 encoder** is a compact, 2 channel version of the ProComp Infiniti encoder, which can be easily worn on a head band or a shirt collar. It can record date from up-to two sensors simultaneously.

Select Sensor Measurements for Collecting Data

This list consists of all sensors to be used with each encoder edition of this suite. Only EEG sensors are required.

For ProComp Infiniti encoder:

- **EEG-Z sensors (x2 at minimum, or x4)** are pre-amplified electroencephalograph sensors with built in impedance checking, for measuring brainwaves. Each sensor will need a **monopolar/bipolar kit with DIN cable.** Purchasing a **connectivity kit** for 2 or 4 EEG channels would also be greatly beneficial.
- **MyoScan-Pro sensor (x1)** is a pre-amplified surface electromyography sensor for measuring muscular tension. Disposable electrode are necessary with this sensor.
- **BVP sensor (x1)** is a blood volume pulse detection sensor (otherwise known as a PPG sensor) housed in a small finger worn package, to measure heart rate & HRV.
- **Respiration sensor (x1)** is a durable, latex girth belt for monitoring respiration rate, waveform and amplitude sensor.
- **Skin Conductance (x1)** sensor measures the conductance across the skin, and is normally connected to the fingers.
- **Temperature sensor (x1)** measures skin surface temperature.

For ProComp 2 encoder edition:

- **EEG-Z sensors (x1)** is pre-amplified electroencephalograph sensor with built in impedance checking, for measuring brainwaves. A second EEG-Z sensor is not required, since the ProComp2 encoder already has an EEG sensor built-in.

Required Z-Score NeuroGuide DDL License

Dr. Thatcher requires the purchase of a license to use the NeuroGuide DLL database for Z-Score measurement. This means a Z-Score license needs to be purchased to use this Z-Scores suite. The BFE does not sell this license. Contact Thought Technology for purchasing the 2 or 4 channel NeuroGuide DLL License.

Disposable Electrodes for MyoScan-Pro Sensor

The MyoScan-Pro sensor require disposable electrode pads for use. There are two potential electrode placement types, so there are also two types of electrodes for purchase. The **triode** disposable electrode (A) is used for narrow placement and the **unigel** (B) for wide electrode placement.