

MyLiveUSB



This manual is divided into sections, each of which deal with individual issues, and includes snapshot images where appropriate.

We hope you enjoy using this utility and find this manual helpful in making the best use of it for your purposes.

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General Information

Some general information about drives and partitions is probably called for first. For the purposes of this utility your USB flash stick/drive/pendrive/whatever can be regarded in a similar manner to a Hard Disk Drive. It can be booted and partitioned in the same way.

There are two partitioning schemes which concern us. The first is MBR (Master Boot Record) or MSDOS, which is the traditional partitioning scheme for Windows, Linux and other operating systems. There is a second partitioning scheme called GPT which was devised to overcome the limitations of MBR because HDDs grew much larger than envisaged by the MBR authors.

This utility is designed to deal with both schemes. So, whether you have your USB stick set up using MBR partitioning or GPT partitioning, this utility will perform in similar fashion.

A further development which had an impact on LiveUSB creation was the spread of UEFI firmware in PCs. This was developed to replace the BIOS and improve greatly on it. In that regard it does very well, providing the user with a more graphical experience and the ability to navigate it using a mouse.

Unfortunately, UEFI requires a specific set up on the Drive used to boot that PC, so a MBR drive can not be booted in UEFI mode. Thankfully most UEFI firmware allows the user to revert to a 'BIOS compatibility' mode.

As most operating systems are now UEFI compliant they get installed with UEFI enabled, and to continue to work, UEFI must be left enabled.

This impacts on LiveUSB creation, because such a tool should be able to boot regardless the BIOS or UEFI firmware, and furthermore should be able to install the OS from that live session. To help with this situation this utility now has the ability to set up both a MBR and a UEFI bootable USB stick on the one device - providing the UEFI requirements are complied with regarding boot partition etc..

Of course if you do not have your USB device set up using GPT partitioning then the utility will do a MBR *only* install, and the USB stick will be bootable in MBR mode.

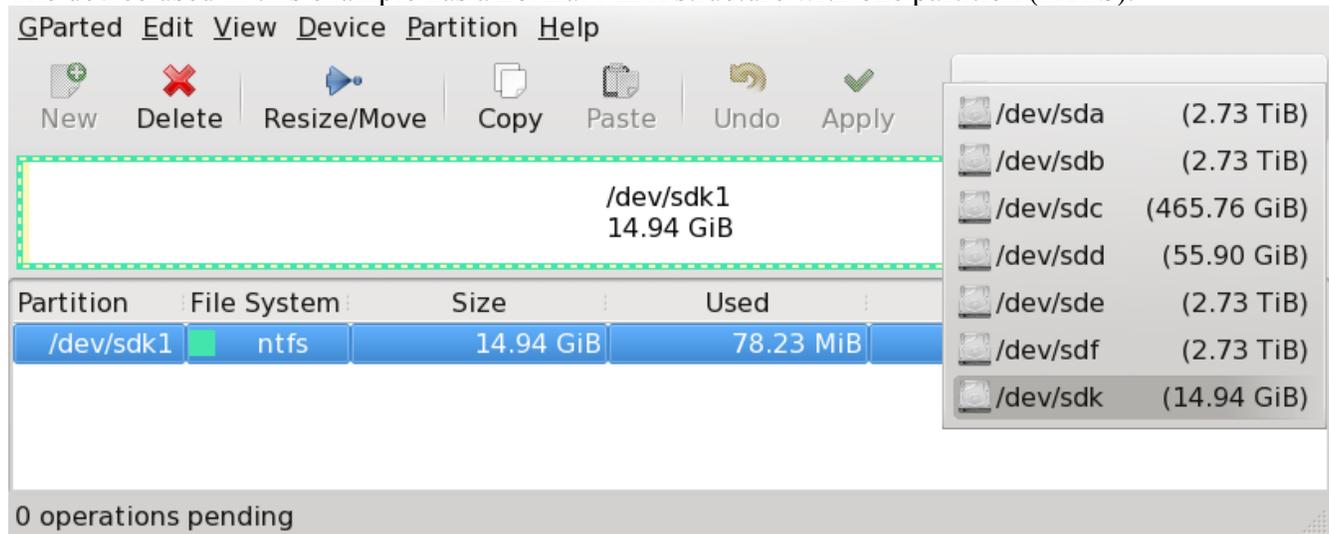
We have included a 'How-To' document explaining what is required when partitioning your USB device to enable both booting modes.

