Analogue Pocket
User Guide

analogue.co V1.0 Nov.2021

Celebrate & explore the history of video games with the respect it deserves.

Congratulations on becoming an Analogue Pocket owner.

A multi-video-game-system portable handheld.

A digital audio workstation with a built-in synthesizer and sequencer.

A tribute to portable gaming.

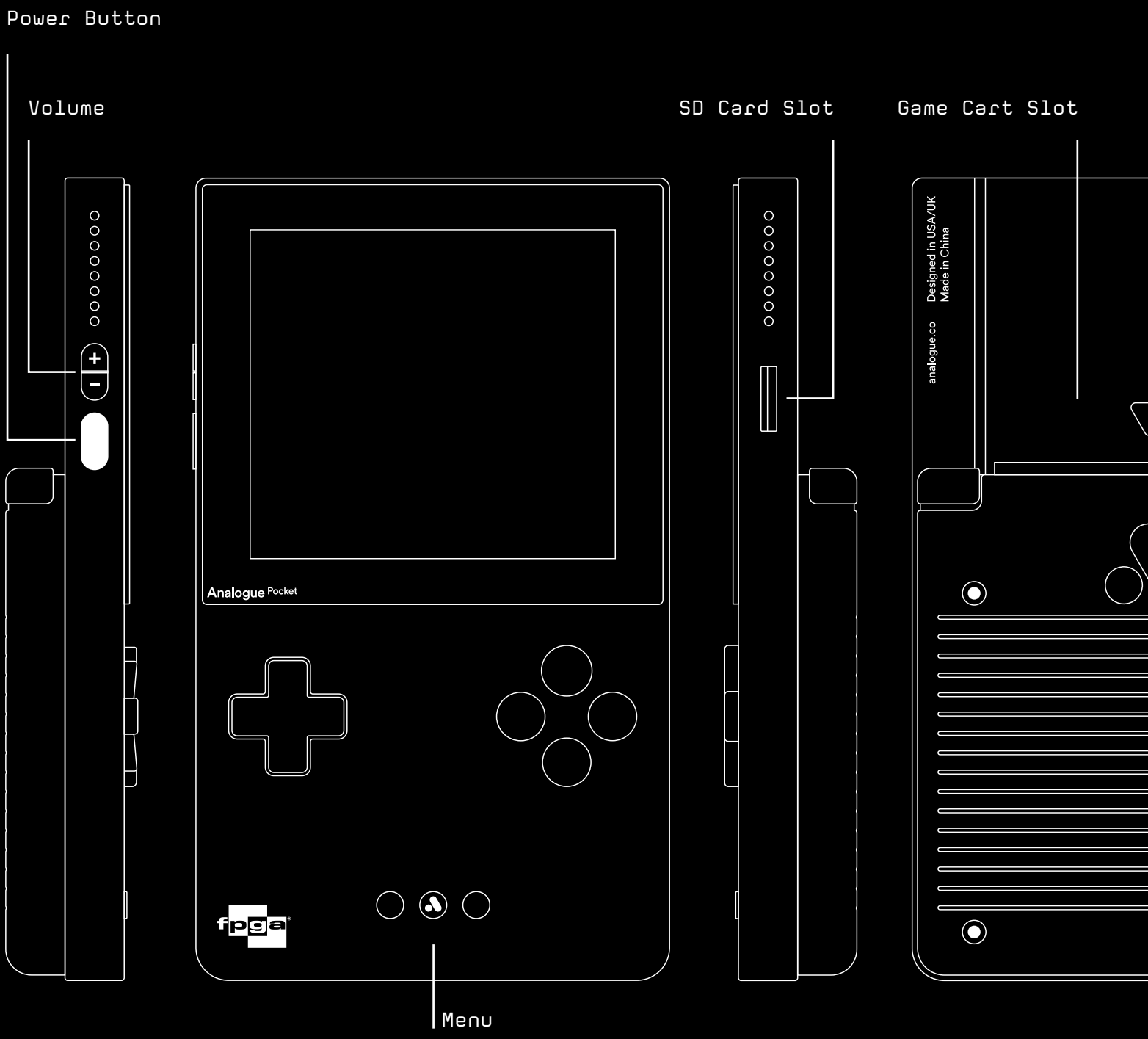
Out of the box, Pocket is compatible with the 2,780+ Game Boy, Game Boy Color & Game Boy Advance game cartridge library. Pocket works with cartridge adapters for other handheld systems, too. Like Game Gear. Neo Geo Pocket Color. Atari Lynx & more. Completely engineered with two FPGAs.

