RiddledTV.com   2-Way Outrun Switcher
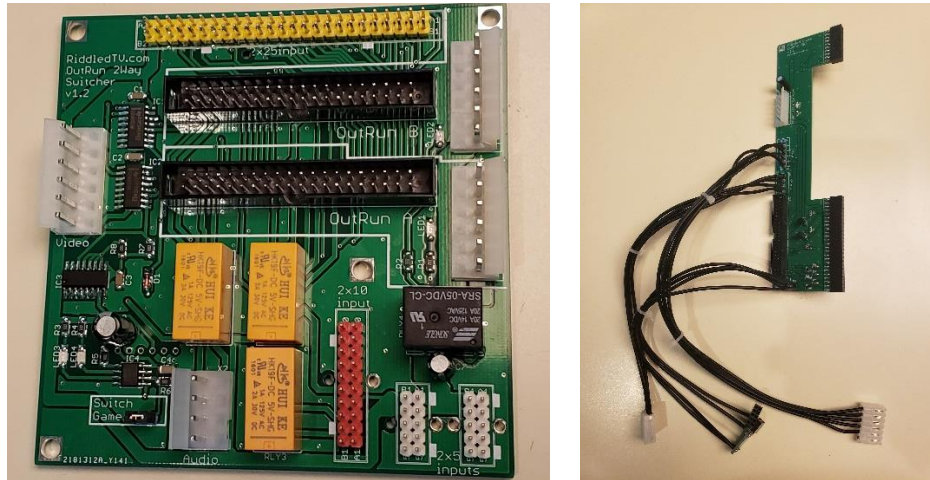
INSTALLATION GUIDE

FIGURE 1. 2-WAY OUTRUN SWITCHER KIT

Each Kit Includes:

- Outrun Switcher Mainboard (rev 1.2)
- 2x Outrun Gameboard Interface
- 2x 40pin ribbon cable
- 2x 6wire power cable

Features:

- Supports 2 Outrun or Outrun Turbo game boards
- Only 1 board is powered at a time.
- No external remotes are required
- Games are switched by holding the Service Switch for 1.5 seconds, or an alt. button of your choice.
- Supports up to 20 Amps switched on 5V
- supports external cabinet brake lights, if equipped (as of mainboard revision 2.1)
- Supports subwoofer audio, if equipped (as of mainboard revision 2.1)
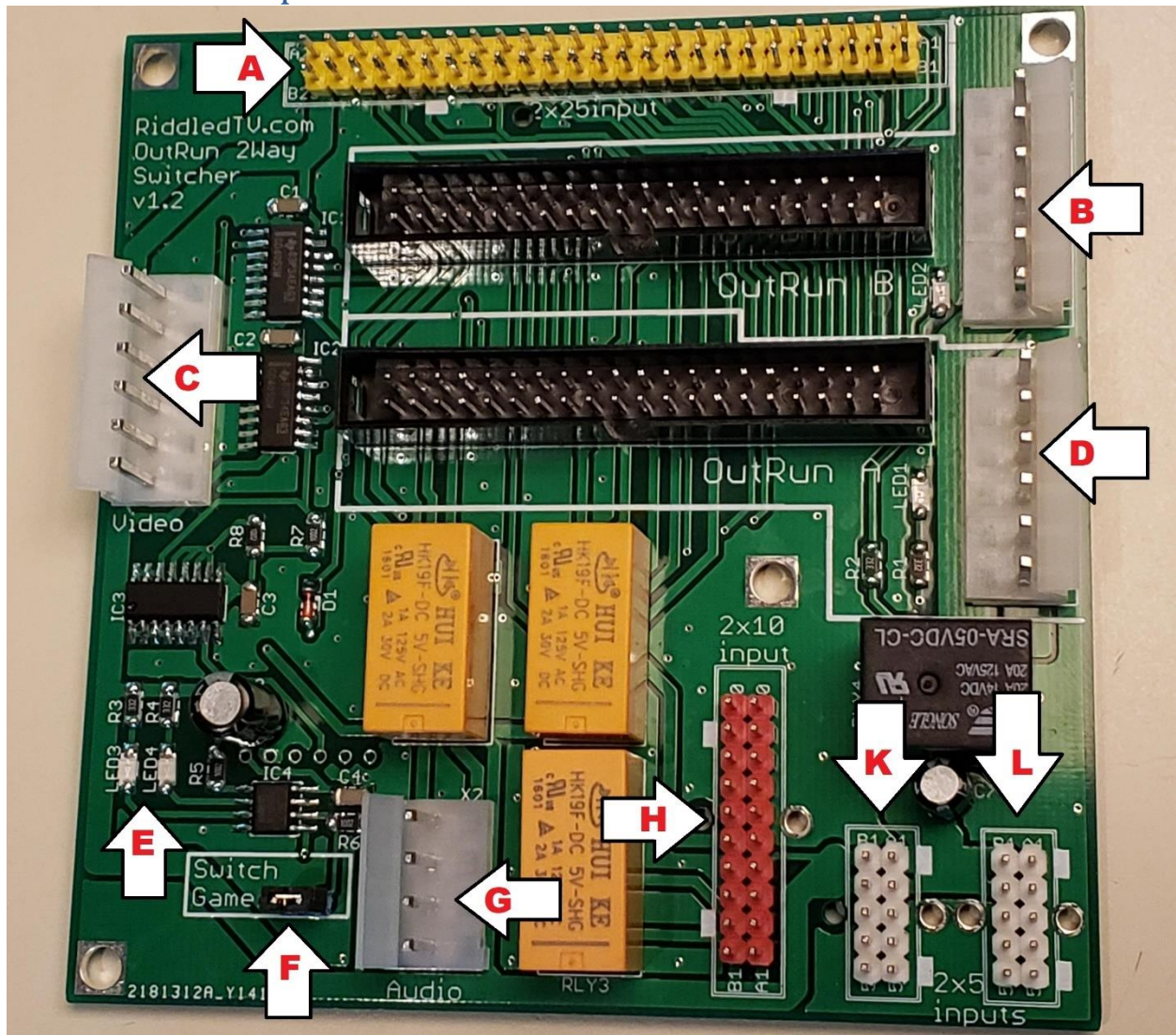
Mainboard Components:

