SIM ACARS

Version 1.4.0

www.simacars.net

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1. What is SIM ACARS?

SIM ACARS is a free ACARS (Aircraft Communication Addressing and Reporting System) report tool designed to be used for the Virtual Airlines Manager web system VAM (http://virtualairlinesmanager.net), it also can be used as a standalone application to track and store your own virtual flights.

The main functions and characteristics of SIM ACARS are:

- Monitor every 100 milliseconds the main parameters of the flight.
- Store the flight parameters into a local database every 1 minute
- Send the flight data , parameters and events to a VAM web system

SIM ACARS is a windows application non valid for Mac OS.

Flight Simulators valid:

- FS2004 (FS9)
- FSX
- Prepard 3D
- X-Plane

2. Contact

For any question, bug reports or customization for SIM ACARS tool, feel free to send me and email or post at the VAM (Virtual airlines Manager) website forum:
- admin@pilotovirtual.net
- http://virtualairlinesmanager.net/foro/

3. Installation and prerequisites

IMPORTANT: if you are using a previous version of SIM ACARS please just replace the SIM ACARS.EXE and the dll. **Do not overwrite** the file SIM_ACARS.DB3 otherwise you will lose your historic of flights.
SIM ACARS is a portable application, no installation process needed or required.
Just unzip de folder and place it in a folder of your computer. (Program Files sub folder recommended).

Files included in the SIM ACARS:
1. SIM ACARS.EXE
2. 8 dll needed by the EXE
3. SIM_ACARS.DB3 is the database to store the flights, events and parameters

In the database there are more than 40.000 airports with the coordinates. This information is used by the ACARS to check the take-off and landing positions. This airport information is not encrypted. Other tables used by the ACARS to store flights, events and parameters contain the data encrypted. This encryption prevents from data manipulation and it is needed to prevent fake reports to the Virtual Airlines.

The name of the Database must be "SIM_ACARS_DB3". You can do a backup, just copy this file and save it in a safe place.

Pre-requisites:
- Microsoft .NET Framework 4.0 http://www.microsoft.com/en-us/download/details.aspx?id=17718
- FSUIPC for FS2004,FSX and P3D
- XPUIPC for X-Plane

4. Instructions

1. Run SIM ACARS.EXE
2. Fill your flight plan and flight data. The mandatory fields are:
   o Departure
   o Arrival
   o Flight Number

3. It is recommended to fill all the fields. There are two fields that are read-only and will be automatically filled by the ACARS.

- Aircraft
- Registry

4. In case you want to report you flight to your Virtual Airline. During the flight the ACARS will send current information to VAM system. The user can see active flight in the current position in the web map.
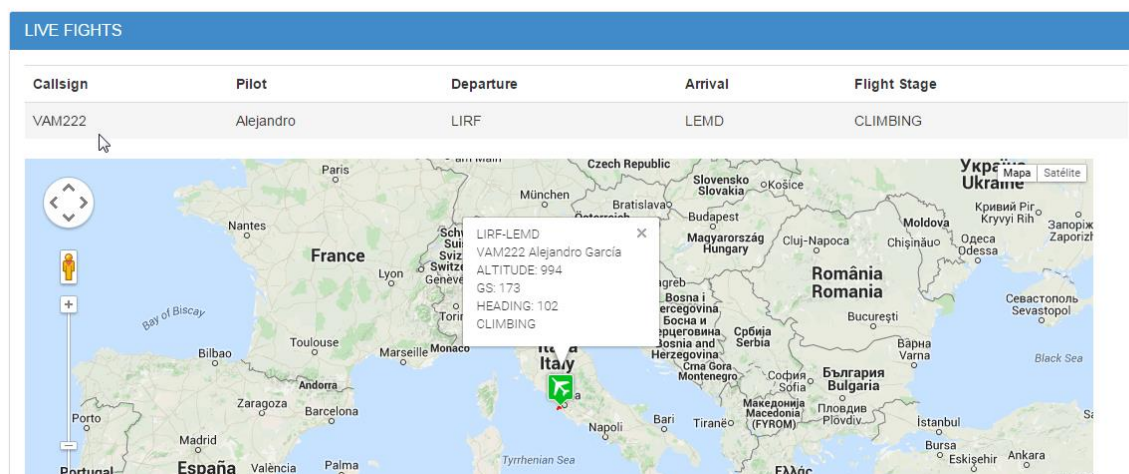
- Select the name of the Virtual Airline.

