

UVA VIRTUAL HQ (VHQ)

Version
3.0

UVACARS
MANUAL

 **UNITED VIRTUAL**

United Virtual Airlines
UVACARS Manual
Version 3.0
Effective 21AUG09

<http://www.united-virtual.com>

Copyright United Virtual Airlines, 2009

**United Virtual Airlines
Virtual Headquarters**

21 August 2009

From: President
To: United Virtual Airlines Flight Personnel
Subj: UVACARS MANUAL (Ver 3.0)

1. United Virtual Airlines has implemented a completely new proprietary software utility called UVACARS. This software replaces our previous use of the freeware FS-ACARS software utility. Effective immediately, FS-ACARS is no longer supported and this manual replaces VHQFO FS-ACARS manual (Ver 2.0).
2. Use of the UVACARS software is optional but encouraged as it will add to the realism and your enjoyment of flight simulation by providing additional access to weather, dispatch tools, detailed flight statistics and logging for your own review and the ability to submit PIREPS automatically.
2. This manual details the steps necessary to install, configure and use the UVACARS software suite.
3. Recommended changes should be forwarded to the President for consideration.
4. Fly safe and have fun!



David R. Klain
President
United Virtual Airlines

Table of Contents

<u>Section</u>	<u>Page</u>
Letter of Promulgation	a
Table of Contents	b
Section One (Overview)	1
Section Two (Download and Installation)	2
Section Three (Using UVAACARS)	4
Section Four (Dispatch)	9

Section One

1. **Overview.** **UVACARS** (United Virtual Airlines Aircraft Communication Addressing and Reporting System) is a freeware addition to Microsoft Flight Simulator used to emulate real-world aircraft ACARS systems. It also provides an automated way to file Pilot Reports (PIREPs) with United Virtual Airlines.
 - 1.1. The real-world ACARS system is basically a radio link between an aircraft and an airline flight operations center. It can provide departure and arrival information (gate assignments), passenger loads, fuel information, and performance data, and can be customized by an airline to provide whatever information the airplane can deliver or the airline desires.
 - 1.2. In flight simulation, the UVACARS system can be used for flight tracking (such as [UVA's Flight Tracker System](#)), requesting weather information, tracking fuel levels for the aircraft, capturing extensive aircraft data logs pertaining to event times (wheels up, for example), and most importantly--building and submitting your PIREP to the UVA servers.

Section Two

2. **Download and Installation.** Follow these steps below to download and install FS-ACARS on your computer.

- 2.1. Download and install [SQL Server Compact 3.5](#)

- 2.1.1. *Note that if you have a 64 bit operating system, you must select and install both the 32 bit and then the 64 bit version of this software in order for UVACARS to function correctly. If the 32 bit installer fails, go ahead and install the 64 bit installer and then move on to step 2.2 below.*

- 2.2. Download the UVACARS Installation package from <http://www.united-virtual.com/UVACARS/setup.zip>

- 2.2.1. Unzip the file and run setup.exe.

