



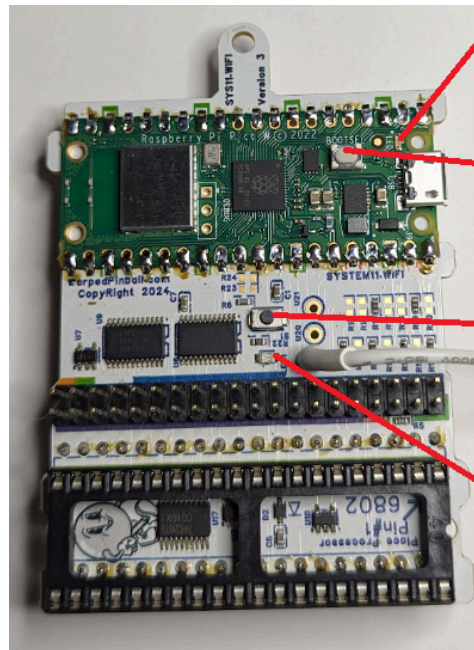
## How it works

The circuit board is installed between the processor chip and your game's main circuit board. In this position it can act to the game like the RAM chip on the board where game settings are stored. Your game runs the same software on the same processor as always so there will be no change to how the game plays.

SYS11.Wifi stores RAM values in on board permanent memory removing the need for batteries or NVRam chip modifications. In addition any RAM chip in place on the main board does not need to be removed. Installation requires NO permanent modification to the game and installs without soldering.

## Indicators and Controls

There are two LEDs and two buttons as listed in the picture. The Pico boot button is used to load a new operating system on the Raspberry Pi Pico, this is only used for major software updates. Other items are explained in the sections below.



Wifi Status LED  
Fast Blink = AP mode  
Slow Blink = Joining Wifi  
ON = Wifi Joined and active

Boot button  
(not typically used)

Wifi Configure Button  
Hold during power up  
Release when LED flashes  
For setup mode

Status LED  
Fast Blink indicates  
installation fault

## Disclaimer

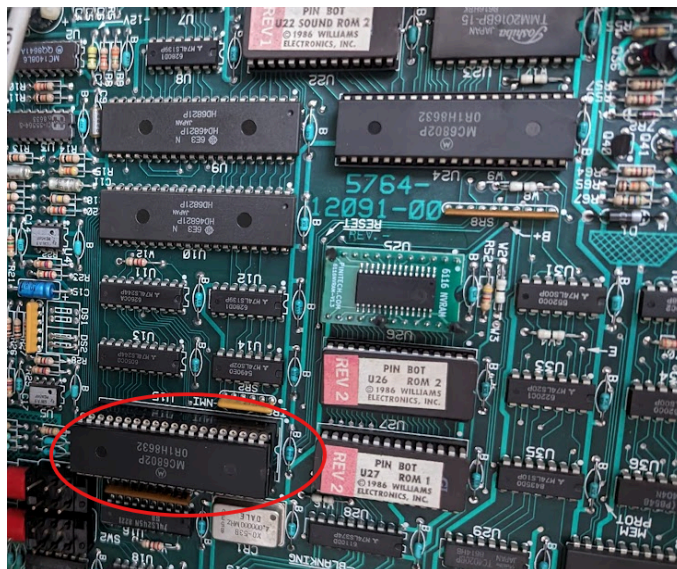
While it is less risky than soldering, pulling chips out of classic games does have some risks. While we make every effort to make this an easy and safe process, damage to your game is possible and we cannot be responsible if something goes wrong. If you have never pulled and re-seated chips in a board like this we encourage you to find someone who has and offer them some pizza to come help.

Some things to watch for: static electricity can damage circuits. When working on your game turn it off but leave it plugged in so it has a ground connection. Also not a bad idea to touch the metal backplane before you touch electronics - just to make sure that charge you got walking across the carpet is gone. Partially seated sockets and ICs cause crazy problems - look at all the pins at each assembly step to make sure they are pushed in all the way. It is possible for one corner of a socket or IC to be up when the other corner looks ok. As always be sure your game has the correct size fuses installed.

We offer email support and will do anything we can to help you enjoy Warped Pinball accessories. We cannot however be liable for any damage to your self or machine - you do this at your own risk.