- Press Login button

5. Connect to the simulator. Your simulator must be running before the following steps. Your aircraft should be in the parking position at departure airport.
   - Select the network used in your flight (IVAO, VATSIM , OFFLINE,…)
   - Select the weight units (used for fuel measure)
   - Press "Start Track"

Validations done before start the flight

- SIM ACARS will check if the pilot is located in the departure airport
- SIM ACARS will check if the departure and arrival airport exits in the database.

In case of any of the above validations fails a message will appear, the user can cancel to correct the data of continue, if the data is not corrected then the ACARS will detect this action as a failure.

During your flight you can see the current flight parameters and the events & failures captured. This information is displayed in the tab "Flight Data".

The parameters captured by SIM ACARS are the following:
- IAS (Knots)
- Vertical Speed
- Altitude
- FOB - Fuel On Board: expressed in Kg or Lbs. based on the weight measure selected.
- GS – Ground Speed (Knots)
- Latitude
- Longitude
- Fuel used: expressed in Kg or Lbs. based on the weight measure selected.
- NM To arrival
- % Completed
- Flaps:
  - Flight Simulator and Prepard 3D : Flaps detent
  - X-Plane: % of flaps extension.
- ZFW – Zero Fuel Weight: expressed in Kg or Lbs. based on the weight measure selected.

Flight events captured:
- Boarding (initial flight stage)
- Taxi to the runway : when GS is > 10 Knots
- Engine(s) start
- Take off
- Gear up

- Gear down
- Flaps movement
- Landing
- Engine(s) stop

Critical events captured:
- Engine(s) running and beacon light OFF
- Lights off below 10.000 ft
- IAS > 250 Knots below 10.000 ft
- Stall
- Over speed
- Pause
- Slew
- Aircraft changed
- Refueling

During the landing some important parameters are captured:
- IAS
- Vertical Speed (ft/min)
- G Force
- Bank angle
- Pitch angle
- Lights on/off
- Flaps position
- Wind direction & intensity
- Landing heading

6. When the user finish the flight the button "End Flight" must be pressed. This action saves the flight in the database.
7. Flight Summary tab visible, in this tab the user can see the flight summary.
8. If the user wants to report the flight to the VAM system: press the button "Send Report". The flight and all the events will be stored in the VAM data base. The user can see the flight data and the map in VAM.

FLITGH DETAILS

Pilot:	VAM222 Alejandro García	Aircraft:	CRJ-200 AIRNOSTRUM	Distance:	662NM
DEPARTURE	LEMD	ARRIVAL	LSGG	DURATION	1.81
Validation	Pending Validation	Type	Regular	Registry	D-ABIB
ZFW	34616	Block Fuel	5,682	Flight Fuel	5,319
Pasanguers	50	Cargo	200	Alternate 1	LFXA
Departure Time	1655	Cruise Speed	420	Flight Level	FL320
Flight Type	IFR	Aircraft Type	CRJ200	Weight Unit	Lbs
Date	2015-05-01 20:44:43	Pilot Comments	TEST	Network	OFFLINE

ROUTE

ROUTE	PINAR UN10 PPN UL866 AGN/N0448F380 UN727 TOU UN871 LTP UZ116 BELUS
REMARKS	

LANDING ANALYSIS

Landing VS:	-56.13 ft/min	Landing IAS:	123.23 kt
Landing Force G	1 G	Landing Bank	-1
Landing Pitch	2.4	Landing Flaps	45
Navigation Lights	ON	Landing Lights	ON
Beacon Lights	ON	Strobe Lights	ON