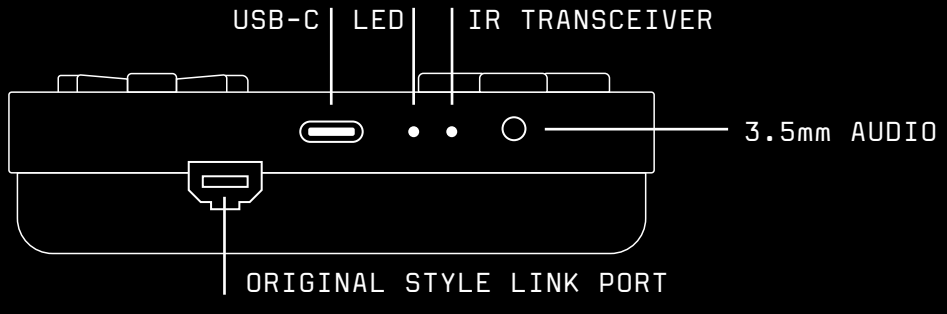
What's in the box

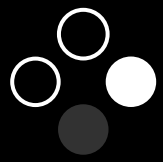
— Analogue Pocket

— USB Type-C cable

— Quick-Start Guide


Power Button
Volume
SD Card Slot
Game Cart Slot
Designed in USA/UK
Made in China
analogue.co
Analogue Pocket
fpga
Menu


USB-C
LED
IR TRANSCEIVER
3.5mm AUDIO
ORIGINAL STYLE LINK PORT



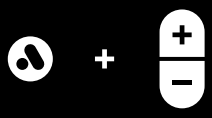
Press to Continue
Press to go Back

Press Analogue for Menu

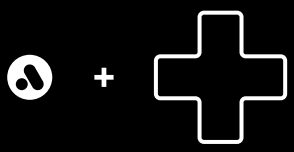
Press for Start

Press for Select

Press +/- for Volume
Press +/- together for Mute



Hold Analogue and Press
Volume for Brightness



Hold Analogue and Press
Left or Right to cycle
Original Display Modes
[During Gameplay]

Quick press Power to Sleep and Wake

Hold Power for 2s for on/off

Setting Up Pocket

To power on your Analogue Pocket, hold the Power Button for 2s and Pocket will power on. SD cards, Headphone connectors, Game Link cables and USB cables can be inserted and removed while the power is on. Cartridges can also be removed while Pocket is on, but make sure to Quit Game in the menu to avoid losing cartridge based saves.

Updating the Firmware

Before playing your Pocket, make sure to update to the latest firmware at support.analogue.co. You will need a FAT or exFAT formatted SD card to update the firmware.

In order to update the firmware, copy the latest firmware update file at support.analogue.co (with a .bin extension) to the root directory of your SD card. Make sure no other firmware files are in the root directory. Insert your SD card into the SD card slot on your Pocket and turn the power on.

The firmware update process will start automatically and take a few minutes to complete. A progress bar will be displayed while the firmware is updating. Do not power off your Pocket while the firmware is updating. If the power goes off for any reason or Pocket is removed from a charging source, don't panic. The system may not display anything but it will look for a firmware file to flash to once the power is restored. You cannot brick Pocket with a failed firmware update.

Pocket LED Status

1	LED Amber	Charging
2	LED Green	100% Charged
3	LED White	Pocket on

Buttons and Inputs/Outputs

D-pad
Eight way directional pad

Face Buttons & Shoulder Buttons
All buttons can be assignable according to the user's preferences (coming in a future firmware update).