## Hardware installation

SYS11.Wifi will be installed in the socket where your games main processor is now. You need to carefully remove the processor (MC6802) and place it into the socket on the SYS11.Wifi. Note the position of the main processor in your game in the picture below, this is the chip you will be removing:



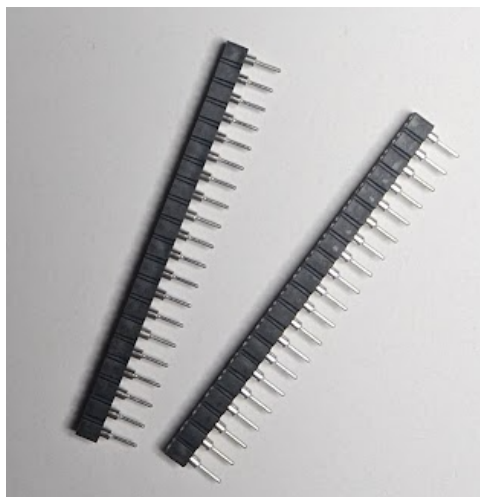
Location of main processor Chip MC6802(8) near reset switch(es)

The processor chip may be directly placed into the SYS11.Wifi board. See the picture below for reference. Check the processor pins before inserting to make sure they are straight. Push the chip in until it fully seats into the socket, check both sides.



Processor chip inserted into socket on Wapred Pinball SYS11.Wifi

To make mounting the Warped Pinball board easier and the connections more reliable there are several accessory connectors included in your package. First take the pin strip headers and insert them into each side of the main board processor socket. You can move around pressing on sections of 3-4 pins at a time pressing firmly with your thumb until all the pins are fully seated into the main board socket.



Pin strip headers

Place these directly into the socket on the machines main board



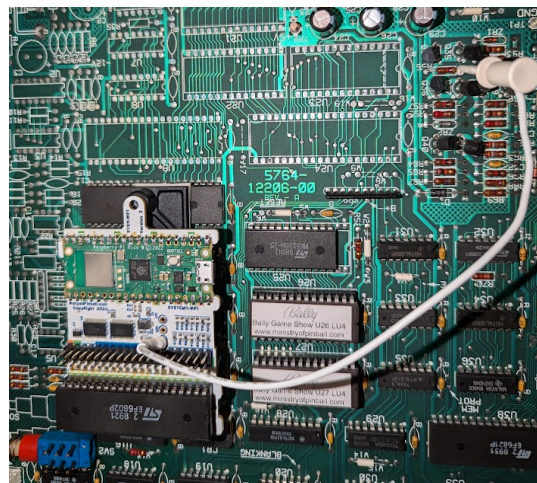
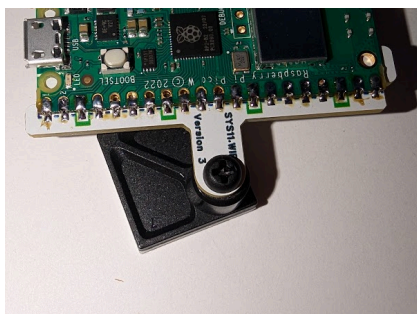
Main processor socket with pin strip header

Now place the included round pin chip carrier into the pin strip headers. Again, work your way around pressing each pin firmly down until they are all fully seated.

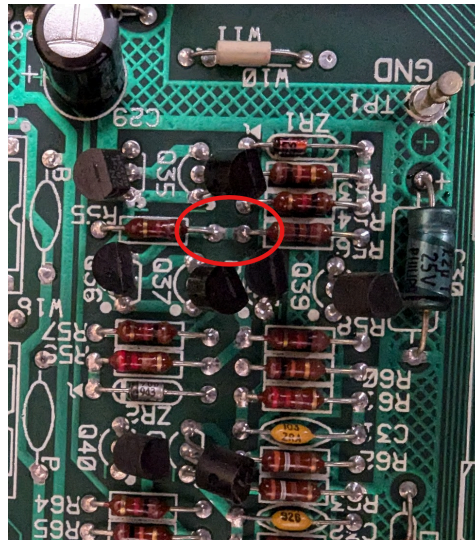


Round pin chip carrier  
Insert on top of the pin strip headers

Use the included plastic screw to attach the adhesive standoff to the Warped Pinball board. Peel the backing from the standoff (it will adhere to the top of a neighboring chip when you place the board) The SYS11.Wifi board can then be inserted into the socket on the main board as shown below. Be sure to get a good view of all four corners and make sure all pins are well seated. You need to carefully align all the pins and press firmly to fully seat in the socket.