FLIGHT MAP
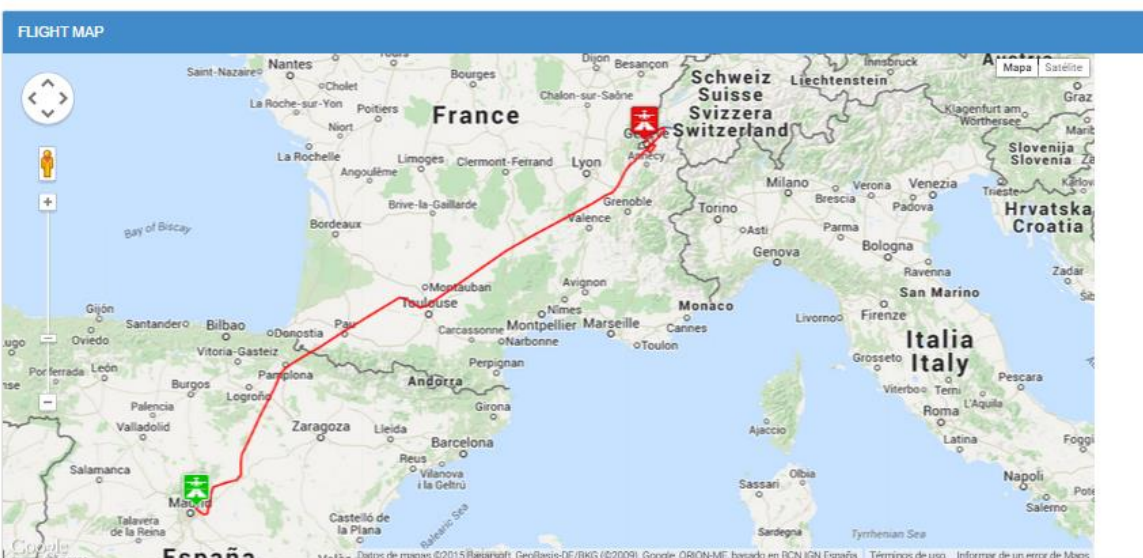
9. In case the user wants to start a new flight: press the button "New Flight", this will reset all the fields, then start from the step 2.

5. Virtual Airline Settings

SIM ACARS is designed to allow pilots to report the flights to different virtual airlines. SIM ACARS does not manage any file to set-up the connection to the virtual airline web system, everything is stored in the local data base.
You can create as many VA connections as you want. Follow these steps:
1. Press the button "New Virtual Airline"
2. Fill the following information. Ask your VA staff for the VA ACARS URL

Callsign	
Password	
VA Name	
VA ICAO	
VA ACARS URL	
Weight Unit	▼
	OK Cancel

Your VAM user (callsign) and password must be the same as entered in the SIM ACARS.
The user can delete any VA settings just pressing the delete icon:

Flight Plan Flight Data **Virtual Airline Settings** Flight Summary Logbook About

New Virtual Airline

Delete	VA Name	VA ICAO	URL	Weight unit
✖	VAM VA	VAM	http://virtualairlinesmanager.net/alpha21ver1/vam	Kg
✖	BETA	BET	http://virtualairlinesmanager.net/beta22/vam	Lbs
✖	UPDATE	UPD	http://virtualairlinesmanager.net/update/vam	Kg

6. Logbook

In the logbook tab the user can see all the flights stored in the data base.

			SIM ACARS 1.3.0					
			Flight Plan	Flight Data	Virtual Airline Settings	Flight Summary	**Logbook**	About

Delete	Report	Info	Date	Departure	Arrival	Landing VS	Distance	Duration
✕	◁	ⓘ	2015-5-24 14:51:2	EIDW	LEBL	-120,72	867,8	2,07
✕	◁	ⓘ	2015-5-24 21:27:...	GCXO	LPLA	-121,49	912,1	2,12
✕	◁	ⓘ	2015-6-4 21:58:35	LEPA	EDDM	-186,85	753,4	1,89
✕	◁	ⓘ	2015-6-6 16:28:27	LEMD	GCTS	-115,34	1118,4	2,92
✕	◁	ⓘ	2015-6-7 15:11:56	LEPA	LEMD	-116,11	335,1	0,99
✕	◁	ⓘ	2015-6-8 22:52:32	LIME	LTAI	-119,96	1164,1	2,75

Information about each flight is displayed if the user presses on the information icon.

