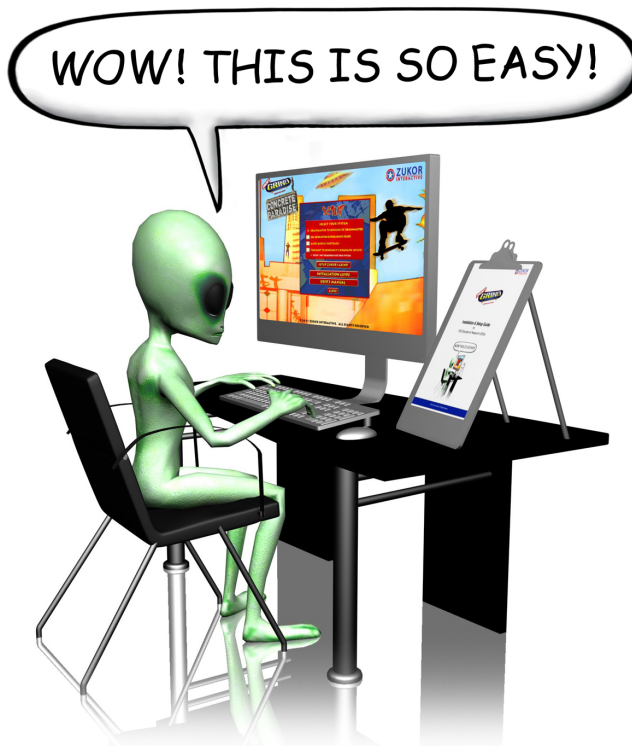




QUICK START GUIDE

Installation, Setup & Basic Operation
with
Thought Technology's BioGraph Infinity
Version ZG 2.0-1



Zukor's Grind

Quick Start Guide

Installation, Setup & Basic Operation

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ACKNOWLEDGMENTS

ZUKOR'S GRIND
is dedicated in loving memory of
Helen Turcotte Davis
1937 - 2011

Jefferson C. Davis, M.D.
1932 - 1989

*They dedicated their lives to advances in medicine
and continuing medical education.*

NEUROFEEDBACK & BIOFEEDBACK ADVISORY TEAM

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SPECIAL THANKS TO:

Thought Technology

Didier Combatalade, Marc Saab, Hal Myers, Lawrence Klein, Helen Mavros,
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My Wife

My wonderful wife, Sandra Turcotte

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Welcome to Zukor's Grind!

Thank you for purchasing Zukor's Grind. It is our sincere hope that it contributes to improved patient training. Our goal was to create a feedback game with the same world-class professionalism and sophistication as our neurofeedback and biofeedback system partners provide in their sensors, amplifiers and system software.

With Zukor's Grind, we have introduced many features to neurofeedback and biofeedback feedback games which have never been seen before in the field. Each feature was methodically considered and carefully developed under the guidance of and with feedback from experienced neurofeedback and biofeedback clinicians, in particular, our chief clinical advisor, Dr. Allen Novian.

This guide will help you make the most of these features. Additionally, there is built-in Help throughout Zukor's Grind. Should you need additional explanation of any feature, please contact us directly and we will make sure you fully understand it.

As you use Zukor's Grind, we hope you not only benefit from its vast range of innovative new features, but also from the ability to customize the features to meet your specific neurofeedback or biofeedback training strategy and the unique needs of each patient. Even more than the features themselves, we strongly believe (and our clinical advisors have repeatedly told us) that the ability for clinicians to select and customize features is critical for effective clinical neurofeedback and biofeedback training.

We welcome your feedback and suggestions, which we will use to create even more effective feedback games in the future. So, please let us know how we are doing and what we could do to improve.

Zukor Interactive is committed to supporting the increasingly important fields of neurofeedback and biofeedback. We are a proud member of the ISNR and AAPB and are financially supporting industry research efforts.

We strongly believe neurofeedback and biofeedback have an extremely bright future.

Thank you again for your support!

Samuel Turcotte Davis

President & Chief Technology Officer

Zukor Interactive

MINIMUM COMPUTER SYSTEM REQUIREMENTS

Your computer system needs to meet the below requirements to properly run Zukor's Grind.

Computer systems which don't meet these requirements may run the game,
but you might encounter issues ranging from minor to extreme.

These requirements are in alignment with the requirements for BioGraph Infiniti as well.

***NOTE:** Most computers sold within the last two years will meet the first two requirements.*

1. OPERATING SYSTEM

- Windows 7 or Windows 8/8.1 on a regular PC or on a Mac (via Boot Camp).

***NOTE:** Microsoft no longer supports most versions of Windows XP and Windows Vista.*

IMPORTANT: Make sure you have installed **ALL** Windows 7 or Windows 8/8.1 updates **PRIOR** to installing and running Zukor's Grind. Failure to do this may lead to improper operation of the game.

2. COMPUTER GRAPHIC REQUIREMENTS

- Dedicated graphics card with at least 512 MB dedicated video memory.

***NOTE:** Systems which do not meet these graphic requirements will still likely play the game, but may require graphic adjustments within the game to reduce graphics quality so the game will play smoothly.*

3. MONITORS/DISPLAYS

- Two monitors (dedicated dual monitor setup).
- Game monitor should be 21+ inches, "widescreen" and set at a minimum resolution of 1024 x 768.

***NOTE:** Video projectors, Plasma TVs, LCD TVs and LED TVs usually work as well, but could require different Windows graphic settings to be selected.*

NEUROFEEDBACK SYSTEM SOFTWARE REQUIREMENTS

- BioGraph Infiniti 6 (BioGraph Infiniti 5 requires a different version of Zukor's Grind)
- Physiology Suite (if using for biofeedback)
- EEG Suite (if using for neurofeedback)

***Note:** It is highly recommended that BioGraph Infiniti and Zukor's Grind be run on a single, dedicated system with no other applications running.*

Installation

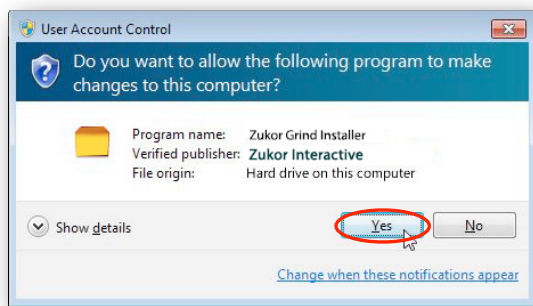
Follow the below steps after you have downloaded Zukor's Grind.

1. Locate the **Zukor's Grind Installer**. Likely it is in your Downloads folder or, maybe, on your Desktop.

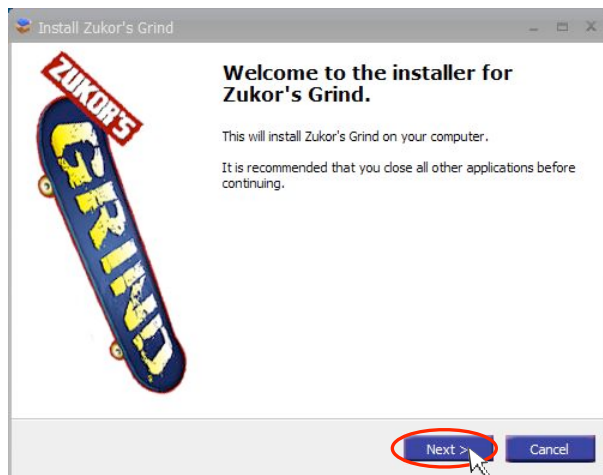


NOTE: The installer may have automatically started after downloading finished and the **User Account Control** (Step 3) may already be visible.

