

CENTOS 7.7 INSTALLATION GUIDE T	TB000110	REV. A
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## **Purpose:**

This installation guide goes through the steps to integrate CentOS onto an Elo computer. It contains the instructions to install, set-up, and test CentOS for a faultless compatibility with Elo computers.

## Note:

\*Elo strongly recommends using this or a later version of CentOS to ensure full hardware support. \*

\*For all terminal sudo commands in Terminal, the computer will ask for your password, enter your password in order to process the command\*

\*For all terminal commands, be aware of the spacing or the lack thereof in-between words and be aware of using the correct capitalization\*

\*The appendix sections are for testing purposes only\*

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Downloads Required (download files below before starting the next step):

- CentOS 7 iso:
  - To download CentOS 7's iso, go to CentOS's website and download the DVD iso (This instruction is written using CentOS 7): <u>https://www.centos.org/download/</u>. Clicking on the orange button will bring you to a list of distributors. Pick any mirror close to your region. Make sure to download an iso that contains the whole DVD or are marking with "everything".

CENTOS GET CENTOS ABOUT - COMMUNITY - DOCUMENTATION - HELP	
Download CentOS	
You now have two ways to consume the CentOS platform, CentOS Linux and CentOS Stream. CentOS Linux is a rebuild of the freely available sources for Red Hat Enterprise Linux (RHEL). CentOS Stream is a midstream distribution that provides a cleared-path for participation in creating the next version of RHEL. Read more in the CentOS Stream release notes.	
CentOS Linux DVD ISO CentOS Stream DVD ISO	
ISOs are also available via Torrent. How to verify your iso If you plan to create USB boot media, please read this first to avoid damage to your system. If the above is not for you, alternative downloads might be.	liso
	CentOS-7-
Need a Cloud or Container Image? Amaton Web Services Docker registry	x86_64-Eve orthing-190

- Rawrite32 (download this only if you are using a Windows computer to create the bootable flash drive).
  - We will be using Rawrite32 to create a CentOS 7 bootable USB drive. Alternatives to Rawrite32 are Fedora Media Writer and Win32 Disk Imager. You may use those instead of Rawrite32 is unavailable to you.
  - To download, go to NetBSD: <u>https://www.netbsd.org/~martin/rawrite32/download.html</u> and download the setup program.

NetBSI	Rawrite32 The NetBSD	
(=	image writing tool	Home   Help   License   » Download
If you've f	ound the license accept	able, you can download the program and/or it's source code here:
rw32-i	setup-1.0.7.0.exe	The win32 setup program.
		This is the easiest and shrink-wrapped solution. Run the installer, and it will create all needed start menu entries, register with the system for deinstallation etc.
rawrib	s-1.0.7.0.zip	The win32 binary (.exe) and documentation.
		Unzip anywhere you like and just run the exe file. Since there is absolutely no magic involved in the setup, this is just as simple if you do not need start menu entries and full grown uninstall support.
rawrit	sexe-1.0.7.0.zip	The raw binary (.exe) file (ripped).
		Just unpack and run. The only difference between the full packages (above) and this minimal version is the lack of offline-help, the exe will point you at the online help on the rawrite32 web site instead. There is no functional drawback in using this variant.
rawrib	a32-arc-1.0.7.0.zip	The source code.
		It has only been compiled with Microsoft Visual Studio 2015 and 2017. This is interesting only if you want to contribute, look at how it is done, or create variants of the tool.

- Serial port, Cashdrawer and Printer Drivers:
  - To download the driver packages, go to Elo's website:



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## Creating an Installation USB Media:

\* Warning: to create an installation USB drive, we will need to wipe out an USB drive. When choosing the disk to write to, make sure that you are choosing the correct disk, and that there are no files you want to preserve on the drive. \*

1. Creating a CentOS bootable flash-drive in Windows:

If you are using Linux to create the bootable flash-drive, skip to step 2.