Flight Details

Flight Plan

Aircraft			Aircraft Type ICAO	Aircraft Registry	Type of Flight
BOEING 737-8K5NGX AIRBERLIN WINGLETS			B738	D-ABKG	IFR

Departure ICAO	Departure Time	Cruise Speed	FL / Altitude	Passengers	Cargo
LEPA	1900	M78	FL340	147	1200

Arrival ICAO	Total EET	Endurance	Alternative 1	Alternative 2	Flight Number
EDDM	0210	0350	EDMO	LOWS	BER4432

Route

MEROS UN853 LUMAS UM976 SOFFY UQ208 GIGUS/N0446F400 UQ208 MOBLO UZ662 LAMUR UZ67 KORED UN871 DITON/N0446F390 T103 OSDER

Other Information / Remarks

(FPL-ECLIR-IN
-B738/M-SDE1FGHIJ1RWXYZ/LB1

Pilot Comments

Flight Data

Flight Date	Flight Duration	Flight Distance	Flight Fuel	Block Fuel	Weight Unit	Network
2015-JUN-04	1,89	753,4	4957,41	5243,03	Kg	OFFLINE

Landing Analysis

Landing VS	Landing IAS	Landing Pitch	Landing Force G	Landing Bank	Landing Flaps
-186,85	126,98	2,9	2,3	0,2	8

Flight Critique

|			
Crash	Stall	Landing Lights ON Above 10.000 FT	Take Off and Landing Lights OFF
Pause	Over Speed	Landing Lights OFF Below 10.000 FT	Landing and Landing Lights OFF
Slew	Taxi Speed	KIAS >250 Below 10.000 FT	Not Landed in Planned Airport
Refuel	Taxi No Lights	Beacon Lights OFF _Engines running	

In case the user wants to send the flight report to a VAM system:

1. Connect to the Virtual Airline
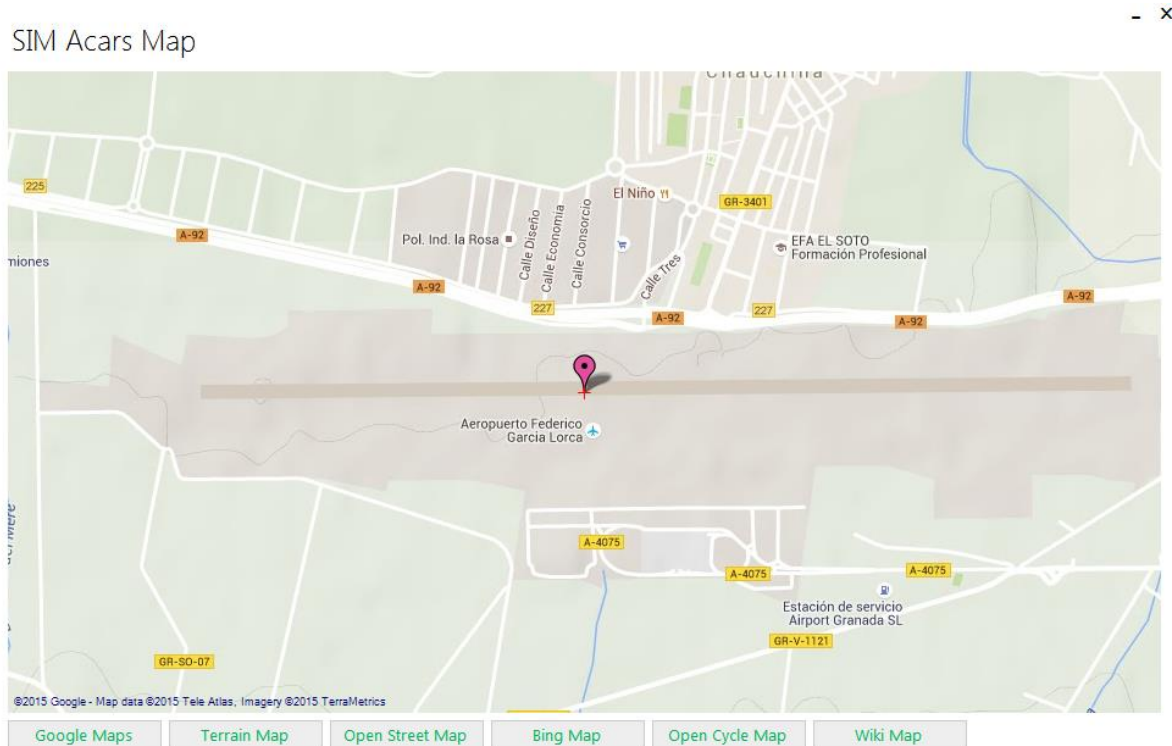   - Select the name of the Virtual Airline.
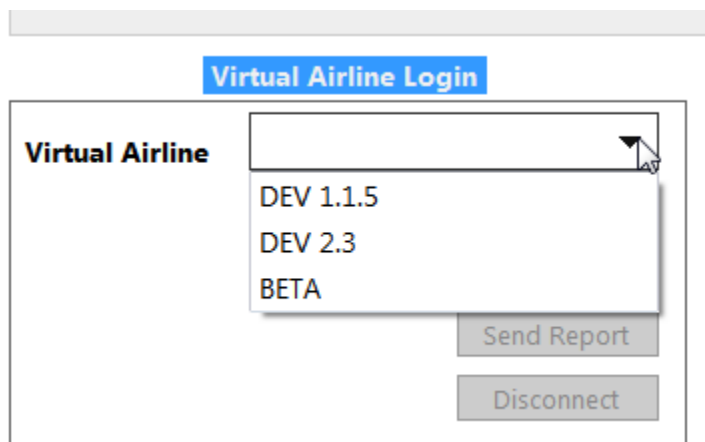
   - Press Login button