FIGURE 2 – 2-WAY SWITCHER MAINBOARD WITH INDICATOR ARROWS

A. 50pin input (note orientation). Digital inputs from Control Panel.
B. 6pin and 40pin ribbon connectors to gameboard B.
C. 6pin connector to your video monitor.
D. 6pin and 40pin ribbon connectors to gameboard A.
E. Indicator lights that illuminate when 1 or both game select buttons are active
F. Game switch input. Connect any external button to these 2 pins. When this button is closed for 1 second, the game will switch to the opposite game.
G. Audio cable header.   Newer switcher models have a 4/6pin header.
H. 20pin input (note orientation). This cable carries the analog inputs (steering, pedals)
K. 10pin input (note orientation). This cable provides 5V power. K and L are interchangeable.
L. 10pin input (note orientation). This cable provides 5V power. K and L are interchangeable.

Installation Instructions:

1. Disconnect AC power.
2. Remove the 50pin, 20pin, and both 10pin cables from your Outrun gameboard and plug them into your new Outrun Switcher mainboard. Take care to align these using the correct cable orientations as they are marked on the board, with the connector keys as shown on the PCB. Take extra care that the pins are NOT offset. Confirm that they are not offset by viewing the connector from all 4 angles. Once these are plugged into the right locations, check them again, and then use zip-ties to secure them to the switcher mainboard.
3. Likewise, remove the 6pin video and 4 (or 6) pin audio Molex connectors from the gameboard, and plug them into the new Outrun Switcher board. Make certain the 6pin Video connector is ONLY plugged into the 6pin port marked "Video". If using a 4pin Audio cable, plug it into the first 4 pins as labeled on the PCB silkscreen.
4. Note, Only the switcher mainboard should be connected for this step. Reconnect AC power, and turn any power switches on.
5. Verify that the switcher is receiving inputs from your control panel by doing the following:
   a. Press and hold the service switch. Verify that the 1st Blue LED on the switcher circuit board illuminates as the button is pressed. After 1.5 seconds the switcher should switch the red LEDs indicating the opposite gameboard is active.
