ISObooter - Booting ISOs User Guide

Preface

This document is based upon a contribution by a member of the Puppy Linux Forum community; namely "Rcrsn51". His ISObooter utility discussion is found, **here**.

Introduction

ISObooter is a utility that was designed as a Puppy Linux utility for booting its ISOs. The utility presents a simple way to easily save and boot any ISO. This document demonstrates methods of booting ISO file(s) that are in a directory accessible at boot time.

Note: Please be advised that this utility is NOT something you install into your system. It is merely a program you place onto a USB/SD drive that will "boot all ISO files it knows about".

The following method will describe a USB approach. In the expected use of the USB, this method assumes you have a partition area on the USB which is already blank and/or that the area can be destroyed by a format. In following this guide's method, you will end with a USB that when booted, will allow one to select and boot an ISO. As such, it negates any need to use the ISO file for creating a DVD/CD/USB; thus you can use the native ISO file, "unhinged" directly.

This method ASSUMES you

- are at your Linux desktop
- have your USB ready, which is to become your bootable USB with the ISO files you choose.

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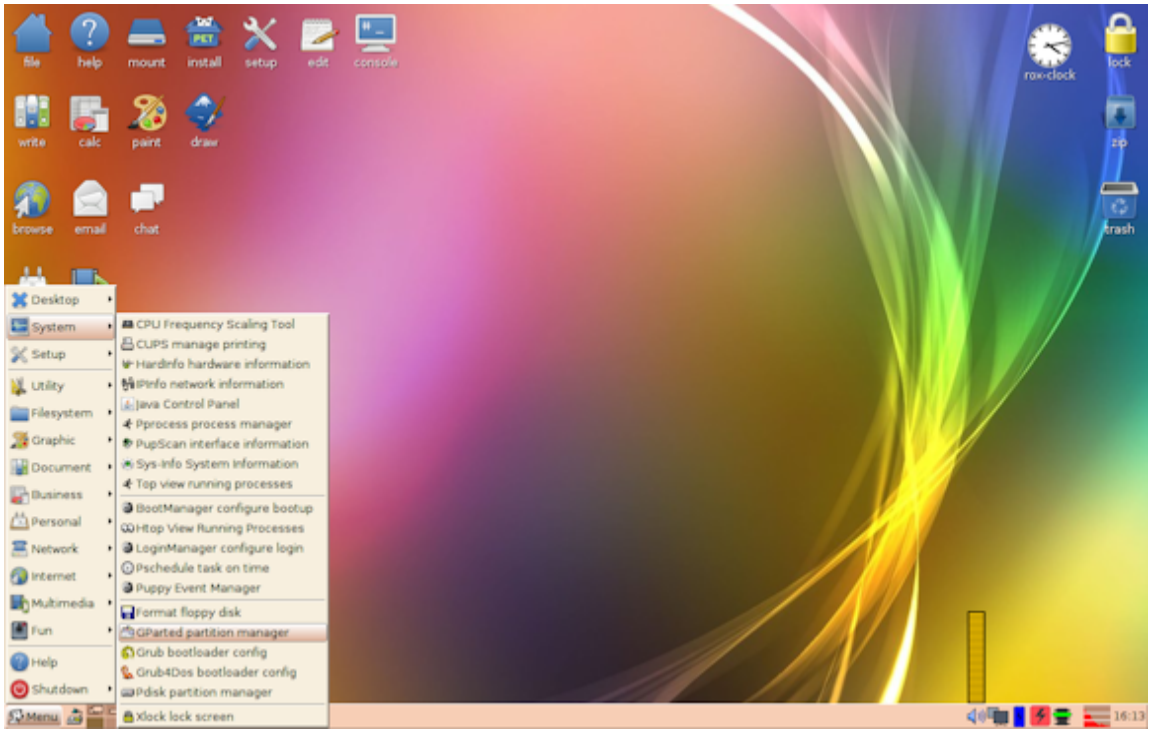
There are 2 sections which must be used so that the USB can be used to boot its ISOs. They are

