

PACOGUN v2.4

Supergun Prototype – *use it at your own risk!*

IMPORTANT NOTICE

- Don't connect the Pacogun without a game connected.
- Set the PSU to not more than 5.1V since this Supergun is designed for low voltage drop.
- Do all connections before powering on the power supply.
- The supergun is disconnected unplugging the power supply.
- Never connect or disconnect any connector or use switches (except buttons 4 & 5 ones) while the device is powered on.
- Do not let your equipment unattended while it's powered on.
- Keep your equipment far from pets and children since this is not a toy.
- Always cover the AC 220V terminals with thick plastic tape or proper 3D printed covers – there are some free designs for MWP-606 and Mean Well RT-xxx available on Internet.
- Always start with low volume at the arcade PCB.
- Both the arcade boards and the supergun are sensitive to ESD so the use of an anti-ESD wrist is very recommended.
- It's recommended to use as much as possible and good quality arcade PCB feet to avoid PCB bending.

Power supply wiring

Please, double check with the JAMMA edge before powering on!

- RED: +5V
- BLACK: GND
- WHITE: -5V
- YELLOW: +12V

Some power supplies like Mean Well RT-125A won't work well with arcade boards with low power consumption such as 1 slot Neo Geo MVS. In that case you can add proper cement resistor to reach the minimum recommended power consume.

I use a Prima Power MWP-606 that works perfect with all arcade boards I tested.

Configurable jumpers

Single jumpers

- **JP1** open disconnects ground from audio output, it's useful to remove ground loops
- **JP2** selects between +5V or +12V for the voltmeter
- **JP3** closed sets 75ohm ~400mV; open jumper is TTL output (both through 74HC14)
- **JP5** opened disables THS7374's LPF.

CSYNC modes

- **Default:** Buffered CSYNC through 74HC14 configurable 75ohm or TTL configurable via JP3 as explained before.
- **Raw:** Direct CSYNC with a 470ohm resistor in series
- **Alternative:** 75ohm ~500mV CSYNC buffered from THS7374

The default and recommended mode is **Default** set at 75ohm. This outputs a jitter-free clean attenuated and impedance matched CSYNC compatible and safe to use with SCART devices. **Alternative** is an additional mode safe to use with SCART devices, too, but CSYNC is just buffered.

Raw is only for advanced users. If you use this setting with a SCART device with a 75ohm termination resistor, CSYNC will be attenuated to safe levels, but it will not be impedance matched, so it should only be used with devices that require TTL CSYNC.

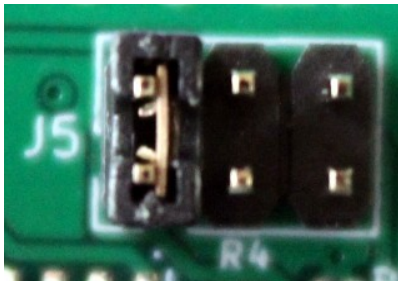


Figure 1: Default mode (recommended)

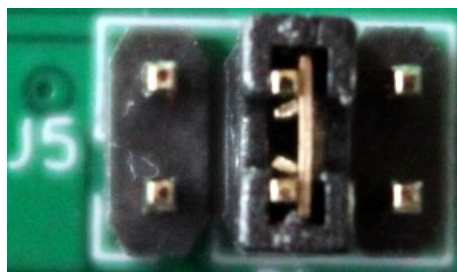


Figure 3: Raw mode (only for experts)



Figure 2: Alternative mode via THS7374

Audio modes

CAUTION: A wrong setting of these jumpers CAN damage your arcade PCB. Don't use any other configuration. By default it's configured for attenuated audio output.

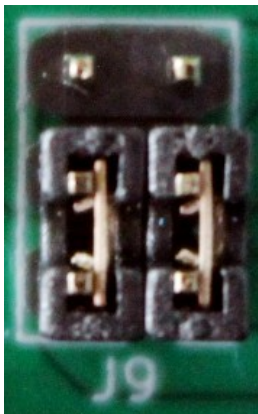


Figure 4: Audio Attenuation mode

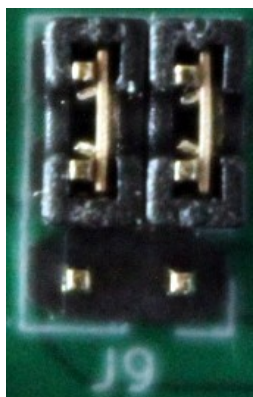


Figure 5: Speakers out via 2P Molex

Pinouts

Controllers

Table 1: DB15 controllers pinout

PIN	FUNCTION
1	GND
2	BUTTON 6
3	COIN
4	BUTTON 4
5	BUTTON 2
6	RIGHT
7	DOWN
8	+5V
9	-
10	BUTTON 5
11	START
12	BUTTON 3
13	BUTTON 1
14	LEFT
15	UP

Table 2: AV MiniDIN8 pinout

Pin	Function
1	Audio Right
2	Audio Left
3	CSYNC
4	GND
5	+5V
6	Blue
7	Green
8	Red

Table 3: JST Kick Harness

Pin	Function
1	Player 2 Button 6
2	Player 1 Button 6
3	Player 2 Button 5
4	Player 1 Button 5
5	Player 2 Button 4
6	Player 1 Button 4