   b. If you've connected one, press the dedicated game switch button. Verify that the 2nd Blue LED on the switcher circuit board illuminates as the Player2-Start button is pressed. After 1 second the switcher should switch to the opposite game.
6. Disconnect AC power
7. Plug a new Outrun Gameboard Interface into both Outrun/Outrun Turbo gameboards. Take maximum care to align these on the correct pins so that it is not offset. There should be no unused pins remaining on either end of the 20pin or 50pin connectors.
8. Connect the Audio 4pin (or 6pin), Video 6pin, and both 5v power connectors from the Outrun Gameboard Interfaces into their respective ports on the Outrun gameboards. The 5V connectors are interchangeable into either the upper or lower gameboards, but take extra care to align them on the correct pins so that there are no unused pins on either side.
9. Double-check all your work. Make sure that all connectors are not rotated 180 degrees or misaligned.
10. Connect new 40pin ribbon and 6pin power cables between Switcher and both Gameboard interfaces. Boths ends of the 6pin and 40pin cables are the same, so either end can be installed on the switcher/gameboard interface.
11. Secure your Outrun Switcher Mainboard to your cabinet using your preferred mounting method.
12. The Gameboard Interfaces fit very snug and do not need to be mounted using screws, however there are mounting holes on the Gameboard Interface if you prefer to do so.
13. Reconnect AC power, and turn the power on
14. To advance to the next game hold down either the service switch or the dedicated game switch button as described on the following page.
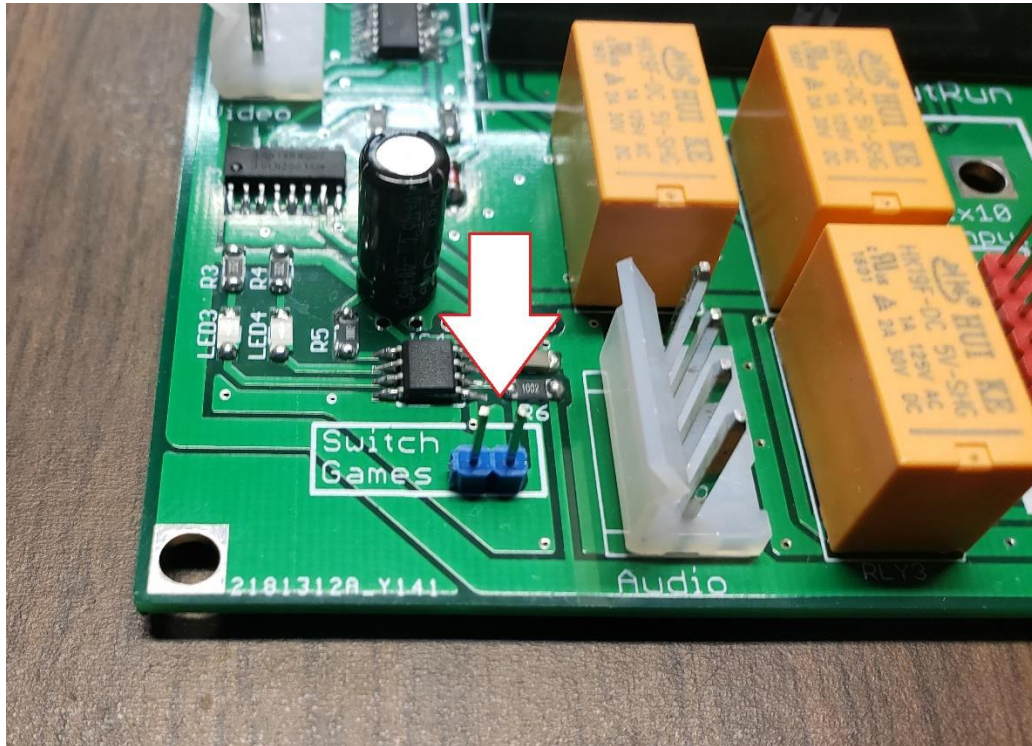
Switching Games:

FIGURE 3. DEDICATED BUTTON INPUT

A user can switch to the opposite gameboard through 2 different methods:

- Hold the service switch button for 1.5 seconds, or
- Hold the dedicated "Switch Games" button for 1.0 seconds. This requires that a dedicated button be installed, connected to the 2.54mm header shown in Figure 3. Any normally open button switch can be used. Please note that if a user continually holds this button down, it will switch back and forth between game boards in 1 second increments, continuously.

