

# FIRMWARE RELEASE HISTORY

## OVERVIEW

This document details changes between UltraHDMI firmware versions.

### 1.10 HW1/2 (LATEST)

#### BUGFIXES

- Fixed IGR regression in 1.09 causing most games to get stuck in reset.

### 1.09 HW1/2

#### NEW FEATURES

- Zero lag option added – HDMI sync perfectly matches N64 input with no tearing and instant progressive / interlaced switching, on compatible TVs. All features are available with no impact. Up to 16.6ms lag reduction.
- Compatible receivers now identify UltraHDMI as a GAME device, and show the product name.

#### BUGFIXES

- Decreased gamma boosts for analog output (HW2).

### 1.08 HW2

#### NEW FEATURES

- Analog output. Component video, RGB with both separate composite sync and sync-on-green RGSB are now available when separate analog board is installed.
- Independent gamma curve for the analog output.
- In-game reset is now standard on all HW2 installations.

#### BUGFIXES

- Otherwise identical to HW1.

### 1.08 HW1

#### NEW FEATURES

- Options for generating both Limited and Full Range RGB signals. Full range is still recommended. Scanline appearance may look worse in Limited mode.
- New output mode 1600x1200 (a 4:3 VESA mode) with 5x integer scaling.
- DIRECT MODE operation changed – SYNC mode has been removed, and now DIRECT bypasses buffer syncing at the expense of visual tearing for equally fast response in all modes.

#### BUGFIXES

- Preset mnemonics are now shared across all preset slots.
- Loss of hotplug signal during upgrade will no longer interrupt future

firmware updates.

- DDR calibration introduced to fix framebuffer bit errors on some units.
- Fixed bug where deblur heuristics used gamma-corrected data.

## 1.07A

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### NEW FEATURES

- Presets – 9 slots are available to store the entire configuration and swap in/out at will.
- An additional brighter gamma curve was added, now supporting 1.3 and 1.45 curves.
- HDMI AVI InfoFrame metadata was added to reflect BT709 colorspace with full RGB 0-255 quantization range.

### BUGFIXES

- No longer possible to accidentally trigger in-game reset while upgrading.
- Fixed self-test pin reporting on pins past 15.
- Optimized for code space: HDMI clocking and self-test refactored.
- Flash sanity check on startup, LED will throb quickly if flash fails.
- Improved audio clock recovery on around 0.2% of FFCs. (1.07A)

## 1.06

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### NEW FEATURES

- Bonus in-game reset (unsupported, requires wiring)

### BUGFIXES

- Factory defaults are now 720p60 for NTSC and 720p50 for PAL units.

## 1.05

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### NEW FEATURES

- None

### BUGFIXES

- Fixed regression in 1.04 causing visual fringing/lines on a few units
- Fixed scanline vertical alignment in all SHARP PIXEL modes

## 1.04

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### NEW FEATURES

- Unlocked scanlines while in INTEGER modes
- Internal optimizations related to DDR controller

### BUGFIXES

- Fixed issue with some DOCS IR controllers resetting options on power-up
- Fixed video garbage on progressive/interlaced mode changes

1.03

**NEW FEATURES**

- None

**BUGFIXES**

- Fixed audio subtle popping under certain conditions

1.02

**NEW FEATURES**

- None

**BUGFIXES**

- Fixed regression introduced in 1.01 causing sparkling video on some units.

1.01

**NEW FEATURES**

- Added INTEGER+ mode. Scales by 1.5x in 720p, and 2.5x/5x in 1080p. Intended for use with low-res games combined with VI DE-BLUR.
- Improved VI DE-BLUR heuristics.

**BUGFIXES**

- Fixed problem with polling some controllers without a game running. It was possible to set DISABLE HOTKEY and then be permanently locked out of the OSD. Most controllers were affected, so avoid saving with this option set if you are using this firmware version.
- Fixed USER RESET combo to actually require all buttons to be pressed, instead of only one.

1.00

First release.

**HOW TO UPGRADE**

To apply an upgrade, download the upgrade file that corresponds to your hardware revision (HW1 or HW2), and run on the N64 via 64drive or other flash cartridge. The upgrade works by displaying a special image which is recognized and decoded by your UltraHDMI. Upgrading takes about 6 minutes.

**Do not turn off power, reset, or touch the cartridge** – incomplete upgrades will render the unit unusable until serviced.



# END OF DOCUMENT

## REVISION INFORMATION

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December 05, 2015	Added 1.00-1.02 release notes
January 11, 2016	1.03
July 18, 2016	1.04
September 4, 2016	1.05
March 12, 2017	1.06
December 30, 2017	1.07
January 28, 2018	1.07A
October 1, 2018	1.08
January 26, 2021	1.08 HW2
July 4, 2021	1.09
November 20, 2021	1.10

## COPYRIGHT INFORMATION

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