



AirshowCam

Airboss camera mod for DCS World · Version 1.4

Installation and user guide

Press a number. The camera pans smoothly to that aircraft and tracks it.

Built for formation display teams flying airshows in DCS World multiplayer.

Free to use

Developed by TheAIR.Tech

The Aerial Intelligence and Reconnaissance Technology Group

on behalf of the Virtual Silver Falcons

1. What AirshowCam does

AirshowCam replaces the manual way of switching the F11 camera between display aircraft (moving the view with the numpad, then locking with Num-Del and hoping it grabs the right one). Each aircraft in the formation gets a number. The airboss presses that number on the keyboard and the camera:

1. Pans

smoothly from the current aircraft to the new one

→

2. Hands over

presses Num-Del so DCS's own steady lock takes over

→

3. Checks

that DCS locked the right aircraft, and fixes it if not

If two aircraft are so close together on screen that DCS could lock the wrong one, AirshowCam doesn't hand over. It keeps tracking the aircraft itself until they separate.

It has two parts that work together:

Part	What it is	Where it runs
AirshowCam.lua	The camera mod. Moves the F11 camera.	Inside DCS (loaded by Export.lua)
AirshowCam Keys (companion)	A small window that reads your 1-0 keys and presses Num / Num-Del for you.	On the same PC, next to DCS

Only the airboss / camera PC needs AirshowCam. Pilots don't install anything. It doesn't change any DCS core files, so it won't fail the integrity check.

2. What's in the package

```

AirshowCam_v1.4\
  AirshowCam_README.pdf      <- this guide
  Export-line.txt             <- the line to paste into Export.lua
  Scripts\
    AirshowCam\
      AirshowCam.lua          <- the camera mod (copy into DCS)
  AirshowCam Companion\
    Start-AirshowCam.bat      <- double-click this to start the companion
    AirshowCamKeys.psl        <- the companion itself

```

3. Installation (one time only)

Your DCS **Saved Games** folder is usually C:\Users\YourName\Saved Games\DCS. Some installs call it DCS.openbeta. Use whichever one your DCS uses (it contains your Logs and Config folders).

Step A: copy the mod

- 1 Open the zip. Copy the folder called **Scripts** into your Saved Games\DCS folder. If Windows asks to merge folders, say **Yes**.
- 2 Check that this file now exists, at exactly this path:
Saved Games\DCS\Scripts\AirshowCam\AirshowCam.lua

Common mistake: ending up with Scripts\AirshowCam\Scripts\AirshowCam\AirshowCam.lua (one folder too deep). If that happens, AirshowCam silently doesn't load.

Step B: add one line to Export.lua

- 1 Go to Saved Games\DCS\Scripts\ and open **Export.lua** with Notepad (right-click → Open with → Notepad). If there's no Export.lua, create a new empty text file and name it Export.lua (make sure it isn't Export.lua.txt).
- 2 Open **Export-line.txt** from the package, select everything (Ctrl+A) and copy it (Ctrl+C).
- 3 In Export.lua, click at the very end of the file, press Enter to start a new line, and paste (Ctrl+V). It must be the **last line** of the file, below any SRS, Tacview or other lines already there. Don't change or delete those lines.
- 4 Save and close.

The line you're pasting (it's **one single line**, wrapped here to fit the page):

```
local ok, err = pcall(function() local lfs=require('lfs'); dofile(lfs.writedir()..  
[[Scripts\AirshowCam\AirshowCam.lua]]) end); if not ok then log.write('AIRSHOWCAM',  
log.ERROR, tostring(err)) end
```

Copy it from Export-line.txt, not from this PDF. PDFs can change quotes and add line breaks, and that breaks the line.

Step C: check it loaded

Start any mission, then open Saved Games\DCS\Logs\dcs.log in Notepad and search (Ctrl+F) for **AIRSHOWCAM**. You should see:

```
AIRSHOWCAM (Main): AirshowCam.lua v1.4 loaded  
AIRSHOWCAM (Main): started, listening on UDP 15599
```

If you see an AIRSHOWCAM line with ERROR, or no AIRSHOWCAM lines at all, go to **Troubleshooting** (section 10).