Left Button	Y
Bottom Button	B
Right Button	A
Top Button	X

Left Shoulder Button	L
Right Shoulder Button	R

Select, Analogue and Start Buttons
The left and right small buttons act as Select and Start, respectively, for Game Boy, Game Boy Color and Game Boy Advance Games. The right button functions as Start for Game Gear games. The middle, Analogue, button brings up Analogue OS.

Micro SD Card Slot
Used for loading Nanoloop and GB Studio files, firmware updates, save states, displayshots and cover art.

Power Button
Hold 2s seconds for on/off. Quick press during gameplay for sleep and wake.

Volume Up & Down Buttons
Used to control the audio volume

USB-C
Used to charge Pocket and interface with Analogue Dock.

3.5mm output
Connect headphones or to external speakers.

Link Port
Used for Game Boy, Game Boy Color and Game Boy Advance games that support Game Link and Pocket to Pocket link cables

Power Indicator/Infrared Transceiver
Shows battery charge level and Infrared is used by certain Game Boy Color games to send and receive data (distances between two IR devices should be very short.). The LED will be white when the console is turned on, orange when charging and green when fully charged.

Cartridge Port
Used for Game Boy, Game Boy Color and Game Boy Advance games and Analogue Pocket Adapters.

Default Controller Key Assignments & Hotkeys

A	Confirm/Select Menu Option Key
B	Cancel/Back Key

Analogue
During Gameplay, pressing Analogue button displays Analogue OS Menu. You can Quit Game and insert a new cartridge or Resume Game to exit the Menu and restore control to your game. Pressing the button a second time will also exit the Menu.

Analogue + Volume Up
Increase Display Brightness

Analogue + Volume Down
Decrease Display Brightness

Analogue + Left or Right
Cycle through Original Display Modes (during gameplay)

Volume Up + Volume Down
Mute

Compatible Cartridges

— Official Nintendo-manufactured Game Boy, Game Boy Color and Game Boy Advance cartridges (all regions)
— Built-in Cartridge Tilt and Gryo sensors, Rumble motors, Real Time Clocks and IR Transceivers. Due to the way the cartridges are inserted, Solar Sensors are not supported.
— GBA Video Cartridges
— Game Boy Camera
— Play-Yan, Play-Yan Micro
— Homebrew, Unlicensed* & Reproduction cartridges
— Many flash cartridges are compatible
— Official Sega-manufactured Game Gear cartridges with GG Pocket Adapter
— Lynx and Neo Geo Pocket & Neo Geo Pocket Color Game Cartridges when used with their appropriate Analogue Adapters (to be released)

* Unlicensed cartridges from Wisdom Tree are not compatible with Analogue Pocket or any Game Boy Advance due to their cartridge shells not extending to the bottom of their edge connectors.

Compatible Controllers & Peripherals

— Analogue Dock
— Pocket to Pocket Link Cable, Nanoloop Pocket to MIDI IN Cable, Nanoloop Pocket to Analog Sync Cable, Nanoloop Pocket to MIDI USB-A Cable
— Multiplayer support using Official or Analogue Game Link Cables with Game Boy Pocket, Super Game Boy 2, Game Boy Light, Game Boy Advance, Game Boy Advance SP, Game Boy Player. With appropriate Link Cables or Adapters, the original Game Boy and Game Boy Micro can also be used.
— Four Player Adapter with appropriate Link Cables or Adapters
— Game Boy Printer
— Nintendo GameCube-Game Boy Advance Link Cable and Game Boy Advance Wireless Adapter (clips must be removed)
— e-Reader via Link Cable (e-Reader cannot fit in Pocket's cartridge slot)

Charging Pocket

Pocket requires a USB-C to USB-C cable for charging, and a USB-C charger capable of 5V @ 3A (15 watts). There are a variety of existing charge cables that adapt USB type A to USB-C. These will only charge Pocket at a very slow rate while turned off, and cannot provide enough power to charge or even fully run Pocket while it is turned on.
Generally, USB-A to USB-C cables will incorrectly report their current capacity even when plugged into a USB-A charger that could provide enough power. Further, many simply cannot support high current anyway. USB-C to USB-C cables only should be used.