Indicator lights

The mainboard has 4 indicator LED lights:

- 2 Red LEDs to indicate which gameboard is currently active
- 2 Blue LEDs indicate that a game-select button is pressed

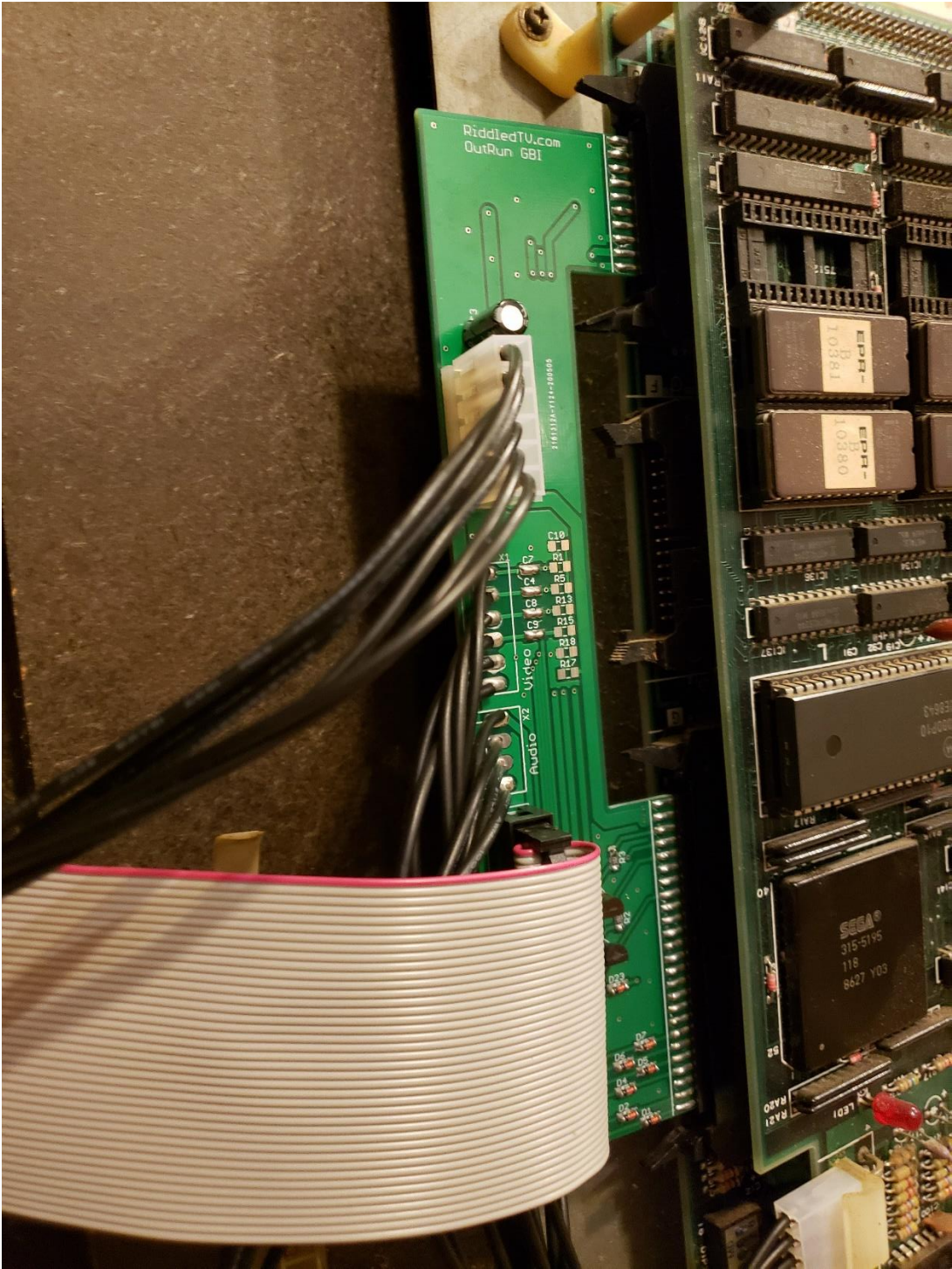# Gameboard Interface Installation Pictures