4. Naming the aircraft in the Mission Editor

AirshowCam finds each aircraft by its name. Out of the box, key **1** tracks the aircraft called **Falcon-1**, key **2** tracks **Falcon-2**, and so on up to key **0** for **Falcon-10**.

The easy way: one aircraft per group

- 1 In the Mission Editor, place each display aircraft as **its own group** (so the panel shows **UNIT 1 OF 1**).
- 2 Click the aircraft. In the **AIRPLANE GROUP** panel on the right, type the name into the **GROUP NAME** box: Falcon-1 for the leader, Falcon-2 for number 2, and so on.
- 3 Save the mission.

AIRPLANE GROUP	
GROUP NAME	Falcon-1 ← type the name here
UNIT	1 OF 1 ← one aircraft per group
TYPE	PC-7 MkII (or whatever you fly)
PILOT	this is the unit name; it can stay as it is

The other way: several aircraft in one group

If your formation is one group with several units, all the aircraft share the same group name, so AirshowCam can't tell them apart by group. Instead, set each aircraft's **PILOT** box (DCS's unit name) to Falcon-1, Falcon-2 and so on. AirshowCam checks unit names first, then group names.

Name rules

Rule	Example
Upper and lower case don't matter.	falcon-1 = FALCON-1 = Falcon-1
Otherwise the name must match exactly : same spaces, same dash.	Falcon 1 (space) is NOT Falcon-1 (dash)
Every name must be unique in the mission.	Don't use Falcon-1 twice

Safety net: the * wildcard

If nobody named the aircraft properly, AirshowCam still has a fallback. Out of the box, each key also has a wildcard: key **1** looks for Falcon-1 first, and if there isn't one, it takes **any aircraft whose name ends in the number 1**. For example Enfield-1 or Aerial-2-1, but not Falcon-11.

Wildcard	Finds
*1	Any aircraft name ending in the number 1 (not 11, 21 ...)
Falcon*	Any aircraft name starting with Falcon
Aerial-*-1	Aerial-1-1, Aerial-2-1, Aerial-3-1 ...

Wildcards are only used when no exact name is found, only match aircraft (not ground units), and never take an aircraft another key has already claimed. If several aircraft match, AirshowCam picks one and says so, e.g. Slot 1 -> Aerial-1-1 (via *1, 3 matches). Proper names are always the safer choice.

Not sure what names DCS sees? In a running mission, press =. The companion window lists every aircraft with its unit name and group name. It then shows which aircraft each key will pick. The full list is also written to Saved Games\DCS\Logs\AirshowCam.log.

5. Changing the names AirshowCam looks for

If your team uses different names (for example Silver 1 or Lead), change them in the mod instead of renaming your missions.

- 1 Close DCS.
- 2 Open Saved Games\DCS\Scripts\AirshowCam\AirshowCam.lua with Notepad.
- 3 Near the top, find the section marked >>> AIRCRAFT NAMES - EDIT HERE <<<.
- 4 Change only the text **inside the quote marks**. Keep the quotes, curly brackets { } and commas exactly as they are.
- 5 Save, then start DCS.

As supplied:

```
slots = {
  [1] = {"Falcon-1", "*1"}, [2] = {"Falcon-2", "*2"}, [3] = {"Falcon-3", "*3"},
  [4] = {"Falcon-4", "*4"}, [5] = {"Falcon-5", "*5"}, [6] = {"Falcon-6", "*6"},
  [7] = {"Falcon-7", "*7"}, [8] = {"Falcon-8", "*8"}, [9] = {"Falcon-9", "*9"},
  [10] = {"Falcon-10", "*10"},
},
```

Example: different names, two names for the leader (tried in order), and no wildcard for the solos:

```
slots = {
  [1] = {"Silver 1", "Lead", "*1"}, [2] = {"Silver 2", "*2"},
  [3] = {"Silver 3", "*3"}, [4] = {"Silver 4", "*4"},
  [5] = {"Solo 1"}, [6] = {"Solo 2"},
  [7] = {"Falcon-7", "*7"}, [8] = {"Falcon-8", "*8"}, [9] = {"Falcon-9", "*9"},
  [10] = {"Falcon-10", "*10"},
},
```

[1] is keyboard key **1**, **[2]** is key **2**, and so on. **[10]** is key **0**. To switch the wildcard off for a key, delete its "*" entry (and the comma before it). Slots you don't use can stay as they are; AirshowCam just reports "NOT FOUND" if you press that key.