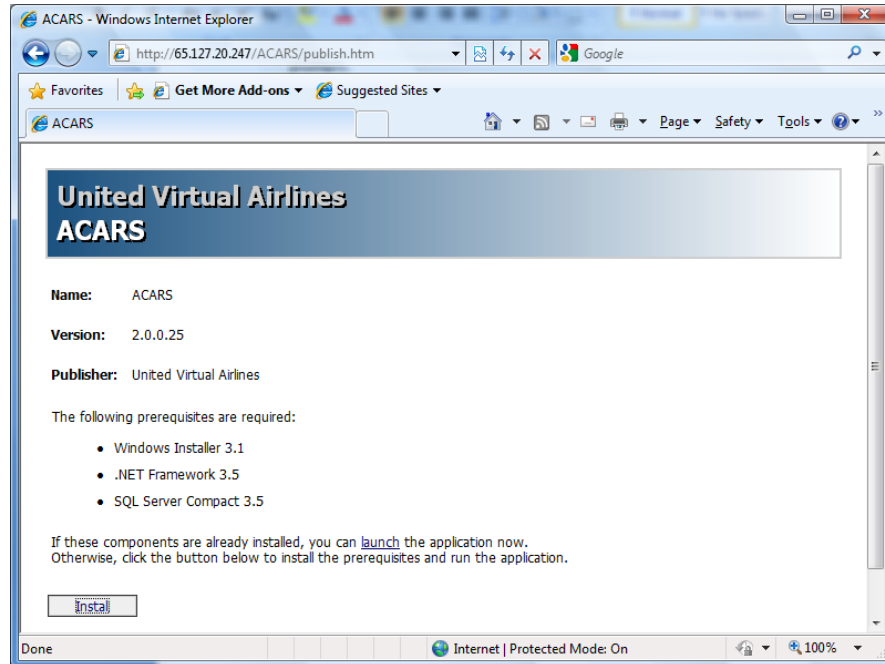
- 2.2.2. Note, if you see the below warning, proceed back to step 2.1 and ensure you have SQL Server Compact 3.5 installed:



- 2.3. If you receive no errors, your setup is complete and you can proceed to [Section Three](#) of this manual!

-
- 2.4. **If the installation does NOT work correctly AND you are sure you have SQL Server Compact 3.5 installed, follow these alternate installation instructions:**

- 2.4.1. Point your web browser to <http://acars.united-virtual.com>.



2.4.2. Click the Install button. The first time you install UVACARS, the system will download and install two pre-requisite components of Windows to your system:

2.4.2.1. Windows Installer 3.1

2.4.2.2. .Net Framework 3.5

2.4.3. The installer should automatically install these components if they are not already installed on your system. Should the installer fail, use these links to download and install them:

2.4.3.1. [Windows Installer 3.1](#)

2.4.3.2. [.Net Framework 3.5](#)

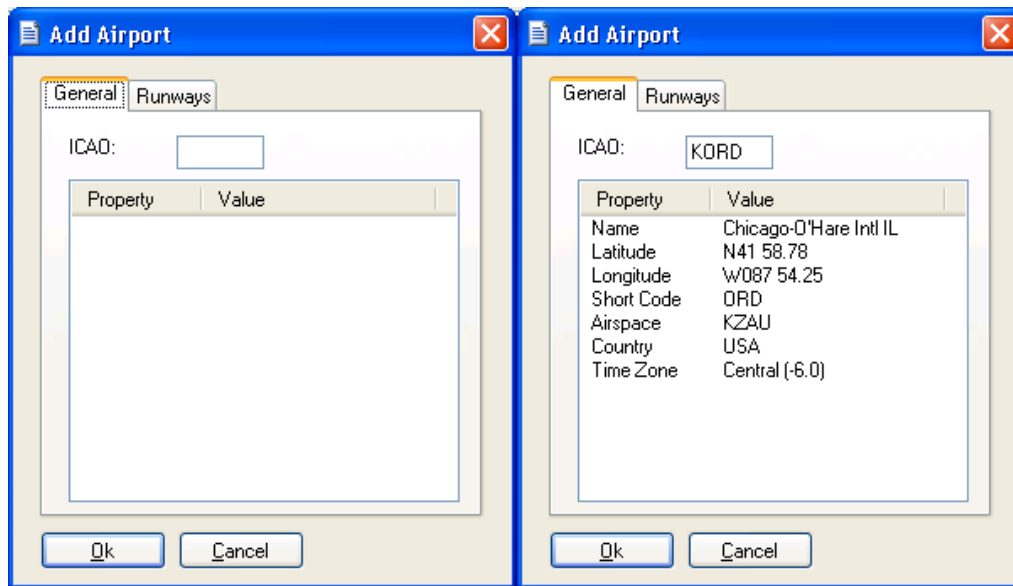
2.4.3.2.1. *Note that if you have a 64 bit operating system, you must select and install both the 32 bit and then the 64 bit version of this software in order for UVACARS to function correctly.*

2.4.3.3. Once you have the components installed and successfully execute the “Install” button on the acars.united-virtual.com page, your installation is complete!