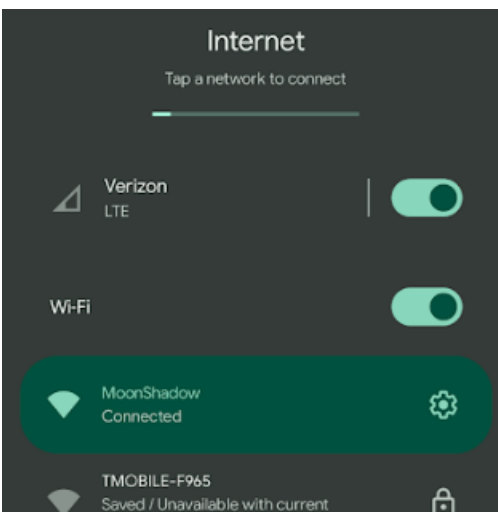
The white wire with attached micro clip needs to be connected to the main board reset circuit. The Warped Pinball board synchronizes resets on power up. You will notice the game take just a few more seconds to power up. This is not optional - you must connect the wire as shown in the picture to the junction of R55 and R56. Push the end of the handle to extend the clip and hook it where R55 joins R56. you can clip onto either R55 or R56 but be sure you are on the correct side as shown. Here is a close up picture of where to hook on. (your board could be oriented differently).



At this point your game will operate as normal and the SYS11.Wifi board will provide nvRam service. To take advantage of the advanced scoring, tournament and other features the board will need to be configured and connected to Wifi.

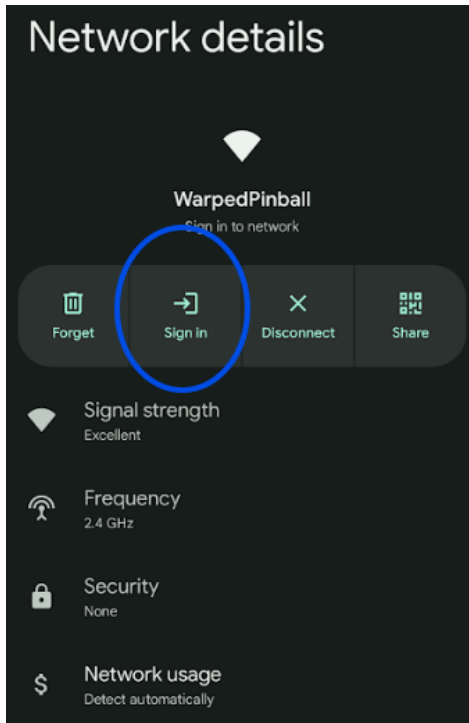
### Connecting to local Wifi

Power up your pinball machine and you will notice the Wifi status led blinking fast. With a phone or computer open the Wifi configuration and look for a new wifi service called “Warped Pinball”. Here is an example screen from an Android phone:



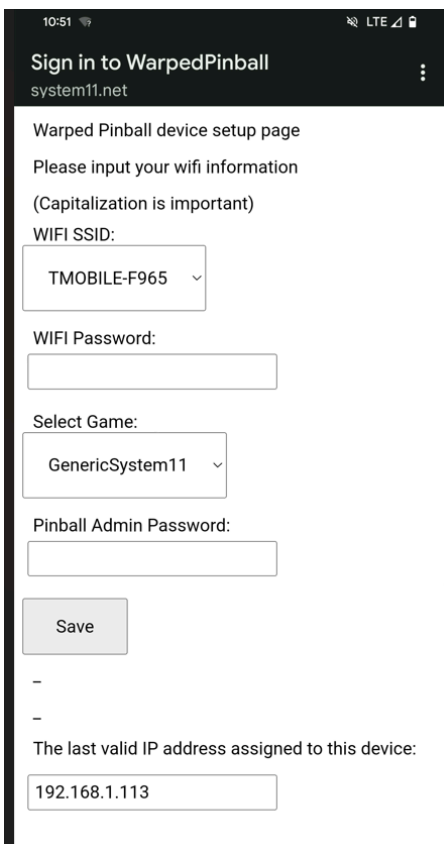
#### Pro Tip:

To enter configuration mode in the future - press and hold the Wifi config button (next to the white wire) and power up the machine. Hold the button until you see LED blink rapidly. This will put you back in setup mode (wifi AP mode)



Click or touch WarpedPinball and wait a moment. You may see a warning about no internet service, that is ok. You should get a screen similar to this next example with a “Sign In” button. If your phone or computer does not have this, but has joined the Wifi try opening a browser for the next step.

