

INSTALLATION GUIDE

Cosmic Avenger

FREE PLAY + HIGH SCORE SAVE KIT | ORIGINAL UNIVERSAL ARCADE PCB



COSMIC AVENGER INSTALLATION GUIDE

Z80 processor | Riser socket | Daughtercard | Pin 1 | Support

Before you begin

Confirm board health and follow these safety steps before installing the kit.

POWER OFF AND UNPLUG

Turn off and unplug the arcade cabinet before handling the game PCB. Use an anti-static work area and avoid touching exposed IC pins.

PRE-INSTALLATION CHECKLIST

- Confirm the original Cosmic Avenger PCB is fully working.
- Photograph and label the original PCB connectors and their orientation.
- Remove the board carefully and place it on a clean, well-lit bench.
- Locate the Z80 processor and check its Pin 1 orientation.
- Inspect the CPU socket, nearby capacitors, and clearance for the riser.

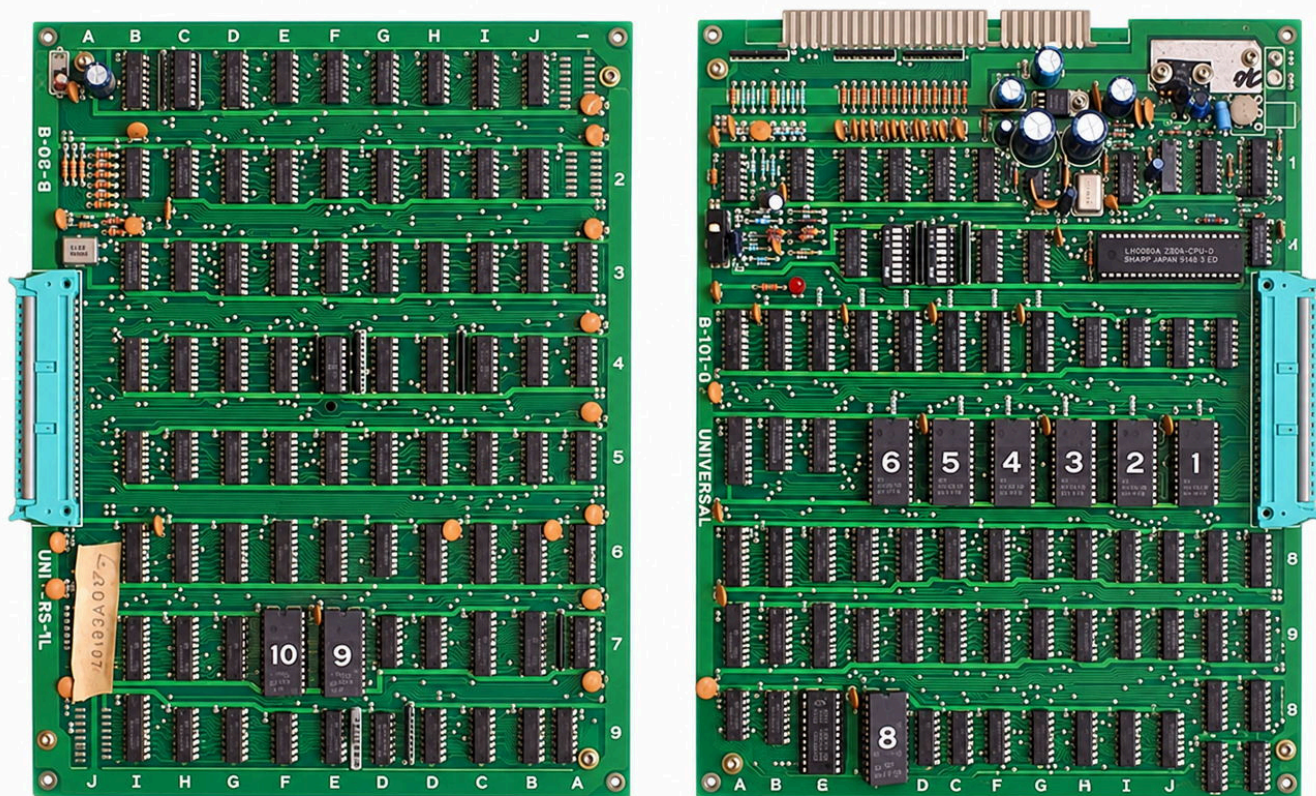
KIT COMPONENTS AND CPU REQUIREMENT

The original guide lists one Z80 daughtercard. A compatible Z80 CPU is required; use the existing working processor or obtain one through the product options. A riser socket is used for nearby component clearance.