Note: Both booting schemes will be available on a GPT partitioned device but only MBR mode will be available on a MBR partitioned device.

How to Prepare your USB Drive for Best Use

Be certain you select the correct drive for these operations as the drive contents will be lost forever.

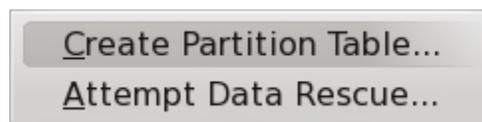
The device used in this example has a normal MBR structure with one partition (NTFS).



Use the button to the right hand side of the picture above to allow selection of the **correct** drive to work on, from the drop-down list it produces.

If in doubt, withdraw the USB device, refresh the Gparted device list (menu Gparted – Refresh Devices) and note the devices listed. Then re-insert the USB device and refresh the list. You should now be easily able to identify the extra device in the list.

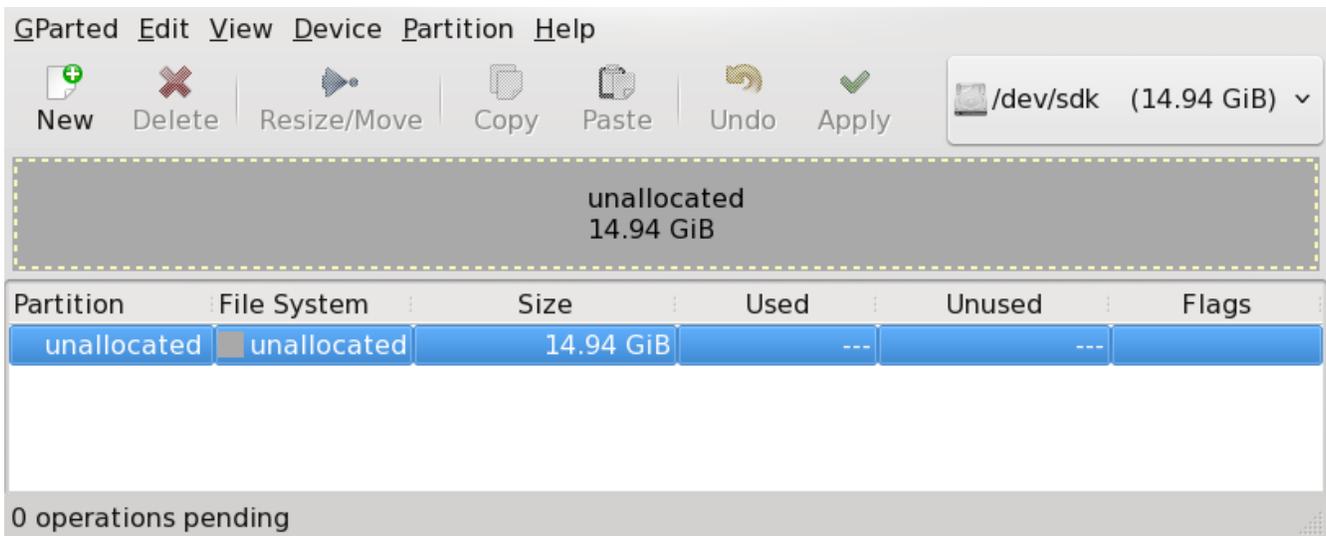
In the menu, select ‘Device - Create a Partition Table’ – and then select GPT type from the available types.



