- 3. Click the MX Linux icon
- 4. Click "Settings"
- 5. Scroll down and click "Synaptic Package Manager"
- 6. Enter the root password and click "Authenticate"
- 7. Click "Settings" from the menu then "Repositories"
- 8. Click "New", leave the dropdown as "Binary (deb)"
- 9. In "URI:" enter: http://buildbot.linuxcnc.org/
- 10. In "Distribution:" enter: buster
- 11. In "Section(s):" enter: master-rtpreempt

	Binary (deb) 🔻		
URI:	http://buildbot.linuxcnc.org/ buster		
Distribution:			
Section(s):	master-rtpreempt		

- 12. Click "New"
- 13. Change the drop down to "Source (deb-src)
- 14. In "URI:" enter: http://buildbot.linuxcnc.org/
- 15. In "Distribution:" enter: buster
- 16. In "Section(s):" enter: master-rtpreempt





17. Click "OK"

- 18. When prompted with "Repositories changed", click "Reload"
- 19. Click "Search" in the top right of the window
- 20. In the "Find" window, enter: linuxcnc
- 21. Click "Search"
- 22. Click on "linuxcnc-uspace"
- 23. Right click on "linuxcnc-uspace" and select "Mark for Installation"
- 24. When prompted to "Mark additional required changes?", click "Mark"
- 25. Click on "linuxcnc-uspace-dev"
- 26. Right click on "linuxcnc-uspace-dev" and select "Mark for Installation"
- 27. When prompted to "Mark additional required changes?", click "Mark"
- 28. If the user wishes to have any local docs, follow the same process to mark them for installation
- At minimum, the screen should look like this:

S	Package	Installed Version	Latest Version	Size	Description	
*	linuxcnc-doc-cn		1:2.9.0~pre0.4388.		motion controller for CNC machines and robots (Chinese	
*	linuxcnc-doc-en		1:2.9.0~pre0.4388.		motion controller for CNC machines and robots (English documentation)	
*	linuxcnc-doc-es		1:2.9.0~pre0.4388.	2 <u>1</u>	controlador de movimiento para máquinas CNC y robots (Español).	
*	linuxcnc-doc-fr		1:2.9.0~pre0.4388.		motion controller for CNC machines and robots (French documentation)	
~	linuxcnc-uspace		1:2.9.0~pre0.4388.		motion controller for CNC machines and robots	
*	linuxcnc-uspace-dbgsym		1:2.9.0~pre0.4388.	e)	debug symbols for linuxcnc-uspace	
~	linuxcnc-uspace-dev		1:2.9.0~pre0.4388.		PC based motion controller for real-time Linux	

38

- 29. Click "Apply" in the upper Menu list
- 30. Ensure "Download Packages Only" is NOT checked
- 31. Click "Apply" in the popup window
- 32. Click "Close" in the "Changes applied" window
- 33. Close the Synaptic Package Manager window
- 34. Open a terminal window
- 35. Enter the following command:

/usr/lib/python3/dist-packages/qtvcp/designer/install_script

- 36. When prompted, enter 1 (unless the user intends to do design work in QtVCP)
- 37. That should be it! To test, do the following:
- 38. Click the MX Linux icon
- 39. Click CNC
- 40. Click LinuxCNC

Note: For a package installation, another method of starting LinuxCNC is to open a Terminal window and type "linuxcnc".

While this method leaves a terminal window open in the background, it can be advantageous as it will show any error messages present in the event that LinuxCNC closes unexpectedly.