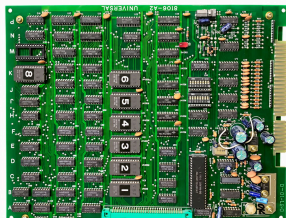
STEP 0 / IDENTIFY THE PCB

Identify original hardware

Verify you have a compatible Cosmic Avenger arcade PCB before making changes.



Two-board Universal arcade PCB overview (cleaned reference).

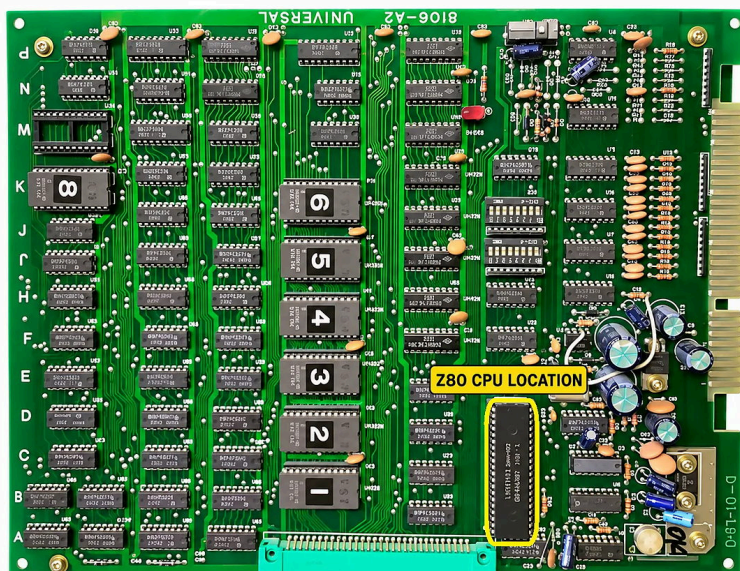


Compare the CPU-board layout, Z80 area, ROM positions, and connectors with your original PCB. The original instructions apply only to Cosmic Avenger hardware.

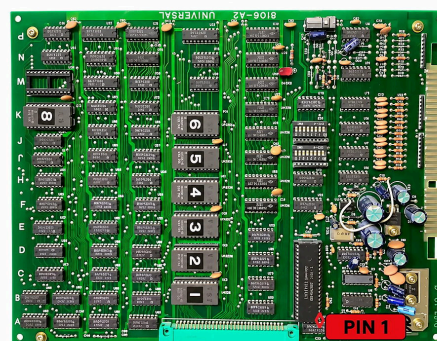
STEP 1 / Z80 PROCESSOR

Locate and remove Z80

Locate the original Z80 processor; record Pin 1 before removing it from the socket.



Original PCB photo with Z80 CPU location marked.



Original PCB photo with Pin 1 marked.

REMOVE THE Z80 CAREFULLY

With power disconnected, gently remove the existing Z80 from its socket. Avoid bending pins or damaging the socket. Save the processor for installation on the HighScoreSaves daughtercard, unless you are using a separately supplied compatible Z80.

