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[Application Note](#), [MAC](#), [IP](#)

How to Check Suprema Device's IP & MAC Address Manually

There may be several reasons why you would like to know the MAC address of a Suprema device:

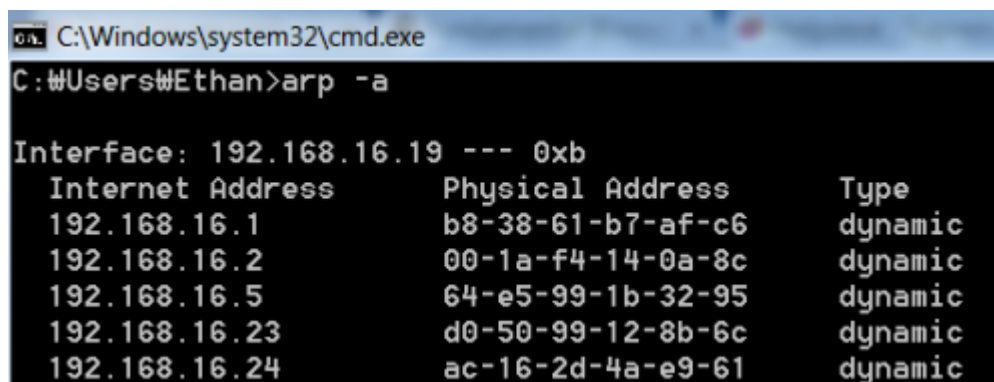
1. You do not have a DHCP server and need to give IP address based on a MAC address
2. You do not know the IP of your device and are having difficulty searching it through BioStar's search function
3. You are using static IP but are unsure if you have already allocated the IP address to another device.

Methods to Check the MAC Address

The PC you are using has to be on the same network of the device to use these commands

1. Finding IP and MAC addresses of all devices on the local network:

- Type 'arp -a' on a command prompt

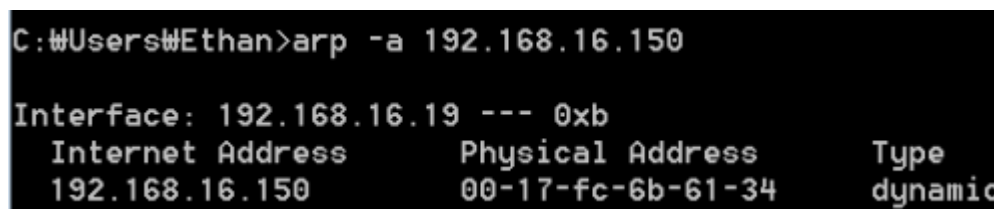


```
C:\Windows\system32\cmd.exe
C:\Users\Ethan>arp -a

Interface: 192.168.16.19 --- 0xb
Internet Address      Physical Address      Type
192.168.16.1          b8-38-61-b7-af-c6    dynamic
192.168.16.2          00-1a-f4-14-0a-8c    dynamic
192.168.16.5          64-e5-99-1b-32-95    dynamic
192.168.16.23         d0-50-99-12-8b-6c    dynamic
192.168.16.24         ac-16-2d-4a-e9-61    dynamic
```

2. Finding a device's MAC address based on IP address:

- Type 'arp -a [ip address]' on a command prompt



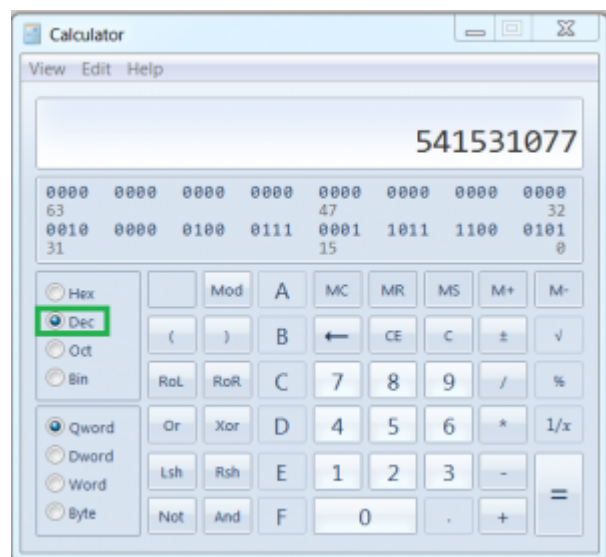
```
C:\Users\Ethan>arp -a 192.168.16.150

Interface: 192.168.16.19 --- 0xb
Internet Address      Physical Address      Type
192.168.16.150        00-17-fc-6b-61-34    dynamic
```

