LinuxCNC installation using MX Linux 19.4

Created on August 7, 2021 by Greg Carl (snowgoer540) with input from Phill Carter (phillc54) and borrowed information from a post by Tommy Berisha (tommylight)

This installation guide:

- Assumes the user is coming from a Windows background
- Will take the user to the point where they are ready to run pncconf or stepconf to make a working configuration, OR to the point where the user copies over a pre-existing configuration
- Assumes installation on a 64 bit PC
- Is written using QtPlasmaC examples though it will work for other GUIs
- Will put the user on the Master branch (2.9)
- For the Required Sections, it is imperative that the user complete them in order, and does not move on until the previous section is complete!

IMPORTANT: This process will reformat the existing hard drive. The user needs to back up any important configurations/files on a pre-existing machine before proceeding.

Linux Tips

Linux tips for new users:

- Sometimes the commands do not copy-paste correctly from this guide. It may be best to type them out manually.
- ctrl+alt+T ← Opens a new terminal window (if it doesn't work, try clicking on the desktop first)
- ctrl+shift+V ← Will paste copied text inside a terminal window (ctrl+V will not work)
- ctrl+C will not work in a terminal window. The user must highlight the text they wish to copy, right click and choose "Copy"
- LINUX IS CASE SENSITIVE. Each command MUST be entered in the exact case shown, or it will not work! This can be difficult for those with Windows experience as Windows is *not* case sensitive by default.

For example, in Linux having folders named "Plasma", "plasma", "pLasma", "PlAsMa" in the same folder is perfectly acceptable. See below:



Section 1 - Required - Download the ISO

To get the **MX Linux 19.4** ISO:

- 1. For 64-bit Navigate to <u>https://sourceforge.net/projects/mx-linux/files/Old/MX-19.4/MX-19.4/MX-19.4 x64.iso/download</u>
- 2. For other versions:
 - a. https://sourceforge.net/projects/mx-linux/files/Old/MX-19.4/
 - b. DO NOT CHOOSE MX-19.4.1x64 "ahs" as it will not support the Realtime Kernel needed for LinuxCNC

This guide is for MX Linux 19.4 above All other ISOs are not supported!

Section 2 - Required - Create a bootable USB thumb drive

(This section assumes the user will use Windows to create the bootable thumb drive)

To get the imaging software (ImageUSB):

1. Navigate to <u>https://www.osforensics.com/downloads/imageusb.v1.3.1006.zip</u> If the link does not work:

- a. Navigate to https://www.osforensics.com/tools/write-usb-images.html
- b. Click "ImageUSB v1.3.1006". Do not be tempted to use the newest software as it will not write the image as "bootable".

	Download
The current version of ImageUSB is v1.5.1003(*) (2449 KB).	
Oownload ImageUSB software for free!	
Previous versions	
Previous Version: 🔶 ImageUSB v1.4.1003 🔶 ImageUSB v1.	.3.1006

After downloading the software:

- 2. Find the downloaded file and extract it to its own folder
- 3. Insert the USB thumb drive the user wishes to use into the PC, the thumb drive should be large enough to contain the written image (4Gb minimum)
- 4. Double click "imageUSB" or "imageUSB.exe" if the user has extensions shown

Name	Date modified	Туре	Size
Help	8/7/2021 2:12 PM	File folder	
🖌 🦨 imageUSB.exe	8/7/2021 2:12 PM	Application	1,165 KB
📓 ReadMe.txt	8/7/2021 2:12 PM	TXT File	11 KB

Section 2 - Required - Create a bootable USB thumb drive (cont.)

- 5. If "Do you want to allow this app to make changes to your device?" pops up, Click "Yes"
- 6. In the "Step 1" section, check the box next to the thumb drive that was inserted in the previous steps
- 7. The "Step 2" section requires no changes
- 8. In the "Step 3" section, click "Browse"
 - Navigate to the location the ISO was downloaded to in Step 2 and select the MX-19.4 ISO
- 9. In the "Step 4" section, click "Write" 🚜 imageUSB by PassMark Software X Create and write an image of a USB drive Step 1: Select the USB drive(s) to be processed 8 W PNY USB 3.0 FD (Serial: 0874060390A0 Disk: 2, Part. Type: MBR, Size: 28.91 GB, Volumes: NA) Select All Linselect All Drives Selected: 1 **Refresh Drives** Step 2: Select the action to be performed on the selected USB drive(s) Available Options Post Image Verification Write image to USB drive O Create image from USB drive Extend Partition (NTFS Only) O Zero USB drive Boot Sector(s) Only Beep on Completion O Reformat USB drive (Windows Vista or later) NTFS 10 Step 3: Select the image (.bin, .img or .iso) file to write to the USB drive(s) D:\Downloads\MX-19.4 x64.iso Browse 11 Step 4: Click the 'Write' button to begin.. Write Overall progress Log output: 15:53:32 - Program: imageUSB v1.3.1006 15:53:32 - Date & Time: 08/07/21 15:53:32 15:53:32 - Application Path: "D:\Downloads\imageusb.v1.3.1006\imageUSB.exe" 15:53:32 - Getting list of eligible removable USB drives. 15:53:32 - Adding eligible USB Drive IPNY USB 3.0 FD 1 to list. 15:53:32 - Ready... 15:53:40 - File D: Downloads WX-19.4 x64.iso selected

PassMark Home

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Section 2 - Required - Create a bootable USB thumb drive (cont.)