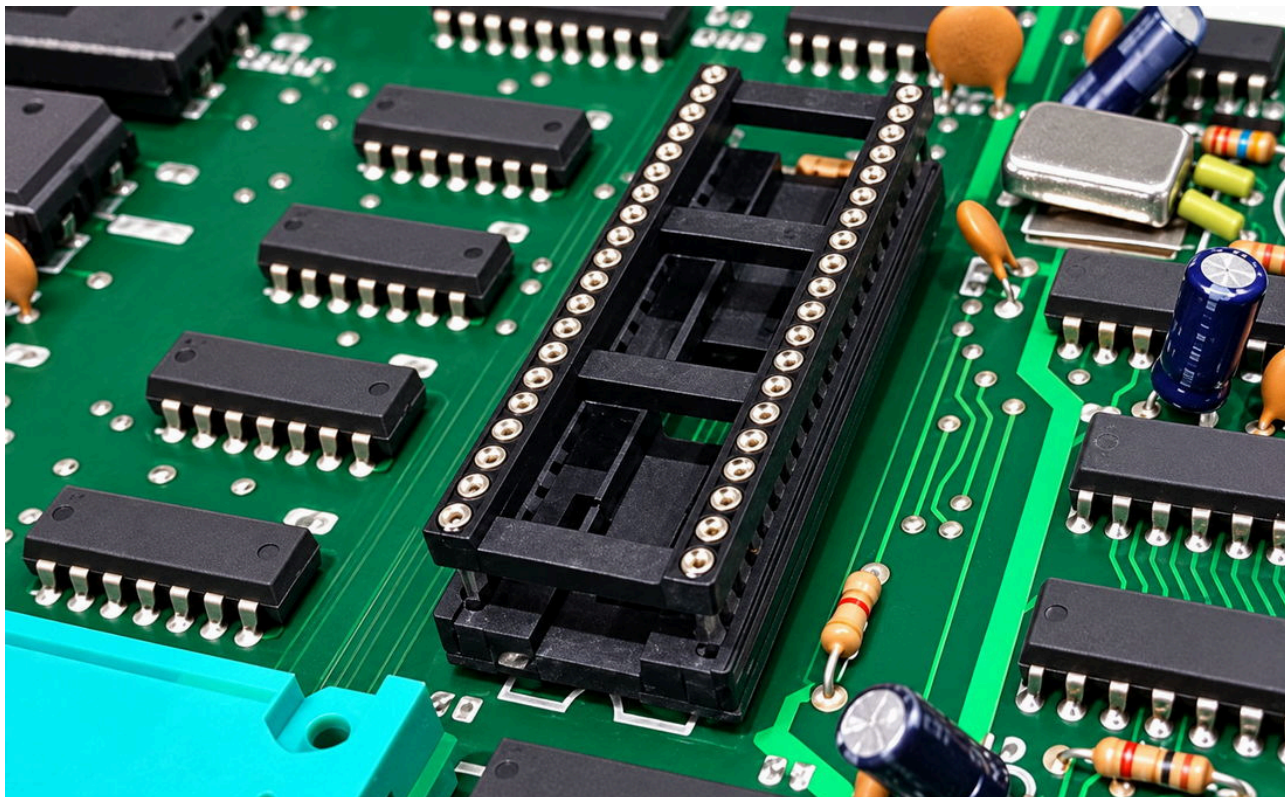
PIN 1 IS CRITICAL

Match the daughtercard and Z80 Pin 1 markings to the original PCB orientation.

STEP 2 / RISER SOCKET

Install the riser socket

The riser gives the new daughtercard clearance above nearby capacitors.



Cleaned socket reference image. Compare the configuration against your board.

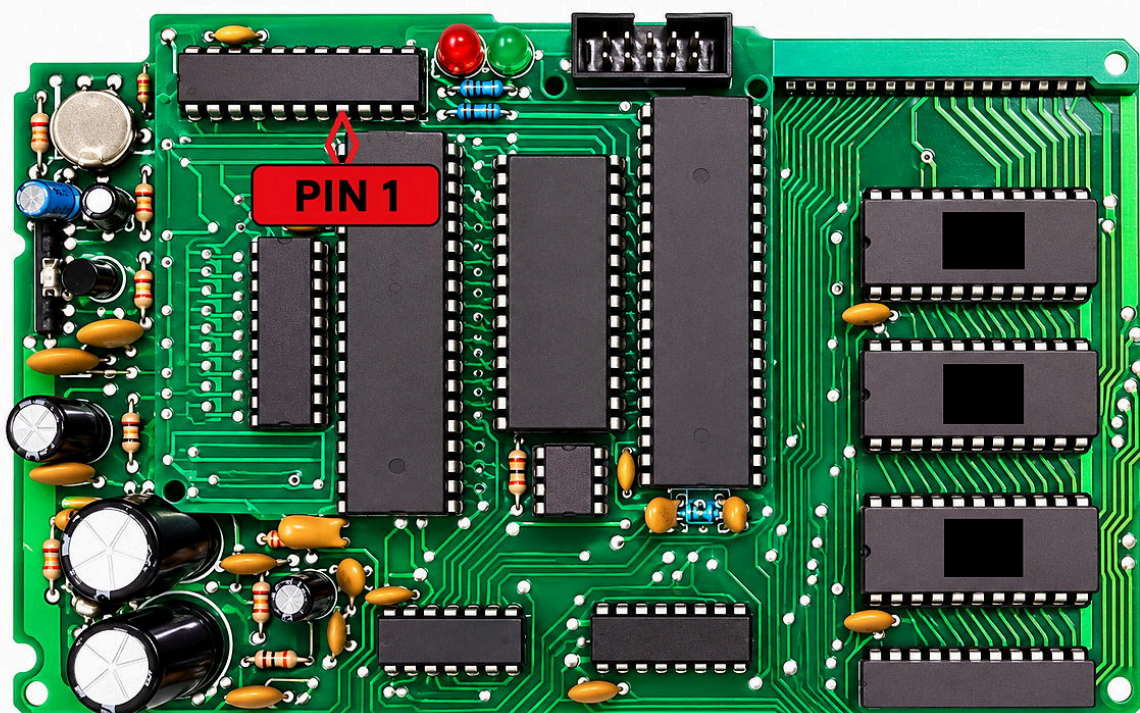
RAISE THE DAUGHTERCARD

Insert the riser squarely into the original Z80 socket. The riser must clear nearby capacitors on the left so the kit sits properly. Confirm Pin 1 and full seating before proceeding.

