

System 9 Wifi Module Installation and use manual
Comet : Space Shuttle: Sorcerer
Version 0.2



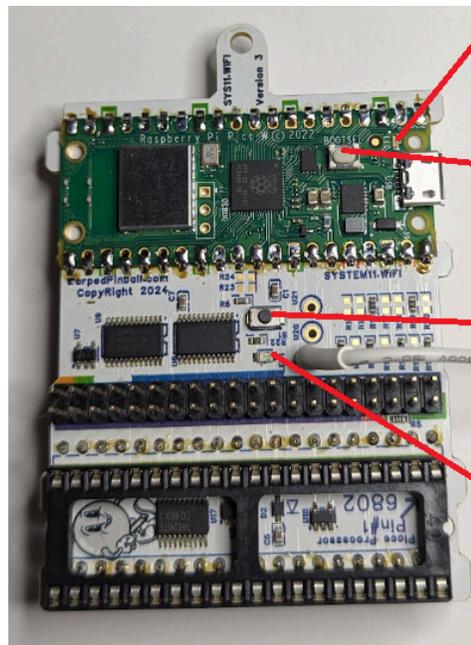
How it works

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.

SYS9.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. The SYS9 circuit board is the same board we use for SYS11 but loaded with special software to support system 9 games.

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

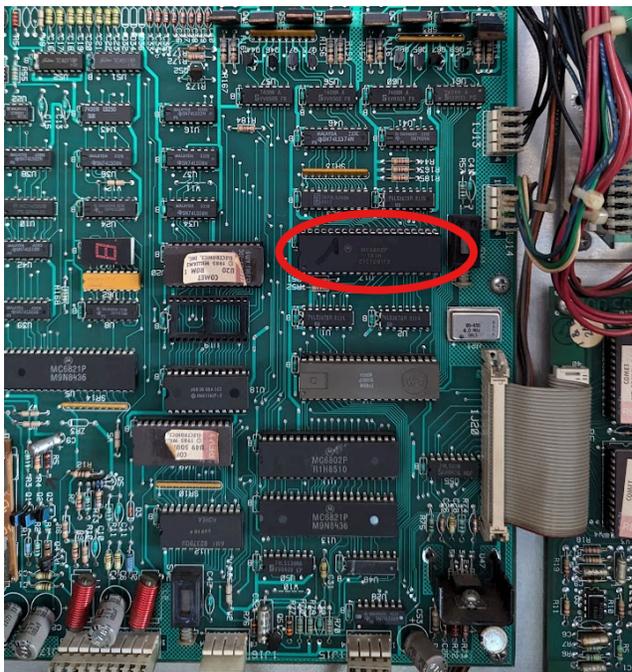
While it is less risky than soldering, pulling chips out of classic games does have some risks. While we make every effort to make this an easy and safe process, damage to your game is possible and we cannot be responsible if something goes wrong. If you have never pulled and re-seated chips in a board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

SYS.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 SYS9.Wifi. Note the position of the main processor in your game in the picture below, this is the chip you will be removing:



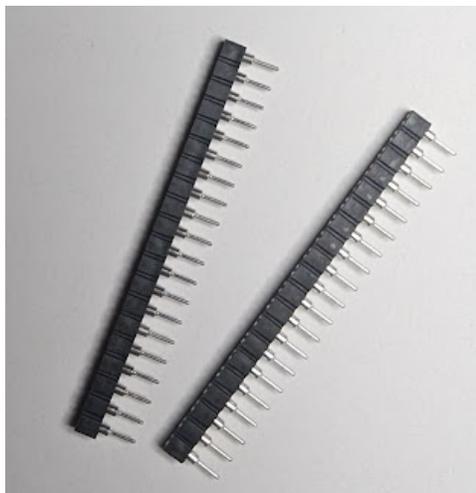
Location of main processor
Chip MC6802(8)

The processor chip may be directly placed into the SYS9.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 Waped Pinball SYS9.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

