

Innosilicon A10 Unlock SSH Instructions

For MacOS

Open **Terminal.app** on your MacOS computer.

Install **Homebrew** if you don't already have it installed by pasting the following into the command line area:

```
/bin/bash -c "$(curl -fsSL  
https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"
```

Then press **Enter**

Type your computer's password if needed and wait until it's all installed.

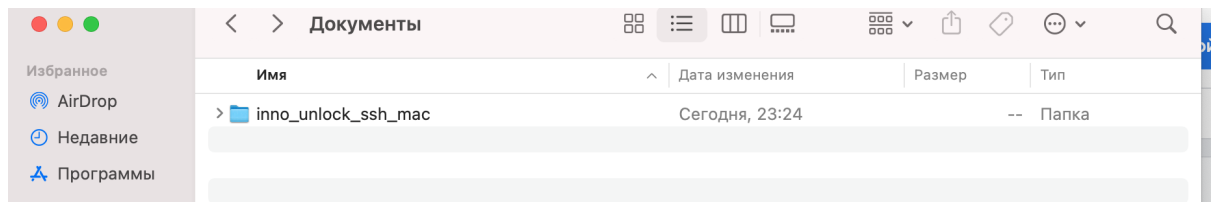
Then type **brew install jq** and **Enter**

Then type **brew install curl** and **Enter**

Download this file from Github:

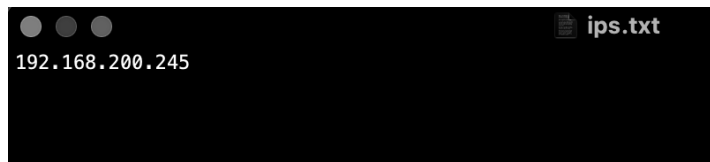
https://github.com/offordscott/unlock-ssh-innosilicon-a10/raw/main/inno_unlock_ssh_mac.zip

Then unpack **inno_unlock_ssh_mac.zip** into the **Documents** folder of the Mac

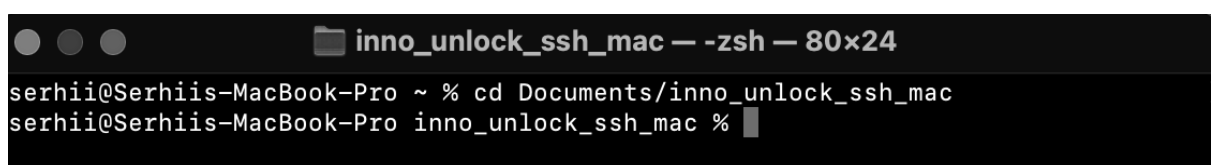


Open the folder **inno_unlock_ssh_mac** in the Finder.app

Using **Textedit.app**, open **ips.txt** and write in your miner's IP address and save and exit the text file.



Then, open Terminal and type **cd Documents/inno_unlock_ssh_mac/**



Then, type **sh t2ti** and press **Enter**

```
[serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac % sh t2ti

-e IPs count          1

-e > Processing admin@192.168.200.245
start
TOKEN = eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiOiJBc2ljTWluZXIiLCJpYXQiOiJE
2MzEzOTQyMDMsImV4cCI6MTYzMTQxNTgwMywidXNlciI6ImFkbWluIn0.6jy9pPN9GHnk-V9OU_odrQ3
Htz3a6VuDSfpjptdbi_s

{"success":true}-e OK
serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac %
```

Then, check in the miner's web interface that model is **t2ti**

INNOSILICON

Miner Status

Overview

Version

Type	T2Ti
Controller Version	g19
MAC Address	a0:b0:45:16:38:06
Build Date	1st of April 2021 03:18 AM
Platform Version	a10L_20210401_031826

Network Status

Type	dhcp
IP	192.168.200.245
Netmask	255.255.255.0
Gateway	192.168.200.1
Name Server 1	192.168.200.1
Name Server 2	192.168.255.22

Then, update the firmware via **Maintenance > Firmware** in the miner's navigation menu.

Download the firmware for t2ti g19 found here:

https://github.com/offordscott/unlock-ssh-innosilicon-a10/raw/6f21980474d04caf2498826cbb8c703ab3260b13/t2ti_20191129_041547.swu

Upgrade

1. The update.swu file should be obtained from our support center
2. Do not power off or refresh this page during the upgrade process
3. All your settings will be preserved

Choose File No file chosen

Upgrade Now Reset Upgrader

In the miner's Overview page, check if Build Date & Platform Version have been updated.

Version	
Type	T2TI
Controller Version	g19
MAC Address	a0:b0:45:15:0c:13
Build Date	29th of November 2019 04:15 AM
Platform Version	t2ti_20191129_041547

Then, type **sh ssh** and press **Enter**

```

serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac % sh ssh

-e IPs count      1

-e > Processing admin@192.168.200.244
start
TOKEN = eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiOiJBc2ljTWluZXIiLCJpYXQiOiJE
2MzE0NTU5NjUsImV4cCI6MTYzMTQ3NzU2NSwidXNlciI6ImFkbWluIn0.dZg2Q2HL8ZBPk04RaONDZ0g
Tpa9_hITtZQ94cXOIcb4

{"success":true,"msg":null}{"success":true,"msg":null}-e OK
serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac %

```

Then, type **ssh root@ip** where **ip** is the miner's IP address and press **Enter**

Type **yes** if it asks if you want to continue connecting, then press **Enter**

```

serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac % ssh root@192.168.200.244

The authenticity of host '192.168.200.244 (192.168.200.244)' can't be established.
ECDSA key fingerprint is SHA256:ixLrGrPoEuYJj9YAmJm17JFOAn00VhYbYP4CNPIJLNM.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes

```

It will ask you for a password. Type **1** and press **Enter** (you will not see password)

```

Warning: Permanently added '192.168.200.244' (ECDSA) to the list of known hosts.
[root@192.168.200.244]#
#

```

Then, type **fw_printenv image_flag** and press **Enter**

```

[root@192.168.200.244]# fw_printenv image_flag
image_flag=0
#

```

If **image_flag=0**, type:

fw_printenv rootfs0_nand_address

If **image_flag=1**, type:

fw_printenv rootfs1_nand_address

```
image_flag=0
[# fw_printenv rootfs0_nand_address
rootfs0_nand_address=0x1780000
#
```

Then, compare with the list below and search for other **rootfs**.

0x0000000000000-0x0000000400000	bootloader	mtd0
0x0000000400000-0x0000000480000	env	mtd1
0x0000000480000-0x0000000500000	dtb-main	mtd2
0x0000000500000-0x0000000580000	dtb-alt	mtd3
0x0000000580000-0x0000000980000	fpga-main	mtd4
0x0000000980000-0x0000000d80000	fpga-alt	mtd5
0x0000000d80000-0x0000001280000	kernel-main	mtd6
0x0000001280000-0x0000001780000	kernel-alt	mtd7
0x0000001780000-0x00000074c0000	rootfs-main	mtd8
0x00000074c0000-0x000000d200000	rootfs-alt	mtd9
0x000000d200000-0x000000dc00000	config	mtd10
0x000000dc00000-0x000000ee00000	events	mtd11
0x000000ee00000-0x0000010000000	miners	mtd12

Use one of the two **mtd**:

If **image_flag 0**, use **mtd9**

If **image_flag 1**, use **mtd8**

Then, type **ubiattach -m 9** and press **Enter** (where **9** is **mtd** of another rootfs)

```
[# ubiattach -m 9
UBI device number 2, total 746 LEBs (94724096 bytes, 90.3 MiB), available 0 LEBs
(0 bytes), LEB size 126976 bytes (124.0 KiB)
#
```

Then, type the following, one line at a time. Pressing **Enter** after each line.

mount -t ubifs -o sync,noatime,rw ubi2:rootfs /mnt/

rm /mnt/etc/shadow

rm /mnt/etc/passwd

```
rm /mnt/etc/ssh/sshd_config
```

```
cp /etc/shadow /mnt/etc/shadow
```

```
cp /etc/passwd /mnt/etc/passwd
```

```
cp /etc/ssh/sshd_config /mnt/etc/ssh/sshd_config
```

```
sync
```

```
umount /mnt/
```

```
ubidetach -m 8
```

```
# mount -t ubifs -o sync,noatime,rw ubi2:rootfs /mnt/
# rm /mnt/etc/shadow
# rm /mnt/etc/passwd
# rm /mnt/etc/ssh/sshd_config
# cp /etc/shadow /mnt/etc/shadow
# cp /etc/passwd /mnt/etc/passwd
# cp /etc/ssh/sshd_config /mnt/etc/ssh/sshd_config
# sync
# umount /mnt/
```

Then, if **image_flag 0**, type:

```
fw_setenv image_flag 1
reboot
```

If **image_flag 1**, type:

```
fw_setenv image_flag 0
reboot
```

```
# fw_setenv image_flag 1
# reboot
Connection to 192.168.200.244 closed by remote host.
Connection to 192.168.200.244 closed.
serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac %
```

Wait until the miner reboots.

Then, type **ssh root@ip** where **ip** is miner's IP address, and press **Enter**

If it asks: "Are you sure you want to continue connecting?", type **yes** and press **Enter**

```
[serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac % ssh root@192.168.200.244 ]
The authenticity of host '192.168.200.244 (192.168.200.244)' can't be established.
ECDSA key fingerprint is SHA256:ixLrGrPoEuYJj9YAmJm17JF0An0OVhYbYP4CNPIJLNM.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

It will then ask for a password. Type **1** and press **Enter** (*you will not see password*)

```
Are you sure you want to continue connecting (yes/no/[fingerprint]): yes
Warning: Permanently added '192.168.200.244' (ECDSA) to the list of known hosts.
[root@192.168.200.244's password:
#
```

In Terminal, type **fw_printenv**, then press **Enter**

Look for something like this:

```
version_0=a10l_20210108_052921
version_1=t2ti_20191129_041547
```

Then, in Terminal, type **exit**, and press **Enter**

Then, in Terminal, according to the firmware version_0 variable, type one of these:

sh a10l	sh a10x	sh a10u	sh 10s	sh a10x
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Then press **Enter**

```
serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac % sh a10l
-e IPs count      1
-e > Processing admin@192.168.200.244
start
TOKEN = eyJ0eXAiOiJKV1QiLCJhbGciOiJIUzI1NiJ9.eyJpc3MiOiJBc2ljTWluZXIiLCJpYXQiOiJE
2MzE0NTc0MzUsImV4cCI6MTYzMTQ3OTAzNSwidXNlciI6ImFkbWluIn0.wp-CyR2ox0oDbKM9BHh6E-1
cgSYxCc7nY62M3Xu-sUc

{"success":true}-e OK
serhii@Serhiis-MacBook-Pro inno_unlock_ssh_mac %
```

ALL YOUR BASE ARE BELONG TO US.

The SSH of your Innosilicon A10 is unlocked!

For help, contact t.me/offordscott