- Launch Rawrite32 and plug in an USB thumb drive.
- In Rawrite32, select your thumb drive under Target's drop-down menu. Then, click on "Open" under the Filesystem image, change the file type to "All files", and choose the CentOS iso that you've downloaded

🗄 drawerCtl.tar	10/22/2019 3:18 PM	gz Archive	49 KB	
CentOS_7.6	10/28/2019 5:01 PM	File folder		
arlier this year (5)				
SPFDisk	9/17/2019 1:27 PM	File folder		
Translated UM	9/13/2019 1:33 AM	File folder		
platform-tools	7/25/2019 10:46 AM	File folder		
EloMultiTouch_6.9.22.2_beta2	7/25/2019 10:46 AM	File folder		
desktop background	7/25/2019 9:50 AM	File folder		
			<ul> <li>(Compressed) fs images (*.gz</li> </ul>	* ~

When the program is done preparing the image, click on "Write to Disk".

🗮 NetBSD	Disk Image Tool X
Filesystem C:\Users\	image: vy.Chung\Downloads\CentOS-7-x86_64-Everything-1908.iso Open 🗱 ?
Program m	essages:
	stem image C:\Users\Ivy.Chung\Downloads\CentOS-7-x86_64- ing-1908.iso (10.27 GByte)
MD5 SHA1 SHA256 SHA512	12be96dcd544fb46a01cad5e856cb1cf f82375e4a3dfe3615cffc41b4dbf167f70d68a53 bd5e6ca18386e8a8e0b5a9e906297b5610095e375e4d02342f07f32022b13acf 2afce4e92a05f0d937c360fa98e53eeff037a6d5eda37bf74433840da16d4648 cbc4f197e16943fd7afb80e6751c6dd4717447da93a5d2e3429ed05ff3b50515
 Target: [	D: Generic Flash Disk [3.86 GByte]  Vite to disk

- 2. Creating a CentOS bootable flash-drive in Linux:
  - 1. Insert an USB thumb drive into an USB slot on your Elo computer. Launch terminal.
  - Log in as root by running command \$ su -
  - Run Isblk command to check the assignment device of your USB:
     \$ Isblk -So NAME,SIZE,TRAN In my case, the assigned USB device is sdb1.



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4. Now, we can format the USB drive using the dd command: \$ dd if=CentOS\_your\_version.iso of=your\_usb\_device\_path Fill in the full name of the iso file that you downloaded and your usb device path. Make sure to put the whole device instead of just a partition of the decice. In my case, it would be sbd instead of sbd1.

## Installing CentOS onto the Elo Computer:

- 1. Plug the bootable USB installation device into the Elo computer.
- 2. Turn on or restart the computer. Go to the BBS Menu. This can be done by clicking on the BBS button on the top right corner during computer start-up.



3. Now, select your thumb drive.





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- 4. Follow the installation process. Set the location, root username and root password. When prompted, choose GNOME Desktop and package addins.
- 5. The CentOS Installation is now completed.

Note: The current kernel for CentOS 7.x does not support G-sensor (auto rotation) on EloPOS or I-Series for Windows products.

# Appendix A: Testing Serial Port Functionality

In this section, we will test the functionality of the serial ports.

1. Check if your CentOS version have Exar's USB serial driver installed. Perform this check by running command:

\$ Is /dev/ttyXRUSB\*. If you see the serial ports listed in a format like the one shown below, skip to step 6.

```
[root@localhost ~]# ls /dev/ttyXRUSB*
/dev/ttyXRUSB1
```

 Download Exar's USB serial driver at Elo's website. Once the download is complete, launch terminal, go into sudo mode by running command \$ sudo -i and go to the downloaded directory.

```
[root@localhost ~]# sudo -i
[root@localhost ~]# cd /home/elo/Downloads/
```

3. Extract the files and run commands:

```
$ tar zxvf xr_usb_serial_drv.tar.gz
```

\$ cd /xr\_usb\_serial\_drv/

\$ chmod 777 build.sh

\$ ./build.sh

4. Check that USB UART is detected by the system by using the command: \$ Ismod, and check device nodes by using the command: \$ Is /dev/ttyXRUSB\*. You should see the serial ports listed in a format like the one shown below.

