

# On Top™

IFR Proficiency Simulator

Version 8.1

## Pilot's Operating Handbook

# Addendum

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## On Top Addendum Overview

On Top has been improved as a result of comments and suggestions from thousands of customers, as well as advances made in flight control technology. This addendum, in addition to the On Top Pilot's Operating Handbook, details the new features. ***Where you find differences between the Pilot's Operating Handbook (POH) and this addendum, the documentation in this addendum applies.***

The most significant change in this version of On Top is how the program installs. The installation CD now contains four different versions of On Top: PERSONAL, ANALOG PCATD, DIGITAL PCATD, and V.8 UPGRADE. The correct version to install will depend entirely upon which flight controls will be used.

For the majority of users the PERSONAL installation will be the correct version to install. PERSONAL is designed for users who have common USB and gameport flight controls and will work with most of the available joysticks, as well as the CH Flight Sim Yoke and CH Pro Pedals.

The exception to this is On Top 6 and 7 users that have upgraded their computers to Windows XP and use a gameport-based PCATD. If you have gameport-based PCATD flight controls, use the "Install On Top V.8.0-UPGRADE" link. If you have the USB-type PCATD flight controls, use either the ANALOG or the DIGITAL PCATD installation.

The ANALOG PCATD install is designed for use with the FAA-Approved PCATD flight controls. If you have the complete PCATD hardware package that includes the AV-1 model "E" Avionic Panel and an Analog (non-powered) PFC Throttle Quadrant, use the ANALOG PCATD install. If you do not have the complete PCATD hardware package, just the PFC Cirrus yoke and pedals, use the PERSONAL install.

The DIGITAL PCATD install is designed for use with the AV-1 model "H" Avionics Panel and Digital (powered) PFC Throttle Quadrant. If you have the complete PCATD hardware package with the digital throttle quadrant and the AV-1H Avionics Panel, use this install.

All four versions contain the same "virtual arena" to give instrument-rated pilots a means to fly approaches, holds, cross-country flights, and even arrivals and departures at the airports and airspace they actually fly in their aircraft. Options include the ability to modify dozens of weather parameters, creating the conditions expected the next day or even next winter, including shearing winds and disorienting turbulence. Individual instruments or entire systems can be set to fail at a given time, or randomly within a range of time. This realism has been built into On Top to create the virtual realm of instrument flying.

## **Quick Start Guide**

If you are familiar with Windows-based flight simulation programs and want to get started as quickly as possible, the following will assist you in getting up and running.

Before running the installation routine, please ensure that the flight controls you plan to use with the program are attached to the computer and the current drivers from the manufacturer are installed (please do not use manufacturer's configuration utilities). If your flight controls in the present configuration work with ASA's IP Trainer Version 7, Instrument Refresher Version 1.5 or On Top Version 8, they should work with the On Top Version 8.1.

### ***Minimum System Requirements for On Top V.8.1***

Before installing OT, make sure your computer system conforms to the basic minimum requirements needed for smooth and steady flight simulation at all times.

1. Pentium-class processor, 200 MHz or faster (Win98/ME), 300 MHz or faster (Win2000/XP)
2. Windows 98, ME, 2000 or XP operating system
3. 64 MB RAM (Win98/ME), or 128 MB RAM (Win2000/XP)
4. 40 MB available hard drive space
5. CD-ROM drive (4x or faster)
6. 800x600 SVGA video adapter and monitor
7. Windows DirectX-compatible sound card and speakers
8. DirectX 8.1 or later (included on the OT8.1 CD)
9. Mouse
10. Joystick or yoke

### ***Verifying DirectX***

Please note that On Top v8.1 has a minimum requirement for DirectX 8.1 or higher to be installed on your Windows operating system. If you have Win98, 98SE, ME, or 2000, it is recommended that you verify that the correct version of DirectX is installed on your system before you install On Top. If you are using Windows XP as your operating system, XP comes with the correct version of DirectX already installed. DirectX 8.1 is available on the On Top installation CD.

To determine which version of DirectX is on your Windows operating system, select RUN from the Windows Start menu. In the RUN box, on the OPEN line, type in dxdiag and click OK. This will open

the DirectX Diagnostic Tool. On the System tab, the last item on the System Information list will indicate the DirectX version that is installed. For example, DirectX Version: DirectX 8.1 (4.08.01.0901).

### **Installing On Top**

Start by selecting the proper type of installation. You can select from PERSONAL, ANALOG PCATD, DIGITAL PCATD, or V.8 UPGRADE. You may install On Top in a subdirectory of your own choosing. A message will appear in the installation routine suggesting a path and permitting change. The default location is C:\Program Files\ASA\On Top 8.1.

