

V1000 *Pit*



**Optional Autopilot Control & Audio Switch Panel**



**VRinsight**

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## 1. Introductions

The **V1000Pit** panel of VRinsight is a control and screen system for modern glass cockpit type GA aircrafts. All displays and controls are synchronized with Microsoft's Flight Simulator, supporting the default and add-on MSFS aircrafts with G-1000 NAV-III style panel. **V1000Pit** panel displays PFD and MFD with full functional buttons and rotation knobs, giving for users to be experienced the most enthusiastic flight. It is completely interfaced with MSFS9 and MSFSX through interfacing software "SerialFP2" which enables **V1000Pit** to perform full simulation with simple connecting PC through USB.

NOTE : This manual could be redistributed unless you modify the contents. This manual has been written out on a JetPit panel basis. All software (& software versions) stated here is subject to change without advanced notice for improvement. If you want to download the latest driver version for panel & application programs, visit VRinsight's web-site;

<http://www.vrinsight.com>

### 1.1 General

**V1000Pit** features modern GA aircraft's glass avionic suits for flight simulation software, Microsoft's Flight Simulator. **V1000Pit**'s hardware is made of PFD and MFD of G1000 Integrated Flight Deck. Whereas, implemented functions are limited by aircraft and cockpit type to be used.

Mindstar Aviation Garmin G1000 for Microsoft's Flight Simulator is recommended, where as many functions as are presented in real units. Audio Flight Control switch panel is not included. To support AFCS feature, additional VRinsight's Autopilot Control unit is required.

\* Visit Mindstar Aviation's Web site for implemented feature lists at following link;

[http://www.mindstarprods.com/aviation/G1000\\_Features.html](http://www.mindstarprods.com/aviation/G1000_Features.html)

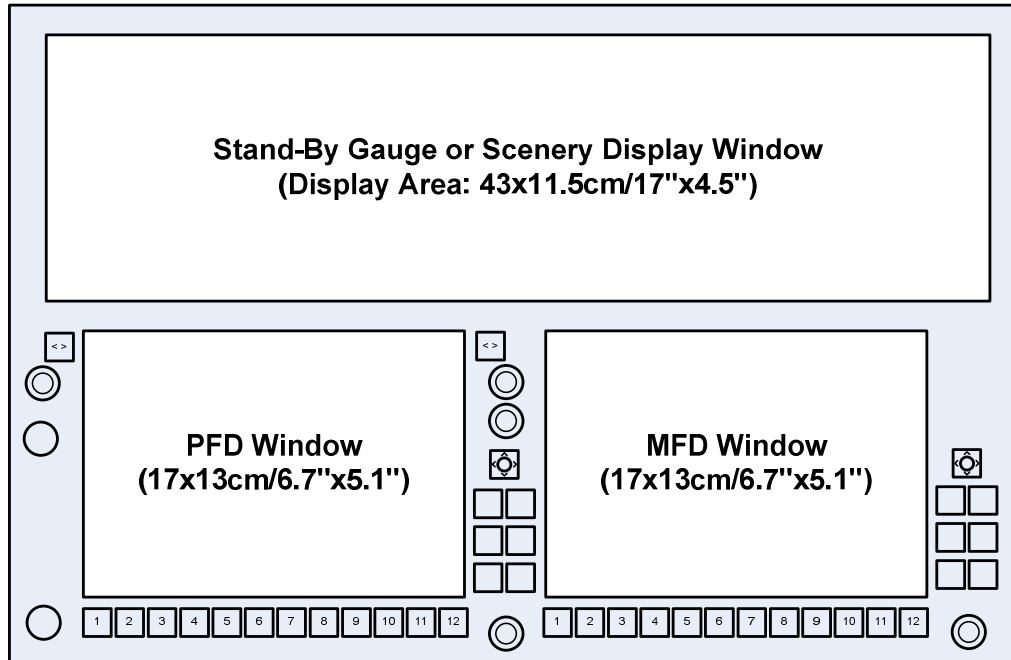
### 1.2 Features

- Large integrated 20.1" TFT LCD displaying PFD, MFD and stand-by gauge or scenery.
- It comes in full metal enclosure plate and stand:
- USB 2.0 compliant connection for control interface
- VGA video connection for display interface
- All buttons and dual rotary knobs are close to real G1000 unit.
- It supports Microsoft's Flight Simulator X and 2004\*
- Compatible with following aircraft models
  - Original Cessna 172 G1000 (FSX)
  - Original Mooney Bravo G1000 (FSX)
  - Original Beechcraft Baron 58 G1000 (FSX)
  - MindStar Aviation's Cessna 172 (FSX/FS2004)
  - MindStar Aviation's Cessna 182 (FSX/FS2004)
- It's compatible with Microsoft Windows XP, Vista and Windows 7
- Measurement:
  - Width: 46.5cm/18.3" (Plate)
  - Height: 30.5cm/12" (Plate)
  - Length: 5.5cm/2.1" (Plate)

