



FALCON BMS

AUDIO SHAKER

ENGLISH USER MANUAL



HAPTIC READY / FALCON BMS 4.38

YOUR COCKPIT. YOUR SHAKER.

Operation and configuration of the Audio Shaker
in BMS Live Monitor

ONE SHAKER / ONE AUDIO OUTPUT / CLEAR FEEDBACK

Flight-dependent bass feedback from Falcon BMS.

TARGET SYSTEM	Windows x64 / Falcon BMS 4.38
APPLICATION	BMS Live Monitor / Audio Shaker
OUTPUT	One selected Windows audio device
DEFAULT	Master off / Level 35% / Low-pass off

About this manual

SCOPE

This manual applies to BMS Live Monitor with the AUDIO / SHAKER tab. It describes how to operate one bass shaker through a dedicated Windows audio device.

The module generates signals for exactly one bass shaker according to the current flight state. Output is sent through a deliberately selected Windows audio device to an external amplifier; the PC does not drive the shaker directly.

What this manual explains

- Safely select one shaker audio device and test it at 85 Hz.
- Set the master level, individual effect levels, and the optional low-pass filter.
- Select, copy, and reset profiles.
- Use effects, sound variants, previews, and your own audio files.
- Read connection and flight status correctly.
- Troubleshoot without disabling drivers, the graphics card, or hardware protection features.

PERFORM THE FIRST TEST SAFELY

Always begin with the master output disabled and the amplifier at minimum level. Verify the selected audio device first, then increase strength only in small steps.

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1. Purpose, hardware, and safe limits

System layout

Flight simulator	Falcon BMS 4.38 with BMS Live Monitor
Feedback	19 configurable effects in AUDIO / SHAKER
Audio output	One selected Windows audio device
Hardware	Audio device -> amplifier -> exactly one bass shaker

Required hardware

- One bass shaker with a suitably rated amplifier.
- A dedicated or clearly identifiable Windows audio output.
- Audio and speaker cables that meet the amplifier manufacturer's requirements.
- Falcon BMS 4.38 and BMS Live Monitor with AUDIO / SHAKER.

Clear limits

- This manual supports exactly one shaker on one audio device.
- It does not describe separate stereo or multichannel routing.
- The application supplies an audio signal; it does not replace an amplifier.
- The module does not control Falcon and does not modify BMS files.

NEVER CONNECT THE SHAKER DIRECTLY TO THE PC OUTPUT

Connect the bass shaker only through a suitable amplifier. Set the amplifier level to minimum before the first test.

2. Interface and status indicators



Audio Shaker artwork embedded in the application. Controls are divided between EFFECTS and SETTINGS.

Area	Contents	Operation
Left navigation	EFFECTS / SETTINGS	Switch between the effect list and audio output settings
Profile row	PROFILE, COPY, RESET	Select, duplicate, or reset a profile
Signal graph	Current shaker signal	View live activity and preview output
Effect list	19 effect rows	Enable, set strength, select variant, preview, and reset
Settings	Device, test, master, low-pass, sounds	Configure the single audio output

BMS status at the lower left

Display	Meaning
BMS waiting	Falcon is not yet providing current flight data
BMS connected - waiting for 3D	Falcon is detected, but the cockpit is not loaded
BMS + Intellivibe connected	All required flight data is available
BMS connected - Intellivibe missing	Some event and ground effects may be unavailable

3. Selecting and testing the audio device

- 1 Switch on the amplifier, but keep its level at minimum.
- 2 In BMS Live Monitor, open AUDIO / SHAKER -> SETTINGS.
- 3 Leave AUDIO OUTPUT ACTIVE disabled at first.
- 4 Under OUTPUT DEVICE, explicitly select the sound card intended for the shaker.
- 5 Under OUTPUT LAYOUT, select One audio output.
- 6 Set MASTER VOLUME low; the profile default is 35%.
- 7 Enable shaker output, then select TEST.
- 8 The generated 85 Hz test tone must reach only the intended shaker.

NOT AVAILABLE = LEAVE OUTPUT DISABLED

If NOT AVAILABLE appears beside the stored device name, keep output disabled and first select a shaker device that is currently present. Start the test only after that.

Windows default device or dedicated device

- Windows default device follows later changes to the Windows default output.
- For a dedicated shaker, an explicitly selected and available device is safer.
- If the test tone comes from speakers or a headset, disable the master immediately and correct the device selection.

DELIBERATE MASTER ENABLE

The master is disabled by default in a new F-16 profile. It is never enabled automatically for the user.

4. Levels, low-pass filter, and output layout

Master volume	0 to 100%; profile default 35%
Effect strength	0 to 100% for each effect row
Low-pass filter	Optional; 20 to 500 Hz in 5 Hz steps
Low-pass default	Disabled; stored cutoff frequency 150 Hz
Output layout	For this manual: One audio output

How the levels work together

Master volume defines the base level for all effects. The slider in each effect row then determines how strongly that individual effect should be felt.

