

HOW TO PLAY

- 1 Plug the cartridge into your computer.
- 2 After the title, press **SELECT** to choose a skill level, and press again to choose between day and night flying.
- 3 Press **START** to begin. The aircraft is stationary on the runway in the top right-hand corner of the enlarged map (press **M** to display).
- 4 Using a combination of Joystick and keyboard controls, take off, fly and land your Jumbo Jet safely on the runway in the bottom left-hand corner of the enlarged map.
- 5 Each time you damage the aircraft, stall or nearly stall, your rating (which starts at 1000) is decreased.

Important Controls

- B** Brakes on or off
D Decrease throttle setting
I Increase throttle setting
L Landing lights
M Enlarged map
U Raise or lower undercarriage
SPACEBAR - Return to cockpit view
JOYSTICK BUTTON - Pause. Move Joystick to continue.

This is only intended to be a basic guide. For more detailed instructions see inside.

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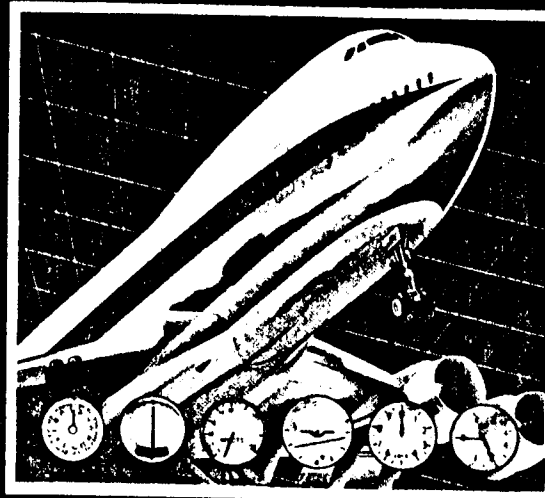
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Home Computer Software

For ATARI 400/800 Computer

JUMBO JET PILOT



Instructions for use

HOW TO LOAD YOUR JUMBO JET PROGRAM

- 1 Connect your television to the computer and switch the television ON.
- 2 Take your cartridge and plug it into the cartridge slot in the front of your computer (the left-hand slot on ATARI* 800*s) and close the lid.
- 3 Turn your computer ON.

HOW TO PLAY JUMBO JET

- 1 After the title, press SELECT to choose the Skill Level (Skill 5 is the most difficult). Then press OPTION to choose between a day flight and a night flight. Press START to begin the game.
- 2 The instrument panel appears, incorporating a view through the cockpit window and a grid map (p on diagram overleaf). The object of the game is to taxi your Jumbo Jet to the end

of the runway at your home airport (flashing square in NW corner), take off, navigate it to the other airport (SE corner) and land safely.

3 Controls

To fly your aircraft, you have Joystick and Keyboard controls which work as follows:

Joystick

NOSE UP Move Joystick towards you, to raise elevator.
NOSE DOWN Move Joystick away from you, to lower elevator.
TURN LEFT Move Joystick left to bank and turn left.
TURN RIGHT Move Joystick right to bank and turn right.
PAUSE Press trigger to freeze the simulator at any time.

Keyboard

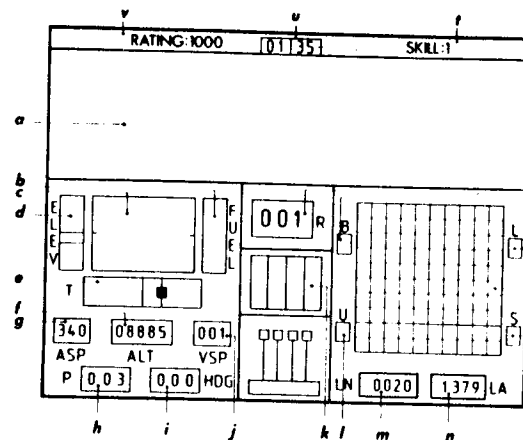
INCREASE THROTTLE (engine power) Press I.
DECREASE THROTTLE Press D.
RAISE OR LOWER UNDERCARRIAGE Press U to raise after take-off. Press again to lower before landing.
BRAKES Press B to release and apply.
LANDING LIGHTS Press L to see the runway on night flights.
MAP Press M for an enlarged view of the two airports and the terrain you are flying over. If you are flying above the area on the

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map, then the flashing dot will indicate your current position, with the flight path being shown by the black trail. To return to the cockpit view, press the SPACEBAR.
ABORT Press the **A*** key to abort the flight.
START Press START to begin a new game.
 Press SYSTEM RESET to change flight options.

① Instrument Panel

The diagram below gives a summary of the various readings, etc, that you will need to check. Negative readings are indicated by an orange bar on the left of a number.



- a View through cockpit window.
- b FUEL. Fuel indicator.