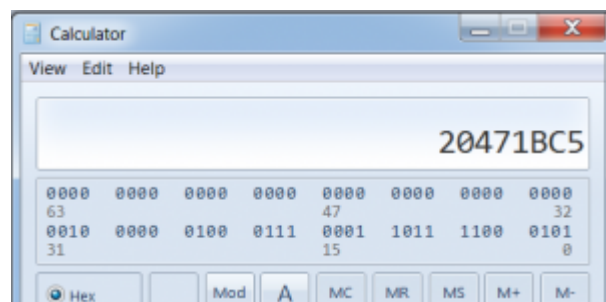
Checking Device IP Address Based on the Device ID

If you would like to find the device's IP based on the MAC address you can follow the steps below.

1. Check your device ID written on the device label on the back of the device.
2. Change the device ID into hexadecimal numbers. One option is to use Windows' Calculator.
3. Open Windows Calculator and press alt + 3 to change to the **programmer's calculator**.
4. Select **Dec** and input the device ID.



5. Click **Hex**. Result is **20471BC5**. This is going to be the latter half of the MAC address.



6. Check the MAC address chart below to see what the first half of the MAC address will be.
7. My device is an A2, so the MAC address will start with 00-17-FC-47-XX-XX.
8. Hence my MAC should be 00-17-FC-**47-1B-C5**.
9. Open a command prompt and type **arp -a**.
10. Search for the device's MAC address on the list.

```

C:\Users\Ethan>arp -a

Interface: 192.168.16.19 --- 0xb
Internet Address      Physical Address      Type
192.168.16.1         b8-38-61-b7-af-c6    dynamic
192.168.16.2         00-1a-f4-14-0a-8c    dynamic
192.168.16.5         64-e5-99-1b-32-95    dynamic
192.168.16.23        d0-50-99-12-8b-6c    dynamic
192.168.16.24        ac-16-2d-4a-e9-61    dynamic
192.168.16.29        90-9f-33-e8-61-a5    dynamic
192.168.16.31        d4-3d-7e-ee-38-d4    dynamic
192.168.16.36        c8-bc-c8-96-01-d9    dynamic
192.168.16.37        60-a4-4c-38-2d-d6    dynamic
192.168.16.45        a4-5d-36-17-e0-b7    dynamic
192.168.16.54        38-63-bb-71-2e-b6    dynamic
192.168.16.99        d0-50-99-36-a3-fe    dynamic
192.168.16.104       00-17-fc-47-1b-c5    dynamic
192.168.16.117       00-17-fc-20-b2-10    dynamic

```

11. My device IP is 192.168.16.104.

Suprema Device MAC Address Chart

Suprema devices have the same fixed hexadecimal digit for the first six digits.

The two digits after 00-17-FC are different based on the device model. Please refer to the chart below.

1 st Generation Device	MAC Address	Starting ID	MAC Address	Ending ID
<u>BioStation</u>	00-17-FC-34-00-00	540,278,784	00-17-FC-3F-FF-FF	541,065,215
<u>BioEntry Plus</u>	00-17-FC-25-00-00	539,295,744	00-17-FC-2F-FF-FF	540,016,639
<u>BioLite Net</u>	00-17-FC-11-00-00	537985024	00-17-FC-1F-FF-FF	538968063
<u>Xpass</u>	00-17-FC-72-00-00	544,342,016	00-17-FC-7F-FF-FF	545,259,519
<u>Xpass Slim</u> <u>/Xpass S2</u>	00-17-FC-80-00-00	545,259,520	00-17-FC-8F-FF-FF	546,308,095
<u>D-Station</u>	00-17-FC-31-00-00	540,082,176	00-17-FC-32-FF-FF	540,213,274
<u>X-Station</u>	00-17-FC-90-00-00	546,308,096	00-17-FC-97-FF-FF	546,832,383
<u>BioStation T2</u>	00-17-FC-41-00-00	541,130,752	00-17-FC-4F-FF-FF	542,113,791
<u>FaceStation</u>	00-17-FC-51-00-00	542,179,328	00-17-FC-5F-FF-FF	543,162,367
<u>BioEntry Plus W</u>	00-17-FC-61-00-00	543,227,904	00-17-FC-6F-FF-FF	544,210,943