10. Click "Yes"

- 11. Click "Yes"
- 12. Click "OK"
- 13. Remove Thumb Drive from Windows PC







- 1. With the to-be Linux machine powered off, insert the USB thumb drive into the PC and turn it on
 - a. The PC should automatically boot to the thumb drive, if it does not, it will be necessary to boot into BIOS, or a Boot Menu (if present) to select the USB drive as the bootable disk. The exact steps for this process are outside of the scope of this guide as it is different for every motherboard.
- 2. With the shown option highlighted, press Enter



3. Click "Close"

MX-19.4 "patito feo" Welcome to MX Linux, a fast, friendly, and stable OS loaded with amazing tools and supported by a great community. ? FAQ orums (i) Users Manual Videos Contribute W Niki X Tools Codecs rweak (Panel, etc...) 公 Popular Apps 3 User demo, password: demo. Superuser root, password: root. x O About... × Close

4. Single click "Installer"



5. Click "Next"

×	MX Linux Installer	≜ - ° (
Help Live Log	Terms of Use	
Enjoy using MX Linux Support MX Linux MX Linux is supported by people like you. Some help others at the support forum - https:// forum.mxlinux.org - or translate help files into different languages, or make suggestions, write documentation, or help	MX Linux is an independent Linux distribut Stable. MX Linux uses some components from ME released under an Apache free license. Son components have been modified for MX Linux Enjoy using MX Linux	PIS Linux which are me MEPIS
test new software.	Keyboard Settings	
	Model: pc10)5
	Layout: us Variant:	
	Change Keyboard Settir	ngs
	Variant:	ngs 🛛 🔿 Next

- 6. Select "Auto-install using entire disk"
- 7. Click "Next"



8. Click "Next"



- 9. Ensure "Install GRUB for Linux and Windows is checked
- 10. Click the radio button next to "MBR"
- 11. Click "Next"

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HelpLive LogSelect Boot MethodMX Linux uses theGRUB bootloader toboot MX Linux and MS-Windows.By default GRUB2 isinstalled in the MasterBoot Record (MBR) orESP (EFI SystemPartition for 64-bit UEFIboot systems) of yourboot drive and replacesthe boot loader youwere using before. Thisis normal.	Installation in progress 9 Select Bort Method ✓ Install GRUB for Linu Location to install on: System boot disk:	
If you choose to install GRUB2 to Partition Boot Record (PBR) instead, then GRUB2		1
will be installed at the beginning of the	× Close	← Back → Next

12. Click "Next"

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Help Live Log	Installation in progress			
Computer Identity The computer name is a common unique name which will identify your computer	12% - Copying Computer Network Names Computer name:	new system	Abort	
if it is on a network. The computer domain is unlikely to be used unless your ISP or local network requires it.	, Computer domain: ☑ SaMBa Server for MS No Workgroup:	example.dom etworking Workgroup		
The computer and domain names can contain only alphanumeric characters, dots, hyphens. They cannot contain blank spaces, start or end with hyphens				12
The SaMBa Server needs to be activated if	× Close	← Back	→ Next	

13. Set user preferences and Click "Next:



- 14. Set desired user name
- 15. Set desired user password
- 16. Set desired root password (root in Linux is similar to administrator in Windows)
- 17. If the user wishes to avoid
- login screens at each power-up
- then check "Autologin"
- 18. Click "Next"

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lelp	Live Log	Installation in progress		
	l t User Login	93% - Fixing con	figuration	Abort
o the	Administrator n some other	Default User Account		14
	ting systems. You	Default user login name:	plasma	
	d not use the root is your daily user	Default user password:		15
ccou	nt. Please enter	Confirm user password:	•••••	
defau hat y	ult) user account ou will use on a basis. If needed,	Root (administrator) Account		16
ou ca ccou	an add other user nts later with MX User Manager.	Confirm root password:	••••	
nter	vords a new password ur default user	Autologin	J	
ccou oot a	nt and for the ccount. Each vord must be	Save live desktop changes	← Bac	ck → Next

19. When "Finish" appears, remove the USB Thumb drive from the PC20. Click "Finish", system will reboot

Note: During the reboot, there is no need to select any options on the GRUB boot screen, just let it time out or choose the default.

x	MX Linux Installer 🔺 – 🤊 😣	
Help Live Log Congratulations! You have completed the installation of MX Linux Finding Applications There are hundreds of excellent applications installed with MX Linux The best way to learn	Installation complete ✓ Automatically reboot the system when the installer is closed Reminders Support MX Linux MX Linux is supported by people like you. Some help others at the support forum - https://forum.mxlinux.org, or translate help files into different languages, or make suggestions, write	
The best way to learn about them is to browse through the Menu and try them. Many of the apps were developed specifically for the MX Linux project. These are	documentation, or help test new software. Other: https://mxlinux.org/wiki/other/mx-linux-social-media/	
shown in the main menus.		19/2
In addition MX Linux includes many standard Linux	× Close → Finish	