

# Upgrading *The Swarm* 2D Cabinet to 3D

040-0263-01 Rev. A

This document describes how to install the IR Emitter (if required) to put your monitor in 3D mode, and the 3D Button to let players turn 3D game play on and off.

## Install the IR Emitter

The IR emitter and PCB act as a remote control to switch the TV between 2D and 3D mode.

**The following TVs do NOT require the IR Emitter:**

- Panasonic 42" 3-D TV, Model # TCL42ET5
- Panasonic 47" 3-D TV, Model # TCL47ET5
- Panasonic 55" 3-D TV, Model # TCL55ET5

If you are using one of the TVs listed above, keep the IR Emitter assembly for future use.

**Important:** There must be a direct line of sight between the IR Emitter and the receiver on your TV. Depending on your cabinet and monitor, you may need to install the emitter in a different location, such as above the cabinet rear door.



**CAUTION**

**To prevent electrostatic discharge (ESD) damage, handle the PCB by the edges only and use a grounding wrist strap or similar precaution. Turn off power before changing any connections to the PCB.**

1. The figure below shows a suggested location for the IR Emitter in the control panel housing. Determine whether this location will provide a clear line of sight with the receiver on your TV. If necessary, select a different location.



*Figure 1. Suggested IR Emitter Placement*

2. Turn off the cabinet and disconnect the AC Power Cord.
3. Remove the four (4) T-15 Torx Security Screws that secure the instruction panel artwork and clear plastic in the control panel housing, and remove them to gain access to the area inside the housing.
4. Drill a 5/16" hole in the plastic control panel housing for the IR Emitter.
5. Remove the retaining nut from the IR Emitter. Insert the IR Emitter through the hole you drilled and secure it with the retaining nut inside the control panel housing.

**Note:** The IR Emitter harness has two wires and two connectors. One connector uses Pin 1 and Pin 2; this end connects to the IR Emitter. The other connector uses Pin 1 and Pin 3; this end connects to the PCB.

6. Connect the harness to the IR Emitter so that the **longer lead** from the IR Emitter is connected to the **Red** wire (Pin 2; the wire that has an inline resistor) and the **shorter lead** is connected to the **White** wire.

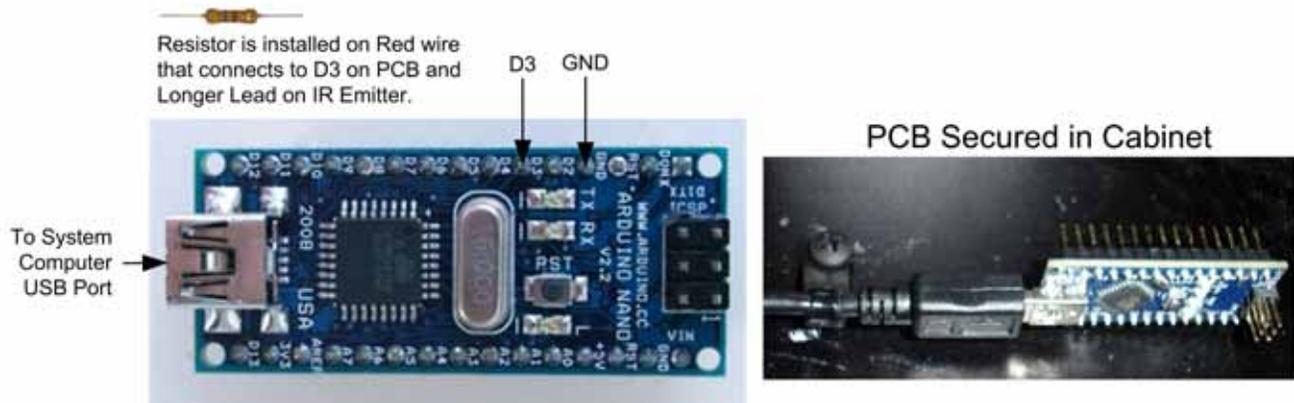


Figure 2. PCB Details

7. Connect the other end of the harness to the PCB so that the **Red** wire is connected to Pin **D3** on the PCB and the **White** wire is connected to **GND**.
8. Connect the mini-connector end of the USB cable to the PCB.
9. Use the screw-down cable tie to secure the PCB inside the cabinet as shown in **Error! Reference source not found.**. Place the PCB in a safe location, such as near the GVRI/O Mini PCB.
10. Connect the other end of the USB cable to the System Computer.