- Keep master volume and amplifier level low at first.
- Adjust one effect at a time in preview mode.
- Only then test several effects together.
- If you hear distortion or feel hard impacts, reduce the master and amplifier levels immediately.

Using the low-pass filter correctly

- Low-pass off means unfiltered shaker audio from the selected files.
- Low-pass on limits higher-frequency content to the selected cutoff frequency.
- If the cutoff is too high, unwanted higher tones may remain noticeable.
- Restart and check the preview after changing the filter.

USE ONE AUDIO OUTPUT

For this manual, always select One audio output under OUTPUT LAYOUT. Other layouts are not used here.

5. Saving, copying, and resetting profiles

Profile behavior

- The F-16 profile is created on first launch if required.
- Changes to the master, device, levels, filter, effects, and variants are saved automatically.
- COPY creates an independent profile copy with a sequential name.
- After confirmation, RESET restores the selected profile to the default BMS assignment.
- Resetting leaves custom audio files on disk, but replaces their assignment in the profile.

Managing profiles and custom sounds

Profiles	Saved automatically
Profile copy	Receives its own name and settings
Custom sounds	Remain at the selected storage location

- 1 Before experimenting, duplicate the original profile with COPY.
- 2 Select the copy and adjust levels, effects, or sound variants there.
- 3 Use RESET to restore one effect to its default.
- 4 Reset the complete profile and start again if necessary.

DO NOT MOVE CUSTOM SOUND FILES

After they are added, custom sound files must remain at the selected location. If they are moved or deleted, the saved variant can no longer be played.

6. Operating effect rows

Control	Function	Result
Check box	Enable or disable effect	Off stops continuous effects, one-shot effects, and preview
Effect name	Assignment to flight event	Remains fixed in the default profile
Strength slider	Effect level from 0 to 100%	Immediately changes preview and an active continuous effect
+	Add WAV, OGG, or MP3	Multiple files can be linked as variants
Variant list	Select active sound	Only the selected variant is played
PREVIEW / PAUSE	Start or stop continuous preview	Requires an active master and enabled effect
RESET	Reset one effect	Restores default level, variant, and enabled state

Signal graph

- Green activity shows how strongly an effect is currently being driven.
- One-shot effects are highlighted for about one third of a second.
- During a preview, the graph shows the current preview activity.
- The graph is only an operating aid.

Safe workflow

- 1 Enable the required effect.
- 2 Select a sound variant.
- 3 Start preview with a low effect level.
- 4 Adjust the level slowly and stop the running preview with PAUSE.
- 5 Only then evaluate the effect during a live Falcon flight.

ONLY ONE PREVIEW AT A TIME

Starting another effect preview fades out the previous preview. Preview runs independently of the current flight state.

7. Continuous effects

Effect	In-flight trigger	Default
Afterburner	Afterburner power increases	Off / 72%
Speedbrake drag	Speedbrake is extended during flight	Off / 70%
Airflow	Airspeed increases	Off / 45%
Engine rumble	Engine power increases	Off / 28%
Engine vibration	Engine power increases	Off / 45%
G force	Load differs significantly from level flight	Off / 60%
Landing gear drag	Landing gear is extended during flight	On / 55%
Ground roll	Aircraft is rolling on the ground	On / 75%
Gun fire	Aircraft gun is fired	Off / 100%
Stall	High angle of attack or stall warning	Off / 80%

How continuous effects behave

- A continuous effect begins only when its associated flight state is clearly present.
- Its strength rises or falls with the flight state.
- When an effect is disabled, it fades out smoothly.
- Transitions are smoothed to prevent hard starts.

THE DEFAULT STARTS DELIBERATELY SMALL

In a new F-16 profile, only landing gear drag and ground roll are enabled among the continuous effects. Enable additional effects one at a time.

8. One-shot effects and events

Effect	Trigger	Default
Speedbrake movement	Start of a new speedbrake movement	Off / 40%
Bomb release	A bomb is released	Off / 90%
Ejection	The ejection seat is triggered	Off / 100%
Damage / impact	Aircraft is hit or collides	Off / 90%
Flare / chaff	A flare or chaff is released	Off / 85%
Gear up / down	Start of a new landing gear movement	Off / 85%
Ground bumps	During longer ground roll segments	On / 90%
Missile launch	An air-to-air or air-to-ground missile launches	Off / 90%
Touchdown	Aircraft touches down; strength follows the landing	Off / 100%

Protection against false triggers

- Past events are not replayed when entering the cockpit.
- An ongoing speedbrake or landing gear movement triggers only once.
- Several weapon events in quick succession can be felt individually.
- After a stop, ground bumps restart with the next ground roll segment.

