



# Auto Controller Manual

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1. Getting Started .....	5
1.1 Auto Controller .....	5
1.2 Hardware Requirement .....	5
1.2.1 Mandatory Components.....	5
1.2.2 Optional Components .....	6
1.3 Native Program Tutorial (Windows).....	8
1.3.1 WinAVR.....	8
1.3.2 Auto Controller Helper .....	8
1.3.3 Generate .hex File .....	9
1.3.4 Installing .hex into microcontroller.....	10
1.3.5 Running the Program on Nintendo Switch .....	13
1.3.6 While Program is Running.....	14
1.4 Native Program Tutorial (MacOS/Linux).....	14
1.4.1 Install Various Programs .....	14
1.4.2 Modifying Program Settings.....	14
1.4.3 Compiling .hex File .....	15
1.4.4 Installing .hex into microcontroller.....	15
1.5 Smart Program Tutorial.....	16
1.5.1 Before You Start.....	16
1.5.2 Additional Hardware Requirement .....	16
1.5.3 Installing .hex File for Smart Program .....	18
1.5.4 Connecting Everything Together .....	19
1.5.5 Smart Program Manager .....	21
1.5.6 Testing Keyboard Controls .....	22
1.5.7 Testing Camera Delay & Color Detection .....	23
1.5.8 General Settings .....	25
1.5.9 Before & While Running Smart Programs .....	26
1.5.10 Making Custom Commands .....	27
1.5.11 Streaming/Recording with Smart Program Manager.....	29
1.6 ShinyPixelChecker Tutorial .....	30
1.6.1 Pixel Checker .....	31
1.6.2 How to Use .....	31
1.6.3 Troubleshooting .....	33
1.6.4 Sounds.....	33
1.6.5 Stream Counter .....	33
1.7 Contribution, Bug Report, Help Support .....	34
1.7.1 Bug Report .....	34
1.7.2 Creating New Programs .....	34
1.7.3 Discord Channel.....	34
2. Native Program Instructions .....	35
2.1 Pokemon Sword & Shield.....	35
2.1.1 Auto3DaySkipper.....	35

2.1.2 AutoBattleTower .....	36
2.1.3 AutoFossil .....	37
2.1.4 AutoHost .....	39
2.1.5 AutoLoto .....	41
2.1.6 AutoTournament.....	42
2.1.7 BerryFarmer .....	44
2.1.8 BoxRelease .....	45
2.1.9 BoxSurpriseTrade .....	46
2.1.10 DailyHighlightFarmer.....	48
2.1.11 DaySkipper.....	50
2.1.12 DaySkipper_Unlimited .....	52
2.1.13 EggCollector .....	54
2.1.14 EggHatcher .....	56
2.1.15 FriendDeleteAdd.....	58
2.1.16 GodEggDuplication .....	59
2.1.17 PurpleBeamFinder .....	61
2.1.18 ShinyFiveRegi.....	62
2.1.19 ShinyRegigigas .....	64
2.1.20 ShinySwordTrio (ShinySpiritomb).....	69
2.1.21 WattFarmer.....	73
2.2 Pokemon Brilliant Diamond & Shining Pearl .....	74
2.2.1 ResetDialgaPalkia.....	74
2.2.2 ResetStarter .....	75
2.2.3 MenuGlitch1.1.3 .....	76
2.2.4 BoxDuplication .....	76
2.2.5 BoxOperation .....	77
2.2.6 ResetLegendary.....	78
2.2.7 ResetShaymin .....	79
2.2.8 ResetArceus .....	80
2.3 Other Programs .....	81
2.3.1 TurboA .....	81
2.3.2 SmartProgram .....	81
2.4 Pokemon Legends: Arceus.....	82
2.4.1 ResetAlphaCrobat .....	82
2.4.2 ResetAlphaGallade .....	83
2.5 Pokemon Scarlet & Violet.....	84
2.5.1 ItemDuplication .....	84
2.5.2 BoxRelease .....	85
2.5.3 EggCollector .....	86
2.5.4 EggHatcher .....	87
2.5.5 GimmighoulFarmer.....	89
2.6 The Legend of Zelda: Tears of the Kingdom .....	91
2.6.1 ItemDuplication .....	91
3. Smart Program Instructions .....	92
3.1 Pokemon Sword & Shield.....	92
3.1.1 Auto Battle Tower .....	92

3.1.2 Auto Day Skipper.....	92
3.1.3 Auto Loto .....	93
3.1.4 Auto Surprise Trade .....	93
3.1.5 Berry Farmer.....	94
3.1.6 Daily Highlight Farmer.....	94
3.1.7 Max Raid Battler.....	95
3.1.8 Purple Beam Finder .....	96
3.1.9 Watt Farmer.....	97
3.1.10 Box Release .....	97
3.1.11 Y-Comm Glitch .....	98
3.1.12 Egg Operation .....	99
3.2 Pokemon Brilliant Diamond & Shining Pearl .....	106
3.2.1 Reset Legendary.....	106
3.2.2 Reset Starter .....	106
3.2.3 Menu Glitch v1.1.3 .....	107
3.2.4 Box Duplication Glitch .....	108
3.2.5 Box Operation .....	108
3.2.6 Duplicate Item 1 to 30.....	109
3.3 Other Programs .....	110
3.3.1 Dev: Brightness Mean Finder .....	110
3.3.2 Dev: Camera Delay Checker .....	111
3.3.3 Dev: Color Calibrator .....	112
3.3.4 Code Entry .....	113
3.4 Pokemon Legends: Arceus.....	115
3.4.1 Nugget Farmer .....	115
3.4.2 Braviary Gain Height.....	118
3.4.3 Reset Alpha Gallade/Crobat.....	118
3.4.4 Distortion Waiter .....	120
3.4.5 Outbreak Finder .....	121
3.4.6 Pasture Sorter .....	122
3.4.7 Static Spawn Reset.....	124
3.4.8 MMO Respawn Reset .....	126
3.5 Pokemon Scarlet & Violet.....	128
3.5.1 Item Duplication .....	128
3.5.2 Auto Box Release.....	128
3.5.3 Auto Box Release Safe.....	128
3.5.4 Gimmighoul Farmer.....	128
3.5.5 Auto Surprise Trade .....	129
3.5.6 Egg Operation .....	130
3.5.7 Trade Partner Finder .....	134
3.6 The Legend of Zelda: Tears of the Kingdom .....	135
3.6.1 Item Duplication .....	135
Appendix .....	136
Appendix 1: Y-Comm Link Battle Day Spoofing Glitch.....	136
Appendix 2: How to IV/EV Train, Swap Ability and Change Nature.....	137
IV Training (Hyper Training).....	137

EV Training.....	137
Swapping Ability .....	139
Changing Nature .....	139
Appendix 3: Making Your Own Programs .....	140
Credits & Special Thanks .....	141
Change Log.....	141

# 1. Getting Started

## 1.1 Auto Controller

Auto Controller is a collection of programs that uses a microcontroller emulated as a Pro Controller and automate various tasks on games on Nintendo Switch. After v5.0.0, there are two types of programs:

1. **Native Programs:** These programs run by the microcontroller alone, they are limited to relatively simple tasks (still a large collection so don't worry), user must unplug the microcontroller to stop it from running
2. **Smart Programs:** These programs make use of feedback from capture cards allowing more complicated tasks, and able to terminate the program if needed.  
**You are required know how to run Native Programs before this, no exception!**

## 1.2 Hardware Requirement

### 1.2.1 Mandatory Components

This section list the essential hardware you need for both **Native Programs AND Smart Programs.**

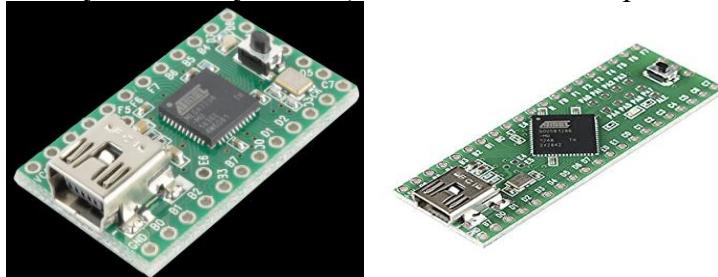
Before you start, it is noted that you MUST have a laptop or PC running on **Windows**. For MacOS and Linux only Native Programs are supported, and Auto Controller Helper will not work.

Next you will need to buy one of the following microcontrollers:

1. **Arduino Uno R3** (highly recommended, tested)



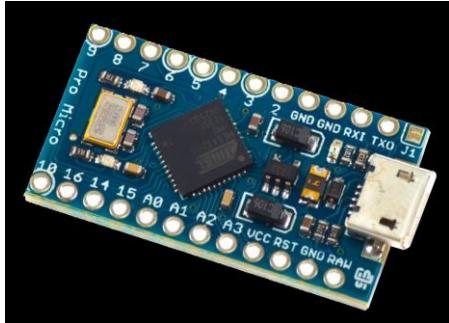
2. **Teensy 2.0/Teensy++ 2.0** (recommend, more expensive)



3. **Arduino Leonardo** (preferred over Pro Micro)



4. Arduino Pro Micro



There are knockoffs for most Arduino boards as a cheaper alternative like Elegoo etc., but sometimes the microchip required (atmega16u2) may not be probably bootloaded by the manufacturer so you are HIGHLY RECOMMENDED to buy the Arduino from the official site instead.

### 1.2.2 Optional Components

This section lists components you may/may not need depending on your Switch type and the microcontroller you have bought.

1. **Metal Wires/Paper Clips (Arduino Only):** This is needed for all Arduino types, this is needed in order to restart and install new programs into the board
2. **USB-A to USB-B Connector (Arduino Uno R3 Only):** Some sellers may not provide the connection wire for Arduino to PC, for Uno R3, you may need to buy this separately



3. **USB 2.0 to USB Micro (Arduino Pro Micro/Leonardo):** For these two boards,

- you may need to buy this wire, if you are an Android user, this is the regular charging cable (before USB-C migration)
4. **USB 2.0 to USB Mini (Teensy):** For teensy you may need to buy this wire, this is NOT the same cable that charges phones, check the image below



**USB Mini (YES)      USB Micro (NO)**

5. **USB 3.0 A to C Adapter:** If you have a Switch Lite or if you wish to run Native Programs in handheld mode, this allow you to connect your board at the bottom of the Switch



Alternatively, you can also buy the one below.

6. **HORI Dual USB Playstand (Switch Lite):** This stand allows you to charge your Switch and also provide an additional USB port for connecting microcontroller, this is ideal if you want to run Native Programs for long periods of time



Now that you have all the hardwares needed to run Native Programs, proceed to **section 1.3** for Native Program Tutorial.

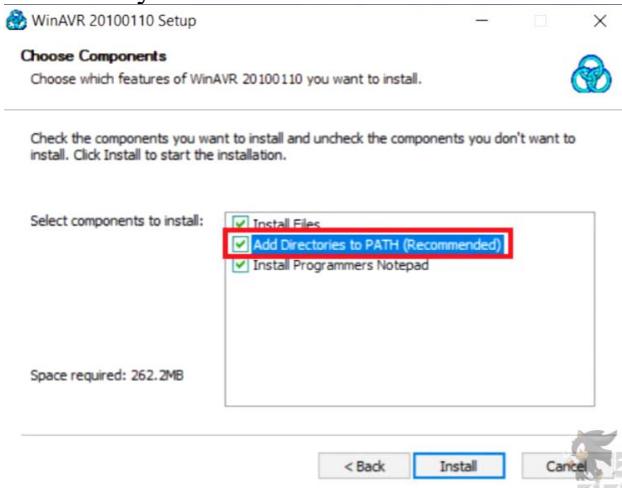
## 1.3 Native Program Tutorial (Windows)

### 1.3.1 WinAVR

First you will need to install **WinAVR**, this is required to compile programs with Auto Controller Helper, you can download it from here:

<https://sourceforge.net/projects/winavr/files/>

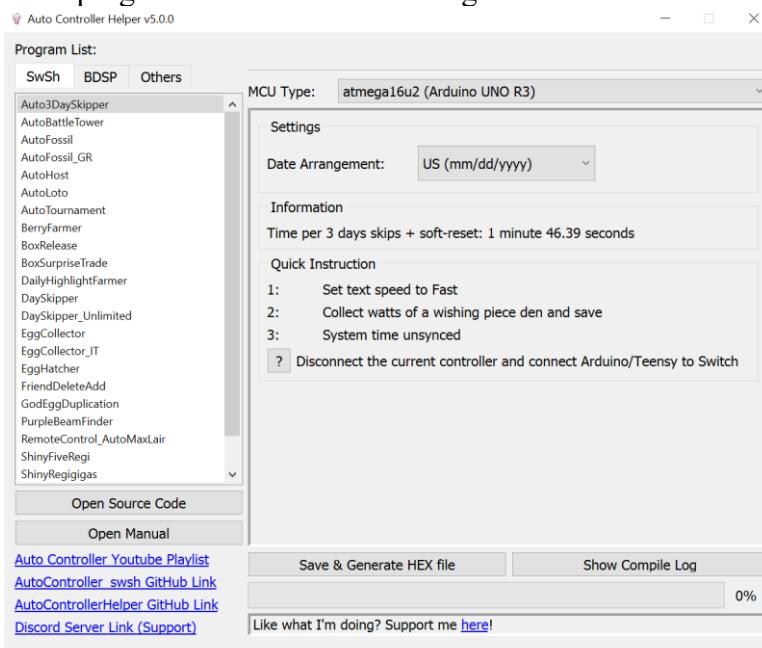
While installing, make sure you check the **Add Directories to PATH (Recommended)**, otherwise you will need to reinstall.



You are recommended to install it in the default directory *C:/WinAVR-20100110*

### 1.3.2 Auto Controller Helper

Launch **AutoControllerHelper.exe** inside AutoControllerHelper folder, this will open the main program which look something like this:

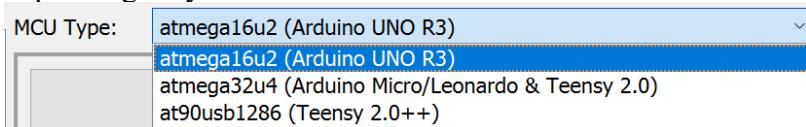


- **Program List:** Select available programs here, press the tabs at the top for programs for different games
- **MCU Type:** Select the appropriate MCU for your microcontroller
- **Settings:** This contains the settings for the current selected program
- **Information:** This contains the estimated time the program will take, error messages or any additional information for the program
- **Quick Instruction:** A quick checklist of what you need to do before running the program, but you are still highly recommended to read the manual for full details as instructions for each program are unique and very different from each other
- **Save & Generate HEX file:** Generate .hex file with current settings to install into your microcontroller
- **Show Compile Log:** Show details of compilation, this is useful in case there are errors
- **Open Source Code:** Open the folder that contains the source code for the current selected program
- **Open Manual:** Open this pdf you are reading
- **Auto Controller Youtube Playlist:** Link to playlist for Auto Controller related videos
- **AutoController\_swsh GitHub Link:** Link to the release repository of Auto Controller
- **AutoControllerHelper GitHub Link:** Link to the source code for Qt user interface program for Auto Controller Helper
- **Discord Server Link:** Link to discord channel where me and a few friend of mine can help

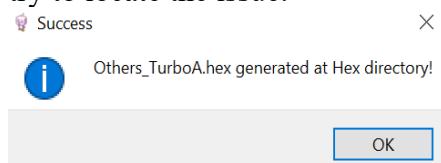
Note: When extracting AutoController release archive, make sure to extract to directory with basic ascii characters, meaning the directory should not have Chinese, Japanese, Korean characters etc., otherwise there might be issue with Auto Controller Helper and other programs.

### 1.3.3 Generate .hex File

If this is your first time doing this, you should try **Others\_TurboA** program first. Once you select the program and set the settings your want, select the correct MCU type depending on your microcontroller:



Press **Save & Generate HEX file**. If you have installed WinAVR correctly, a .hex file should be generated in the “Hex” folder. If any error occurs, check the compile log and try to locate the issue.



### 1.3.4 Installing .hex into microcontroller

This section changes depending on what microcontroller you own, please skip to the appropriate section.

#### Arduino Uno R3:

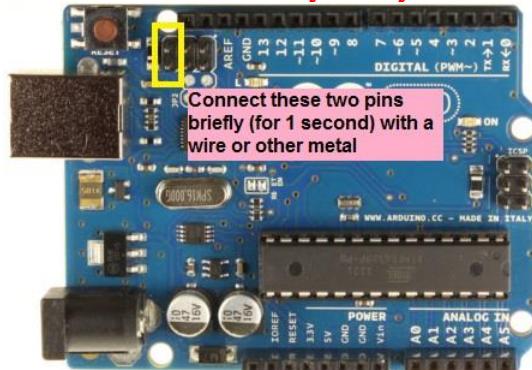
1. (One time only) Download and install FLIP from here:

<https://www.microchip.com/en-us/development-tool/flip>

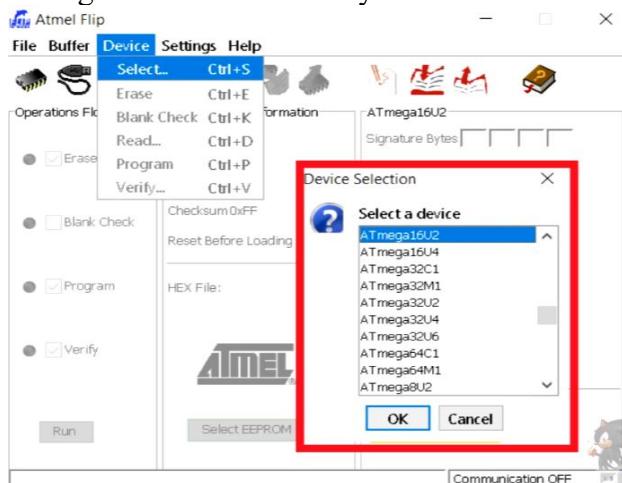
You may also need to install Java Runtime Environment as suggested

2. Connect Uno R3 with USB-A to USB-B cable to your computer, use a conducting object to briefly connect the RESET and GND pin, you should hear the USB unplug and plugin sound, this process is call “**Flashing**” or “**DFU Mode**”. If you don’t see those 2 pins, you might have bought the wrong board.

You **MUST** do this every time you want to install a new program

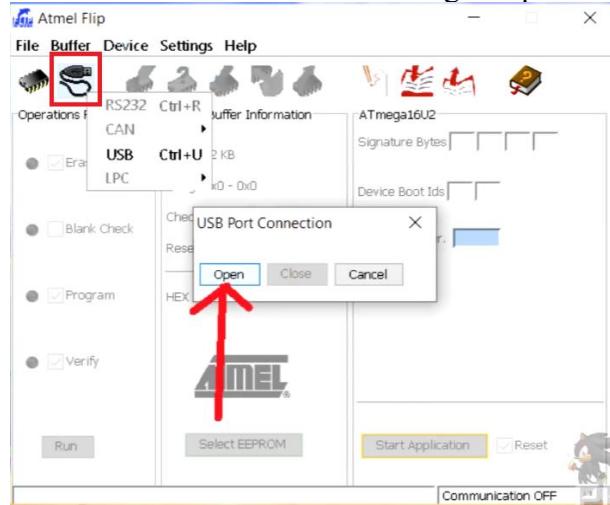


3. (One time only) The first time you use this, you must install the driver for Atmega16u2 chip before you can use it. Go to **Device Manager** in Control Panel, under **Other devices** you should see an “**Unknown Device**”, if you don’t see it despite **flashing the two pins**, your board is defective and cannot run any **programs**. Right-click -> Update Device Software -> Browse my computer for driver software, select the folder *C:/Program Files (x86)/Atmel/Flip 3.4.7/usb* and install, the device should now be registered as **Atmega16u2**
4. Run FLIP program, go to Device -> Select... And select ATmega16U2, this setting should remain after you did it once

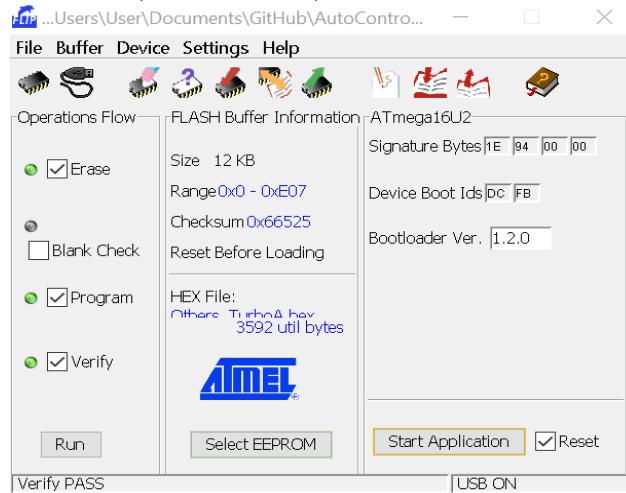


5. Press the 2<sup>nd</sup> icon, choose USB and press Open, if the Arduino has correctly

entered DFU mode, it should be able to connect successfully, on the board you should see the RX and TX LED lights up



6. Go to File -> Load HEX file... and select the .hex file generated earlier, if your directory that contains the hex file has Chinese/Japanese/Korean, this may fail to load, move them to or install Auto Controller Helper to a different directory
7. Press Run, if successful, it should look something like this:

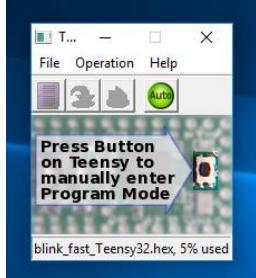


If a red light instead of green shows up next to Program, reopen FLIP and try again.

8. Unplug the board from your computer, and head to **section 1.3.5**

### **Teensy 2.0/Teensy++ 2.0:**

1. Download Teensy Loader from here: <https://www.pjrc.com/teensy/loader.html>
2. Connect Teensy to your computer with USB 2.0 to USB mini adapter
3. Press the button on Teensy to enter program mode, the first time you have to wait for Windows to install drivers



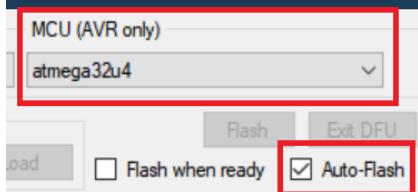
4. Click to first icon to select the .hex file generated earlier and press the 2<sup>nd</sup> icon to install the program into Teensy



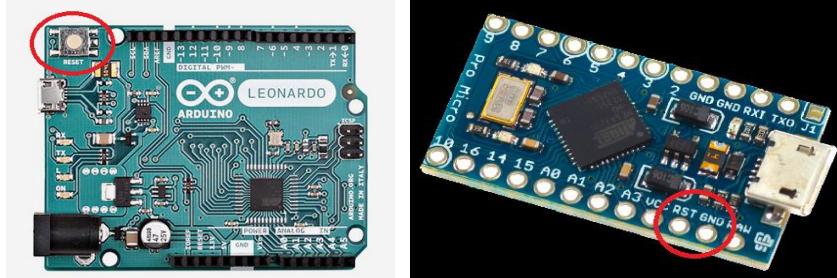
5. Unplug the board from your computer, and head to **section 1.3.5**

### **Arduino Pro Micro/Leonardo:**

1. Download QMK Toolbox: [https://github.com/qmk/qmk\\_toolbox/releases](https://github.com/qmk/qmk_toolbox/releases)
2. Open the .hex file generated earlier
3. Change the MCU to atmega32u4 and check the “Auto-Flash” checkbox



4. Connect Arduino Pro Micro/Leonardo to your computer with micro USB, you may need to wait for it to install driver the first time
5. Reset the board: For Leonardo, press the button on the top left; for Pro Micro, you need to briefly connect RST and GND pinholes (use paperclip or tweezers)



6. QMK Toolbox should automatically install the hex file into the board and should show a bunch of logging and should show this at the end:

```
avrduke.exe: verifying ...
avrduke.exe: 8336 bytes of flash verified

avrduke.exe done. Thank you.
```

7. Unplug the board from your computer, and head to **section 1.3.5**

### 1.3.5 Running the Program on Nintendo Switch

Before anything, you should make sure you have followed the instruction of the program you are using, and setup the game/system to the exact position required.

Pokemon games usually only allow one controller connected at a time, if you try to connect a 2<sup>nd</sup> one it will not connect. Before you plug your board to the Switch, you must disconnect the external controller you are playing with.

To disconnect, press the sync button on the wireless controller, note that if using detached joy-cons, you have to press the sync button on BOTH joy-cons. After unsyncing, the green light should be turned off. For wired controllers, simply unplug it from the Switch. This process is not needed if you are playing in handheld mode.



Now that no controllers are connected, you can plug your microcontroller directly to the Switch, either to the dock or under the Switch using a USB-C adapter, the program should now start running.



To stop the program, simply unplug the board from the Switch or take the Switch out from the dock. If you want to run other programs, start from **section 1.3.3** again.

### **1.3.6 While Program is Running**

When the program is running, there are things you need to be aware that you cannot do otherwise it might cause the program to crash or unintended delays:

- Do not undock your Switch (unless you are terminating the program)
- Do not connect/disconnect HDMI cable
- Do not switch source of your TV
- Do not turn on/off your TV

Doing any one of these above will cause the program to miss input when Switch is attempting to output/cancel HDMI. If you have to use the TV for something else or want to turn it off, you have the following options:

- Start the program with the TV already off or switched to another channel, but when you decided to change channel to your Switch, it might break the program, so make sure the program is finished by estimating how long it would take to finish
- Dim your TV all the way down after you started the program
- Switch channel when there is no input from the program (when a battle starts/egg is hatching etc.)

## **1.4 Native Program Tutorial (MacOS/Linux)**

Note: This section is written base on other tutorials and not properly tested, this may improve the time goes on. The information I found for Arduino Leonardo and Pro Micro are insufficient, so please use Arduino Uno R3 or Teensy instead.

Most information are based on: <https://github.com/shinyquagsire23/Switch-Fightstick>

### **1.4.1 Install Various Programs**

First install homebrew from <https://brew.sh/>

Next, you need to install AVR, run the following commands in a terminal:

1. brew tap osx-cross/avr
2. brew install avr-gcc
3. brew install avrdude

### **1.4.2 Modifying Program Settings**

Since Auto Controller Helper does not work, you will need to change settings for the programs manually. Go to “Source Code” -> “Bots” -> PROGRAM NAME, and open **Config.h** file. If the program does not have any settings the file will be empty and you can ignore this part.

Here you will find the settings for the program, you will need to check the meaning for each parameter in the program instructions below, you must follow the exact same syntax like having a semi-colon at the end of each line.

```
Config.h
1 // WARNING: You are not advised to change this manually
2 // Please run AutoControllerHelper tool!!!
3
4 uint8_t m_JP_EU_US = 2;
5 uint8_t m_day = 21;
6 uint8_t m_month = 3;
7 int m_year = 2022;
8 int m_dayToSkip = 984;
```

### 1.4.3 Compiling .hex File

To compile a .hex file, first you will need head to “Source Code” folder where you can find the **makefile** file, change the MCU to the appropriate one and TARGET to the program you want to compile.

```
12 # MCU Types:
13 # at90usb1286 for Teensy 2.0++
14 # atmega16u2 for Arduino Uno R3
15 # atmega32u4 for Arduino Micro/Teensy 2.0
16
17 # TARGET Types:
18 # ./Bots/<name>/<name>
19
20 MCU      = atmega16u2
21 ARCH     = AVR8
22 F_CPU    = 16000000
23 F_USB    = $(F_CPU)
24 OPTIMIZATION = s
25 TARGET   = ./Bots/WattFarmer/WattFarmer
26 SRC      = $(TARGET).c ./Config/Descriptors.c ./Config/uart
27 LUFA_PATH = ./LUFA
28 CC_FLAGS = -DUSE_LUFA_CONFIG_HEADER -IConfig/
29 LD_FLAGS =
```

Now you should be ready to compile, open a terminal window in the “Source Code” directory, type **make** and hit enter to compile. If everything goes correctly, it should let you know a .hex file is built successfully in the program folder.

### 1.4.4 Installing .hex into microcontroller

This section changes depending on what microcontroller you own, please skip to the appropriate section.

#### *Teensy 2.0/Teensy++ 2.0:*

This should be the exact same as **section 1.3.4**, please read the instruction from there.

#### *Arduino Uno R3:*

Follow the instruction here: <https://www.arduino.cc/en/Hacking/DFUProgramming8U2>

#### *Arduino Leonardo/Pro Micro:*

You can try following the instruction at the following link, but this has not been properly tested so you are strongly recommended to NOT use these two boards.

<https://github.com/shinyquagsire23/Switch-Fightstick>

Once you have installed the program, you can run it on the Switch, follow the instructions in **section 1.3.5**.

## 1.5 Smart Program Tutorial

### 1.5.1 Before You Start

In order to use Smart Program, which allows direct communication between your computer and Switch, you must have the following requirement:

1. You **MUST** know how to use Native Programs first, since it is required to use Smart Programs, there are no exceptions, read **section 1.3** if you haven't
2. You have a Windows computer, currently MacOS/Linux are not supported
3. Your computer is sufficiently powerful, at least a dual-core process at 3GHz
4. You have a regular Switch, Switch Lite are not supported since it cannot output video
5. You are willing to spend at least \$20 to buy additional hardwares, see **section 1.5.2**

### 1.5.2 Additional Hardware Requirement

#### Capture Cards

There are three types of capture cards you can buy, but the general rule of thumb is it should be using **USB 3.0** if possible, to get the best video quality and to minimize latency, the minimum resolution needs to be **720p 60fps**.

- **Pass-Through:** This is the best option for best video quality and if you are intended to do livestreams, but it can also be the most expensive ranging from \$40 to \$100. This can output video to PC and TV at the same time with very low latency, example brands like Elgato and Avermedia (right is the one I use)



- **Loop-Out:** This is a cheaper (around \$30) middle ground option that also provides output for PC and TV, however the output to PC can have larger enough latency that may cause direct control from PC very difficult, you should at least get one with USB 3.0 if you are going for this option.



- **No TV Output:** This is the cheapest option (around \$20) but have no TV output,

meaning you can only play using the video display on your computer which will largely depend on the latency of the output. The video quality can also vary and may cause detection issues in Smart Programs. If you are able to find those with **USB 3.0** it should be sufficient enough to be used. **If you are buying this the video output is most likely going to be more saturated than usual, make sure you read section 1.5.6 on how to fix it!**



Once you got the capture card you should follow the instructions provided by the manufacturer and make sure everything is working before continuing. You can also check and see if you are able to see video output with streaming softwares like OBS because this will work similarly with Auto Controller. I will not go into detail on how to use OBS since there should be plenty of video tutorials on it.

### ***HDMI cables***

You should already have one when you first buy the Switch, but you may need a 2<sup>nd</sup> one for both capture card input and output.

### ***CP2104 Serial Converter Chip***

This is the **most essential component** for using Smart Programs, this is responsible to communicate between your Arduino/Teensy and computer, this should cost you only a few dollars. This chip belongs to CP210x family so CP2102 should also work but CP2104 is the one I use. There are also alternatives for UART modules (with TXD, RXD and GND pins) but unless you are sure it will work I just recommend you to get CP2104 to be safe.