If AirshowCam stops working after an edit, you most likely deleted a quote mark, bracket or comma. dcs.log will show an **AIRSHOWCAM ... ERROR** line with the line number. Copy a fresh AirshowCam.lua from the zip and try again.

6. Multiplayer server setting

AirshowCam needs DCS to share the other aircraft's positions with the airboss's PC. On the server that hosts the airshow:

- 1 When starting the server, open the **Advanced** tab of the server settings.
- 2 Tick **Allow object export** (in serverSettings.lua this is allow_object_export = true).
If this is off, AirshowCam reports every aircraft as "NOT FOUND".

7. Running a show

- 1 Close any old AirshowCam Keys windows. Then double-click **Start-AirshowCam.bat**. A window titled **AirshowCam Keys** opens. Leave it open all show.
- 2 Start DCS and join the server / load the mission. In the AirshowCam Keys window you should see a green line: <- AirshowCam v1.4 ready.
- 3 Press **F11** and place the camera at show centre (or your camera position) as you normally do.
- 4 Click into the DCS window so it's active. The keys only work while DCS is the active window.
- 5 Press **1-0** to select an aircraft. The camera pans to it, then DCS takes over tracking.
- 6 To switch, just press the next number. AirshowCam presses Num and Num-Del for you. You can still press Num-Del yourself to lock DCS onto whatever is in the middle of the screen: every number press first presses Num to release any DCS lock, then pans as normal.

Keys

Key	What it does
1 ... 9, 0	Track aircraft 1 ... 9, 10 (top row number keys, not the numpad)
- (minus)	Let go: back to the normal F11 camera
= (equals)	List the aircraft names DCS can see (to check your names)
Num (numpad Num Lock)	Freeze the camera where it is (for breaks, the heart etc.), whether DCS or AirshowCam was tracking. Then press [to resume the same aircraft, or a number for another
[(open bracket)	Tracking on/off. Off = free F11 camera; on again = smooth pan back to the same aircraft
\ (backslash)	Hand-off to DCS lock on/off. OFF = AirshowCam does all the tracking itself, so you can fly the camera with WASD while it stays on the aircraft
; (semicolon)	Save the camera position
' (apostrophe)	Glide back to the saved camera position, still tracking
, and .	Less / more jitter smoothing (for AirshowCam's own tracking)
] (close bracket)	Camera shake on/off (see section 9)

Keys are ignored if Shift, Ctrl or Alt is held, and when DCS isn't the active window (so typing in Discord or SRS is safe).

What you'll see in the AirshowCam Keys window

Message	Meaning
Slot 3 -> Falcon-3 (tracking)	Found the aircraft, panning to it.
** Num-Del pressed (DCS lock)	Pan finished, DCS's lock is taking over.
Verified - DCS is tracking Falcon-3	DCS locked the right aircraft. All good.
Too close to another aircraft ...	Formation too tight for a safe hand-off. AirshowCam keeps tracking itself (normal in close formation).
DCS locked the wrong aircraft ...	AirshowCam released DCS's lock and is tracking the right aircraft itself.
Slot 3 -> Aerial-3-1 (via *3)	Exact name not found; the wildcard picked this aircraft (section 4).
Slot 3 ... NOT FOUND	No aircraft with that name. Check section 4/5, or it hasn't spawned yet (AirshowCam keeps looking).

Tracking smoothness: DCS's own lock is the steadiest. When AirshowCam tracks by itself (tight formation, or hand-off switched off) it smooths the aircraft's position to hide jitter. Press `.` for more smoothing or `,` for less; the window shows the value (0 = off, 0.9 = max). More smoothing is steadier but follows sudden manoeuvres a little more lazily. Once you've found a value you like, set it permanently as smoothing in `AirshowCam.lua`.