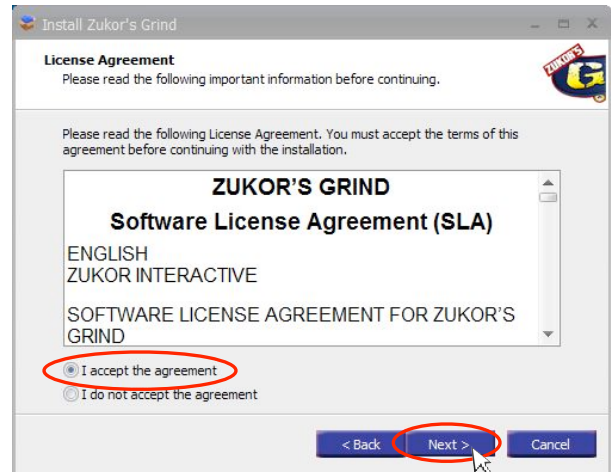
2. Double click the **Zukor's Grind Installer** icon.
3. If the **User Account Control** box appears, click **"Yes."**



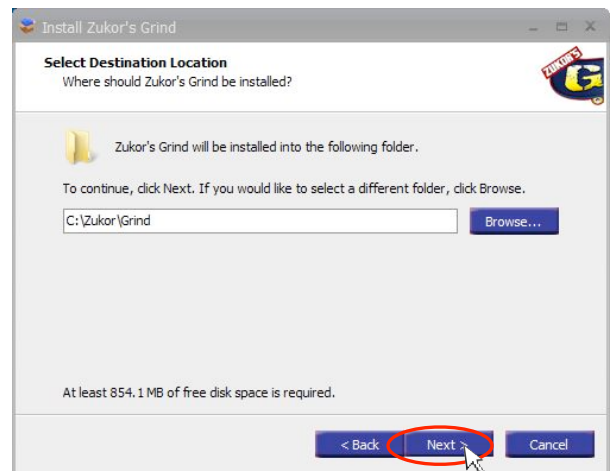
4. When the installer appears, click **"Next."**



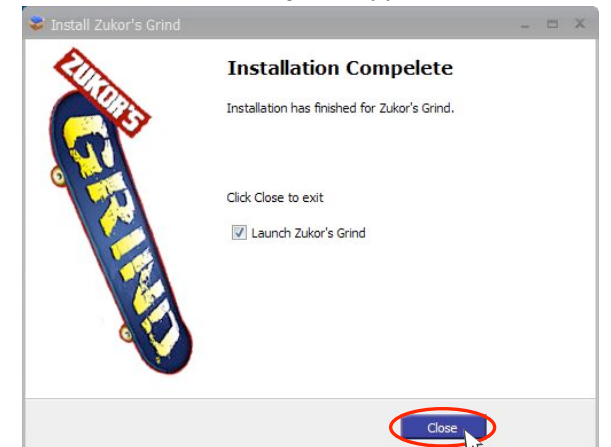
5. When the **Software License Agreement** appears, please read it and, if you agree, then select, **"I accept the agreement."** and then click **Next**.



6. When the box below appears, click **"Next."**



7. When **Installation Complete** appears, click **"Close."**



Two Monitor Configuration (Windows 7)

You can skip this if you are already using two monitors.

OVERVIEW

Zukor's Grind is designed to work with your neurofeedback or biofeedback system software in a two monitor configuration. If you are not already using a two monitor configuration, then the below steps to properly configure your monitors in Windows 7. The steps are similar in other versions of Windows.

Monitor 1 = The "Clinician Monitor" to display your neurofeedback or biofeedback system software and clinician screen.

Note: Monitor 1, the "Clinician Monitor," can be a laptop screen.

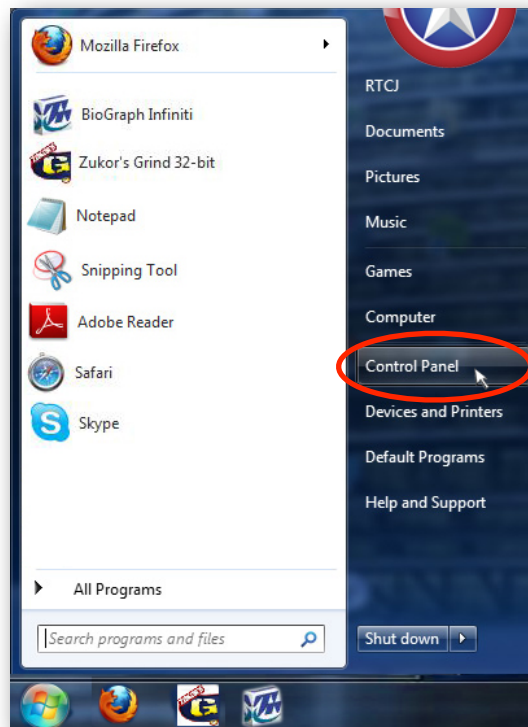
Monitor 2 = The "Game Monitor" to display the Zukor's Grind feedback game for the patient.

Note 1: Per the Zukor's Grind system requirements, the Game Monitor (Monitor 2) should be a 21+ inches widescreen monitor and set at minimum resolution of 1024 x 768. A smaller monitor, a non-widescreen monitor or one set at a lower resolutions will work, but the game display experience will be less than optimal.

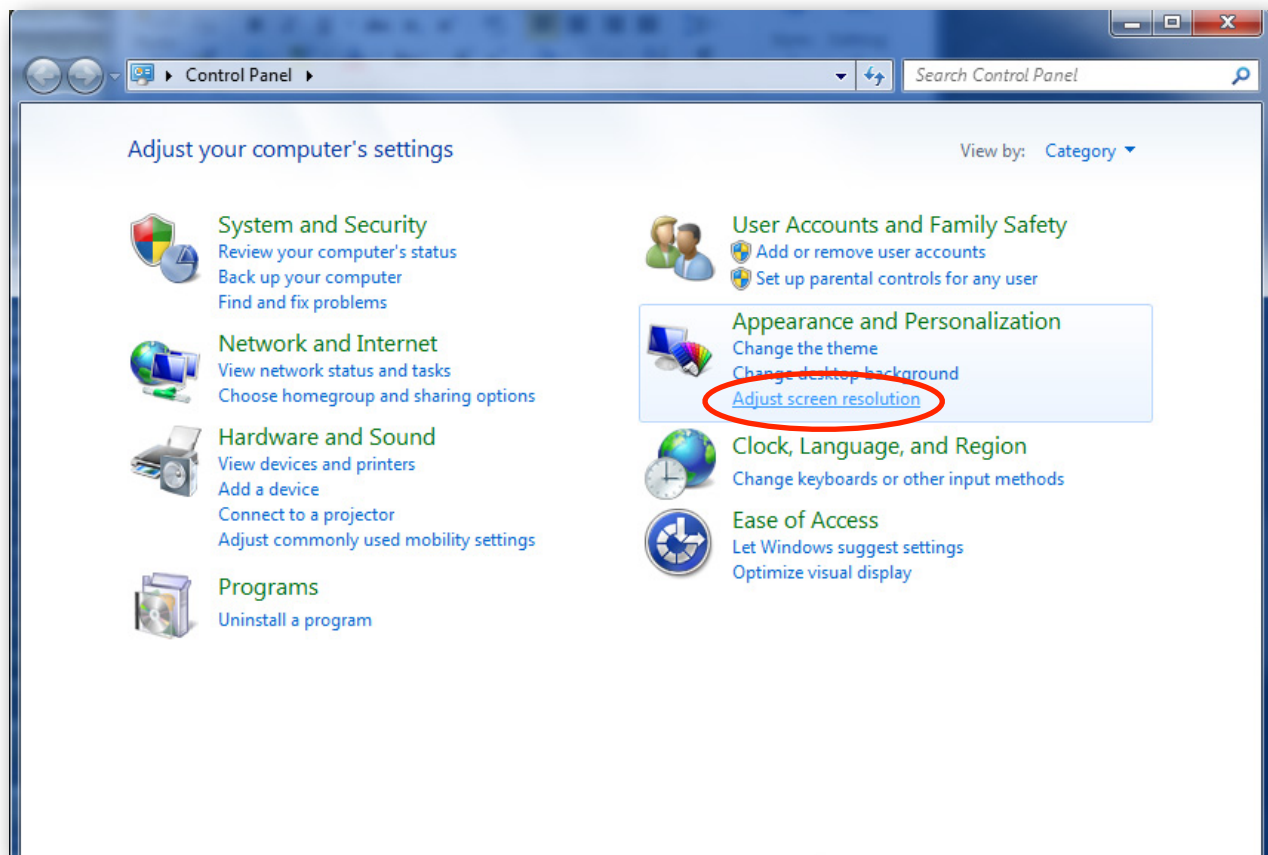
Note 2: Monitor 2 can also be a Plasma/LCD/LED TV or video projector. However, some of these alternative displays may require additional configuration changes in Windows.