Battery Guidelines

— Store Pocket half-charged when you store it long term. Place your device in a cool, moisture-free environment that is less than 90° F (32° C)
— Do not store or leave Pocket at 0%. If you store a device when its battery is fully discharged, the battery could fall into a deep discharge state, which can make it incapable of holding a charge.
— If you plan to store your device for longer than six months, charge it to 50% every six months.

Welcome to Analogue OS

Analogue OS is the start of something big. At its heart, Analogue OS is purpose built for exploring and celebrating all of video game history. Designed to be the definitive, scholarly operating system for playing and experiencing the entire medium.

Main Menu Options

Play Cartridge
Run a game cartridge in the cartridge slot.

Library
Access playlists (coming soon in v1.1)

Memories
Access save states & displayshots (coming soon in v1.1)

Tools
Access Nanoloop 2, GB Studio and Developer features

Settings
Calibrate system by system specific video, audio, control settings.

Analogue OS Settings Menu

Shaded items are not yet available and subject to change.

A SYSTEMS

i GB

1 Video
- a Display Mode
  - i Analogue GB
  - ii Original DMG
  - iii Original Pocket
  - iv Original Light
  - v Pinball Neon Matrix
- b Color Palettes
  - i Grayscale
  - ii Mint
  - iii Blue
  - iv Green
  - v Purple
  - vi Custom
  - vii Edit/Load Custom
- c Frame Blending
- d Sharpness
- e Size/Position
  - i Width
  - ii Height
  - iii X Position
  - iv Y Position
  - v Defaults

2 Audio
- a Cart Volume

3 Controls
- a Mirror BA to YX
- b Mirror BA to LR

4 Hardware
- a Run all as GB

5 Reset to Defaults

ii GBC

1 Video
- a Display Mode
  - i Analogue GB
  - ii Original DMG
- b Frame Blending
- c Sharpness
- d Desaturation
- e Size/Position
  - i Width
  - ii Height
  - iii X Position
  - iv Y Position
  - v Defaults

2 Audio
- a Cart Volume

3 Controls
- a Mirror BA to YX
- b Mirror BA to LR

4 Reset to Defaults

iii GBA

1 Video
- a Display Mode
  - i Analogue GBA
  - ii Original GBA/
  - iii Original SP101
- b Frame Blending
- c Sharpness
- d Desaturation
- e Size/Position
  - i Width
  - ii Height
  - iii X Position
  - iv Y Position
  - v Defaults

2 Audio
- a Original Audio
- b High Quality

3 Controls
- a Mirror BA to YX

4 Reset to Defaults

iiii GG

1 Video
- a Display Mode
  - i Analogue GG
  - ii Original GG
  - iii Original GG+
- b Frame Blending
- c Sharpness
- d Desaturation
- e Size/Position
  - i Width
  - ii Height
  - iii X Position
  - iv Y Position
  - v Aspect: Fit
  - vi Aspect: 4×3
  - vii Defaults

2 Audio

3 Controls

4 Reset to Defaults

B POCKET

i Display
- 1 Brightness

ii Audio
- 1 Low Impedance
- 2 Speaker Monitor

iii Global Reset
- 1 Confirm
- 2 Cancel

C Analogue OS

i Startup Action
- 1 OS Menu
- 2 Cartridge

D ABOUT

i Analogue OS

ii Support
- 1 User Guide
- 2 Pocket Tutorial

iii Special Thanks

iii Legal

iii EU

Settings - System

Each System has its own unique settings, some may be mirrored in other Systems but others are unique.

Video Settings

Display Modes

The Game Boy (GB), Game Boy Color (GBC) and Game Gear (GG) had an original display resolution of 160×144 square pixels. The native resolution of Pocket's display is 1600×1440, so by default the pixels are scaled 10x on each axis. The Game Boy Advance (GBA) had an original display resolution of 240×160 square pixels. The pixels are scaled to 1600×1067 to fill the horizontal display area and as much of the vertical area while maintaining the original aspect ratio and interpolation is applied.