8. Moving the camera while tracking

For dynamic shots, such as walking the camera down the crowd line while staying on an aircraft.

Free tracking (WASD)

- 1 Select an aircraft with its number as usual.
- 2 Press `\` to switch the hand-off **OFF**. If DCS had locked on, AirshowCam releases the lock and takes over the tracking itself.
- 3 Move the camera with your normal F11 movement keys (WASD etc.). AirshowCam keeps pointing at the aircraft wherever you move.
- 4 Press `\` again to switch the hand-off back **ON**. DCS's lock takes over again once the camera is steady on the aircraft.

Save and return to a camera position

- 1 Put the camera at your main position (e.g. show centre) and press `;` to save it. The window shows Camera position saved.
- 2 Move around as much as you like.
- 3 Press `'` (apostrophe) and the camera glides back to the saved spot over 2 seconds, **still tracking the aircraft**. With no aircraft selected, it glides back keeping the current view direction.

This replaces DCS's "Load camera position from clipboard" binding: that one would break the tracking, AirshowCam's doesn't. The saved position is kept until the mission ends. Change the glide time with `return_time` in `AirshowCam.lua`.

Pausing the tracking

Press **[** to stop tracking without losing the selected aircraft. The camera becomes a normal F11 camera. Press **[** again and AirshowCam pans smoothly back to the same aircraft.

Two copies of DCS on one PC

Supported automatically. The first DCS to start a mission uses port 15599, the second 15601, and so on. One companion window serves them all: keys go to whichever DCS window you're working in, and messages from the second copy are marked [DCS #2]. Both copies need the Export.lua line. (This is a niche feature and has had less testing.)

9. Camera shake

Some teams run a modified DCS **View.lua** that adds a gentle “handheld camera” shake to the F11 view. DCS applies that shake itself while its lock is tracking. AirshowCam can add the **same** shake while *it* is moving the camera (during pans and its own tracking), so the picture looks the same throughout.

Automatic (default): nothing to set up

When a mission starts, AirshowCam reads your View.lua:

Your View.lua	AirshowCam shake	Companion window shows
Clean (stock DCS)	Off. Matches DCS (no shake).	Shake: OFF (none - clean View.lua)
Modified with a shake (CameraJiggle)	On, using the same shake from your file.	Shake: ON (View.lua (...))

Swap View.lua files between shows and AirshowCam follows automatically the next time a mission starts. View.lua lives in your DCS **install** folder: DCS World\Config\View\View.lua.

Switching it by hand

Press **]** at any time to turn AirshowCam's shake on or off. To fix the setting permanently, change this line near the top of AirshowCam.lua:

```
shake      = "auto",    -- "auto", "on" or "off"
shake_scale = 1.0,      -- 0.5 = half as strong, 2.0 = twice as strong
```

Setting	Effect
"auto"	Copy View.lua's shake if it has one, otherwise no shake (recommended).
"on"	Always shake. Uses View.lua's shake, or a built-in copy of the Virtual Silver Falcons shake if View.lua has none.
"off"	Never shake.

Shake looks doubled (much stronger while AirshowCam pans than when DCS is locked)? DCS is already adding the View.lua shake on top. Press **]** to turn AirshowCam's shake off, or set shake = "off".

Strength changes at hand-off? Adjust shake_scale until it matches.