- 41. Navigate the tree to: Sample Configurations -> by_machine -> qtplasmac
- 42. Choose a qtplasmac version that suits your units preference and screen size. This example shows "qtplasmac_l_imperial"
- 43. If the user intends to restore a previously working config (instructions in Section 9) then they should click "Create Desktop Shortcut" as it will make creating the icon easier
 44. Click "OK"
- 44. Click "OK"
- 45. Click "Yes" when asked to "Copy Configuration?"
- 46. Click "OK" to acknowledge that the config was copied
- 47. Close LinuxCNC when done

LinuxCl	NC Configuration Selector CURREN	f: qtplasmac_Limperial.ini 🛛 🔺 - 🕫 😣		
LinuxCNC 41\42	Welcome to LinuxCNC. Select a machine configuration f	from the list on the left. guration will appear in the display on the right. nfiguration A Qtvcp GUI for PlasmaC based on a theme by pinder on the LinuxCNC forum This GUI is in development and is not yet fully functional but can be opened as a LinuxCNC sim to get an idea of how it looks and feels.		
	P apps ⇒ attic 43 Create Desktop Shortcut	If you switch between unit types you will need to remove the .prefs file before opening a different version.		

If the user is not doing a RIP installation, the process is now complete! ENJOY!

MATERIAL = 00000: DEFAULT	VEL	: 0.0	MACHINE	ARC	1	OPEN RELO
FR: 157.0 PH: 0.120 PD: 0.0			ESTOP POWER			
CH: 0.040	🔲 QtPlasmaC Sim 🔺		CYCLE START	CONTROL		
	MODE 0		CYCLE PAUSE	TORCH ON ENABLE		
	ARC VOLTAGE		CYCLE STOP	VELOCITY A/DIVE ENABLE		
	SENSORS		FEED RAPID JOG 100% 100% 240			
				MESH MODE AUTO VOLTS		
	MACHINE				כ	
	(? ESTOP		BUTTONS	SENSOR THC		
			EDIT MDI	SFLOAT ENABLE		
		P	OHMIC TEST TEST		5	
		z			2	
		-	TORCH PULSE CUT	JOGGING		
				CONTINUOUS		
				<u> </u>	HOME ALL	
		+		ו ו	номе	0.0000
		÷		¥- Z-	номе	0.0000
		С			HOME Z	0.0000
MAIN	CONVERSATIONAL			PARAMETERS	\sim	8 STATISTICS

- 48. If the user has a backup of a previously working configuration, an example of restoring a QtPlasmaC configuration is shown in Section 9.
- 49. Otherwise, the user will now need to create a new configuration with PnCconf or StepConf

Section 8 - Optional - Install LinuxCNC RIP Version

- 1. Open a terminal window
- 2. Enter the following command to install the build dependencies:

sudo apt install -y debhelper tcl8.6-dev tk8.6-dev libreadline-gplv2-dev asciidoc dblatex docbook-xsl dvipng graphviz groff inkscape source-highlight w3c-linkchecker xsltproc texliveextra-utils texlive-font-utils texlive-fonts-recommended texlive-lang-cyrillic texlive-lang-french texlive-lang-german texlive-lang-polish texlive-lang-spanish texlive-latex-recommended asciidoc-dblatex python3-dev libxmu-dev libglu1-mesa-dev libgtk2.0-dev gettext intltool autoconf libboost-python-dev libmodbus-dev libusb-1.0-0-dev yapps2 libtirpc-dev

- Enter the following command to clone the LinuxCNC Repo: git clone https://github.com/linuxcnc/linuxcnc.git linuxcnc-dev
- 4. Enter the following commands one at a time to build Linux CNC:
 cd linuxcnc-dev/src
 ./autogen.sh
 ./configure
 make

sudo make setuid

To run the RIP installation, enter a terminal window and enter:

~/linuxcnc-dev/scripts/linuxcnc

(This example uses a QtPlasmaC backup)

