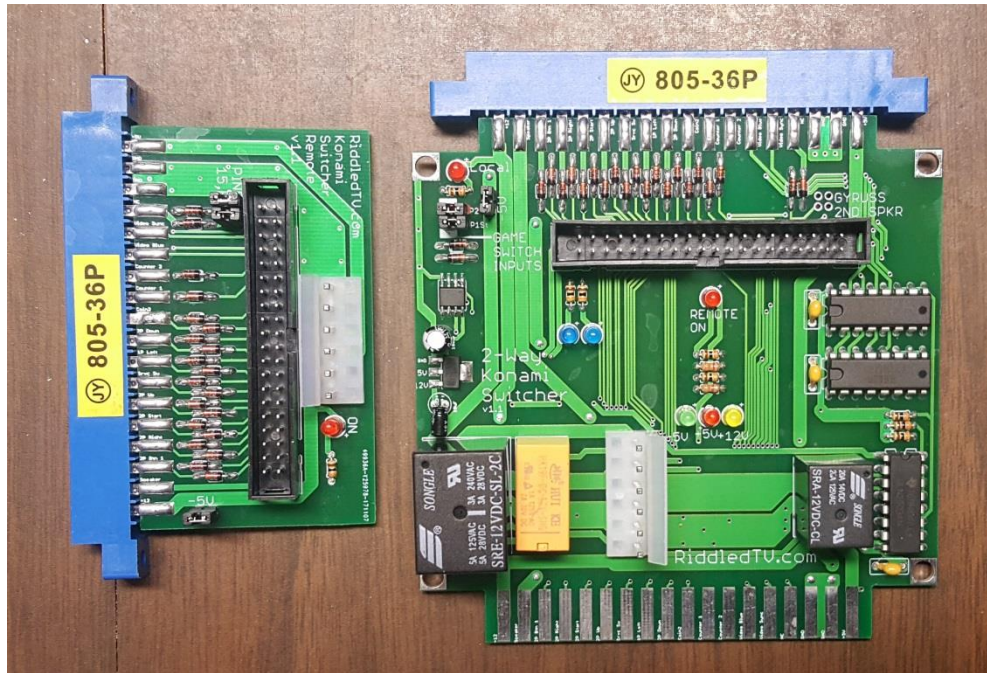## INSTALLATION GUIDE

Figure 1. 2-Way Konami Switcher Kit

Each Kit Includes:

- Mainboard
- Remote Board
- 40pin ribbon cable
- 6wire power cable

Features:

- Supports 2 Konami boards
- Only 1 Konami board is powered at a time.
- No external remotes are required
- Games are switched by holding Player1-Start and Player2-Start for 1.5 seconds, or alternate buttons can be connected.
- Supports up to 20 Amps on 5V
- -5V power is switched for each board
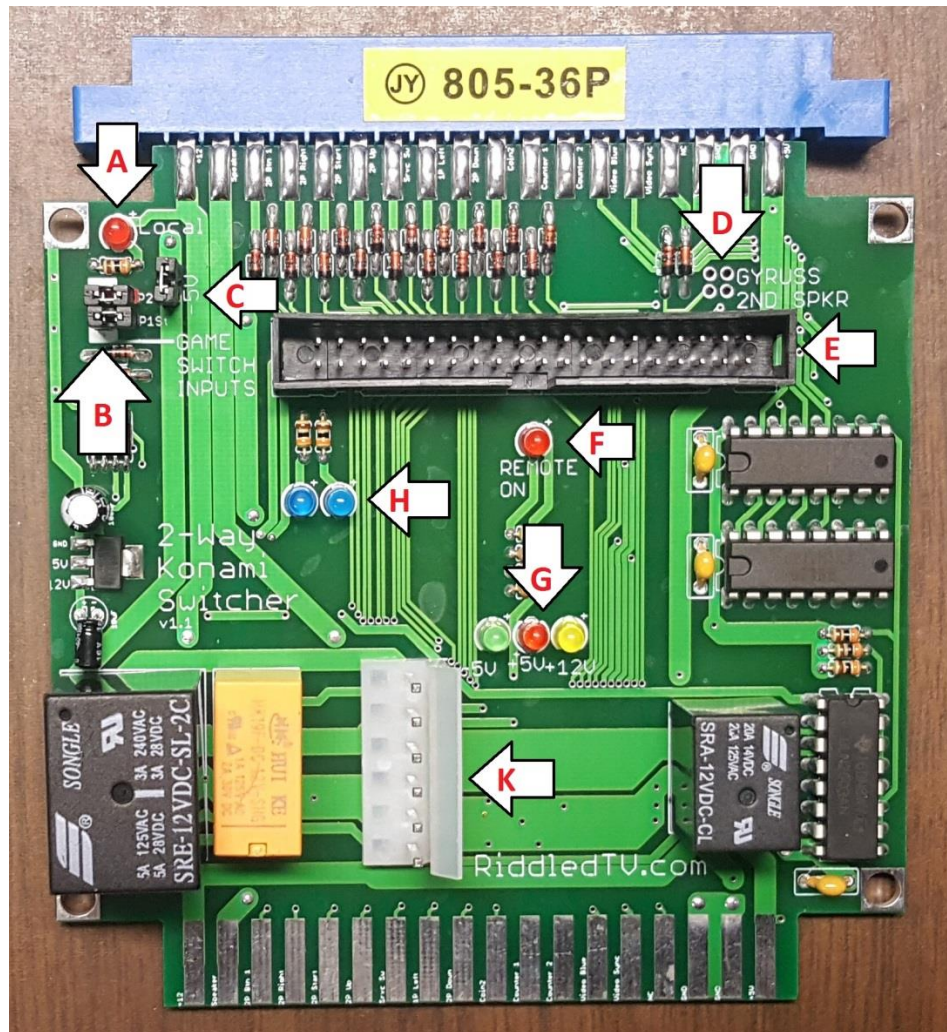
Mainboard Components:

Figure 2 – 2-Way Switcher with Indicator Arrows

A. Indicator light that local Gameboard is active
B. Game Select Button Inputs. If jumpers are installed as shown, players 1 and 2 start buttons (held for 1.5 sec) will switch to the next game.
C. -5V Jumper. Remove jumper to disable -5V to local gameboard.
D. Gyruss 2nd Speaker. To enable the 2nd speaker for Gyruss, solder a jumper wire to the two left pins. Similarly, solder a jumper wire between the two right pins. Then remove the jumpers on the remote board.
E. Ribbon cable header. Plug the 40pin ribbon cable here, and similarly to the remote board.
F. Indicator light that remote Gameboard is active
G. Power indicator LEDs. 12V, 5V, -5V (these only indicate presence of voltage, not accuracy of voltage levels)
H. Indicator lights that illuminate when 1 or both of the game select button inputs are active.
K. Power cable header. Plug the 6pin power cable here, and similarly to the remote board.

Konami Switcher Pinouts

Solder Side			Parts Side
-5VDC***	A	1	+12VDC
Speaker	B	2	Speaker
2P Button 2	C	3	2P Button 1
2P Left	D	4	2P Right
1P Start	E	5	2P Start
1P Button 1	F	6	2P Up
1P Button 2	H	7	Service Switch
1P Right	J	8	1P Left
1P Up	K	9	2P Down
Coin (1)	L	10	Coin (2)
1P Down	M	11	Coin Counter (1) (not used)**
1P Button 3	N	12	Coin Counter (2) (not used)**
Video Green	P	13	Video Blue
Video Red	R	14	Video Sync
(Gyruss Spkr 2)	S	15	2P Button 3 (Gyruss Spkr 2)
GND	T	16	GND
GND	U	17	GND
+5VDC	V	18	+5VDC

Figure 3. Konami Switcher Pinouts

**Coin Counters are not connected when using this Konami Switcher
***Not all boards use a -5VDC input. This can be disabled by removing the jumper marked "-5V"

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Installation Instructions:

1. Disconnect AC power.
2. Verify your Konami harness wiring matches the standard as shown in Figure 3.
3. Plug the Switcher into your existing Konami harness and mount in a suitable location.
   Note: Do NOT connect the Konami gameboards yet.
4. Double-check all your work.
5. Reconnect AC power, and turn the power on.
6. Verify that the switcher is receiving inputs from your control panel by doing the following:
   a. Press Player1-Start. Verify that the 1st Blue LED on the switcher circuit board illuminates as the Player1-Start button is pressed. Note, If an alternate input button is being used, verify the input from that button in place of Player1-Start.
   b. Press Player2-Start. Verify that the 2nd Blue LED on the switcher circuit board illuminates as the Player2-Start button is pressed. Note, If an alternate input button is being used, verify the input from that button in place of Player2-Start.
7. Turn power switches off, and disconnect AC power
8. Plug the Konami gameboards into the two available ports of the Konami Switcher. Make certain that all boards are securely mounted and are not contacting other wiring or metal supports inside your arcade cabinet
9. Reconnect AC power, and turn the power on
10. To advance to the next game hold down both Player1-Start and Player2-Start buttons.
11. You may need to readjust your monitor's color balance levels.

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Switching Games:

If both jumpers are installed as shown, the mainboard will switch games when buttons Player 1-Start and Player 2-Start are pressed for 1.5 seconds. To use alternate button inputs, disconnect the 2 jumpers, and connect two button inputs of your choice to the two terminals on the left side when positioned as shown in Figure 4. If only one input button is desired, connect it to BOTH pins. The Switcher will change games when both inputs are grounded for 1.5 seconds. If both buttons are held down, it will continue to cycle between games in 1.5 second increments.

Figure 4. Button Inputs for Game Selection

Indicator lights

The mainboard has 7 indicator LED lights:

- 2 Red LEDs to indicate which gameboard is active
- 3 Power Supply indicator LEDs. Red, Green, and Yellow LEDs indicate that "some" voltage is present on the 5V, -5V, and 12V power supplies. They do not indicate the accuracy of those voltages.
- 2 Blue LEDs indicate that the switcher detects one or both of the game-select buttons are pressed.

Monitor Synchronization:

The Switcher will work best with an "auto-sync" (multi-sync) type game monitor. These were common in monitors made after 1994, but there were also auto-sync monitors made before that time. It is possible to use the Switcher on an older manual-sync monitor, but depending on your game boards the display on some games could "roll" or not sync without manually tweaking the monitor controls when you switch games.

You may be able to set an older manual-sync monitor to a setting that will sync for both games through trial and error. The success will depend upon the monitor and specific games used.

Troubleshooting:

My game is stuck at a cross hatch pattern: Several Konami gameboards have the following: If either start button is held upon power-up, the games will display a cross hatch video pattern. The only way to exit this video pattern is to power off the game. Since the switcher uses those start buttons to switch games, they will always be stuck at the cross hatch pattern. So far the following games have been identified with this feature:

- Break Thru
- Scramble
- Super Cobra

The workaround for this is to modify which buttons are used to switch games. Remove the game select jumpers from the mainboard, and connect a wire from P1 Button 1, and P1 Button 2 on your control panel to the game select inputs. This will mean that you will now hold down P1 Button1 and P1 Button 2 for 1.5 seconds to switch games. Any alternate input buttons can also be used.

If you identify other games with this feature, please notify us so that we can update the workaround.