10. Troubleshooting

Problem	Fix
Red text: <i>"Another AirshowCam Keys window is already running"</i>	An old companion window is still open. Close all AirshowCam Keys / PowerShell windows (or restart the PC), then start one.
No green <- AirshowCam ready line; keys do nothing in DCS	The mod isn't loading. Check the file path (section 3, step A) and that the Export.lua line is the last line . Look in dcs.log for AIRSHOWCAM lines.
Every aircraft says NOT FOUND	Names don't match (press = to see the real names), or the server hasn't ticked Allow object export .
Camera only tilts when pressing a number	The mod isn't running; DCS is reacting to the number key itself. Same fix as "no green line".
Game pauses when switching aircraft	In AirshowCamKeys.ps1, \$UnlockExtended must be \$false.
Camera reaches the aircraft but doesn't keep tracking	The companion didn't press Num-Del. Make sure DCS is the active window and only one companion window is open.
DCS keeps locking the wrong aircraft in tight formation	AirshowCam should catch this and track the aircraft itself. To hand off less often, raise handoff_min_sep_deg (e.g. 1.5).
AirshowCam never hands over to DCS	Your formation is closer than handoff_min_sep_deg. Lower it (e.g. 0.5), or accept AirshowCam's own tracking.
Keys clash with other DCS bindings	Change the keys in the \$Bindings list at the top of AirshowCamKeys.ps1.
The] shake key did nothing in v1.0	Fixed in v1.1.
Numbers stopped working after pressing Num-Del by hand	Fixed in v1.3: every number press now releases DCS's lock first. (Setting \$AlwaysUnlockBeforeSelect in AirshowCamKeys.ps1.)
Tracking stops by itself when dragging the view with the mouse	AirshowCam thinks DCS's lock took over. Raise override_deg (e.g. 3.0) in AirshowCam.lua.
Aircraft jitters when AirshowCam tracks itself	Press . a few times for more smoothing (section 7).
Wildcard picked the wrong aircraft	Name the aircraft properly (section 4), or remove the wildcard entry for that key (section 5).
Picture comes out mirrored or upside down	Set flip_right = true in AirshowCam.lua.

Log files

File	What's in it
Saved Games\DCS\Logs\AirshowCam.log	Everything AirshowCam did this session, plus the aircraft name list from the = key.
Saved Games\DCS\Logs\dcs.log	Search for AIRSHOWCAM : shows whether the mod loaded, and any errors.

11. Settings reference (optional)

You don't need to change any of these. All are near the top of `AirshowCam.lua`. Close DCS before editing, and keep the commas at the end of each line.

Setting	Default	What it changes
<code>transition_time</code>	1.2	How soft and slow the pan between aircraft is (seconds). Higher = gentler.
<code>track_time</code>	0.12	How tightly AirshowCam follows when tracking itself. Lower = tighter.
<code>blend_time</code>	1.5	How long the change from “pan” to “track” takes.
<code>handoff</code>	true	Hand over to DCS's lock after the pan. false = AirshowCam always tracks. (Also the \ key.)
<code>handoff_min_sep_deg</code>	1.0	Only hand over if no other formation aircraft is within this many degrees on screen.
<code>handoff_error_deg</code>	0.3	How precisely the pan must be on target before handing over.
<code>verify_time</code>	1.5	Seconds spent checking that DCS locked the right aircraft.
<code>smoothing</code>	0.6	Jitter smoothing for AirshowCam's own tracking (0 = off, 0.9 = max). Also the , and . keys.
<code>return_time</code>	2.0	Seconds for the glide back to the saved camera position.
<code>shake / shake_scale</code>	"auto" / 1.0	Camera shake (section 9).
<code>ports</code>	15599, 15601 ...	Ports for one or more DCS copies. Must match <code>\$DcsPorts</code> in the companion.
<code>update_after_frame</code>	true	Reduces jitter. Leave on.
<code>flip_right</code>	false	Only if the picture is mirrored.

Companion settings (top of `AirshowCamKeys.ps1`)

Setting	Default	What it changes
<code>\$Bindings</code>	see section 7	Which keyboard keys do what.
<code>\$DcsPorts</code>	15599, 15601 ...	Must match ports in <code>AirshowCam.lua</code> .
<code>\$OnlyWhenDcsFocused</code>	<code>\$true</code>	Ignore keys unless DCS is the active window.
<code>\$LockScanCode</code>	0x53 (Num-Del)	The key DCS uses to lock the camera on an aircraft.
<code>\$UnlockScanCode</code>	0x45 (Num)	The key DCS uses to release the lock.
<code>\$UnlockExtended</code>	<code>\$false</code>	Must stay <code>\$false</code> (otherwise DCS pauses).

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