2 nd Generation Device	MAC Address	Starting ID	MAC Address	Ending ID
BS2_OMPW	00-17-FC-98-00-00	546,832,384	00-17-FC-9E-00-00	547,232,383
BS2_OEPW	00-17-FC-9E-00-00	547,232,384	00-17-FC-A4-00-00	547,632,383
BS2_OIPW	00-17-FC-A4-00-00	547,632,384	00-17-FC-A5-00-00	547,732,383
BS2_OHPW	00-17-FC-A5-00-00	547,732,384	00-17-FC-A7-00-00	547,832,383
L2	00-17-FC-55-00-00	542,500,000	00-17-FC-5F-00-00	543,159,999
BEW2_OAP	00-17-FC-6E-00-00	544,108,000	00-17-FC-6F-00-00	544,157,999
BEW2_ODP	00-17-FC-6F-00-00	544,158,000	00-17-FC-6F-00-00	544,207,999
BEW2_OHP	00-17-FC-6F-00-00	544,208,000	00-17-FC-70-00-00	544,257,999
A2	00-17-FB-00-00	939,254,096	00-17-FC-FF-FF-FF	939,524,095
A2 (matching hex)	00-17-FB-00-00	553,378,128	00-17-FC-FF-FF-FF	553,648,127
CoreStation	00-17-FC-4F-00-00	542,070,001	00-17-FC-50-00-00	542,170,000
FS2-AWB	00-17-FC-51-00-00	542189330	00-17-FC-51-00-00	542219329
FS2-D	00-17-FC-53-00-00	542339330	00-17-FC-55-00-00	542499329
BEP2-OA	00-17-FC-41-00-00	541150001	00-17-FC-48-00-00	541610000
BEP2-OD	00-17-FC-48-00-00	541610001	00-17-FC-4F-00-00	542070000

How to Find a Device's IP Address with Wireshark

You can use this option if

1. Your device does not have a LCD and it's IP has been configured to a different subnet and you cannot figure it out with `arp -a` command on command prompt.
2. Your device has a LCD but you don't know the admin account and cannot access the menu. Additionally the device has a unknown subnet configured and you can't search it with `arp -a` on command prompt.

You can use Wireshark to figure out the IP address of a device with a different subnet.

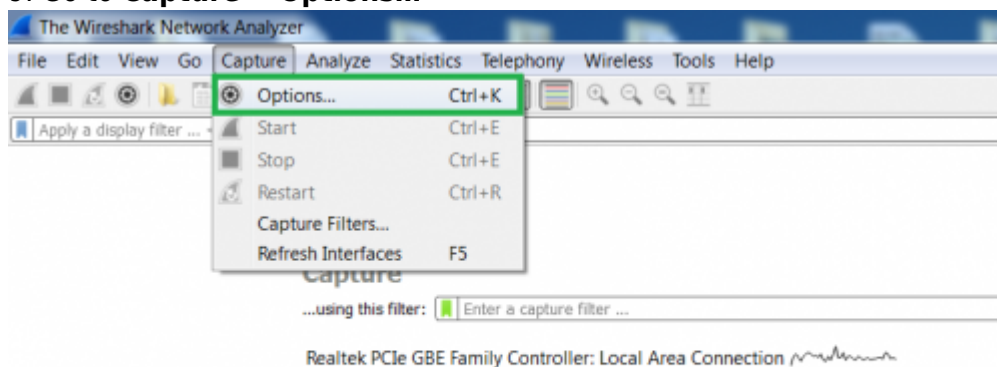
Arp -a command can only search devices within the same subnet.