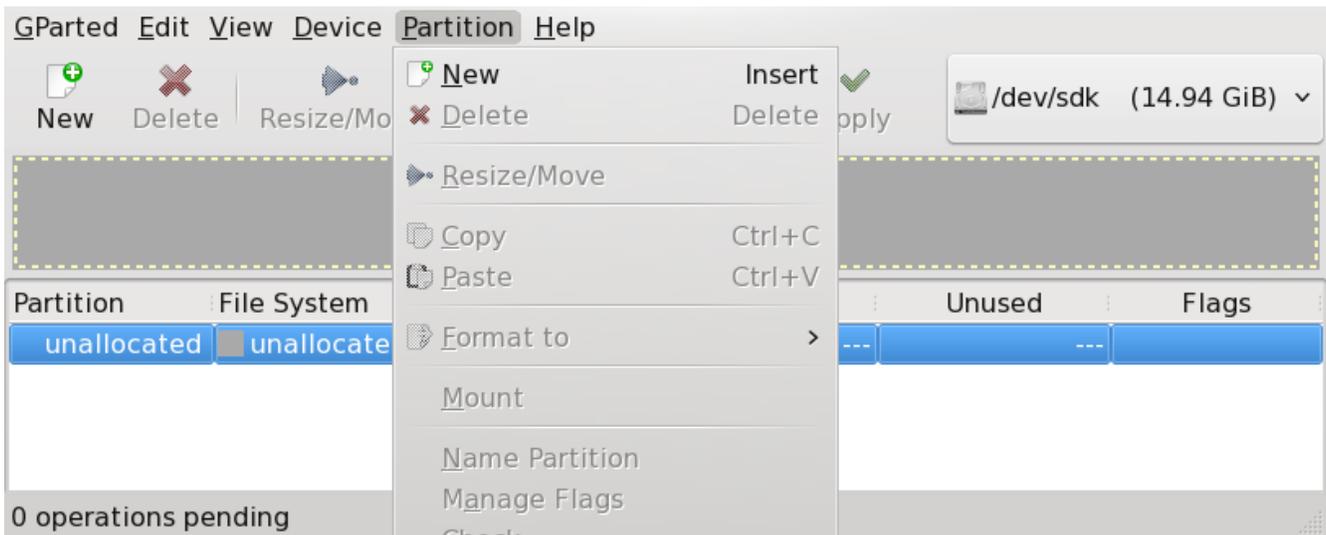
You will get a warning about this action



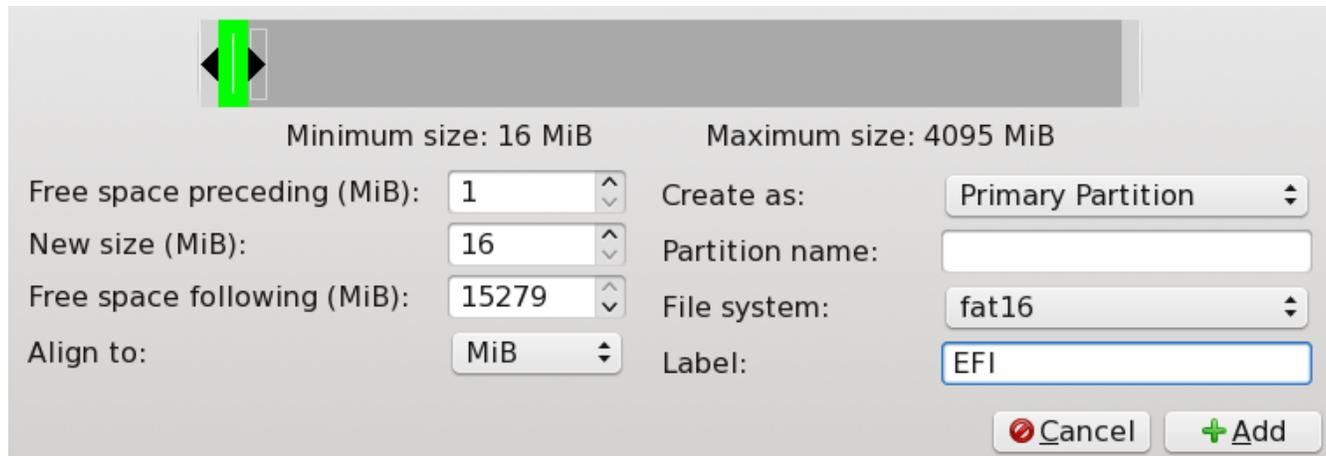
The window will now show an un-partitioned device :-