1. Prepare the USB for its task as a bootable device
2. Add the files needed for its task to allow its ISOs to boot

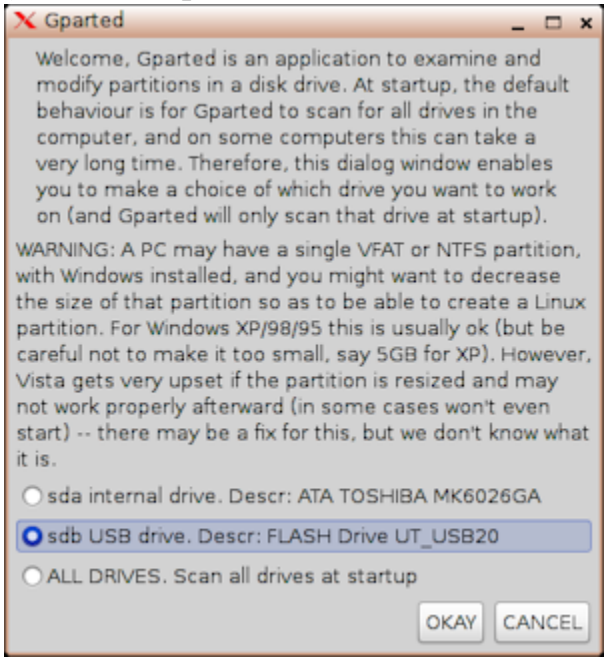
Section 1: Use the following method to prepare the USB:

Plug in your USB drive that will be used as a boot device.