Section Three

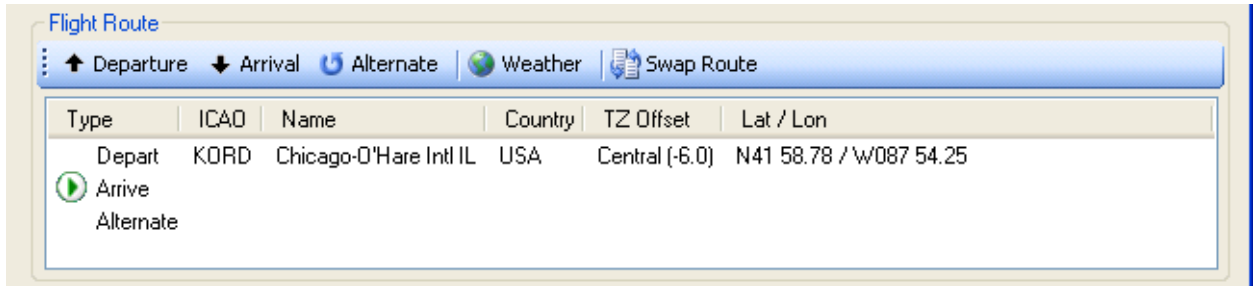
3. Using UVACARS.

- 3.1. Getting the software setup and ready for flight is pretty simple, all you need is your pilot number and flight details. Once the installation is finished running through, you will be prompted for your pilot number, and please remember that you need to enter the full pilot number exactly as it is with the “UAL” (i.e., UAL1234).
- 3.2. On future occasions when you start the UVACARS program, it will check to see if the software has been updated and (if so) automatically download and install the updated file. This will ensure you always have the most current software!
- 3.3. Start **MSFS2004** or **FSX**, and position yourself at your departure gate. Ensure the **engines are off**, and **parking brakes are on**.
- 3.4. To start a new flight, you will need the departure airport ICAO code, destination airport ICAO code, aircraft registration, SELCAL code (if installed on your specific aircraft), passengers and cargo, or the software will not connect to MSFS. Note that all this information is provided to you when you reserve your flight in the pilot center.

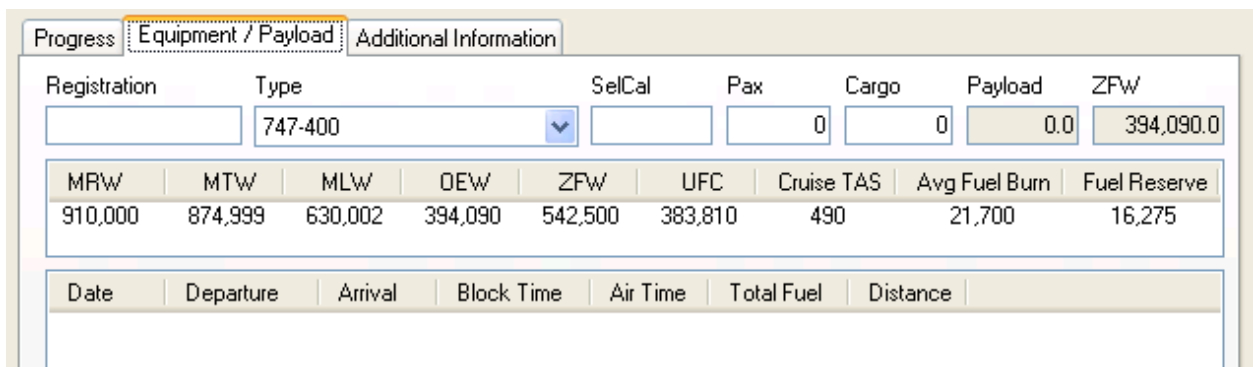


- 3.5. You can click one of the buttons above the airport list (“Departure”, “Arrival”, or “Alternate”), and the “Add Airport” window will be visible and allow an entry of any airport. The add airport window will display any pertinent information including the runway information.

