Creality Sonic Pad

User-defined model firmware compilation guide

- 1、Download and install VirtualBox
- 2、Download Ubuntu
- 3、Create a new virtual machine and install Ubuntu system
- 4、System upgrade and install git
- 5、Download Klipper firmware
- 6、Configure printer firmware
- 7、Upgrade printer firmware via SD/TF card
- 8、Upgrade printer firmware via USB

1. Download and install VirtualBox

Download VirtualBox from www.VirtualBox.org



Download and install VirtualBox (Do not open it yet after installation)



2、 Download Ubuntu

Download Ubuntu 18.04.LTS from www.ubuntu.com/download











3、 Create a new virtual machine and install Ubuntu system



Open VirtuslBox and create a new virtual machine

Select destination folder、Enter a name,

Type: Select Linux, Version: Select Ubuntu (64-bit)

					?	\times
~	Create Virtual Ma	chine				
	Name and op	erating syste	em			
	Please choose a virtual machine install on it. to identify thi	descriptive na and select the The name you cl s machine.	ame and desti e type of ope hoose will be	nation folder erating system e used through	for the you inter out Virtu	new nd to alBox
	Name:	ubuntu				
1	Machine Folder:	D:\Virtual	Box			~
	Type:	Linux			-	64
	Version:	Ubuntu (64-bi	t)		-	
			1			
			Expert Mode	e Noxt	Cano	cel

Resize memory to 4096MB

		?	\times
÷	Create Virtual Machine		
	Memory size		
	Select the amount of memory (RAM) in megabytes to be virtual machine.	e allocated	to the
	The recommended memory size is $1024\ \mathrm{MB}.$		
		4096	▲ MB
	4 MB 1638	34 MB	
	Nex	t Car	ncel
	12 Actions of the second se		

Create a virtual hard disk

	? ×	
←	Create Virtual Machine	
	Hard disk	
	If you wish you can add a virtual hard disk to the new machine. You can either create a new hard disk file or select one from the list or from another location using the folder icon.	
	If you need a more complex storage set-up you can skip this step and make the changes to the machine settings once the machine is created.	
	The recommended size of the hard disk is $10. \ 00 \ GB.$	
	◯ Do not add a virtual hard disk	
	• Create a virtual hard disk now	
	🔿 Use an existing virtual hard disk file	
	Empty -	
	Create Cancel	

Select VDI

		?	×
←	Create Virtual Hard Disk		
	Hard disk file type Please choose the type of file that you would like to use for	the new	v
	virtual hard disk. If you do not need to use it with other virtualization software you can leave this setting unchanged.		
	● VDI (VirtualBox Disk Image)		
	○ VHD (Virtual Hard Disk)		
	🔘 VMDK (Virtual Machine Disk)		
	Expert Mode	Cancel	l
			1

Select dynamic allocation

←

	?	\times
Create Virtual Hard Disk		
Storage on physical hard disk		
Please choose whether the new virtual hard disk file should is used (dynamically allocated) or if it should be created a maximum size (fixed size).	grow as t its	; it
A dynamically allocated hard disk file will only use space of physical hard disk as it fills up (up to a maximum fixed siz although it will not shrink again automatically when space of freed.	on your e), n it is	5
A fixed size hard disk file may take longer to create on som but is often faster to use.	e syste	ems
• Dynamically allocated		
○ Fixed size		
N _V t	Cano	el

Resize the virtual hard disk to 25GB

		?	\times
<u>,</u>	Create Virtual Hard Disk		
	File location and size		
	Please type the name of the new virtual hard disk file into below or click on the folder icon to select a different fol the file in.	o the box lder to c	reate
	D:\VirtualBox\ubuntu\ubuntu.vdi		
	Select the size of the virtual hard disk in megabytes. This limit on the amount of file data that a virtual machine will store on the hard disk.	s size is 11 be abl	the .e to
		25	00 GE
	4.00 MB 2.00 TB		