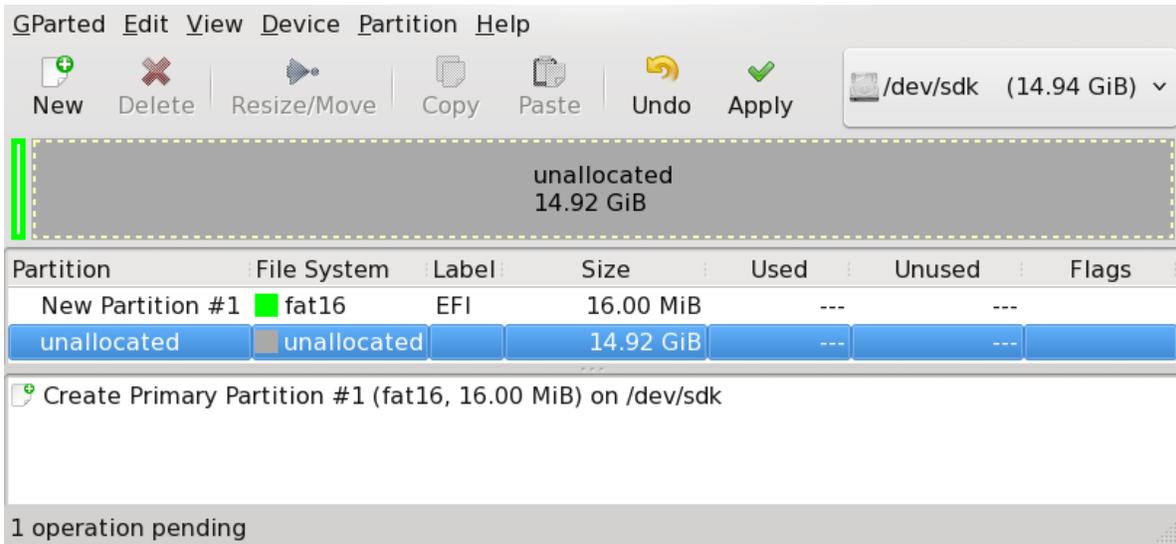
Highlighting this empty space we now create new partitions Menu – Partition - New



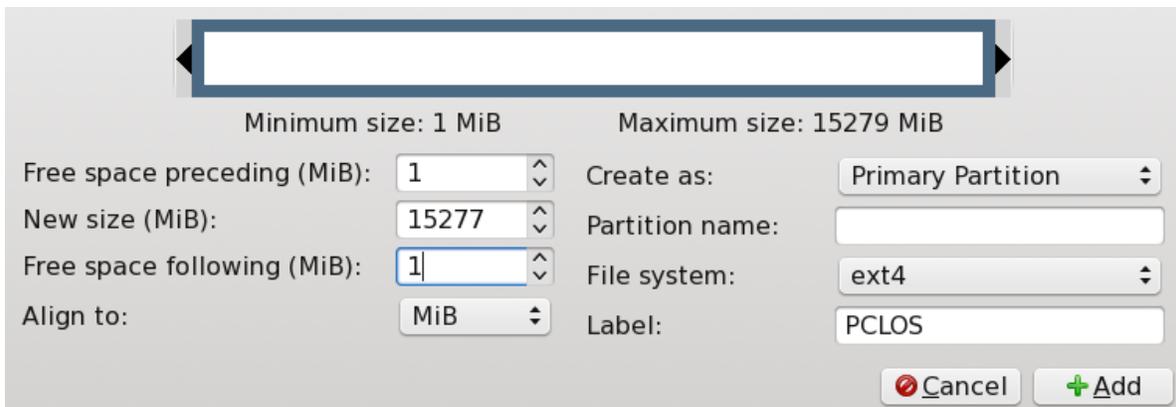
and create the first partition as FAT16. Click 'Add' when you have all the settings correct.