MONITOR SETUP

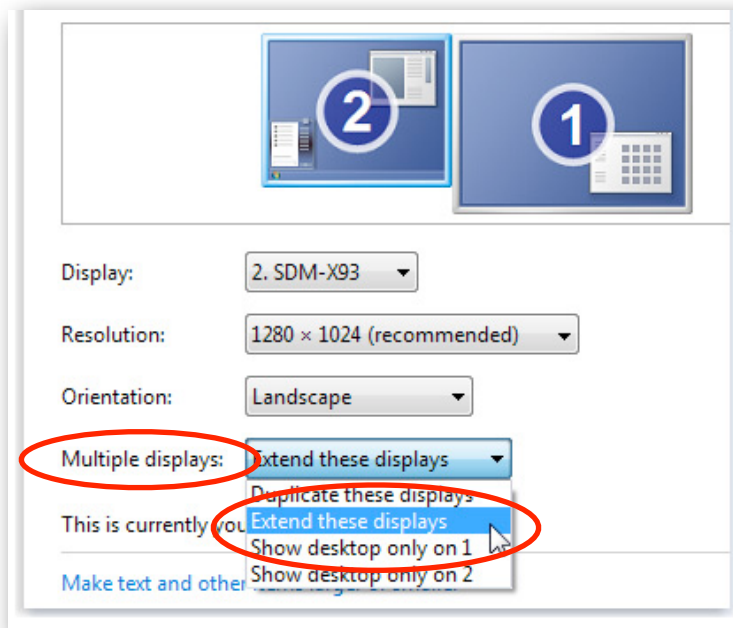
1. On the **Start** menu in Windows go to **Control Panel**.



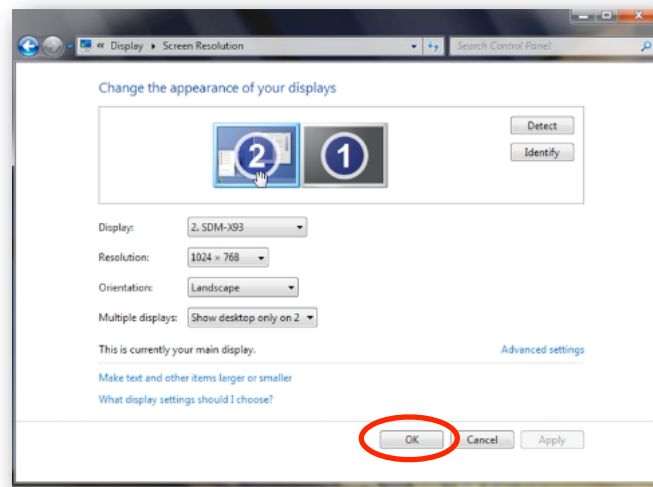
2. On the **Control Panel** window under **Appearance and Personalization**, click on **Adjust screen resolution**.



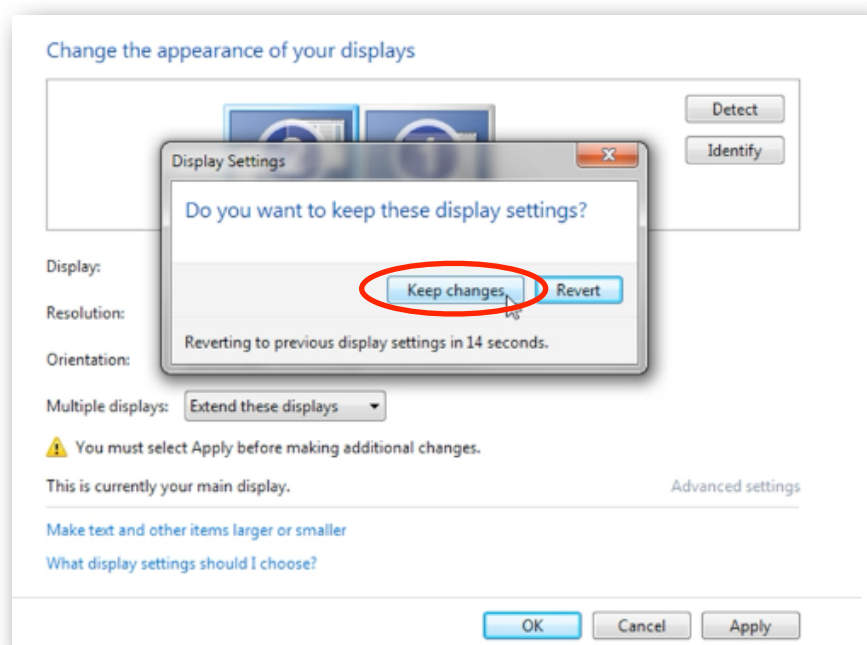
3. Click the drop-down list next to **Multiple displays** and select **Extend these displays**.



4. Then click **OK**.



5. On the **Display Settings** confirmation popup, click **Keep changes**.



Using Zukor's Grind with Stored Data

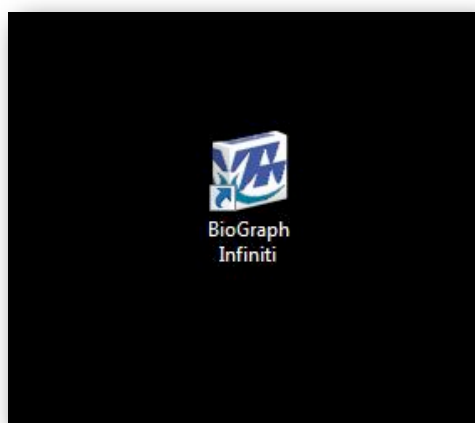
This section explains how to use Zukor's Grind and BioGraph Infiniti with stored data. We highly recommend you try Zukor's Grind and BioGraph Infiniti with stored data before you try it with live data.

For using Zukor's Grind and BioGraph Infiniti with live data, please see the next section.

CRITICAL: Before proceeding, make sure your second monitor is connected and that Zukor's Grind has been assigned to Monitor 2. (For more information, click the Help button in the Graphics Options.)

1. **Start BioGraph Infiniti** from the desktop icon or however you normally start the application.

IMPORTANT: You **MUST ALWAYS** start BioGraph Infiniti **BEFORE** starting Zukor's Grind and **ONLY** start Zukor's Grind from **INSIDE** BioGraph Infiniti.

