

-- Included **FREE** with Bowser wallet --



UndercoverWallet.com's Complete Instructional

How to Create and Use Your Own Undercover Bitcoin Hardware Wallet

Bowser Undercover Wallet

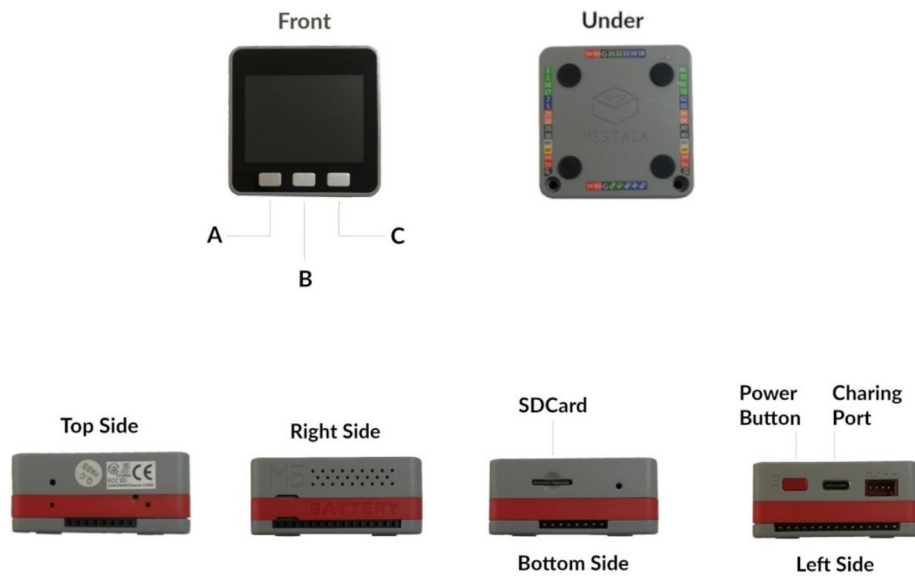


Table of Contents

Introduction.....	3
Chapter 1: Requirements.....	4
Chapter 2: Creating the Wallet.....	6
Chapter 3: Using the Wallet.....	7
Powering On/Off and Accessing wallet.....	7
First Time Setup.....	7
Menu Options.....	8
SDCard Commands.....	9
Chapter 4: Support.....	10

Introduction

This wallet, the Bowser Bitcoin hardware wallet, is the first undercover Bitcoin cold storage wallet, coded by Ben Arc, and can be found in his repository at <https://github.com/arcbtc/bowser-bitcoin-hardware-wallet>. Ben graciously released his software under MIT licensing, giving free liberty to the community to customise. Bowser wallet is open source licensed, meaning this information is freely shared.

The hardware for this wallet is the M5Stack BASIC core, and attaching the separate, high-capacity battery module is useful as well. In general, the M5Stack is a reliable, modular, and good value platform which sprouts endless build possibilities.

This document was created in the hope that you find the exercise of creating your undercover wallet useful and enjoyable, and that the end result of that exercise is just that too; useful and enjoyable.

Undercoverwallet.com

Chapter 1: Requirements

- M5Stack [ESP32 Basic Core](#) IoT -or- [ESP32 GREY](#) Model



Add to Cart

ESP32 Basic Core IoT
Development Kit ...
★★★★★ 67 reviews

-OR-



Add to Cart

ESP32 GRAY
Development Kit with ...
★★★★★ 29 reviews

- USB-C Cable (included with the M5Stack)



- 16GB uSDCard
Create a file named “browser.txt” into the SDCard’s root folder.





- High-Capacity 3.7V 750mAh Rechargeable Battery (Optional)



- Download and install the Arduino IDE from their website: <https://www.arduino.cc/en/software>
 - Then start Arduino and open Preferences window and enter https://raw.githubusercontent.com/espressif/arduino-esp32/gh-pages/package_esp32_index.json into *Additional Board Manager URLs* field.
 - Open Boards Manager from Tools → Board menu and install *esp32* platform (and don't forget to select your ESP32 board from Tools → Board menu after installation).
 - In Library Manager in Arduino, install *M5Stack* library.
 - In Library Manager in Arduino, search for *lvgl* then install *lv_arduino* library.
 - In Library Manager in Arduino, search for the latest *uBitcoin* library and install it.

Chapter 2: Creating the Wallet

1. Download the Bowser Wallet code by clicking on “Code” in it’s repository here:
<https://github.com/arcbtc/bowser-bitcoin-hardware-wallet>
2. Open the downloaded bowser.odt code in the Arduino IDE.
3. Select “/dev/ttyUSB0” in Tools → Port
4. Plug in the USB-C cable from your computer’s USB port to the M5Stack’s USB-C port.
5. Verify the Bowser code.
6. Note any errors in the Arduino terminal, install any missing packages and reverify.
7. Upload Bowser into the M5Stack’s

Chapter 3: Using the Wallet

Powering On/Off and Accessing wallet

- **Power on:** Click the red power button on the left.
- **Power off:** Quickly double-click the red power button on the left.
- **Access wallet:** Quickly press the right button after Bowser powers on.