- c Artificial horizon. This gives you a picture of the aircraft's position relative to the ground, ie nose up, nose down or level, and the degree of bank.
- d ELEV Elevator setting. Elevators control the nose-up or nose-down attitude and are adjusted by moving the Joystick towards or away from you.
- e T. Aileron setting. Ailerons control the degree of bank and are adjusted by moving the Joystick to right or left.
- f ALT. Altitude in metres.
- g ASP. Airspeed in kilometres per hour.
- h P. Nose-up or Nose-down attitude in degrees ($\pm 180^\circ$).
- i HDG. Heading or compass reading in degrees ($\pm 180^\circ$). A heading of North will be 0° , East 90° , South 180° and West -90° .
- j VSP. Vertical speed, ie rate of climb or fall in metres per second.
- k Throttle setting.
- l U. Undercarriage warning light. Press U to raise or lower.
- m LN. Longitude in kilometres from NW corner (home airport).
- n LA. Latitude in kilometres from NW corner (home airport).
- o S. Stall warning light. This flashes to warn you of an impending stall, and stays on when you are in a stall.
- p MAP. Shows your current position (the flashing square) relative to the two airports.
- q L. Landing lights indicator. Press L to switch on and off.

- r B. Brakes warning light. Press B to release and apply.
- s R. Roll angle in degrees ($\pm 180^\circ$).
- t Skill Level.
- u Time elapsed in minutes and seconds since start of game.
- v Points rating. This is a measure of your performance, starting from a maximum of 1000. Points are deducted for damage incurred by you to the aircraft.

5 Rating

At the beginning of each game you start with 1000 points. Points will be deducted during the flight for the following reasons:

- (a) too much stress imposed on the aircraft.
- (b) stalling or nearing a stall.
- (c) exceeding an airspeed of 1260 km/hr.

The lowest rating that is possible is zero. Your rating is unaffected by day or night flying, but will be affected by Skill Level (see Skill Level).

Note: The above are all accompanied by warning signals.

6 Skill Level

Stress factors are increased with increasing Skill Level so that structural damage (and loss of points from rating) is more likely.

For Skill Level 2 only, you have only half a tank of fuel. For Skill Levels 1 to 4 the rate of descent that your aircraft will endure when

landing must be four or less metres per second. For Level 5 the rate of descent must be between zero and one metre per second.

Level	Fuel	Max Vertical Speed (when landing)	Stress Factors
1	full	-4 m/s	Lowest ↑↓ Highest
2	half	-4 m/s	
3	full	-4 m/s	
4	full	-4 m/s	
5	full	-1 m/s	

m/s=metres per second

—HINTS ON USING THE JUMBO JET SIMULATOR—

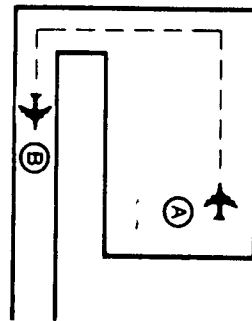
Flying a Jumbo may seem a rather overpowering challenge to begin with. It's a good idea to practise certain techniques one by one before you attempt a full flight and progress to the more difficult manoeuvres. Below are some notes to help you.

Taxiing

Release brakes, apply minimum throttle and set the elevators to well below the central position; the aircraft will then start moving slowly forwards. To steer on the ground, move the Joystick to the right or left. To slow down, apply the brakes, and when the speed has dropped sufficiently release them. To bring the aircraft to a halt, leave the brakes on until the air speed reaches zero. The aircraft will lose speed more rapidly if the throttle is set to minimum.

After you have pressed START, the aircraft will appear at position A in the

enlarged version of the map (press M to display). What you then do is taxi the aircraft to position B in the diagram below: you are now ready to take off.



Take off

With the brakes applied and the aircraft stationary, increase the throttle setting to maximum. Set the elevators to just below the central position, release the brakes and steer the aircraft to keep it in the centre of the runway. Watch the airspeed indicator and when it reaches approximately 360 km/hr pull back the Joystick until the elevator setting is just above the centre; the aircraft will then lift off. If you try to lift too rapidly, the aircraft may stall and crash. When you are clear of the ground raise the undercarriage. Failure to do this will impair the performance of the aircraft.

Climbing

To start a climb or to increase the climb rate, first increase the throttle setting. Once the aircraft has begun to climb, raise the elevator setting slightly bringing the aircraft to a level attitude. As you approach the required cruising speed, reduce the throttle setting slightly.

