**Working with IP Addresses**

OBJECTIVE: Confirm modem circuit is live, statically assign IP, verify passthrough and connectivity, and mount equipment appropriately.

**Manually Assign Static IP**

☐ Plug Patch Cable from Laptop into Modem LAN port (Disable Wi-Fi)

☐ Right-Click Windows > Network Connections > Network & Sharing Center

☐ Right-Click Ethernet > Properties > Internet Protocol Version 4 (TCP/IPv4)

☐ Select Use the following IP address and Modify the:

1. IP Address (b) Subnet Mask (SM)

(c) Default Gateway (GW) (d) the Preferred & Alternate DNS.

☐ Click OK and Close All Windows

**Ascertain / Validate Static IP Passthrough**

☐ Run: ipconfig — Line labeled IPv4 Address is your internal IP address.

[https://whatismyipaddress.com](https://whatismyipaddress.com" \t "_new) [https://ipinfo.io](https://ipinfo.io" \t "_new) [https://ifconfig.me](https://ifconfig.me" \t "_new)

The IPv4 address shown at the top is your **public IP address**.

**Validate IP Reachability**

☐ Run CMD ping ###.###.#.# — Confirm DNS resolution works

*Expected Reply: ###.###.#.#: bytes=32 time<1ms TTL=64*

☐ Run: CMD ping www.google.com — Confirm DNS resolution works

*(Passthrough* ***PASS*** *if both PING commands succeed)*

*(Passthrough* ***FAILED*** *if both PING commands “Request Timed Out”)*

☐ Run: CMD ping 8.8.8.8 — Confirm Basic Internet Connectivity

☐ Confirm in Browser: https://whatismyipaddress.com

(IP shown should match 96.11.209.34)

**View Routing Information**

☐ Run: CMD tracert 8.8.8.8 — Confirm GW visible as first hop

*(IF IP input visible, Passthrough “OK”)*

**Detect Gateway Hops (Routing Issues)**

☐ Run: CMD arp -a (confirm MAC address)

ADVANCED

\*\*\*\*\*\*\*\*\*\*\*\*\*\*[Manually Assign Static IP using Command Line]\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

☐ Assign Static IP Address:

(a) netsh interface ipv4 show interfaces

(b) netsh interface ipv4 set address name="*Ethernet*" *static 96.11.209.34* 255.255.255.25296.11.209.33

96.11.209.34 — the IP address to assign

255.255.255.252 — subnet mask

96.11.209.33 — default gateway

☐ Assign DNS Servers:

netsh interface ipv4 set dns name="Ethernet" static 209.18.47.61

☐ Primary: netsh interface ipv4 set dns name="Ethernet" static 209.18.47.61

☐ Secondary: netsh interface ipv4 add dns name="Ethernet" 209.18.47.62 index=2

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