ONE-SHOT EFFECTS PROVIDE SHORT FEEDBACK

These nine effects play once for each detected flight event. They do not continue indefinitely.

9. Connection and flight status

When shaker effects are active

Cockpit	The mission must be fully loaded in the cockpit
Menu or end of flight	Effects remain off outside the cockpit
Pause	All effects are muted while paused
Freeze	All effects are muted while frozen
Connection lost	All shaker effects stop automatically

Reading status correctly

Intellivibe supplements flight data for ground movement, weapon events, damage, collisions, and landing gear movement. If this connection is missing, some event and ground effects may be unavailable.

- BMS + Intellivibe connected is the complete operating state.
- BMS connected - Intellivibe missing means that some effects may be unavailable.
- All running effects stop when the connection is lost.
- After reconnection, evaluation begins with the current flight state.

NO OLD EVENTS AFTER RECONNECTING
After a menu or cockpit change, earlier weapon or damage events are not replayed.

10. Sound variants, custom files, and preview

Supported files

Formats	WAV, OGG, and MP3
BMS sounds	Included sound variants for shaker effects
Custom sounds	Additional files from your chosen storage location
Selection	One active sound variant can be selected for each effect

- 1 Select + in the required effect row.
- 2 Select one or more WAV, OGG, or MP3 files.
- 3 Verify the newly added variant in the variant list.
- 4 Enable the master and the effect, then start preview.
- 5 Adjust strength and stop preview with PAUSE.

Important file rules

- Custom files are not copied into the profile automatically.
- Moving or deleting a file invalidates the saved variant.
- If a file is missing, the status line reports Audio file not found and shows its location.
- A disabled effect cannot be previewed.
- Preview runs continuously even if the in-flight effect is only a short one-shot event.

PREVIEW CHECKS SOUND AND LEVEL

An audible or tactile preview confirms the sound file, audio device, and strength. Verify whether the effect triggers at the intended moment during a Falcon flight.

11. Safe initial setup

60-second hardware check

- The shaker is securely mounted and connected to a suitable amplifier.
- The amplifier level is at minimum before the first signal.
- The dedicated sound card is present in Windows and is not marked NOT AVAILABLE.
- Speakers and headsets are not assigned to the intended shaker output.

Recommended sequence

- 1 Copy the F-16 profile and use the copy for your own seat.
- 2 Select One audio output and the explicitly available shaker device.
- 3 Keep the master off, master volume low, and the low-pass filter off initially.
- 4 Enable the master, select TEST, and check only the shaker at 85 Hz.
- 5 Increase the amplifier and master slowly to a controlled level.
- 6 Begin with the three default effects: landing gear drag, ground bumps, and ground roll.
- 7 Check additional effects individually in preview before enabling them for a Falcon flight.
- 8 After testing, disable the master and reduce the amplifier level.

STOP THE WRONG OUTPUT IMMEDIATELY

If you hear speakers, a headset, or another device, disable shaker output immediately. Do not disable Windows drivers, the graphics card, or hardware; correct the device selection first.

BEGIN THE FIRST HARDWARE TEST AT LOW LEVEL

Every seat, amplifier, and bass shaker responds differently. Begin at minimum level, observe every step, and stop immediately if you hear unusual noises or feel hard impacts.

12. Troubleshooting

Symptom	Likely cause	Targeted check
No vibration	Master or effect off; wrong device; no 3D	Check master, effect, device, and BMS status
Sound from speakers	Windows default device or wrong audio output	Disable master immediately; select a dedicated available shaker device
NOT AVAILABLE	Device disconnected, renamed, or renumbered	Leave output disabled; connect and reselect the device
BMS waiting	Falcon is not providing current flight data	Start Falcon and load a mission
Waiting for 3D	Falcon is running outside the 3D cockpit	Load a mission and enter the cockpit
Intellivibe missing	Some flight data is not yet available	Load a mission and check connection status again
Preview does not start	Master/effect off or file missing	Check enabled state, variant, and file location
Distortion	Master, effect, or amplifier too high; too many effects	Lower all levels and test effects individually

Quick return to safe settings

Stop immediately	Disable the master and reduce amplifier level
Check output	Use only the explicitly selected shaker device
Check effect	Disable all other effects and test one at a time
Reset	Use RESET to restore the effect or profile default

LEAVE OUTPUT DISABLED IF THE CAUSE IS UNCLEAR

Enable shaker output again only after the audio device, wiring, and levels have been clearly verified.

FALCON BMS AUDIO SHAKER

One shaker. One output. Clear feedback.

CONFIGURE SAFELY AND STEP BY STEP

Begin with low master and amplifier levels, explicitly select the audio device, verify the 85 Hz test tone first, and then tune each effect individually.

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