### **Calibrating Your Flight Controls**

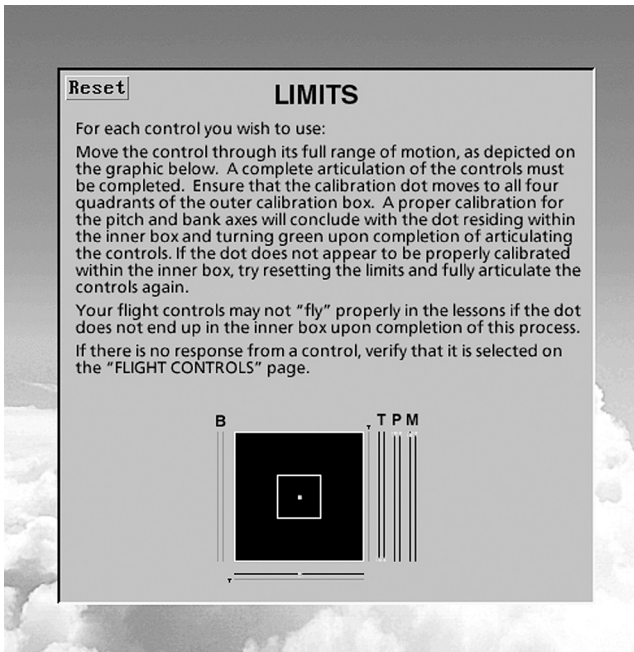
After starting the program and going through the introduction (you may skip this introduction by pressing your left mouse button), users will be prompted to select either Personal Use or PCATD. The type of flight controls you have will determine which one you should choose.

Once in the main Calibration screen, you will have the opportunity to perform a “simple calibration.” Select the FLIGHT CONTROLS button. In the Flight Controls menu, you should see your controls on the list. Choose the flight controls you wish to activate by putting an asterisk in the leftmost box of the two boxes on the right side of the screen next to where your flight controls are listed.

Once you have selected the flight controls to be used with the program, press the LIMITS button and perform a simple calibration by fully articulating the pitch, roll, throttle and yaw axes. Please note that the controls must be moved through their full range of motion. Ensure that the calibration dot moves to all four quadrants of the outer calibration box. A proper calibration for the pitch and bank axes will conclude with the dot residing within the inner box and turning green.

When finished with the limits, press the box marked **BUTTONS**. Press and hold the flight control button (e.g., the trim up) while simultaneously clicking the left mouse button with the mouse pointer over the on-screen “up trim” triangle. When the flight control button is depressed, the mouse pointer will turn into a “crosshair” shape. When correctly assigned, the triangle will turn green when the trim button is depressed. Assign all desired button functions in the same way. When finished press the **DONE** button and enjoy flying On Top.

If you cannot calibrate the flight controls in the quick calibration, you may have to use the Advanced Mode, which requires a more detailed understanding of the calibration routine as explained in the **Calibrating Your Flight Controls** on page 18 of the POH. Should you still have difficulty with a flight control, ASA has many resources available, including online and telephone technical support. Write to us at [support@asa2fly.com](mailto:support@asa2fly.com) or call at 1-800-272-2359.



The following includes updated information concerning the installation of flight controls. The On Top Pilot's Operating Handbook also includes valuable information.

### Connecting the Digital Throttle Quadrant and AV-1H Avionics Panel

Because of changes made to the digital TQ, this PCATD hardware connects differently from the analog TQ and AV-1E. If you have the PFC Digital (powered) throttle quadrant, the AV-1 model "H" Avionics Panel must be used with it. Use the connection diagram below if you have this configuration. A port adapter is included with the AV-1H and attaches to the digital throttle quadrant's 25-pin port to connect the 9-pin cable from the AV-1H.

If you have the analog throttle quadrant and an AV-1 model "E" Avionics Panel, see pages 13 & 14 of the On Top POH for a description and diagram of how to connect your flight controls.

The Digital Throttle Quadrant is connected to your computer's 9-pin serial port. If your computer does not have a serial port connection, a Serial port to USB adapter (not included) can be used. The COM number assigned by your Windows operating system to the Serial to USB adapter must be identified and manually inserted into On Top's calibration.

By default, COM1 is the port Windows will make available for use. On Top is set to look at COM1 by default as well. To determine which COM number your Windows operating system has assigned to the new Serial to USB adapter, go to the Device Manager in the Windows Control Panel. Select the System icon. Then select the Device Manager tab in the System Properties dialog box (Win98 or 2000) or the Device Manager button on the Hardware tab (WinXP). In the Device Manager, expand Ports (COM & LPT). If your Serial to USB adapter is setup correctly there will be a listing for it there. For Example: Prolific USB-to-Serial Comm Port (COM4). In this example On Top would have to be told to use COM4.

To change which COM port On Top looks for, go to the Flight Controls list in the On Top simple calibration page. Remove the asterisk (\*) in the left-hand box on the DigPCATD line by clicking on the asterisk. Now add an asterisk in the right-hand box on the same line by clicking on the box. This will open a new area on the right side of that page. In that new box change the COM number to match the number Windows has assigned to your Serial to USB adapter. Put an asterisk back into the left-hand box before calibrating the controls.

Please note that the number of throttle, prop and mixture calibration dots that are displayed during calibration can also be adjusted here.