STEP 3 / DAUGHTERCARD

Install the Z80 daughtercard

Move the Z80 onto the kit, then insert the kit assembly into the raised CPU socket.



Original installed-board view with Pin 1 marked.

INSTALLATION SEQUENCE

Align and seat the Z80 in the kit socket with Pin 1 correct. Then fit the daughtercard into the riser socket. Apply even pressure and do not force any pins.

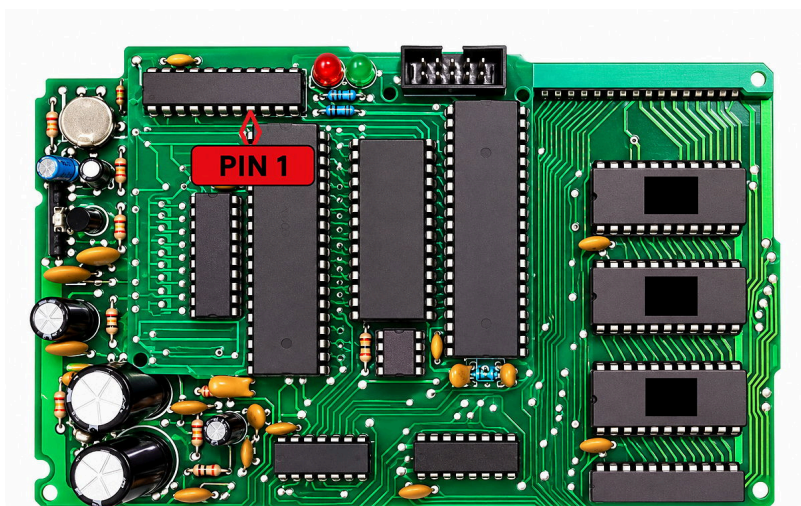
BEFORE POWER ON

Check the Z80 and daughtercard Pin 1 alignment again.

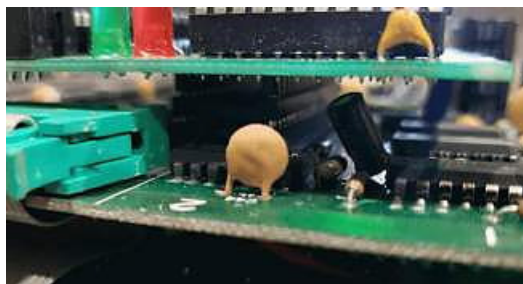
STEP 4 / CLEARANCE CHECK

Inspect clearance and seating

Check for contact between the original PCB components and the underside of the daughtercard.



Installed-board view with Pin 1 marked.



Original side-clearance view.

MAKE SURE NOTHING TOUCHES THE DAUGHTERCARD

Check all nearby capacitors and test points. The original instructions note that a protruding test point may need to be moved away to avoid contact. Do not force the kit onto an obstruction.