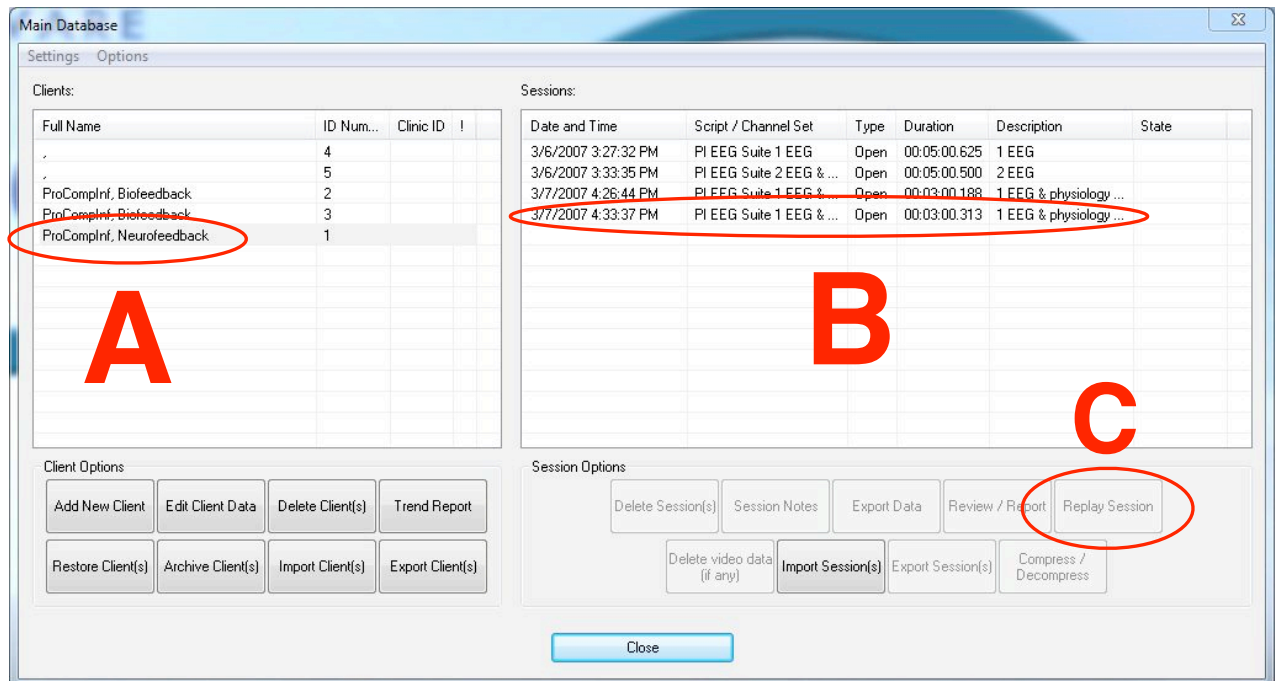


2. Click **Database**.

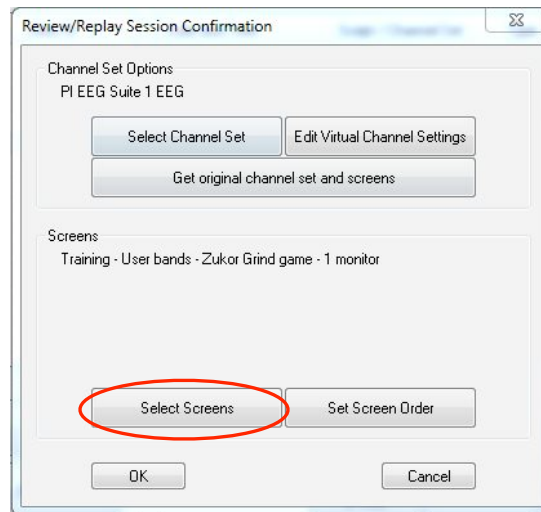


3. In the **Main Database** window:

- A. Select an existing **Client**.
- B. Select an existing **Session**.
- C. Click **Replay Session**.



4. In the **Review/Replay Session Confirmation** window, click **Select Screens**.



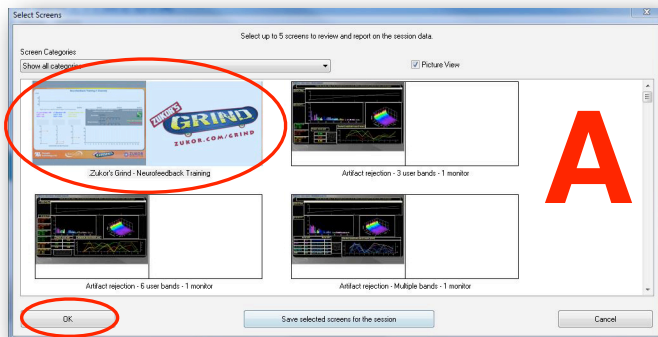
This will bring up the **Select Screens** window.

5. On the **Select Screens** window select either:

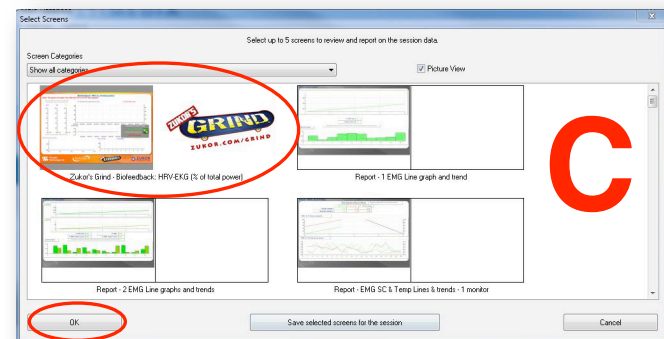
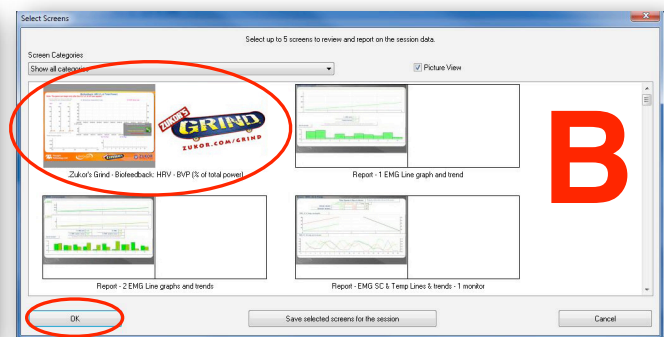
- A. **Zukor Grind - Neurofeedback Training.**
- B. **Zukor Grind - Biofeedback - HRV - BVP (% of total power).**
- C. **Zukor Grind - Biofeedback - HRV - EKG (% of total power).**

Then, click **OK**.

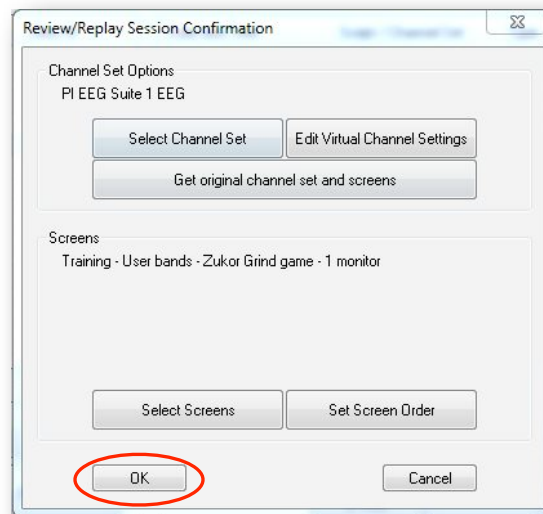
Neurofeedback



Biofeedback



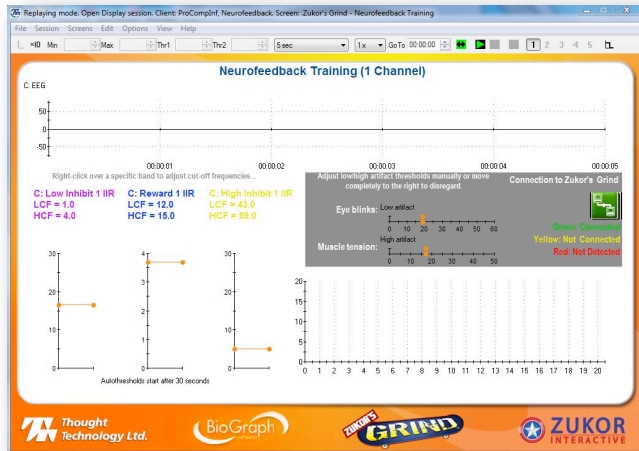
6. In the **Review/Replay Session Confirmation** window, click **OK**.



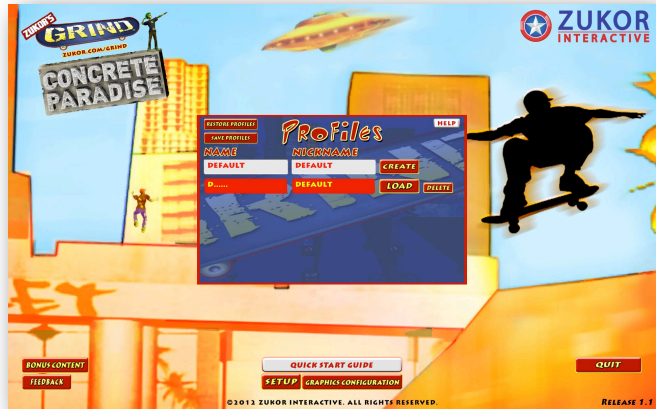
This will launch the Zukor's Grind clinician screen on Monitor 1, the "Clinician Monitor" and Zukor's Grind on Monitor 2, the "Game" Monitor."

