

# What is a 169.254.x.x IP Address?

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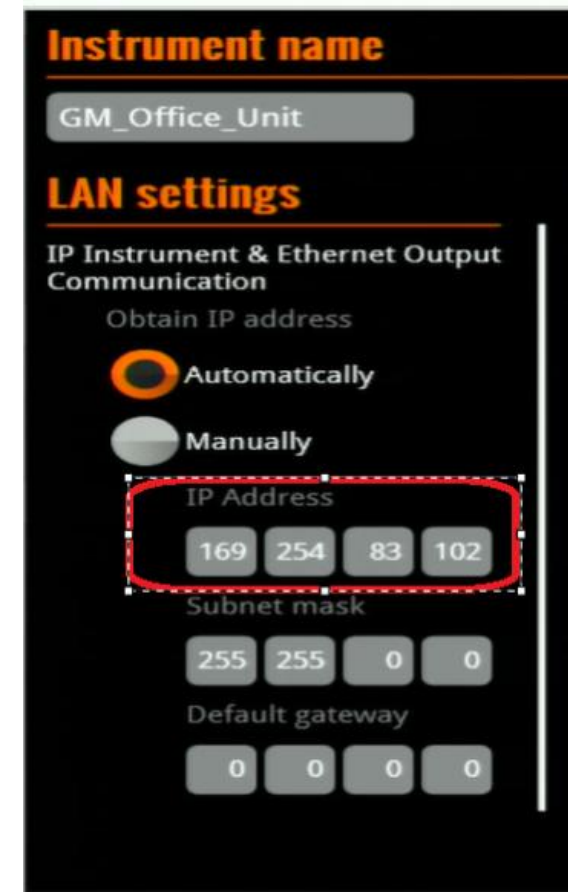
# What is a 169.254.x.x IP Address?

- When a device on a network fails to obtain an IP address from a DHCP server (such as your router), it may automatically assign itself an address in the 169.254.0.0/16 range. This behavior is known as APIPA, or Automatic Private IP Addressing.

The screenshot shows a mobile application interface for configuring network settings. At the top, under the heading "Instrument name", the value "GM\_Office\_Unit" is displayed in a grey box. Below this, the "LAN settings" section is titled in orange. Under "IP Instrument & Ethernet Output Communication", the "Obtain IP address" option is set to "Automatically", indicated by an orange radio button. The "Manually" option is also visible but not selected. Below the radio buttons, the "IP Address" field is highlighted with a red dashed border and contains the value "169.254.83.102". The "Subnet mask" field below it contains "255.255.0.0". The "Default gateway" field at the bottom contains "0.0.0.0".

# Why Devices Use This IP Range

- The 169.254.x.x range is reserved specifically for local link communication **when no IP address can be acquired**. Devices assign themselves an address in this range when:
  - A DHCP server is not reachable
  - There is no static IP configured
  - The device still wants to attempt basic local communication
- It's generally used as a fallback or fail-safe mechanism



The screenshot shows a device's configuration interface with a black background and orange text. At the top, 'Instrument name' is set to 'GM\_Office\_Unit'. Below, the 'LAN settings' section is titled 'IP Instrument & Ethernet Output Communication'. The 'Obtain IP address' option is set to 'Automatically'. The 'IP Address' field is highlighted with a red dashed box and contains the values '169', '254', '83', and '102'. Below this, the 'Subnet mask' is set to '255', '255', '0', '0' and the 'Default gateway' is set to '0', '0', '0', '0'.

| Field           | Value 1 | Value 2 | Value 3 | Value 4 |
|-----------------|---------|---------|---------|---------|
| IP Address      | 169     | 254     | 83      | 102     |
| Subnet mask     | 255     | 255     | 0       | 0       |
| Default gateway | 0       | 0       | 0       | 0       |

# Common Scenarios Where This Appears

- A SLS is powered on but not properly connected to a network.
- A SLS is plugged into Ethernet, but the cable is faulty or the network switch is down.
- A SLS boots before the router is available.
- A SLS falls back to this APIPA when DHCP fails.

**Instrument name**

GM\_Office\_Unit

**LAN settings**

IP Instrument & Ethernet Output Communication

Obtain IP address

☒ Automatically

☐ Manually

IP Address

169 254 83 102

Subnet mask

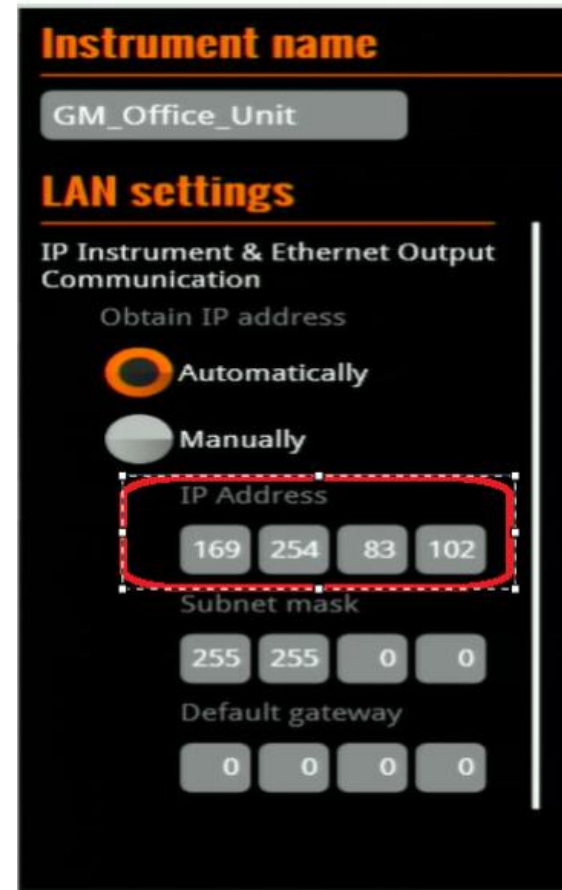
255 255 0 0

Default gateway

0 0 0 0

# What To Do When You See It

- If you observe that an SLS has a 169.254.x.x IP address, it typically indicates a network configuration issue. Use the following steps to assist onsite technicians with troubleshooting:
- Check physical connections (Ethernet cable, switch).
- Ensure the DHCP server (router) is running.
- Restart the device.
- Check for Subnet misconfiguration
- Check for IP conflicts.
- Assign a static IP manually if appropriate.



The screenshot shows a device's configuration interface. At the top, under 'Instrument name', is a text field containing 'GM\_Office\_Unit'. Below this is the 'LAN settings' section, titled 'IP Instrument & Ethernet Output Communication'. It has a sub-label 'Obtain IP address' and two radio button options: 'Automatically' (which is selected) and 'Manually'. Below the radio buttons, the 'IP Address' field is highlighted with a red dashed box and contains the values '169', '254', '83', and '102'. Below that is the 'Subnet mask' field with values '255', '255', '0', and '0'. At the bottom is the 'Default gateway' field with values '0', '0', '0', and '0'.