- 3.6. After the desired airport is entered, and “Ok” is selected, you’ll see the information displayed in the “Flight Route” list, pictured below. The same result will happen for the Arrival and Alternate. (The alternate airport is not required but available.)



- 3.7. Next the equipment and payload information is needed, and can easily be entered and calculated. Ensure you select the correct aircraft type from the drop down menu or the calculations will not be correct!

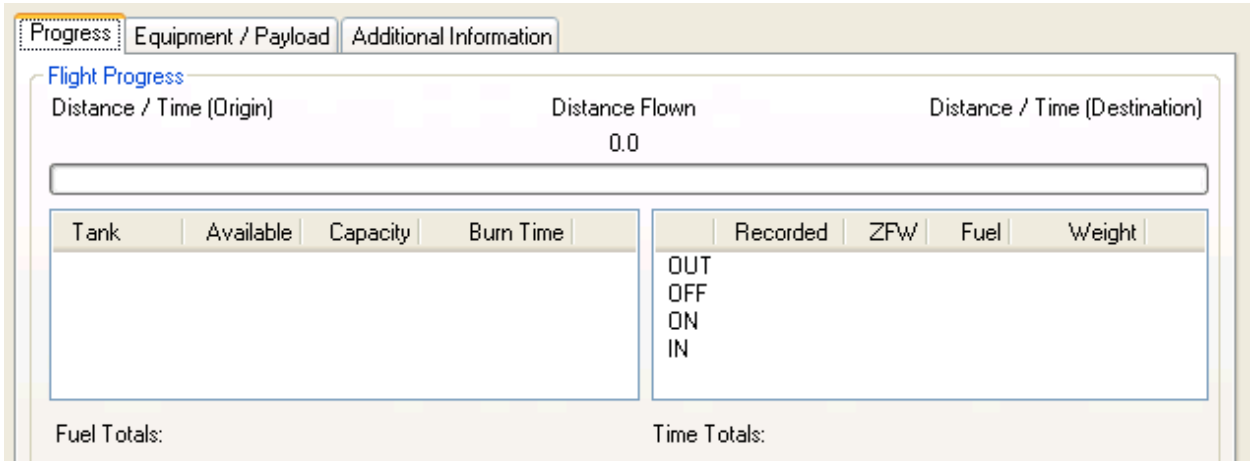


- 3.8. The registration and SELCAL are straight forward text entry, and you can just enter the information as it is, i.e. N123UA. Just remember, when entering the SELCAL, to exclude the dash (-) that is commonly between the four letters; if no SELCAL is present, just keep the field blank. The Payload and Zero Fuel Weight (ZFW) are automatically calculated as the number of passengers and / or cargo weight are entered. Also the aircraft weight profile is displayed for your reference, and will change each time the aircraft type is changed. When the registration is entered, any flights flown under that registration will be available in the list below the aircraft weights.

- 3.9. **Warning: Before continuing, please make sure your parking brake is set. This program will not yell at you for not having the parking brake enabled, and will automatically sense the parking brake disabled and record the time out as soon as you start, which can lead to inaccurate PIREPS...**

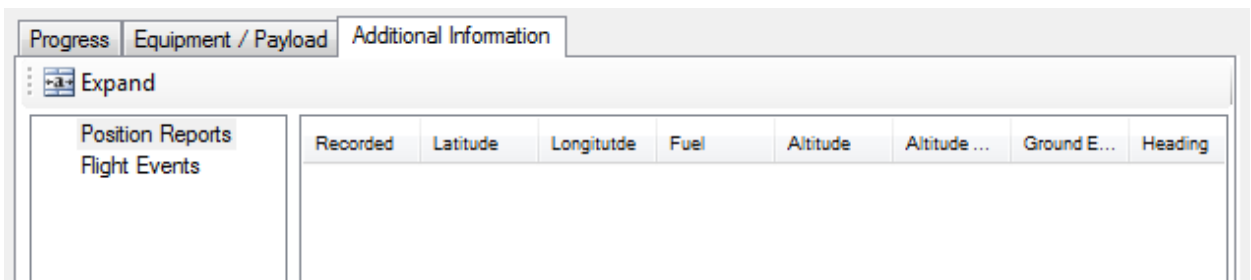
- 3.10. After all the information is entered, you will be able to click the “Connect” button on the top of the software, and you should see the fuel table populate with in a few seconds, and you will be ready to depart on your flight.