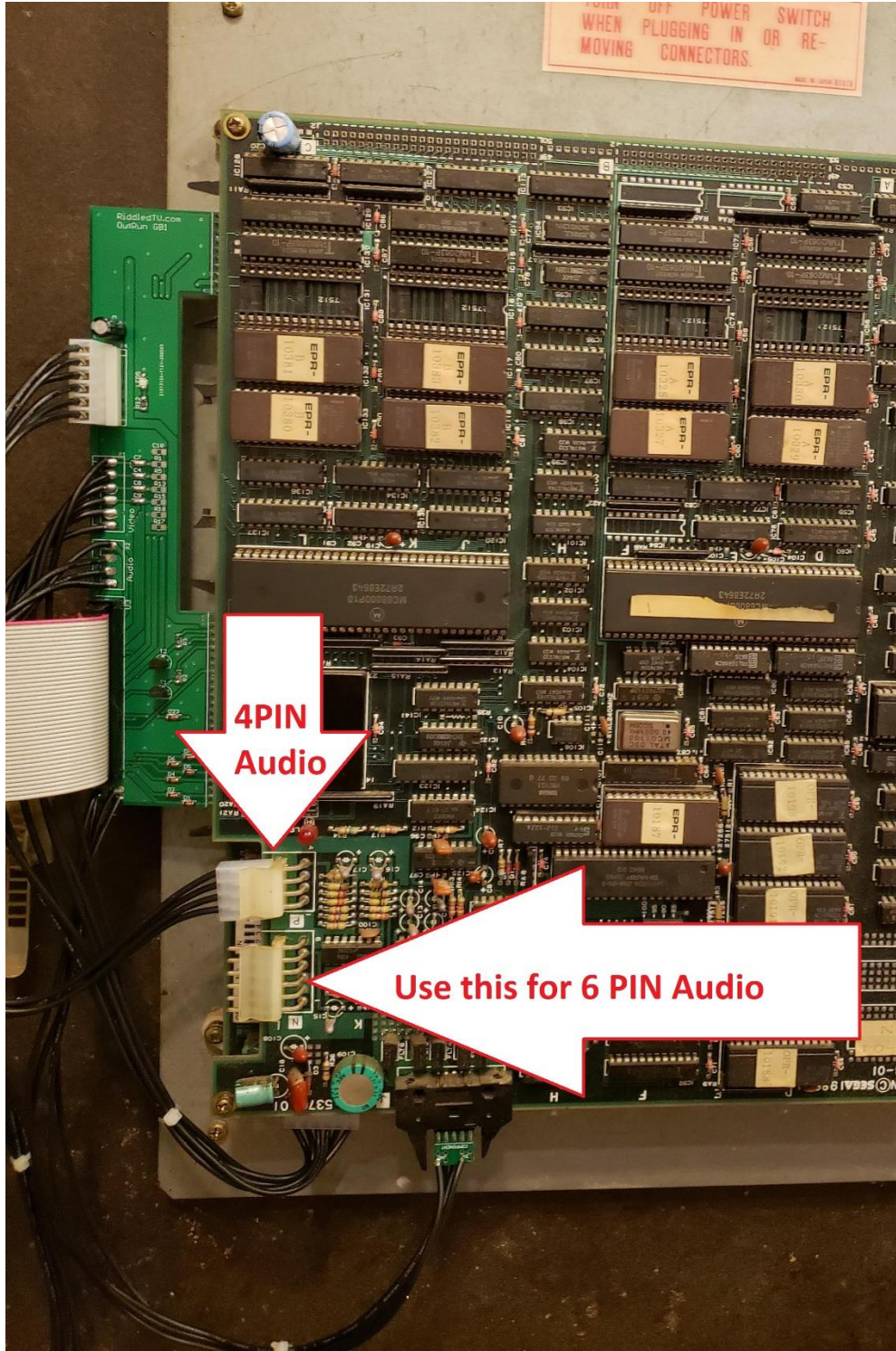**FIGURE 4.GAMEBOARD INTERFACE. 20PIN AND 50PIN CONNECTORS SHOWN**

FIGURE 5. GAMEBOARD INTERFACE. OVERALL VIEW

FIGURE 6. GAMEBOARD INTERFACE. VIDEO AND 5V POWER CONNECTORS

Troubleshooting

1. **My video is not working for one or both games** – Make certain that the Gameboard Interface 6pin video cable is plugged into the correct port, as shown in Figure 6. The 6pin Audio port is located directly next to the 4pin Audio port. Be careful not to plug the video cable into the 6pin audio port. (I did this, and spent forever trying to figure out why my video wouldn't work)

2. **My power supply is shutting down** – One or more of your connectors may be misaligned. Remove power and revisit the installation instructions on Page 3.

3. **My audio sounds noisy.** Some users have reported noisy audio when using the 4pin audio connector on the outrun gameboard. For those users, it was resolved by plugging in the 4-pin connector into the first 4 pins of the 6pin audio connector (4 pins closest to the Letter 'N' on the gameboard). Newer revisions of this Outrun switcher use only 6pin audio connectors to avoid this issue.

4. **I have an issue that is not covered here** – Please email outrun@riddledtv.com for additional support

5. **I have a suggestion on how to improve this product, or these instructions** - Please email outrun@riddledtv.com

6. **My cabinet cables keep falling off of the connectors.** Use the provided zip ties to secure all cables to the switcher mainboard.