CLINICIAN MONITOR

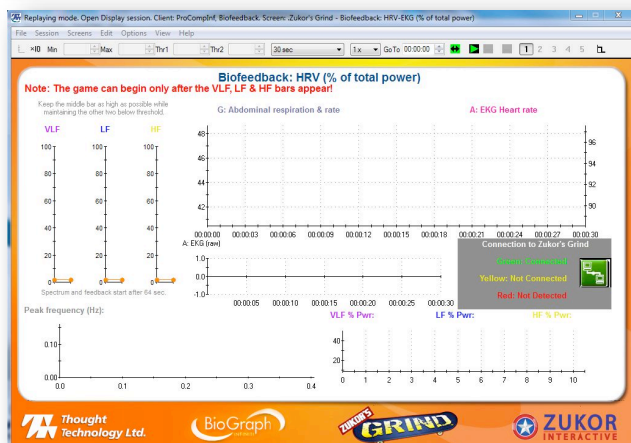
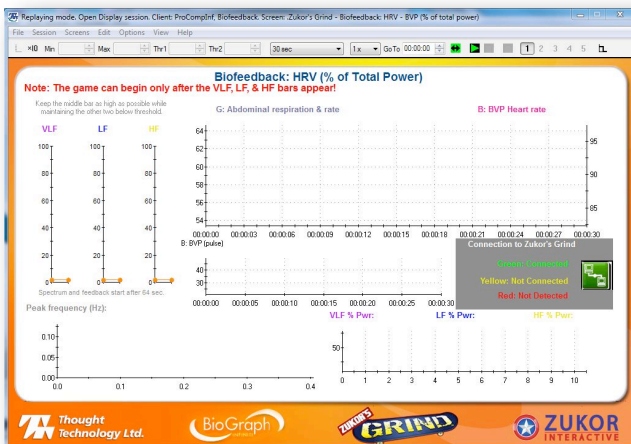
Neurofeedback



GAME MONITOR



Biofeedback



Now, proceed to "Basic Usage: Zukor's Grind & BioGraph Infiniti" on page 19.

Using Zukor's Grind With Live Data

This section explains how to use Zukor's Grind and BioGraph Infiniti with live data.

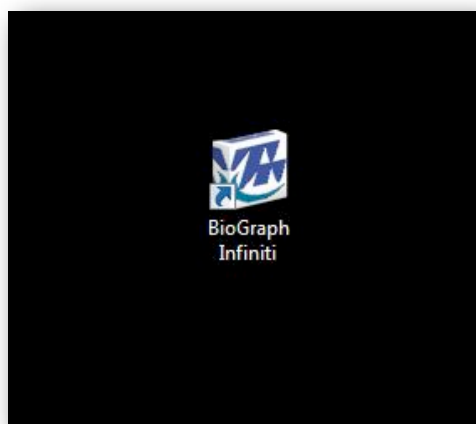
However, we highly recommend you try Zukor's Grind and BioGraph Infiniti with stored data before you try it with live data.

For using Zukor's Grind and BioGraph Infiniti with stored data, please see the previous section.

CRITICAL: Before proceeding, make sure your second monitor is connected and that Zukor's Grind has been assigned to Monitor 2. (For more information, click the Help button in the Graphics Options.)

1. **Start BioGraph Infiniti** from the desktop icon or however you normally start the application.

IMPORTANT: You **MUST ALWAYS** start BioGraph Infiniti **BEFORE** starting Zukor's Grind and **ONLY** start Zukor's Grind from **INSIDE** BioGraph Infiniti.



2. Click **Start Open Display Session**.



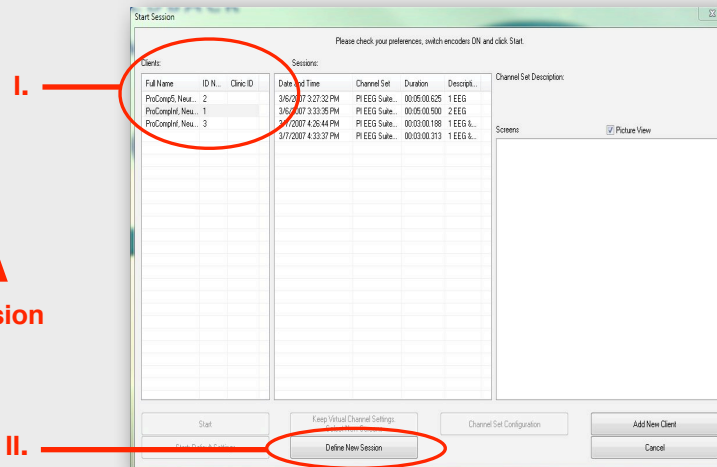
3. In the **Start Session** window you can either:
 - A. Select an Existing Client (**go to option A below**).
 - B. Create a New Client (**go to option B below**).

A. In the Start Session window, to select an Existing Client.

I. Under Clients click on the desired client.

II. Click **Define New Session**.

A
New Session



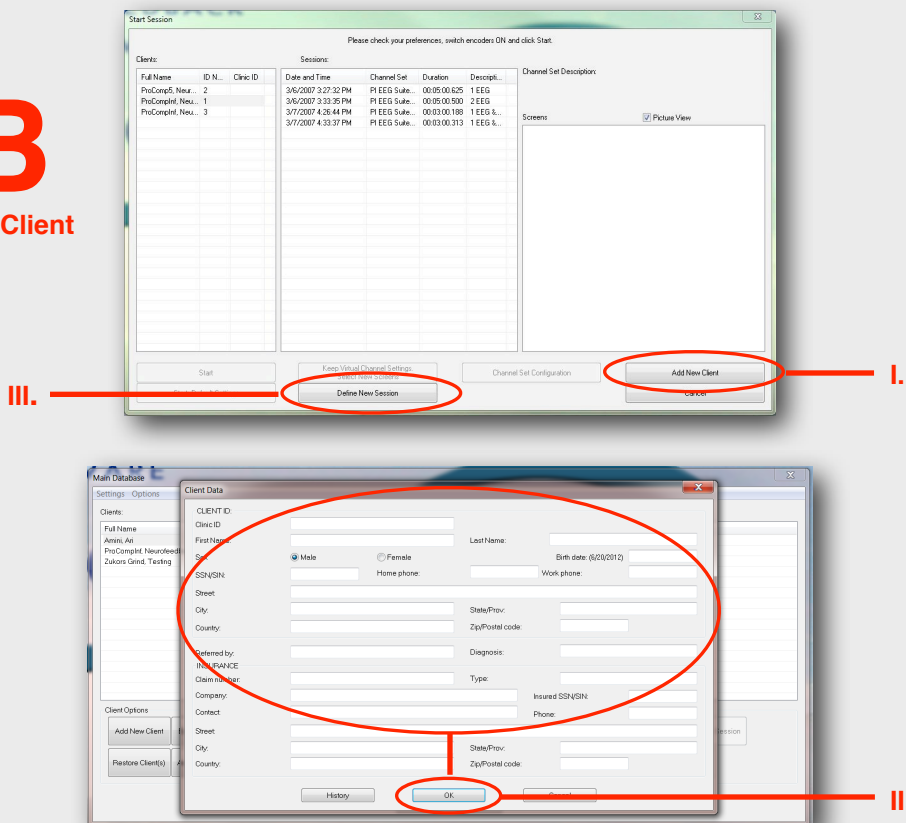
B. In the Start Session window, to create a New Client:

I. Click on **Add New Client**.

II. Fill the fields required for a new client, then click **OK**.

III. Back on the **Start Session** window, click on **Define New Session**.

B
New Client



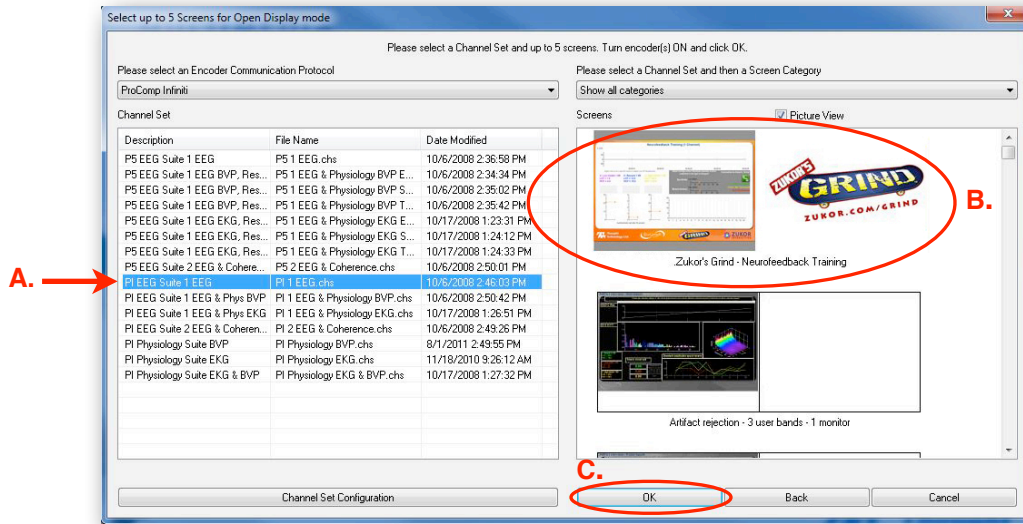
4. Set up channels and screens as needed.