After getting it, plugging it to your computer should automatically install the driver, if not you can get them here: <https://www.silabs.com/developers/usb-to-uart-bridge-vcp-drivers>



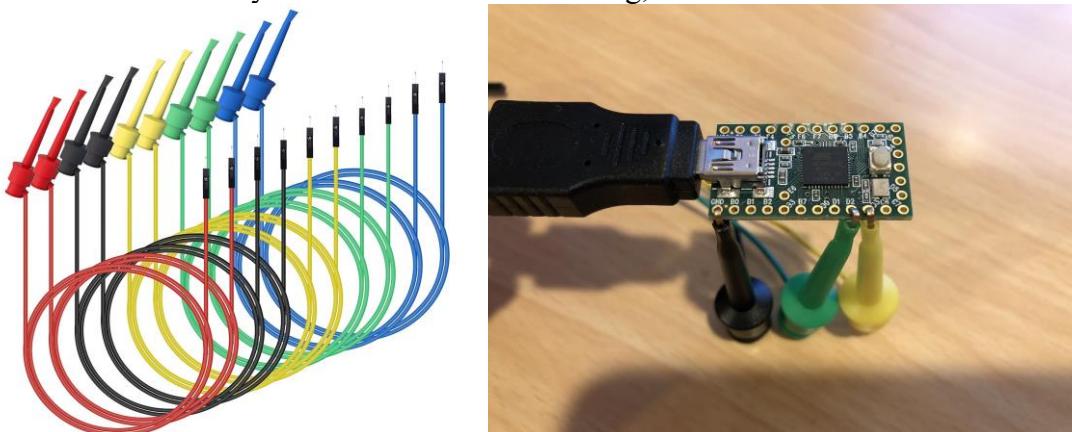
### **Male-to-Female Jumper Wires**

When you buy CP2104 usually it comes with female-to-female wires, but if you have **Arduino Uno R3/Leonardo** which also has female headers, you will need male-to-female jumper wires to connect between them.



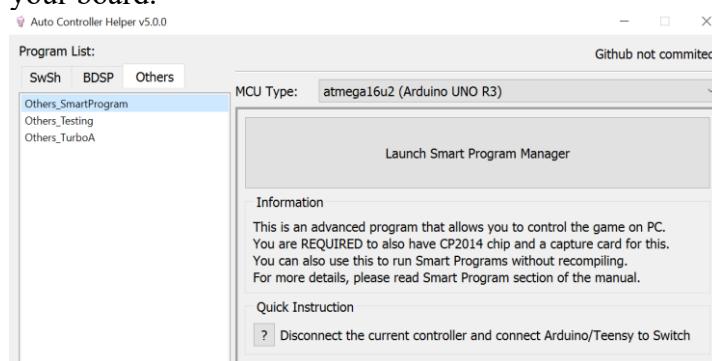
### **Mini-Grabbers**

You will most likely need this if you have Teensy or Arduino Pro Micro. These are jumper wires that has a hook on one end so you can hook on to a pinhole without headers, which Teensy does not provide unlike Uno R3. Alternatively you can solder headers onto the board but unless you know how to do soldering, do not bother.



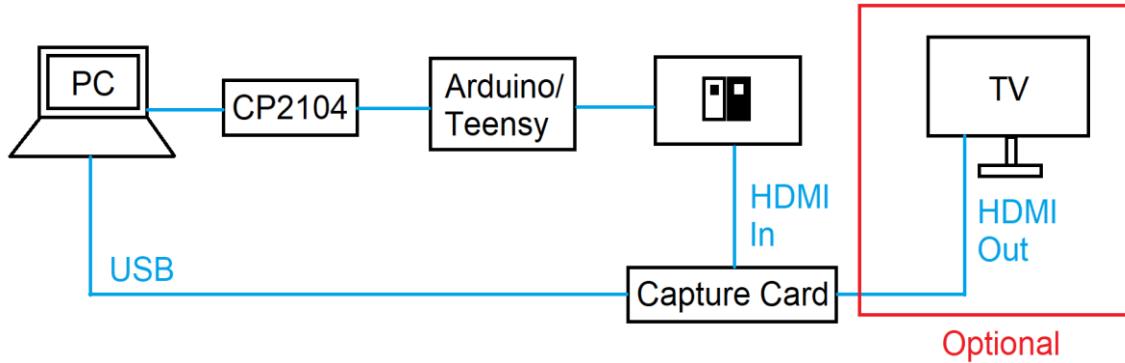
### **1.5.3 Installing .hex File for Smart Program**

This is the exact same process for Native Program, go to Others tab in Auto Controller Helper, compile Others\_SmartProgram with the correct MCU type and installing it to your board.



### 1.5.4 Connecting Everything Together

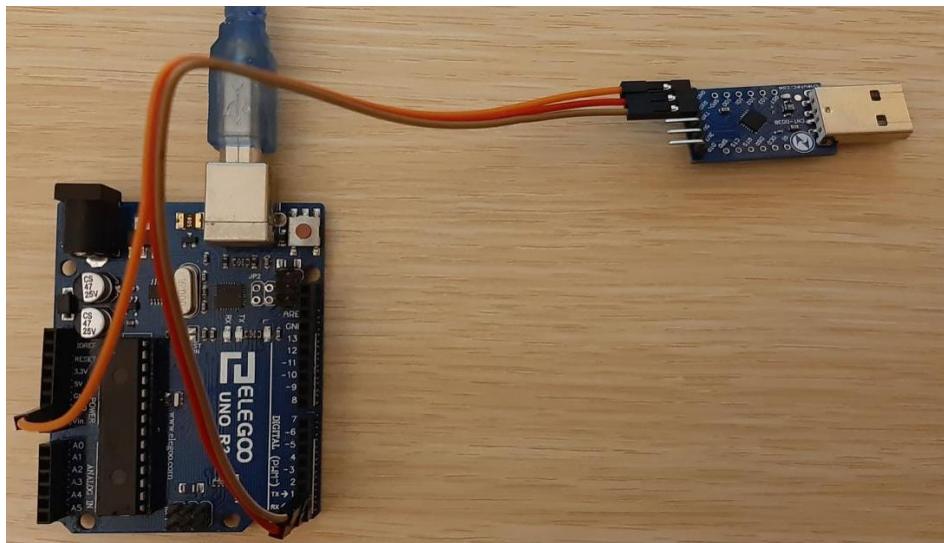
At the end of this section, you should expect to have connection like this diagram, some components are optional depending on the capture card you got.



#### Connecting CP2104 with Arduino Uno R3/Leonardo

Using the male-to-female jumper wires, make the following connections, **color of the wires do not matter as long as you are making the correct connections:**

- TXD pin on CP2104 to **TX -> 1** header on Arduino
- RXD pin on CP2104 to **RX <- 0** header on Arduino
- GND pin on CP2104 to any **GND** header on Arduino



#### Connecting CP2104 with Arduino Pro Micro

Using the female-to-female jumper wires and the mini-grabbers, make the following connections, **color of the wires do not matter as long as you are making the correct connections:**

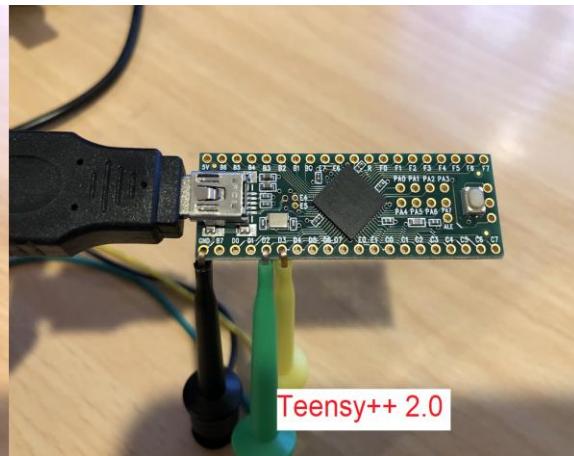
- TXD pin on CP2104 to **RX1** pinhole on Arduino
- RXD pin on CP2104 to **TX0** pinhole on Arduino
- GND pin on CP2104 to any **GND** pinhole on Arduino



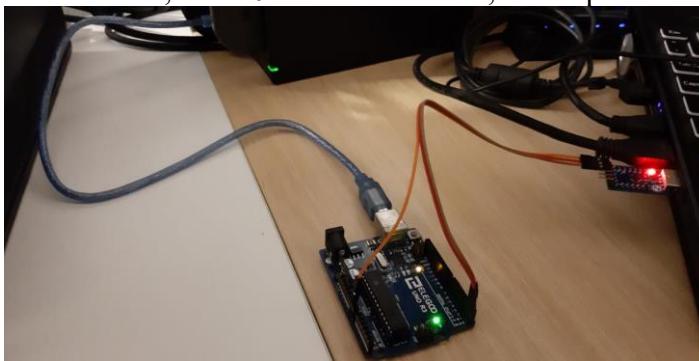
### ***Connecting CP2104 with Teensy 2.0/Teensy++ 2.0***

Using the female-to-female jumper wires and the mini-grabbers, make the following connections, **color of the wires do not matter as long as you are making the correct connections:**

- TXD pin on CP2104 to **D2** pinhole on Teensy
- RXD pin on CP2104 to **D3** pinhole on Teensy
- GND pin on CP2104 to any **GND** pinhole on Teensy

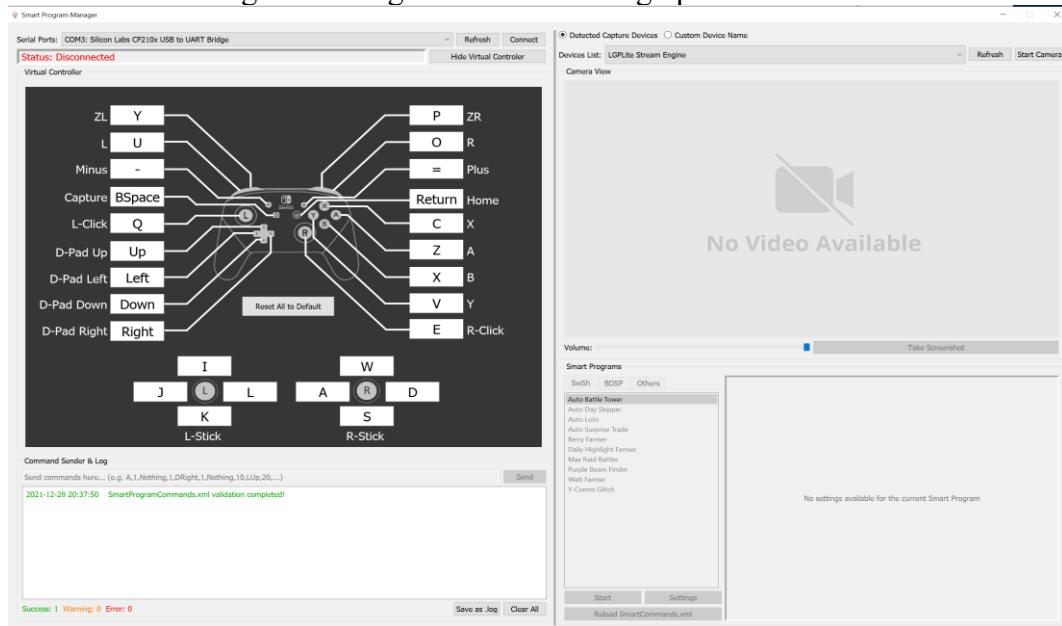


Once you have all the wiring finished, connect the USB end on Arduino/Teensy to the Switch dock, CP2104 USB end to PC, and capture card connected, you are ready to go.



## 1.5.5 Smart Program Manager

You should have installed the .hex file for Smart Program at this point, now click on Launch Smart Program Manager and should bring up this window:

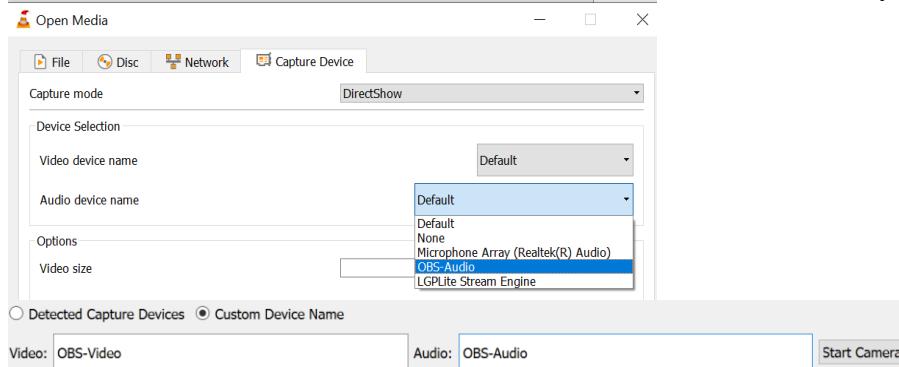


Start by selecting the correct serial port and press **Connect**, it will attempt to communicate with Arduino/Teensy and it will connect after 0.5s if feedback was established. If fails check the following:

- Have SmartProgram.hex installed to the board
- Have correct wire connections between the board and CP2104 chip
- Connect the board to the Switch AFTER disconnecting all other controllers

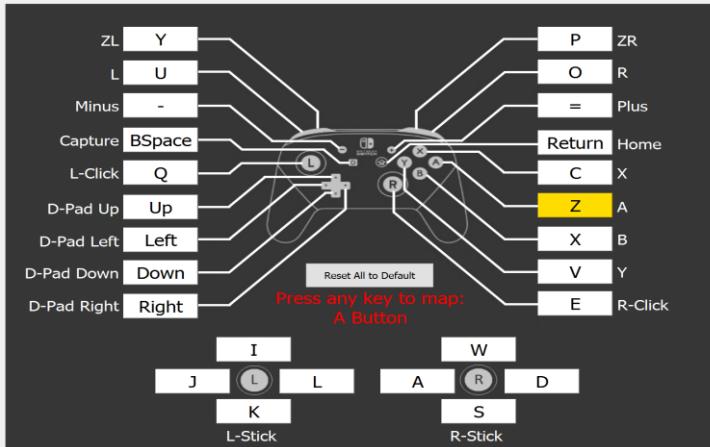
Next select the capture card device and press **Start Camera**, you must make sure no other applications are occupying the capture card (like OBS), otherwise it will not start.

If there is no audio output, that means the video device name is not the same as audio device name. For that you will need to download **VLC player** then go to Media -> Open Capture Device... Here you can check the video and audio device names, then go back to Smart Program Manager, select **Custom Device Name** and manually input the names.



### 1.5.6 Testing Keyboard Controls

Now you should be able to control the game with keyboard, you can change the button layout by pressing on the key buttons and map the key you want. You can also hide the controller tab by pressing **Hide Virtual Controller** to view the Log more. (Side note: You can also control with keyboard without **Start Camera** if you have TV output)



If the control is completely wrong and doing weird stuff, this can happen if you got a 2<sup>nd</sup> hand Arduino Uno R3 board, there is a high chance the Atmega328p chip is interfering with the program. You will have to remove the chip in the picture below. Be careful to alternate prying on left and right to avoid breaking the pins.

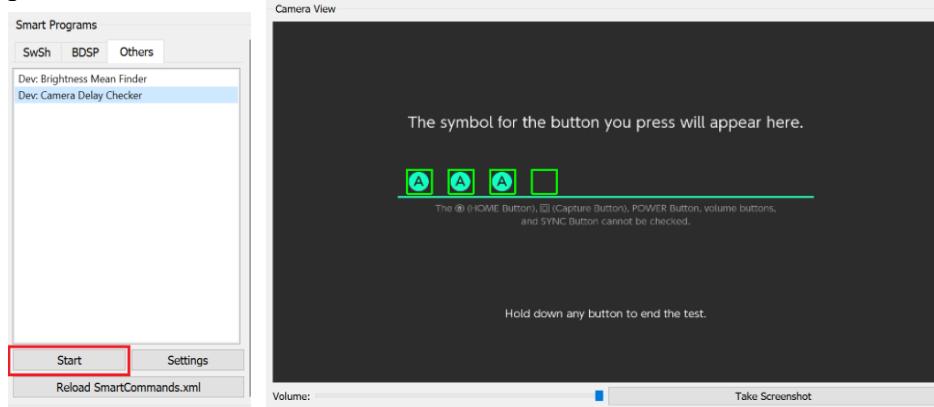


If the chip is not detachable (SMD revision for Uno), you will need to do the following:

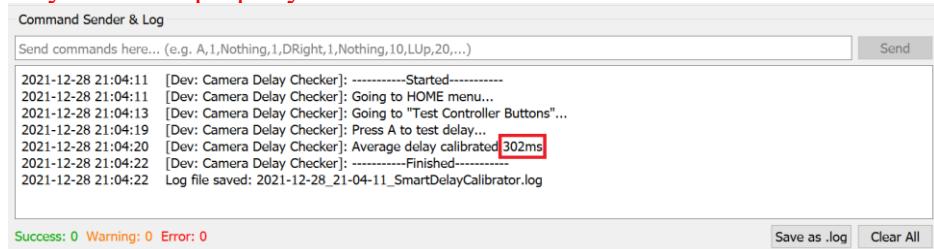
1. <https://support.arduino.cc/hc/en-us/articles/4408887452434-Flash-USB-to-serial-firmware-in-DFU-mode> Download the original Arduino firmware and flash it like you would with Flip
2. <https://docs.arduino.cc/learn/programming/sketches> Follow this guide and update an empty sketch to the board (with setup and loop empty)
3. Re-flash Smart Program hex file

## 1.5.7 Testing Camera Delay & Color Detection

Now let's test if everything is working correctly, we will test this by running the **Camera Delay Checker** program, go to Others tab, select **Dev: Camera Delay Checker** and press **Start**.



This program will go to the **Test Controller Buttons** menu and press A four times and calibrate the delay of the video output of your capture card. If successful, it should output the delay time in the Log window. **If the delay is above 1000ms, other Smart Programs may not work properly.**



**If the program is unable to detect Home screen properly, or any other Smart Program got stuck,** your capture card might be outputting a slightly higher saturation video than usual, this has been observed to happen to most USB capture cards with no TV output.

### Normal Output:



## High Contrast Output:



**Update:** This is ONLY required for BDSP, if you have detection problem with other games, please join Discord channel and ask for help. For this you will have to run **Dev: Color Calibrator** smart program. You will need to take a screenshot of a battle in BDSP (like the ones above). Then click on **Adjust Video Effects** and change the value until all the detections return green, you should only need to adjust **Saturation** and **Gamma**, only adjust **Hue** if you have to.

Camera View

Volume:

Take Screenshot

Adjust Video Effects

Smart Programs

SwSh	BDSP	Others
Dev: Brightness Mean Finder		
Dev: Camera Delay Checker		
Dev: Color Calibrator		

Use this if you are having detection problems, take a screenshot of a battle in BDSP, Then go to Adjust Video Effects and adjust the colors until all detections return green.

	Target HSV	Current HSV
Battle	353,178,194	354,166,184
Pokemon	111,154,201	111,144,197
Bag	51,186,203	51,172,199
Run	239,123,214	238,116,204

Video Effect Settings

Do NOT adjust these settings unless you are instructed or have detection problem!!!

Hue:	0.00
Saturation:	0.91
Gamma:	1.00

Reset to Default

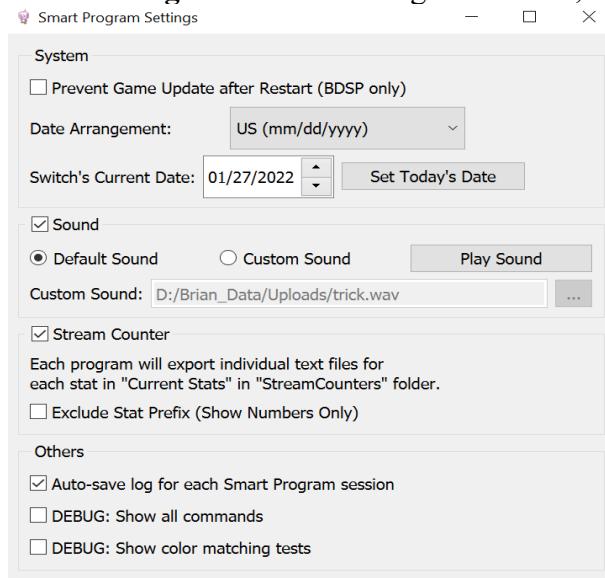
Stop

Settings

Reload SmartCommands.xml

## 1.5.8 General Settings

Press **Settings** under Smart Program section, it will bring up this window:



### System Settings

Here you can set the date arrangement and current date to match the one on your Switch, this is important for programs like **Auto Day Skipper**, they will explicitly remind you to set the date before running the program. There is also an option to prevent game update if the Smart Program restarts the game, but this is only available for BDSP.

### Sound Settings

This sets when Smart Program completes or fails to play a sound effect. You can also change it to use custom sound effects you want.

### Stream Counter

After v5.2.0, Smart Program will always track stats regardless of Stream Counter is checked. **If you want individual stats as a separate text file, you will want to check this still.** Although only a few programs will have stats like shiny hunt related program. Stats may not show until the first time you run a program, after that it will start showing under the video output.

**Current Stats - Errors: 0, Resets: 0, Shiny Starly: 0**

“Reset” will set all stats of the current program to 0, if you want to edit individual values, press “Edit” and open the .ini file with Notepad or Notepad++. This file will not be replaced when new update comes out!

```
1 [SmartBDSPStarter]
2 Encounters=0
3 Errors=0
4 Shiny%20Starly=0
5
6 [smartBDSPDialgaPalkia]
7 Encounters=0
8 Errors=0
9
```

Note that after you save the stats on Smart Program Manager may not update until you switch, start a smart program, or while running a smart program it tries to update a value. You can update the file while smart program is running but it is not recommended.

If you have Stream Counter checked, for each stat it will create a text file in the **StreamCounters** folder, then you can use OBS or other streaming software to read the text file. If you only want the number, check “Exclude Stat Prefix” box.



### ***Logging***

By default when you run any Smart Program it will automatically save a log file to the Log folder, it is recommended to leave this on in case error occurs and needed for debugging. **Show all commands** will print out each individual button presses and **Show color matching tests** will debug color detection from the video output.

### **1.5.9 Before & While Running Smart Programs**

If you have read all the sections above here, you are ready to use Smart Programs! Head to **section 3** and read the instructions carefully for each programs there. But there are a few things you should be aware of before and while running Smart Programs:

- You MUST make sure the Switch video output screen size is set to 100%, since this will cause image detection to misalign, you will NOT be able to start Smart Programs if this is not set properly. Go to **Settings->TV Settings->Adjust Screen Size** and set to 100%.
- Running Smart Programs require decent amount of CPU power, and some of them require a consistent video output to detect status correctly, opening new applications (especially Chrome) may cause video output delay to shift and cause error to programs, so open them before running programs
- Do NOT turn off/set to sleep mode for the Switch while the camera is on, this causes the video output to freeze until you turn it back on, you will not be able to close the application if it was freezing (unless force terminating). **You MUST go to Sleep Mode settings, and set Auto-Sleep (Connected to TV) to never**, since you may be running programs overnight and it stops during that period, this prevents the Switch from turning off

### 1.5.10 Making Custom Commands

At the bottom left of the Smart Program Manager, there is a command sender, here you can make your own commands, or test new commands to be used to make or help develop new programs.

#### *Sending Basic Commands*

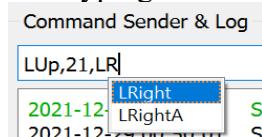
The basic command sequence is COMMAND, DURATION, COMMAND, DURATION, ..., where DURATION must be an integer number (**1 = 48.05ms**), and you can send up to 30 command-duration pair at a time. Here are the available commands:

- **Nothing**
- Basic Buttons: **A, B, X, Y, L, R, ZL, ZR**
- System Buttons: **Plus, Minus, Home, Capture**
- L-Stick: **LClick, LUp, LDown, LLeft, LRight, LUpLeft, LUpRight, LDownLeft, LDownRight**
- R-Stick: **RClick, RUp, RDown, RLeft, RRight**
- D-Pad: **DUp, DDown, DLeft, DRight**
- **Triggers** (press L+R together)
- **LUpA, LDownA, LRightA** (move L-stick and press A at the same time)
- **ASpam, BSpam** (more below)
- **Loop** (more below)

Say you want to move in a square for 1 second in each direction, you will want to send:

- **LUp,21,LRight,21,LDown,21,LLeft,21**

Duration is 21 is from  $1000/48.05 = 20.8$ , then round it to the nearest integer. While you start typing commands, it will give suggestions of what commands are available:



You will be able to see the timing of each command being executing in real time from both virtual controller and the log. After sending each command, you can press Up to go to the most recent command sequence, up to 10 sequences are saved.

Command Sender & Log

Send commands here... (e.g. A,1,Nothing,1,DRight,1,Nothing,10,LUp,20,...)

```
2021-12-29 00:49:59 Serial connected
2021-12-29 00:50:01 Starting Camera...
2021-12-29 00:50:01 Camera on
2021-12-29 00:51:08 Command sent: [LUp,21,LRight,21,LDown,21,LLeft,21]
2021-12-29 00:51:08 Executing command: [LUp,21]
2021-12-29 00:51:09 Executing command: [LRight,21]
2021-12-29 00:51:10 Executing command: [LDown,21]
2021-12-29 00:51:12 Executing command: [LLeft,21]
2021-12-29 00:51:13 -----Finished-----
```

Note that if you want to press the same button more than once one after each other, you **MUST** put a "**Nothing,1**" in between.

## ***ASpam and BSpam***

If you need to press A or B a lot, you can use **ASpam** and **BSpam**, if you have command:

- **ASpam, 100**

This is equivalent to “**A,1,Nothing,1**” and repeat 50 times.

## ***Loop***

Loop is a special command you can use to repeat a sequence of commands, and there are multiple ways you can use this:

- **Once-Off:** Take the ASpam example from above, you can also input “**A,1,Nothing,1,Loop,50**” and does the same thing
- **Loop-Forever:** Take the walk in square for 1s example, if you want this to loop forever, you can set the loop duration to 0 so you have “**LUp,21,LRight,21,LDown,21,LLeft,21,Loop,0**”, this will only stop when you press a mapped key on virtual controller or send new commands. Any commands after **Loop,0** will be ignored

You can also mix the two uses together, take the following command for example:

```
LUp,21,LRight,21,LDown,21,LLeft,21,Loop,1,A,1,Nothing,1,Loop,50,DDown,1,Nothing,1,Loop,0
```

- 
- **Red:** This has a “**Loop,1**” at the end, the reason this is here is to reset the loop position, the next loop command will start from here so blue section can work
  - **Blue:** As mentioned, a loop command will either start from the beginning or from the last loop command, in this case is after “**Loop,1**”
  - **Green:** Since loop duration is 0, it will loop forever, the last loop command was “**Loop,50**” so it will start from there

In conclusion, the final command will be walk in a square on each direction once, then press A 50 times and finally press dpad down forever.

## ***Modifying Existing Commands***

Now that you understand the structure of commands, if you want to modify commands that is currently used by Smart Programs, for example some programs are not working properly for your game’s language, you can find them in **SourceCode -> Bots -> Others\_SmartProgram -> SmartCommands.xml**. You should also consider submitting an issue or pull request to github repository (refer to **section 1.7**).

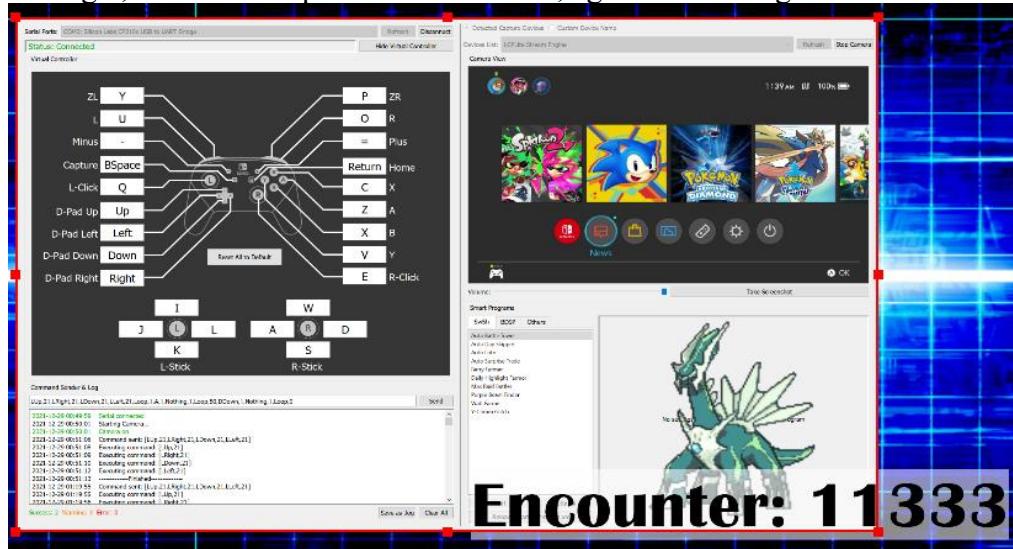
### 1.5.11 Streaming/Recording with Smart Program Manager

Since only one application can use a camera at a time, you cannot record the source from both Smart Program Manager and other programs like OBS, you must record Smart Program Manager itself and crop the video display if needed.

When opening OBS after you have started camera on Smart Program Manager, if you have the camera device setup beforehand, there will be a popup window saying it is occupied by AutoControllerHelper.exe, **this popup often appears behind OBS and you MUST press OK on it otherwise you will find yourself unable to close OBS!!!**



After pressing OK you can go ahead and setup Window Capture for Smart Program Manager, and also setup encounter number, again I will not go details on this.



## 1.6 ShinyPixelChecker Tutorial

After 5.0.0 Smart Program are introduced and you are strongly recommended to use it instead of taking advantage of using a capture card for feedback.

Version 4.4.0 adds this new program to help (mainly streamers) users to find shiny Pokemon! This program has two main functionalities:

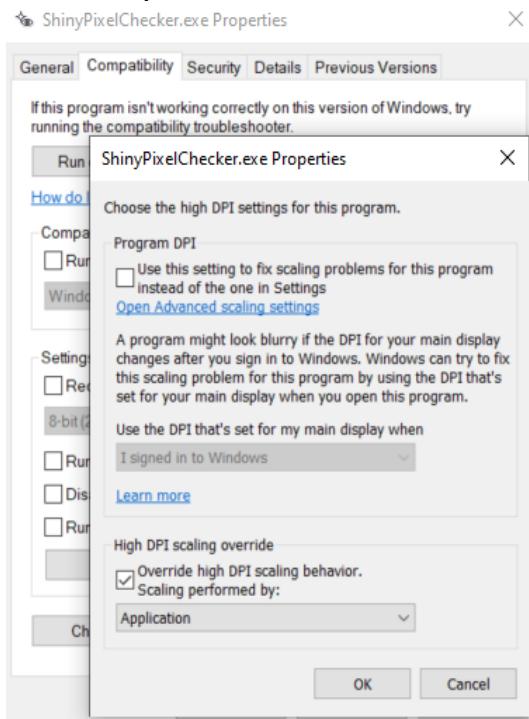
- Detect whether a Pokemon is shiny or not
- Increment counter in a text file that can be read from streaming softwares

You will need the following to be able to use this program:

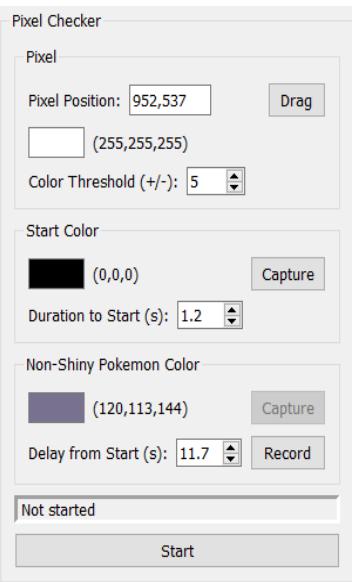
- A capture card (w/ non-Lite Switch) OR a decent webcam (for Lite/non-Lite)
- A streaming software (OBS etc.) OR programs that read video feed
- A PC

This program is mainly designed for checking shiny wild encounters programs (ShinyFiveRegi, ShinySwordTrio etc.), but you can also make it work with EggHatcher or even AutoFossil too!

