Reworked Virtual Cockpit for the FSX Bombardier CRJ 700



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Introduction

This is a rework of the default Bombardier CRJ 700 cockpit in Microsoft Flight Simulator X. The main features are:

1. FMC implementation option
2. Individually configurable MFD and EICAS screens for captain and first officer
3. Rain Effects on wind shields and working wipers
4. Stall and Overspeed protection systems
5. Auto Land Function
6. GPWS by Rob Barendregt
7. Several visual and animation corrections
8. Added Animations and gauge features

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Installation

1. Open the root folder of your aircraft under <Microsoft Flight Simulator X\SimObjects\Airplanes\(your plane)\>

2. Unzip the folders “model.mod” and “panel.mod” to the plane's main folder

3. Copy the exterior model file from the e.g. “model” folder to the “model.mod” folder and make sure the `normal=` entry in the model.cfg file matches the exterior model's filename.

4. Unzip the content from the “texture” subfolder to the plane's texture subfolder also containing the virtual Cockpit textures from the default cockpit.

5. change the following lines in the aircraft.cfg:
   1. `model=””  →  model=mod`
   2. `panel=””  →  panel=mod`
   (both lines may appear multiple times)

6. The following eye point position under `[Views]` is recommended:
   `eyepoint=-11.1, -1.65, 4.36528`

7. add the following sections to suppress the default warning sounds:

   ```
   [gpws]
   max_warning_height = -1

   [stall_warning]
   type=0
   stick_shaker=1
   ```
   (already existing sections have to be replaced)

8. navigate to the FSX root folder and drop the “Gauges” and “Sound” folders from the zip file there.

Notes:

- This cockpit can be added to any aircraft, though I certainly recommend to use it on a CRJ.
- Creating a backup copy of files prior to editing is recommended, especially for less experienced users.

FMC replacement

The cockpit comes with an inop FMC gauge which can be easily replaced by any FMC you have.

To do so open the panel.cfg and find the `[vcockpit02]` section.
The first line should be “ `gauge00=FMC_inop!fmc,  0,0,315,512` ”
The “ `FMC_inop!fmc` “ part can be replaced by your FMC entry.
Do not change the numbers. They put the gauge where it should appear!

Also refer to your FMC's installation manual.

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Auto Landing

It is possible to fully auto land the plane with this cockpit installed. When doing an ILS approach on autopilot the sink rate will be reduced at 100 feet above ground and at 20 feet the throttles will be killed at 60 knots the autopilot is automatically turned off. Go Around is possible at any time by disengaging the autopilot.

MFD Operation

The MFD is controlled by the select panel which now has animated rotary knobs.

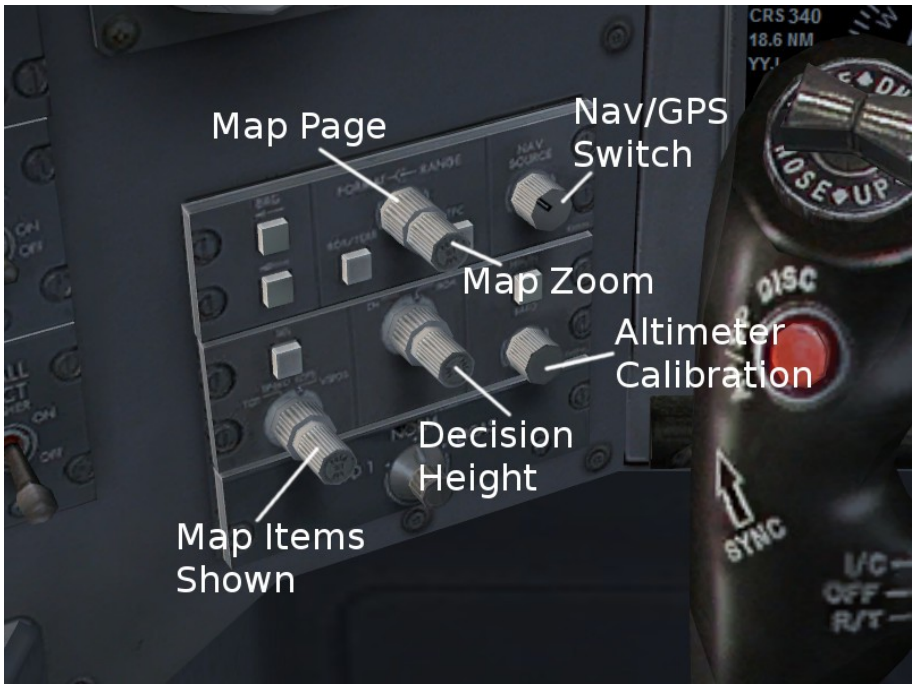
The MFD has four pages:

1. Centred Compass
2. Expanded Compass
3. Expanded Compass with Moving Map
4. Moving Map only

The Moving Map itself has four display modes:

1. Take-off/Departure: Airports, Airspaces and Beacons
2. Cruise: Beacons and Waypoints
3. Flight Plan only: Only Flight Plan Waypoints
4. Approach: Airports, Airspaces, Beacons and either ILS beams or Waypoints depending on NAV/GPS mode

The Rotary Knob assignment:



Left and right MFD are individually controlled by either side's select panel.

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Stall Protection

To engage the Stall Protection set The “STALL PTCT” Switch to “on”. Then the Stall Protection system pushes the Yoke forward when a stall occurs.
When parked on ground you can run the Stall Test sequence by clicking the Stall Warning Light.



Thanks To

- Rob Barendregt for the GPWS gauge and the permission to include it.
- Doug Dawson for the Module enabling XML based gauges to play sounds.
- The fsdeveloper community for all the help with several problems I had while coding.

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Appendix: Finding the exterior model

A “model” folder usually contains two .mdl files: the exterior and interior model. It also contains the “model.cfg”. Mostly the exterior model file can be identified by its name but if you are not sure then open the model.cfg using a text editor. The line “`normal=...`” points to the exterior.
Note that the model.cfg in “model.mod” points to the name of the default CRJ 700 exterior model file. If your exterior is named differently you have to change the entry. The best is to copy it from the other model.cfg.

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