[root@localhost ~]# ls /dev/ttyXRUSB\*

/dev/ttyXRUSB0 /dev/ttyXRUSB1

- 5. Seeing the port names printed means that the Elo computer registers the serial ports. Now, to test the functionality of the serial ports, we will check the output and input function of the ports by using the cat and echo commands.
- 6. Connect a cable to a serial port on the Elo Computer and a serial loopback connector to the other end of the cable.



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- 7. Launch two terminal windows and enter sudo mode for both by using the command \$ sudo -i in both terminal windows.
- 8. In one of the windows, we will run echo commands and in the other window we will test cat commands. We will call these two windows "cat terminal window" and "echo terminal window" for easy identification. The messages we output from the echo terminal window should show up in the cat terminal window. This will test the output and input functionality of the serial port.
- 9. To prevent infinite loops of the echo message, in the cat terminal window, run command \$ stty -F /dev/ttyXRUSB0 -echo
- 10. In the cat terminal window, run command \$ cat /dev/ttyXRUSB0. This terminal will now print out all the input messages that the serial port receives.
- 11. In the echo terminal window, run command \$ echo "insert\_your\_test\_message"> /dev/ttyXRUSB0.
- 12. You should see the message printed out in the cat terminal window. If you don't see the message, try plugging in your serial cable along with the loopback connector into another serial port and repeat step 11.

root@localhost:~	-	×
File Edit View Search Terminal Help		
<pre>[elo@localhost tmx-cups]\$ sudo -i [root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0 [root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0 [root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0 [root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0 [root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0&lt;[root@localhost ~]# echo "test"&gt; /dev/ttyXRUSB0</pre>		

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root@localhost:~

D X

```
File Edit View Search Terminal Help
[elo@localhost tmx-cups]$ sudo -i
[root@localhost ~]# stty -F /dev/ttyXRUSB0 -echo
[root@localhost ~]# cat
cat catchsegv catman
[root@localhost ~]# cat /dev/ttyXRUSB0
test
test
test
[]
```

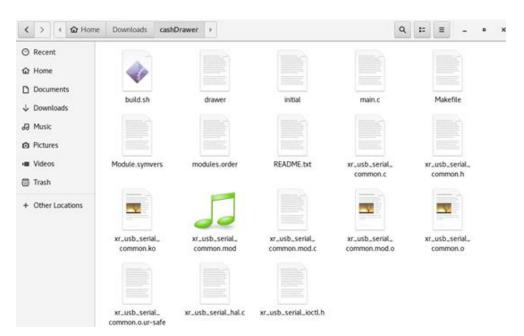
13. Once you've successfully tested the serial port, revert the echo setting by typing in the command:

\$ stty -F /dev/ttyXRUSB0 echo

14. Repeat steps 6-13 on all serial ports.

# Appendix B: Testing Cashdrawer Functionality

1. To test the cashdrawer functionality, first download the cashdrawer file from the Elo website onto the Elo computer. Once all files are downloaded, copy all serial port driver files from the last step into the cashdrawer folder.



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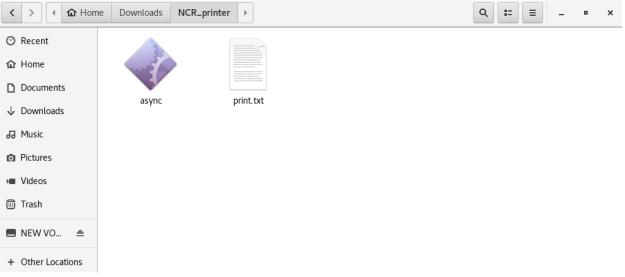
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2.	Launch terminal and change to root user by running the comman downloaded cashdrawer directory using the cd command. For ou command is \$ cd /home/elo/Downloads/cashDrawer. [root@localhost ~]# cd /home/elo/Downloads/cashI	r computer, t	
3.	Change the permissions of the drawer script by running the comm \$ chmod 777./drawer	nands:	
4.	Run command: \$ ./drawer init		
5.	Now you should be able to open the drawer(s) using the comman \$ ./drawer cdb (to open cash drawer a and b).	ids \$ ./drawer	<sup>-</sup> cda and
6.	You should also be able to read drawer status by running the comstate.	nmand \$ ./dra	wer
	[root@localhost cashDrawer]# ./drawer state Channel control mode. Cash drawer is <b>close</b> . reg value:0x1f1, state:0x0		
	[root@localhost cashDrawer]# ./drawer state Channel control mode.		