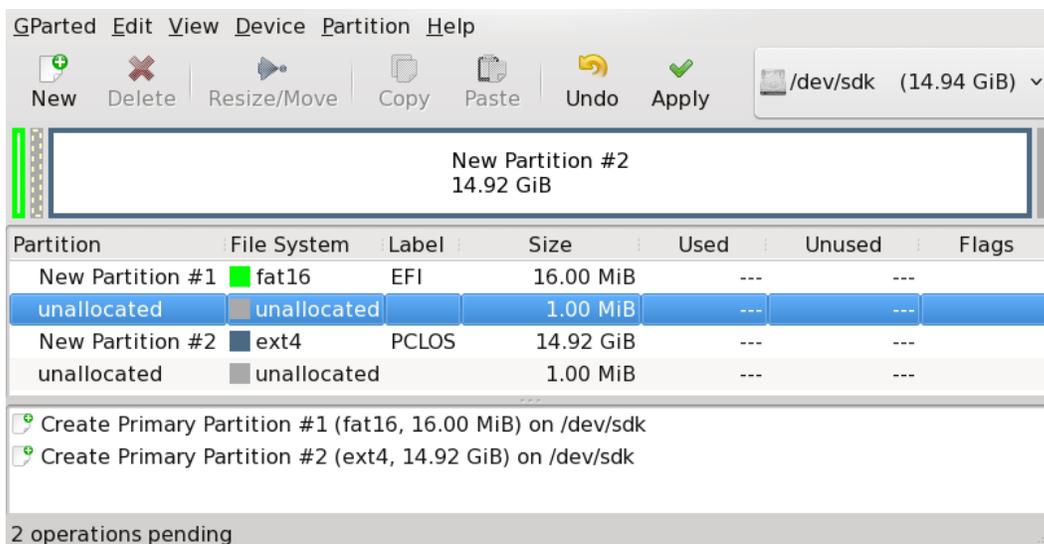
You should now see this



Highlighting the empty space select to add a second New Partition, and 'Add' it with these settings



You should now have this:



As you can see the partition creation instructions have not yet been applied, so now click Apply and confirm by clicking Apply on this window.

 **Are you sure you want to apply the pending operations?**
Editing partitions has the potential to cause LOSS of DATA.
You are advised to backup your data before proceeding.

You will get a progress window as the program works

Depending on the number and type of operations this might take a long time.

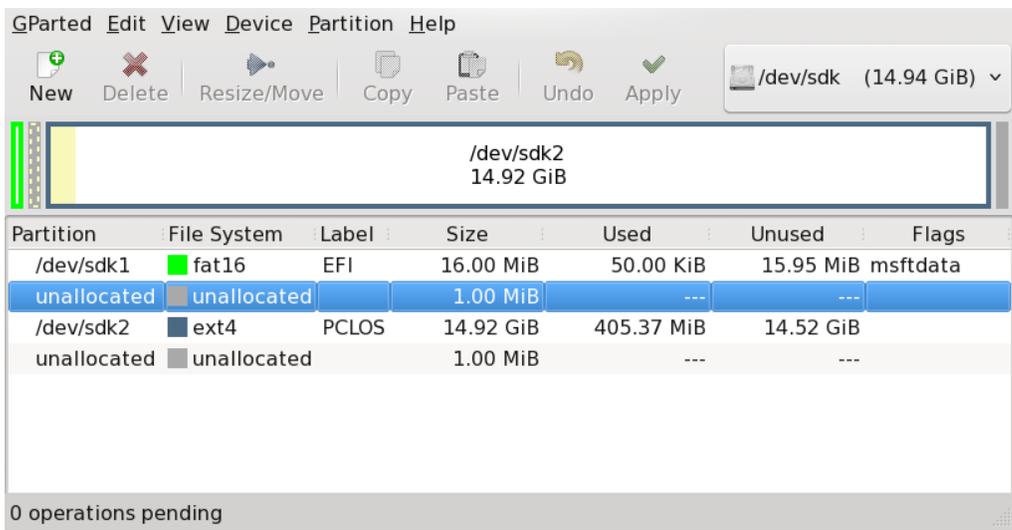
Create Primary Partition #2 (ext4, 14.92 GiB) on /dev/sdk

mkfs.ext4 -F -L "PCLOS" /dev/sdk2

Completed Operations:

1 of 2 operations completed

When finished you should see this



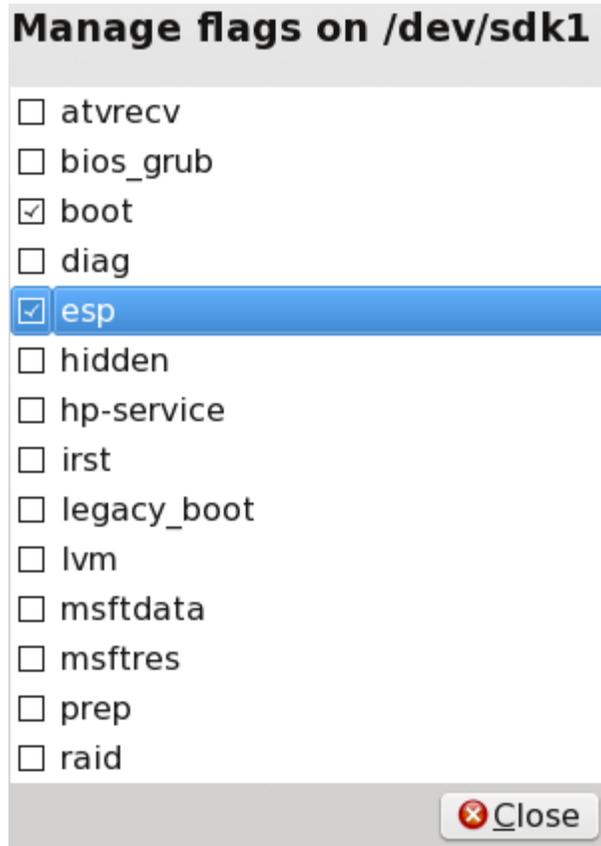
GParted Edit View Device Partition Help

New Delete Resize/Move Copy Paste Undo Apply /dev/sdk (14.94 GiB) v

Partition	File System	Label	Size	Used	Unused	Flags
/dev/sdk1	fat16	EFI	16.00 MiB	50.00 KiB	15.95 MiB	msftdata
unallocated	unallocated		1.00 MiB	---	---	
/dev/sdk2	ext4	PCLOS	14.92 GiB	405.37 MiB	14.52 GiB	
unallocated	unallocated		1.00 MiB	---	---	

0 operations pending

Now you need to set the EFI boot flag (called 'esp' – which auto selects the boot flag too), on the FAT partition by highlighting the partition and going to... Menu – Partition – Manage Flags



You will now see the flags have been applied. The device is now ready for use.

I left a 1MB (unallocated) empty space after each partition. This is unnecessary but does no harm.

GParted Edit View Device Partition Help

New Delete Resize/Move Copy Paste Undo Apply /dev/sdk (14.94 GiB) v

/dev/sdk2
14.92 GiB

Partition	File System	Label	Size	Used	Unused	Flags
/dev/sdk1	fat16	EFI	16.00 MiB	50.00 KiB	15.95 MiB	boot, esp
unallocated	unallocated		1.00 MiB	---	---	
/dev/sdk2	ext4	PCLOS	14.92 GiB	405.37 MiB	14.52 GiB	
unallocated	unallocated		1.00 MiB	---	---	

0 operations pending

What It Can Do

The MyLiveUSB utility is designed to do the following:-

- Create a LiveUSB of a PCLinuxOS ISO. It does not function with any other ISOs.
- The ISO used can be an official release; a community release; or a personal remaster created with mylivecd or MyLiveGTK (which is a GUI front end to mylivecd).

