

iCode Quad Ultimate SE H1

Bring up to four players' original Atari controllers to life on modern devices — from PCs and Macs to Nintendo Switch, MiSTer FPGA, and beyond. The Quad Ultimate SE is a compact, screen-free adapter with four Atari controller ports, configured entirely through the free iCodeHub web app — and it talks: the adapter tells you out loud what it's doing.



iCode Quad Ultimate SE

No drivers needed. Just plug in and play.

Visit iCodeHub at <https://hub.icode.com> to configure your device — manage presets, set your button mappings, choose your emulation mode, and get the most out of your Atari controllers!

For help and assistance: <https://www.icode.com/support>

Getting Started

Step 1. Plug the Quad Ultimate SE H1 into any USB port. You'll hear the startup sound. No drivers needed — your device is recognized as standard USB gamepads, one for each active port.

Step 2. Connect your Atari controllers. The four ports are numbered **1** to **4** from left to right along the front of the adapter. All four ports work at the

same time, so up to four players can play at once.

Step 3. Start playing! The default preset (Preset 0) is set up for Atari joysticks and paddles — it automatically detects which one you plug in, and tells you: plug paddles into Port 1 and you'll hear *"Port one. Paddles."*

Step 4. Open **iCodeHub** in your browser to configure everything. Because the SE has no screen or menu, iCodeHub is where you set your presets, button mappings, controller settings, emulation mode, and more — no software to install.

Know Your Device

Your Quad Ultimate SE H1 is a streamlined, screen-free adapter. It has four Atari controller ports along the front, a speaker, and five buttons: **White** on the left and **Black** on the right, the gray **Menu** button beside the speaker, and a **left and right side button**. There is no display and no on-device menu: all setup is done through the iCodeHub web app, and the adapter's feedback is spoken.

It Talks

With no screen, the Quad Ultimate SE speaks to let you know what's happening:

You hear	When
<i>"Port two. Paddles."</i>	A port's controller changes — paddles plugged in, a new preset, or a change made in iCodeHub
<i>"All ports. Driving controller."</i>	Every active port changed to the same controller
<i>"Stick and paddles."</i>	You power up — the selected controller type, after the startup sound
<i>"Volume fifty percent."</i>	You press the gray Menu button
<i>"Classic mode."</i>	You change the USB emulation mode with the White button
<i>"Version one point zero."</i>	You hold Black while plugging in

You hear	When
"Firmware update."	You hold Black + White while plugging in

At power-up the adapter says the selected controller type once; after that, only changes are announced.

Configured Through iCodeHub

The SE has no on-device menu, so the free **iCodeHub** web app is where you configure everything. Connect the adapter, open iCodeHub in Chrome or Edge, click Connect, and sign in. From there you can:

- Choose the **controller type** and its settings
- Remap the **fire buttons**, the **keypad**, and the four device buttons
- Fine-tune **paddle, driving, and trackball** response
- Set the **USB emulation mode, port mode, and Ports 3 & 4**
- Turn on **mouse or keyboard emulation**
- Manage and name your **10 presets**, automatically backed up to the Cloud Vault

Your settings are saved on the adapter and remembered across power cycles — set it up once and it just works.

Four Ports, One Setup

Ports **1** and **2** are the main ports — they support every controller type the Quad offers. Ports **3** and **4** follow the setup of Ports 1 and 2: Port 3 uses Port 1's settings and Port 4 uses Port 2's. That way a four-player game is set up once, and every player gets the same controls.

Ports 3 and 4 support **joysticks** and **driving controllers**. If Ports 1 and 2 are set to paddles, a trackball, or a keypad, Ports 3 and 4 work as joysticks. Don't need all four? Turn **Ports 3 & 4** off in iCodeHub.

Supported Controllers

The Quad Ultimate SE is built for Atari 2600 and 7800 controllers, so the console is always Atari — just pick the controller type.

Stick+Paddles — The most versatile mode — it auto-detects whether you're using a joystick or paddle controllers.

Stick — The standard digital joystick (Atari 2600 CX40 and compatibles). The Atari 7800 two-button joystick (CX78) is supported on Ports 1 and 2.

Paddles — Dual paddle controllers (CX-30) on Ports 1 and 2 — up to 4 paddle players, with the jitter-free pipeline for smooth, stable response.

Driving — The CX-20 driving controller used in games like Indy 500. Works on all four ports.

Trackball — The CX-22 and CX-80 trackball controllers on Ports 1 and 2.

Keypad — The 12-key keypad controllers (CX50 Keyboard Controller and CX21 Star Raiders keypad) on Ports 1 and 2.

Changing the Controller Type on the Device

Hold **Black + White** for about two seconds while the adapter is running to step to the next controller type: **Stick+Paddles** → **Driving** → **Trackball** → **Keypad**. The adapter announces the new type, and the change is saved. You can also choose the type — and all its settings — in iCodeHub.

The Device Buttons

The **Black**, **White**, and **left / right side** buttons are fully programmable: in iCodeHub, map each to any gamepad button (Start, Select, Coin, triggers, and more) or keyboard action. Black and White support up to 3 simultaneous functions each and optional rapid fire; each side button takes one action.

