MyCNC Quick Start

Installing Ubuntu MATE 16.04 through LiveCD with preinstalled myCNC software

1/8

- The LiveCD image can either be burned onto a DVD, or written on a USB disk through the use of Etcher or Rufus software. The LiveCD installation packages can be downloaded here.
- Connect the power cable, the screen through the HDMI or VGA cable, keyboard, mouse and the LiveCD with Ubuntu Mate 16.04 to the computer
- When booting up the computer, hold the Delete key to enter the BIOS

BIOS Information Project Version Build Time	N5TH3101-x64 11/19/2015 09:24:44	Choose the system default language
Processor Information		
Name	Broadwell ULT	
Brand String	Intel(R) Celeron(R)	
Francisco	3205U @ 1.50GHz	11
Frequency	1500 MHZ	
Total Memory	8192 MB (DDR3)	17 TOTAL CONTRACTOR OF THE PARTY OF
Memory Frequency	1600 Mhz	11. 11 · · · · · · · · · · · · · · · · ·
System Language		++: Select Screen
Ruston Data	[Tup: 04/16/2019]	T4: Select Item
Sustem Time	[07:12:52]	t/-: Change Ont
bystem fine	[01.12.32]	F1: General Help
Access Level	Administrator	F2: Previous Values
		F9: Optimized Defaults
		F10: Save & Exit
/8679H7°		ESC: Exit
		A CONTRACTOR OF A CONTRACTOR O
Version 2.17.124	6. Copyright (C) 2015 America	n Megatrends, Inc.

• In the BIOS screen, navigate to the **Boot** tab

Aptio Setup Ut Main Advanced Chipset Se	<mark>ility – Copyright (C) 2015 Ar</mark> curity <mark>Boot</mark> Save & Exit	merican Megatrends, Inc.
Boot Configuration Setup Prompt Timeout Bootup NumLock State	3 [0n]	Set the order of the legacy devices in this group
Quiet Boot Fast Boot	[Enabled] [Disabled]	
Boot Option Priorities Boot Option #1	[PO: SSD 32GB]	
Hard Drive BBS Priorities		++: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit
2862947°		ESC: Exit
Version 2.17.	1246. Copyright (C) 2015 Amer	rican Megatrends, Inc.

- Select the Hard Drive BBS Priorities
- For Boot Option #1, switch the SSD 32GB to KingstonDT 101 G2 PMAP

Aptio Setup L	tility – Copyright (C) 2015 Amer Boot	ican Megatrends, Inc.
Boot Option #1	[PO: SSD 32GB	Sets the system boot order
Boot Option #2	[KingstonDT 101 G2 PMAP]	
	Boot Option #1 P0: SSD 32GB KingstonDT 101 G2 PMAP Disabled	: Select Screen : Select Item ter: Select +/-: Change Opt. F1: General Help F2: Previous Values F9: Optimized Defaults F10: Save & Exit
28629번가 Version 2.11	1246, Copyright (C) 2015 Americ	ESC: Exit

- Save & Exit by pressing F10. The boot-up will begin shortly
- In the popup window, select the Install Ubuntu MATE option



3/8

 Select Normal Installation, and check the Install third-party software check mark at the bottom of the next screen

Install (as superuser)	0
Updates and other software	
 What apps would you like to install to start with? Normal installation Web browser, utilities, office software, games, and media players. Minimal installation Web browser and basic utilities. 	
Other options Download updates while installing Ubuntu MATE Not available because there is no Internet connection.	
Install third-party software for graphics and Wi-Fi hardware and additional media for This software is subject to license terms included with its documentation. Some is proprietary.	mats
	Quit Stop Continue

• Select the **Erase disk and install Ubuntu MATE option** if you want to format the Windows partition, leaving only Ubuntu MATE on the computer