You are recommended to set the DPI settings to Application since it may mess up if you have multiple screens:



## 1.6.1 Pixel Checker



The main part of this program have three sections:

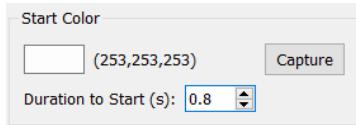
- **Pixel:** the pixel on your monitor the program constantly checks every 0.1s
- **Start Color:** the pixel color that will trigger a timer for “event” when it has been the same color for the start duration
- **Non-Shiny Pokemon Color:** the pixel color of the non-shiny Pokemon, checked after a delay when start color was finished detecting

## 1.6.2 How to Use

1. Before you start, you need to setup so that the streaming software has the input of your capture card or webcam, you can also use the capture card’s own recording software or webcam viewer to get video feed on your PC.
2. Start an encounter manually first, you want to look for an area of the Pokemon that doesn’t have drastic color differences and remember that spot
3. Start a 2<sup>nd</sup> battle, now you will need to press and hold “Drag” and drag the cursor to the position you just remembered. **Make sure no other program can obstruct this pixel when the program is running!**

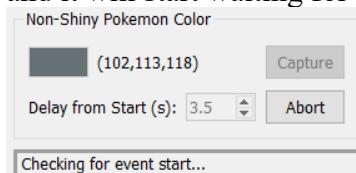


4. Start a 3<sup>rd</sup> battle, this time you want to press the “Capture” button at the Start Color section when the screen goes to white, the color is generally (253,253,253), so you can also set this manually by clicking the color box.

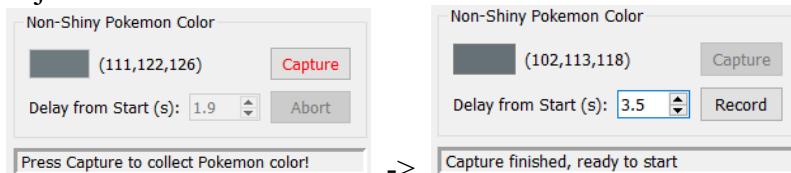


This is not limited to white screens, as long as the color stays on screen for a set amount of time and doesn't happen another event, it will work. For example, egg hatching will have 1.2s black screen before animation starts, no other black screen in it last longer than 1.2s.

5. Now you will need to set the “Duration to Start” time, you want to set this so that it last almost as long as the white/black screen will last, for ShinyFiveRegi it should be 0.8s, ShinySwordTrio is 0.2s and EggHatcher is about 1.2s. You can check this by recording a battle and check how long it lasted on screen.
6. Next you need to record the non-Shiny Pokemon color, press the “Record” button, and it will start waiting for the “event” to start, so go in for the 4<sup>th</sup> battle.



If the start duration is too long, it will never allow you to capture color, press the “Abort” button and adjust the duration. Or if you are using webcam, you will need to adjust the color threshold.



When the “event” starts, it will start counting the delay and wait for you to press “Capture”, now capture the color on the spot on the Pokemon at step 3, the program will remember how long it took for the “event” to start till when it should check the pixel color of the Pokemon.

7. Now you should be good to go, press the “Start” button, it will first look for the **Start Color**, if it is on screen for “duration” long, “event” will start, after the delay timer, it checks the pixel of the Pokemon and notifies you if it is a shiny (check Sounds section)

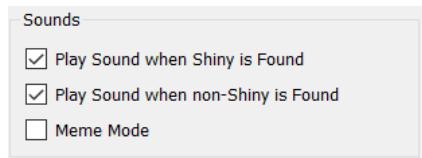


### 1.6.3 Troubleshooting

- If it is waiting for event to start and the duration is too long, it will never start detecting Pokemon's color or let you capture it, reduce the duration time.
- If you are using webcam, you may need to increase the color threshold for all detections to work correctly, otherwise it may give you false positive shiny or event never starts.
- If the program detects a false positive shiny, you can change the pixel you want to check (which you will need to calibrate from the beginning) or adjust the color threshold by checking the difference of your result color compare to the non-shiny Pokemon color, if the difference is too large, you need to find a new pixel.



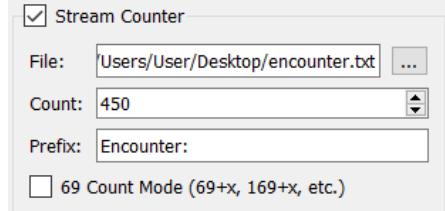
### 1.6.4 Sounds



This section gives you the option to play sounds when shiny and non-shiny is found, when shiny is found, you should unplug your board if your program is going to run from the shiny if you don't. You can also enable Meme mode for different sound effects.

### 1.6.5 Stream Counter

This section is mainly for streams or if you want to keep track of how many encounters you had, you can disable this by unchecking the check box.



- **File:** if you want to have a counter on stream, you need to create a text file first, and press “...” to load the file, this will be used to output text for streaming software to read
- **Count:** the encounter number, this increases every time the “event” starts and the program checks the Pokemon’s pixel color, you can also change this manually, this will also update the text file if specified
- **Prefix:** you can add a prefix before the encounter number to output to text file
- **69 Count Mode:** change the output number to 69+x, 169+x etc.

## **1.7 Contribution, Bug Report, Help Support**

### **1.7.1 Bug Report**

If you find programs not working properly (especially for non-English games), you can submit an issue tracker to the github repository. It is highly recommended include a video of the bug so it can be debugged much easier.

- Native Program: [https://github.com/brianuuu/AutoController\\_swsh/issues](https://github.com/brianuuu/AutoController_swsh/issues)
- Smart Program: <https://github.com/brianuuu/AutoControllerHelper/issues>

### **1.7.2 Creating New Programs**

Alternatively, you can create your own program by submitting pull requests:

- Native Program: [https://github.com/brianuuu/AutoController\\_swsh/pulls](https://github.com/brianuuu/AutoController_swsh/pulls)
- Smart Program: <https://github.com/brianuuu/AutoControllerHelper/pulls>

For Native Programs, programs by default will be treated as Sword/Shield program, for Brilliant Diamond & Shining Pearl program, you need to add “**BDSP\_**” as a prefix, for other programs, add “**Others\_**” prefix.

Once new Native Program is added, it won’t have UI support in AutoControllerHelper to modify configuration, usually I will add them myself, so no need for pull requests on AutoControllerHelper repository.

Adding new Smart Program is much complicated, I will not explain in detail here, but you will need Qt creator in order to edit the source code and add new UIs. But you can check the following commit to see the basic changes you will need to do:

<https://github.com/brianuuu/AutoControllerHelper/commit/538784f76cbde66842d253b3b17bb1c3f6dfd32a>

### **1.7.3 Discord Channel**

If you have any question you can join this channel: <https://discord.gg/GWEurpGZN>

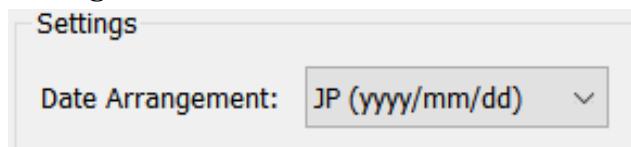
## 2. Native Program Instructions

### 2.1 Pokemon Sword & Shield

#### 2.1.1 Auto3DaySkipper

This program rows 3 days forward to a random Pokemon in a wishing piece den and repeats, this is useful if you are rolling for a specific Pokemon (e.g. 5% 5\* G-max).

##### *Settings*



- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time"  
yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US

##### Instructions

1. **v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
2. Goto Options, set Text Speed to Fast
3. Stand in front of the wishing piece den (**v4.5.0:** You do not need to ride on a bike anymore)
4. Save the game
5. Unsync system clock, go back to the game
6. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

##### *What does the Program do?*

1. Close game, sync and unsync clock and reset date to current date, then start game
2. Skip 3 frames (years) forward using invite glitch
3. At the 4<sup>th</sup> day, the program will spam Down button for 10 seconds at the raid summary for user to check if the Pokemon is the one they want
4. If yes, unplug the board, if not, leave it alone and it will start from 1. again

##### *Config.h Detail*

- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)

## 2.1.2 AutoBattleTower

This program automatically does battle tower in Wyndon and grinds BP. This is very useful if you need BP to buy mints and ability capsules. Credit goes to sug@r for the button sequence (check credits for reference).

### *Settings*

N/A

### *Instructions*

1. Goto Options, set Text Speed to Fast, set Battle Effects to Off
2. Goto VS -> Battle Stadium -> Rental Teams (You will need **Nintendo Switch Online** for this, if not you will need to build the team yourself, you can refer to Appendix 2 to check how to maximize the power of the Pokemon)
3. Rent the team with ID “0000-0006-15Y4-3R”, the team includes:

#### **Zacian @ Rusted Sword**

Ability: Intrepid Sword  
EVs: 252 Atk / 4 Def / 252 Spe  
Adamant Nature  
- Iron Head (Max PP Up)

#### **Eternatus @ Choice Specs**

Ability: Pressure  
EVs: 4 Def / 252 SpA / 252 Spe  
Modest Nature  
- Dynamax Cannon (Max PP Up)

#### **Dracovish @ Choice Scarf**

Ability: Water Absorb  
EVs: 252 Atk / 4 Def / 252 Spe  
Adamant Nature  
- Fishious Rend (Max PP Up)

4. Join Single Battle on Battle Tower, choose the team above and Zacian in the front, wait until you can press Fight on the first battle
5. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### *What does the Program do?*

It loops Battle Tower forever, it is able to switch Pokemon. It is also able to re-enter Battle Tower when losing, pausing midway or after winning.

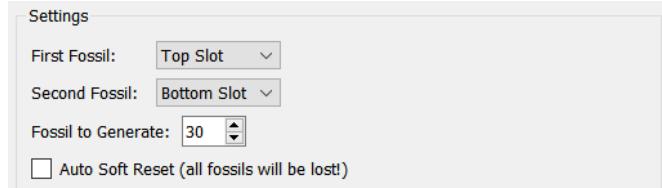
### *Config.h Detail*

N/A

### 2.1.3 AutoFossil

This program automatically talks to Cara Liss and generate fossils, this is perfect if you are hunting for shiny fossils, as they cannot be bred and not available in raids.

#### Settings



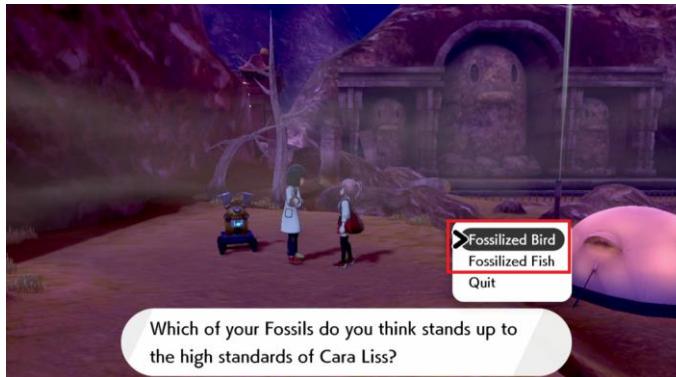
- **First Fossil:** The 1<sup>st</sup> fossil selection when you talk to Cara Liss (Top/Bottom)
- **Second Fossil:** The 2<sup>nd</sup> fossil selection when you talk to Cara Liss (Top/Bottom)
- **Fossil to Generate:** how many fossil you want to generate before restarting
- **Auto Soft Reset:** Automatically restart the game when you get enough fossils

#### Instructions

1. Goto Options, set Text Speed to Fast, set Give Nicknames to Don't give, set Send to Box to Automatic
2. v4.4.2: Set Sound Effects volume to 0, you will need Hi-tech Earbuds from a person in Motostoke

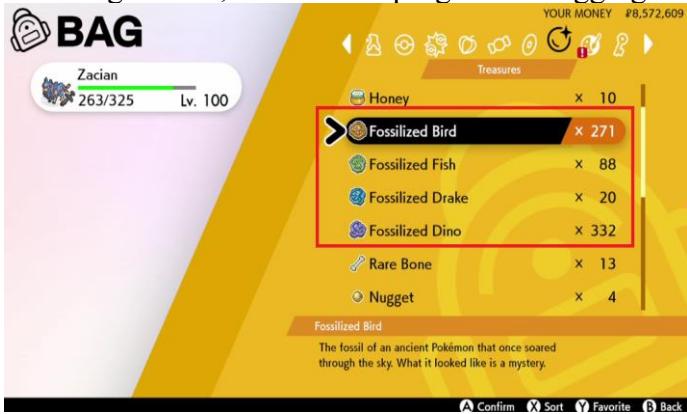


3. Fly to route 6 and save in front of Cara Liss
4. Create the fossil at least once to register it in the Pokedex
5. Talk to Cara Liss, check whether your fossil is on the top slot or the bottom slot for both fossils



6. Check whether you have enough number for both fossils in your inventory, if you

want to get more, use TurboA program on digging duos



7. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

The program will keep talking to Cara Liss until you get enough number of fossils, if you didn't check “**Auto Soft Reset**”, the program will stop at the home menu signaling it is finished. Otherwise it will soft-reset immediately, you will have to pay attention every time you get a fossil and check whether it is a shiny, generally this is not recommended.

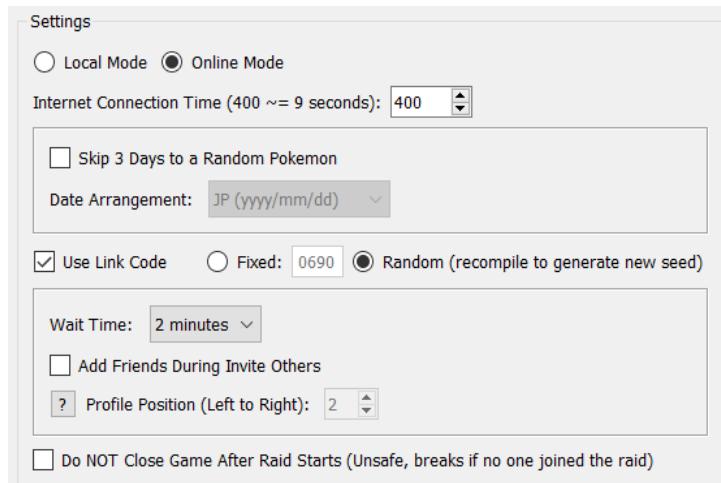
### ***Config.h Detail***

- **m\_firstFossilTopSlot:** true = top slot, false = bottom slot
- **m\_secondFossilTopSlot:** true = top slot, false = bottom slot
- **m\_timesBeforeSR:** Number of fossils to generate
- **m\_autoSoftReset:** true = SR when enough fossile, false = otherwise

## 2.1.4 AutoHost

This program automatically host raid, with a lot of different settings user can set, including skipping to the 4<sup>th</sup> day for random Pokemon, customize link code, add friend during waiting etc.

### Settings



- **Local/Online Mode:** Set between hosting locally or online
- **Internet Connection Time:** Change this base on the time it takes for your game to connect to the internet,  $400 \approx 9$  seconds, you are advice to use wired connection to have faster and stable connection
- **Skip 3 Days to a Random Pokemon:** Checking this will roll 3 days to a random Pokemon before hosting a raid
- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time"   
 yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US
- **Use Link Code:** Checking this will set a link code before starting a raid
  - Fixed:** Use the same link code for all raids
  - Random:** Generate a pseudo random link code for each raid, the sequence will be the same every time you unplug and replug the board, to change to a different random sequence, recompile the program
- **Wait Time:** 2 minutes (until 1:00 mark) or 1 minute (until 2:00 mark), the client must be ready before the timer, otherwise the raid will fail or breaks the program
- **Add Friend During Invite Others:** Checking this will add friends while waiting for client to join the raid
- **Profile Position (Left to Right):** Only used when you check above, at home menu, the profiles on the top from left to right, pick the one you which to add friend on
- **Do NOT Close Game After Raid Starts:** Checking this will keep the same raid without restarting the game, this is **unsafe** since if clients are not ready before the timer hits or no one joins the raid, the program will softlock inside a raid, so user should monitor the program. This is not available if "**Skip 3 Days to a Random Pokemon**" is checked, if you which to do that, please use Auto3DaySkipper before using this program.

## **Instructions**

1. Goto Options, set Text Speed to Fast
2. Stand in front of the wishing piece den and save
3. Disconnect from the internet in y-comm
4. If “**Skip 3 Days to a Random Pokemon**” is checked, you must unsync system clock.  
**v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
5. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

## **What does the Program do?**

1. If “**Skip 3 Days to a Random Pokemon**” is not checked, skip to next step, otherwise it does the same thing as Auto3DaySkipper
2. Connect to internet at y-comm
3. Talk to the den, if “**Use Link Code**” is checked, it will set your fixed or random link code then start the raid
4. While waiting for clients to join, if “**Add Friend During Invite Others**” is checked, it will goto the profile number you picked and spam A at Add Friends
5. Start raid after it waited for “**Wait Time**”, and wait until you can see the Pokemon
6. If “**Do NOT Close Game After Raid Starts**” is checked, it will goto the first profile and search for local friend, this will DC from the raid but keeping the same raid, then restart from 2., otherwise it will close the game and start from 1. Again (note that restarting game will result client’s side freezing for 10-15 seconds)

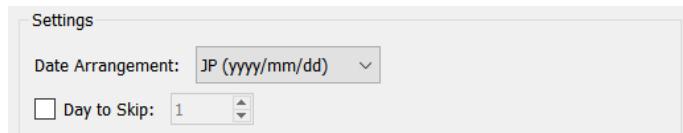
## **Config.h Detail**

- **m\_localMode:** false = host locally, true = host online
- **m\_internetTime:** Time to connect to internet (400 ~ 9 seconds)
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_skip3Days:** Skip 3 days before starting a raid
- **m\_unsafeDC:** true = use invite local friend to DC from raid, false = restart game
- **m\_useLinkCode:** true = set link code for raid, false = otherwise
- **m\_useRandomCode:** true = Generate pseudo random link code base on **m\_seed**, **m\_useLinkCode** must be set to true to use this
- **m\_seed:** 0 to 255, a seed to generate different pseudo random link code sequence
- **m\_linkCode[]:** set your fixed link code here, 1234 = {1,2,3,4}; etc., **m\_useLinkCode** must be set to true and **m\_useRandomCode** set to false to use this
- **m\_waitTime:** 0 = wait 1 minute until 2:00 mark, 1 = wait 2 minutes until 1:00 mark
- **m\_addFriends:** true = add friends while waiting for clients to join raid
- **m\_profile:** 1 to 10, the profiles on the top at home screen from left to right,

## 2.1.5 AutoLoto

This program grinds loto for rewards like PP Up, PP Max and Master Balls! Before you use this program you should have at least a few surprise trade boxes so they all have different trainer ID to maximize your chance of getting better rewards. If you want to do surprise trade automatically, use EggCollector and EggHatcher to hatch boxes of Magikarps and use BoxSurpriseTrade to trade them all.

### Settings



- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time" yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US  
\*\*\*You are recommended to use **Japanese** date arrangement since it skips day the fastest, to do so, goto System Settings > System > Language, change it to **日本語** (remember where to change this if you can't read Japanese and wish to change the language back later)
- **Day to Skip:** Optional, the program will stop after skipping specified days, so you can grind loto and also skipping days for your shiny den at the same time

### Instructions

1. **v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
2. Goto Options, set Text Speed to Fast
3. Stand in front of a Rotom PC
4. Unsync system clock, go back to the game
5. Activate y-comm glitch
6. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

1. Sync and Unsync clock and reset date to current date
2. Skip 1 frame (year) forward
3. Get reward from loto, repeat 1., if optional day to skip is set, the program will stop at the home menu signaling it is finished

### Config.h Detail

- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_dayToSkip:** 0 = infinite, otherwise the number of days before the program stops

## 2.1.6 AutoTournament

This program automatically does tournament in Wyndon stadium and grinds items from Ball Guy (he's awful). This is useful if you need rare items like Flame Orb, Toxic Orb or Kurt Balls that you can only get via tournament. Credit goes to 甘木まぎ@maginego for the button sequence (check credits for reference).

**WARNING:** This program DOES NOT work anymore if you have triggered **Galarian Star Tournament** from Crown Tundra DLC!!!

### *Settings*

N/A

### *Instructions*

1. Goto Options, set Text Speed to Fast, set Battle Effects to Off
2. Have only Zacian in your team with the following set (please refer to Appendix 2 to check how to maximize the power of the Pokemon):

**Zacian** (lv100) @ Rusted Sword

Ability: Intrepid Sword

EVs: 252 Atk, Optional: 4 Def / 252 Spe

Adamant Nature

- Iron Head (Max PP Up)

3. If you don't have Zacian then you can try to use one of the Pokemon below, but all of them are significantly worse than Zacian and each one can have opponent that is impossible to beat (sorry Shield players, good luck):

**Galarian Darmanitan** (lv100) @ Choice Band

Ability: Gorilla Tactics

EVs: 252 Atk / >32 Spe / the rest on Def

Adamant Nature

- Ice Punch/Icicle Crash (Max PP Up)

#### **Trainers Can't Beat:**

- Hop (Zacian)
- Nessa (Drednaw)
- Kabu (Centiskorch)

\*Icicle Crash can beat everything (if the move hits with 90% accuracy)

**Tyranitar** (lv100) @ Choice Band

Ability: Sand Stream

EVs: 252 Atk / >220 Spe / the rest on Def

Jolly Nature

- Crunch (Max PP Up)

#### **Trainers Can't Beat:**

- Hop (Zacian)
- Marnie (Scruffy & Grimmsnarl)

**Crawdaunt** (lv100) @ Choice Band

Ability: Adaptability (Hidden)

EVs: 252 Atk / 252 Spe / 4 Def

Adamant Nature

- Crunch (Max PP Up)

**Trainers Can't Beat:**

- Hop (Zacian)
- Marnie (Grimmsnarl) \*within range

**Sirfetch'd** (lv100) @ Choice Band

Ability: Scrappy (Hidden)

EVs: 252 Atk / >180 Spe / the rest on any

Jolly Nature

- Close Combat (Max PP Up)

**Trainers Can't Beat:**

- Allister (Runerigus) \*ability got replaced
- Bede (Hatterene)
- Leon (Charizard)

**Dracovish** (lv100) @ Choice Band

Ability: Strong Jaw

EVs: 252 Atk / 252 Spe / 4 Def

Adamant Nature

- Fishious Rend (Max PP Up)

**Trainers Can't Beat:**

- Marnie (Toxicroak) \*Dry Skin
- Leon (Seismitoad) \*Water Absorb, only if you picked Grotle as your starter
- Gym Challenger Corvin (Lanturn) \*Water Absorb
- Gym Challenger Terry (Dracovish) \*Water Absorb

4. Stand in front of Wyndon Stadium receptionist

5. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

It loops Wyndon Stadium tournament forever, collect reward from Ball Guy when it is over and rejoin the tournament, it is also able to rejoin if you lose.

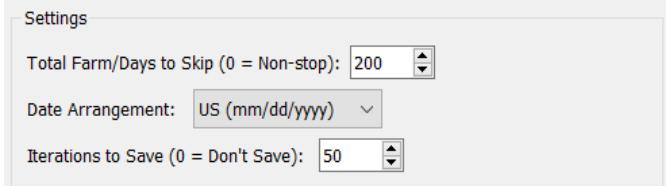
### ***Config.h Detail***

N/A

## 2.1.7 BerryFarmer

This program farms the same berry tree forever, you can use this to farm leftovers, Sitrus berry for competitive, or berries that increase happiness of your Pokemon etc.!

### Settings



- **Total Farm/Days to Skip:** Set the no. of cycles to run, you can use this to skip frames of a day while farming
- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time" yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US
- **Iterations to Save:** Save every that amount of loops has been run, since there's a small chance the game will crash if you are using this in Wild Area

### Instructions

1. **v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
2. Goto Options, set Text Speed to Fast
3. Stand in front of the berry tree you want to farm (check Serebii.net for what berries are apricorn it can drop)
4. Stay away from any wild Pokemon that can run into you (Greedent/Sneasel etc.)
5. Unsync system clock, go back to the game
6. Activate y-comm glitch
7. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

1. Sync and Unsync clock and reset date to current date
2. Skip 1 frame (year) forward
3. Talk and shake the berry tree only once
4. If number of iteration matches "**Iterations to Save**" the game will be saved, if day to skip is not 0, the program will stop at the home menu signaling it is finished, otherwise it will repeat from 1.

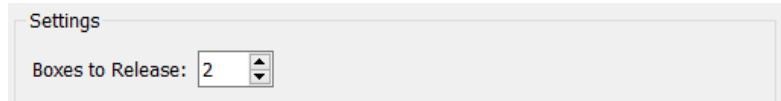
### Config.h Detail

- **m\_farmTotal:** 0 = infinite, max = 65535, the number of cycles/days to skip
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_saveAt:** number of iterations to save, 0 = never saves (not recommended)

## 2.1.8 BoxRelease

This program releases all Pokemon in one or multiple boxes, if you have a lot of breed rejects you can use this to get rid of them very fast.

### Settings



- **Boxes to Release:** number of boxes of Pokemon you wish to release

### Instructions

1. Save the game first in case anything goes wrong
2. Goto Options, set Text Speed to Fast
3. Make sure all release boxes are adjacent to each other, they should NOT have any eggs or empty spaces (the last rightmost box is allowed to have empty spaces, but the Pokemon must be arranged from left to right, top to bottom, the program will also start to do weird things after releasing all Pokemon, so it is best to monitor it)



4. Set the cursor to Select mode (red) and move it to the first leftmost box's top left
5. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

The program releases Pokemon in a box from left to right, top to bottom, when it finished releasing the boxes user has set, the program will stop at the home menu signaling it is finished.

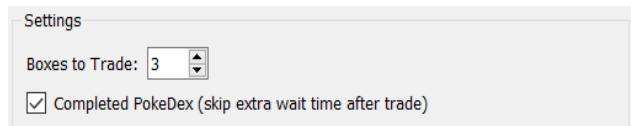
### Config.h Detail

- **m\_boxCount:** number of boxes of Pokemon you wish to release

## 2.1.9 BoxSurpriseTrade

This program automatically do surprise trade with the Pokemon in your PC, this is useful to get a lot of Pokemon with different trainer ID to farm Master Balls from loto, you can use AutoLoto for that.

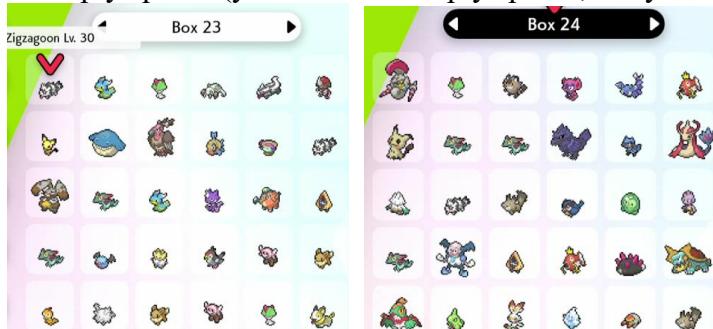
### Settings



- **Boxes to Trade:** number of boxes to do surprise trade
- **Completed PokeDex:** Check this if you have completed your pokedex, this saves a few seconds per trade

### Instructions

1. Goto Options, set Text Speed to Fast
2. Fly to any places that is not Wild Area, this will reduce lag
3. Do not stand in front of any NPCs to prevent talking to them
4. Make sure all trade boxes are adjacent to each other, they should NOT have any eggs or empty spaces (you can have empty spaces, but you will be just wasting time)



5. Goto PC, scroll the box view to the first leftmost box (Box 23 on the above example) and exit, this will make sure when the program starts, it will start on that box
6. Connect to the internet in y-comm
7. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

The program do surprise trade of your selected boxes from left to right, top to bottom. It will wait 30 seconds then finish the trade. There are cases where the **next trade will fail**:

- Unable to find current trade in 30 seconds
- Current trade contains a trade evolution (Machoke, Haunter etc.)
- User has checked “**Completed PokeDex**” in settings but receives a new dex entry

This does not break the program, only skips the next trade. However, if the current trade is the last Pokemon in a box, it will not be able to goto the next box and continue trading with the same box, to prevent that, the last trade has a wait time of 1 minute, but trade evolution will still break this, it is recommended to monitor near the end of each box.

When all the boxes have finished trading, the program will stop at the home menu

signaling it is finished.

#### ***Config.h Detail***

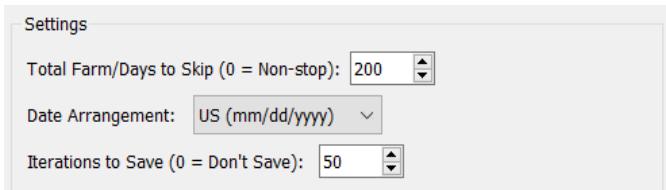
- **m\_boxesToTrade:** number of boxes to do surprise trade
- **m\_completeDex:** true = skip a few seconds after every trade, false = extra A button presses after each trade

## 2.1.10 DailyHighlightFarmer

This program farms “today’s highlight” from Watt Trader at Snowslide Slope, you can use this to grind for rare items like Dream Ball or Max Mushroom! This program make use of the fast button presses for skip frame much faster!

Check the list of items here (maybe incomplete): <https://game8.co/games/Pokemon-sword-shield/archives/305741>

### Settings



- **Total Farm/Days to Skip:** Set the no. of cycles to run, you can use this to skip frames of a day while farming
- **Date Arrangement:** Match with your system’s current settings, check it at “System Settings > Settings > Date and Time > Date and Time”  
yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US
- **Iterations to Save:** Save every that amount of loops has been run, since there’s a small chance the game will crash if you are using this in Wild Area

### Instructions

1. Have a bunch of watts before using this, you can grind them using TurboA on Digging Pa or WattFarmer
2. Average watt spent is about 4000W, set the total farm below your budget, the program should not break even if you are broke, but this is not tested
3. **v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
4. Goto Options, set Text Speed to Fast
5. Stand in front the Watt Trader at Snowslide Slope



6. Unsync system clock, go back to the game
7. Activate y-comm glitch
8. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

1. Sync and Unsync clock and reset date to current date
2. Skip 1 frame (year) forward
3. Buy today's item from Watt Trader, if the item bought is the first time you ever got it, it may break the next cycle, but it will recover on the next next cycle.
5. If number of iteration matches "**Iterations to Save**" the game will be saved, if day to skip is not 0, the program will stop at the home menu signaling it is finished, otherwise it will repeat from 1.

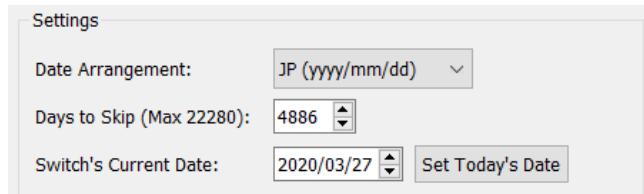
### ***Config.h Detail***

- **m\_farmTotal:** 0 = infinite, max = 65535, the number of cycles/days to skip
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_saveAt:** number of iterations to save, 0 = never saves (not recommended)

## 2.1.11 DaySkipper

This program advances days automatically. This is mainly used to shiny hunting to skip thousands of days without doing it manually and breaks your finger. There are two version of this program, DaySkipper and DaySkipper\_Unlimited, if you wish to know the exact date the program will end at, use this, but this has a limit of skipping 22280 days.

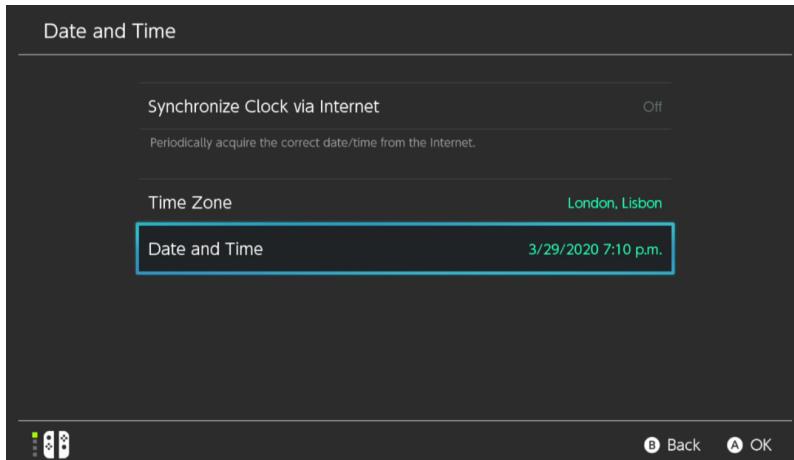
### Settings



- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time" yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US  
\*\*\* You are recommended to use **Japanese** date arrangement since it skips day the fastest, to do so, goto System Settings > System > Language, change it to **日本語** (remember where to change this if you can't read Japanese and wish to change the language back later)
- **Days to Skip:** number of days to skip, maximum is 22280, due to Switch's max date is 31<sup>st</sup> December 2060.
- **Switch's Current Date:** Match this with your console's date, you will have to change the date if the number of skips exceed the maximum date

### Instructions

1. Unsync system clock, make sure the time is not between daylight saving (1am - 3am), if you are using Japanese date arrangement, you don't have to worry about this
2. Go back to the game and activate y-comm glitch
3. Goto Pokemon Center to prevent game from crashing
4. Hover cursor to Date and Time



5. Connect Arduino/Teensy to your Switch (there's no need to unsync current controller)

### ***What does the Program do?***

The program will advance date one by one, it is able to tell when to skip day/month/year and skip leap years correctly. When the program reaches the end date (which should match the end date in Information in the helper tool), it will go back to the game signaling it is finished.

### ***Config.h Detail***

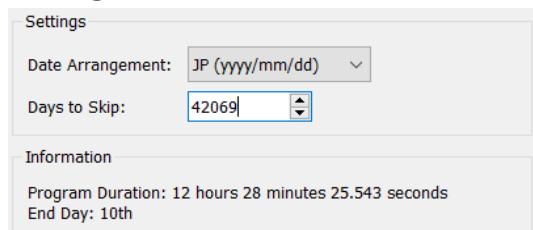
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_day:** Console's current day (1 - 31)
- **m\_month:** Console's current month (1 - 12)
- **m\_year:** Console's current year (2000 - 2060)
- **m\_dayToSkip:** days to advance

If you are doing this manually and wish to know the end date, use the following link to check: <https://www.timeanddate.com/date/dateadd.html>

## 2.1.12 DaySkipper\_Unlimited

This program advances days automatically. Unlike DaySkipper, this has a limit of **2-billion** skips, this is way more than enough for doing long skips for rare shinies. The only drawback of this is you will not be able to know the end date, but the program will tell to the estimate duration of the program and the end day (1-31).

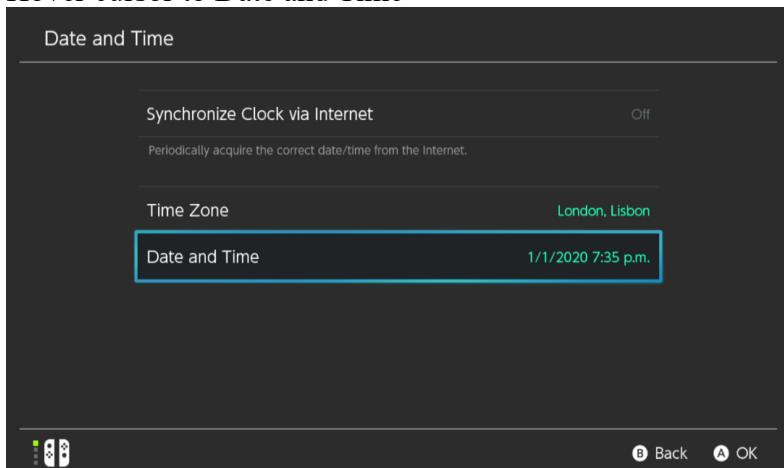
### Settings



- **Date Arrangement:** Match with your system's current settings, check it at “System Settings > Settings > Date and Time > Date and Time”  
yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US  
\*\*\*You are recommended to use **Japanese** date arrangement since it skips day the fastest, to do so, goto System Settings > System > Language, change it to **日本語** (remember where to change this if you can't read Japanese and wish to change the language back later)
- **Date to Skip:** Limit is 2147483647 (real limit is 4294967295, but 2 billion skips already takes 69 years to skip and you are probably dead lol)

### Instructions

1. Unsync system clock, set the current date the 1<sup>st</sup> of any month with 31 days (January, March, May etc.)
2. Go back to the game and activate y-comm glitch
3. Goto Pokemon Center to prevent game from crashing
4. Hover cursor to Date and Time



5. Connect Arduino/Teensy to your Switch (there's no need to unsync current controller)

### ***What does the Program do?***

The program will advances day one by one, it will ONLY advances day and this is normal, when the day changes from 31 to 1, no skip is registered but the program knows that and will continue skipping. When the program finishes (the end day should match Information in the helper tool), it will go back to the game signaling it is finished.

### ***Config.h Detail***

- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_dayToSkip:** days to advance (1 - 4294967295)

## 2.1.13 EggCollector

This is Part 1 of 2 of shiny hunting via hatching eggs. This program automatically collect egg from Route 5 nursery. This also make use of Rotom Bike's turbo boost, increasing the chance of getting an egg, making it much more efficient than other programs.

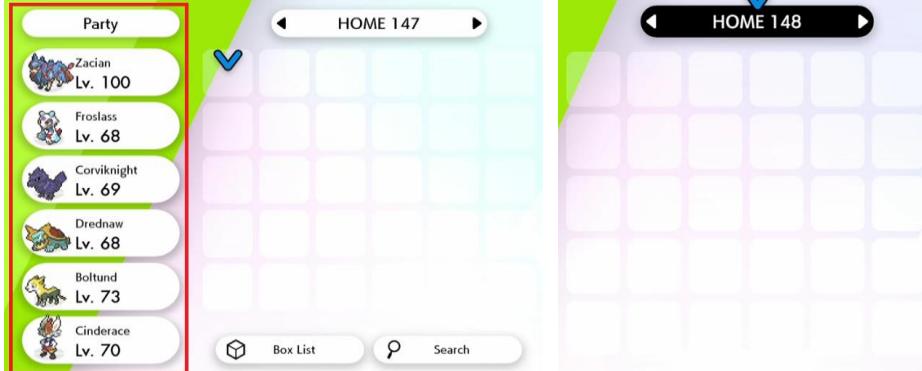
### Settings



- **Target No. of Eggs:** number of iterations (if you follow all the instructions below, you should be getting about 80% number of eggs), you can set 0 to do this indefinitely, but running out of box space is untested, use at your own risk

### Instructions

1. Goto Options, set Text Speed to Fast, set Send to Boxes to Automatic
2. You must have a full party without any eggs, and have plenty of space in your PC (ideally the boxes should be next to each other to keep eggs organized)



3. Scroll to the first leftmost box and exit
4. Have a full upgraded Rotom Bike (use WattFarmer if you don't have enough watts, then talk to any watt traders to upgrade your bike)
5. Goto Route 5 nursery and charge up **Rotom Bike turbo boost**
6. Cycle from the left side of the nursery worker, and towards her until you get stuck



7. (Optional) Defeat GAME FREAK's Morimoto to get Oval Charm, this can increase the chance of getting an egg
8. (Optional) The two Pokémons in nursery have different trainer ID (e.g. someone else's Ditto + your Pokémons), this will also increase the chance of getting eggs
9. Compile and load the program to the board, disconnect current controller and

connect Arduino/Teensy

### ***What does the Program do?***

1. Using turbo boost, cycle towards the right
2. Do a loop and cycle back to the left side of the nursery worker
3. Talk to nursery worker and get egg, there's a chance that you won't get an egg, but that's normal
4. Repeat from 1. until it reaches the amount user specified in settings, the program will stop at the home menu signaling it is finished.

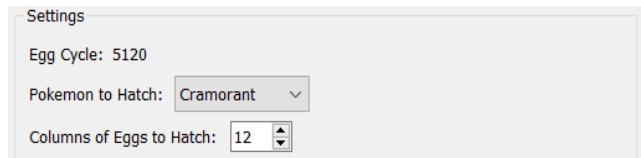
### ***Config.h Detail***

- **m\_maxCycle:** number of iterations, 0 = infinite

## 2.1.14 EggHatcher

This is Part 2 of 2 of shiny hunting via hatching eggs. This program hatches columns of eggs in your PC automatically next to Route 5 nursery. This also make use of Rotom Bike's turbo boost, making it much more efficient than other programs.

### Settings



- **Pokemon to Hatch:** a dropdown contains all Pokemon, pick the one your are hatching, this will update the **Egg Cycle** number above
- **Columns of Eggs to Hatch:** columns of eggs in your box to be hatched, read more in the instructions

### Instructions

1. Goto Options, set Text Speed to Fast, set Give Nicknames to Don't give
2. Have only ONE Pokemon with Flame Body ability in your party (Litwick, Carkol, Centiskorch etc.)



3. Have the hatching Pokemon already registered in the pokedex (especially Munchlax, Budew, other baby Pokemon etc.)
4. Have a full upgraded Rotom Bike (use WattFarmer if you don't have enough watts, then talk to any watt traders to upgrade your bike)
5. Goto Route 5 nursery and charge up **Rotom Bike turbo boost**
6. From outside nursery, cycle south west until your hit the first NPC on the bridge (the girl that talks about Team Yell goons)



7. Check your boxes, all columns of eggs must be adjacent to each other
8. Each column must have 5 eggs, with the exception of the last rightmost column (last column without 5 eggs will break the program, but it is the end so it doesn't matter)
9. All Eggs must have the same egg cycle at least if they are not the same Pokemon
10. Move the cursor to the first leftmost column of eggs and change cursor to Multiselect mode (green)



11. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

1. Pick up 5 eggs from a column in the box
2. Using turbo boost, cycle towards the left
3. Do a big loop and cycle back to the left side of the NPC
4. Repeat number of big loops base on egg cycle group
5. Do small loops without using turbo boost (number varies base on egg cycle group)
6. Hatch 5 eggs
7. Cycle down then right back the the left side of the NPC
8. Put the hatched Pokemon back to box and pick up the next column, repeat from 2.
9. When all columns of eggs are hatched, the program will stop at the home menu signaling it is finished.

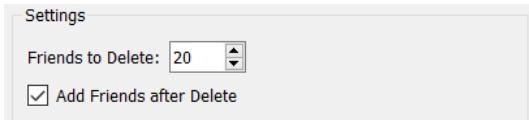
### ***Config.h Detail***

- **m\_eggStepGroup:** 0 = 1280 steps, 1 = 2560 steps, 2 = 3840 steps, 3 = 5120 step, 4 = 6400 steps, 5 = 7680 steps, 6 = 8960 steps, 7 = 10240 steps  
Check Pokemon egg cycle here:  
[https://bulbapedia.bulbagarden.net/wiki/List\\_of\\_Pok%C3%A9mon\\_by\\_base\\_Egg\\_cycles](https://bulbapedia.bulbagarden.net/wiki/List_of_Pok%C3%A9mon_by_base_Egg_cycles)
- **m\_columnsOfEggs:** columns of eggs in your box to be hatched

## 2.1.15 FriendDeleteAdd

This program deletes friends from your friend list and optionally add accept friend request afterwards. Note that this will also delete **Best Friends**, because Switch does not have any sorting method for friend list, so use this at your own risk.

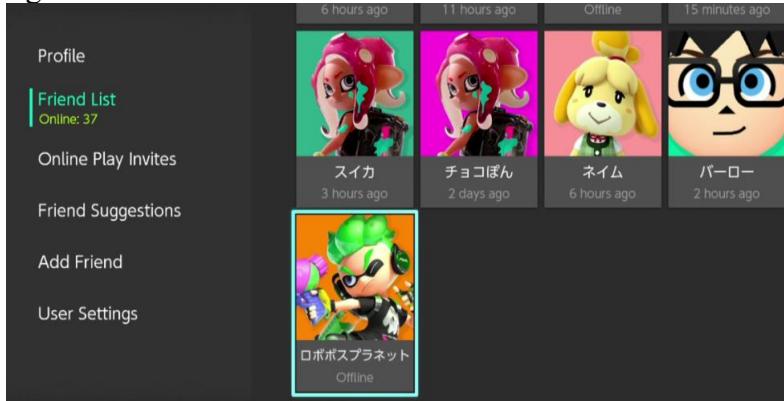
### Settings



- **Friends to Delete:** number of friends to delete
- **Add Friends after Delete:** what it says

### Instructions

1. Hover cursor on the last friend, if cursor is in the middle, it will delete friends on the right and below the current friend



2. Connect Arduino/Teensy to your Switch (there's no need to unsync current controller)

### What does the Program do?

The program keeps deleting the last friend in the list until the number user specified in the settings, you should have stable internet when doing this, otherwise deleting may take too long causing one deletion will be missed. After deleting friends, if “**Add Friends after Delete**” is checked, it will goto Received Friend Requests and spam A forever.

### Config.h Detail

- **m\_deleteCount:** number of friends to delete
- **m\_addFriend:** true = add friend after deleting, false = don't do that

## 2.1.16 GodEggDuplication

This program automatically duplicate first Pokemon in your party by collecting god egg from Route 5 nursery, I will not provide details on how to get the god egg, this require joining a hacked raid, duplicating Pokemon also risked of getting banned, so do this at your own risk!

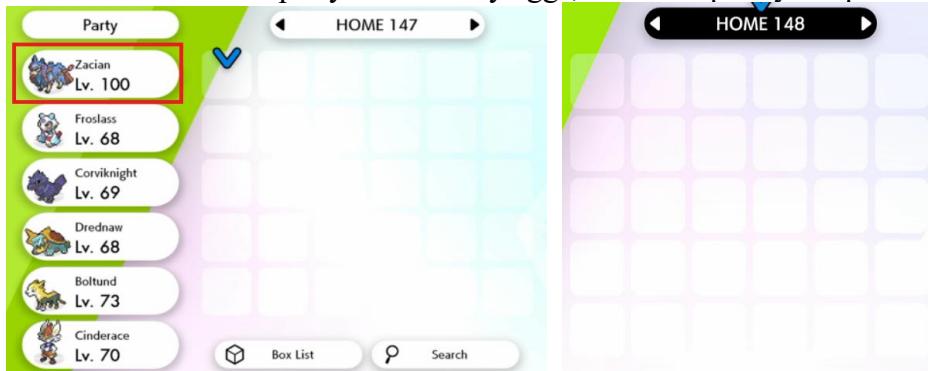
### Settings



- **Target No. of Duplication:** number of iterations (if you follow all the instructions below, you should be getting about 80% number of eggs), you can set 0 to do this indefinitely, but running out of box space is untested, use at your own risk

### Instructions

1. Goto Options, set Text Speed to Fast, set Send to Boxes to Manual
2. You must have a full party without any eggs, and have plenty of space in your PC



3. The first Pokemon in your team will be duplicated
4. Have a full upgraded Rotom Bike (use WattFarmer if you don't have enough watts, then talk to any watt traders to upgrade your bike)
5. Goto Route 5 nursery, deposite God egg and a Ditto, then charge up **Rotom Bike turbo boost**
6. Cycle from the left side of the nursery worker, and towards her until you get stuck



7. (Optional) Defeat GAME FREAK's Morimoto to get Oval Charm, this can increase the chance of getting an egg
8. (Optional) The two Pokemon in nursery have different trainer ID (e.g. someone else's Ditto + God egg), this will also increase the chance of getting eggs
9. Compile and load the program to the board, disconnect current controller and

connect Arduino/Teensy

### ***What does the Program do?***

1. Using turbo boost, cycle towards the right
2. Do a loop and cycle back to the left side of the nursery worker
3. Talk to nursery worker and get egg, this will replace the first slot of your party duplicating that Pokemon, there's a chance that you won't get an egg, but that's normal
4. Repeat from 1. until it reaches the amount user specified in settings, the program will stop at the home menu signaling it is finished.

### ***Config.h Detail***

- **m\_maxCycle:** number of iterations, 0 = infinite

## 2.1.17 PurpleBeamFinder

This program helps you find a purple (rare) beam on a wishing piece den. Original program by Pleebz, modified by brianuuu.

### *Settings*

N/A

### *Instructions*

1. Set text speed to FAST (not slow)
2. You must have at least one wishing piece in your inventory
3. Ride on a bike, stand in front of an empty den, collect watts if not already, then save the game
4. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

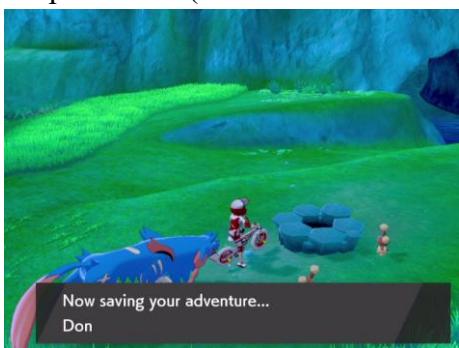
### *What does the Program do?*

The program first ring the bike bell to notify user to pay attention to the game, then it will put a wishing piece in the den, if you DON'T see any red streak coming out from the den, that means you got a purple beam, now simply unplug the board. If it has red streaks, leave the board and it will restart the game and start the process again.

Red Beam:



Purple Beam: (Before and after HOME menu)



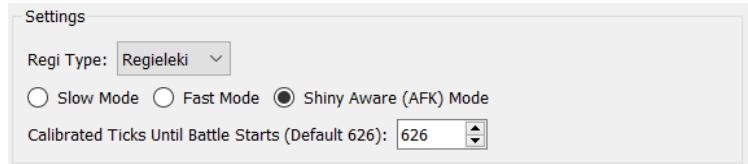
### **Config.h Detail**

N/A

## 2.1.18 ShinyFiveRegi

This program automatically loops encounter with Regirock, Regice, Registeel, Regieleki or Regidrago and lights up the tile to re-encounter them.

### Settings



- **Regi Type:** Regirock, Regice, Registeel, Regieleki or Regidrago
- **Modes:** Slow, Fast and Shiny Aware/AFK mode
- **Calibrated Ticks Until Battle Starts:** Used in Shiny Aware mode, read below

### Instructions

1. Goto Options, set Text Speed to Fast, set Battle Effects to Off
2. Make sure the first Pokemon in your team is fast enough to be able to run from the battle or let it hold a Smoke Bomb, you CANNOT use Pokemon with Run Away ability as it will show the ability causing delay
3. If you are using **SLOW MODE** you can use any Pokemon.
4. If you are using **FAST MODE** your first Pokemon MUST be the follow:
  - > NOT a shiny
  - > DOES NOT have a showable ability (Intrepid Sword, Unnerve, Anticipation etc.)
  - > DOES NOT have high happiness (a.k.a, no shaking at the start of battle or extra dialog describing Pokemon's emotion)
5. If you are using **SHINY AWARE MODE**, you are highly recommended to follow **FAST MODE** (step 4) to optimizing timing. To calibrate the **ticks until battle starts**:
  - a) Run the program with the default time 626, when the battle UI shows up, there should be 2 down presses, your aim is to make the 2 presses happen right after the battle UI shows up (with a little leeway)



- b) Adjust the ticks by +/- 5 at a time, do not over adjust, and repeat a)
  - c) If the 2 presses don't happen, or you only see one press without going into Pokemon list, that means the ticks are too low, the program thinks it is a false positive shiny
  - d) If the 2 presses happens over 1-2 seconds after the battle UI shows up, the ticks are too high, the program may run away from a shiny
  - e) If the 2 presses happens about 0.5 seconds after the battle UI shows up, that's perfect and you are good to go
6. For **Regirock, Regice and Registeel**: Walk up to the giant statue without lighting up

any tiles on the floor



7. For **Regieleki or Regidrago**: You MUST have already encounter the Regi at least once, meaning you will have to walk on the tiles and pick the Regi you want, start a battle with it and run, this prevents an extra dialog from showing up when you first choose the Regi, after that stand in front of the statue



8. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

The program starts by running on the tiles of the corresponding Regi, then walk up to the statue to start the encounter.

For SLOW MODE or FAST MODE:

When the battle starts, user should pay attention if the Regi is shiny or not, if yes, plug out the board immediately or take the Switch out from the dock to stop the program from running! After a while it will run from the battle and start over again.

For SHINY AWARE MODE:

The program should get stuck in Pokemon summary screen when a shiny is found, you should be able to leave this overnight, when you see it is stuck in Pokemon summary screen and you have setup calibration correctly, it should be a shiny!

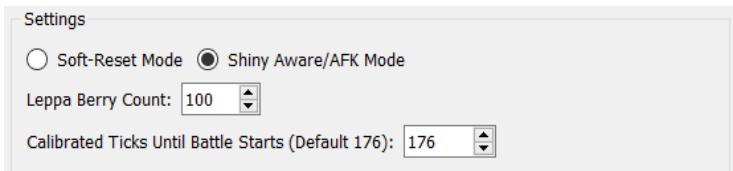
### ***Config.h Detail***

- **m\_type**: 0 to 4 corresponding to Regirock, Regice, Registeel, Regieleki and Regidrago respectively
- **m\_mode**: 0 = slow, 1 = fast, 2 = shiny aware
- **m\_battleWaitTicks**: For Shiny Aware Mode only, ticks taken from talking to statue till battle UI shows up (NOT in milliseconds)

## 2.1.19 ShinyRegigigas

This program automatically loops encounter with Regigigas from the den in Giant's Bed!

### Settings



- **Modes:** Slow, Fast and Shiny Aware/AFK mode
- **Leppa Berry Count:** No. of Leppa Berries in your bag, used in Shiny Aware mode
- **Calibrated Ticks Until Battle Starts:** Used in Shiny Aware mode, read below

### Instructions

1. Goto Options, set Text Speed to Fast, set Battle Effects to Off
2. Captured all 4 Regis in Crown Tundra, have a friend to trade the remaining Regi to you, then bring all 5 Regis with you in your team
3. Stand in front of Regigigas den in Giant's Bed and save
4. If you are using **SHINY AWARE MODE**, you will need to do the following preparation:
  - a) First you need to grind for **Leppa Berries**, you can find them in Route 4 and 6. I would recommend route 6 since you can get Sitrus Berry which you can sell for money, but make sure you **stand behind** the berry tree since some wild Pokemon can walk up to you and battle. Use BerryFarmer for this, you don't need a lot of them, 154 of them will allow this program to run 24 hours (1550 encounters).

Route 4:

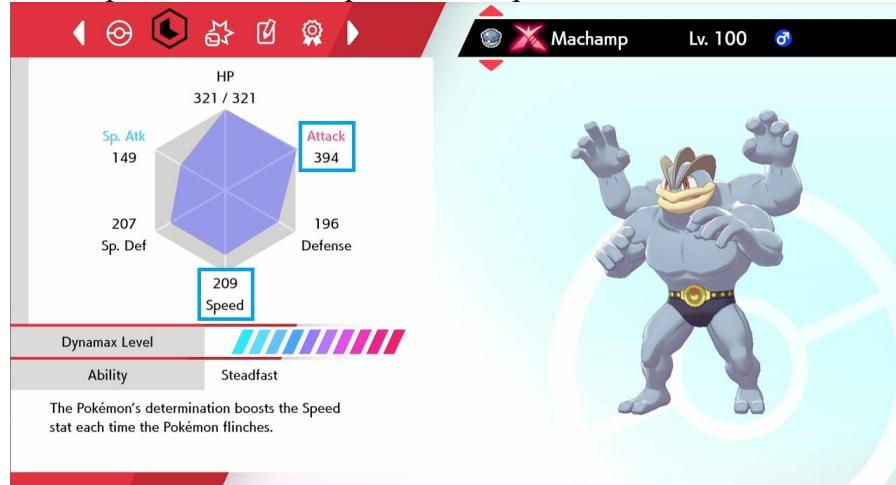


Route 6 (stand behind the tree):



- b) Get a **Fighting Type Pokemon** that can learn the move **Reversal (TR 21)**, the

minimum base attack stat of the Pokemon must be at least 94, or minimum attack stat at lv100 to be **315** to OHKO Regigigas with +def nature. Minimum base speed stat is at least 16 (min **131** at lv100) to outspeed Slow Start Regigigas with +speed nature. Example: Machamp, Zamazenta, Urshifu, Gallade etc.



- c) Level up the Pokemon to lv100, then EV and IV train the Pokemon to maximize attack and speed stat, you should use a **+attack nature** mint (Adament etc.) if the Pokemon doesn't have it, these don't matter too much as long as the stats are enough stated in b), but if you don't know how to do so, check Appendix 2
- d) Buy a **Choice Band** and equip it to the Pokemon, you can buy it from Battle Tower with 50BP, if you don't have enough BP, use AutoBattleTower program.
- e) Teach the Pokemon at least one other **non-attacking move**, then place Reversal as the first move
- f) Now you need to lower your Pokemon's HP to 1, the fastest way to do this is you will need another Pokemon that can learn **False Swipe** and **only has that move** (this Pokemon preferably has very high attack to speed up the process, like Zacian etc.), put this Pokemon at the 1<sup>st</sup> of the party, and also bring the fighting type Pokemon with you
- g) Fly to Isle of Armor and cycle your way to a remote island at **Workout Sea**, where you can find **Ditto** which spawns regardless of weather

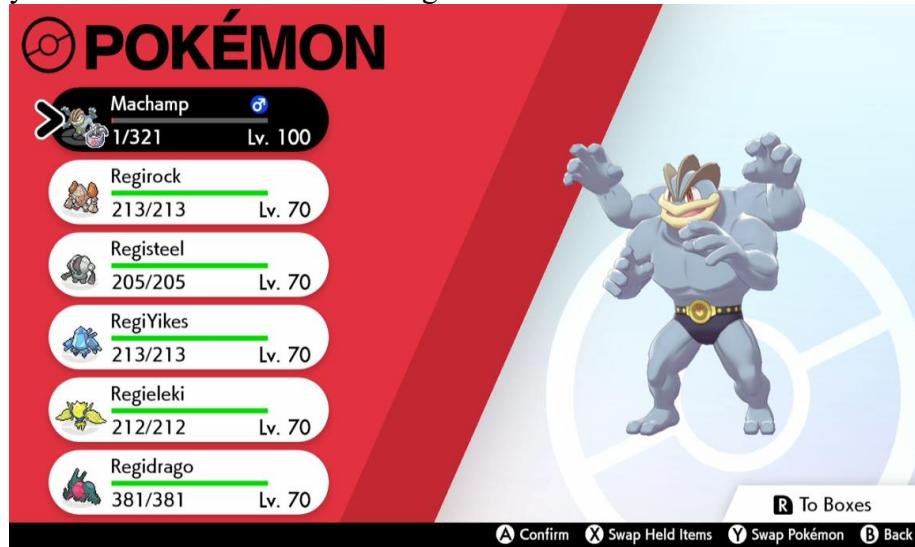


- h) Use **False Swipe** until it **Transform** into your first Pokemon, then swap to your

Fighting Type Pokemon, use the **non-attacking move** you taught at e) and wait until it lowers your HP to 1, then leave. Note that Ditto only has **5 PP** to hit you, if it runs out of PP, leave the battle otherwise it might kill you with **Struggle**.



- i) You can also use **Endure** until a wild Pokemon lowers your HP to 1, but this is much slower and luck based, since wild Pokemon uses random moves
- j) Now your fighting type Pokemon is ready (remember NOT to heal the Pokemon at PC! Putting it into Box is fine however), put this Pokemon to the 1<sup>st</sup> of your team and bring the 5 Regis with you, then head to Regigigas den at Giant's Bed, your team should look something like this:



- k) Enter and win the raid manually at least once first, this will allow the game to cache load Regigigas model so the next time you battle the load times will be shorter,. After the battle, save the game.  
**IF YOU ARE RESTARTING THE GAME:** Repeat this step otherwise the first battle will have longer load times!!!
- l) Now you need to calibrate the **ticks until battle starts**, if you have used ShinyFiveRegi or ShinySwordTrio shiny aware version, you should be familiar with this. Run the program with the default time 176, when the battle UI shows up, it should navigate to **Run** then follow by navigating back to **Fight** after a

little, your aim is to make the Run press happen right after the battle UI shows up (with a little leeway)



- m) Adjust the ticks by +/- 5 at a time, do not over adjust, and repeat I)
- n) If the Run press doesn't happen, or it goes into Pokemon list, that means the ticks are too low, the program thinks it is a false positive shiny
- o) If the Run press happens over 1-2 seconds after the battle UI shows up, the ticks are too high, the program may kill a shiny
- p) If the Run press happens about 0.5 seconds after the battle UI shows up, that's perfect and you are good to go
- q) Finally, navigate to **Leppa Berry** in your Bag, make sure Reversal has **at least 10 PP**, if not you can use one right now. Then set the **Leppa Berry Count** in the settings in AutoControllerHelper, and leave the menu without moving the cursor



5. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

The program starts by interacting with the den and start the max raid battle with Regigigas, then base on the mode you're running:

For SOFT-RESET MODE:

When the battle starts, user should pay attention if Regigigas is shiny or not, if yes, plug out the board immediately or take the Switch out from the dock to stop the program from running! After a while it will restart the game and start over again.

For SHINY AWARE MODE:

Your first Pokemon will OHKO Regigigas if it's not shiny, leave without catching. After 10 battles, it will goto bag and use Leppa Berry on the first Pokemon's first move (which should be Reversal), then start battling again. The program should get stuck in Pokemon summary screen when a shiny is found, you should be able to leave this overnight, when you see it is stuck in Pokemon summary screen and you have setup calibration correctly, it should be a shiny! Note that it will occasionally leave the summary and back to the battle screen, but this is normal.

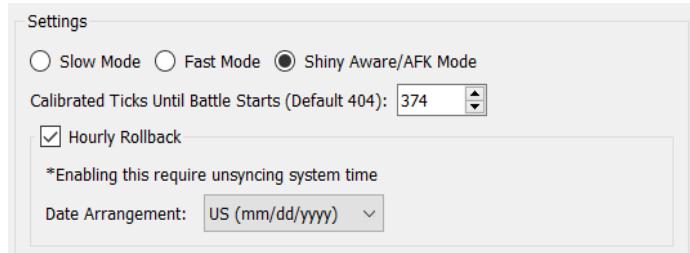
### ***Config.h Detail***

- **m\_shinyAware:** false = soft-reset mode, true = shiny aware mode
- **m\_leppaBerry:** For Shiny Aware Mode only, number of Leppa Berries in your bag
- **m\_battleWaitTicks:** For Shiny Aware Mode only, ticks taken from Regigigas appears on screen till battle UI shows up (NOT in milliseconds)

## 2.1.20 ShinySwordTrio (ShinySpiritomb)

This program automatically loops encounter with Cobalion, Terrakion or Virizion, this also works for Spiritbomb in Ballimore Lake!