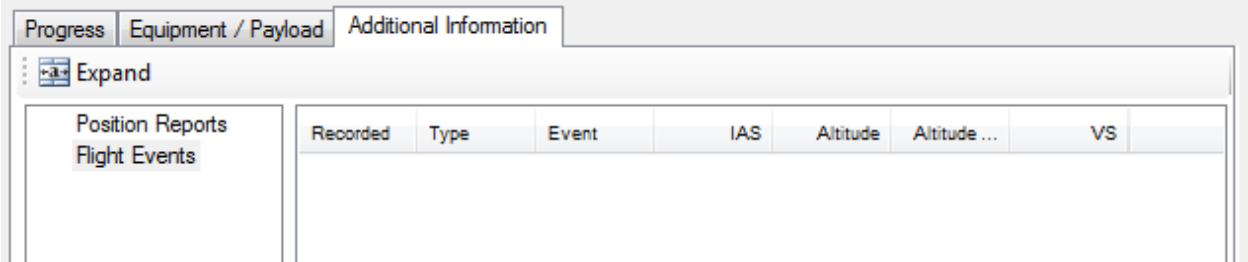
3.11. As the flight progresses, you will see a progress of the flight, with the direct course distance and time to the Origin and Destination; and the Distance Flown will be calculated everytime a position report is reported, which will be run every 5 minutes.



3.12. The fuel table will display each tank, including the associated burn time per tank; the same relative information will be displayed in the list to the right, which will display the time the state was hit including the ZFW, Fuel, and Total Weight. In summary, just below both lists, are the total fuel and total capacity with the total burn time of all the fuel under the fuel list; and just under the right list, their will be a rolling time for both the block time and air time.

3.13. During the flight, all flight events will be monitored, i.e flaps, gear, lights, etc. The flight states will also be recorded, which will reflect the same information displayed on the front list as are the regular position reports transmitted to the UVA tracking system. These can be viewed under the “Additional Information” tab if desired at any time during or after the flight.





- 3.14. Once you click “Connect”, the flight will be automatically be recorded in the flight log, and the departure and arrival times may not be changed manually. If the airports were entered in the wrong order, you may swap the airports by using “Swap Route”, which will swap the two airports. If the airports are entered incorrectly, you’ll have to start a new entry. (You can remove the old entry at your discretion). *If the departure and arrival airports do not match the reservation in the pilot center, you will NOT be able to auto-file your PIREP.*
- 3.15. There will be a “Stop” and “Play” button available, so you may safely stop recording to close the application or bring up an older flight, or resume the same flight from a stopped phase. The stop button will make sure the recording will be fully stopped unless the connect or play buttons were clicked.
- 3.16. After the flight is finished, another window will popup with ALL the information recorded, and will allow you to either Save, Reject, or Process the flight. If you process the flight, all information will saved and the entry will be closed, as well as getting the chance to process the flight (submit the PIREP) to the UVA servers.
- 3.17. If you chose to just Save the flight, the log entry will be closed and you will be able to Process the flight later from the flight log window. This will permit pilots who fly offline to connect to the internet after completing their flights and still auto-process their PIREPS. For the last choice, you can Reject the flight; if you didn’t like something that was recorded, you can reject the flight and the information in the database will be removed. Please use caution here as the action you take will be permanent... You will still have an active reservation in the Pilot Center that must be manually processed or cancelled as well.
- 3.18. Weather. The last available feature during flight or anytime while the application is open, is the weather retrieval. You may capture the weather as a METAR, Decoded METAR, or TAF; because of where the weather is coming from, we need to limit the downloads of the weather to once very five minutes. Should you check the weather more frequently, the previous download will be displayed.