To set up for neurofeedback go to 4-N.

To set up for biofeedback go to 4-B.

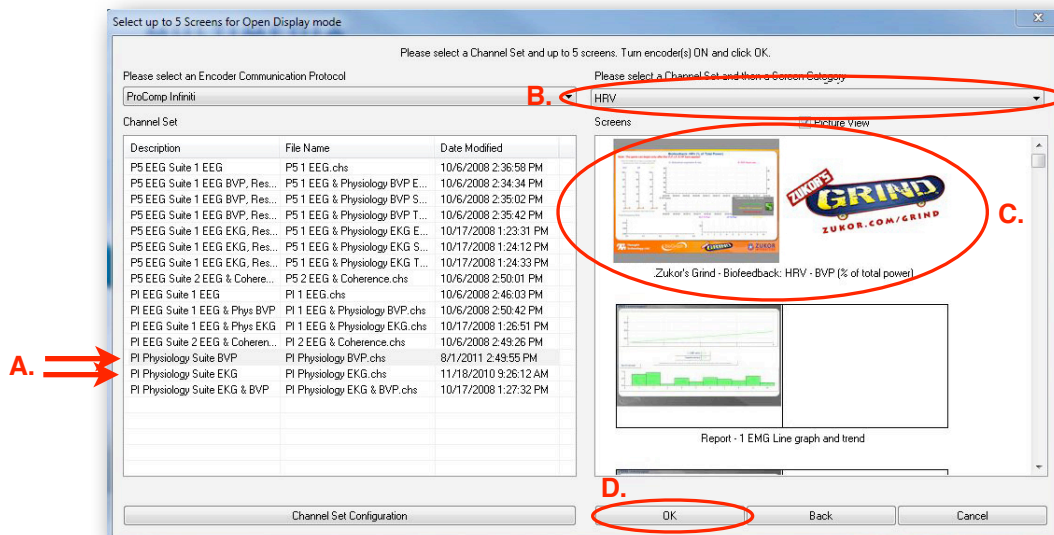
4-N: Neurofeedback

- A. Under Channel Set, select **PI EEG Suite 1 EEG**.
- B. Under Screens, select the **Zukor's Grind - Neurofeedback Training**.
- C. Click **OK**.



4-B: Biofeedback

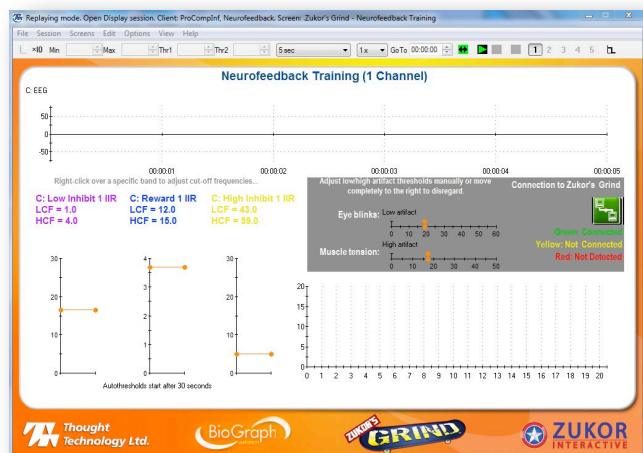
- A. Under Channel Set, select **PI Physiology Suite BVP** or **PI Physiology Suite EKG**.
- B. From the drop down menu above the screen panel select **HRV**.
- C. Under Screens, **Zukor Grind-Biofeedback: HRV - BVP** or **EKG (% of total power)**
- D. Click **OK**.



This will launch the Zukor's Grind clinician screen on Monitor 1, the "Clinician Monitor" and Zukor's Grind on Monitor 2, the "Game" Monitor."

CLINICIAN MONITOR

Neurofeedback

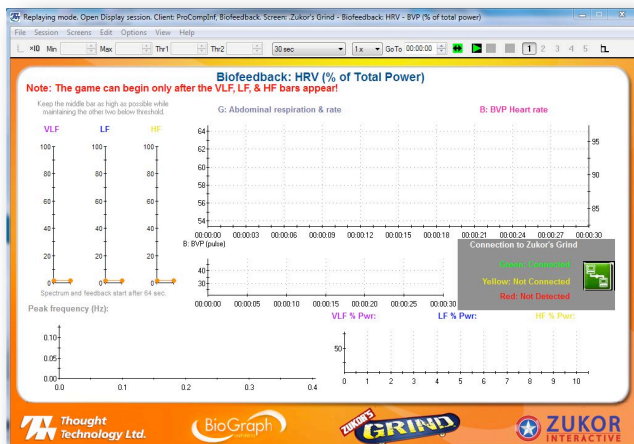


GAME MONITOR

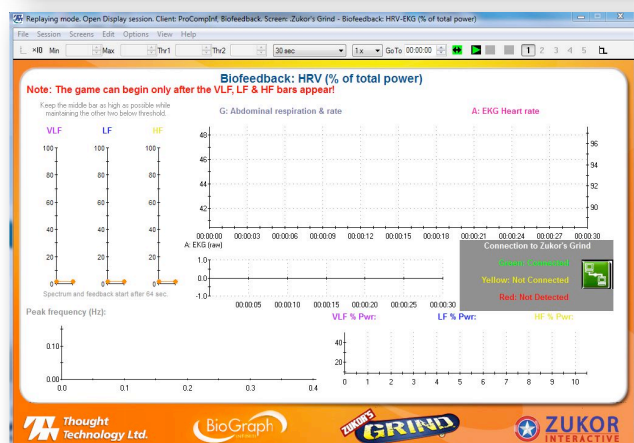
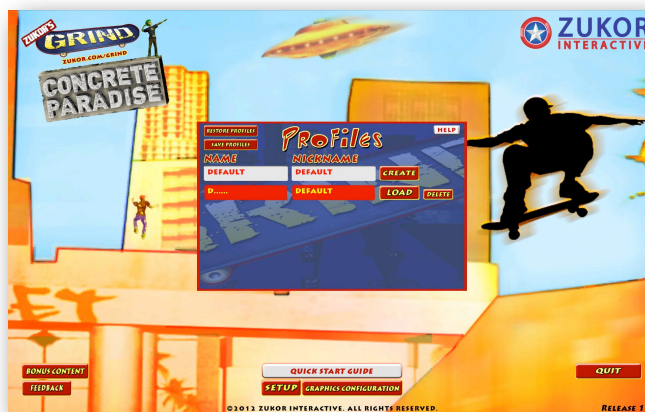


CLINICIAN MONITOR

Biofeedback



GAME MONITOR



Now, proceed to "Basic Usage: Zukor's Grind & BioGraph Infiniti" on page 19.

Basic Usage: Zukor's Grind & BioGraph Infiniti

This section covers the basic usage of Zukor's Grind and BioGraph Infiniti.

It is intended for first time users doing standard neurofeedback or biofeedback using one of the three built in clinician screens.

CRITICAL: Before proceeding, make sure your second monitor is connected and that Zukor's Grind has been assigned to Monitor 2. (For more information, click the Help button in the Graphics Options.)

1. Start **BioGraph Infiniti** from the desktop icon or however you normally start the application.

IMPORTANT: You **MUST ALWAYS** start BioGraph Infiniti **BEFORE** starting Zukor's Grind. And, Zukor's Grind **MUST** only be started from **INSIDE** BioGraph Infiniti. Failure to do this will cause many problems with BioGraph Infiniti and Zukor's Grind functionality.

2. Setup BioGraph Infiniti for a stored data session or live data session. (See pages 11 or 15 for details.)

3. Select one of the three Zukor's Grind clinician screens inside BioGraph Infiniti. There is one clinician screen option for neurofeedback and two options for biofeedback.