### Settings



- **Fast Mode:** Slow, Fast and Shiny Aware/AFK mode
- **Calibrated Ticks Until Battle Starts:** Used in Shiny Aware mode, read below
- **Hourly Rollback (New in v4.5.0):** Roll system time back every hour, this will allow weather to be constant for much longer than 24 hours
- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time" yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US

### Instructions

1. Goto Options, set Text Speed to Fast, set Battle Effects to Off
2. If you have enabled **Hourly Rollback** you must unsync system clock and have at least 3 game icons on HOME screen, or download more from eshop!
3. Make sure the first Pokemon in your team is fast enough to be able to run from the battle or let it hold a Smoke Bomb, you CANNOT use Pokemon with Run Away ability as it will show the ability causing delay
4. Run into the trio Pokemon and run, locations are below:



5. Adjust your position so the Pokemon's spawn point is right below you
6. Start camping
7. You are recommended to manually leave camp after step 5 and check if the position is correct, if not then repeat step 3 to 5
8. If you are using **SLOW MODE** you can use any Pokemon, but this accounts for everything (except for Run Away ability), for example:
  - > Pokemon with max happiness will smile at you occasionally when camping
  - > Weather conditions
  - > Pokemon with abilities at the start of battle
  - > Extra dialog of first Pokemon with high happiness



9. If you are using **FAST MODE**:
  - > Your first Pokemon MUST NOT be shiny, DOES NOT have a showable ability (Intrepid Sword, Unnerve, Anticipation etc.)
  - > ALL Pokemon in the team CANNOT have high happiness (when you camp, no Pokemon will do a close-up smile at the beginning, also no shaking at the start of battle or extra dialog describing Pokemon's emotion)
  - > The weather MUST be CLEAR (not Sunny, Snowing, Raining etc.), if it's not clear, you can change your system date until it is, you may also want to re-sync the system to current date when you want to catch the shiny Pokemon
  - > You are recommended to **set your system time to 12am** to make the most use of the program, if a day has passed it may lock into a non-shiny due to not being Clear weather anymore. From **v4.5.0** onward you can enable **Hourly Rollback** to have the program run much longer than 24 hours without affecting weather. But make sure you sync the time before you catch the Pokemon.
6. If you are using **SHINY AWARE MODE**, you MUST follow the restrictions in **FAST MODE**, with extra steps including calibrating the **ticks until battle starts**:
  - a) Do NOT allow Pokemon walking with you, you can stop this by talking to a Eevee costume kid in Freezington



- b) Do NOT ride on a bike
- c) If you are in a camp, leave a start the encounter, then run
- d) Now manually check which side of the Pokemon is facing when it spawns, you will have to make your avatar stand on top of the spawn point AND rotate the camera until it **face the opposite side** of the Pokemon. This will ensure the Pokemon will face the camera when it spawns so it will notice you immediately

and not walk away from the spawn point! You may need to spawn it manually a few times to get this correct.



- e) Run the program with the default time 404 (notice we are starting the program in the overworld, not inside camp), when the battle UI shows up, it should run away from the battle right after (with a little leeway), this is not the same as ShinyFiveRegi since this does not have two down presses!



- f) Adjust the ticks by +/- 5 at a time, do not over adjust, and repeat e)
  - g) If it does not run from battle, attacks the opponent or goto Pokemon summary, that means the ticks are too low, the program thinks it is a false positive shiny
  - h) If running away over 1-2 seconds after the battle UI shows up, the ticks are too high, the program may run away from a shiny
  - i) If running away happens about 0.5 seconds after the battle UI shows up, that's perfect and you are good to go
  - j) Run the program at least 3-5 times to make sure it is working properly
7. For **SLOW/FAST MODE**: You should be starting the program inside a camp; For **SHINY AWARE MODE**: You should be starting in the overworld, facing north; Now compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

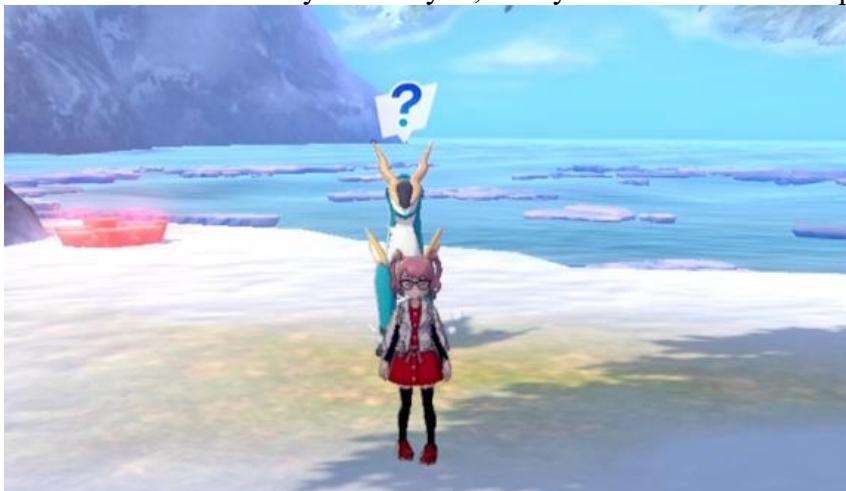
### ***What does the Program do?***

For SLOW MODE or FAST MODE:

The program starts by leaving the camp, the trio Pokemon should spawn on top of you and start the encounter. When the battle starts, user should pay attention if the Pokemon is shiny or not, if yes, plug out the board immediately or take the Switch out from the dock to stop the program from running! After a few moments it will run from the battle, camp on the spot and repeat the process again.

For SHINY AWARE MODE:

The program starts by walking down a little, start and leave camp, the trio Pokemon should spawn on north of you, if you set it up correctly, the Pokemon should be facing the camera and immediately notices you, then your avatar will walk up to start the encounter.



The program should get stuck in Pokemon summary screen when a shiny is found, you should be able to leave this overnight, when you see it is stuck in Pokemon summary screen and you have setup calibration correctly, it should be a shiny! If it's not a shiny it will run from the battle and repeat the process again.

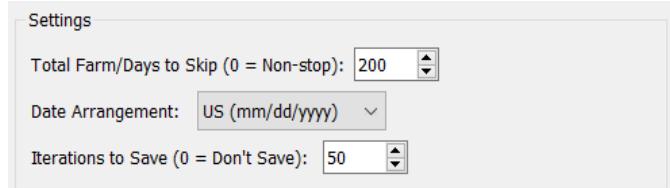
#### ***Config.h Detail***

- **m\_mode:** 0 = slow, 1 = fast, 2 = shiny aware
- **m\_battleWaitTicks:** For Shiny Aware Mode only, ticks taken from walking into the Pokemon till battle UI shows up (NOT in milliseconds)
- **m\_hourlyRollback:** true = roll back every hour, false = don't do it
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy), used only if **m\_hourlyRollback** = true

## 2.1.21 WattFarmer

This program farms watts from a wishing piece den, you can then spend the watts on buying Luxury Balls and trade for money, grind Digging Duo with TurboA etc.!

### Settings



- **Total Farm/Days to Skip:** Set the no. of cycles to run, you can use this to skip frames of a day while farming
- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time" yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US
- **Iterations to Save:** Save every that amount of loops has been run, since there's a small chance the game will crash if you are using this in Wild Area

### Instructions

1. **v4.4.3:** Have at least 3 game icons on HOME screen, or download more from eshop!
2. Goto Options, set Text Speed to Fast
3. Stand in front of a wishing piece den
4. Unsync system clock, go back to the game
5. Activate y-comm glitch
6. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

1. Sync and Unsync clock and reset date to current date
2. Skip 1 frame (year) forward
3. Collect watts from den and exit
4. If number of iteration matches "**Iterations to Save**" the game will be saved, if day to skip is not 0, the program will stop at the home menu signaling it is finished, otherwise it will repeat from 1.

### Config.h Detail

- **m\_farmTotal:** 0 = infinite, max = 65535, the number of cycles/days to skip
- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)
- **m\_saveAt:** number of iterations to save, 0 = never saves (not recommended)

## **2.2 Pokemon Brilliant Diamond & Shining Pearl**

### **2.2.1 ResetDialgaPalkia**

This program helps you automatically find shiny Dialga/Palkia!

**WARNING:** This game is currently unstable and prone to crash at random times, while this program may be able to recover by itself you are advised to restart the program if it happens.

#### ***Settings***

N/A

#### ***Instructions***

1. Set Text Speed to Fast, and Battle Effects off (optional)
2. Save in front of Dialga/Palkia as close as you can before it moves you forward



3. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

#### ***What does the Program do?***

1. Restarts the game
2. Walk up to Dialga/Palkia to start battle
3. Repeat from 1 after battle started for a while

You MUST keep an eye if it is shiny or not, since the program does NOT stop on its own, which is why the delay is intentionally long so you have time to unplug the board. **If you want you can change the delay time by going to Commands.h line 35 and change 800 delay to something lower, but do this at your own risk!**

#### ***Config.h Detail***

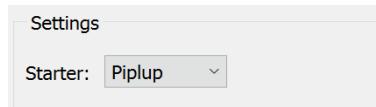
N/A

## 2.2.2 ResetStarter

This program helps you automatically find shiny starters! (and also shiny Starly.....)

**WARNING:** This game is currently unstable and prone to crash at random times, while this program maybe able to recover by itself you are advised to restart the program if it happens.

### Settings



- **Starter:** Turtwig/Chimchar/Piplup

### Instructions

1. Set Text Speed to Fast, and Battle Effects off
2. Save in front of the lake entrance as close as you can



3. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

1. Restarts the game
2. Trigger all the dialog until briefcase opens
3. Pick the starter you chose and start battle
4. Repeat from 1 after battle started for a while

You MUST keep an eye if it is shiny or not, since the program does NOT stop on its own, which is why the delay is intentionally long so you have time to unplug the board. **If you want you can change the delay time by going to Commands.h line 40 and change 820 delay to something lower, but do this at your own risk!**

### Config.h Detail

N/A

### 2.2.3 MenuGlitch1.1.3

This program activates menu glitch, note that this glitch is very likely to be patched by Nintendo, if you don't want to update your game, make sure you disable **Auto-Update Software** in Switch settings, and also check **Prevent Game Update** in Smart Program General settings.

#### *Settings*

N/A

#### *Instructions*

Follow the instructions in [section 3.2.3](#).

#### *What does the Program do?*

1. Pushes boulder to the right while activating Poketch
2. Fly to Celestic Town
3. Menu Glitch is now active

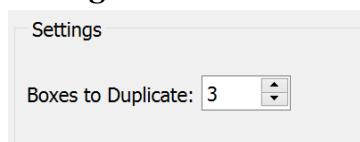
#### *Config.h Detail*

N/A

### 2.2.4 BoxDuplication

This program duplicates a box of Pokemon in PC, for duplicating items, use **Box Operation** program instead ([section 2.2.5](#)).

#### *Settings*



- **Box to Duplicate:** No. of boxes to duplicate

#### *Instructions*

Follow the instructions in [section 3.2.4](#).

#### *What does the Program do?*

1. Enter 2<sup>nd</sup> menu
2. Copy current box and move to the right
3. Exit 2<sup>nd</sup> menu
4. Move to the box on the right
5. Repeat

#### *Config.h Detail*

- **m\_boxCount:** No. of boxes to duplicate

## 2.2.5 BoxOperation

This program can release, take items from boxes of Pokemon, or duplicate all items in a single box.

### Settings

Settings

No. of Boxes: 3

Operation: Release

- **No. of Boxes:** how many boxes to do operation
- **Operation:** Release, Bag Item, Duplicate Item

### Instructions

Follow the instructions in section 3.2.5.

### What does the Program do?

Release/Bag Item:

1. Do operation per Pokemon in each boxes

Duplicate Item:

1. Enter 2<sup>nd</sup> menu
2. Bag all items of the current box
3. Exit 2<sup>nd</sup> menu
4. Repeat

### Config.h Detail

- **m\_boxCount:** No. of boxes to do operation
- **m\_operationType:** 0 = Release, 1 = Bag Item, 2 = Duplicate Item

## **2.2.6 ResetLegendary**

This program helps you automatically find shiny Legendary Pokemon! This works for most static Legendary where you press A to start battle. If another program exists for specific legendaries like Dialga/Palkia/Shaymin, please use those instead.

**WARNING:** This game is currently unstable and prone to crash at random times, while this program may be able to recover by itself you are advised to restart the program if it happens.

### ***Settings***

N/A

### ***Instructions***

1. Set Text Speed to Fast, and Battle Effects off
2. Stand in front of the Legendary Pokemon and save
3. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

1. Restarts the game
2. Press A to talk to Legendary to start battle
3. Repeat from 1 after battle started for a while

You MUST keep an eye if it is shiny or not, since the program does NOT stop on its own, which is why the delay is intentionally long so you have time to unplug the board. **If you want you can change the delay time by going to Commands.h line 32 and change 800 delay to something lower, but do this at your own risk!**

### ***Config.h Detail***

N/A

## 2.2.7 ResetShaymin

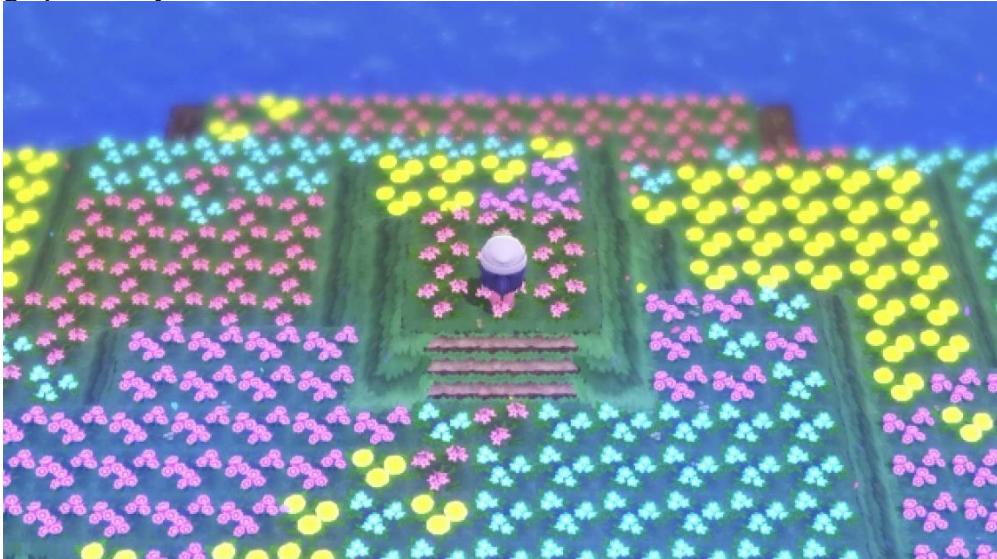
This program helps you automatically find shiny Shaymin! Unlike other reset legendary programs this does not require restarting game so it will be able to get stuck in Pokemon summary when a shiny is found.

### *Settings*

N/A

### *Instructions*

- 1) Set Text Speed to Fast, and Battle Effects off
- 2) Use D-Pad to move to the tile in front of Shaymin, otherwise the riding the bike might go pass Shaymin to the side



- 3) You MUST have only bike registered to Plus button, and it MUST be on Fast Mode
- 4) Your first Pokemon MUST have the following:
  - a) Max happiness (it will jump twice and show a dialog)
  - b) No popup abilities (Intimidate/Pressure etc.)
- 5) Save the game
- 6) Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### *What does the Program do?*

1. Start battle with Shaymin
2. If it's not shiny it will run from battle, use bike to move away from area and enter to respawn Shaymin
3. If it's a shiny it will get stuck inside the Pokemon summary screen

### *Config.h Detail*

N/A

## 2.2.8 ResetArceus

This program helps you automatically find shiny Arceus!

**WARNING:** This game is currently unstable and prone to crash at random times, while this program may be able to recover by itself you are advised to restart the program if it happens.

### *Settings*

N/A

### *Instructions*

1. Set Text Speed to Fast, and Battle Effects off (optional)
2. Save at the end of the stairs



3. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### *What does the Program do?*

1. Restarts the game
2. Walk up to Arceus to start battle
3. Repeat from 1 after battle started for a while

You MUST keep an eye if it is shiny or not, since the program does NOT stop on its own, which is why the delay is intentionally long so you have time to unplug the board. **If you want you can change the delay time by going to Commands.h line 35 and change 700 delay to something lower, but do this at your own risk!**

### *Config.h Detail*

N/A

## **2.3 Other Programs**

### **2.3.1 TurboA**

This program spams A, that's it. You can use this to farm Digging Duo, if you don't have enough watts, use WattFarmer first. You can also use this for fossil farming, but it only works for the top slot, so use AutoFossil instead. On Isle of Armor DLC, you can use this for Cram-o-matic as well, check details below.

#### ***Settings***

N/A

#### ***Instructions***

1. Stand in front of a Digging Duo or Cara Liss
2. If you are using this to grind Cram-o-matic, it takes about 7 seconds for each loop, so count the total number of items you are giving to Cram-o-matic, divide by 4 and multiply by 7, this will give you estimated time when it will finish. Be sure to stop the program before this time since the program will break if you don't have enough item and the program will start giving Cram-o-matic other items and save in the process!
3. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

#### ***What does the Program do?***

It spams A, lmao.

#### ***Config.h Detail***

N/A

### **2.3.2 SmartProgram**

This program allows you to use Smart Programs.

#### ***Settings***

N/A

#### ***Instructions***

1. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy
2. Please refer to **section 1.5** for full instruction

## **2.4 Pokemon Legends: Arceus**

### **2.4.1 ResetAlphaCrobat**

This program repeatedly goes through Wayward Cave to check Alpha Crobat, based on the video by Austin John Plays: <https://www.youtube.com/watch?v=tz0b62pkKTk>

#### **Settings**

N/A

#### **Instructions**

1. Turn off Autosave
2. Head back to Jubilife Village, this resets the seeds in all areas
3. Head to the North entrance of Wayward Cave in Coronet Highlands



4. DO NOT ENTER the cave, save in front of the entrance, then start program



#### **Config.h Detail**

N/A

## 2.4.2 ResetAlphaGallade

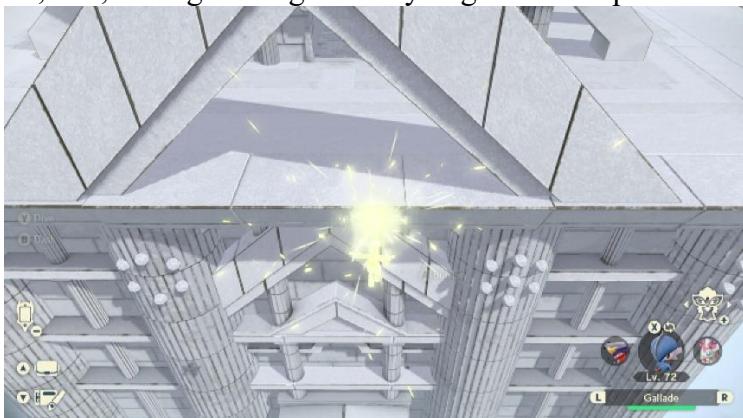
This program repeatedly goes through Snowpoint Temple to check Alpha Crobat, based on the video by Austin John Plays: <https://www.youtube.com/watch?v=tz0b62pkKTk>

### *Settings*

N/A

### *Instructions*

1. Turn off Autosave
2. Head back to Jubilife Village, this resets the seeds in all areas
3. Head to Snowpoint Temple in Alabaster Icelands, get to the roof of the bottom entrance
4. Face the wall and reset camera with ZL, get on Braviary and use the sequence “Y,Plus,A” to gain height until you get to the top entrance of the temple



5. Save in front of the entrance, then start program



### *Config.h Detail*

N/A

## 2.5 Pokemon Scarlet & Violet

### 2.5.1 Item Duplication

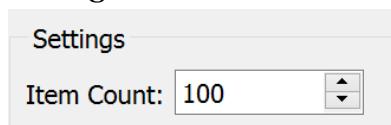
This program duplicates item by using a cloned Koraidon/Miraidon in your party.

**WARNING:** This requires you to have already used the AB button exploit to clone

Koraidon/Miraidon before v1.1.0 update!

**WARNING:** Due to this game has a tendency to randomly drop inputs, this program may start to fail after running for a while, avoid running this for long period of time.

#### Settings



- **Item Count:** How many item to duplicate

#### Instructions

1. Turn off Autosave (in case anything goes wrong)
2. Go to somewhere indoors (your house, dome etc.)
3. Go to Boxes, navigate to the first box and exit
4. Put cloned Koraidon/Miraidon to the 2<sup>nd</sup> slot of your team
5. Give item you want to duplicate to Koraidon/Miraidon
6. Save game and move cursor to 2<sup>nd</sup> slot Pokemon
7. (Recommended) Restart game to reduce game lag from memory leak



8. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

#### Config.h Detail

- **m\_maxCycle:** How many item to duplicate

## 2.5.2 BoxRelease

This program releases Pokemon in your Box, unlike previous programs, it does not require box to be full of 30 Pokemon. **WARNING: Due to this game has a tendency to randomly drop inputs, this program may start to fail after running for a while, avoid running this for long period of time.**

### Settings

Settings
Pokemon to Release: <input type="text" value="56"/>

- **Pokemon to Release:** How many Pokemon to release (NOT no. of boxes)

### Instructions

1. Turn off Autosave (in case anything goes wrong)
2. Set Text Speed to Fast
3. Go to Boxes, sort Pokemon from left to right, top to bottom, **empty slots are NOT allowed!** The following example has 45 Pokemon to release:



4. Save game
5. (Recommended) Restart game to reduce game lag from memory leak
6. Move cursor to the top left Pokemon of the leftmost box
7. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### Config.h Detail

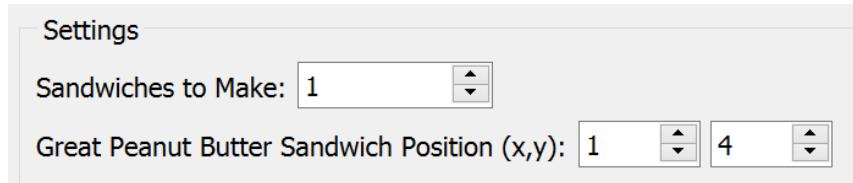
- **m\_releases:** How many Pokemon to release (NOT no. of boxes)

### 2.5.3 EggCollector

This program makes the Great Peanut Butter Sandwich and collect eggs afterwards.

**WARNING:** This program should be safe from input drops except for scrolling to the correct sandwich.

#### Settings



- **Sandwiches to Make:** How many sandwiches to make (every 30 mintues)
- **Great Peanut Butter Sandwich Position (x,y):** Position of the sandwich in the picnic sandwich menu, top left is (0,0)

#### Instructions

1. Turn off Autosave (in case anything goes wrong)
2. Set Text Speed to Fast
3. Buy plenty of Peanut Butter, Butter and Banana
4. Go to Boxes, move to box that has no Pokemon so it's easier to sort later
5. Put only the 2 Pokemon you want to breed in your team
6. Save game
7. (Recommended) Restart game to reduce game lag from memory leak
8. Start a picnic (preferably on a flat surface)
9. Move your avatar on top of egg basket, facing the picnic table and reset camera, the egg basket should be directly behind you



10. Manually go to sandwich menu and check the position of Great Peanut Butter Sandwich and change the settings accordingly
11. Exit the sandwich menu
12. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

## ***What does the Program do?***

This program starts by making the Great Peanut Butter Sandwich, then every 3 minutes it will collect eggs until 30 minutes has passed, and repeat from the beginning. If you have a foreign Ditto breeding with your own Pokemon you should get about 60 eggs.

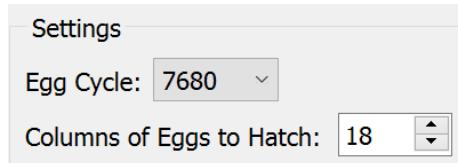
### ***Config.h Detail***

- **m\_maxCycle:** How many sandwiches to make (every 30 minutes)
- **m\_sandwichX:** X position of Great Peanut Butter Sandwich (0 or 1)
- **m\_sandwichY:** Y position of Great Peanut Butter Sandwich (top row is 0)

## **2.5.4 EggHatcher**

This program hatches columns of eggs in your box, you can use this combined with EggCollector and hunt for shiny eggs. **WARNING: Due to this game has a tendency to randomly drop inputs, this program may start to fail after running for a while, avoid running this for long period of time.**

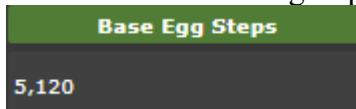
### ***Settings***



- **Egg Cycle:** Which egg cycle group the hatching Pokemon belongs to
- **Columns of Eggs to Hatch:** No. of columns in your Box with eggs

### ***Instructions***

1. Turn off Autosave (in case anything goes wrong)
2. Set Text Speed to Fast, turn on Skip Move Learning, Give Nicknames to Off
3. Check the egg cycle group of your Pokemon at Serebii.net (you can hatch different Pokemon in the same group together)



4. Have only a Pokemon with Flame Body in your team, it MUST also have an attacking move to be able to defeat wild Wingull
5. Go to the top of Poco Path Lighthouse
6. Get on Koraidon/Miraidon, hold right to move along the edge for at least one loop to get rid of Wingull spawning
7. Save game
8. (Recommended) Restart game to reduce game lag from memory leak
9. Move the camera so you are facing right



10. Go to Boxes, sort eggs from left to right (each column does not have to have all 5 eggs, but you should sort them so that only last column have fewer than 5 eggs)
11. Move the cursor to the top left egg of the leftmost box



12. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### ***What does the Program do?***

This program picks up a column of eggs in your Box and hatch them by circling around the top of Poco Path Lighthouse, after all eggs are hatched, it puts the Pokemon back to Box and pick up next columns of eggs until all columns are hatched. **In rare occasion you may run into a wind Wingull and it will cause one egg to not hatch, but it should recover afterwards.** After program has completed you should manually check if any eggs are shiny before releasing them.

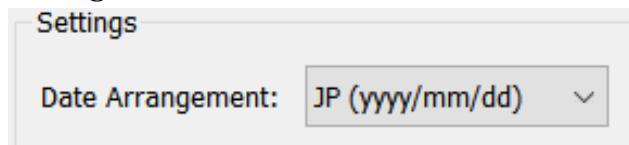
### ***Config.h Detail***

- **m\_eggGroup:** Which egg cycle group the hatching Pokemon belongs to, 0=1280, 1=2560, 2=3840, 3=5120, 4=6400, 5=7680, 6=8960, 7=10240
- **m\_columns:** No. of columns in your Box with eggs

## 2.5.5 GimmighoulFarmer

This program farms coins from a roaming form Gimmighoul.

### Settings



- **Date Arrangement:** Match with your system's current settings, check it at "System Settings > Settings > Date and Time > Date and Time"  
yyyy/mm/dd = JP, dd/mm/yyyy = EU, mm/dd/yyyy = US

### Instructions

1. Have at least 3 game icons on HOME screen, or download more from eshop!
2. Goto Options, set Text Speed to Fast and turn off Auto Save
3. Stand in front of a roaming form Gimmighoul, preferably inside a Pokemon Center free from any wild Pokemon



4. Save the game
5. Unsync system clock, go back to the game
6. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy

### What does the Program do?

The program will day skip and restart the game, then collect coins from Gimmighoul (if it spawns) and save the game, then repeats the process. The amount of coins you get is completely random, so there isn't really an average number of coins to expect, so just run it as long as you want. Note that any extra coins after having 999 can be collected from an NPC in Medali.



### *Config.h Detail*

- **m\_JP\_EU\_US:** 0 = JP (yyyy/mm/dd), 1 = EU (dd/mm/yyyy), 2 = US (mm/dd/yyyy)

## 2.6 The Legend of Zelda: Tears of the Kingdom

### 2.6.1 Item Duplication

This program duplicates item that can be fused to a bow.

**WARNING:** This may get patched after v1.1.0.

#### Settings



- **Item Count:** How many items to duplicate

#### Instructions

1. Save the game in case anything goes wrong
2. Enter a shrine
3. Drop all bows except for 2
4. Press sort and move the cursor to the first (top left) bow and equip it



5. Move away from dropped bows and face against a wall



6. Select the item you want to duplicate by pressing D-Pad Up, **you MUST have at least 2 of that item**



7. Compile and load the program to the board, disconnect current controller and connect Arduino/Teensy
8. After finishing **remember to pick up your dropped bows before saving**

#### Config.h Detail

- **m\_maxCycle:** How many item to duplicate

### 3. Smart Program Instructions

#### 3.1 Pokemon Sword & Shield

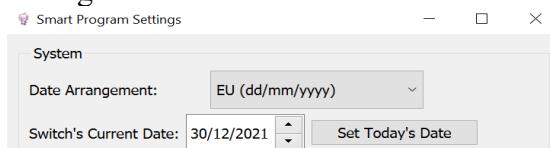
##### 3.1.1 Auto Battle Tower

This program works the exact same as Native Program version, please refer to [section 2.1.2](#) for instructions.

##### 3.1.2 Auto Day Skipper

This program helps you day skip, **you MUST run Y-Comm Glitch program before this.**

- ✓ This program make use of System date settings, you **MUST** go to Smart Program settings and set current date and date arrangement you match your Switch.



##### Program Settings

You MUST set Switch's date arrangement at Smart Program Settings!  
This program works regardless of Switch's current date.

Days to Skip:

Estimated Time Left: ---

- **Days to Skip:** set the number of days you want to skip

##### Running the Program

For US/EU, it will roll back to 2000, sync to current year start skipping, when it reaches 2060 it will sync to current year and repeat. For JP it will do normal day skips until 2060/12/31 then sync to current date and repeat. While the program is running it will give you an estimated time how long until it finishes, estimate gets more accurate over time.

Days to Skip:

Estimated Time Left: 00h00m39s (52 skips left)

You may notice if the time is 11:59pm the program will pause, this is to allow it to pass to 12:00am to skip a day naturally. If you want to prevent this, start after midnight.

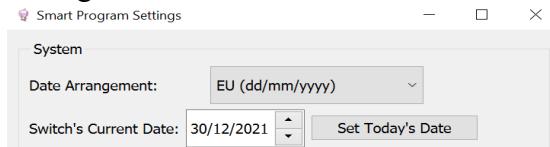
This program runs faster for EU but slower for US/JP compare to Native Program, for longer skips you are recommended to use those instead. Here are the stats for 1000 skips:

	JP	EU	US
Limited	9:28	12:08	12:08
Unlimited	9:47	12:32	12:32
Smart Program	10:47	10:57	12:33

### 3.1.3 Auto Loto

This program runs almost identical to Native Program version, read **section 2.1.5** and come back here. You MUST run Y-Comm Glitch program before this.

- ✓ This program make use of System date settings, you MUST go to Smart Program settings and set current date and date arrangement you match your Switch.



#### Program Settings

You MUST set Switch's date arrangement at Smart Program Settings!

Days to Skip: 100

- **Days to Skip (optional):** set the number of days you want to skip

### 3.1.4 Auto Surprise Trade

This program works almost identical to Native Program version, with the exception of being able to immediately start trade when it is completed, read **section 2.1.9** for initial instructions first and come back here. You are recommended to start the program inside Pokemon Center, this program can also connect internet for you if not already.