Descent

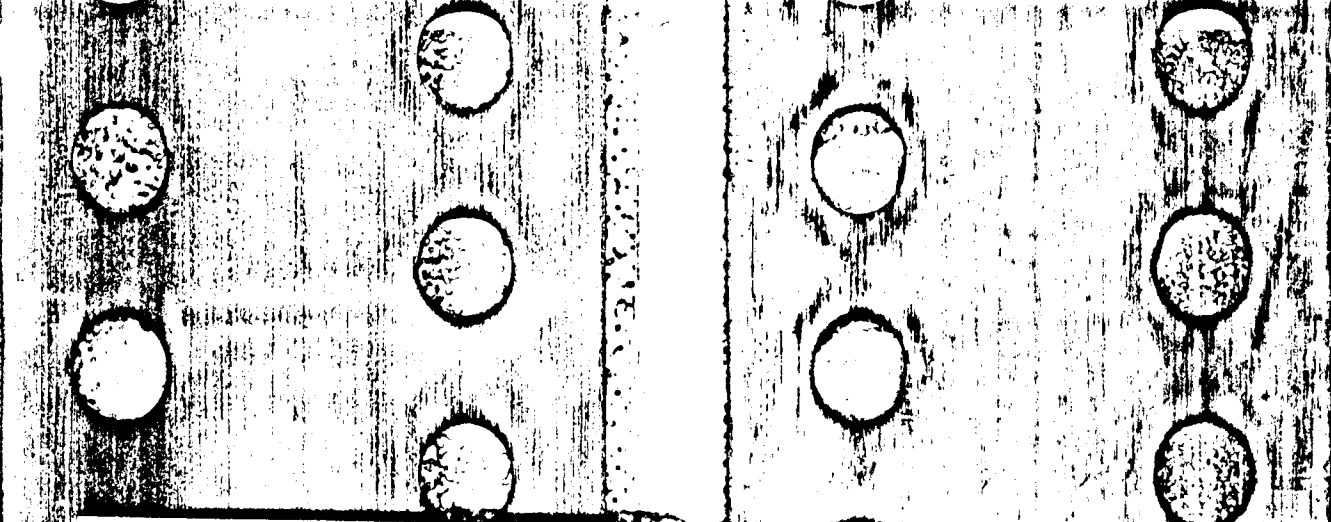
To start a controlled descent, reduce the throttle setting slightly, then raise the elevators a little; this will prevent the airspeed increasing too much. To change the rate of descent, adjust the throttle setting while keeping the airspeed constant by using the elevators, bring the aircraft to a level attitude.

Turning

Move the Joystick in the required direction (left or right). You will notice the aileron setting gauge moves in the same direction. A roll and turn will develop. The roll is shown on the roll indicator. The amount of roll determines how tight the turn is. The turn is observed by watching the compass setting. When the required change of direction has taken place, move the Joystick in the opposite direction and watch the roll indicator. As the roll approaches zero, centralize the aileron indicator. You will then stop turning.

Stalling

Under certain conditions (usually low airspeed or a high nose-up attitude) the



aircraft will stall. This is characterized by a loss of lift and loss of elevator control. Before stalling, the simulator stall indicator will stay on until control is recovered. To recover from a stall, increase the throttle setting to maximum then push the Joystick forward until the nose drops slightly. When the airspeed has increased sufficiently, bring the nose up gently to a level attitude.

Navigation

You can do some simple navigation using the heading indicator, the map indicator and the latitude and longitude indicators. The map shows the sector that the aircraft is in. The latitude and longitude indicators give a more accurate picture of your position. Zero latitude is at the top line of the grid, zero longitude is at the left line of the grid. These instruments will tell you where you are and will enable you to plan a route to any other part of the grid area. For example, an aircraft taking off from the north-west airport will need to fly a course of approximately 135° on the HDG indicator to get to the south-east airport (north is vertically upwards).

Note: if your longitude or latitude become negative or exceed 4000 then the aircraft will not be shown on the map.

Approach and Landing

Bring the aircraft down to about 1000 metres. Line up the aircraft with the runway and carry out a gentle descent. Try to bring the vertical speed down to almost zero as you touch down, and land with minimum

airspeed or the aircraft may bounce and take off again. When you have touched down, cut the throttle to minimum and apply the brakes. Be sure to steer the aircraft to keep it on the runway until it comes to a standstill.

Night Flying

At night you will not see the horizon so you will have to rely on your instruments for navigation. Nor will you see the runway unless your lights are switched on.

Aerobatics

When you have mastered the art of taking off, navigating the aircraft and landing safely, you can see just what your Jumbo is capable of. But, can it fly upside down? Can it loop the loop? More important, can you? Try it and see.

—TECHNICAL SPECIFICATIONS—

**Boeing
747-200B**

Engines	4 x P&W JT9D-7A
Static take-off thrust (per engine)	20,935 kg
Max. take-off weight	351,500 kg
Max. fuel weight	155,072 kg
Capacity payload	52,000 kg
Overall length	70.66 m
Wing span	59.64 m
Total height	19.33 m
Maximum range	10,375 km
Cruising altitude	9,450-12,000 m
Cruising speed	945 km/h
Cargo capacity	175.3 kg
Number of passengers	389

FULL DOWN FLV. + 1/3 POWER
O ALT + (207 A), ...
A.T.E. = 4470 80% ...

	LN	LA
START	300	200