### Install the 3D Button

You should be able to install the 3D Button in the control panel without removing the control panel housing from the cabinet. By removing the gun base covers and the screws that secure the housing to the cabinet you will be able to lift the housing enough to reach inside to install the button.

1. Locate the GVRI/O Mini PCB in your cabinet. On GLOBAL VR dedicated cabinets the PCB is usually under the upper access panel between the control panel and monitor. Remove the four screws that secure the panel in place and remove the panel.
2. Remove the Upper Gun Base Covers below each gun by removing the two (2) #8-32 x 1/2" black tamper-proof pan head screws with #8 flat washers, and one (1) 1/4-20 x 3/4" black tamper-proof pan head screw with 1/4" lock washer and flat washer that secure each set of covers in place.
3. Remove the eight (8) 1/4-20 x 3/4" black pan head screws with black flat washer that secure the plastic control panel housing to the cabinet. You will now be able to lift the plastic housing away from the wooden base.
4. Cut out the *Template for Drilling Control Panel for 3D Button* at the end of this document. (Two copies are provided for your convenience.)
5. Place the template so it is centered between and above the START buttons. The upper edge of the template (dotted line) should be about 3/8" below the upper edge of the control panel decal as shown in Figure 3.



Figure 3. Button Template Placement

6. Make sure that all button wires are clear of the area where they could be snagged by the drill, and drill the three holes for the 3D button using the template as a guide.
7. Remove the switch/lamp assembly and retaining ring from the 3D button and place 3D Button in the holes you drilled. Secure the button from below with the retaining ring.
8. Refer to Figure 4 and connect the spades on the 3D Button Add-On Harness to the switch/lamp assembly as follows:

Label	Connect To	Label	Connect To	Label	Connect To
LT3D 12V & LT3D GND	Lamp Connectors (Either Side)	3D SW	NO	3D GND	COM

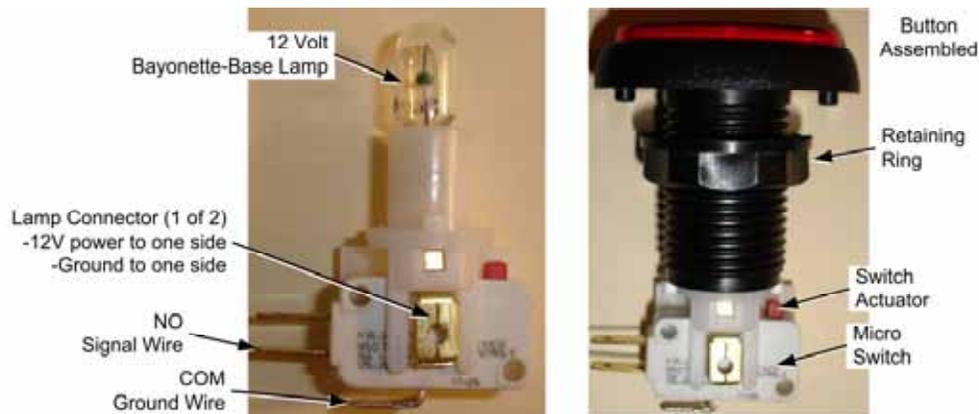


Figure 4. 3D Button Assembly

9. Install the switch/lamp assembly under the button.
10. Replace control panel housing, making sure no wires are pinched or caught.
11. Carefully route the 3D Button Add-On Harness along the Main Harness so that the end with the connectors is near the GVRI/O Mini PCB. Secure it to the Main Harness with tape or cable ties.

**Note:** Some early revisions of the Main Harness in the cabinet may have a wire connected to **J8-Pin 5**. This wire is not used by the game, so you can either remove the pin from the connector, or cut the wire with enough of a pigtail to splice it to the wire labeled **J8-P5** on the 3D Add-On Harness from the kit.

12. Disconnect the 10-Pin connector from **J8** on the GVRI/O Mini PCB. The location of **J8** varies with different PCB versions, as shown below.