#### Program Settings

No. of Boxes to Trade: 1

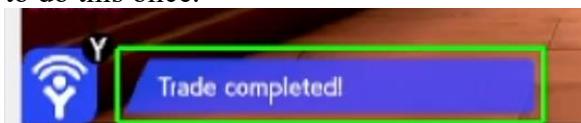
\*Press below if "Trade Complete" is not detected correctly

Re-calibrate "Trade Complete" Box Color

- **No. of Boxes to Trade:** these boxes should be adjacent to each other.
- **Re-calibrate "Trade Complete" Box Color:** Refer below

#### Running the Program

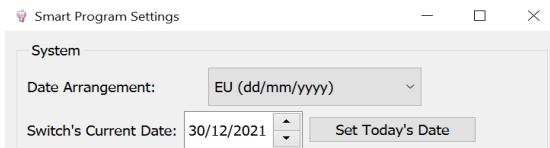
While running the program, you may find it sometimes unable to detect Trade Complete (especially the first trade), this is because the message box is semi-transparent and can change depend on where you are. This is also why you are highly recommended to run this inside Pokemon Center so there will be no background changes. If you see this happen, press the Re-calibrate "Trade Complete" Box Color button. You should only need to do this once.



### 3.1.5 Berry Farmer

This program runs almost identical to Native Program version, read **section 2.1.7** and come back here. You MUST run Y-Comm Glitch program before this.

- ✓ This program makes use of System date settings, you MUST go to Smart Program settings and set current date and date arrangement you match your Switch.



### Program Settings

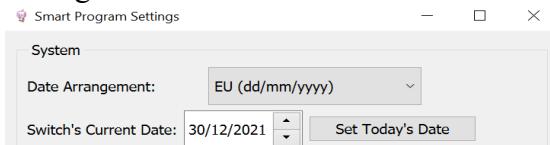
You MUST set Switch's date arrangement at Smart Program Settings!  
 Days to Skip: 100

- **Days to Skip (optional):** set the number of days you want to skip

### 3.1.6 Daily Highlight Farmer

This program runs almost identical to Native Program version, read **section 2.1.10** and come back here. You MUST run Y-Comm Glitch program before this.

- ✓ This program make use of System date settings, you MUST go to Smart Program settings and set current date and date arrangement you match your Switch.



### Program Settings

You MUST set Switch's date arrangement at Smart Program Settings!  
 Days to Skip: 100

- **Days to Skip (optional):** set the number of days you want to skip

### 3.1.7 Max Raid Battler

This program automatically do raid battles for you, it is useful to get large number of items from raids, like Exp candies and TRs. This program also catches all the Pokemon in the raid den.

#### Program Settings



- **Wishing Pieces to Spend:** This should be LESS than how many you currently have, if you have 100 wishing pieces, put 99 at max

#### Instructions

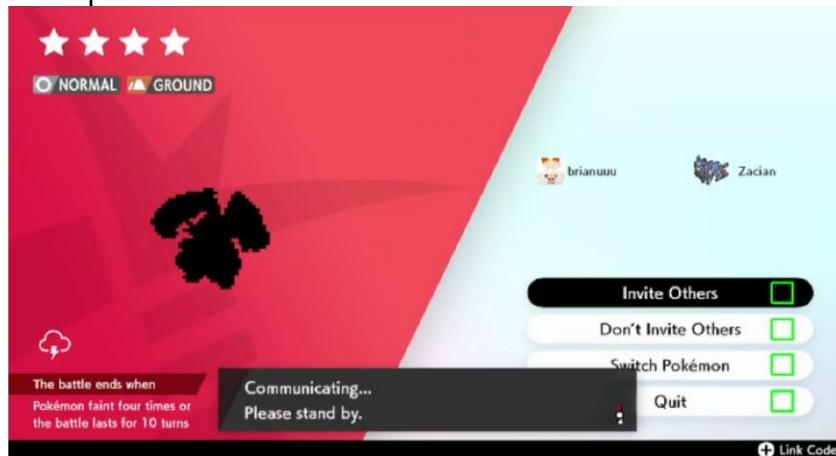
1. Set Text Speed to Fast, Battle Effects to Off and Send to Boxes to Automatic
2. Make sure you have purchase equal or more amount of Pokeballs than Wishing Piece, and make sure you have enough space in your Box, because the program will attempt to catch ALL Pokemon in the raids
3. Have only one Pokemon in your team, and the Pokemon should only have one attacking move. You are recommended to use Zacian for maximum damage



4. Pick a den you want to grind, stand in front of it and save, it does not matter if you have put a wishing piece into it or now
5. Make sure you stay away from wild Pokemons that can run into you
6. Now you can start the program

#### Running the Program

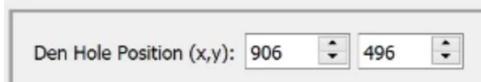
This program is relatively simple, it detect whether you are at the Invite Others screen and starting the raid. It will mesh A until raid completes and catches the Pokemon, rinse and repeat.



### 3.1.8 Purple Beam Finder

This program automatically finds purple beam, unlike Native Program version, you do not have to stop the program manually.

#### Program Settings



- Den Hole Position: den hole position set by user

#### Instructions

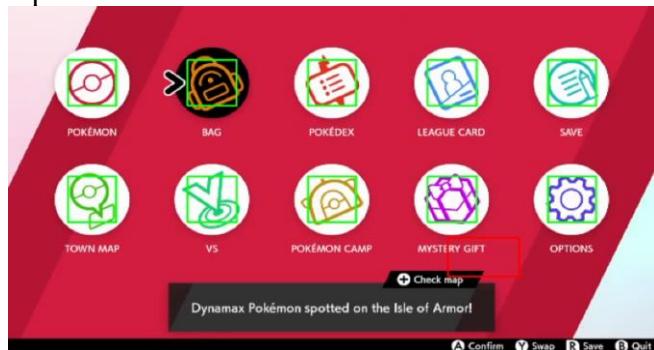
1. Pick a den of interest, stand in front of it
2. Press the R-stick to zoom in camera (if not already)
3. At the video output, move the red box towards the hole of the den, you cannot move it too low on the screen since it will be obscured by the textbox, rotate the camera if necessary



4. Now you can start the program

#### Running the Program

The program starts by setting the text speed to slow, it will be able to detect where the Option button is:

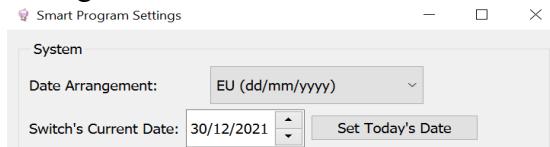


After that it is very straightforward, it will check if the den color is correct before the game saves, if not purple beam it restarts and try again, if a purple beam is found it will set the text speed back to Fast and save the game for you.

### 3.1.9 Watt Farmer

This program runs almost identical to Native Program version, read **section 2.1.21** and come back here. You MUST run Y-Comm Glitch program before this.

- ✓ This program make use of System date settings, you MUST go to Smart Program settings and set current date and date arrangement you match your Switch.



#### *Program Settings*

You MUST set Switch's date arrangement at Smart Program Settings!

Days to Skip:

- **Days to Skip (optional):** set the number of days you want to skip

### 3.1.10 Box Release

This program release Pokemon in your Box. It is able to detect empty slots, eggs and prevent shiny Pokemon to be released.

#### *Program Settings*

No. of Boxes to Release:

- **No. of Boxes to Release:** No. of boxes of Pokemon to release, this will automatically skip any empty slots in the boxes

#### *Instructions*

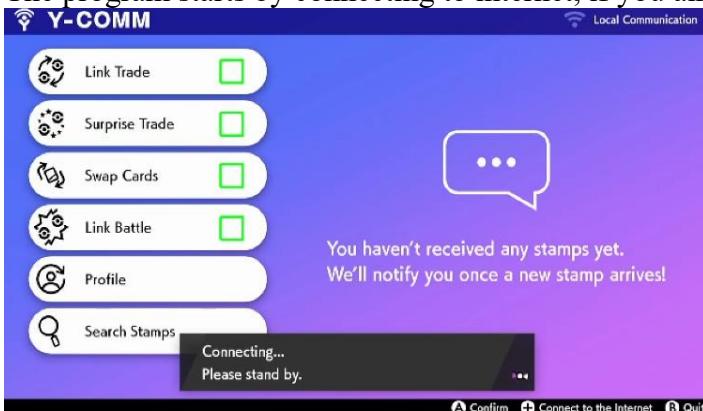
1. Go to Boxes, and start the program at the leftmost box

### 3.1.11 Y-Comm Glitch

This program automatically activates y-comm glitch for you, no setup is required, you can start anywhere in the HUB world.

#### *Running the Program*

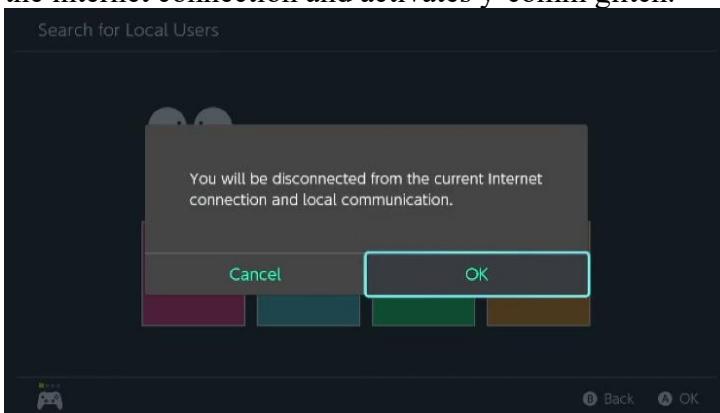
The program starts by connecting to internet, if you already did, it skips this part.



Next it will look for an opponent on Single Battle.



When an opponent is found, it will go to Profile and search for local friend, this will kill the internet connection and activates y-comm glitch.



### 3.1.12 Egg Operation

This program has various modes to collect eggs, hatch eggs or combination of both to hunt for multiple shiny Pokemon. It is also able to hunt for specific gender, stats and nature by automatically swapping parents when breeding!

#### Program Settings

Egg Operation:	Shiny Mode																								
Target Eggs to Collect (Collector Mode):	1																								
Columns of Eggs to Hatch (Hatcher Mode):	1																								
<input checked="" type="checkbox"/> Hatch remaining Egg from Nursery when Hatching is Completed																									
Shiny Video Capture Method: <input type="radio"/> Disable <input checked="" type="radio"/> Shiny Sound <input type="radio"/> Fade Out Delay																									
List of Pokemon to Keep:	Parent Gender in Nursery: Ditto																								
<table border="1"><thead><tr><th></th><th>Target</th><th>Shiny</th><th>HP</th><th>Attack</th><th>Defense</th><th>Sp. Atk</th><th></th></tr></thead><tbody><tr><td>1</td><td>-</td><td>1</td><td>Yes</td><td>Any</td><td>Any</td><td>Any</td><td>Any</td></tr><tr><td>2</td><td>+</td><td></td><td></td><td></td><td></td><td></td><td></td></tr></tbody></table>			Target	Shiny	HP	Attack	Defense	Sp. Atk		1	-	1	Yes	Any	Any	Any	Any	2	+						
	Target	Shiny	HP	Attack	Defense	Sp. Atk																			
1	-	1	Yes	Any	Any	Any	Any																		
2	+																								

- **Egg Operation:** Collector Mode, Hatcher Mode, Shiny Mode, Remainder Mode and Parent Mode, see more details below
- **Target Eggs to Collect:** Collect Mode only, collect this many amount of eggs
- **Columns of Eggs to Hatch:** Hatcher Mode only, no. of columns of eggs to hatch in your Box
- **Hatch remaining Egg from Nursery when Hatching is Completed:** Hatcher Mode and Shiny Mode only, when the program is finished, it will take out a parent from Nursery and hatch the extra egg remaining
- **Shiny Video Capture Method:** Method to detect shiny in real-time for capturing video right after
- **Parent Gender in Nursery:** Parent Mode only, the gender of the parent in Nursery
- **List of Pokemon to Keep:** Available for all modes except for Collector Mode, if Pokemon matches any of the entries it will be moved to the “Keep Box”. **This program will automatically keep ALL shiny Pokemon, this list is to allow program to stop after all target Pokemon is found.**

## Instructions

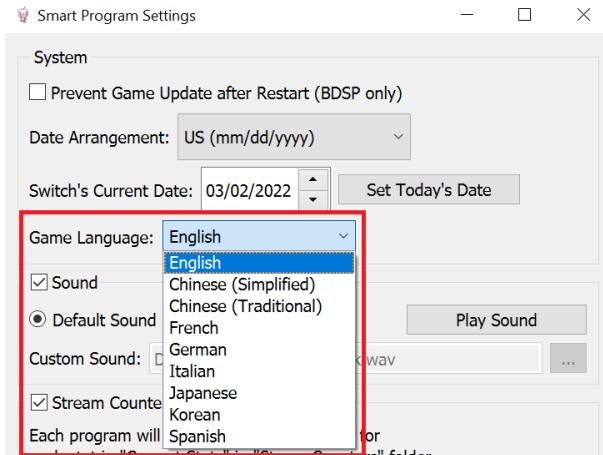
1. Set Text Speed to Fast, Send to Boxes to Automatic, Give Nicknames to Don't five
2. Turn off Autosave, in case anything goes wrong you can restart
3. (Recommended) Defeat GAME FREAK's Morimoto to get Oval Charm, this can increase the chance of getting an egg
4. Have a full upgraded Rotom Bike (use Watt Farmer if you don't have enough watts, then talk to any watt traders to upgrade your bike)
5. First Pokemon in the party should have Flame Body
6. Go to Route 5 nursery, cycle from the left side of the nursery worker, and towards her until you get stuck, **all modes in this program will start here**



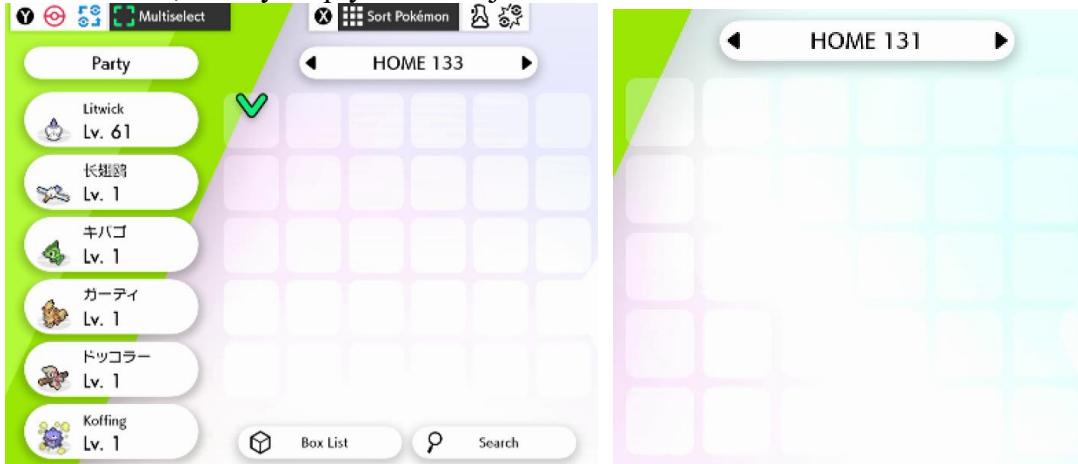
7. Make sure Main Menu cursor is on Pokemon, if you want to save, press R button



8. If you are planning to keep any Pokemon with specific IVs, you MUST go to General Settings and change the Game Language accordingly



9. For **Collector Mode**: this mode is for only collect eggs
- You MUST already have the two parents in the Nursery
  - You MUST have a full party of 6 Pokemon so all eggs will be sent to Box
  - Set the target amount of eggs in the settings and make sure you have enough Boxes, ideally empty Boxes adjacent to each other



- Exit at the leftmost Box and save the game with R button
  - Start the program
10. For **Hatcher Mode**: this mode is for when you already have eggs in your Box and want to hatch them
- You MUST have only a single Pokemon with Flame Body in your party
  - Check how many columns of eggs are in your Box and change the settings accordingly
  - Each column does not have to have 5 eggs but it MUST NOT have any other Pokemon, the program will stop if there are other non-egg Pokemon in the party



- Exit at the leftmost Box and save the game with R button
- Optionally set any extra Pokemon to keep in the settings (6IV etc.)

List of Pokemon to Keep:												
	Target	Shiny	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Nature	Gender		
1	-	1	Any	Best	Best	Best	Best	Best	Any	Any		
2	+											

- Start the program

11. For **Shiny Mode**: this mode will run forever until all entries in keep list is found, this is mainly for hunting shiny Pokemon or Pokemon with specific stats (6IV etc.)
- You MUST already have the two parents in the Nursery
  - You MUST have a full party of 6 Pokemon so all eggs will be sent to Box
  - To set up Boxes, the 1<sup>st</sup> box MUST be completely empty, this will be the “Keep Box” where any Pokemon matched entries in the settings will be moved here. If you are planning to keep more than 25 Pokemon, you need to have additional Keep Boxes to the left
  - The 2<sup>nd</sup> Box needs to have column 2-6 completely filled leaving the first column for collecting eggs



- Exit Box on **2<sup>nd</sup> Box**, NOT the 1<sup>st</sup>, save the game with R button
- In settings, the first Pokemon in the keep list is automatically set to shiny Pokemon (you can remove the shiny entry if you want, but any shiny Pokemon will still be kept), set any extra Pokemon you may wish to keep here, the program will not stop until all entries have been found (example below will require 2 shinies and one 6IV Pokemon)

List of Pokemon to Keep:		Parent Gender in Nursery: Ditto											
		Target	Shiny	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Nature	Gender		
1	-	2	Yes	Any	Any	Any	Any	Any	Any	Any	Any	Any	Any
2	-	1	Any	Best	Best	Best	Best	Best	Best	Any	Any	Any	Any

- Start the program

12. For **Remainder Mode**: this mode is the same as **Hatch remaining Egg from Nursery when Hatching is Completed** in the setting, useful when the Nursery lady still has an egg and this mode will hatch it for you

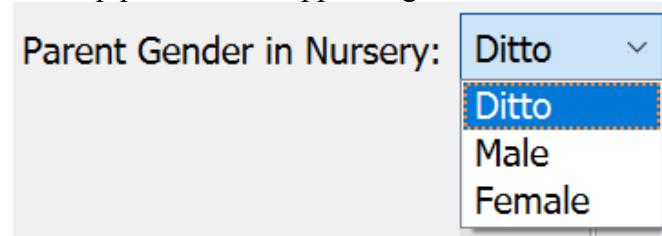
- You MUST have only a single Pokemon with Flame Body in your party
- Optionally set any extra Pokemon to keep in the settings (6IV etc.), there will only be one Pokemon to check however

List of Pokemon to Keep:		Parent Gender in Nursery:											
		Target	Shiny	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Nature	Gender		
1	-	1	Any	Best	Best	Best	Best	Best	Best	Any	Any	Any	Any
2	+												

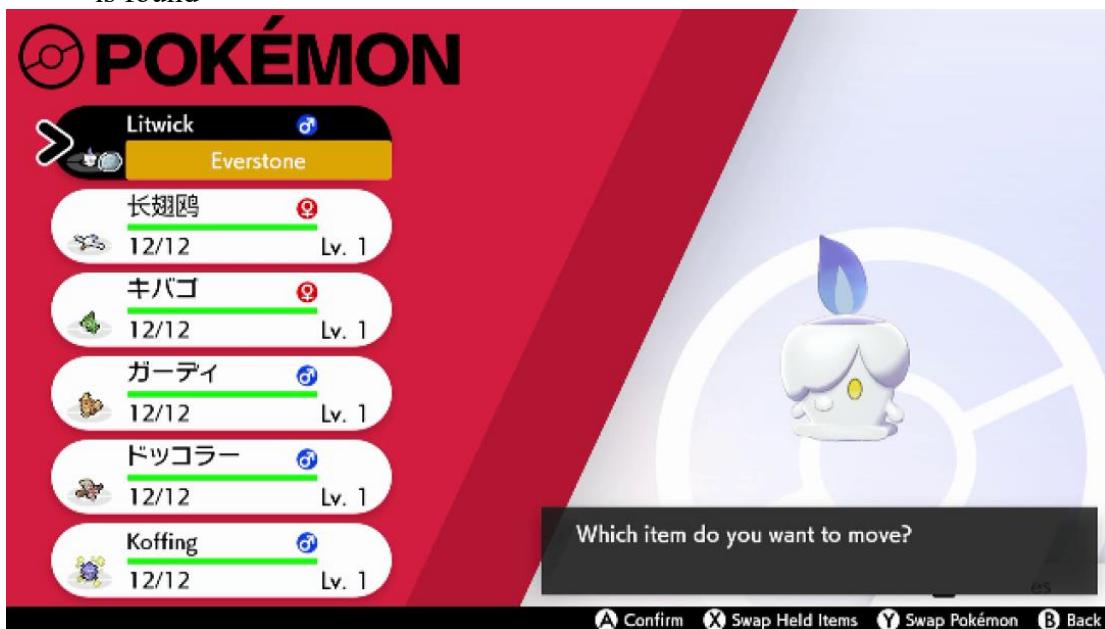
- Start the program

13. For **Parent Mode**: this mode is for breeding a parent with a specific stat (6IV or 5IV with 0 attack etc.), this is useful when you have a parent with bad IVs and this program will breed and swap parents with better IVs and stop until the target parent is found

- a) You MUST already have only ONE Pokemon in the Nursery, this program expects it to be a **6IV Ditto holding a Destiny Knot** to be the most efficient (this rule is not completely strict, if you want to hatch Pokemon with non-31IV, the Pokemon in the Nursery ideally should have the most matching IV of the target Pokemon, but it MUST be holding a Destiny Knot as well)
- b) Set the gender of the Pokemon in Nursery in the setting, this is needed in order to swap parents with opposite gender to continue breeding



- c) You MUST have a full party of 6 Pokemon so all eggs will be sent to Box
- d) If you are planning to find a parent with specific nature, you MUST give Everstone to the Flame Body Pokemon **even if the first parent already have that nature**. The Everstone will be transferred to the parent with correct nature is found



- e) To set up Boxes, the 1<sup>st</sup> box MUST be completely empty, this will be the “Keep Box” where all parent that was swapped (no parents will be released) or any shiny Pokemon will be kept
- f) The 2<sup>nd</sup> Box need to have column 2-6 completely filled, the top Pokemon of the 1<sup>st</sup> column is the “First Parent”



- g) Exit Box on **2<sup>nd</sup> Box**, NOT the 1<sup>st</sup>, save the game with R button  
 h) Set the target parent Pokemon in the settings, the program will not stop until this parent is found (example below is a 5IV 0 attack with Adamant nature)

List of Pokemon to Keep:												
	Target	Shiny	HP	Attack	Defense	Sp. Atk	Sp. Def	Speed	Nature	Gender		
1	-	1	Any	Best	No Good	Best	Best	Best	Best	Adamant (+Atk,-SpA)	Any	

- i) Start the program

### ***Running the Program***

All programs start by doing integrity checks on your party's and Boxes' set up, it will throw errors if any setup is not done correctly. It will also automatically change Box view to Judge View if you have not set it already.

#### Collector Mode:

- This mode simply cycles around Route 5, every cycle it will attempt talking to the nursery lady and collect egg if she has one, the program will stop when the target no. of eggs is reached

#### Hatcher Mode:

- This mode start by picking the first column of eggs in your Box
- It will start running in circles at southwest of the nursery lady until all eggs of the current column if hatched
- If hatched Pokemon is not shiny or does not match any entries in the keep list, it will be immediately released, otherwise it will be moved to the "Keep Box"
- It then pick the next column of eggs and repeat
- If you have **Hatch remaining Egg from Nursery when Hatching is Completed** option checked, after hatching all eggs, it will take out one of the parents from Nursery and hatch the extra egg remaining

#### Shiny Mode:

- The mode repeatedly collect 5 eggs and hatch them
- If any hatched Pokemon matches entries in the keep list or if it is a shiny, it will be moved to the "Keep Box"
- The program will stop when all entries have been found

- If you have **Hatch remaining Egg from Nursery when Hatching is Completed** option checked, after the program finished, it will take out one of the parents from Nursery and hatch the extra egg remaining

Remainder Mode:

- The mode will take the remaining egg from Nursery, then take out one of the parents from Nursery and hatch the remaining egg
- If there is not egg then the program will stop as soon as it took the parent out

Parent Mode:

- This mode starts by checking the current stats of the “First Parent” at the top left position of the Box
- It will leave the “First Parent” into the Nursery and start collecting and hatching 5 eggs at a time
- If any hatched Pokemon has more matching stats to the target than the previous parent, it will be moved to the top left position for standby for swapping parent (if the other parent in the Nursery is not a Ditto, the new parent must have the correct gender as well), shiny Pokemon will be kept in the “Keep Box” whilst others will be released immediately
- If the new parent has matching nature to the target, then the Everstone on your Flame Body Pokemon will be transferred to it
- Before swapping parent, the program will take the previous parent out from the Nursery and hatching the remaining egg, then it will also check if the hatched Pokemon’s stats, the previous parent will be moved to the “Keep Box”, **all parents used in the mode will not be released**
- Next it will put the new parent in the Nursery and repeat the process until the target parent is found
- With this mode not only you can get parents with high IVs but you can also use it to get the worst IVs possible, but since this mode does not swap the other parent in the Nursery (6IV Ditto), you may have to manually swap it to get faster results



## **3.2 Pokemon Brilliant Diamond & Shining Pearl**

### **3.2.1 Reset Legendary**

This program automatically soft-reset for legendary Pokemon and able to stop when shiny is found.

- ✓ This program can prevent game update (set it in settings)

#### ***Instructions***

1. Set Text Speed to Fast, and Battle Effects off (optional but recommended)
2. Stand in front of the Legendary Pokemon and save
  - a) **For Dialga/Palkia:** move as close as possible before the game moves your avatar towards the legendary
  - b) **For Shaymin:** use D-Pad to move precisely to the tile below Shaymin, and you MUST only have bike registered to Plus button and have it on Fast Mode, the first Pokemon in your team MUST be able to run from battle, the Pokemon should have low happiness and without popup ability to speed things up
  - c) **For Arceus:** move as close as possible towards the end of the stairs
3. Select the appropriate Legendary type in settings and start program, if not listed please use Others
4. You should avoid opening new applications while program is running to avoid video output delay shifting.

### **3.2.2 Reset Starter**

This program works almost identical to Native Program version, with the exception of being able to stop when shiny starter is found (shiny Starly will be ignored), please refer to **section 2.2.2** for initial setup.

- ✓ This program can prevent game update (set it in settings)

#### ***Additional Instructions***

1. After v5.0.1 update you do not need to monitor first encounter anymore
2. You should avoid opening new applications while program is running to avoid video output delay shifting.

### 3.2.3 Menu Glitch v1.1.3

This program activates menu glitch, note that this glitch is very likely to be patched by Nintendo, if you don't want to update your game, make sure you disable **Auto-Update Software** in Switch settings, and also check **Prevent Game Update** in Smart Program General settings.

#### *Instructions*

1. Set Text Speed to Fast
2. Go to HM list in Poketch and move cursor to Fly



3. Go to Route 211 to the left of Celestic Town, stand on the left side of this rock
4. Have your Poketch at small screen and start program



### 3.2.4 Box Duplication Glitch

This program duplicates a box of Pokemon in PC, for duplicating items, use **Box Operation** program instead ([section 3.2.5](#)).

#### *Instructions*

1. Set Text Speed to Fast
2. Activate Menu Glitch, either manually or with Native/Smart Program
3. Set how many box to duplicate in settings
4. Go to the box you want to duplicate, there MUST be a Pokemon or Egg at the top left of this box
5. Make sure the number of boxes to the right of this box are empty, since this program will populate to the right



### 3.2.5 Box Operation

This program can release, take items from boxes of Pokemon, or duplicate all items in a single box.

#### *Instructions*

1. Set Text Speed to Fast
2. Duplicate Item will only duplicate the same box over and over again until target box number, you MUST have menu glitch active
3. Make sure all boxes are full of Pokemon (30 each), for bag/duplicate item, it is not required for all Pokemon to have item, but recommended for max efficiency
4. Go to the first box (leftmost) you want to do the operation (or the box you want to duplicate items), you do not need to press X or Y to change cursor type at all
5. Set no. of boxes and operation type in settings and start program (**for duplicate item, it is recommended to not have no. of boxes to be higher than 30 since after item reaching maximum 999 the program WILL break, so please check your item first**)

#### *Running the Program*

For release/bag item, it is self-explanatory. For duplicate item, it will first enter the 2<sup>nd</sup> menu, take all item from the current box, exit 2<sup>nd</sup> menu to respawn all items, and repeat.

### 3.2.6 Duplicate Item 1 to 30

This program populates a box with the same item when you have fewer than 30 of them, so you do not have to manually do it before using Box Operation program to duplicate more.

#### Instructions

1. Before activating Menu Glitch, go to Box and make sure the current box is full of Pokemon and none of them has any item



2. Select a Pokemon and press Give, hover to the item you want to duplicate, DO NOT give the item to the Pokemon, simply exit everything



3. Now activate Menu Glitch
4. Go back to the same box and start program
5. When program finish running, all the Pokemon in the box should be holding the same item and you can now use BoxOperation to duplicate the current box

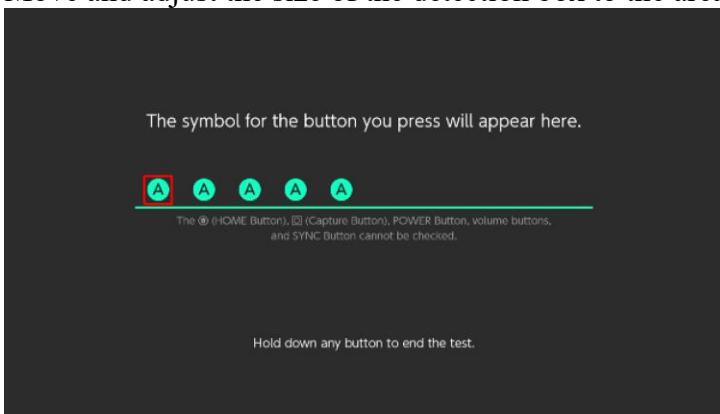
### 3.3 Other Programs

#### 3.3.1 Dev: Brightness Mean Finder

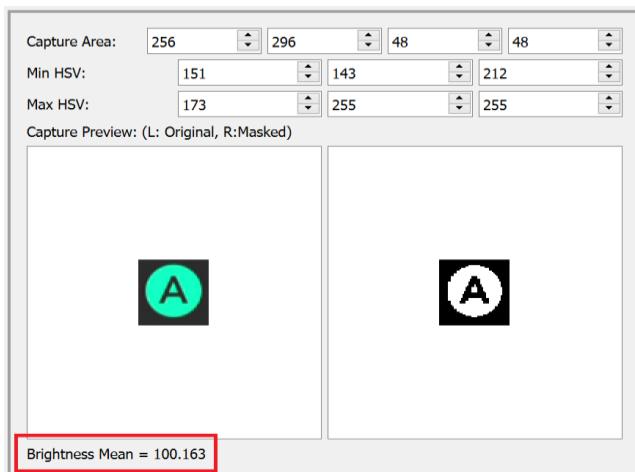
This program is only for development purposes, this is used to find of the range of Hue-Saturation-Value for certain area on screen, and also do image matching test.