1. From the System menu, run Gparted.

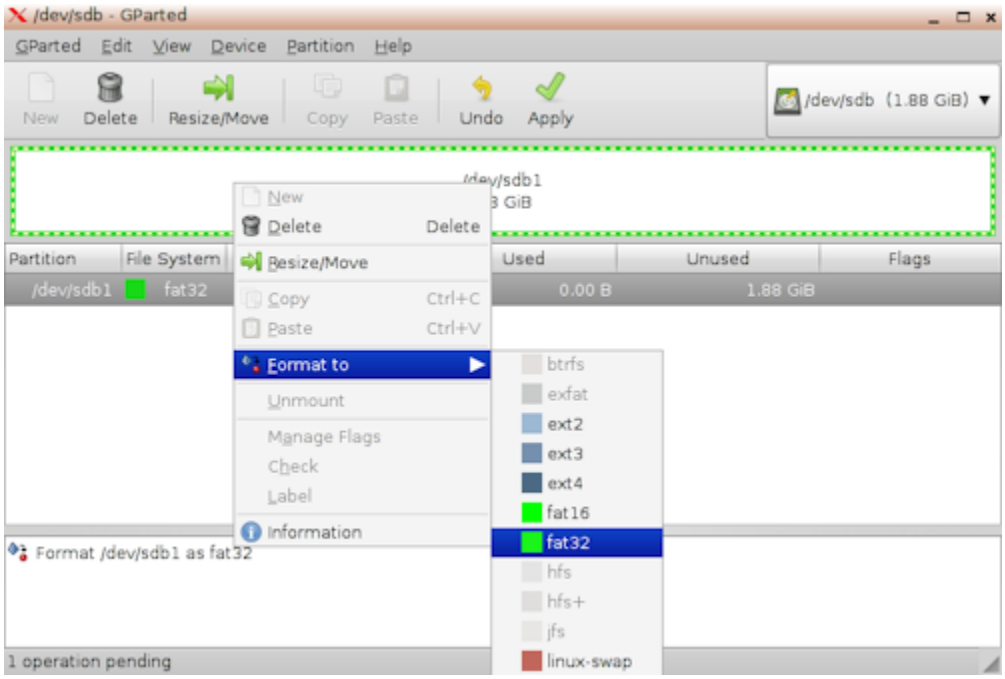


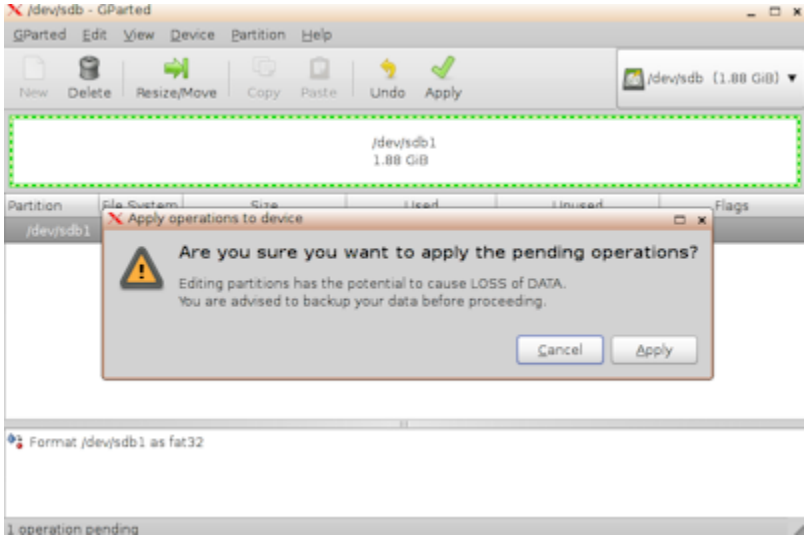
2. Select your USB drive
(**You** are responsible for correct selection: In this case its /dev/sdb).



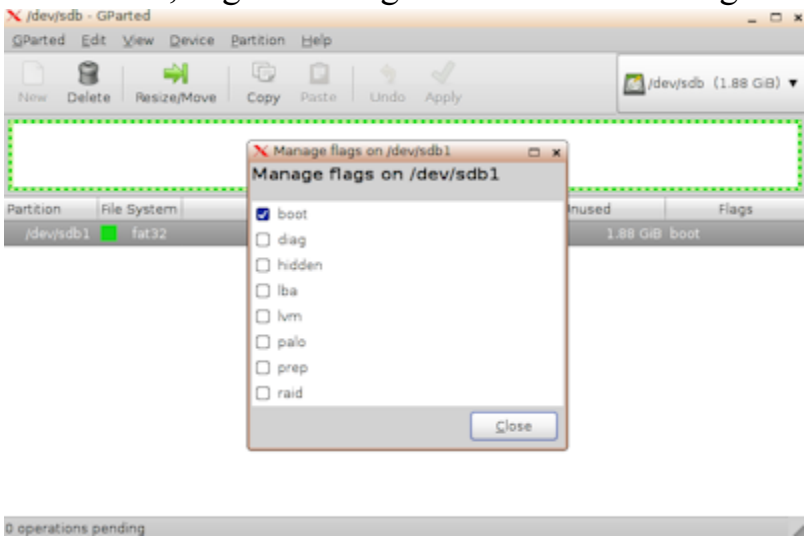
3. Review the screen. You must choose the partition area which can be blanked to setup for booting