First Time Setup

After accessing the wallet for the first time you will be prompted to write down your 24 seed words safely, you should write them privately on a piece of paper. Write each word, one by one, pressing the left button to go to the next word.

You will then be asked to confirm the seed words that you wrote down and the 24 seed words will reappear, you can press the left button to go on to the next word. The words will be saved onto the SDCard. For extra safety, you may delete/wipe/reformat the SDCard and recreate bowser.txt in it at this point, if you prefer.

Next you will be prompted to choose a PIN that is entered using Morse code, with a minimum of 3 characters (at least 5 is recommended). Wait a second or two after entering each character so that Bowser can register the next one.

- The **left** button (A): • (dot)
- The **middle** button (B): — (dash)
- The **right** button (C): after finishing entering your whole PIN.

Use the Morse code cheat sheet below as a guide if you haven't memorised it.

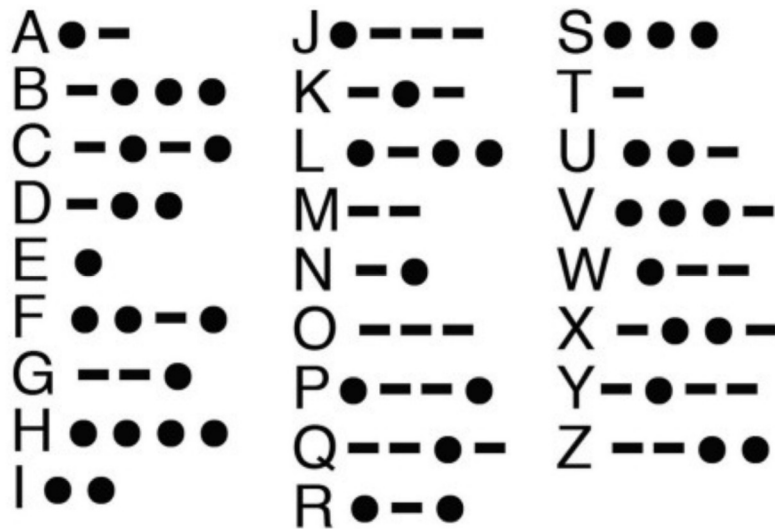


Figure 1: Morse code cheat sheet

At this point the PUBKEY, or Bitcoin address, will show. It is best to restart the wallet now by pressing on the red button on the side, then quickly the right button just as Boswer starts, to reaccess your wallet and test the PIN you entered. If you cannot regain access to the wallet then see the Wipe Device section, below, under the SDCard Commands heading, and restart the First Time Setup.

Menu Options

Export ZPUB

This menu option will display your wallet's ZPUB master key in text and QR Code formats, as well as save it to the SDCard. Your ZPUB is the SegWit master key from which new Bitcoin addresses are generated. You can use this to link an external wallet, using it to monitor your balance. The safest option is to link a watch-only wallet, thus the only way to spend the coins from your wallet would be to sign a transaction and then choosing a broadcasting service online to broadcast the signed transaction. See Sign Transaction section under the SDCard Commands heading below.

Show Seed

If you need to reverify your seed then your 24 seed words will be shown here.

SDCard Commands

Sign Transaction

Since Bowser wallet is the only device holding your seed then it only can be used to send coins by signing transactions that were made from linked wallets.

1. First create the transaction on a linked wallet.
2. Copy the transaction ID
3. Type and paste into browser.txt: `SIGN 45505446ff00020000000001016cb...`
4. Put the SDCard back into the wallet and select Sign Transaction.
5. Press “A” to sign the transaction.
6. Put the SDCard back into the computer / smartphone.
7. Paste the signed transaction into any online Bitcoin transaction broadcasting service.

Restore From a Seed

1. Type `RESTORE husband behind shallow promote...` into browser.txt from a computer / smartphone.
2. Put the SDCard into the wallet.
3. Select “Restore from Seed” from the wallet menu.

Wipe Device

1. To completely wipe your device and setup a new wallet, type `HARD RESET` into browser.txt from a computer / smartphone.
2. Place the SDCard into the wallet.
3. Select “Wipe Device” from the wallet menu.

Chapter 4: Support

The software repository for Bowser wallet is found at <https://github.com/arcbtc/bowser-bitcoin-hardware-wallet>

The hardware used to create Bowser wallet is from <https://shop.m5stack.com/collections/m5-core>

The software and hardware used to create Bowser is Open Source. Bowser software is MIT licensed.

This instructional document is licensed Creative Commons Attribution 4.0 International license



UndercoverWallet.com email: reachus@undercoverwallet.com

Version of this document: 1.6