

myPinballs 80B CPU Information & Setup

Thanks for buying one of our pinball boards. We hope you enjoy using our product.

Before you plug in your new CPU board please make sure the following game upgrades and checks have been made. Plugging a new CPU board into a game of unknown condition may damage your new board and void any warranty

- 1) Good solid and stable 12V input to 5V regulator.
- 2) New 12V capacitor on transformer assembly fitted.
- 3) 5V regulator serviced and upgraded to a fixed 5V supply and tested to be in range of 4.95 - 5.05V
- 4) All game ground updates performed as documented on all good pinball repair websites

DIP Switches - SW1 - SW4

The dip switch settings on this board have been optimised for best use and simplification. Gottlieb originally included 15 switches for coin control, which is not needed for home use. The board comes as standard with 1 credit per coin functionality enabled. An optional extra is available to upgrade your board for all switches if required.

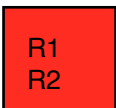
Standard Config is:

S 7 soldered in
S 23 soldered in

S 25-32 - user set with 8 way dip switch

*See Appendix 1 for layout of switches

ROM Settings - SW5



1 on for 2732 sized ROM 2
2 on for 2716 sized ROM 2

Game Settings

SW8 Jumper in for NC slam override. This means you don't need to use the cabinet wiring for NC slam sw games. All boards come with this switch populated. If your game uses a NO slam switch, simply cut the jumper.

Test Pads & Troubleshooting

Should you need to test the board in the future the following test points are included:

TP1 : +5V - Red LED
TP2 : GND
TP3 : Reset - Green LED
TP4 : Clock
TP5 : IRQ
TP6 : R/W
TP7 : Reset 2 (Not currently used)

*A Leon Test LED is also included on the board for use with the LEON test rom (and other derivatives of this rom). This greatly helps diagnosis and fix of suspect RIOT chips, CPU chips and Memory problems. The Test rom is plugged in to IC8.

The following section lists IC related to each specific section. We have tried to list IC in the order that are likely to be a problem so if changing ics then follow the list from top to bottom etc.

Switch Matrix Shorts

If you accidentally short the switch matrix to a higher voltage such as the lamp or coil voltage then you may damage the switch matrix buffers and other parts. It is best to make adjustments with the game switched off.

If you need to replace the switch buffers then we offer service kits. Please contact us if you need one. The switch matrix ics are as follows:

IC14 & IC15 - 74HCT00 - Switch Row Buffers (sacrificial)
IC37 - 74HCT240 - Switch Column Strobe Driver
IC9 - Switch Matrix RIOT IC

Lamp Matrix Issues

If you experience issues with the lamp matrix and or coil/flasher issues the following ICs are the ones to check and replace.

Strobe Section
IC26 - 74HC154
IC11 - RIOT IC
IC27 - 74HCT04 (Sacrificial Buffer)
IC28 - 74HCT04 (Sacrificial Buffer)

Data/Row Section

IC11 - RIOT IC

IC25 - 7417

Coil/Flasher Issues

If you experience issues with a coil and or flasher the following ICs are the ones to check and replace.

IC11 - RIOT IC

IC21 - 7416 (Sacrificial Inverted Buffer)

IC22 - 7416 (Sacrificial Inverted Buffer)

IC20 - 74LS138/74HCT139

IC23 - 74HCT04

Sound Issues

If you experience issues with a sound not playing or a sound playing incorrectly the following ICs are the ones to check and replace.

IC11 - RIOT IC

IC24 - 74HCT08

IC23 - 74HCT04

Display Issues

If you experience issues with a blank screen, a screen flickering, partial screen missing or displaying incorrect characters the following ICs are the ones to check and replace.

IC10 - RIOT IC

IC18 - 74LS175/74HC175

IC19 - 74LS175/74HC175

IC12 - 74HCT240

Batteries

None of our board revisions use batteries so there is no need add any remote battery packs or cell batteries. Board revisions up to rev 6 used sealed lithium timekeeper memory packs. From rev 7 onwards the board uses Ramtron Nvram ics.

Appendix 1: Layout of DIP Switches for rev3 to rev8 cpu board

S1
S2
S3
S4
S5
S6
S7
S8



S9
S10
S11
S12
S13
S14
S15
S16



S17
S18
S19
S20
S21
S22
S23
S24



S25
S26
S27
S28
S29
S30
S31
S32



DEBUG / MOD Header Pinout

Signal	Debug Mod Header		Signal
D7	1	2	D6
D0	3	4	D1
D2	5	6	GND
VCC	7	8	D5
D4	9	10	D3
R/!W	11	12	SYNC
!READY	13	14	!R/W
CLOCK-OUT	15	16	!IRQ
!RESET	17	18	
	19	20	
	21	22	
	23	24	
ROM-A11	25	26	A10
A9	27	28	A8
A7	29	30	A6
A5	31	32	A12
A13	33	34	A14
A15	35	36	A0
A1	37	38	A2
A3	39	40	A4