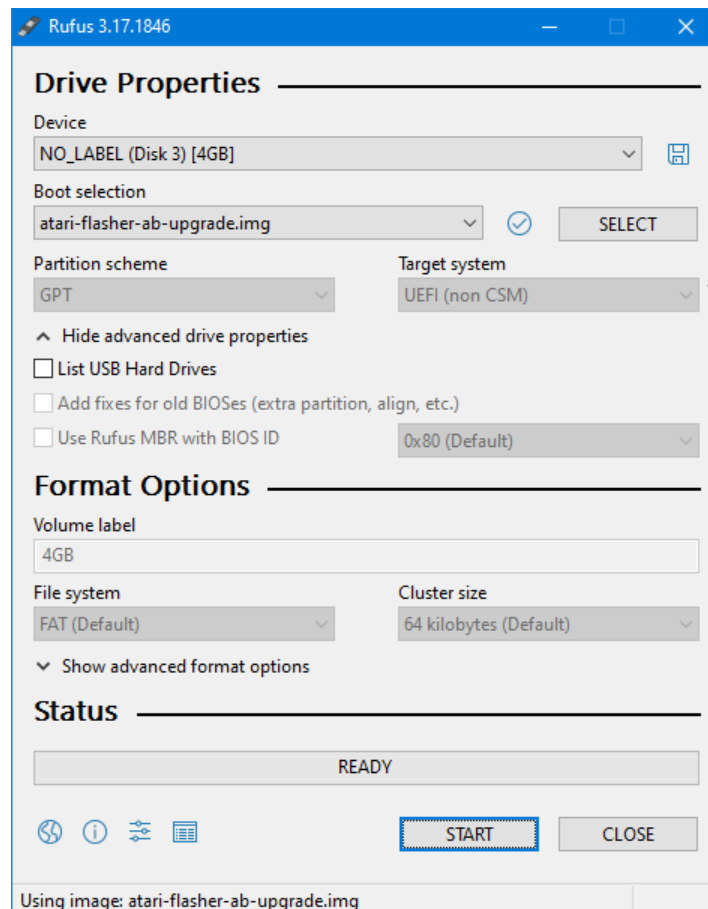# Creating the Atari Recovery media

What you need:

- 2GB or larger USB drive. This drive needs to be blank (if you are using an drive with existing files you need to copy them from the USB drive to your PC or they will be deleted the as this process reformats the entire USB drive)
- About 3.5GB of free space on your PC is needed to download & unzip the image

Windows PC
- Download Rufus at https://rufus.ie/en
- Download Atari Recovery image at https://drive.google.com/drive/folders/1pgC39vlSaK-8am4cbGKLgQrnKILRU1iK?usp=sharing
- **Create the Atari USB Recovery drive**
    1. Unzip the Atari Recovery image that was downloaded
    2. Insert your USB drive into your PC and run Rufus
    3. Choose downloaded / uncompressed image file (atari-flasher.img) to copy
    4. Rufus should show Partition scheme will be "GPT" and Target System will be "BIOS (or UEFI-CSM)"
    5. Click Start (the existing contents on the USB drive will be destroyed)

Mac USB creator
- Download Etcher at https://www.balena.io/etcher/
- Download Atari OS image:
  https://drive.google.com/drive/folders/1pgC39vlSaK-
  8am4cbGKLgQrnKILRU1iK?usp=sharing
- Unzip the Atari US image
- **Create USB Recovery drive**
  1. Unzip the Atari Recovery image that was downloaded
  2. Launch etcher
  3. Drag the unzipped Atari Recovery image into Etcher
  4. Select USB
  5. Click start

Atari VCS BIOS password reset

The BIOS password on the retail consoles requires flashing the BIOS back to 1.0.21 to set it to the "Celerbrate" password that it is out in the wild.

The guide and recovery image can be found at the following link. For the most part the guide is not very useful other than to tell you how to create the recovery flash drive, so I would refer to for those steps.

https://drive.google.com/drive/folders/1pgC39vlSaK-
8am4cbGKLgQrnKILRU1iK?usp=sharing

There are steps you have to do that aren't in the guide, and you will need a keyboard connected to your Atari VCS to complete these steps. If you don't have a keyboard it will only flash the Atari OS not resolve the issue.

- With the power off, plug in the USB drive and connect a keyboard to your Atari VCS
- You need to use the keyboard and select the flash BIOS option from the menu that appears on the screen when you power on your Atari VCS with the Atari OS Recovery USB drive the you created from the downloaded image (if you don't select anything then it will just flash the Atari OS). From the menu select "BIOS Upgrade & Reset Settings (VCS21)" and press the Enter key using the keyboard that you have connected to your Atari VCS. This process will downgrade the BIOS from 1.0.23 to 1.0.21 (the BIOS will automatically get updated again to 1.0.23 the next the the Atari VCS boot into the Atari OS).
- You shouldn't need to reimage the Atari OS, but I did that as my first step before the BIOS. If you find just flashing the BIOS doesn't work then reimage the Atari OS, power off & then on again and flash the Atari VCS BIOS before the system boots into the Atari OS. After then boot into the Atari OS and let the system update the BIOS. Be patient as this might take 15-20 minutes to complete.

Once done you should be able to access the BIOS using the Atari Celebrate password.

Optional recommended BIOS changes

If you added more memory there might be DRAM timing changes you will want to make as well as changes the amount of shared memory

The memory settings that I adjusted are as show in this video at the 08:09 - 09:32 mark. https://www.youtube.com/watch?v=wSKTYPXgWsU&t=489s

A few safe & useful things I did following the steps in this video I have linked on this reply is as follows (the default settings in the BIOS are based on the stock 8 GB of DD4 2666 MHz memory so these should be adjusted to reflect the specs of the upgraded memory and allocate the additional memory to the GPU to optimize performance)

- Set the memory speed in the BIOS to ensure that clock on that is matches the rated speed for the memory (when I upgraded the memory in my Atari VCS put in 3200 MHz memory to replace the 2666 MHz stock RAM)
- Allocate more system RAM as video memory (I increased the allocation to 4 GB since I have 32 GB installed in my Atari VCS and that will be a nice boost in games that use a lot of video memory and this is double the default 2 GB that was based on an Atari VCS with the stock 8 GB of memory).

*One other thing shown in the video was how to change the TDP from 35W to 54W but I did not set this on my Atari VCS since put any undue stress on the system and risk damaging or overheating it (for those who want to do this it is advised to replace the stock thermal pad with Arctic Silver 5 thermal paste to enhance the cooling as this has been shown to reduce temperatures on Atari VCS consoles where the owner did just that).