Button	Default Action
Black	Button 9
White	Button 8
Left side button	Button 6
Right side button	Button 7

The gray **Menu** button sets the **volume**: each press steps to 25, 50, 75, and 100 percent, and the adapter says the new level.

Black and White also work as on-device controls without a computer:

- **White** (held while plugging in) — step to the next USB emulation mode (spoken).
 - **Black** (held while plugging in) — hear the firmware version.
 - **Black + White** (held while plugging in) — enter firmware-update mode.
 - **Black + White** (held for 2 seconds while running) — next controller type.
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USB Emulation Modes

If your platform isn't recognizing the adapter, try a different USB emulation mode. Change it in iCodeHub, or on the device by holding **White** while plugging in — the adapter says the new mode and restarts in it. Keep trying until you find the one that works for your platform:

Mode	Best For
Standard	Windows, Linux, emulators
Classic	Retro gaming platforms
Nintendo	Nintendo Switch
Legacy	Older basic HID systems
iOS	iPhone, iPad

Mouse & Keyboard Emulation

Paddles, the trackball, and the driving controller can operate as a USB mouse, and any button can be mapped to keyboard keys. Turn these on and adjust their settings in **iCodeHub** under the USB and mouse options. Mouse output comes from Ports 1 and 2. Changing mouse or keyboard modes may require the device to reboot since the USB descriptors need to change.

Presets

Your Quad Ultimate SE H1 stores **10 presets**. Each preset remembers your entire setup — controller type and settings, all button mappings, rapid fire settings, USB emulation mode, port mode (including Ports 3 & 4), and mouse/keyboard settings.

Preset 0 is always available. To unlock presets 1–9, register your device with iCodeHub. Manage, name, and switch between presets in the app, with automatic backup to your Cloud Vault.

Unlock the Full Potential — iCodeHub Web App

Since the Quad Ultimate SE has no on-device menu, the **iCodeHub** web app is the home for everything. This is where you manage all 10 presets with custom names, fine-tune paddle, driving, and trackball response, remap every button with multi-action slots and rapid fire, enable mouse and keyboard emulation, set your emulation and port modes, and back up your configurations to the Cloud Vault.

The best part? There's nothing to install. iCodeHub runs right in your browser. Just open it in **Chrome** or **Edge**, click Connect, select your device, and sign in.

Visit: <https://hub.icode.com>

Firmware Updates

Via iCodeHub (Recommended)

Plug your adapter into USB, open your browser, and go to <https://hub.icode.com>. The app will let you know if an update is available — just follow the on-screen instructions.

Important: Your settings and presets are not preserved during updates. Save them to your iCodeHub Vault before updating, and reload them afterward.

On-Device Firmware Update

Hold **Black + White** while plugging in the adapter — you'll hear "*Firmware update.*" The device appears as a USB drive, and iCodeHub device recovery can then install the firmware.

Troubleshooting

Your controller isn't detected. Make sure it's firmly plugged in. In iCodeHub, check that the controller type is set correctly. Remember that paddles, trackballs, keypads, and the 7800 second fire button work on Ports 1 and 2 only.

Ports 3 and 4 don't respond. In iCodeHub, make sure **Ports 3 & 4** is On, and that Dual Paddles is set to Combined — Split mode uses Ports 1 and 2 only.

Your host device doesn't recognize the adapter. Try a different USB cable or port. Change the USB emulation mode in iCodeHub — or hold **White** while plugging in to step through the modes. Standard works for most platforms, but some require Classic, Nintendo, Legacy, or iOS.

You can't hear the adapter. Press the gray Menu button — the volume may be low; each press steps it up to 100 percent and back to 25.

Buttons aren't responding. In iCodeHub, check the mappings for the device buttons and the controllers' fire buttons. If something seems wrong, reset the adapter to defaults in iCodeHub to start fresh.

Mouse or keyboard not working on your host. In iCodeHub, make sure Mouse or Keyboard is set to On (not Off or Standby). Your host may need a reboot after the USB descriptors change. Try disconnecting and reconnecting the adapter.

You see several gamepad devices on your host. That's normal — the Quad presents one USB gamepad per active port, up to four. If you need fewer, turn off Ports 3 & 4, or set Ports Active to Port 1 Only or Port 2 Only in iCodeHub.

Platform Compatibility

Your adapter works with any device that supports USB HID gamepads:

PC — Windows, macOS, Linux **Mobile** — iOS, Android **FPGA** — MiSTer
FPGA Consoles — Nintendo Switch, Steam Deck **SBC Retro** —
RetroPie, Batocera, RetroArch, EmuElec, Recalbox

Specifications

Spec	Detail
Processor	RP2350B dual-core, 200 MHz
Controller Ports	4× Atari DB9
USB	USB 2.0 Full Speed
USB HID Devices	Up to 4 gamepads + mouse + kbd
Display	None — configured via iCodeHub
Audio	Speaker with spoken feedback
Device Buttons	Black, White, Menu (volume), 2 side buttons
Storage	On-board flash (LittleFS)
Power	USB bus-powered
Console	Atari 2600 / 7800 controllers
Presets	10 device / 100 cloud

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