4. Right-click on the partition and format it as FAT32 by responding to the “Are you sure...” message.

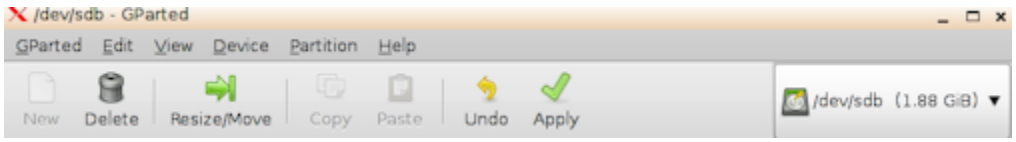




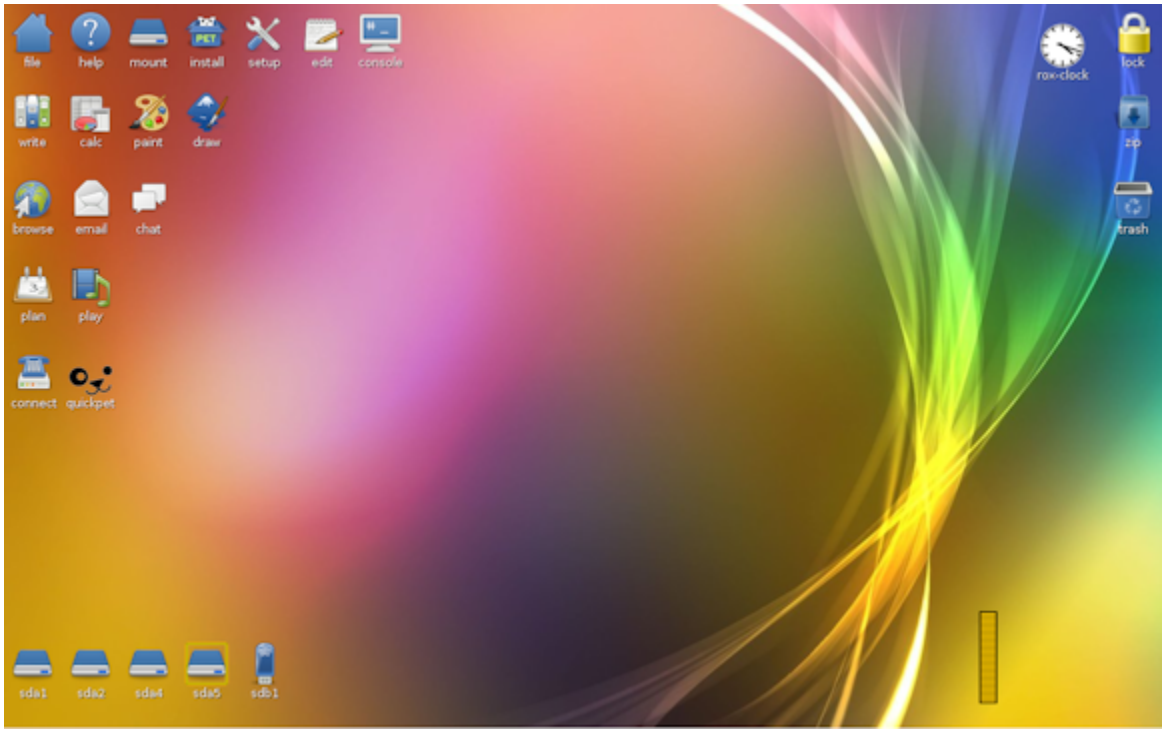
5. Next, Right-click again to set the Boot flag making the device bootable.



6. Click the Apply button one last time on the Menu bar, then exit GParted.



7. Mount the USB drive by clicking on its icon at the bottom of your desktop's screen.



The USB device is now ready for setup, so that it can boot ISOs of your choosing.

Follow the steps for ISObooter, below. The following ISObooter instructions explain how to make the USB to just use the ISO file, directly, without having to do anything at all to the ISO file(s) itself.

Again, this procedure is developed with the assumption that you are using a Puppy Linux project/derivative/remaster distro. Should you be using any other distro, you are responsible for the steps to mimic what is found here.

Section 2: Add the files, and the ISOs to the USB

ISObooter is a utility procedure for booting any Linuxes, including Puppy, directly from their ISO files. ISObooter's author is Puppy Discussion Forum member "Rcrsn51". This approach is based on work started in the Puppy Linux Discussion Forum by member "Scooby" centered around another package, "Easy2Boot", which accomplishes the same thing, but is setup in a similar, yet different manner.

The following ISObooter instructions are for use with USB drives, but the procedure can be applied to hard disk drives (HDD), as well. ISObooter sets up GRUB4DOS as the bootmanager for booting the system.

The above steps preparing the USB were essential to ensure that the ISO files will be stored in such a way that the file, itself, would be in contiguous blocks when added to the USB to insure booting.

Now, that the hard part of preparation is done by doing step 1 to prepare the media for setup. We are ready for the ISObooter Utility: This is the easy part where ISObooter will complete the USB for booting. ***The ISObooter utility is designed to be used, exclusively, on the media you will be booting.***

The ISObooter Utility residing on the USB stick, when run, will:

1. add the GRUB4DOS bootmanager to the USB iff finds itself

AND after you add any ISO(s) to the USB,

2. tell the bootmanager the names of your ISOs so that you can boot them.