It allows the user to place any number of different PCLOS ISOs on the one USB device (within its capacity of course), and refuses to use the same name twice to avoid confusion.

This is one of the biggest attractions of this utility, as it allows a user to carry with them several versions of PCLOS on one USB stick, for instance:

- A remaster of your own install for use while travelling
- Official releases of the latest ISOs of the different 'flavours' such as Mate, KDE etc
- Special community releases.

It provides the user with the facility to use their own naming convention for each installed OS, so that they know exactly what is presented to them at boot time.

You also have various boot options and can select those you want from a popup window. The most popular are:

- **Standard Boot** - which is a straightforward boot of the ISO
- **Boot with Persistence** - which saves changes made while running. Those changes are used when next Persistence Boot is used.
- **Copy to RAM** - which copies the OS into RAM so the boot device is not required and can be withdrawn once the OS is fully booted. This has the effect of slowing the boot as it takes time to copy everything to RAM, but once booted it works much faster as all it requires is in RAM and not on a slow media stick.

There are some other boot options available also but I must point out that if you install multiple ISOs then your boot list will become very long indeed *if you choose lots of options for each ISO*.

Using MyLiveUSB

The utility must be run as root user, so when first launched you need to enter the root password to continue. You are then warned that the device you intend to use should not be plugged into the PC. Follow the instructions carefully, inserting the device when required.

Following the procedure exactly should ensure that the utility operates on the correct device and no other.

From there you meet a variety of popup windows which require you to answer questions regarding how and what gets installed.

The first one that causes some puzzlement for new users is the question of 'to where?' Grub should be installed. For the *first time use* this should be the MBR of the device as this is needed to make the device MBR bootable. There is an option of installing Grub to the boot sector of the partition, but this should only be considered if you really know what you are doing and are aware of the possible

consequences. There is also the option not to install Grub. This would be the normal selection if Grub had previously been installed, for instance while doing a previous ISO install. Grub has to be installed only one time to the MBR unless the device is repartitioned or Grub becomes corrupted.

The second item that has caused some confusion is the selection of the ‘Name’ by which the installation is displayed in the Grub boot options. This requires careful attention and the steps outlined must be followed exactly. To enter your own ‘Name’ simply click twice on one of the default entries provided, which makes that editable. When you are finished typing in your chosen name, you *must* hit the Enter key to have your edit accepted in the window.

To select a name you must highlight it prior to clicking OK, to have it applied to the install.

Selection of ISO or Files for the installation

The utility allows you to select a PCLOS ISO *or* the OS files that would normally be encased in the ISO. You might wish to use Files if you are running the utility from a Live session, or if you have a LiveDVD/CD with the files available but no actual ISO. Where possible an ISO is probably preferable.

Having selected ISO or Files you are presented with a filemanager window to navigate to and select either *.iso or else a *.sqfs file. Once that is done the utility will continue.

The utility displays a progress bar as it works. Please be aware that the time taken to complete the process is heavily dependent on several factors, such as the write speed of the target device and the size of the ISO or Squashfs file.

While work continues in the background you will get a request for your preferred boot options. These are the options presented to the user by Grub, when booting the USB device.

There are two separate sets of options. The first is for booting in MBR mode and the second for booting in UEFI mode. It is probably a good idea to have the options the same in both, but you can have them different if you choose.

You will be informed when the utility has completed all operations, so that you can withdraw the USB device. It should now be bootable in MBR and UEFI modes.

Using the LiveUSB

PCs which have ‘MBR compatibility’ enabled, but which default to UEFI booting, will likely display both boot options in their boot list. The UEFI boot mode generally has a UEFI indication in the name of the option entry.

You should now have a USB device with a PCLOS operating system on it ready for live booting. To add the next or further versions to the USB device just run the utility again, this time ensuring you select to ‘ADD’ to the device when asked, and not to create a fresh install. When ADDing another version select NOT to install Grub, as it has already been installed.

Have Fun with PCLinuxOS