After you select the desired clinician screen it will load on Monitor 1, the "clinician monitor," and then Zukor's Grind will automatically start up on Monitor 2, the "game monitor."

4. After the Zukor's Grind startup animation, the **Profiles** popup will appear over the Main Menu.

A. Enter the patient's first and last name into the **NAME** field.

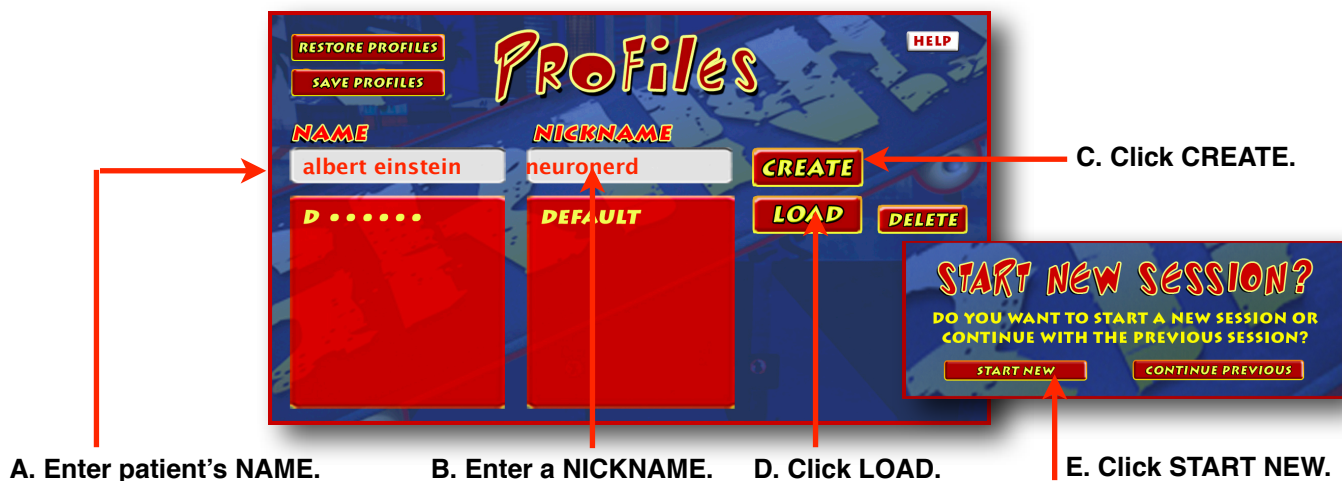
B. Enter a nickname into the **NICKNAME** field.

C. Click the **CREATE** button.

D. Click the **LOAD** button.

E. Click the **START NEW SESSION** button to load this profile and go to the Main Menu.

NOTE: If the NICKNAME box is left blank, the system will fill the NICKNAME box with the full name from the NAME box. If you prefer not using Nicknames we suggest you simply put a period "." in the nickname box.



For more information on **Profiles**, click the **HELP** button in Zukor's Grind.

5. If desired, click **OPTIONS** to make changes to the settings of the game.



NOTE: By default there are 10 periods to a session and each period is 2 minutes and 50 seconds.

6. Select the desired **Character**:

- A. Click the **CHARACTERS** button on the Main Menu.
- B. Click on your desired character.
- C. Click **MAIN MENU** to go back to the Main Menu.



NOTE: There are two fun “Bonus Characters” available!

Please click the Help button on the Character’s screen for information about how to activate them.

7. Select a **Level** by checking the white box next to the desired level, then click the **READY** button.



This will take you to the “Ready” screen.

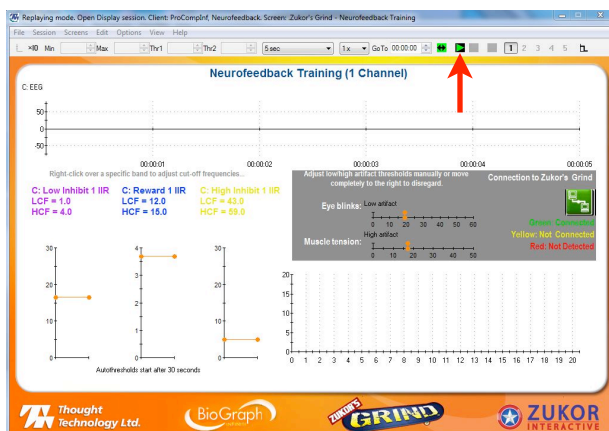
IMPORTANT: There can a brief delay of a few second between the time you click **READY** and when the Ready screen loads. This delay depends on many factors, but primarily the “speed” of your computer.



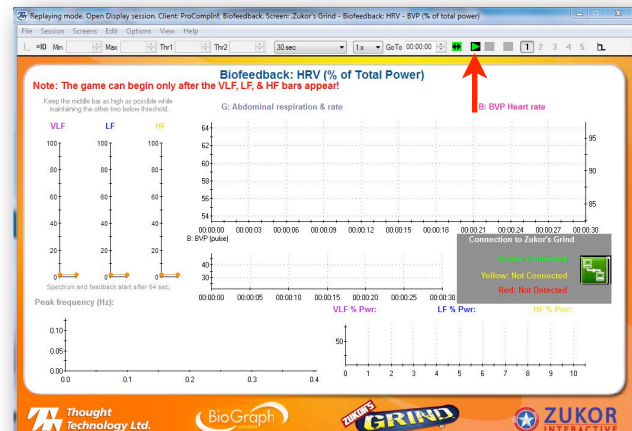
8. To start the feedback session, use your mouse to move the cursor to the BioGraph Infiniti screen on the “Clinician Monitor” and **click on the clinician screen** to active the BioGraph Infiniti clinician screen. Then, **click the green play button** to start the first period of the session.

NOTE: If you decide not to start the game, then hit the space bar to bring up the PAUSED popup from which you can chose to go to the Main Menu and other options