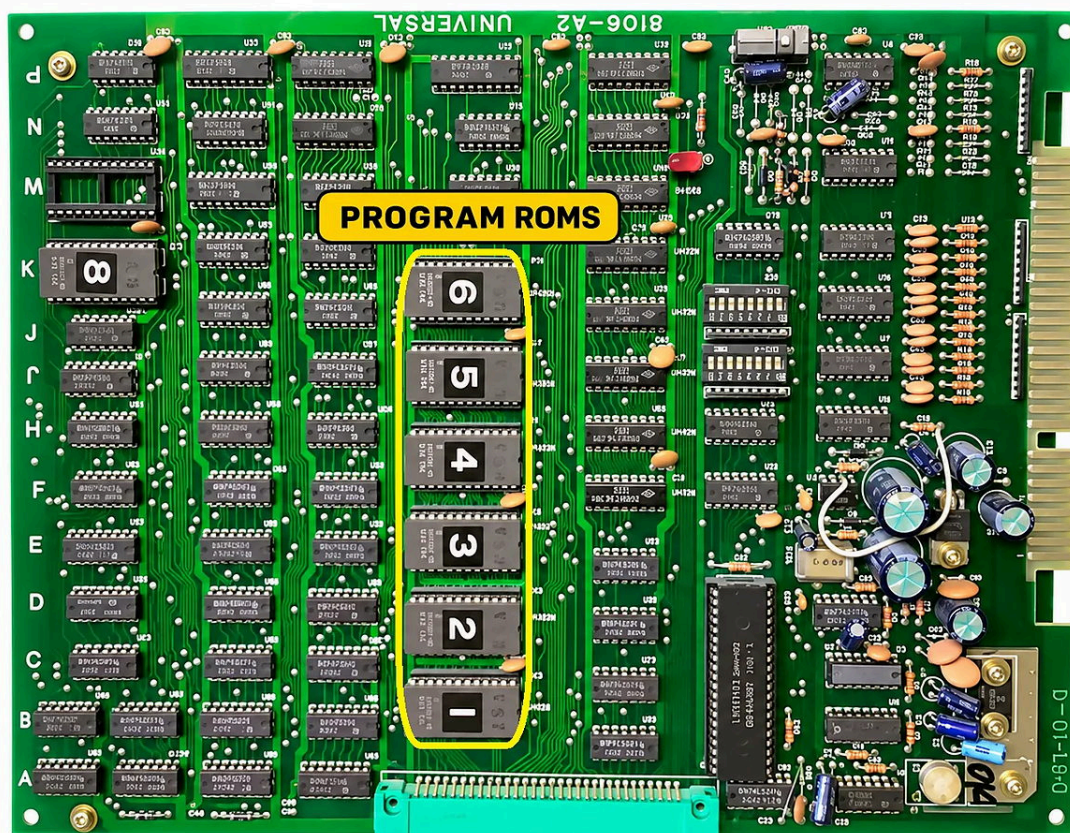
FINAL PIN 1 AND SEATING CHECK

Match daughtercard Pin 1 with the original PCB reference. Check that the kit is evenly and fully seated. Wi-Fi-equipped and Standard kit boards may look different.

OPTIONAL / ROM REMOVAL

Optional Program ROM removal

This is separate from the required Z80 / riser / daughtercard installation.



Original guide image: Program ROMs 1 through 6 are shown in the marked area.

OPTIONAL ONLY

The original guide states that the marked program ROMs may be removed. This is not required for the physical kit installation. Remove only the designated ROMs for a configuration that supports this option; otherwise leave them in place.

STEP 5 / INITIAL TEST

Final inspection and settings

Complete the checks before reinstalling the original PCB and restoring power.

- Z80 processor is seated correctly on the daughtercard.
- Z80 and daughtercard Pin 1 markings match the correct orientation.
- Riser socket and daughtercard are aligned and fully seated.
- Capacitors and test points clear the underside of the daughtercard.
- Any optional Program ROM removal matches your intended kit setup.
- All cabinet connectors are returned to their recorded positions.

POWER ON AND VERIFY

Reconnect the board, power on, and test normal gameplay and score saving. If the game does not start, turn power off immediately and recheck seating, clearance, and Pin 1.

ENTER THE SETTINGS MENU

With cabinet power off, hold Player 1 Start while turning on the game. Release when the screen prompts you. The original guide describes this as the protected kit-menu access method.

FOR WI-FI EDITIONS ONLY

Wi-Fi-enabled kit setup

SAME PHYSICAL INSTALLATION

Standard and Wi-Fi Cosmic Avenger kits use the same Z80 daughtercard and riser installation. Configure online scoring only after local gameplay is working.

AFTER THE ARCADE KIT IS WORKING

- 1 Obtain your PK and SK account keys**
Use the keys provided with your HighScoreSaves Wi-Fi kit.
- 2 Enter online settings in the kit menu**
Enter your kit owner keys and save the settings.
- 3 Connect the module to Wi-Fi**
Follow the Wi-Fi setup instructions for a compatible 2.4 GHz network.
- 4 Test an online score**
Submit a qualifying score and check the supported leaderboard.

KEEP YOUR PK / SK KEYS PRIVATE

Your access keys identify your registered kit. Network setup may vary by firmware; use the current HighScoreSaves instructions for connection details.

- > Open complete Wi-Fi setup instructions**
Network setup, private keys and supported high-score submission

Helpful resources and support

Select a card to open the related HighScoreSaves resource. For hardware installation, check the product page and original guide before starting.



Cosmic Avenger kit product page

Compatibility, Z80 requirement and kit options



Identify your original arcade PCB

Pre-order hardware identification and compatibility checks



HighScoreSaves Tips and Tricks

Kit operation, settings and general troubleshooting



Standard vs. Wi-Fi kits

Compare Standard and Wi-Fi-enabled hardware



Global Wi-Fi high scores

Online scoreboards and Wi-Fi setup information



Installation guide library

Additional arcade PCB installation documents



HighScoreSaves website

Original arcade hardware kit upgrades and support



Contact HighScoreSaves

Get technical assistance for your kit