- 1. Open a File Manager Window:
- Navigate to the location of the backup config, and extract it by right clicking and clicking 2. "extract to"
- 3. Click the New Folder icon in the top right of the window:
- 4. Enter a suitable folder name
- 5. Click "Create"
- 6. Click "Extract" in the bottom right of the window
- 7. Navigate to the newly created folder
- 8. Continue clicking folders until the last opened folder is "configs". The address should look similar to this (it's most important that it ends in /configs/): Interpretent the store of the s
- 9. RIGHT click on the remaining folder and choose "Cut"
- 10. Navigate to the home folder by clicking the house icon under "Places":
- 11. Open the "linuxcnc" folder (it should exist if steps 38-46 in Section 7 were successful)
- 12. Open the "configs" folder
- 13. RIGHT click on the File Manager background and choose "Paste"
- 14. Open the newly pasted folder
- 15. Right click on "qtplasmac" and click "Delete"
- 16. Confirm by clicking "Delete"





(This example uses a QtPlasmaC backup)

- 17. Highlight the entire address in the File Manager window. Example: Interpretational Interpretation of the File Manager window.
- 18. RIGHT click and choose "Copy"
- 19. Open a terminal window
- 20. Enter: **cd**
- 21. Press Space bar
- 22. Press ctrl + shift + V to paste the folder address
- 23. Press enter

cd /home/plasma/linuxcnc/configs/qtplasmac-sim1.

CHOOSE ONLY ONE OF 24A. OR 24B (if the user has both versions, then choosing the option that the user intends to use more/update more would be the preferred choice).

After entering the command, there will be no acknowledgement in the terminal unless it fails.

FOR A PACKAGE INSTALLATION:

24a. Enter the following command:

In -s /usr/share/doc/linuxcnc/examples/sample-configs/by_machine/qtplasmac/qtplasmac

FOR A RIP INSTALLATION:

24b. Enter the following command:

In -s ~/linuxcnc-dev/configs/by_machine/qtplasmac/qtplasmac/

25. RIGHT click on the icon created in step 43 of Section 7

26. Click "Edit Launcher"

27. Edit the "Name:" field as required

28. Edit the "Command:" field to reflect the installation type (Package or RIP) and the location of the configuration's .ini file. (EXAMPLE OF EACH ON SUBSEQUENT PAGES) Type this path manually as copy/paste can cause character issues here.

Package Install: sh -c "/usr/bin/linuxcnc <path_to_ini_file>" RIP Install: sh -c "~/linuxcnc-dev/scripts/linuxcnc <path_to_ini_file>"

Where <path_to_ini_file> is the path to the .ini file in the user's config folder 29. It is recommended to check "Run in terminal" as this can let the user see error messages while LinuxCNC is running. Note: the terminal window will close if LinuxCNC crashes. 30. Click "Save"

31. Double click the icon

32. Click "Mark Executable"

Steps 25-32 can be omitted if the user intends to manually start LinuxCNC in a terminal window. When launched this way, the terminal window will not close if LinuxCNC crashes. For Package install enter: linuxcnc <path_to_ini_file> For a RIP install enter: ~/linuxcnc-dev/scripts/linuxcnc <full_path_to_ini_file>

Note: After a successful launch in a terminal window, the user can re-launch the same command by simply pressing the up arrow on the keyboard. Terminal (usually) remembers all executed commands so there is no need to re-enter the full stanza each time.

(This example uses a QtPlasmaC backup)

Example Launcher settings for a Package install:

		plasmac-sim - File Manager	± - o ⊗				
File Edit View G	o Help						
← → ♠	/home/plasma/linuxcnc/cc	onfigs/plasmac-sim/	C				
DEVICES	Name	← Size Type					
File System	plasma.hal	12.0 KiB plain text document					
PLACES	📄 plasma.ini	10.6 KiB plain text document					
☆ plasma ■ Desktop	plasma.ini.bakr "plasma.ini": 10.6 KiB (10,	9.8 KiB plain text document 810 bytes) plain text document					
٩		Edit Launcher	≜ − ° 8				
Edit Launcher							
Name:	LinuxCNC-other						
Comment:							
Command:	sh -c "/usr/bin/linuxcnc ~/linu	<u>±</u>					
Working Directory:							
Icon:							
Options:	Use startup notification						
	🗹 Run in terminal						
Неір			Cancel Save				