##### Instructions

1. Move and adjust the size of the detection box to the area of interest



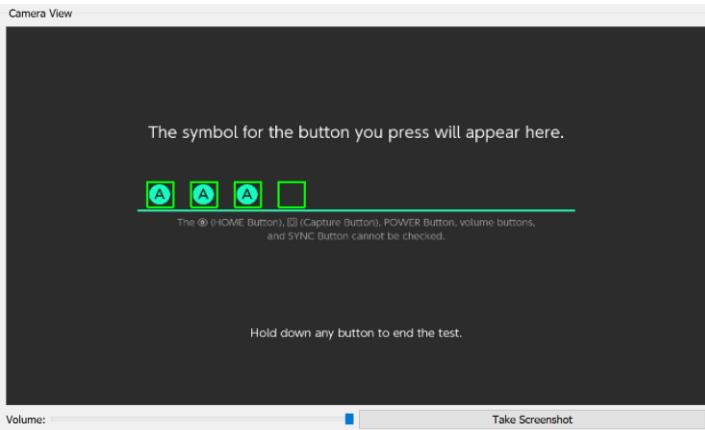
2. Start the program, and adjust HSV values to include on the color you want, in this example would be the green-cyan color, you should see colors you want appear white and others filtered out as black



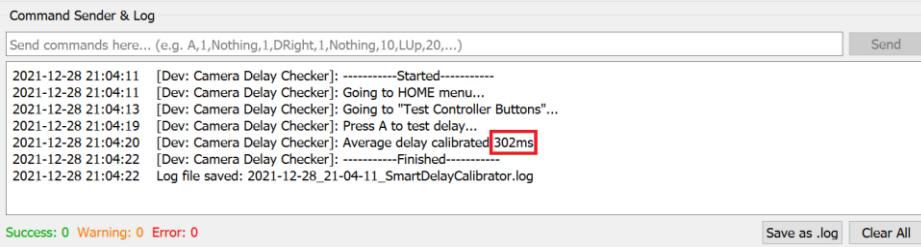
3. Finally, Brightness Mean is the average value of white pixels to the area, 0 is all black and 255 is all white, this value will allow you to determine a threshold for color detection
4. v5.2.0 has added image matching test, press Match Image Test button and select the image. The image MUST be in .bmp and monochrome format (only black and white) and must be the same resolution as the capture area. The result will show from 0 to 1, the higher the number the more similar it is.
5. v5.3.0 has added OCR text recognition, if no text is input to QLineEdit widget it will print out what text it recognized, otherwise it will calculate the Levenshtein Distance with each entry (separated by commas) and find the best match

### 3.3.2 Dev: Camera Delay Checker

This program checks the video output delay of your capture card. This is useful to test if everything is working fine for your hardware and software setup.



This program will go to the **Test Controller Buttons** menu and press A four times and calibrate the delay of the video output of your capture card. If successful, it should output the delay time in the Log window. **If the delay is above 1000ms, other Smart Programs may not work properly.**

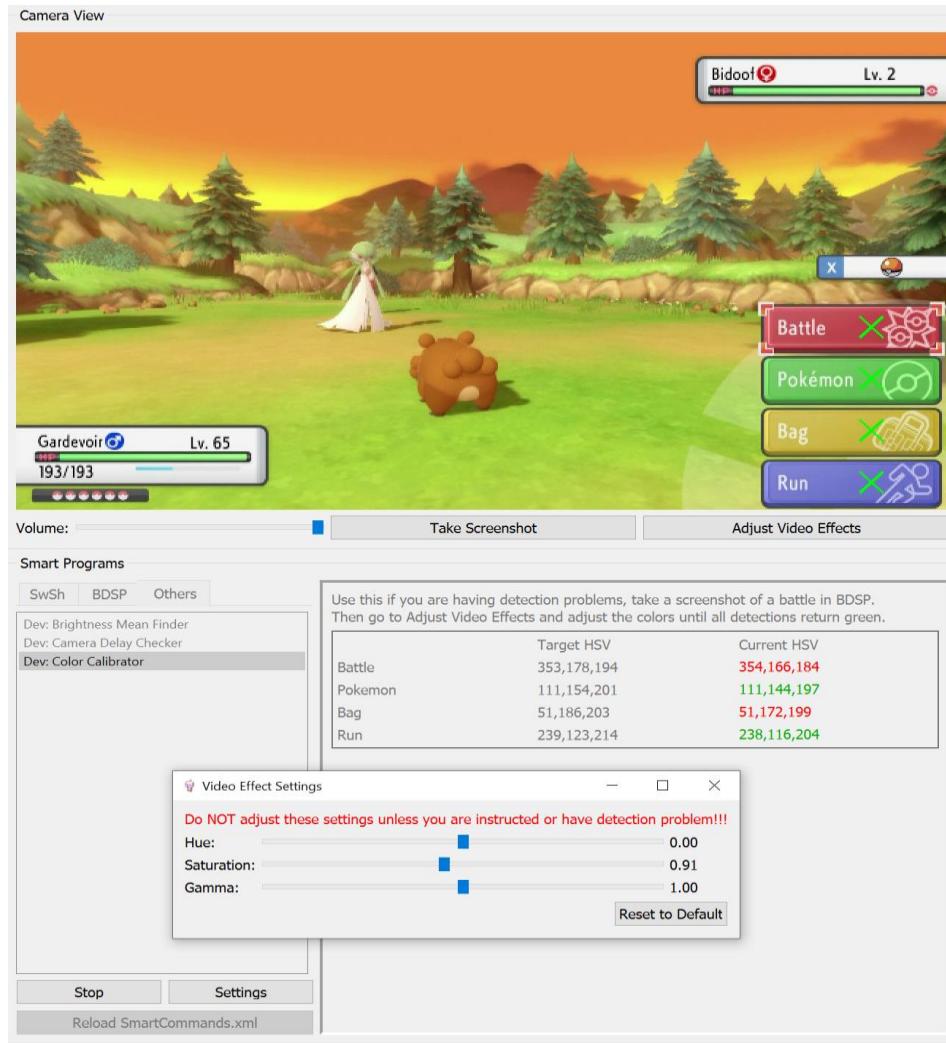


### 3.3.3 Dev: Color Calibrator

This program helps calibrating video output colors, since some capture cards does not output the same as the one being tested, this happens to most USB Capture Cards with no TV output.

#### Instructions

1. Take a screenshot of a battle in BDSP
2. Start Smart Program
3. Click on **Adjust Video Effects** and change the value until all the detections return green, you should only need to adjust **Saturation** and **Contrast**, only adjust **Hue** if both do not work.



### 3.3.4 Code Entry

This program allows you to use your keyboard to directly enter code on Nintendo Switch's on-screen keyboard/number pad. This is intended to allow you to join online raids by quickly inputting link code. **DO NOT abuse this program and let other people join raids otherwise you may get banned from those discord channels, you have been warned.**

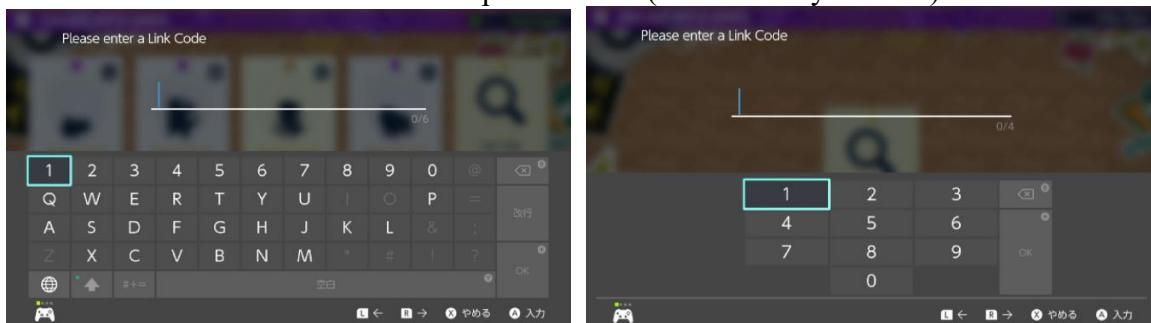
#### Program Settings



- **Code Type:** QWERTY Keyboard or Number Pad
- **No. of Characters:** Maximum characters to enter
- **Enter Code:** Enter the code here (this can be entered before starting or in real-time after the program has started)
- **Use Text Recognition:** Using the coordinates below to detect code automatically
- **Select Window on Primary Screen:** Enables a Snipper Tool like widget and allow selecting area on screen

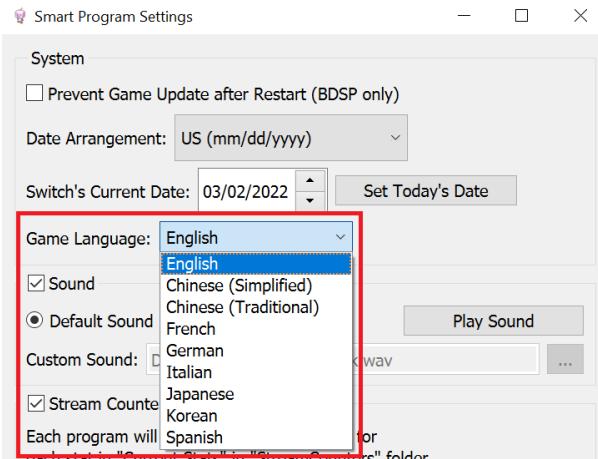
#### Instructions

1. Get to the on-screen keyboard/number pad where you will be enter the code
2. If it's an alphanumeric keyboard, you MUST change it to QWERTY type
3. Make sure the cursor is on the top left button (should always be “1”)

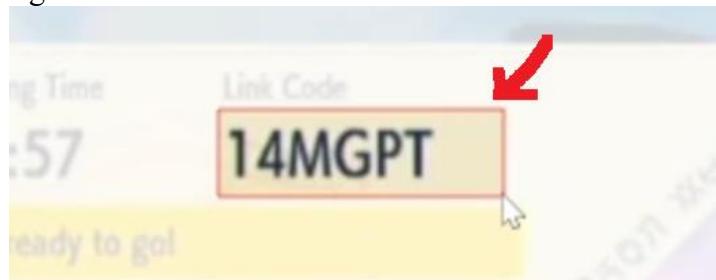


4. Set the no. of characters in settings correctly, this will press Plus immediately after the code has been fully entered
5. There are 3 ways to enter code, for **manually inputting**:
  - a) Start the program, it will wait for any input in the code section
  - b) Wait for the code, once you get it, type in the settings ASAP

- c) The program to enter the code while you are typing
- 6. For using **clipboard**:
  - a) Start the program, wait for link code in a chat app (discord etc.)
  - b) Once link code is posted, highlight it and press Ctrl+C to copy
  - c) The program will immediately enter the code once copied, not need to paste
- 7. For using **text recognition**:
  - a) Make sure the video stream is on your **primary screen**, resize it to a reasonable size to make text recognition more accurate, if you are not sure which one is the primary screen, check in Display Settings by right-clicking on desktop
  - b) Make sure Smart Program Manager does not obstruct the link code view when it shows up
  - c) Go to General Settings and change Game Language to English



- d) When you can see the link code, press **Select Window on Primary Screen**, this will make the screen translucent and you can select an area just like Window's Snipper Tool
- e) Select the area where the link code is, you should select it slightly more to the right as some link code can be wider



- f) You can attempt to start program but you probably won't be able to get in the raid you capture screen from, so wait for the next raid
- g) When the next link code shows up again, start program and it will immediately enter code once it read it, **do note that this does not work 100% of the time**

## 3.4 Pokemon Legends: Arceus

### 3.4.1 Nugget Farmer

This program farms nuggets from Bandit Sisters (Charm and Coin) in Obsidian Fieldlands! It can farm on average 35 nuggets per hour, the sisters' spawn rate is generally poor, about 18%.

#### Program Settings

Stop program if any shinies are found

- **Stop program if any shinies are found:** This will detect shiny sounds while look for Bandit Sisters or after battle, Pokemon consist of mainly Starly, Geodude, Kricketot, possibly Alpha Parasect and Pikachu

#### Instructions

1. You must have completed the main story
2. Set Text Speed to Fast, Autosave to Disabled
3. Get a Pokemon (Alpha Garchomp etc.) that is strong enough to one-shot Toxicroak, Rhydon and Gengar, withstand their attacks and outspeed them. The Pokemon should have a ground move as its first move, it's extremely recommended to use **Earth Power** since it is a Special Attack and easier to defeat Rhydon.



4. Move the Pokemon as the first Pokemon in your party (NOT just selecting from bottom right UI since restarting game will reset to first Pokemon)



5. Go to any camp in Obsidian Field and save, now you can start the program

## ***Running the Program***

The program will start by returning to village and coming back by talking to Professor Laventon, if you have any reports it will go through them as well



When returning from village or every 4 searches it will sleep until morning to avoid colors detection problem and avoid spawning night time Pokemon since they are more aggressive.



Then it will start looking for Coin behind Height Camp, if found you will battle her and get nugget rewards, if not found you will return to base camp



Next it will look for Charm at north of Height Camp



Note that there are some occasions that you will be knocked off by an Alpha Pokemon screaming, this will give up looking for sister on that path and restart the game



If you are getting targeted by Pokemon when trying to go back to base camp it will also restart the game, this will not lose any progress as it is saved before searching for sisters



### 3.4.2 Braviary Gain Height

This program helps you gain height with Braviary with a sequence of button pressing.

#### *Instructions*

1. Hop on Braviary, press ZL to reset camera, then start program
2. Program will run the sequence 15 times, if you didn't get enough height, run again
3. **DO NOT stop the program halfway, as you may stop when you get off Braviary and may fall to your death**

### 3.4.3 Reset Alpha Gallade/Crobat

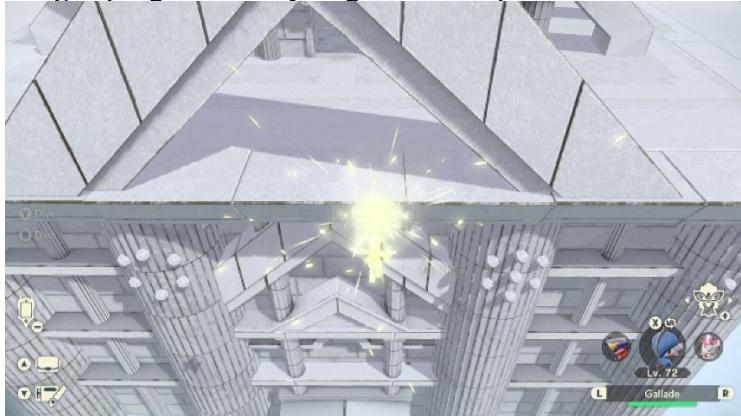
This program automatically finds Shiny Alpha Gallade or Crobat! This is based on the video by Austin John Plays: <https://www.youtube.com/watch?v=tz0b62pkKTk>

#### *Instructions*

1. Turn off Autosave
2. Select the Pokemon you want to reset for in settings
3. Head back to Jubilife Village, this resets the seeds in all areas
4. **Gallade:**
  - a) Head to Snowpoint Temple in Alabaster Icelands, get to the roof of the bottom entrance



- b) Face the wall and reset camera with ZL, get on Braviary and use **Braviary Gain Height** program until you get to the top entrance of the temple



c) Save in front of the entrance, then start program



#### 5. Crobat:

a) Head to the North entrance of Wayward Cave in Coronet Highlands



b) DO NOT ENTER the cave, save in front of the entrance, then start program



#### ***Running the Program***

The program will run towards the Alpha Pokemon and use sound detection to check if any shiny sound has played, if not it will restart game and repeat. If you have checked **Ignore Non-Alpha Shinies** option, it will ignore any shinies not close to the Alpha Pokemon, but it can still detect those next to it.

### 3.4.4 Distortion Waiter

This program simply waits for distortion to show up in a map.

#### Instructions

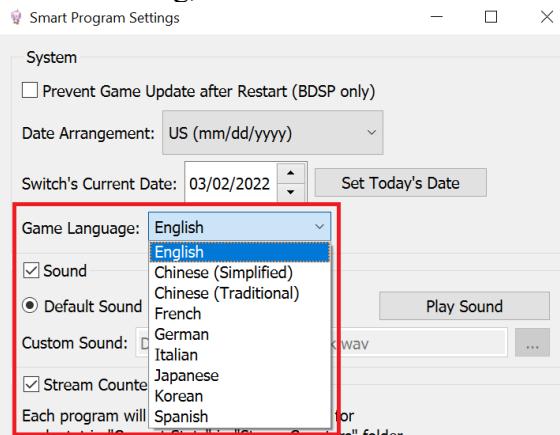
1. Turn off Autosave
2. Head to any camp in the current map
3. If the current weather is thunderstorm, strong sun or snowstorm, sleep at camp until it is not one of these weathers



4. Move away from any NPC close by, since the program will spam A to keep the screen from dimming



5. Go to general settings, set the Game Language to match your game. If the language data is missing, follow the instruction in “Resources/Tesseract/README.md” file



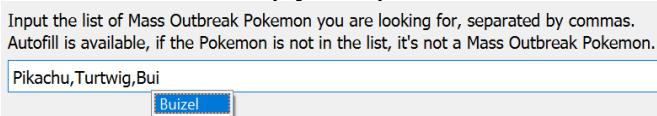
6. Start the program, it will stop when a distortion appears
7. You are recommended to get close to the distortion, hide in grass and start the program again and it will notify you when the distortion starts. (This timer is NOT a fix 5-minute timer and is a misinformation from Youtubers, it can start at any point within 5 minutes)

### 3.4.5 Outbreak Finder

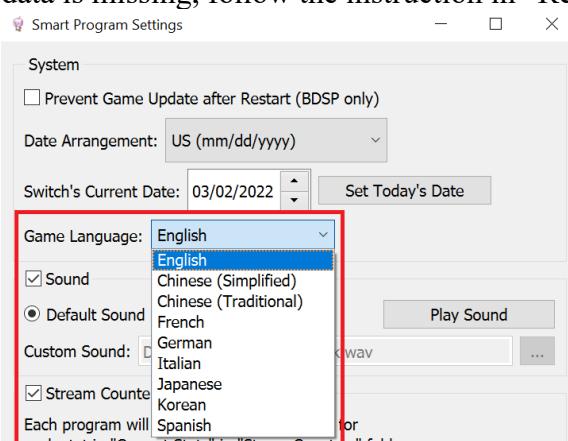
This program helps you find mass outbreak for one or multiple Pokemon.

#### *Instructions*

1. Turn off Autosave
2. Head to Professor Laventon, report any research and do NOT go back to Jubilife
3. In settings, type all the outbreak Pokemon you want to find, separated by commas, use the autofill to help you input



4. Go to general settings, set the Game Language to match your game. If the language data is missing, follow the instruction in “Resources/Tesseract/README.md” file



5. Stand in front of Professor Laventon and start the program

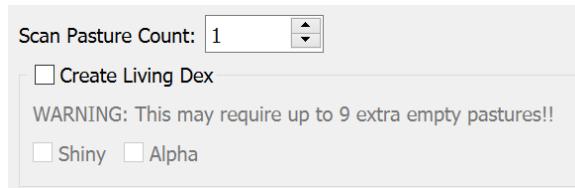
#### *Running the Program*

The program starts by talking to Professor Laventon and head back to Jubilife Village. It will then cycle the 5 main areas backwards to check if the outbreak matches any of your desired Pokemon. If not, it will head to Obsidian Fieldlands and repeat.

### 3.4.6 Pasture Sorter

This program helps sorting your pastures since Game Freak didn't give us a sorting option

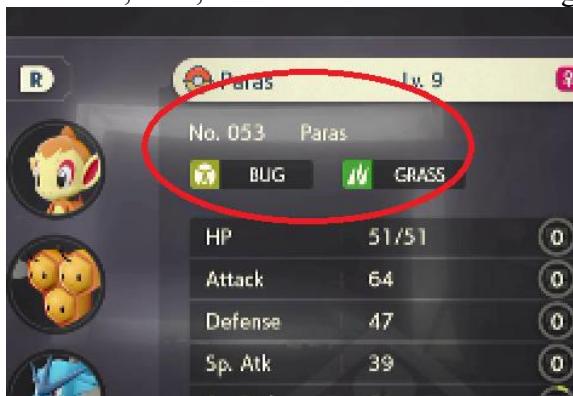
#### Program Settings



- **Scan Pasture Count:** No. of pastures you want to sort
- **Create Living Dex:** Create a living pokedex with the settings below (shiny/alpha), more information at instructions

#### Instructions

1. Turn off Autosave and save game in case anything goes wrong
2. Head to your pasture, when talking to the Galaxy Member, make sure there is not white object (sleep tent etc.) on top right of the screen, this can affect dex no. detection, if so, talk to him in a different angle



3. Go to the leftmost pasture you want to start scanning, and put the number of pastures you need to scan in the settings
4. If you want to create a living dex:
  - a) Set what the Pokemon should be in the living dex, **this program can only create one living dex at a time!** For example, if you want to create a non-shiny alpha living dex, check the alpha box only
  - b) This may require up to 9 extra empty pastures, if it needs extra pastures, after scanning, the program will ask if you want to continue

Warning

X



Creating Living Dex required 2 extra pastures!

Are you sure you want to continue?

Yes

No

For example, if the boxes contain Pokemon of the living dex with in 61-150 dex no., it will only need 3 extra pastures at max

5. Head back to the leftmost box and start the program

## ***Running the Program***

The program starts by scanning each Pokemon's dex number and whether they are a shiny or alpha. When scanning is completed, if you are creating living dex, it will warn you if you want to continue, then start sorting.

By default, the Pokemon are sorted by dex number, non-shiny alpha, non-alpha shiny, and shiny alpha.



For living dex, the first X boxes will contain the selected Pokemon, they may not be filled if you don't have all Pokemon needed, the rest will be sorted by default.



### 3.4.7 Static Spawn Reset

This program repeatedly goes to the same location in an area to check for shinies, this is useful for finding shinies on static spawns like Alpha Pokemon but can be used for any other spawns as well. The available Pokemon will keep getting updated, but you can also add your own paths as well, more information below.

#### Program Settings

Static Pokemon:

Ignore Early Shinies

- **Static Pokemon:** Target Pokemon to hunt for shiny
- **Ignore Early Shinies:** Ignore shinies not close to the target Pokemon, but may still detect shinies close to it

#### Currently Available Pokemon

Obsidian Fieldlands:

- Alpha Snorlax
- Alpha Gyarados
- Alpha Scyther
- Alpha Biberal

Crimson Mirelands:

- Unown
- Alpha Raichu
- Alpha Roserade & Honchkrow

Cobalt Coastlands:

- Alpha Chansey

Coronet Highlands:

- Alpha Luxray
- Alpha Carnivine
- Alpha Bronzong

Alabaster Icelands:

- Alpha Froslass
- Alpha Garchomp
- Alpha Gardevoir

#### Instructions

1. Turn off Autosave
2. Have all camps/clan settlements/arenas unlocked
3. Head to the area of the static spawn, sleep to the appropriate time the Pokemon will spawn (Alpha Gardevoir will not spawn at nightfall etc.), it is recommended to sleep until there is no extreme weather like snowstorm or thunderstorm as they

- can lag the game
4. (Optional) Manually check if the target Pokemon is shiny
  5. Go back to village, stand in front of Ress and talk to him
  6. Make sure there is no Massive Mass Outbreak at the target area, as this may cause some Pokemon to not spawn, if so, enter an area until there is no MMO and repeat from 3.
  7. Save in front of Ress and start the program

### ***Adding New Paths***

This program allows you to add your own paths if they are not currently available, the data is located at “**Resources/SmartCommands/SmartPLAStaticSpawn.ini**” file. **Note that when you update Auto Controller this file will be replaced, so you might want to save your changes in another location as well.**

First add the Pokemon’s name in square brackets, then add the following settings:

- **AreaID:** 1-5, correspond to Obsidian Fieldlands, Crimson Mirelands, Cobalt Coastlands, Coronet Highlands and Alabaster Icelands respectively
- **CampID:** This is the location you can teleport to while in the area, note that some locations are not selectable in Jubilife Village, like clan settlements or royal Pokemon arenas
- **Commands:** The command sequence after you are teleported to the location above, you will need to test this with Command Sender, note that the starting mount is always Wyrdeer
- **IgnoreShinyTimeMS:** Timer to ignore shinies in milliseconds

### 3.4.8 MMO Respawn Reset

When Massive Mass Outbreak happens, it can cause certain static spawn (like Alpha Pokemon) to not spawn due to overlapping outbreaks, this program takes advantage of this when the static spawn respawns it can be reset and roll for shinies.

#### Instructions

1. Turn off Autosave
2. At Jubilife Village, check areas with Massive Mass Outbreak and see if any outbreaks overlap with the static spawn you want to shiny hunt for (you can check what can spawn at Serebii.net interactive map)



3. Go to the area with MMO
4. **For Pokemon that can spawn during thunderstorm/blizzard:**
  - a) Sleep to the correct time the static Pokemon will spawn
  - b) Teleport to the same camp, this will force a backup save at camp
  - c) Head to the overlapping outbreak, catch or kill all Pokemon, **you MUST NOT head back to camp after the outbreak has been cleared**
  - d) Move to the spot where the static spawn will spawn and save
  - e) Restart the game, the static spawn Pokemon should spawn near you
  - f) If you messed up the time of day, position is not correct or you want to adjust camera angle, restart and load backup save by pressing **B+X+Up** at title screen, then you can repeat from c)
5. **For Pokemon that CANNOT spawn during thunderstorm/blizzard:**
  - a) You will need to wait for “The rainstorm/blizzard seems like it’s about to clear up” prompt to show up. While waiting, you can manually clear outbreaks to find shinies **but do NOT clear the one you’re hunting for**
  - b) When the prompt shows up, teleport to a camp, this will force a backup save at camp while MMO is still active
  - c) Wait until MMO finishes, when it does, sleep to the correct time and weather where the static Pokemon will spawn
  - d) **DO NOT teleport to any camp after MMO is cleared as it will overwrite the**

- backup save, clan settlements or boss arenas are fine however, head to where the static spawn will spawn and save
- e) Restart the game, the static spawn Pokemon should spawn near you
  - f) If you messed up the time of day/weather, position is not correct or you want to adjust camera angle, restart and load backup save by pressing **B+X+Up** at title screen, then you can repeat from c)
6. Now you can start the Smart Program, you should watch it run a few times and make sure the Pokemon spawns as quickly as possible, otherwise the shiny sound may not be played before it restarts the game, if so, use backup save and repeat steps from above.

### *Working Example*



## 3.5 Pokemon Scarlet & Violet

### 3.5.1 Item Duplication

This program works the exact same as Native Program version, please refer to [section 2.5.1](#) for instructions.

### 3.5.2 Auto Box Release

This program works the exact same as Native Program version, please refer to [section 2.5.2](#) for instructions. **WARNING:** Due to this game has a tendency to randomly drop inputs, this program may start to fail after running for a while, you are recommended to use Safe version instead.

### 3.5.3 Auto Box Release Safe

This program is a safe version of Box Release with a lot of measures to prevent input drops, detecting empty slots and prevent shiny Pokemon to be released. Although this run slower than non-safe version this is recommended as it is free from any errors.

#### *Program Settings*

No. of Boxes to Release:

- **No. of Boxes to Release:** No. of boxes of Pokemon to release, this will automatically skip any empty slots in the boxes

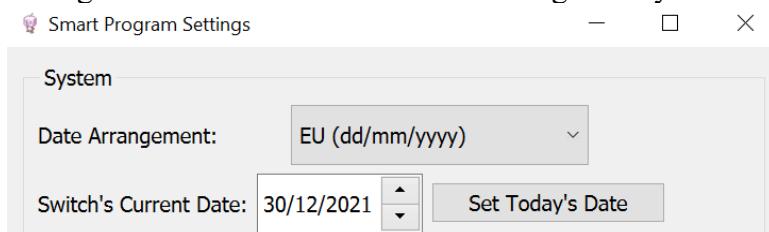
#### *Instructions*

14. Go to Boxes, and start the program at the leftmost box

### 3.5.4 Gimmighoul Farmer

This program works the exact same as Native Program version, please refer to [section 2.5.5](#) for instructions

- ✓ This program make use of System date settings, you MUST go to Smart Program settings and set current date and date arrangement you match your Switch.



### 3.5.5 Auto Surprise Trade

This program automatically does Surprise Trade from your Box.

#### Program Settings

No. of Pokemon to Trade:

- **No. of Pokemon to Trade:** No. of Pokemon in your box for trading (NOT no. of boxes)

#### Instructions

1. Go to Boxes, sort Pokemon from left to right, top to bottom, **there must NOT be any gaps between Pokemon**



2. Go online, then go to Main Menu -> Poke Portal -> Surprise Trade
3. Move cursor to the top left Pokemon of the leftmost box

#### Running the Program

The program selects Pokemon from your box to Surprise Trade and immediate head back to Poke Portal, then it will wait for the tick icon to show up, finish trade and repeats. Trade has a time limit of 2 minutes.

### 3.5.6 Egg Operation

This program has 3 different modes to collect eggs, hatch eggs or combination of both to hunt for shiny Pokemon!

#### Program Settings

Egg Operation:	Shiny Mode
No. of Sandwiches to Make (Collector Mode only):	1
Great Peanut Butter Sandbox Position (x,y):	0 7
Columns of Eggs to Hatch (Hatcher Mode only):	1
<input checked="" type="checkbox"/> Capture Video when Error Occurs for Bug Reporting	
<input checked="" type="checkbox"/> Make Sandwich for Hatching (Faster Hatch Time)	
<input type="checkbox"/> Shiny Sound Detection (Allows Capture after Egg Hatched)	
<input checked="" type="checkbox"/> Save Game after Shiny is Found (Hatcher/Shiny Mode)	
<input type="checkbox"/> Use Backup Save at Restart and Normal Save before Hatching (Shiny Mode Only)	

- **Egg Operation:** Collector Mode, Hatcher Mode and Shiny Mode, see more details below
- **No. of Sandwiches to Make:** Collect Mode only, make sandwich every 30 mins
- **Great Peanut Butter Sandwich Position (x,y):** Position of the sandwich in the picnic sandwich menu, top left is (0,0)
- **Columns of Eggs to Hatch:** Hatcher Mode only, no. of columns of eggs to hatch in your Box
- **Capture Video when Error Occurs for Bug Reporting:** When any serious error occurs this will capture a clip so you can report the error
- **Make Sandwich for Hatching:** Hatcher Mode and Shiny Mode only, make sandwich to make hatching slightly faster
- **Shiny Sound Detection:** Hatcher Mode and Shiny Mode only, detect shiny sound effect when egg hatches to capture video on the Switch
- **Save Game after Shiny is Found:** This will save game after hatching all eggs and when a shiny is found
- **Use Backup Save at Restart and Normal Save before Hatching:** Enabling this will allow you to restart the game to just before eggs are hatched to preserve the shiny in egg form

## Instructions

1. Manually go to sandwich menu and check the position of Great Peanut Butter Sandwich and change the settings accordingly
2. If your picnic table cloth has light color, change it to something dark, this is needed to detect sandwich menu properly
3. Buy plenty of Peanut Butter, Butter, Banana and Sandwich Picks
4. Set Text Speed to Fast, Skip Move Learning to On, Give Nicknames to Off
5. Turn off Auto Save
6. Fly to Poco Path Lighthouse and save, **all modes in this program will start here**



7. Go to Box, make sure it's on **View Stat** or **Judge View**, this is needed to detect shiny icon



8. For **Collector Mode**:
  - a) Have only the 2 Pokemon you want to breed in your team
  - b) Go to Boxes and navigate to empty boxes, usually 3 empty boxes in enough for every 30 minutes (you get about 60 eggs per cycle)
  - c) Set how many sandwiches you want to make in settings
  - d) Repeat step 5 and start program
9. For **Hatcher Mode**:
  - a) Have only a Pokemon with Flame Body in your team, make sure it is able to run away from a level 3 wild Wingull (give it a Smoke Ball etc.), **preferably it should**

be a final evolution since if you have **Make Sandwich for Hatching** settings checked it may evolve

- b) Go to Boxes, sort eggs from left to right (each column does not have to have all 5 eggs, but you should sort them so that only last column have fewer than 5 eggs)
  - c) Move the cursor to the top left egg of the leftmost box
  - d) Quit Boxes, repeat step 5 and start program
10. For **Shiny Mode**:
- a) Have only the 2 Pokemon you want to breed in your team, and have the Flame Body Pokemon in Box, **preferably all 3 of them should be a final evolution since they may evolve after making sandwiches**
  - b) Give the Flame Body Pokemon a Smoke Ball
  - c) Navigate one box to the right, make sure at least three boxes to the right are all empty, these will be the boxes to collect eggs
  - d) Before you exit Box menu, they should look something like this, the **2<sup>nd</sup> box** should be where you are before leaving, **NOT the 1<sup>st</sup> box**:



so on...

