

Using Cognivideo with EEGer™

This document includes instructions for setting up the Cognisys CogniVideo device for use with EEGer Neurofeedback software.

Step 1: Check Components

Carefully unpack your equipment and identify each component. Check that you have the following:

1.	The CogniVideo Device	
2.	USB Cable <i>Used for power and communication from the PC.</i>	
3.	Audio/Control Input Cable - Stereo audio dubbing cab	
4.	Video Output Cable - Male to Male Video Cable	
5.	Video Extension Cable - Male to Female Video Cable <i>Used if you need to extend the video signal from the cable normally connected to the Composite Video input on the TV. (Optional)</i>	
6.	Biomedica Program/Documentation CD	
7.	Audio/Video Cable (RCA-RCA) <i>Red, white and yellow male connectors at both ends. Usually provided with your DVD player to connect to the TV.</i>	
8.	Other required items: <ul style="list-style-type: none"> • EEGer Computer(s) • External speakers • DVD Player or DVD capable game console* • Television set or monitor that accepts RCA input <p><i>* Combination DVD/TV devices cannot be used because it is not possible to bypass the video connection for CogniVideo control.</i></p>	

Step 2: Install the CogniSys software

1. Insert the BioMedia Application CD into the CD/DVD drive of your EEGer computer (use the **GAME** computer in 2-computer mode).
2. If the content of the disk does not display automatically, go to My Computer and double-click the CD/DVD drive that contains the BioMedia CD.
3. Double-click the SETUP.EXE application on the installation CD and follow prompts to install the software.

Step 3: Connect the Cables

<p>1. Connect the 'square' end of the USB cable (item 2) to the CogniVideo device's USB port.</p>	
<p>2. Connect the USB end to your EEGer computer USB port or USB Hub. <i>NOTE: Use the GAME computer in 2-computer mode.</i></p>	
<p>3. Plug the Audio cable you received (item 3), into the Speaker or Headphone port on your computer.</p>	<p>Desktop - Audio Out Laptop - Headphone Port</p> 
<p>4. Connect the other end of the Audio cable (item 3) to the Audio In port on the back of the CogniVideo Device.</p>	
<p>5. Optional: Attach the cable for your external speakers to the Audio Out port on the back of the CogniVideo Device.</p>	
<p>6. Unplug the yellow video connector from the TV and attach it to the female end of the Video Extension cable (item 5). The other end of the RCA cable yellow connection remains attached to the DVD player.</p> <p>NOTES:</p> <ul style="list-style-type: none"> • <i>If the yellow video connector reaches from the DVD player to the CogniVideo device, plug into the CogniVideo device directly and omit the extension cable.</i> • <i>The red and white connectors remain attached from the DVD player to the TV for audio output. If you have not connected the audio, follow the directions provided with your DVD player or TV.</i> 	
<p>7A. Connect one end of the Video Output Cable provided (item 4) to the CogniVideo device's Video Output port.</p> <p>7B. Connect the other end of the Video Output Cable (item 4) to the Video In port on the TV.</p>	 <p>< From CogniVideo Video Output</p>

Step 4: Set EEGer Game Options

This example uses Mazes for game customization. You may use any **EGS** game, but must customize each individually.

1. Start the EEGer program.
2. Open the **Game Initialization Tool**.
 - **Single computer systems**- select from the EEGer **Tools** menu.
 - **Two-computer systems** - press **F9** on the game computer with the EGS Game menu displayed.
3. Select a game to customize. For this example, double-click the name **fmazes**.
4. Click the button **2020 List of Possible Sounds** (Figure 1).
5. Click **Add**. Double-click the **Sounds** folder to view more file options. Doubleclick **middlec.wav** (Figure 2). Click **DONE** to save the game change. Click **DONE-Save Changes** to store the updated game list. And, finally, click **DONE Save Configuration** to complete the process.
6. Go to the **Tools** menu.
 - **Single computer systems** - select **Tailor Installed Games**.
 - **Two-computer systems** - select Retrieve Installed Game List and click OK on the Success!!! message.



Figure 1. Game Customization

- You should be on the **Edit Game Definitions** screen.
7. Double-click a game to edit, such as **Mazes**, and the screen displayed at the right appears (Figure 3).
 8. Click **2 What you want to call this tailored game** and type **MAZES CV** (or a similar name to be able distinguish from the original game options).
 9. Click **2023 Which L/R speaker the reward sound comes from** and select **3 RIGHT**.
 10. Click **2030 Pathname of Sound 3** and select the **middlec.wav** sound file.
 11. Click **2031 Sound 3 play mode** and select **3 ENABLED**.
 12. Click **2032 Which L/R speaker sound 3 comes from** and select **2 LEFT**.
 13. When finished setting the options, click **Create New Selection** to save the modified game with the new name.
 14. Upon return to the game edit list, be sure to click **Save all games**.