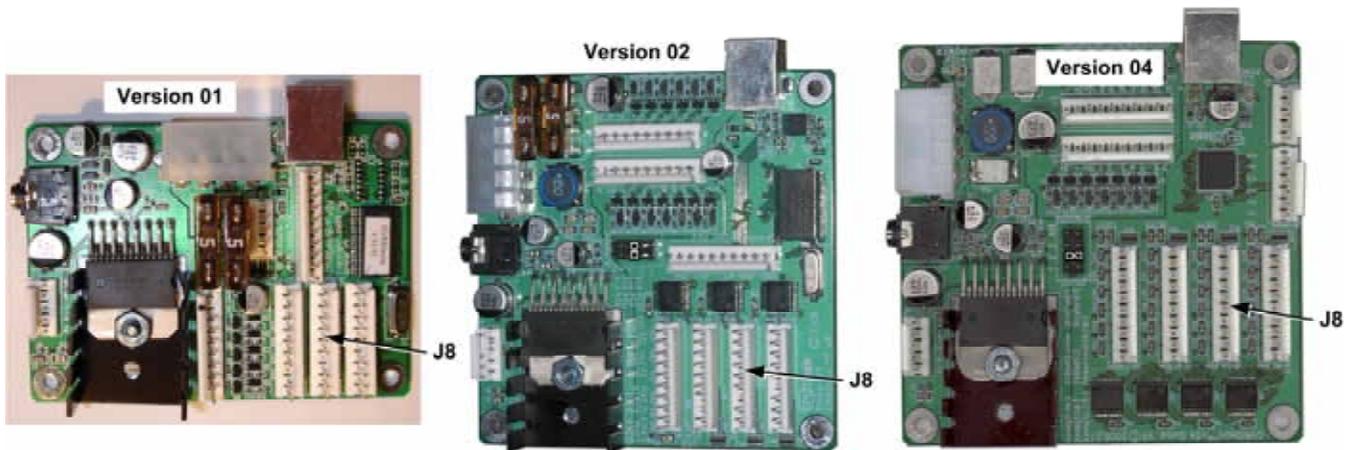


Figure 5. J8 on GVRI/O Mini PCB

13. Insert the terminal labeled **J8-P5** on the Add-On Harness into Pin-5 of the J8 connector, as shown below. Orient the terminal so the loop faces away from the flat side of the connector as shown. Push the terminal into the connector until it snaps into place. Gently pull the wire to make sure the terminal is firmly seated in the connector.

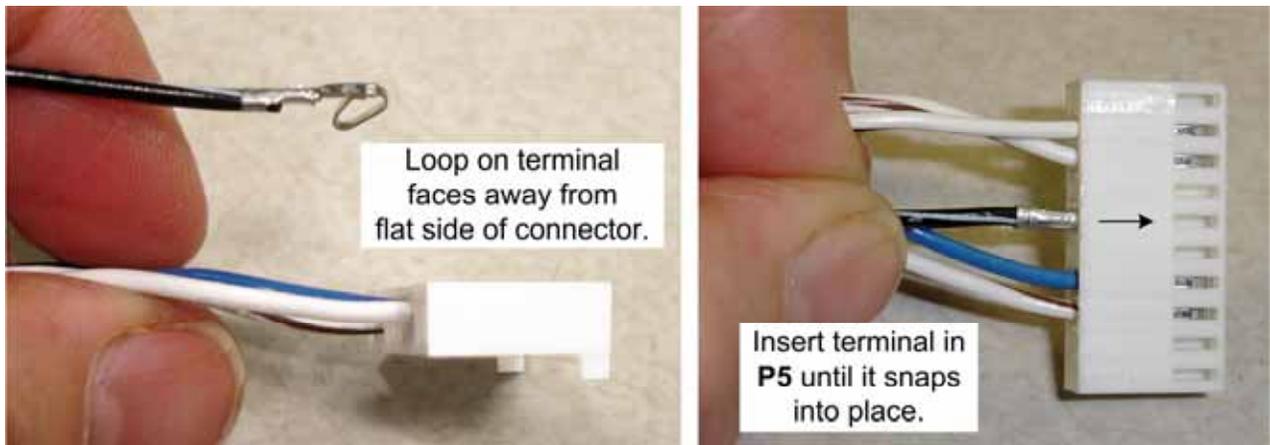
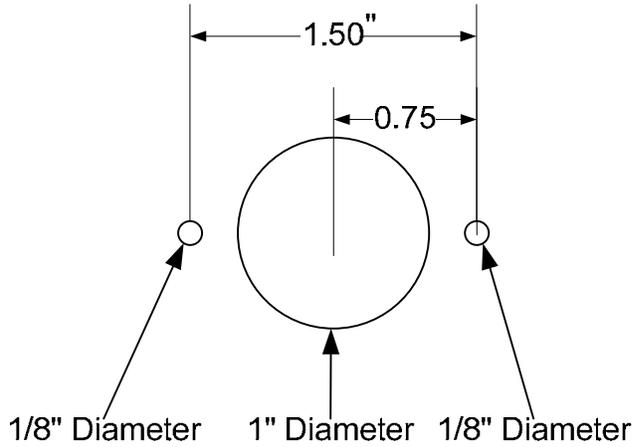