NEUROFEEDBACK



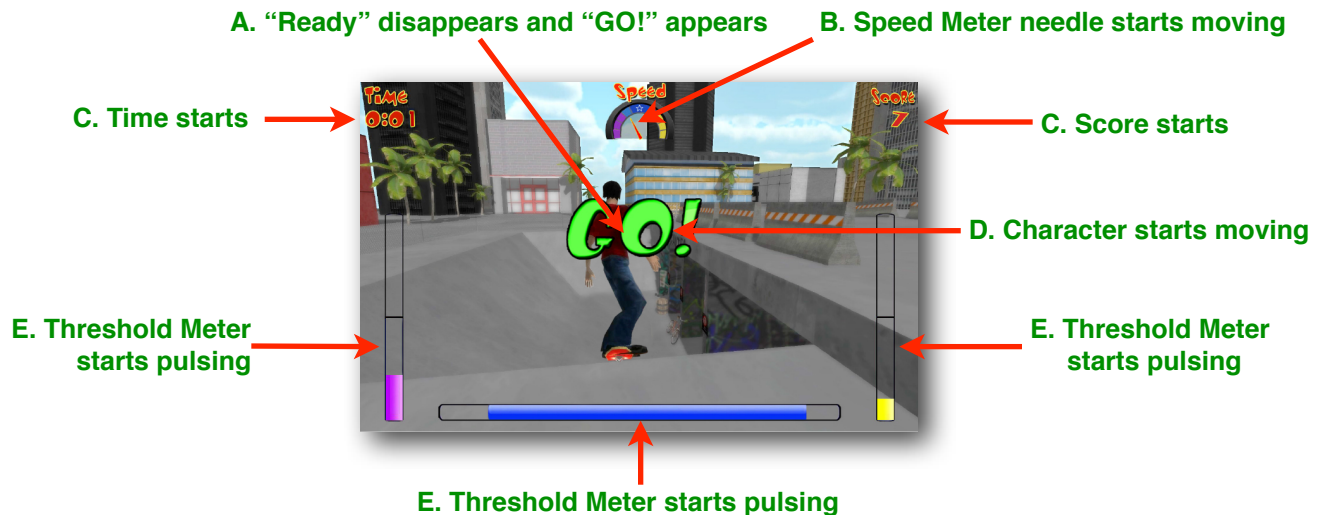
BIOFEEDBACK



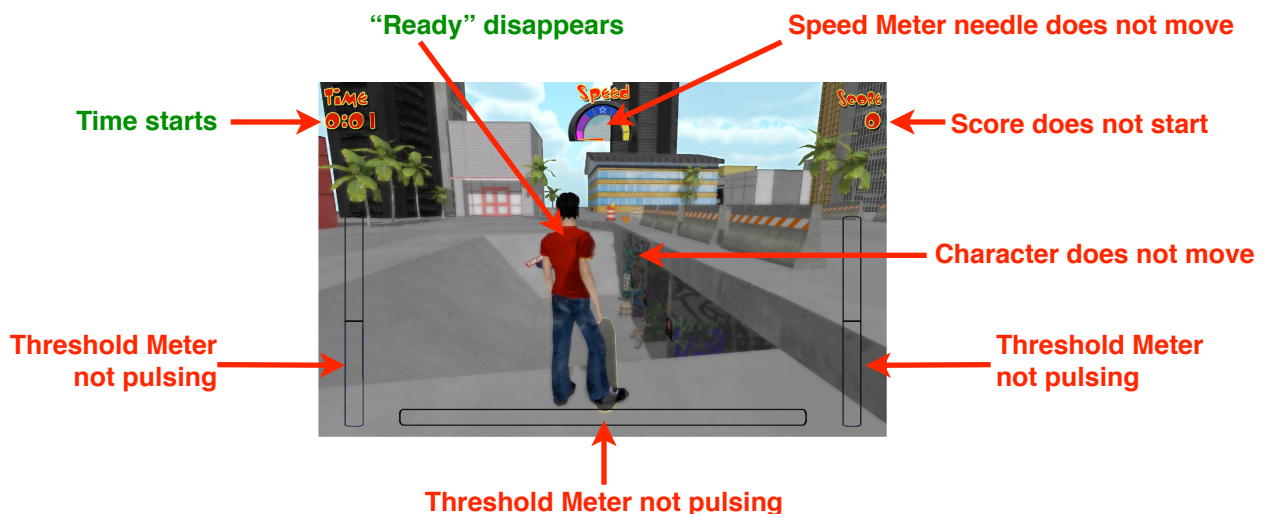
IMPORTANT: For HRV training, BioGraph Infiniti requires 64 seconds of data to occur before the bar meters operate.

9. You will know the game period has started if:

- A. The word “**Ready**” disappears and the word “**GO**” appears.
- B. The **Speed** meter needle starts to fluctuate.
- C. The **Time** and **Score** begin to count.
- D. The **Character** starts to move.
- E. Colors start to pulse on some or all the **Threshold Meters**.



IMPORTANT: If the word “**Ready**” disappears and the **character does not move**, then the game correctly received the start signal from BioGraph Infiniti, but there is not sufficient meaningful threshold data to move the character. In this case there will also be little or no pulsing colors on the threshold meters. To correct this situation, adjust the threshold settings on BioGraph Infiniti clinician’s screen. Of particular importance is the SMR amplitude threshold setting.

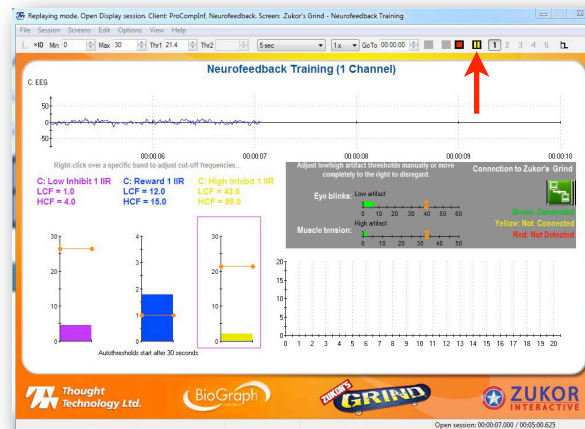


10. When the feedback game period ends the character will stop moving and raise his, her or its arms in the air and an end of period jingle (short music sound) plays. A few seconds later the Scores screen will appear.

NOTE: By default there are 10 periods to a session and each period is 2 minutes and 50 seconds. To change these settings go to Period/Session Options via the Options button on the Main Menu. However, you can pause or stop the game period prior to the defined period end time by clicking the Pause or Stop button in BioGraph Infiniti.

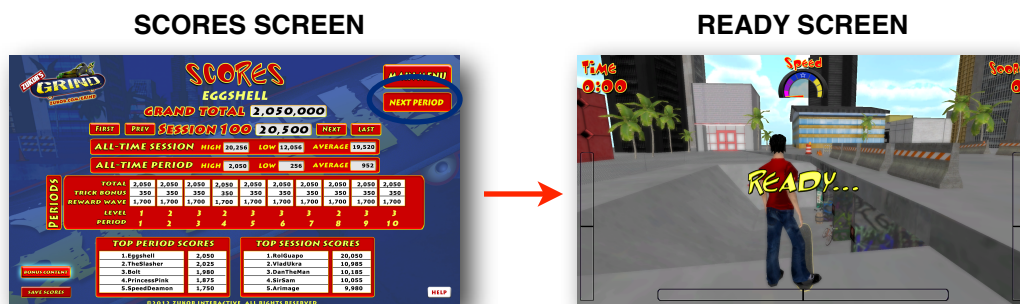


11. When the game period ends, click the yellow Pause button on the BioGraph Infiniti clinician screen (see red arrow below). The Pause button can be clicked while the game is on the “End of Period” screen or the Scores screen.



IMPORTANT: Failure to pause the data on the BioGraph Infiniti clinician screen will result in problems, which can include the next period abruptly starting without notice and/or other next period start/stop issues. You must stop the data flowing from BioGraph Infiniti **BEFORE** the game goes back to the “Ready” screen.

12. When ready to start the next feedback game period, click the large **NEXT PERIOD** button on the Scores screen. This will then bring up the “Ready” screen. Then click the green play button on BioGraph Infiniti, i.e. repeat Step 8.



Uninstall Zukor's Grind

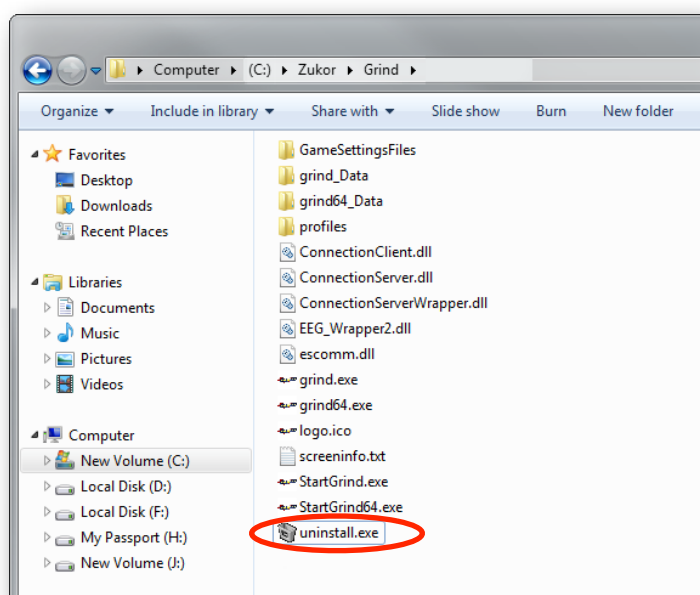
If you need to uninstall (remove) Zukor's Grind from your computer for any reason, please follow the below steps.

Uninstall Steps

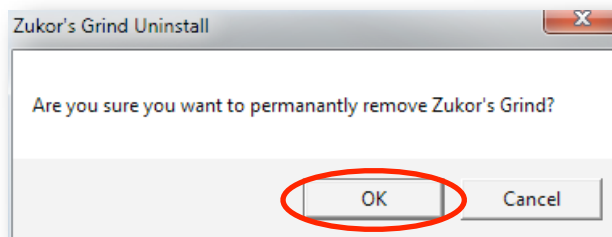
1. Locate and open the **Zukor** folder on your computer.

Note: If you followed the regular installation and did not change the installation location, then this folder should be located at: C:\Zukor.

2. Inside the Zukor folder, open the **Grind** folder.
3. Locate the and double click **uninstall** or **uninstall.exe**.



4. On the confirmation window, click **OK**.



NOTE: The patient Profiles, including Scores, will not be deleted and can be used if you reinstall Zukor's Grind again. Or, these Profiles can be moved to another computer running Zukor's Grind.