1.) Find device designation of eMMC Module and unmount

```
lsblk                    device sdX should match the size of your eMMC Module
sudo umount /dev/sdX1    unmount the eMMC Module
```

2.) Zero the beginning of the SD card

```
sudo dd if=/dev/zero of=/dev/sdX bs=1M count=32
```

3.) Start fdisk to partition the SD card

```
sudo fdisk /dev/sdX      type o this will clear out any partitions on the drive
                         type p to list partitions, there should be no partitions left
                         type n, then p for primary, 1 for the first partition on the drive,
                         32768 for the first sector, and then press ENTER to accept the
                         default last sector, then write the partition table and exit by typing w
```

4.) Create the ext4 filesystem

```
sudo mkfs.ext4 /dev/sdX1
```

5.) Mount the filesystem

```
mkdir root                          this is in your home directory ! → /home/youruser/root
sudo mount /dev/sdX1 /home/youruser/root
```

6.) Download and extract the root filesystem (as root, not via sudo)

```
wget http://os.archlinuxarm.org/os/ArchLinuxARM-aarch64-latest.tar.gz
sudo bsdtar -xpf ArchLinuxARM-aarch64-latest.tar.gz -C /home/youruser/root
```

7.) Download the boot.scr script for U-Boot and place it in the /boot directory

```
sudo wget http://os.archlinuxarm.org/os/rockchip/boot/rock64/boot.scr -O /home/youruser/root/boot/boot.scr
```

8.) Unmount the partition

```
sudo umount /home/youruser/root
```

9.) Download and install the U-Boot bootloader

```
wget http://os.archlinuxarm.org/os/rockchip/boot/rock64/rksd_loader.img
wget http://os.archlinuxarm.org/os/rockchip/boot/rock64/u-boot.itb
sudo dd if=rksd_loader.img of=/dev/sdX seek=64 conv=notrunc
sudo dd if=u-boot.itb of=/dev/sdX seek=16384 conv=notrunc
```

10.) Install eMMC Module onto Rock64 Board, connect HDMI, ethernet, USB Keyboard and power up
System is setup with 2 users “alarm” and “root”, log-in details as below:

user:	alarm	password:	alarm
	root		root

Change generic root password to your own version (log-in as root).

```
passwd
```

11.) Check the MAC address, may need spoofing if address is da:19:c8:7a:6d:f4 or a2:ce:c4:4a:ae:e4

```
ifconfig                                to check for device name
ip link show eth0                       replace eth0 with your device name given by step above
```

If you MAC address is da:19:c8:7a:6d:f4 or a2:ce:c4:4a:ae:e4 then do steps below, or network won't work !

```
nano /etc/systemd/network/00-default.link

[Match]
MACAddress=da:19:c8:7a:6d:f4

[Link]
MACAddress=da:19:c8:7a:6d:f5                change the last 3 bits to your liking,
NamePolicy=kernel database onboard slot path DO NOT change the first 3 bits (reserved Manufacturer)

reboot                                      once board is up, check with ip link show eth0 for success
```

12.) Initialize the pacman keyring and populate the Arch Linux ARM package signing keys

```
pacman-key --init
pacman-key --populate archlinuxarm
```

13.) Install the U-Boot package

```
rm /boot/boot.scr
pacman -Sy uboot-rock64                 when prompted, press y and hit enter to write the latest
                                        bootloader to the eMMC Module

reboot
```

14.) Update the system

```
pacman -Syuu

reboot
```

15.) Set network to static IP address and change default hostname

nano /etc/hostname replace "alarm" with your version

nano /etc/systemd/network/eth.network check with ifconfig first for device name!

```
[Match]
Name=eth*

[Network]
DHCP=no
DNSSEC=no
Address=192.168.1.xxx/24                replace xxx with your desired sub-address
Gateway=192.168.1.xxx
DNS=192.168.1.xxx

nano /etc/resolv.conf                   should be nameserver 192.168.1.xxx

reboot                                  once board is up, check with ifconfig for success
```

16.) Change user from “alarm” to your choice and enable ‘sudo’ comand (log-in as root).

```
id alarm
usermod -l youruser alarm
usermod -d /home/youruser -m youruser
groupmod -n youruser alarm
id youruser
ls -ld /home/ youruser

pacman -S sudo
```

`nano /etc/sudoers` — scroll down to User privilege specification
copy root for your specific username and save

`exit` and log-in as youruser and change passwd from alarm to yours

17.) Generate an UK English locale file

`locale -a` — check if any locale is installed

`sudo nano /etc/locale.gen` — uncomment en_GB.UTF-8 UTF-8

`locale-gen` — to generate British English locale file

Done, enjoy your setup.