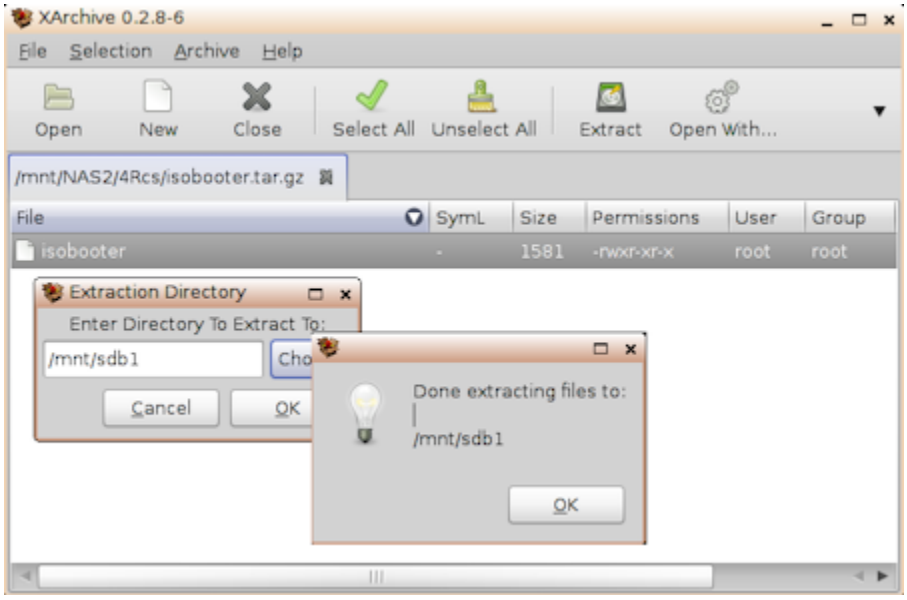
These are the ONLY 2 steps ISObooter will need for you to begin booting any of the ISOs you placed on your USB.

Get ISObooter Utility

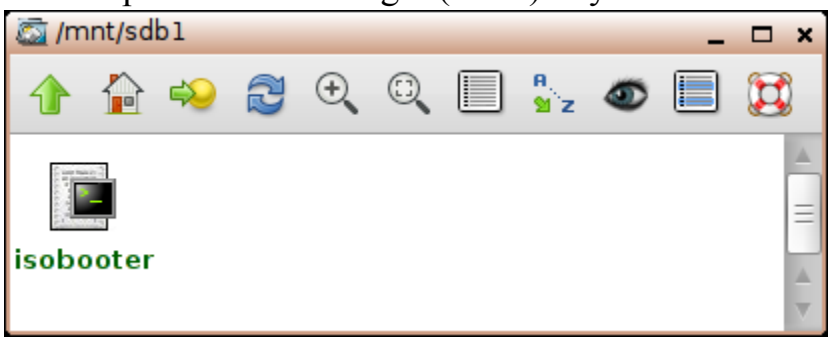
This is done, as follows, using the ISObooter Utility

1. Download the ISObooter Utility, isobooter.tar.gz. **It can be gotten directly from HERE.**

2. Use XArchive or equivalent to extract ISObooter Utility to your bootable USB drive. (It places a single script file on the USB named "isobooter", as shown below.)

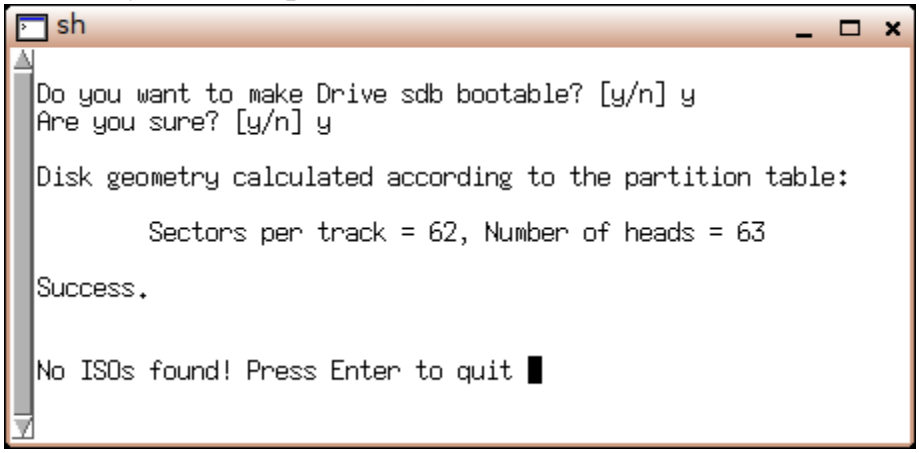


3. Open the file manager (ROX) to your USB



Allow ISObooter Utility to create the BootManager

At this point, **Allow ISObooter to <u>add the GRUB4DOS bootmanager to your USB</u>**.
Click the isobooter icon. The requirement to add the bootmanager is completed by answering "y" to the question: "Do you want to make Drive sdx bootable? [y/n]" (You must make sure that "sdx" is your USB partition.)



This installs GRUB4DOS to your USB.

Place ISOs on Media

You must Add some ISOs to the USB

Using ROX, drag and drop some ISO files to your drive. You can copy them from any local storage locations. Or you can download them directly from the Internet and place them on your USB.

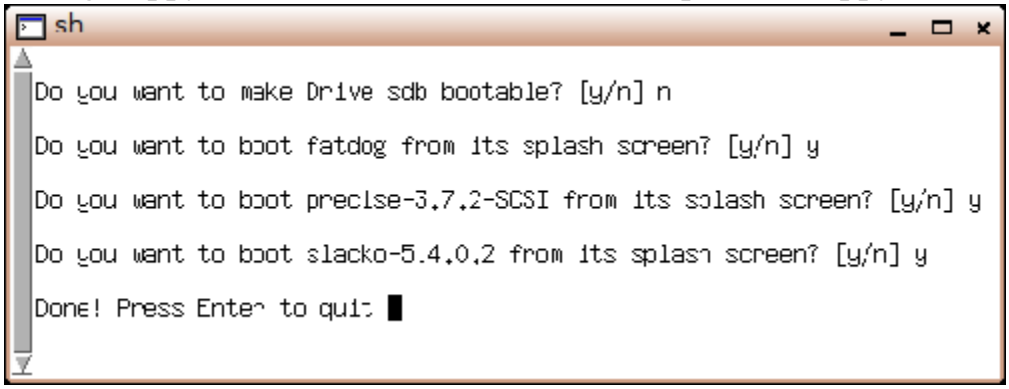
The above shows an example of the files that exist on the USB.

ISObooter Utility will update BootManager with added ISO names

Now, all is ready for the last step: **Let ISObooter tell the bootmanager the names of your ISOs, automatically with your help.**

In the same terminal window from above (where you made the USB bootable): Click the isobooter icon on your USB. This time, answer "n" to the first question so that ISObooter can skip that step, moving to complete your bootmanager needs for booting your ISOs from the USB.

For each and every ISO found on the USB, ISObooter provides two (2) choices, "y" or "n" for setting Puppy distro to autostart boot or to stop at the Puppy ISO's splash boot screen.



"Do you want to boot "one-of-your.iso" from its splash screen? [y/n]"

Notes for the question, above:

- There are 3 answers to this question; namely "y", "n", and capital "Y".
- For non-Puppies ISOs like Ubuntu, answer "y". **This answer** is also used if you want to see the usual Puppy boot screen. If not, then;
- For a Puppy ISOs, answering "n" will make it boot like a frugal install without Puppy's usual ISO boot selection screen.
- Answering "Y" tells the utility to skip asking for each individual ISO and instead assume "y" as the answer for EVERY remaining ISO it finds.

Note2 - boot entries in the boot manager:

- An answer of "n" will create entries in the bootmanager's 'menu.lst' with each ISO has a frugal type of boot entry where, at boot time, you can add boottime options.

