



# Live Complexity Training - LCT

## LCTx1 (Single Channel) for BioExplorer

Includes Theta Alpha Gamma Synchrony

TAG Sync x1

June 2020 - Rev 3

## Start Here

For your operations manual I have provided the manual for the dual channel LCTx2. If you were to take the two electrodes of LCTx2 and place them immediately next to and touching each other, for example at the vertex of the head (called "Cz") then it would function very much like the LCTx1 single channel version. Synchrony between 2 electrodes is still synchrony even if they are so close together that they are looking at a single region underneath and around them.

A more compelling reason for introducing a single channel version of LCTx2 is that there may be times in a clinical practice that a client has epileptiform activity in the EEG. Single channel EEG biofeedback has been shown to frequently be beneficial ([pubmed.gov](http://pubmed.gov)). A client is entitled to learn about available treatments before we institute our own. The LCTx1 design can be easily set up to emulate most of the early single channel protocols involved in epilepsy studies.

My team at Bradley University, headed by Dr. Lori Anne Russell-Chapin showed using fMRI that single channel neurofeedback acted like an adaptogen to re-establish healthy and adaptive maturation of the adolescent cortex (specifically the Default Mode Network) in those whose development had been stuck at pre-adolescent levels due to early childhood adverse events.

The single channel LCTx1 can also be configured to emulate many of the early trials and treatments involving infra-slow frequencies. That is why I have included my un-revised 2009 manuscript on Ultra-Low Frequency Bipolar Protocols. Several types of early single channel alpha-theta methods can also be easily implemented using the LCTx1 screen designs. Doing so will give you the opportunity to also observe and regulate cross-frequency coupling between two reward frequencies.

Practitioners of neurofeedback and TASR will appreciate that Michael Tansey published a series of articles in the 80's showing the effectiveness of using a single long EEG electrode (1.5x6.5cm) along the midline of the scalp and training a narrow 13.5 – 14.5 Hz. Whether it is one electrode or two, and whether it is one brain or two ("hyper-brain network") we are dealing with a scale-independent/scale-invariant characteristic of living signals.

For more information please visit [livecomplexitytraining.com](http://livecomplexitytraining.com) (available late summer 2020) or [tagsync.com](http://tagsync.com).

Thank you,

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