

WeldVision X5: 5-Minute Quick Start Guide

Prerequisites ✓

- RDK X5 (powered, camera connected)
 - Ethernet cable or WiFi
 - Desktop/laptop with browser
 - SSH access (optional but recommended)
-

Step 1: Find RDK X5 IP (2 min)

Option A: Check Router

1. Open router admin page (192.168.1.1)
2. Find connected device "RDK-X5-XXXXXX"
3. Note IP (e.g., 192.168.1.100)

Option B: Network Scan

```
# Linux/Mac
nmap -sn 192.168.1.0/24 | grep -i rdk

# Windows
arp -a | findstr "rdk" (case-insensitive search)
```

Option C: SSH Direct

```
# Try common default IPs
ssh root@192.168.1.100
# Password: root (or empty, just press Enter)
# Run: hostname -I
```

Step 2: Deploy Code (2 min)

Via Git (Recommended)

```
# SSH to RDK X5
ssh root@<RDK_X5_IP>

# Deploy
mkdir -p /opt/weldvision
cd /opt/weldvision
git clone https://github.com/wilsonintai76/weldvisionX5.git .
chmod -R 755 .
```

Via SCP (If no Git)

```
# From your desktop
scp -r ./weldvisionX5 root@<RDK_X5_IP>:/opt/weldvision
```

Step 3: Install & Start (1 min)

```
# Still SSH'd into RDK X5

# Install backend
cd /opt/weldvision/backend
python3 -m venv venv
source venv/bin/activate
pip install -r requirements.txt

# Install frontend
cd /opt/weldvision
apt-get install -y nodejs npm 2>/dev/null || echo "Node already installed"
npm install
npm run build

# Start services (in background)
cd backend && source venv/bin/activate && python3 app.py &
cd .. && npm run preview -- --host 0.0.0.0 --port 3000 &

echo "✓ Services started"
```

Step 4: Access the Application

From Browser

```
Frontend: http://<RDK_X5_IP>:3000
Backend:  http://<RDK_X5_IP>:5000

Example:  http://192.168.1.100:3000
```

Using mDNS (if enabled)

```
Frontend: http://weldvision-x5.local:3000
Backend:  http://weldvision-x5.local:5000
```

Step 5: Test It Works

1. **Open browser** → `http://<RDK_X5_IP>:3000`
2. **Add a student** → Dashboard → "Students" → "Add Student"
3. **Test scanner** → "Live Scanner" → Select student → "Capture"
4. **Check results** → Results appear on right panel

Troubleshooting Quick Fix

Issue	Fix
Can't find IP	Run <code>arp -a</code> or check router
Can't SSH	Try <code>ssh -v root@<IP></code> (verbose)
Port 3000/5000 not responding	Check <code>ufw</code> firewall: <code>ufw allow 3000</code>
Camera not found	Verify cables in MIPI connectors
Slow performance	Use Ethernet instead of WiFi

For Production: Setup Auto-Start (Optional)

```
# Create systemd services (see full guide for details)
# After setup, services start automatically on RDK X5 reboot
```

Full Documentation

🔗 See `COMPLETE_DEPLOYMENT_AND_REMOTE_ACCESS_GUIDE.md` for:

- Systemd service setup
- Firewall configuration
- VPN/SSH tunnel remote access

- Security hardening
 - Detailed troubleshooting
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Key Ports

- **3000** = Frontend UI
 - **5000** = Backend API
 - **22** = SSH access
-

Status: ☒ Ready to Deploy

First-time setup usually takes 10-15 minutes total. After that, it's just `http://<IP>:3000` to access.