Open the settings

Oracle VM VirtualBox Manager		- 0 ×
File Machine Help		
Tools	Ver Settings Discard Start	
ubuntu	E General	E Preview
• Powered Off	Name: ubuntu Operating System: Ubuntu (64-bit)	
	System	
	Base Monory: 4006 MB Boot Order: Flogon, Optical, Bard Disk Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization	ubuntu
	E Display	
	Video Menory: 16 MB Graphics Controller: VMSVVA Remote Desktog Server: Disabled Recording: Disabled	
	2 Storage	
	Controller: IDE IDE Secondary Device 0: [Optical Drive] Empty Controller: SATA SATA Pert 0: ubmrtu.vdi (Normal, 25.00 GB)	
	🖗 Audio	
	Host Driver: Windows DirectSound Controller: ICH AC97	
	Network	
	Adapter 1: Intel PRO/1000 MT Desktop (NAT)	
	🖉 USB	
	USB Controller: OHCI Device Filters: 0 (0 active)	
	Shared folders	
	None	
	Description	

General Settings - Advanced,

😳 ubuntu - Settings General **General** System Basic Advanced Description Disk Encryption Display Snapshot Folder: 📜 D:\VirtualBox\ubuntu\Snapshots Shared Clipboard: Bidirectional • 9 Storage Drag'n'Drop: Bidirectional • Audio -Network Serial Ports 3 USB Shared Folders User Interface OK Cancel

Change the shared clipboard and the drag and drop to bidirectional

System settings - adjust the boot order to optical drive - hard disk - floppy drive





Storage Settings--IDE--Select Downloaded Ubuntu 18.04.6LTS

🕑 ub	untu - Settings					?	×
	General	Storage					
	System Display Audio Audio Network Serial Ports USB USB User Interface	Storage Devices Controller: IDE Controller: SATA Controller: SATA Controller: SATA Controller: SATA	-and64. iso	Attributes Name: Type: Port Count:	SATA AHCI 1 Use Host I/O Cache		
]	¢ 🤹 🖬 📖		OK	Ca	ancel

SATA--tick Use Host I/0 Cache

Network Settings - Advanced - Make sure the network is connected

🕑 ubi	untu - Settings		?	×
	General	Network		
	System	Adapter 1 Adapter 2 Adapter 3 Adapter 4		
	Display	Enable Network Adapter		
9	Storage	Attached to: NAT •		
	Audio	Name:		*
5	Network	Adapter Type: Intel PRO/1000 MT Desktop (82540EM)		•
	Serial Ports	Promiscuous Mode: Deny		· •
Ì	USB	MAC Address: 080027EB8694		\bigcirc
	Shared Folders	Cable Connected		
-	User Interface	Port Forwarding		
		OK	Car	ncel



User Interface - Device-Tick Insert Guest additions CD image

Start the virtual machine after confirmation



Install Ubuntu

	Sat 03:49	A	4 (1)	۶	*
	Install				8
Welcome					
English Español Esperanto Euskara Français Gaeilge Galego Hrvatski Íslenska Italiano Kurdî Latviski Lietuviškai Magyar Nederlands No localization (UTF-8) Norsk bokmål	Try Ubuntu You can try Ubuntu without making any changes to your computer, direct this CD. Or if you're ready, you can install Ubuntu alongside (or instead of) your coperating system. This shouldn't take too long.	ly fr	rom		

Add username and system password

	Sat 11:50	A	(0)	۲	•
	Install				
Who are you?					
Your name: Your computer's name: Pick a username: Choose a password: Confirm your password:	creality ✓ creality-VirtualBox ✓ The name it uses when it talks to other computers. ✓ frequity ✓ Short password ✓ Log in automatically ✓ Require my password to log in ✓				
	Back	Co	ontin	ue Z	

Wait for the restart after



4、 System upgrade and install git



Enter the system password you just set to enter the



Desktop - right click - open

Enter "sudo apt update" and press Enter (list all updatable software) Enter the system password and press Enter (the password is automatically