GB System offers five Display Modes:

— "Analogue GB" Analogue pixel perfect display mode.
— "Original DMG" simulates original display of a DMG original Game Boy
— "Original Pocket" simulates the grayscale display of the original Game Boy Pocket.
— "Original Light" simulates the teal electroluminescent backlight of the original Game Boy Light.
— "Pinball Neon Matrix" simulates the display of a pinball neon matrix display.

GBC System offers two Display Modes:

— "Analogue GBC" Analogue pixel perfect display mode.
— "Original GBC" simulates the desaturated display of an original Game Boy Color with pixel grid lines.

GBA System offers three Display Modes:

— "Analogue GBA" Analogue pixel perfect display mode.
— "Original GBA" simulates the desaturated displays of the Game Boy Advance and Game Boy Advance SP AGS-001.
— "Original SP101" simulates the non-desaturated display of the Game Boy Advance SP AGS-101.

GG System offers three Display Modes:

— "Analogue GG" Analogue pixel perfect display mode.
— "Original GG" simulates the desaturated display of the original Game Gear.
— "Original GG+" simulates display of the original Game Gear but eliminates the desaturation.

Color Palettes
This option is only available for GB System. With the custom option, monochrome Game Boy games can show up to ten colors. The Game Boy supported four palette colors for background tiles and two sets of three palette colors (plus transparency) for sprite tiles.

Frame Blending
The LCD panels of the 1980s and 1990s were not known for their fast pixel response times, and some games abused this feature to blend images by rapidly alternating drawn graphics on a specific area of the display. If you see flickering graphics in games like Wave Race or F-Zero: Maximum Velocity, this option will make them transparent.

Sharpness
Uses settings from 0-3, with 0, 1 & 2 giving lesser amounts of softness and 3 giving razor-sharp pixels. This setting will have no effect if a non-"Analogue" Display Mode is being used

Desaturation
This option simulates the amount of desaturation to be applied to an image, with 0 meaning no desaturation and 9 completely eliminating color. This setting works with non-Normal Display Modes, but is not available for GB System.

Size/Position
This option allows you to set the display resolution as you like, from as low as 320×288 for GB, GBC and GG Systems and 480×320 for GBA System (2x scale) and adjust the X and Y position values to center the image on the display. The maximum resolution is 1600×1440, which is the native resolution of Pocket's display.

GG System offers Aspect: 4:3 and Aspect: Fit options. Aspect: Fit fills Analogue Pocket's display with a 10x scale. The original Game Gear displays did not use square pixels and their pixel aspect ratio was close to 1.33:1, so the 4:3 option represents the stretched look of an original Game Gear display.

Audio Settings

Cart Volume
This option allows you to set the relative volume level of the cartridge audio to the internal audio. nanoloop mono generates audio from its PCB.

GBA Original/High Quality Audio
The Game Boy Advance was not known for the cleanliness of its sound, so this option helps to eliminate some of the noise inherent to the GBA's audio output.

Control Settings

Mirror BA to YX and Mirror BA to LR
These options let you use the Y and X or the L and R buttons as B and A buttons.

Hardware

Run all as GB
By default, Pocket presents itself as a Game Boy Color for Game Boy and Game Boy Color games. Enable this option and Pocket will behave as a monochrome Game Boy with all the original Game Boy's limitations. This is necessary to play the Game Boy versions of Burai Fighter and Road Rash, these games crash on a Game Boy Color. This is also required to play the Game Boy version of a black Game Boy/Game Boy Color hybrid cartridge. Game Boy Color only games will not play if this mode is enabled.

Settings - Pocket
Display

Brightness
Allows you to set the brightness of your display or check the brightness of your display in increments of 5 from 0-100.

Audio

Low Impedance
Low impedance headphones require less power than high impedance headphones and drain the battery more slowly, choose low impedance if you can get reasonable volume levels out your headphones without requiring the high impedance setting.

Global Reset

Globally Resets all settings to Pocket Factory Defaults.

Settings - Analogue OS
Menu Options

Startup Action

OS Menu	Pocket starts into Analogue OS' menu on power-up.
Cartridge	Pocket starts the inserted cartridge on power-up.

Analogue.
Distracting. *Seriously*.