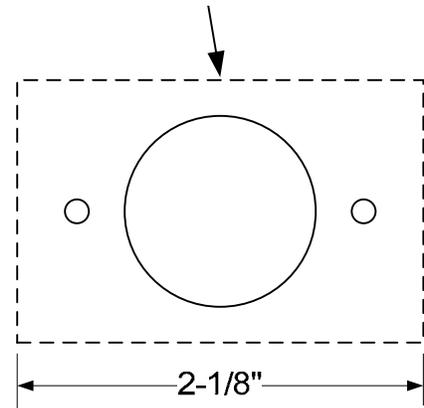
Figure 6. Inserting Wire in Connector

14. Reconnect the connector to **J8** on the GVRI/O Mini PCB.
15. The 4-Pin PC Power Connector on the Add-On Harness provides power and ground to the 3D button. Connect the male (plug) end to any available PC power connector in the cabinet, or disconnect a power connector, such as the connector to the GVRI/O Mini PCB, and connect the male and female connectors on the harness between the existing connectors.
16. Power on the cabinet and start a game. Verify that pressing the 3D button switches between 2D and 3D.
17. Re-install the screws and washers that secure the control panel housing to the cabinet and reinstall the gun base covers by reversing the removal steps.
18. Re-install the instruction panel and clear plastic if removed.

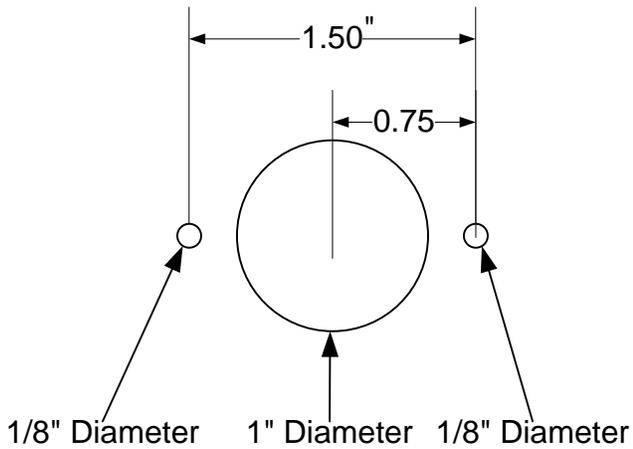
## Template for Drilling Control Panel for 3D Button



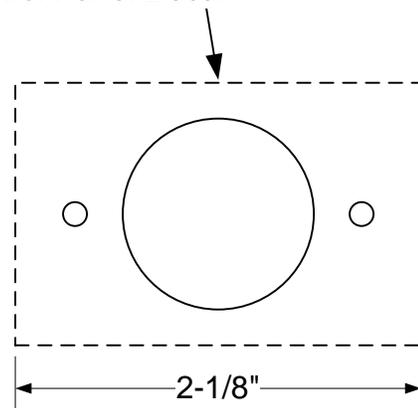
Tape this Template to Control Panel with Dotted Line Matching Cutout in Control Panel Decal



If you make a copy, verify dimensions are not scaled.



Tape this Template to Control Panel with Dotted Line Matching Cutout in Control Panel Decal



If you make a copy, verify dimensions are not scaled.