For example:

```
title beaver64-8.7.1
partnew (hd0,3) 0x00 (hd0,-1)/beaver64-8.7.1.iso
map --heads=0 --sectors-per-track=0 (hd0,-1)/beaver64-8.7.1.iso
(0xff)
map --hook
root (0xff)
kernel /vmlinuz pmedia=cd psavemark=2 pfix=fsck
initrd /initrd.gz

title BionicDog64-Cinnamon-ETP_2018-08-27
partnew (hd0,3) 0x00 (hd0,-1)/BionicDog64-Cinnamon-ETP_2018-08-27.iso
map --heads=0 --sectors-per-track=0
(hd0,-1)/BionicDog64-Cinnamon-ETP_2018-08-27.iso (0xff)
map --hook
root (0xff)
kernel /vmlinuz pmedia=cd psavemark=2 pfix=fsck
initrd /initrd.gz
```

- An answer of "Y" will create entries in the bootmanager's 'menu.lst' with each entries for ALL ISOs to be chainloaded. For example:

```
title caine6.0
partnew (hd0,3) 0x00 (hd0,-1)/caine6.0.iso
map --heads=0 --sectors-per-track=0 (hd0,-1)/caine6.0.iso (0xff)
map --hook
root (0xff)
chainloader (0xff)

title clonezilla-live-2.6.0-5-amd64
partnew (hd0,3) 0x00 (hd0,-1)/clonezilla-live-2.6.0-5-amd64.iso
map --heads=0 --sectors-per-track=0
(hd0,-1)/clonezilla-live-2.6.0-5-amd64.iso (0xff)
map --hook
root (0xff)
chainloader (0xff)
```

Your USB is now complete and ready for booting any of its ISOs.

Just plug in this prepared USB and start/restart any of your PCs to boot off the USB drive.

Summary

In review, the ability to setup a USB to boot any of the ISOs it has loaded is really a 3 step process, once the ISObooter utility is downloaded. Namely

1. Run the ISObooter utility to Prepare your USB
2. Load your ISOs of choice

3. Run the ISObooter utility, again, to ***only*** fix the Bootmanager to control booting ISOs you added.

Future considerations to ISObooter script

These instructions are based upon the initial work of the ISObooter author on what he sees as steps required for setup. The steps follow the author's and should be found to be consistent.

But, there are quite a number of steps involved and a single screen Linux/Puppy application could considerably shorten the process and even automate the additional ISOs anyone would want to add, even after initial setup.

One option is to do it from a single screen.

A Screen Front-end for ISObooter

The following are some ideas that could be considered in a screened application. This list in not all-encompassing, but, is just a few ideas.

- Make it a single screened app to completely drive the setup process.

- A utility for checking the Disk (USB/HDD) that is being setup determining if it already has the corrected "grldr" file for ISObooter's needs. It should check for, and if found, skip the opening question about initial setup step requirements.

- A list of all ISOs, found in the running filesystem/particular folder, displayed with a checkbox next to each ISO in list for user selection of which to include in the outcome. This approach should check each ISO to determine if it is fragmented; as, fragmented ISOs should not be included in the selection list used to create the boot-manager boot menu.

This rather single, simple screen would go a long way in simplifying user understanding and reduce questions around ISObooter setup. It should appear as a single glance of ISObooter requirements leading to a successful boot-manager for its ISO booting./

A startup Hybrid "ISObooter ISO"

This ISO would "dd" a USB with a "*sample"* ISObooter ISO which also contains the utility. This USB would be structural for demonstrating ISObooting. It would contain a document guiding a user in steps to adding additional ISOs that this USB would boot in its future. And, when booted, it would contain instructions for:

- adding ISOs to this booted USB,
- updating its bootmanager for subsequent booting of this USB

This has the potential of reducing ANY questions or displeasure in use of the utility.

Acknowledgements

The author of this tool is a member of the Puppy Linux Discussion Forum (PLDF) community. He is known as “Rcrsn51” in the forum.

To contact him or to report any problems with the working of his tool, you must, first, join the PLDF, then:

1. reply to **the product’s thread** supporting this product, or
2. send him a **Private Message (PM)**.

This is the official manner to garner additional information that may come to light or to request answers to questions or phenomenons you observe.