3.18.1. You can either get a quick weather display:

Custom Weather

Weather Station Code:

3.18.2. Alternatively you can get a full weather display:

KORD - Full Weather Report

METAR

```
KORD 130451Z 29006KT 10SM FEW120 SCT250 20/14 A3006 RMK
AO2 SLP176 T02000139
```

Decoded METAR

```
CHICAGO O'HARE INTERNATIONAL, IL, United States (KORD)
41-59N 087-55W 200M
Jul 13, 2009 - 12:51 AM EDT / 2009.07.13 0451 UTC
Wind: from the WNW (290 degrees) at 7 MPH (6 KT):0
Visibility: 10 mile(s):0
Sky conditions: partly cloudy
Temperature: 68.0 F (20.0 C)
Dew Point: 57.0 F (13.9 C)
Relative Humidity: 67%
Pressure (altimeter): 30.06 in. Hg (1017 hPa)
ob: KORD 130451Z 29006KT 10SM FEW120 SCT250 20/14 A3006
```

TAF

```
TAF
AMD KORD 130059Z 1301/1406 24007KT P6SM FEW060
SCT110
FM130300 VRB03KT P6SM SCT060
FM131400 05008KT P6SM SCT050
FM132000 08010KT P6SM FEW060 SCT250
FM140200 10005KT P6SM BKN250
```

Section Four

4. Dispatch

4.1. While not necessary to use the UVACARS software, a dispatch planner utility based on the planner in the UVA pilot center is also available for use. The “Flight Information” page will give you the basic information for entry, this information is the same information that is required with the online dispatch planner. The extra information that would need to be copied over to the main ACARS window can be found under the “Remarks” section, and a small guide was build in you can view as a reference.

Flight	Departure	Depart Time	Destination	Arrival Time	Alternate	Flight #	A/C Registration
	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Route	<input type="text"/>						
Remarks	<input type="text"/>						

PAX/0 CARGO/0

You may use keywords in the remarks to copy other information needed for the flight, as passengers or selcal.

Cargo -> CARGO/<Cargo>
Passengers -> PAX/<Passengers>
SelCal -> SEL/<SelCal> (Without the dash)

4.2. Most of the information is calculated and if the field turns into a **Bold** style, the weight or entry is invalid or overweight for the selected aircraft. If you already had a payload and flight route entered, the payload will automatically be calculated and entered, as well as the trip length being modified to what a general duration would be between the departure and arrival airports using the Cruise TAS of the default selected aircraft type in the Dispatch window, or from the selected aircraft type on the main window

Aircraft Type	Empty Weight	Max T/O Weight	Max Lndng Weight	Maximun Payload	Max Zero Fuel Weight	Fuel Bum PPH	Average Cruise TAS
747-400	394,090	874,999	630,002	157,399	542,500	21,700	490

