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TROUBLESHOOTING

Steps taken for troubleshooting a computer

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Troubleshooting Timeline & Steps Taken Template

1. Operating System & Driver Updates

- Applied OS updates weekly beginning late May
- Updated device drivers multiple times
- Updated dock firmware and drivers

Result: Temporary improvement; issue returned after reboot cycle.

2. Hard Power Reset

- Disconnected dock and all peripherals
- Held power button for 30 seconds to discharge residual power
- Restarted system

Result: No permanent resolution.

3. Peripheral Elimination (Mouse Testing)

- Removed wireless mouse dongle
- Uninstalled associated drivers
- Tested with new standard mouse
- Repeated testing with ergonomic mouse

Result: Issue persisted.

4. Controlled Environment Testing

Device was relocated to IT workspace for controlled testing over multiple days.

Testing Included:

- Operating on laptop screen only
- Operating while docked with dual monitors
- Simulating full user workload:
 - Multiple file explorer windows
 - Multiple spreadsheet applications
 - Email and browser usage

Diagnostics Performed:

- BIOS hardware diagnostics (memory and system tests)
- Event Viewer log analysis
- Video driver removal and reinstallation
- System File Checker (SFC /scannow)
- DISM system image repair

Result: No flickering reproduced in alternate environment.

Device returned to user — issue immediately reoccurred.

5. Power & Cable Replacement

To rule out environmental interference:

- Replaced monitor power cables
- Replaced display cables
- Tested alternative power outlets
- Reconnected dock to previously used outlet configuration

Result: Issue persisted.

6. Device Swap Comparison

User temporarily switched to alternate workstation.

Result:

- No flickering experienced.
 - Indicated issue likely isolated to original laptop.
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7. Monitor Refresh Rate Adjustment

- Adjusted all monitors to matching refresh rates

Result:

- Immediate correction.
 - However, refresh rate reverted after weekend reboot cycle.
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8. Vendor Escalation

Engaged Dell technical support.

Steps performed with vendor:

- Hardware diagnostics
 - Dock reset
 - Event log review
 - BIOS configuration adjustment:
 - Changed Fast Boot from minimal to thorough
 - Saved and confirmed settings
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9. Update Exclusion Testing

- Temporarily excluded device from automated weekend update group

- Hypothesis: Security or driver updates may be reverting BIOS or display settings
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10. Controlled Update Reapplication

- Manually applied OS and Dell updates
- Restarted device under observation

Result:

- BIOS settings remained persistent
 - No further flickering observed
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Root Cause Analysis (Conclusion)

The issue appeared to be related to:

- BIOS fast boot configuration
- Display refresh rate settings reverting after automated update cycles
- Potential interaction between firmware updates and display configuration

Adjusting BIOS boot settings and manually controlling update deployment resolved the issue.

Final Outcome

- Device remained stable after BIOS modification and controlled update testing
 - No recurrence reported following final implementation
 - Incident closed after sustained monitoring period
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Professional Takeaways

- Environmental factors should always be isolated early
- Controlled testing in alternate environment is critical
- BIOS settings can be reverted by firmware updates

- Matching monitor refresh rates is essential in multi-display configurations
- Update management groups can be useful for troubleshooting recurring issues