2. Press the green icon. VAM system will not allow duplicated flights and a message will pop up in this case.
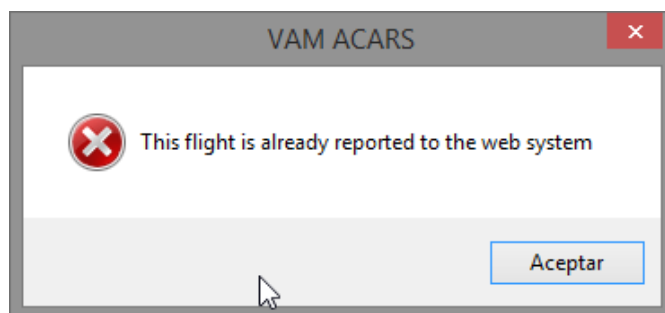
7. Flight Map

In any stage of the flight you can see your current position on six different types of maps. You can adjust the zoom with your mouse wheel.

8. Change Log

- **1.2.0**
  Enhancements:
  - o Error log created in case something fails.
  - o User and password saved with VA configuration.
  - o Allow to disconnect from VA web.
  - o Date & time display enhanced.
  - o Internal data base management
  - o Logbook blocked during flight.
  - o VA setting block during flight.
  - o Flight with no take off are not saved
  - o In case of simulator connectivity lost SIM ACARS is paused and allow reconnecting.

o Enhanced interface with VAM. Complete automatic flight rating based on flight failures. See VAM 2.3 documentation.

Bug fix:
    o Pause time does not count for flight time.
    o New flight – reset all counters.

- **1.3.0**

Enhancements:
    o Form he logbook al the flight can be reviewed. A new screen will appear with all the flight data.
    o In case the user is logged in a VAM system and he/she has a booked flight SIM CARS will detect it and will request to import the flight plan to the ACARS. All the information is automatically added to the flight plan.
    o Internal enhancements in order to prevent any data inconsistency during the data transmission to VAM systems.

Bug fix:
    o Flights not landed will not be stored in the data base and cannot be reported.
    o Fix an issue when sometimes the flight data is not correctly transmitted to a VAM system.

- **1.4.0**

Enhancements:
    o Live map of your current position. 6 different types of maps available.
    o In case the user is logged in a VAM system and he/she has a booked flight SIM CARS will detect it and will request to import the flight plan to the ACARS. All the information is automatically added to the flight plan, but the route is still editable.
    o Internal enhancements in order to prevent any loss of data if the sim crash and reconnection is done.
    o Possibility to reserve an aircraft for charter flights when logged in a VAM system.
    o Wrong altimeter settings detected during takeoff and landing.
    o Wind direction and intensity during landing.
    o Landing heading during landing.
    o Cosmetics enhancements in timers.

Bug fix:
    o Fix an issue when connecting with XAMPP servers in PC (local server)

9. Known issues

- PMDG NGX 737 strobe lights not detected. Waiting SDK from PMDG to fix it.
- PMDG 777 taxi lights not detected. Waiting SDK from PMDG to fix it.