You can download Wireshark from the following [link](#)

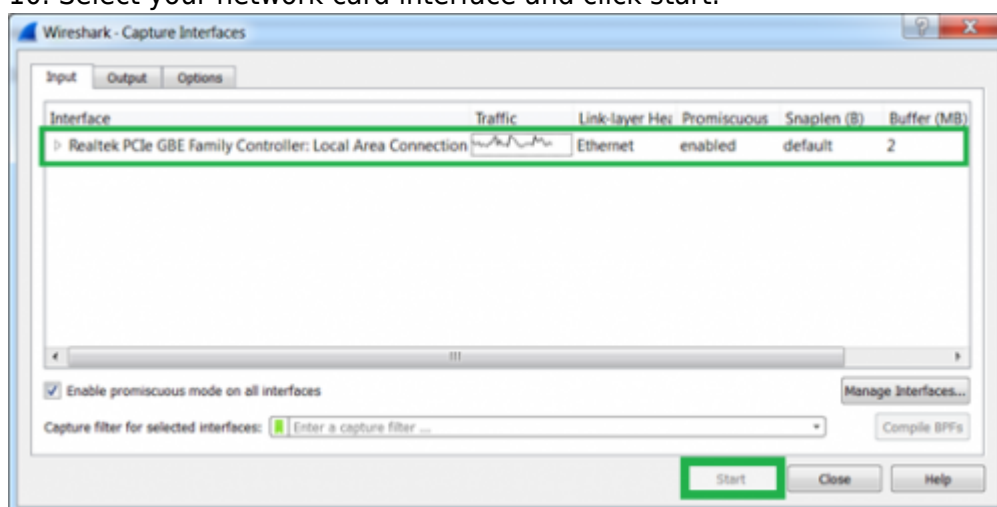
Follow the procedure below.

1. Install Wireshark.
2. Find the MAC address of the device with the device ID by using the chart above and a calculator.
3. Connect your device with your PC directly with an Ethernet cable.
4. I have a BioStation 2-OMPW and the ID is 546832586.
5. According to the chart above the MAC should start with **00-17-FC-98**.
6. When I change ID from dec to hex on the calculator the result is 20**9800CA**.
7. My device's MAC address is **00-17-FC-98-00-CA**.
8. Run Wireshark.

9. Go to **Capture > Options...**



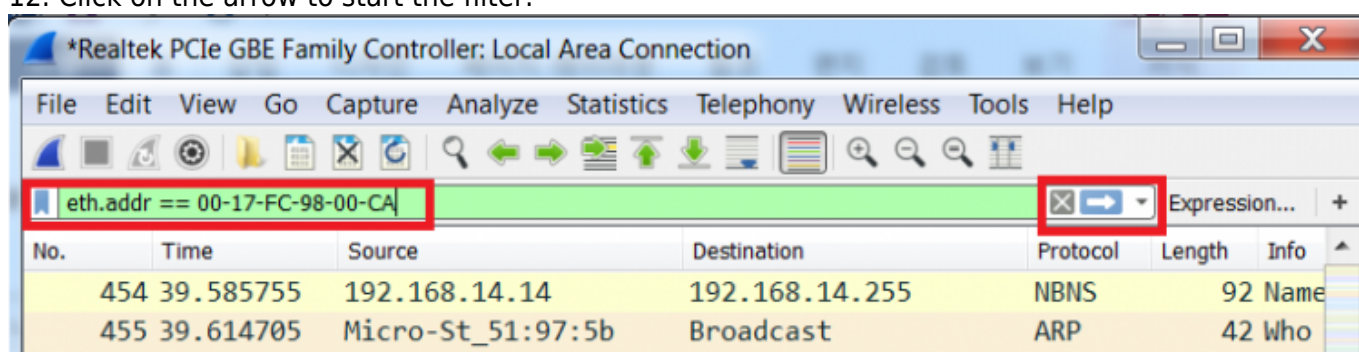
10. Select your network card interface and click start.