	Definition	Hours	Burnout
Trip Length	Total flying hours planned for flight from T/O to landing, excludes all other items. Enter amount in hours (ex 2hrs 12 min = 2.2 hrs)	2.2	47,740
Wind Adjustment	Enter average winds aloft. Headwinds are (-), tailwinds (+). If winds aloft are unknown, plan for an average 40knts headwind. (-40)	-40	3,897
Time to Alternate	Enter as hours extra to account for fuel to alternate.	0.5	10,850
Contingency Fuel	Fuel for holds, 2 missed approaches, off optimum flight/route, long taxi, 0.5 hrs is fairly typical.	0.5	10,850
Captain's/Tanker Fuel	Captain's fuel is at discretion and optional. Set from none to say 0.5 hrs cruise. Enter in pounds. Add any tanker "ferry" fuel here as well.	0	0
FAR Reserve	Minimum fuel on board, normally used for emergencies, cannot be used for flight planning. Simplified as for 45 min cruise, or 10% trip fuel, (whichever is greater)		16,275
Taxi Fuel	Estimated as 20min of 40% cruise burn, adjust as necessary with the contingency fuel above.		2,800
Plan Fuel Required	TOTAL FUEL REQUIRED FOR FLIGHT, Gate to Gate (time & amount)	4.3	92,412
Plan Payload	Planned payload, specify either weight in Lbs or Percent of Maximum. To specify a percentage, set Lbs to 0	Lbs Payload: 0 Percent of Max: 0	Payload Use: 0 Lbs Payload
Plan Max Fuel Capacity	Enter percentage of maximum payload for this trip, to calculate the Plan Max Fuel Capacity, for your planned payload.		383,810
Plan Zero Fuel Weight	Weight of aircraft with payload, but no fuel		394,090
Plan Takeoff Weight	Takeoff weight with fuel and planned payload, but with taxi fuel expended		483,702
Expected Landing Fuel	If no contingencies are exercised, this is the typical amount of fuel on board at touchdown. Usually at least 1.5 hrs cruise fuel, a good crosscheck	1.8	37,975
Expected Landing Weight	If no contingencies are exercised, this will be the landing weight, ensure that it does not exceed the maximum landing weight		432,065

4.3. The "Speed Information" tab is available as a reference and will calculate V speeds for you using the same database as the online dispatch planner. It is not presently incorporated into the dispatch calculations but that integration is planned for the future.

Plan Payload	V2 is the safety climb speed. For climb to acc'l height (1000AGL) use V2+10 knts. Vr is your rotation speed, and V1 is your "decision" speed on takeoff roll, after V1 your are committed to t/o Vref30+80 is the minimum clean (flaps retracted)	V1: 106	Vr: 124 Flaps 20	V2: 136	Vref+80: 214
Plan Approach Vspeed		Vref+5: 131 Flaps 30	Steady wind: 0 Full gusts: 0	Corrected Vref: 131 Flaps 30	

Vref is the target speed only for a full autoland approach, the A/T will provide gust protection. For any other approach, the needs to be further adjusted. Specify the landing winds, this will add to Vref+5, 1/2 of the steady headwind, plus the fyll excess gust, to a max of 20 additional knts.

4.4. The “Dispatch Paper” has been designed as a way to generate the dispatch release, but allow you pilots to modify the text in anyway needed. For further control, you can “Export” the dispatch paper, which will open the Notepad application and throw the text into the notepad session that is open. This export feature was also programmed in, so you’ll be able to print the dispatch papers if needed.

```

07/13/2009    05:32AM

Released IFR:  () ---      () ---

REMARKS:      PAX/0 CARGO/0

ALTNS:  LNDG

          FLT#      A/C#      AVG W/C      SELCAL
                   M040              N/A

FILED ROUTE:
FP UAL4961 T/B744/Q
/0212

          FUEL      TIME      PLAN      STRUCTURAL
TAXI      002800
ENROUTE BURN 051637 0222  OEW  394090
CONTINGENCY 010850 0030  PWLD 000000
ALTERNATE  010850 0030  ZFW  394090  MZFW 542500
FAR RESERVE 016275 0045  FOB  092412  MFW  383810
*****
MINIMUM T/O 089612          TOW  483702  MTOW 874999
*****
TANKER      000000 0000
PLANNED FOB 092412 0418

PLAN ARV FUEL 037975          LGW  432065  MLGW 630002

TAKEOFF - Flaps 20
          V1      Vr      V2      Vref30+80
          106    124    136      214

LANDING - Flaps 30
          Vref+5  Wind  Vref/WC
          131    ---    ---
  
```

4.5. The buttons on the bottom will allow you to Open / Save the dispatch information, as well as copy the dispatch information to the main ACARS window.

Activate dispatch will copy the data to the main screen.

4.6. *Warning: The save / open dispatch feature will ONLY save the information on the Flight Information, Fuel Information, and Speed Information tabs. What ever is in the dispatch release will not be saved.*