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Installation type	
This computer currently has Windows 7 on it. What would you like to do?	
 Install Ubuntu MATE alongside Windows 7 Documents, music, and other personal files will be kept. You can choose which operating syste 	m you want each time the computer starts up.
• Erase disk and install Ubuntu MATE Warning: This will delete all your programs, documents, photos, music, and any other files in all	loperating systems.
You will choose a security key in the next step.	
Use LVM with the new Ubuntu MATE installation This will set up Logical Volume Management. It allows taking snapshots and easier partition res	äzing.
Something else You can create or resize partitions yourself, or choose multiple partitions for Ubuntu MATE.	
	Quit Back Install Now

- Select your timezone
- In the Who are you? screen, use mycnc as the username to access the presets that are applied during the installation of the myCNC software. NOTE: These presets include the mycnc user in groups such as dialout (scanners), sudo (security privileges of superuser), and sambashare (SMB/CIFS networking protocol for Windows). These presets are strongly recommended for novice users.
- Select the Log in automatically option

• Install (as superuser)			
Who are you?			
Your name: Your computer's name:	mycnc mycnc-machine2 The name it uses when it talk	✓ s to other computers.	4
Pick a username: Choose a password:	mycnc 🗸	Weak password	
Confirm your password:	••••••••] √	
	O Require my password	to log in	
			& Back Connect
	•••••		

Setting up the myCNC control board

- Connect 24V DC power supply to myCNC control board
 - Here are power-up examples for ET6, ET7, ET10 control boards
- Connect myCNC Ethernet controller with Network cable directly to Host computer or to Network Router. If use Odroid-C2 (Raspberry-Pi3) computers as a Host, Network cable is a short 0.5ft cable between Odroid & Controller



• Setup Network addresses for Host computer and myCNC Ethernet controller. Addresses of Controller and Host should be in same local network. For Example -

Controller Address: 192.168.0.78 Host Address: 192.168.0.100

or

Controller Address: 192.168.5.10 Host Address: 192.168.5.11

Look here if need to change IP address of controller board

- Goto MyCNC software, Cfg Settings, Network Tab and
 - Set actual Controller IP address to "Controller IP Address" to tell the software where it can find myCNC Controller,
 - $\circ\,$ Set "Network Protocol" to "UDP",
 - press "Save" button on the top-right of myCNC screen.

 Changes should be applied on the fly and UDP message counter should start counting which means communication between Controller & Host works correct.



• Connect Pulse-Dir signals from servo or stepper driver to myCNC control board



 Check what minimal pulse width your drivers accept and set pulse width of myCNC control board accordingly (equal or more) in MyCNC software → Cfg Settings → Hardware Tab → Common Hardware Settings

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SYS PLC CFG Z=	LC Builder Axes/Motors Inputs/Sensors Technology	Network Camera 5 axes RTCP Panel/Penda <mark>nt Hardware A</mark> dvanced	
Common Hardware Settings Encod	lers Analogue Closed Loop Pulse-Dir Closed Loop ET2/	/ET4	
Output bit inversion Pulse Width set Input bits #0, #1, #2, #3 ADC inputs inversion	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 lector nels 2 4 5 6 7 8 9 10 11 12 2 33 34 35 36 37 38 39 40 41 42,4 #4, #5 0 1 2 3 4 5 6 7	1 9 20 21 22 23 24 25 26 27 28 29 30 31 h selector hannels 5 5 6 5 7 58 59 60 61 62 63	
Pulso width		0 1 2 3 4 5 6 7	
Pulse format	4 ET1 0	0.32 us 0.64 us 0.96 us 1.28 us 1.60 us 1.92 us 2.24 us 5.0 us	
	Madhus #2	0.13 us 0.25 us 0.50 us 1.0 us 2.0 us 4.0 us 8.0 us 10 us	
OARTZ Setup			
ET7/ET10 Overspeed bugfix	Tok (ETT,ETS,ETS firmware after 2015-11) V	57	
	Pulse Width tabl different control	le for I boards	

MyCNC-ET6, myCNC-ET7 controllers support separate pulse width settings for the first 4 channels (#0, #1, #2, #3) and the rest 2 (#4, #5). This option can be convenient if use high performance servo drivers with low psed stepper drivers (for example high speed servos for X, Y, Z axes and low speed stepper for rotational A axis). myCNC-ET10 controller use only the first pulse width selector for all motor outputs.

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