

IP Address Configuration Guide

Windows 10 Network Settings for Broetje Equipment

Overview

This guide teaches how to configure IP addresses for connecting to different Broetje machine networks. Understanding these three networks is crucial for equipment support.

Part 1: Understanding Broetje Networks

Our Machine Network Schema:

1. **Machine Network:** 192.168.214.x
 - Gateway: 192.168.214.1 (NCU)
 - Service PC: 192.168.214.34
 - Operator PC: 192.168.214.35
 - Scale PC (Vision): 192.168.214.37
 - Ketop tablets: 192.168.214.38/39
 - Riveter PC: 192.168.214.60
 - NCU (alternate): 192.168.214.249
 - Subnet mask: 255.255.255.0
 2. **Riveter Network:** 192.168.213.x
 - Gateway: 192.168.213.1
 - RTX System: 192.168.213.33
 - Subnet mask: 255.255.255.0
 3. **Video Recording Network:** 192.168.1.x
 - Gateway: 192.168.1.1
 - Typical range: 192.168.1.1 - 192.168.1.254
 - Subnet mask: 255.255.255.0
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Part 2: Accessing Network Settings

Method 1 (Settings App):

1. Right-click network icon in system tray
2. Select "Open Network & Internet settings"
3. Click "Change adapter options"

Method 2 (Control Panel):

1. Press Windows key + R
2. Type `ncpa.cpl`
3. Press Enter

Method 3 (Classic):

1. Go to Control Panel
 2. Network and Sharing Center
 3. Change adapter settings
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Part 3: Changing IP Address - Step by Step

Step 1: Select Network Adapter

1. Double-click your active network adapter
 - Usually "Ethernet" or "Wi-Fi"
2. Click "Properties"

Step 2: Access TCP/IPv4 Settings

1. Find "Internet Protocol Version 4 (TCP/IPv4)"
2. Click to select it
3. Click "Properties"

Step 3: Configure Static IP

1. Select "Use the following IP address"
2. Enter settings based on network:

For Machine Network:

- IP address: 192.168.214.[choose 50-200]
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.214.1 (NCU)

For Riveter Network:

- IP address: 192.168.213.[choose 50-250]
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.213.1

For Video Network:

- IP address: 192.168.1.[choose 10-254]
- Subnet mask: 255.255.255.0
- Default gateway: 192.168.1.1

Step 4: DNS Settings

1. Select "Use the following DNS server addresses"
2. Preferred DNS: Use same as gateway
3. Alternate DNS: 8.8.8.8 (Google DNS)

Step 5: Apply Settings

1. Click "OK" on all windows
 2. Close Network Connections window
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Part 4: Testing Your Configuration

Immediate Testing

1. Open Command Prompt
2. Test gateway connectivity:

```
ping 192.168.213.1
```

3. Verify DNS resolution:

```
ping google.com
```

Advanced Testing

```
ipconfig /all
```

- Verifies current settings

- Shows DNS servers
 - Displays adapter status
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Part 5: Practice Sequence

Exercise 1: Change to Machine Network

1. Set IP to 192.168.214.100
2. Test with: `ping 192.168.214.1`
3. Verify connectivity to:
 - Service PC: `ping 192.168.214.34`
 - Operator PC: `ping 192.168.214.35`
 - Riveter PC: `ping 192.168.214.60`
4. Document settings

Exercise 2: Switch to Riveter Network

1. Change IP to 192.168.213.100
2. Test with: `ping 192.168.213.1`
3. Verify RTX connectivity: `ping 192.168.213.33`
4. Document configuration

Exercise 3: Configure Video Network

1. Set IP to 192.168.1.100
2. Test with: `ping 192.168.1.1`
3. Check if internet access still works
4. Return to DHCP when complete

Time to complete: 20-30 minutes

Part 6: Documentation Template

Network Configuration Log

Date: _____ Technician: _____

Machine Type: _____ Location: _____

Network 1 (Riveter):

- IP: 192.168.213._____
- Gateway: 192.168.213.1
- Test Result: Pass/Fail
- Notes: _____

Network 2 (NC):

- IP: 192.168.214._____
- Gateway: 192.168.214.1
- Test Result: Pass/Fail
- Notes: _____

Network 3 (Video):

- IP: 192.168.1._____
- Gateway: 192.168.1.1
- Test Result: Pass/Fail
- Notes: _____

Troubleshooting Guide

Common Issues:

1. No Internet After IP Change

- Verify default gateway is correct
- Check subnet mask is 255.255.255.0
- Ensure DNS servers are configured

2. Cannot Reach Equipment

- Confirm IP is in correct range
- Check for IP conflicts
- Verify cable connections

3. Settings Won't Save

- Run as Administrator

- Disable antivirus temporarily
- Check for group policy restrictions

4. Slow Connection

- Try different IP in range
 - Check for network congestion
 - Verify network adapter drivers
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Quick Reference

IP Range Selection:

- Avoid: .1 (gateway), .33 (RTX), .34-39 (assigned), .60 (Riveter), .249 (NCU), .255 (broadcast)
- Safe range: .50 to .200 for temporary assignments
- Document used IPs to prevent conflicts

Common Default Gateways:

- Machine: 192.168.214.1 (NCU)
- Riveter: 192.168.213.1
- Video: 192.168.1.1

Network Path:

Settings → Network & Internet → Change adapter options → Right-click adapter → Properties → IPv4 → Properties

Safety Reminders

1. **Always test** after changing IP
 2. **Document** your configurations
 3. **Never** use .1 or .255 in last octet
 4. **Return to DHCP** when finished
 5. **Check with team** for IP availability
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Checklist

- ☐ Successfully configured Riveter network

- ☐ Successfully configured NC network
- ☐ Successfully configured Video network
- ☐ Tested each configuration with ping
- ☐ Documented all settings
- ☐ Returned to DHCP/original settings

Trainer Initials: _____ **Trainee Initials:** _____

Advanced Tips

- Use `ipconfig /release` and `ipconfig /renew` for DHCP
- Save configurations: `netsh dump > network_config.txt`
- Create shortcuts for common IPs using batch files