Figure 2. Add Custom Sound

201: number of artifact-sounding markers to trigger reward sound	0
101: Time constant for filter smoothing	Default
190: Show score count during periods	1
200: Show inhibit channels	1
210: Show score screen during pauses	1
1090: Mode used for spike detection	0 Disabled
1091: Seconds to wait after spike to see if its really artifact	0.0
1170: 1 for classic game appearance, 0 otherwise	1
1171: 1 for warm, 2 for cold, 0 for color dependency	0
1173: Number of peripheral thermometers to display	3
1174: Display numeric peripheral values	0
2021: Pathname of reward sound	C:\EEGer\Games\reward.wav
2022: Reward sound mode (normally triggered)	1 TRIGGERED
2023: Which L/R speaker the reward sound comes from	3 RIGHT
2025: Which L/R speaker the success sound comes from	0 BOTH
2026: Maximum seconds for alternating reward sounds	0
2027: Success sound mode (normally triggered)	1 TRIGGERED
2029: sound channel for spike sound	8
2030: Pathname of sound 3	C:\EEGer\Games\800hz.wav
2031: Sound 3 play mode	3 ENABLED
2032: Which L/R speaker sound 3 comes from	2 LEFT
2033: Which strand feeds sound 3	0
2034: Pathname of sound 4	
2035: Sound 4 play mode	0 OFF
2036: Which L/R speaker sound 4 comes from	0 BOTH
2037: Which strand feeds sound 4	0
<input type="button" value="Create new selection"/> <input type="button" value="Replace selection with changes"/> <input type="button" value="Quit without saving changes"/>	

Figure 3. Game Tailoring Options

Step 5: Run an EEGer Session with CogniVideo

1. Turn on the DVD player and Start the DVD content.
2. Start the EEGer program.
3. Click **Select Client** and choose the desired Client ID.
4. Click **Begin Session**.
5. Choose the game you customized in Step 4 (e.g., Mazes CV) and click OK to begin.
6. Continue to the training display to run the session and adjust the EEGer session parameters as necessary.

Other Options: CogniVideo Settings

1. To launch the BioMedia application, either double-click the COG icon or click **Start – All Programs – Cognisys – BioMedia**
2. Click Update Status to connect to the CogniVideo device.
3. Setting Options: Video Modes



Black Snow - Individual bits of the screen are controlled to be black. More and more are turned black until the entire screen is black.

Center Focus - The top and the bottom of the screen are removed until only the center of the screen is left, then black.

Skip Frames - Skip entire frames at higher rates until all are skipped. The blinking of the screen in the mode may be undesirable.

Blinds - The effect looks like horizontal blinds being closed over the screen. (Default)

Meter Line - A thin line moves up and down on the screen.

Fine Lines - Fine lines are drawn across the screen. More and more are drawn until the screen is black.

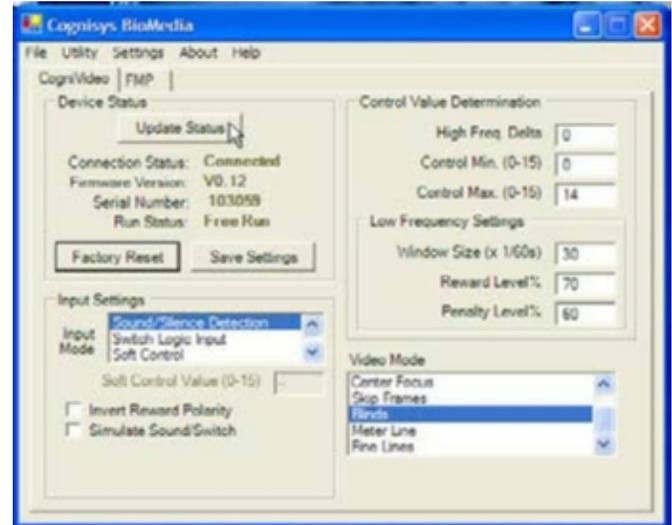


Figure 4. Cognisys Biomedica - CogniVideo Settings

4. Check the **Simulate Sound/Switch** checkbox to test the settings.

For information about other BioMedia CogniVideo settings, please refer to the Help file (Start – All Programs – Cognisys – Cognisys Help) or online support pages (www.cognisys.com).

TROUBLESHOOTING VIDEO ISSUES

- **Display scrolls**
- **Works initially then displays blue screen with NO INPUT**
 1. Launch the BioMedia application and click **Update Status**.
 2. From the **Settings** menu, select **Inject Gray Level**.
 3. The default gray level inject setting is **64**. Increase the number until the display functions properly while keeping the black level sufficiently dark. For example, enter **120** and click **OK**. Try a higher number if the problem persists or a lower number if the display becomes too light.
 4. Click **Save Settings** to store the change.