To launch the same example via a terminal window:

/usr/bin/linuxcnc ~/linuxcnc/configs/qtplasmac-sim/plasma.ini

(This example uses a QtPlasmaC backup)

Example Launcher Settings for a RIP install:



To launch the same example via a terminal window:

~/linuxcnc-dev/scripts/linuxcnc ~/linuxcnc/configs/qtplasmac-sim/plasma.ini

Section 10 - Optional But Recommended - Setting Changes -

Screensaver

It is a good idea to turn off the screen saver, as well as any blank screens caused by power management.

To do so:

- 1. Click the MX Linux Icon
- 2. Start typing "screen"
- 3. Click on XFCE4 Screensaver
- 4. Click the check box next to "Enable Screensaver" to disable
- 5. Click "Power Management"
- 6. Click the "Display" tab
- 7. Click the check box next to "Display power management" to disable
- 8. Click "Close"
- 9. Click "Close"







Section 11 - Optional But Recommended - Setting Changes - GRUB

If the user is not duel booting Operating Systems, it is not necessary to show the GRUB chooser on startup, it can be disabled to save boot time. 💀 🙆 😫 plasma Q

To do so:

- Click the MX Linux Icon 1
- 2. Click "MX Tools"
- 3. Click "Boot Options"
- Type in the root password and click "Authenticate" 4.
- Change the "Menu timeout" to 0 seconds 5.
- Click "Apply" 6.
- Click "OK" 7
- Click "Close" 8.

These MX applications save time and effort with important tasks Live Snapshot 3 Boot Options 🛨 Boot Repair Cleanup 🔚 Menu Editor 💑 User Manage Setup 한 Bash Config Nvidia driver installer Codecs Installer Conky Date & Time Network Assistant Select Sound System Sounds Brightness Systray Tweak Welcome System Keyboard A System Locales Hide individual tools from the menu X × Close About... ? Manual



Recommended Setting Changes

The following steps are optional, however they are recommended for anyone coming from Windows, or even Mint as it will help to provide a more "Windows like" (or "Mint like") user experience. These changes, while small, can go a long way to preventing some of the frustrations associated with a new Operating System.

Section 12 - Recommended Setting Changes - Double Click

The default in MX Linux is to single click icons on the desktop to launch them. The user can change this to double click similar to Windows if they wish.

To do so:

- 1. (assumes MX tools is still open from GRUB change)
- 2. Click "Tweak"
- 3. Click "OK" to the "Panel settings" popup
- 4. Click the "Config Options" tab
- 5. Uncheck the two options show
- 6. Click "Apply"

	2	MX Tools	± - ° ⊗			
	These MX applications save time and effort with important tasks.					
	Chroot Rescue Scan	O Boot Options	+ Boot Repair			
	Cleanup	Menu Editor	User Manager			
	Setup					
	Bash Config	🔕 Nvidia driver installer	Codecs Installer			
	Conky	Date & Time	Network Assistant			
2	Select Sound	System Sounds	Brightness Systray			
2	Tweak	Welcome	System Keyboard			
	System Locales					
	Software					
	Fix GPG keys	Package Installer	Repo Manager			
	Utilities					
	Hide individual tools from	the menu	search			
1	About Manual		× Close			

4 MX Tweak	≜ - ° 😣
Panel Theme Compositor Display Config Options Other	
Reset Thunar custom right-click actions to system defaults	
Enable single-click on desktop	
Enable single-click in Thunar File Manager	
Show systray (notification area) frame	
Show windows from all workspaces in panel	
Disable shortening of long filenames on the desktop	
Enable hibernate on Log Out menu	
note: to hibernate, swap needs to be >= RAM	
✓ Apply	
Xfce Settings	
Panel Window Manager	Appearance
About ? Help	39 × Close