- e) Quit Boxes, repeat step 5, **if you have checked Use Backup Save at Restart and Normal Save before Hatching option you MUST go online to force a backup save**, then start the program

### ***Running the Program***

All programs start by restarting the game to reduce lag caused by memory leak.

#### Collector Mode:

- This program starts by making the Great Peanut Butter Sandwich, then every 2 minutes it will collect eggs until 30 minutes has passed, and repeat from the beginning. If you have a foreign Ditto breeding with your own Pokemon you should get about 60 eggs.

#### Hatcher Mode:

- If you have checked **Make Sandwich for Hatching** in settings, it will first make a sandwich before heading up to Poco Path Lighthouse.
- It will then pick up a column of eggs in your Box and hatch them by circling around the top of Poco Path Lighthouse, after all eggs are hatched, it puts the Pokemon back to Box, **it will check if any of them are shiny** and pick up next columns of eggs until all columns are hatched.
- Every 30 minutes passes it will make a sandwich again to make hatching slightly faster
- Unlike Native Program version, this one is able to detect Wingull encounter and immediately run away
- The output log will notify you where the shiny Pokemon is located in your Box

#### Shiny Mode:

- This mode will alternate between Collector Mode and Hatcher Mode
- Before hatching, it will swap the Flame Body Pokemon with the 2 Pokemon in your party
- When hatching is completed and no shiny is found, it will restart the game and repeat the process until a shiny is found, this will regain all materials used in picnic
- The output log will notify you where the shiny Pokemon is located in your Box

For Hatcher or Shiny Mode, if you have checked **Shiny Sound Detection** and your capture card supports audio, it will be able to capture video in your Nintendo Switch right after the shiny Pokemon is hatched!



### 3.5.7 Trade Partner Finder

This program automatically finds a specified trade partner name in Link Trade. This is intended for matching up with trade bots so you don't have to manually find them.

#### Program Settings

Note: If the name has non-English characters, you must change the Game Language in General Settings, otherwise it will not be properly detected

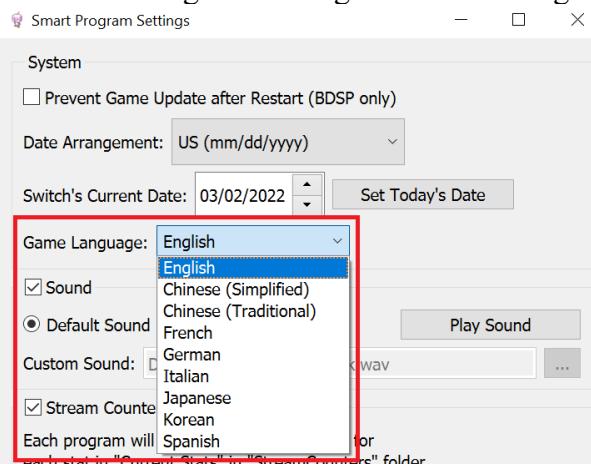
Enter the Trade Partner:

Spam A to trade when the correct Trade Partner is found

- **Trade Partner Name:** The name of the trade partner you want to match with, if the name contains non-English characters you must change Game Language in General Settings, see instructions
- **Spam A to Trade when the correct Trade Partner is found:** Enabling this will automatically trade the Pokemon so you don't have to do it immediately after the partner is found

#### Instructions

1. If you have **Spam A to Trade when the correct Trade Partner is found** option checked, go to Boxes and make sure the top left Pokemon is available for trading
2. Go online, then go to Main Menu -> Poke Portal -> Link Trade, set the link code
3. Enter the name of the trade partner in settings, if the name is non-English, go to General Settings and change the Game Language accordingly



4. Start the program

#### Running the Program

When a partner is found, the program checks if the name matches with the target name, if not it will leave immediately and starts over. Once correct partner is found, if you have **Spam A to Trade when the correct Trade Partner is found** option checked, it will spam A to trade the top left Pokemon in Box until it returns to Poke Portal in which the program will end.

## ***3.6 The Legend of Zelda: Tears of the Kingdom***

### **3.6.1 Item Duplication**

This program works similar to Native Program version and **slightly faster**. It is also able to detect input drops but using Native Program is still recommended due the simplicity of this program. Please refer to **section 2.6.1** for instructions.

# Appendix

## Appendix 1: Y-Comm Link Battle Day Spoofing Glitch

1. Connect to the internet
2. Do a y-comm link battle (Single/Double)
3. Wait until “An opposing trainer has been found” dialog shows up
4. Disconnect from the server with the follow methods:  
Handheld mode:
  - a. Hold down HOME button to bring up quick menu
  - b. Turn on Airplane mode, then turn it off after DC error message show up



Docked (wired connection):

- a. Simply take the Switch out from the dock and put it back in

Docked (Wi-Fi connection):

- a. Goto HOME menu and goto any profile
  - b. Goto Add Friend -> Search for Local Users
  - c. Confirm disconnecting from the current internet connection
  - d. Go back to game
5. Day spoofing glitch is now active, goto Pokemon Center to prevent crashing
  6. This glitch works locally with 2 Switches as well

## Appendix 2: How to IV/EV Train, Swap Ability and Change Nature

NOTE: This guide only teaches you the minimum things you need to know to max your Pokemon's IV/EV for AutoBattleTower and AutoTournament, it will not include how to make defensive sets or how to build an actual competitive team.

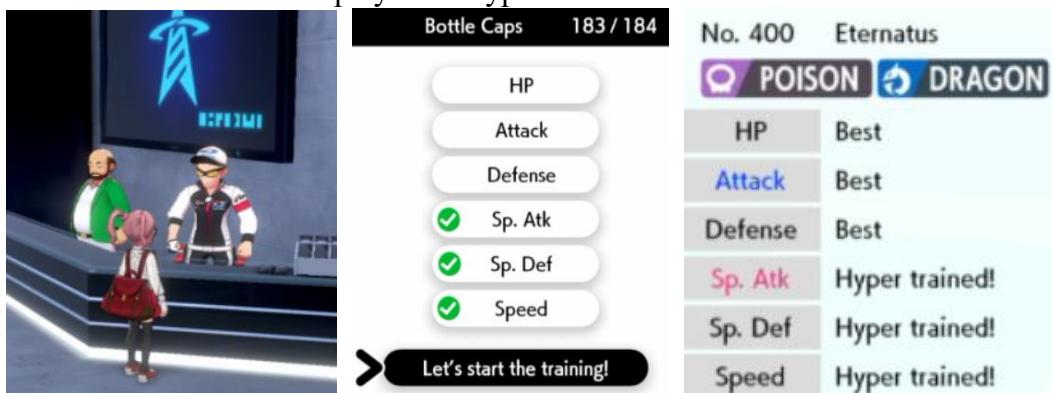
### IV Training (Hyper Training)

IV is Individual Values, each Pokemon has 6 IVs (HP, Atk, Def, SpAtk, SpDef, Spd) and they are determined when you first caught or hatched them. If you have the IV checker for Pokemon Box (by defeating Leon for the first time on Battle Tower), you can check them there by pressing +.

No. 120 Ralts

PSYCHIC FAIRY
HP Best
Attack Pretty good
Defense Very good
Sp. Atk Very good
Sp. Def Decent
Speed Best

We are aiming for all the stats to be “Best”, to do that, first you must level up your Pokemon to lv100. The only fastest way to do this is to use **Exp. Candies** which you can get by doing a lot a LOT of raids. You will also need a **Bottle Cap** for each stat that is not “Best”, you can grind Battle Caps by using TurboA program on the left Digging Duo. Once you have the lv100 Pokemon and Battle Caps, goto the rightmost receptionist inside Battle Tower, select all the stats you need to change, this will Hyper Train your Pokemon and those stats will be displayed as Hyper trained! in the IV checker.



### EV Training

Effort Values are hidden stats that your Pokemon gain by defeating other Pokemon, they can increase Pokemon's stat growth. A Pokemon can have total of 510 EVs with maximum of 252 EV per stat, all of the Pokemon used in AutoBattleTower and AutoTournament will have 252/252 spread on one of the attack (Atk/SpAtk) stat and Speed stat to maximize the power output and make sure they are faster than the opponent.

**Resetting All EVs:** EVs are all zeroes when you first caught or hatched the Pokemon, but once you bring it with you and start defeating Pokemon, they will start gaining EVs. So the Pokemon used in your playthrough will have EV spread across all the stats, if you intend to use them you will have to reset all the stats first. For that you will need berries, here are the list of berries that removes EV from your Pokemon:

- Pomeg Berry - Removes 10 HP EVs
- Kelpsy Berry - Removes 10 Attack EVs
- Qualot Berry - Removes 10 Defense EVs
- Honde Berry - Removes 10 Special Attack EVs
- Grep Berry - Removes 10 Special Defense EVs
- Tamato Berry - Removes 10 Speed EVs

You can find these berries at the 3 trees under the bridge in the Wild Area between Bridge Field and Stony Wilderness. To reset all EVs, simply feed your Pokemon will each of those berries until it has no effect on the Pokemon.

**Maximizing EVs:** There are few ways to EV train your Pokemon, the first one is PokeJobs, you can do this once per day and you have to do it 3 times to maximize one stat, even with y-comm glitch to skip day immediately this will still be very slow. The fast method require you to have a LOT of money. To do that you can use WattFarmer and grind a lot of watts, find a Watt Trader in the Wild Area that is selling Luxury Balls, buy 999 of them and sell them all in the Pokemon Center, you will need \$520,000 to EV train one Pokemon. Now you have to buy vitamins from the shop in Pokemon Center at South part of Wyndon. Each vitamin has a different effect:

- HP Up - Adds 10 HP EVs
- Protein - Adds 10 Attack EVs
- Iron - Adds 10 Defense EVs
- Calcium - Adds 10 Special Attack EVs
- Zinc - Adds 10 Special Defense EVs
- Carbos - Adds 10 Speed EVs

Let's look at Zacian's set:

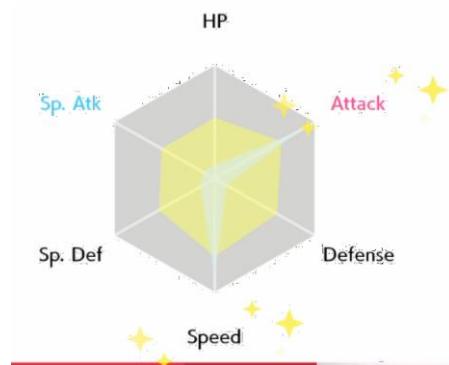
**Zacian @ Rusted Sword**

Ability: Intrepid Sword

EVs: 252 Atk / 4 Def / 252 Spe

Adamant Nature

- Iron Head



We will need to by 26 Protein and 26 Carbos, you can also by 1 Iron for the defense stat but it will not affect the outcome very much. Now give the vitamin for 252 EV stat FIRST to your Pokemon before giving the 4 EV stat, as one vitamin worth 10 EV. When done, if you check your Pokemon's summary, check stat page and press X, you will see the maximized stat has glitters around it.

## Swapping Ability

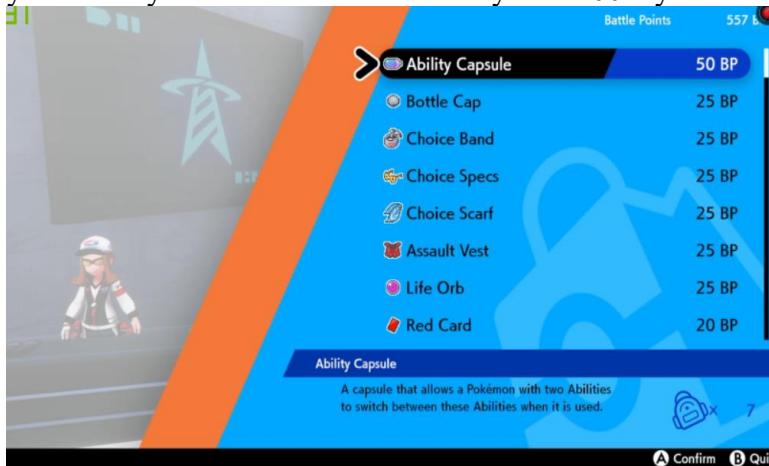
Each Pokemon can have 2 normal ability and 1 hidden ability, you can check a Pokemon's available abilities at Serebii.Net, for example Crawdaunt's ability:

**Hyper Cutter:** Opponent cannot lower this Pokémon's Attack value. This Pokémon may still lower its own Attack value using a move or by itself.  
**Shell Armor:** Opponent's moves cannot Critical Hit.

**Hidden Ability (Available):**

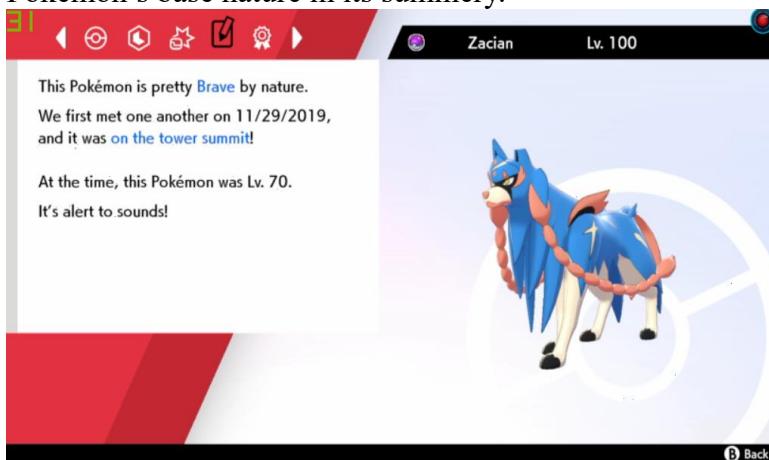
**Adaptability:** Increases the Same Type Attack Bonus from \*1.5 to \*2.

If the Pokemon has Hidden Ability, you CANNOT change it, otherwise you have catch/breed a new one. But if it has a normal ability, you can change it between the two by using an Ability Capsule which you can buy in Battle Tower, they cost 50BP each. If you have the DLC you can use Ability Patch to change normal ability to Hidden Ability, you can buy them in Max Lair but they cost 200 Dynite Ore each.



## Changing Nature

A Pokémon's Nature affects the value of two of its stats, ultimately increasing one of its non-HP stats (Attack, Defense, Special Attack, Special Defense, or Speed) by 10% and decreasing another by 10%. Nature is determined when Pokémon is first caught or hatched, you can manipulate Pokémon's nature with Trace ability for wild Pokémon or Everstone item while breeding, but I'm not going to cover it here. You can check your Pokémon's base nature in its summary.



As you can see this Zacian doesn't have Adamant nature, to change that, we will need to buy mints, they cost 50BP each.



Give the mint to your Pokemon will permanently change their battle nature until you give them mint again. The base nature shown in summary will still be the nature before you change it. The only way you can tell if your Pokemon currently has the correct battle nature is by viewing it in Pokemon Box, red is increased stat and blue is decreased stat, refer the nature table on the right.

No. 398 Zacian

	FAIRY
HP	325/325
Attack	394
Defense	266
Sp. Atk	176
Sp. Def	267
Speed	375

Nature	Increased	Decreased
<b>Lonely</b>	Attack	Defense
<b>Brave</b>	Attack	Speed
<b>Adamant</b>	Attack	Sp. Attack
<b>Naughty</b>	Attack	Sp. Defense
<b>Bold</b>	Defense	Attack
<b>Relaxed</b>	Defense	Speed
<b>Impish</b>	Defense	Sp. Attack
<b>Lax</b>	Defense	Sp. Defense
<b>Timid</b>	Speed	Attack
<b>Hasty</b>	Speed	Defense
<b>Jolly</b>	Speed	Sp. Attack
<b>Naive</b>	Speed	Sp. Defense
<b>Modest</b>	Sp. Attack	Attack
<b>Mild</b>	Sp. Attack	Defense
<b>Quiet</b>	Sp. Attack	Speed
<b>Rash</b>	Sp. Attack	Sp. Defense
<b>Calm</b>	Sp. Defense	Attack
<b>Gentle</b>	Sp. Defense	Defense
<b>Sassy</b>	Sp. Defense	Speed
<b>Careful</b>	Sp. Defense	Sp. Attack

### Appendix 3: Making Your Own Programs

v4.2.0 update allow users to create their own programs and use AutoControllerHelper to compile, as long as it follows the Bots folder format. The program's name must start with prefix "**Others\_**" and does not contain any spaces, and folder must also have the same name as the program. For example, copying **TurboA** folder gives **TurboA - Copy**, rename the folder to **Others\_TurboB** and rename the **TurboA.c** inside to **Others\_TurboB.c**, AutoControllerHelper will now be able to recognize it and compile it. However you will not be able to edit **Config.h** file with AutoControllerHelper, you must edit it manually.

Program: 
[Open Source Code](#)

MCU Type:

Information

No info available for custom-made program, please edit the source code manually.  
Make sure folder name matches the .c program file!  
When finished, you can use this to generate the .hex file.

[Save & Generate HEX file](#)
[Show Compile Log](#)

0%

[Like what I'm doing? Support me here!](#)

## Credits & Special Thanks

**shinyquagsire23** (<https://github.com/shinyquagsire23>) - Original Switch-Fightstick code  
**Just-Kim** - Beta testing  
**SaxManDan** - Beta testing  
**sug@r** - Auto battle tower button sequence  
([https://twitter.com/satoon\\_sugar/status/1208253657470226432](https://twitter.com/satoon_sugar/status/1208253657470226432))  
**甘木まぎ@maginngo** - Auto tournament guide (<http://niwaka-syndrome.blog.jp/archives/20509394.html>)  
**blip** - Program improvement contribution  
**Pleebz** - Program improvement contribution  
**zsebedits** - Shiny aware contribution on ShinyFiveRegi  
**Yeray Arroyo** - Shiny aware contribution on ShinySwordTrio  
**Pokemon Automation Server** (<https://github.com/PokemonAutomation>) – Tesseract training data for Pokemon names, distortion notifications, Audio PCM raw data conversion codebase (by Kuroneko, denvoros, pifopi, MrDonders & Gin from Pokemon Automation discord)  
**Claydergc** (<https://github.com/claydergc>) – Peak finder source code  
**Fftw library** - <https://www.fftw.org/>  
**Aazza96** (<https://gamebanana.com/members/2080739>) – Raw shiny sound effect from Pokemon Legends: Arceus  
**grinreaper** – Alpha Gyarados, Alpha Scyther and Alpha Biberal route for Static Spawn Reset for PLA

## Change Log

### v1.0.0:

- US and EU Day Skipper initial release

### v1.1.0:

- Day Skipper optimization, added Day Skipper for Japanese region, Auto Loto initial release

### v2.0.0:

- No Limit Day Skipper, Auto Fossil, Auto 3 Day Skipper, Turbo A, Watt Farmer initial release

### v2.0.1:

- Use array in No Limit Day Skipper, now can actually go infinite

### v2.0.2:

- Changed HOME button press before SR in Auto Fossil and Auto 3 Day Skipper to 40

### v2.0.3:

- Watt Farmer saves every 100,000W (50 skips)

### v2.0.4:

- Added 10 to Auto 3 Day Skipper, Auto Loto, Watt Farmer when going HOME screen or back to game

### v2.1.0:

- Berry Farmer initial release, added optional day to skip in Auto Loto

**v2.2.0:**

- Watt Farmer, Berry farmer now speeds up with syncing time

**v3.0.0:**

- Auto Host, Box Release initial release, increase HOME button after first time connect board from 50 to 60

**v3.1.0:**

- Added random link code for Auto Host

**v3.1.1:**

- Set link code plus button in Auto Host change from 35 to 40, ready button from 20 to 30

**v4.0.0:**

Revamp of the code, now allow to program much more then before:

- The following program has added Date Arrangement so user don't have to set specific date to make it work: Auto3DaySkipper, AutoHost, AutoLoto, BerryFarmer, WattFarmer
- Combined DaySkipper US, EU and JP into one (JP is still recommended)
- AutoHost huge changes: allow changeable internet connection time, allow skipping 3 days to a random Pokemon, allow adding friends during inviting others
- BoxSurpriseTrade, FriendDeleteAdd, EggCollector, EggHatcher initial release
- Added AutoControllerHelper.exe to allow least user interaction with source code

**v4.1.0:**

- Fixed inconsistency for 10280 egg group in EggHatcher
- Improvement on DaySkipper and DaySkipper\_Unlimited, JP can do 4687 skips per hour vs previously 3484, US and EU can do 3515 skips per hour vs previously 2540
- Added warning for people who didn't install WinAVR correctly

**v4.2.0:**

- Added local mode in auto host
- Even faster DaySkipper and DaySkipper\_Unlimited, JP can now do 6716 skips per hour, while US/EU can do 5172 skips per hour
- AutoBattleTower, AutoTournament and GodEggDuplication initial release
- Allow user made programs to be compiled via AutoControllerHelper

**v4.2.1**

- Changed all programs to use B button to connect (except for TurboA)
- PurpleBeamFinder first release

Bug fixes for DLC update:

- Auto3DaySkipper: Changed first time talk to den will not collect watts, account for Pokemon that can't be caught, adjusted game restart time for DLC update
- AutoBattleTower: Added missing A press, this will slightly improve the efficiency
- AutoFossil: Adjusted game restart time for DLC update
- AutoHost: Applied Auto3DaySkipper changes, fixed bug for local mode without skipping 3 days, added 8 digit link code support, changed so that adding friends during inviting others only take 30 seconds
- BerryFarmer: Fixed inconsistent timing in the Isle of Armor
- DaySkipper & DaySkipper\_Unlimited: Fixed for crashing for some people,

changed delay to 14 to 16, this will make US/EU do 4945 skips per hour and JP do 6338 skips per hour

- EggHatcher: Added one more small cycle for group 5120

#### v4.2.2

- Hotfix for AutoBattleTower forgot to update m\_endIndex from 35 to 37

#### v4.2.3

- Hotfix for GodEggDuplication not working properly after DLC update (changed 70 to 82 and 94 to 104) and fixed end of the program not mesh Home over and over

#### v4.3.0

- Added update checking support for AutoControllerHelper
- ShinyFiveRegi and ShinySwordTrio initial release

#### v4.3.1

- Added missing Joystick.h commit

#### v4.4.0

- Added shiny aware to ShinyFiveRegi (contributed by zsebedits)
- New ShinyPixelChecker.exe for stream counter and play sound when shiny is found
- Set progress bar to 0% whenever a change is made

#### v4.4.1

- Stability fix for Regieleki and Regidrago in ShinyFiveRegi
- New shiny aware version for ShinySwordTrio release (contributed by Yeray Arroyo)
- Added AutoControllerHelper support for EggCollector\_IT
- Reduce AutoFossil time significantly with Hi-tech Earbuds

#### v4.4.2

- Stability fix for GodEggDuplication
- Added AutoFossil for German (may work on other languages too)
- Added extra instructions for ShinySwordTrio shiny aware version

#### v4.4.3

- Firmware 11.0 fix for various programs (now required minimum 3 game icons)
- Minor ShinyPixelChecker bug fix

#### v4.4.4

- Final ShinySwordTrio shiny aware version stability fix
- Added warning on AutoTournament not working for Galarian Star Tournament

#### v4.5.0

- DailyHighlightFarmer first release
- ShinyRegigigas first release
- Updated default time of shiny aware ShinySwordTrio to 404
- Added Hourly Rollback option for ShinySwordTrio
- Improvement on Auto3DaySkipper 1m47s -> 1m40s per cycle
- Improvement on AutoLoto 21.3s -> 19.9s per collection
- Improvement on BerryFarmer 16.9s -> 16s per collection
- Improvement on WattFarmer 10s -> 8.2s per collection
- Fixed DaySkipper sometimes missed Home button input

- Gave an option for user to check download page manually for new version if update checker is not working

#### v4.5.1

- Hotfix for Auto3DaySkipper not working properly for JP date arrangement

#### v4.5.2

- AutoControllerHelper now opens with last used program
- Added AutoControllerHelper\_Launcher.exe, no need to create shortcut by hand
- Hex files are now generated to Hex folder
- Changed the window layout to allow resizing, fixed against high DPI monitors
- Updated the following programs affected by 13.0.0 firmware update:  
Auto3DaySkipper, AudoHost, AutoLoto, BerryFarmer, DailyHighlightFarmer, ShinySwordTrio, WattFarmer

#### v5.0.0

- Smart Program release
- BDSP\_ResetDialgaPalkia first release
- BDSP\_ResetStarter first release
- Rewrite manual for more detailed tutorials

#### v5.0.1

##### Native Program:

- BDSP\_ResetStarter and BDSP\_ResetDialgaPalkia will force prevent game update (also works on games that are up-to-date), also increase delay for entering game (reported by Disco\_Stu)

##### Smart Program:

- Allow Smart Program general settings to be changed while running
- Added option in Smart Program to prevent game update (for BDSP programs only)
- Added “Adjust Video Effects” to change video hue, saturation and contrast
- Added “Dev: Color Calibrator” to adjust color if user experience detection problem
- Reset Starter (BDSP) now ignore Shiny Starly
- Adaptive title screen detection for Reset Starter (BDSP) and Reset Dialga/Palkia
- Reset Starter (BDSP) and Reset Dialga/Palkia can now prevent game update (contributed by pierre)

#### v5.1.0-v5.1.2

##### Native Program:

- Internal refactoring to use flags instead of incremental enum, this now allows any button combinations like UP | A or DPAD\_RIGHT | R etc.
- TurboA now uses new standard that follows Smart Programs, durations will be consistent with 1 = 48.05ms
- Added BDSP\_MenuGlitch113, BDSP\_BoxDuplication and BDSP\_BoxOperation (works exactly the same as Smart Program)

##### Smart Program:

- Added Menu Glitch for BDSP v1.1.3
- Added Box Duplication for BDSP

- Added Box Operation (release Pokemon, bag items, duplicate items) for BDSP
- Added small delay in Reset Starter for BDSP to fix timing for German (reported by Herr Kira), also reduced false positive occurrence

### v5.1.3

- Changed Adjust Video Effects contrast setting to gamma

### v5.2.0

Native Program:

- BDSP\_ResetLegendary release

Smart Program:

- Display and track stats for individual programs without Stream Counter
- Stream Counter now export multiple text files for each stat to “StreamCounters” folder
- Added Reset Legendary for BDSP
- Removed Reset Dialga/Palkia, use Reset Legendary instead
- Added Duplicate Item 1 to 30 for BDSP
- Added Nugget Farmer for PLA

### v5.2.1

Native Program:

- PLA\_ResetAlphaCrobat and PLA\_ResetAlphaGallade release

Smart Program:

- Nugget Farmer bug fix: Laventon detection not working for non-English
- Added Braviary Gain Height for PLA
- Added Reset Alpha Pokemon for PLA

### v5.3.0

Native Program:

- BDSP\_ResetShaymin release

Smart Program:

- Reset Alpha Pokemon bug fix: Alpha icon detection
- Added Distortion Waiter for PLA
- Added Outbreak Finder for PLA
- Added Shaymin to Reset Legendary for BDSP

### v5.3.1

Native Program:

- BDSP\_ResetArceus release
- Adjusted BDSP\_ResetShaymin timing

Smart Program:

- Fixed Outbreak Finder not detecting loading screen for some people
- Added Pasture Sorter for PLA
- Added Arceus in Reset Legendary for BDSP
- Map detection for Nugget Farmer and Outbreak Finder, some languages have multiple dialogs when talking to the guard

### v5.4.0

General Change:

- Reordered resources files, smart program commands are separated and now located at “Resources\SmartCommands” folder

- Moved SmartStats.ini file to Resources folder

Native Program:

- Fixed BDSP\_ResetArceus not working for user having slower game load times
- Increase timing for BDSP\_ResetLegendary to work with Darkrai

Smart Program:

- Last used program will be remembered
- Added warning in Pasture Sorter if it requires extra boxes
- Added sound visualization
- Reset Alpha Gallade/Crobat for PLA now uses sound detection
- Added optional shiny detection in Nugget Farmer for PLA
- Added Static Spawn Reset for PLA
- Added Darkrai to Reset Legendary for BDSP

#### v5.4.1

Smart Program:

- Crash handling for PLA programs
- Fixed sound detection not working for some capture cards (USB cheap ones)
- Added MMO Respawn Reset for PLA

#### v5.5.0

General Change:

- Auto Controller Helper will now register program with SV\_ prefix for Pokemon Scarlet & Violet

Native Program:

- SV\_ItemDuplication, SV\_BoxRelease, SV\_EggCollector, SV\_EggHatcher, SV\_GimmighoulFarmer release

Smart Program:

- Fixed Camera Delay Calibrator missing a down press due to system update
- Static Spawn Reset (PLA) now has 3 new routes
- Added Item Duplication for SV
- Added Auto Surprise Trade for SV
- Added Auto Box Release for SV
- Added Egg Operation for SV
- Added Gimmighoul Farmer for SV
- Added Trade Partner Finder for SV

#### v5.5.1

Native Program:

- Updated Others\_SmartProgram to version 6

Smart Program:

- Added BXDUp command for loading backup save
- Fixed unable to release Pokemon with an item in Auto Box Release Safe for SV
- Auto Box Release Safe for SV is now slightly faster
- Added option to use backup save for Egg Operation Shiny Mode for SV
- More input drop handling in Egg Operation Shiny Mode for SV
- Added Code Entry for Others

#### v5.5.2

Smart Program:

- Removed impossible characters in Code Entry and added conversion between some characters like I to 1 etc.
- Added Shiny Wingull detection for Egg Operation for SV
- Detect wrong picnic tablecloth color, Box not being on Judge View and fixed a softlock in Egg Operation for SV
- Egg Operation for SV now detect judge view automatically
- Added Box Release for SwSh
- Added Egg Operation for SwSh

## v5.6.0

Native Program:

- Updated Others\_SmartProgram to version 7
- TOTK\_ItemDuplication release

Smart Program:

- Added ZRDUp command for fusing item in TOTK
- Added Item Duplication for TOTK