Enter "sudo apt upgrade" and press Enter (upgrade the package)



Close the terminal window when completed,

Devices -- Install Insert Guest additions CD image



Eject VBox_Gas after installation is completed



Desktop--right-click--open terminal

🚰 ubuntu [Running] - Oracle VM VirtualBox		- 🗆 ×
File Machine View Input Devices	Help	
Activities	Sat 12:42	A 🕸 🗹 🔻
Trash		0
	New Folder Shift+Ctrl+	N
	Select All Ctrl+	A
0	✓ Keep aligned Organize Desktop by Name Change Background	
	Open Terminal	
A		
?		

Enter "sudo apt-get install git" and press Enter (install git)

Enter the system password and press Enter (the password is automatically



Installation is completed

🚰 ubuntu [Running] - Oracle VM VirtualBox	- 🗆 🗙
File Machine View Input Devices Help	
Activities 🗉 Terminal 🔻 Sat 12:43	A 🐠 🖻 👻
creality@creality-VirtualBox: ~	0 0 8
File Edit View Search Terminal Help	
The following NEW packages will be installed:	
0 upgraded, 3 newly installed, 0 to remove and 0 not upgrade	d.
Need to get 4,757 kB of archives.	he used
Do you want to continue? [Y/n] y	be used.
Get:1 http://hk.archive.ubuntu.com/ubuntu bionic/main amd64	liberror-perl all 0
Get:2 http://hk.archive.ubuntu.com/ubuntu bionic-updates/mai	n amd64 git-man all
1:2.17.1-1ubuntu0.12 [804 kB]	
2.17.1-1ubuntu0.12 [3,930 kB]	n amdo4 git amdo4 i
Fetched 4,757 kB in 24s (194 kB/s)	
Selecting previously unselected package liberror-perl. (Reading database 163856 files and directories currently	installed.)
Preparing to unpack/liberror-perl_0.17025-1_all.deb	
Selecting previously unselected package git-man.	
Preparing to unpack/git-man_1%3a2.17.1-1ubuntu0.12_all.d	eb
Unpacking git-man (1:2.17.1-1ubuntu0.12)	
Preparing to unpack/git_1%3a2.17.1-1ubuntu0.12_amd64.deb	
Unpacking git (1:2.17.1-1ubuntu0.12)	
Setting up liberror-perl (0.17025-1)	
Setting up git (1:2.17.1-1ubuntu0.12)	
creality@creality-VirtualBox:-\$	