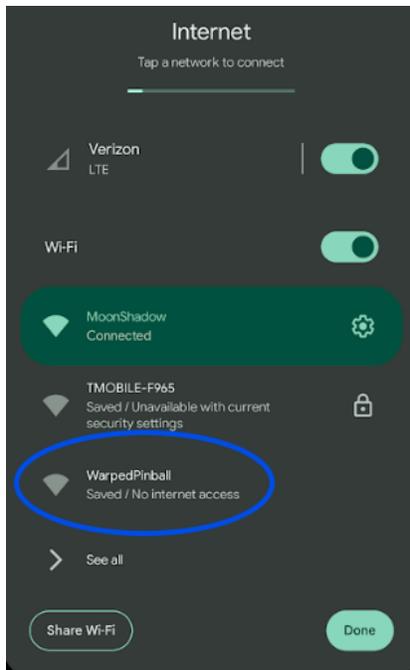
The white wire with attached micro clip needs to be connected to the main board reset circuit. The Warped Pinball board synchronizes resets on power up. You will notice the game take just a few more seconds to power up. This is not optional - you must connect the wire as shown in the picture to the junction of R5 and R4. Push the end of the handle to extend the clip and hook it where R5 joins R4. 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 SYS9.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

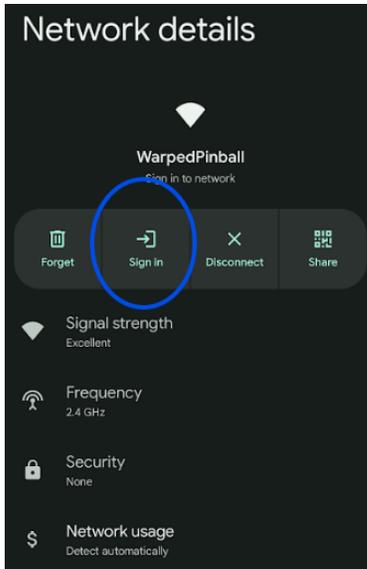
Power up your pinball machine and you will notice the Wifi status led blinking fast. With a phone or computer open the Wifi configuration and look for a new wifi service called “Warped Pinball”. Here is an example screen from an Android phone:



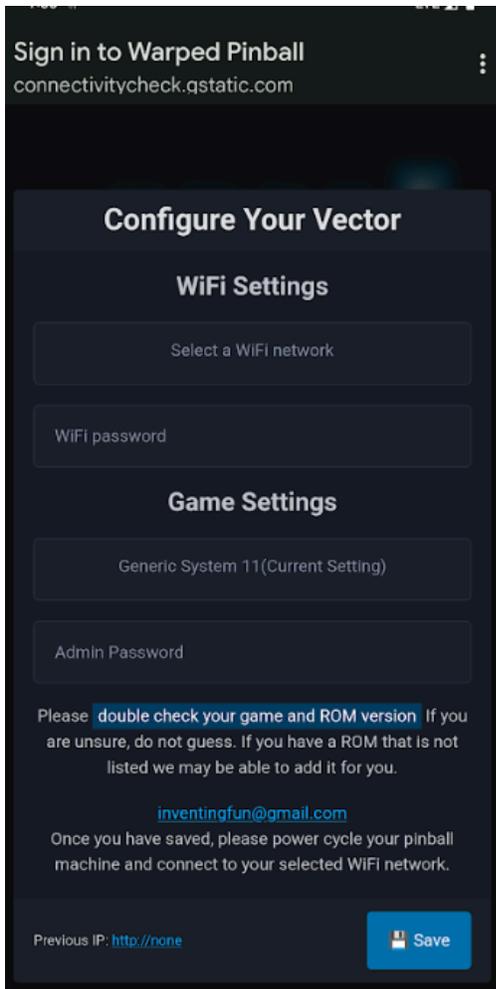
Pro Tip:

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 SYS9.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. SYS9.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 SYS9.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 188.168.1.115 displaying on a Comet machine.

Operation

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 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. System 9 games by default will show the IP address instead of high score on the pinball machines displays. Watch the display cycle for the IP address to cycle by.

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

WarpedPinball.com