In your browser or phone you should see a configure screen:



Pick the SSID (this is the name of your local wifi network) and enter your wifi password for that network. Please carefully double check for capitalization. Now select your game from the drop down list. If your game is not listed please select GenericSystem11. Picking the wrong game can make your game act erratically. You can also pick a Admin Password if you like, this password protects functions in the machine like erasing scores and leaderboards.

If the board has previously joined a wifi network successfully you will see the IP address it was given at the bottom of this screen.

When ready just click the save button. The Wifi status LED will stop blinking. SYS11.Wifi will remember those Wifi settings and automatically connect to your local wifi at every power on cycle. After pressing the save button

you can power the game off and on again for the new setting to take effect.

When the board powers up this time you will see the Wifi status LED blink slowly. Once the network has been found and joined the LED will be solid. This is your indication that the SSID and Password are correct.

If you get a slow blinking LED for several minutes the Wifi join process was not successful. You can reset settings powering down, and then holding down the Wifi setup button while powering up. When you see any LED blink fast release the button. You can restart the pairing process.

## IP Addresses

Each machine connected to your wifi will be issued an IP address by your local router. The SYS11.Wifi device does not have control of the IP address as it is assigned by your local wifi system. IP addresses are four numbers separated by periods, such as 192.168.1.239. To access one of your machines you will need to type the IP address into the address bar on a browser (chrome, Microsoft Edge, safari, etc). Once you connect to a machine, setting a bookmark is a good way to make access simple. After days or weeks of use your wifi router may pick a new IP address requiring you to re-enter it on your computer. SYS11.Wifi uses the display on your machine to periodically display the IP address, so all you need to do is watch the display for IP changes.

All routers have a mechanism to set IP addresses as 'static' so it is not changed in the future. Once you have connected to your SYS11.Wifi board we recommend that you log into your local router, find the IP address in the list of connected devices and check the box making that address static.



Here is an example of the IP address 192.168.1.189 displaying on a Pinbot machine.

## **Operation**

To prevent the award of credits each time a player enters initials please set adjustment numbers 18,19,20 and 21 to zero. You can do this the typical way with the coin door controls and the start button. (press advance to get to "ADJ 18" and hit start until the setting is zero. Advance again to get to #19, etc)

Warped Pinball does not push data onto the internet, all data is held locally on the device in your pinball machine. You can only access your machine from a computer or phone on the same network as the SYS11.Wifi board. Each board will be issued an IP address, enter the IP address in the address bar of any browser on a computer/tablet/phone connected to the same local network. Most games will display the IP address on the game display in the normal rotation during attract mode. IP addresses are shown with spaces between four numbers.

## **Summary of the SYS11.Wifi browser interface**

### **LeaderBoard**

This page is your 20 position top scores leader board. Note the date each score was achieved is shown and also the players full name if one was entered in the machine at the time the score was achieved.

At the bottom of the page you can enter "Tournament Mode". In tournament mode the leader board is protected and does not change. Instead you get a 100 game list of games on the machine - in the order of play (not in order of score). Tournament mode board shows order of play, initials of all players, score and game number (so you can tell who played together). Within each game the entries are in score order.

The leader board and tournament board data may be downloaded on the Admin page.

### **Individual Scores**

Individual high score board for each individual named player. Each named player will be able to track personal scores (with date of play) to track personal improvement.

### **Player Names**

Enter player names and initials here for all regular players. (The Leader board will track all entries even if not included in the names player page) Individual score boards are only assigned to player initials present in this screen.

### **Admin**

This page can be password protected if you choose (in the wifi setup).

Date:



The board attempts at each power up to pull the date from the internet. If that does not work you can always manually set the date here.

**Download:**

Various files are available for download - to store and record permanently your amazing achievements or to copy items like player names to other games. Do you want to restore your high scores from before installing? -See the application note on our web site at WarpedPinball.com

**Upload:**

Upload files to the SYS11.Wifi - like player name files or software updates from WarpedPinball.com

**Reset:**

To Zero out the leader board or the tournament board

**Memory:**

This section is used to develop compatibility with new titles. And yes - that is the ram and data inside your machine.

Interface screen examples:

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[Leader Board](#) | [Individual Scores](#) | [Player Names](#) | [Admin](#)

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## Warped Pinball : SYS11.Wifi Game Show Tournament Board

Place	Initials	Score	Game
1		0	0
2		0	0
3		0	0
4		0	0
5		0	0

Need help? Have a great idea for a new feature? Contact us online:

WarpedPinball.com