Restart the



5、 Download Klipper firmware

	O GitHub - CrealityOfficial/Creal × +					v – ø
Point * Solution * Open Source * Molta Source * Open Source * Molta Creating/Official/ Creating: Sonic_Pited Project Am ** Code © Itaxis 1h Putrescott P toxacion © Partice * Program Code © Itaxis 1h Putrescott P toxacion © Partice * Program ** Code © Itaxis 1h Putrescott P toxacion © Partice * Program Code © Itaxis 1h Putrescott P toxacion © Partice * Program Formate for Codelly 5-Fad by Creatily ** Code © Itaxis 1h Putrescott P toxacion © Partice * Program Cover Formate for Codelly 5-Fad by Creatily ** Code © Itaxis 1h Putrescott P toxacion © Partice *	← → C (a github.com/CrealityC	Official/Creality_Sonic_Pad_Project				¥ 2 ☆ \$ □ 0
Creating/Official / Creating/Sonic_Pade / Project / Ankel: Creating / Official / Creating / Sonic / Pade /		Product ~ Solutions ~ C	Open Source 🗸 Pricing		ch 🕖 Sign in Sign u	Þ
P min P transh P transh O transh Abut Conset/Tech and module Migner I Conse I Mind I Mind I Mind I Migner & SADD/R - Mind Mind Migner I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I MIDME I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind I Mind	GrealityOfficial / Creality_f ⇔ Code ⊙ Issues ∏ Put rep	Sonic_Pad_Project Public	ojects 🛈 Security 🖂 Insights		Q 10	stifications 🛛 🖞 Fork 0 🔤 🛠 Star 0 🔹
		P main - P1branch ©0	tags	Go to file Code -	About	
bit lipper @ S2027/* add module lipper HTTMS @ Gebta CU @ GFL.301.come @ modules add module lipper Immun / status.com/end/status/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relable/peritable/relab		CrealityTech add module klipp	er	E Clone	Firmware for Creality S-Pad by Creality	
Admondus		tipper © 520273e	add module klipper	HTTPS GRHub CU	GPL-3.0 license Octars	
BADAME.md Initial commit Image: Committee C		C gitmodules	add module klipper	Use Git or checkout with SVN using the web URL	2 watching	
READMEnd Download 2P Releases Creality-firmware-spad Packages Formware for Creality S-Pad by Creality Packages		README.md	Initial commit	(2) Open with GitHub Desktop	Y 0 torks	
Creality-firmware-spad Packages Firmware for Creality S-Pad by Creality No panding publicities		READMEmd		Download ZIP	Releases	
Packages Ferminate for Circelity 5-Pad by Circelity To packages paddread		Creality-firmw	are-spad			
		Firmware for Creality S-Pad b	y Creality		Packages No packages published	
Contributors 2					Contributors 2	
Creating/letch					CrealityTech CrealityTech	
The second secon					Tsi-Of	

Copy the Klipper firmware address link at www.github.com/CrealityOfficial

Klipper firmware address

https://github.com/CrealityOfficial/Creality_Sonic_Pad_Project.git

File Mach	unning) - Oracle VM VirtualBox hine View Input Devices Help			- 0)
Activities	s		Sat 12:51	A 🕫 🗹
20	Trash			
		New Folder		
-				
0		✓ Keep aligned Organize Desktop by	Name	
		Change Background Open Territinal		
4				
?				
				🔉 💿 🔯 🕊 🖉 🗀 🔲 🔐 🚫 🔕 Right

Desktop--right-click--open terminal

Enter "cd ~" and press Enter (switch the working directory to the home directory) Enter "git clone" and paste the Klipper firmware address link -- Enter



6、 Configure printer firmware

ctivitie	s 🖥	Files 🔻					Sat 12:54			A 🕫 🙆
		> 🔸 🏠 Home	klipper scri	pts 🕨						
					anote a			2	agen Da	
			motan	sni flash	avrsim py	huildcomm	calibrate	canbus	check-orc	
			motan	spi_nosh	uvrain.py	ands.py	shaper.py	query.py	sh	
	D		2	2	Si me	New Folder		Shift+Ctrl+N	append and	
			checkstack.	check	check				flash-linux.	
0	33		ру	whitespace	whitespace	Select All Properties			sh	
	۵					Restore Mis	sing Files			
			S.m.	D BBC	9	Op n in Terr	ninal			
	۵		flash-pru.sh	flash- sdcard.sh	flash_usb. Py	graph_ accelerome	graph_ extruder.py	graph_ motion.py	graph_ shaper.py	
A	Ē.		-		and a	cer.py			100 m	
	+	Other Locations			in mar	in the	in the	C. Marca	in the second	
?			graphstats. py	graph_ temp_ sensor.py	install-arch. sh	install- beaglebone .sh	install- centos.sh	install- debian.sh	install- octopi.sh	
			S Be			Harman Call	in the		0	
::			install- ubuntu-	klipper- mcu-start.	klipper-pru- start.sh	klipper- start.sh	klipper- uninstall.sh	klippy- requiremen	logextract. PY	

Open the file manager-Klipper folder-scripts folder-Right click-open in terminal



(confirm that the content in the current directory is consistent with that in the folder)

Enter "./install-ubuntu-18.04.sh" and press Enter (install ubuntu) Enter the system password and press Enter (the password is automatically hidden)



Enter "cd .." and then press Enter (switch to the upper directory)

Enter "Is" and press Enter

(confirm that the content in the current directory is consistent with that in the folder)

Enter "make menuconfig" and press Enter (configure the printer



Select the Micro-controller Architecture、Processor model、Bootloader Offset、 Clock Reference、Communication interface etc. parameters (Example, please configure it according to the motherboard)



After the parameter configuration is completed, press "Q" to save,

Press "Y" to



Enter "make" and press Enter (generate firmware)



Find the firmware storage location



7、 Upgrade printer firmware via SD/TF card

Create a new "ubuntu_sharing" on the computer disk

> T > This	PC > Local Disk (D:) >				Search Local Disk (D:)	
Duick accord	Name	Date modified	Туре	Size		
Deckton dt	360Downloads	7/13/2022 5:45 PM	File folder			
Desktop A	2345Downloads	6/9/2021 1:52 PM	File folder			
Downloads 🛪	AliWorkbenchData	8/27/2021 3:31 PM	File folder			
Documents 🖈	BaiduNetdiskDownload	8/10/2021 10:01 AM	File folder			
Pictures 🖈	Program Files	8/6/2022 11:37 AM	File folder			
Music	Program Files (x86)	7/12/2022 4:28 PM	File folder			
setup	rawdata	2/21/2022 5:30 PM	File folder			
video	setup	8/6/2022 11:41 AM	File folder			
Videos	VirtualBox	8/6/2022 11:44 AM	File folder			
	workspace	7/21/2022 4:50 PM	File folder			
OneDrive	S msdia80.dll	12/1/2006 11:37 PM	Application extension	884 KB		
This PC	ubuntu_sharing	8/6/2022 1:48 PM	File folder			
Vetwork						
			3			

Open VirtualBox--Settings--Shared Folders

Add a shared folder (tick auto mount), Mount point type "/sharings"

A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
Oracle VM VirtualBox Manager				- 0
riie Machine Help	🔰 ubuntu - Settings		? ×	
Tools	General	Shared Folders		
ubuntu	System	Shared Folders	Access Auto Mount At 🔽	Preview
O Powered UIT	Display	Machine Folders		
	Storage	😔 Add Share ? X	Eau -	ubuntu
	Network	Folder Path: D:\ubuntu_sharing ~		
1	Serial Ports	Folder Name: ubuntu_sharing		
4		Auto-mount		
	Shared Folders	wome point. / snarings		
e e e e e e e e e e e e e e e e e e e	User Interface			
		UN Lot Cancer		
		158 Controller: UKU	OK Cancel	
		Device Filters: 0 (0 active)		
		Shared folders		

Copy the klipper.bin file just generated to the sharings folder



Copy klipper.bin in the ubuntu_sharing folder of the computer disk to the TF/SD



8、 Upgrade printer firmware via USB

(The motherboard has no Bootloader and does not support SD card upgrades)

Please use a USB cable to connect the printer to the computer

where the virtual machine is located. Please keep the connection

during the firmware upgrade process

Refer to the previous video to enter the configuration motherboard interface (Example, please configure it according to the motherboard) Select the Micro-controller Architecture、Processor model、 Clock Reference、Communication interface



After the parameter configuration is completed, press "Q" to save,

Press "Y" to confirm



Enter "make" and press Enter (generate firmware)



Find the firmware storage



File Manager--Klipper Folder--Right click-open in terminal



Device--USB--Tick the USB option for connection to the printer

Enter "Is /dev/tty*" and press Enter

(Confirm that /dev/ttyUSB0 appears in the directory)

Enter "sudo avrdude -cwiring -patmega2560 -P/dev/ttyUSB0 -b115200 -D

-Uflash:w:out/klipper.elf.hex:i"and press Enter

(Transfer the klipper firmware to the printer for upgrade,



Note the space before the "-" in the command)

Update