Cash drawer is open.

# **Appendix C: Testing Printer Functionality**

#### For NCR Printer:

1. To test the NCR Printer functionality, first download the NCR\_Printer file from the Elo website onto the Elo computer and make sure extract it in Linux system.





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 Launch terminal and change to root user by running the command \$ sudo -i. Go to the downloaded NCR\_Printer directory using the cd command. For our computer, the command is \$ cd /home/elo/Downloads/NCR\_Printer.

[root@localhost ~]# cd /home/elo/Downloads/NCR\_printer/

3. Unplug and plugin printer cable. Check device node by running the command \$ Is /dev/ttyUSB\* [root@localhost NCR\_printer]# ls /dev/ttyUSB\* /dev/ttyUSB0

# Check USB device by running the command \$ Isusb

[root@localhost NCR\_printer]# lsusb Bus 002 Device 003: ID 0424:5807 Standard Microsystems Corp. Hub Bus 002 Device 002: ID 0bda:0411 Realtek Semiconductor Corp. Bus 002 Device 001: ID 1d6b:0003 Linux Foundation 3.0 root hub Bus 001 Device 007: ID 8087:0025 Intel Corp. Bus 001 Device 009: ID 04e2:1422 Exar Corp. Bus 001 Device 010: ID 0404:0311 NCR Corp. 7167 Printer, Receipt/Slip

# 6. Print by running the command

\$ ./async 0 print.txt true 5 false

[root@localhost NCR printer]# ./async 0 print.txt true 5 false Command format: \$ ./async [port] [message\_path] [cut] [lines] [beep] [port]: device node, get from #ls /dev/ttyUSB\* [message\_path]: print content file [cut]: true or false, true: cut paper after print, false: not cut [lines]: int, blank lines [beep]: true or false, true: beep after print

# For Epson TM20II Printer:

- Driver download : <u>https://download.epson-biz.com/modules/pos/index.php?page=single\_soft&cid=5012&scat=32&pcat=52</u> and make sure extract it in Linux system.
- Launch terminal and change to root user by running the command \$ sudo -i. Go to the downloaded tmx-cups directory using the cd command. For our computer, the command is \$ cd /home/elo/Downloads/tmx-cups.

[root@localhost ~]# cd /home/elo/Downloads/tmx-cups/

- 3. Install the driver by running the command \$./install.sh and \$./install-sc.sh [root@localhost tmx-cups]# ./install.sh [root@localhost tmx-cups]# ./install-sc.sh
- 4. Go to Setting => Device => Printer => TM-T20II => setting icon => Printer Details => Unlock.



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< Devices	Printers Q Lullock _ •	×	
Displays			
🖼 Keyboard	TM-T20II No Active Jobs		
🖗 Mouse & Touchpad	Model EPSON TM Slip (rastertotmu)		
🖶 Printers			
Removable Media			
<ul> <li>Thunderbolt</li> </ul>			
🖄 Wacom Tablet			
🔒 Color			

5. Go to Setting => Device => Printer => TM-T20II => setting icon => Printer Details => Install PPD File => select PPD file (tm-slip-rastertotmu.ppd.gz)

	TM-T20II Details	×	
Nama	TM-T20II		
Name			
Location			
Address	localhost		
Driver	EPSON TM Slip (rastertotmu)		
	Search for Drivers		
	Select from Database		
	Install PPD File		

6. Go to Activities => LibreOffice Write and type any wording for testing. Then select the printer TM-T20II and print it out as below:

