FALCON BMS

COCKPIT SUITE

TROUBLESHOOTING · EN

MISSION READY / FALCON BMS 4.38

IDENTIFY THE FAULT. ISOLATE THE CAUSE.

Troubleshooting, crash reports and diagnostics for the server and Display Client

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CLEAR SYMPTOMS / CLEAR DATA / CLEAR DIAGNOSIS

From the first quick check to a shareable diagnostic package.

TARGET SYSTEM	Windows x64 / Falcon BMS 4.38
SERVER	BMS Live Monitor 1.10.34
CLIENT	BMS Display Client 1.8.18
DIAGNOSTICS	Automatic crash report / optional runtime diagnostics

Notes about this guide

SCOPE

This edition applies to BMS Live Monitor Server 1.10.34 and BMS Display Client 1.8.18 with Falcon BMS 4.38 on Windows x64.

This guide helps distinguish a genuine application crash, a frozen main window, missing Falcon data and a problem affecting only one instrument.

Server diagnostic functions

Crash report	Always available and written only when an unexpected application error occurs.
Runtime diagnostics	Disabled by default and enabled only for targeted freeze or performance analysis.
Diagnostic package	Collects the available technical logs for sharing with support.
Privacy	No passwords, keyfiles or licence keys are included in the diagnostic package.

DO NOT CHANGE SETTINGS AT RANDOM

Record the symptom and time first. Enable extended diagnostics only while reproducing the issue, then disable it again.

PROTECT THE HARDWARE AND WINDOWS

Do not disable the graphics card, firewall or Windows security features. Make only targeted, traceable changes.

Contents

1. Quick check when a fault occurs

Classify the symptom first

Observation	Classification	Continue with
Application closes	Genuine crash or unhandled exception	Chapter 3
Entire window stops responding	UI or graphics stall; several displays affected	Chapter 2
Window responds but values stop	Check Falcon data path or connection	Chapter 5
Only one instrument is wrong	Check module, layout, size or rotation	Chapter 7
Only the remote client is affected	Check LAN, port, firewall and assignments	Chapter 6

60-second check

- Is Falcon BMS 4.38 running and is the pilot already in the 3D cockpit?
- Does the server LIVE OVERVIEW show an active Falcon connection?
- Is only one server instance running?
- Are Server 1.10.34 and Client 1.8.18 being used?
- Is one instrument affected, or the entire application window?
- For a client issue: is the required module assigned to the correct client?
- Was Mozilla Firefox running with hardware acceleration enabled?
- Record the exact time and the last actions before the fault.

DO NOT RESTART EVERYTHING IMMEDIATELY

Before restarting, record the time, visible status and affected areas. Preserve the automatically created crash report after a crash.

2. Entire window or several instruments freeze

OBSERVED ISSUE WITH MOZILLA FIREFOX

In the observed system configuration, the stall occurred while Firefox hardware acceleration was enabled. Operation remained stable after disabling it, fully restarting Firefox and then restarting the graphics driver from Live Monitor.

Typical symptoms

- The entire Live Monitor window or several instruments stop responding at the same time.
- Switching windows with Alt+Tab makes the displays update briefly again.
- The stall or stutter returns after switching back to Falcon.
- The display works again after closing Firefox and restarting the graphics driver.

Tested workaround

1. In Firefox, open Settings -> General -> Performance.
2. Clear Use recommended performance settings.
3. Clear Use hardware acceleration when available.
4. Close every Firefox window completely and restart Firefox.
5. Save open work in other applications.
6. In BMS Live Monitor, open LIVE OVERVIEW and select RESTART DRIVER.
7. Wait for the brief screen flicker or temporary black screen to finish.
8. Test Falcon again and observe whether the window and instruments remain smooth.

ALT+TAB IS ONLY A CLUE

If Alt+Tab revives the display only briefly, the cause has not been removed. Include this behaviour and the exact time in the diagnostic report.

DO NOT DISABLE THE GRAPHICS CARD

The button described above restarts the graphics driver. It does not disable the graphics card, and the graphics card itself must never be disabled.

3. Server closes unexpectedly

Automatic crash report

When an unexpected application error occurs, the server automatically writes a crash report. Extended runtime diagnostics do not need to be enabled for this.

Folder	%LOCALAPPDATA%\BmsLiveMonitor\Diagnostics
Example	server-crash-20260915-142500-12345.crashlog
Contains	Version, Windows/.NET, process, time, last Falcon telemetry, exception and stack trace
Does not contain	Passwords, keyfiles or licence keys

After a crash

1. Record the exact time of the crash.
2. Restart BMS Live Monitor and open DIAGNOSTICS.
3. Select CREATE DIAGNOSTIC PACKAGE.
4. Send the resulting ZIP file together with a short description of the fault.
5. State which tab or detached window was active immediately before the crash.

DO NOT DELETE THE CRASH REPORT

Even if the server works again after restarting, the report may contain the actual fault location.

NORMAL RESOURCE USAGE

The automatic crash reporter waits for an error and does not perform continuous detailed recording during normal operation.

4. Using extended runtime diagnostics

ENABLE ONLY FOR REPRODUCTION

Extended runtime diagnostics are disabled by default. Enable them when deliberately reproducing a freeze, performance drop or intermittent stall.

Procedure

1. Open BMS Live Monitor and select the DIAGNOSTICS tab.
2. Select ENABLE EXTENDED DIAGNOSTICS.
3. Use Falcon and the affected displays normally.
4. When the fault occurs, record the time as accurately as possible.
5. After reproduction, select CREATE DIAGNOSTIC PACKAGE.
6. Disable extended diagnostics again afterwards.

Additional measurement points

UI watchdog	Detects when the application window stops responding.
Falcon data	Records telemetry reception, stalls and recovery.
Drawing calls	Marks unusually long render or update operations.
State changes	Records freeze, recovery and important server states.

ENABLE DIAGNOSTICS BEFORE THE FAULT

An intermittent freeze can be analysed in detail only if additional measurement was already active before it occurred.

5. Falcon data is missing or stops

Check the server side

1. Start Falcon BMS 4.38 and load a mission into the 3D cockpit.
2. In the server LIVE OVERVIEW, check the Falcon connection, simulation status and last data reception.
3. Make sure that multiple server instances are not running at the same time.
4. If data is still missing, use LIVE DATA SOFT RESET.
5. If necessary, close the server normally and restart it.
6. For a recurring stall, enable extended runtime diagnostics before the next attempt.

Important distinction

Display	Meaning	Action
No Falcon process	Falcon is not running or was not detected	Start Falcon; check version and process
Waiting for Falcon	No valid shared-memory data yet	Load a mission and enter the 3D cockpit
Data reception current	Falcon data path is working	Check display or rendering separately
Window responds, values are old	Telemetry or module update has stalled	Record time and create diagnostic package

DRIVER RESTART IS NOT A TELEMETRY RESET

Use the graphics driver restart only for the observed display problem. For normally missing Falcon values, check the data path first.

6. Display Client does not connect

Check the server

- The LAN server is enabled and shows the expected port.
- The client appears in the connected device list.
- The required modules are assigned to this client.
- Server and client use the current versions 1.10.34 and 1.8.18.

Check the client and network

- The server IP address and port are entered correctly in the client.
- Both computers are on the intended private network.
- Windows Firewall allows the application on the private network profile.
- Record any Wi-Fi or LAN change, power-saving event or router restart.

Security boundary

LAN operation	Use only on a trusted private network.
Port forwarding	Do not expose the normal LAN port directly to the public internet.
Firewall	Use a targeted app or port rule; do not disable the firewall completely.

CHECK ASSIGNMENTS AFTER CONNECTING

An established network connection alone does not mean that a specific instrument is being sent to this client.

7. Instrument has the wrong rotation, size or position

Supported display options

Instrument	Rotation	Frame
DED	90-degree steps; text and content rotate	Can be shown or hidden
PFL	90-degree steps; text and content rotate	Can be shown or hidden
RWR	90-degree steps	Can be shown or hidden
Caution Panel	90-degree steps; entire content rotates	Module-dependent

Correct recovery procedure

1. Restore the instrument from its corresponding tab.
2. Detach it again and use the unified context menu to set the required rotation.
3. Set the window size and position on the target monitor.
4. Hide and show the instrument once, then check the saved layout.
5. If the wrong size returns, create a screenshot and diagnostic package with the exact time.

ROTATED CONTENT BELONGS TOGETHER

For DED and PFL, the frame, text and display content must rotate together. A rotated frame by itself is not a correct state.

DO NOT EDIT CONFIGURATION FILES MANUALLY

Set position, size, rotation and frame state through the application. Preserve diagnostics if a storage fault returns.

8. MFD remains black or stops updating

Targeted checks

- Falcon is in the active 3D cockpit.
- Falcon RTT or MFD export is available.
- The left or right MFD is enabled on the server and assigned to the correct client.
- The LAN connection remains active and continues to transfer data frames.
- No other Falcon tool is competing for the same output path.
- For detached MFDs, confirm that the helper window is visible and not outside the current monitor layout.

Black or frozen?

Observation	Likely area	Next step
Only one MFD is black	RTT, assignment or one helper window	Check MFD setup and restore the window
Both MFDs are black	Falcon RTT or 3D state	Check Falcon output and live status
MFD and entire window freeze	Complete UI or graphics path	Use the Mozilla chapter and runtime diagnostics
Client values update, MFD stops	Image data path affected separately	Record time and preserve diagnostic package

SEPARATE THE CAUSE BY AFFECTED AREA

A single black MFD is not automatically the same issue as a completely frozen application window.

9. Creating and sharing a diagnostic package

On the server

1. Open the DIAGNOSTICS tab.
2. If the fault still needs to be reproduced, enable extended diagnostics first.
3. After the event, select CREATE DIAGNOSTIC PACKAGE.
4. Open the displayed diagnostics folder and select the newest ZIP file.
5. Send the ZIP file unchanged with the fault description.

Include this information

- Server version, client version, Windows version and Falcon BMS version.
- Exact time or the narrowest possible time range.
- The last action immediately before the fault.
- Whether the entire window, several instruments or only one instrument was affected.
- Whether Firefox hardware acceleration was enabled or disabled.
- Whether Alt+Tab, restarting Firefox or RESTART DRIVER changed the behaviour.
- A screenshot or short video, if it can be captured without additional system load.

DO NOT SEND PRIVATE KEYS

Do not manually add passwords, licence keys, keyfiles or another person's private data to the package.

THE TIME IS IMPORTANT

The time allows the visible problem to be matched reliably with recorded events.

10. Quick reference

Symptom	Check immediately	Preserve for diagnosis
Server crashed	Restart the server	Automatic crash report and diagnostic package
Entire window freezes	Firefox hardware acceleration and tested procedure	Runtime diagnostics, time and package
No Falcon values	BMS 4.38, 3D cockpit, shared memory, one server instance	Live status and package
Client offline	LAN server, IP, port, firewall, module assignment	Connection time and status
One instrument is wrong	Restore, rotation, frame, size and position	Screenshot and package if repeated
MFD is black	RTT, 3D, assignment and helper window	State whether one or both MFDs are affected

Recommended sequence

1. Classify the symptom and affected area.
2. Record the time and the last action.
3. Follow the relevant chapter in this guide.
4. Preserve the crash report after a crash; use extended diagnostics for a freeze.
5. Create a diagnostic package and send it with a short, specific description.

MAKE ONE CHANGE AT A TIME

Perform one targeted step, then test again. This keeps it clear which action actually helped.

SAFETY COMES FIRST

Do not disable the graphics card, firewall or Windows security features. Do not run unnecessary stress tests.

FALCON BMS COCKPIT SUITE

Clear symptoms.
Clear data.
Clear diagnosis.

DIAGNOSE INSTEAD OF GUESSING

Preserve the crash report, record a freeze deliberately and include the time, affected area and last action in every fault report.

Private cockpit project · English troubleshooting documentation · 15 September 2026