

# Optimizing Servo System Performance Checklist:

## Proper grounding

- Single-point grounding
- Star grounding
- Grounding best practices

## Shielding

- Cable shielding types
- Proper grounding of shield
- Shield continuity

## Cable routing

- Physical separation
- Crossing at right angles
- Avoid parallel runs

## Cable selection

- Twisting effect
- Choose appropriate cable types
- Match impedance

## Noise filtering

- Ferrite beads
- Chokes and inductors
- Filter circuits

## Proper power supply

- Power supply capacity
- Low-noise output
- Power supply filtering

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## **Minimize inductive loads**

- Physical separation
- Shielding inductive loads
- Minimize switching transients

## **Use differential signaling**

- Differential transmission
- Balanced impedance
- Differential receiver

## **Check for ground loops**

- Identify ground loops
- Isolation techniques
- Proper cable grounding

## **Proper component selection**

- Noise immunity specifications
- Integrated filtering
- Compliance with standards

## **Regular maintenance**

- Inspect cables and connections
- Verify grounding integrity
- Monitor component health

## **Test and analyze**

- Noise source identification
- Evaluate noise mitigation techniques
- Iterative improvements

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