11. Put a filter with the MAC address with the format shown below.

```
eth.addr == xx-xx-xx-xx-xx-xx
```

12. Click on the arrow to start the filter.



13. Power off and power on the device.

14. Now you will only see packets that are coming from your device. Wait for 5 minutes if it doesn't appear.

15. Look for the arp request.

*Realtek PCIe GBE Family Controller: Local Area Connection

File Edit View Go Capture Analyze Statistics Telephony Wireless Tools Help

eth.addr == 00-17-FC-98-00-CA

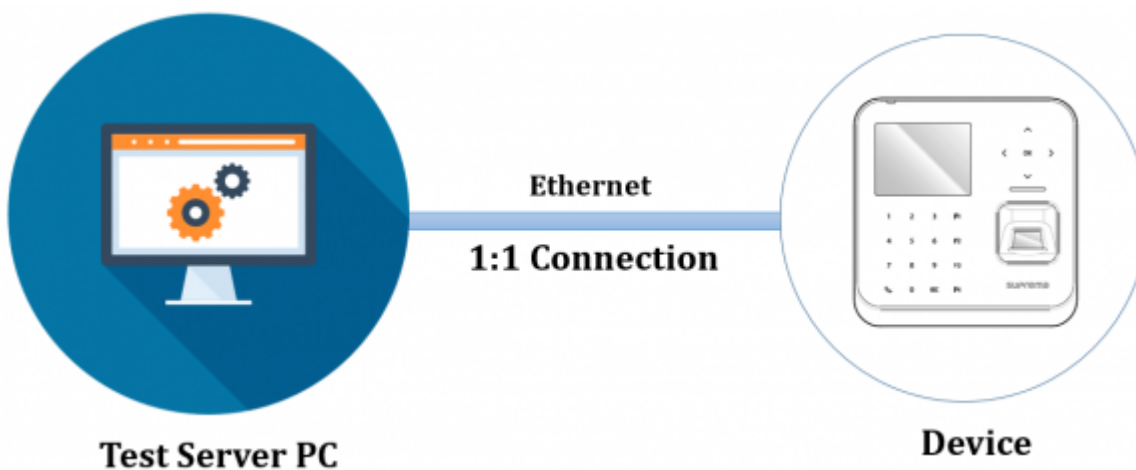
No.	Time	Source	Destination	Protocol	Length	Info
509	70.751669	10.111.111.111	224.0.0.251	MDNS	112	Standard query response 0x0000 HINFO, cache flush A...
510	70.951345	10.111.111.111	224.0.0.251	MDNS	185	Standard query response 0x0000 PTR, cache flush bio...
531	72.080379	10.111.111.111	224.0.0.251	MDNS	185	Standard query response 0x0000 PTR, cache flush bio...
558	74.080108	fe80::217:fcff:fe98...	ff02::2	ICMPv6	70	Router Solicitation from 00:17:fc:98:00:ca
565	74.211061	10.111.111.111	224.0.0.251	MDNS	185	Standard query response 0x0000 PTR, cache flush bio...
599	75.530147	fe80::217:fcff:fe98...	ff02::16	ICMPv6	90	Multicast Listener Report Message v2
633	77.854940	Suprema_98:00:ca	Broadcast	ARP	60	Who has 10.111.111.1? Tell 10.111.111.111
635	78.090211	fe80::217:fcff:fe98...	ff02::2	ICMPv6	70	Router Solicitation from 00:17:fc:98:00:ca
643	78.850230	Suprema_98:00:ca	Broadcast	ARP	60	Who has 10.111.111.1? Tell 10.111.111.111
651	79.850297	Suprema_98:00:ca	Broadcast	ARP	60	Who has 10.111.111.1? Tell 10.111.111.111
680	84.860427	Suprema_98:00:ca	Broadcast	ARP	60	Who has 10.111.111.1? Tell 10.111.111.111
684	85.860557	Suprema_98:00:ca	Broadcast	ARP	60	Who has 10.111.111.1? Tell 10.111.111.111

16. The device's ARP request is 'Who has 10.111.111.1? Tell 10.111.111.111'

- The 10.111.111.1 is the gateway set on the device
- 10.111.111.111 is the device IP

17. Connect your device directly to a test PC with BioStar 1 / 2 Server installed using a ethernet cable.

Note that 1.x firmware entry devices cannot be searched in BioStar 2.



18. Set the test PC IP into the same subnet range of your device.

19. Search and add the device in BioStar and change the device IP.

1)

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