- 1 year warranty

### 1.3 Display Area

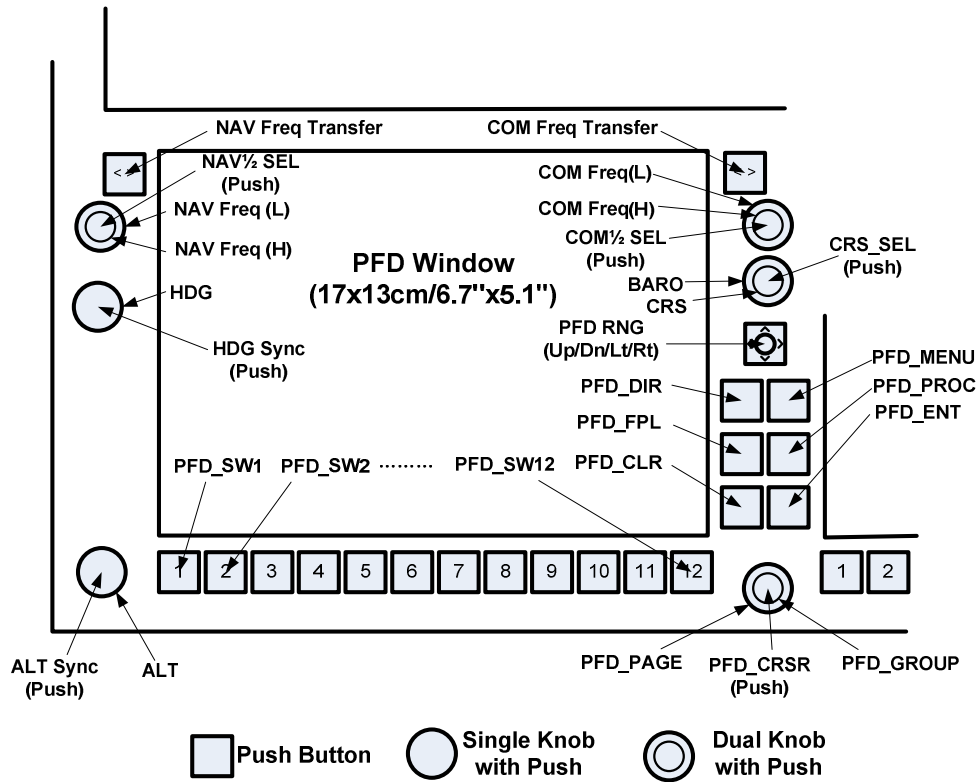
Displaying area is divided into 3 window; PFD, MFD and Stand-By gauges (or Scenery). PFD and MFD window's displaying area is equivalent to 8.5" LCD. Refer to following diagram for exact dimension of each display window.



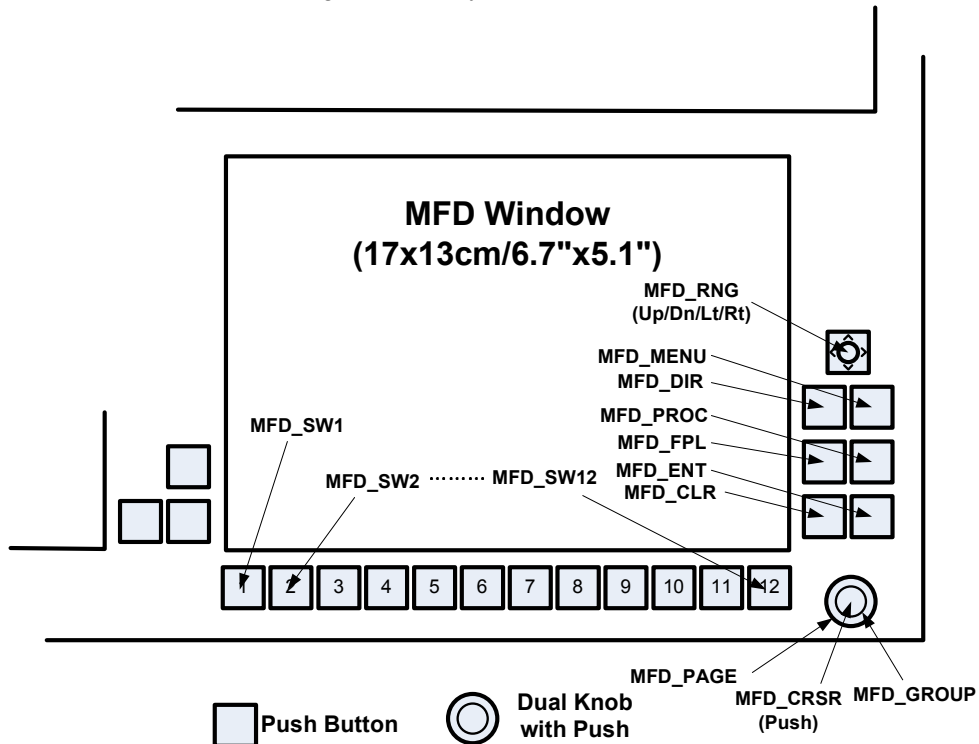
### 1.4 Controls

There are buttons and single/dual rotary knobs on each side of PFD and MFD displaying window. Functionalities of each buttons and knobs are depending on the aircraft and add-on cockpit type.

On PFD window side, there are single/dual rotary knobs and buttons for NAV and COM frequency, FMS and 12 PFD's soft keys.



On MFD window side, there are single/dual rotary knobs and buttons for FMS and 12 PFD's soft keys.





## 2. Deliverables and Options

### 2.1 Deliverables

#### Front Plates

V1000Pit comes with large integrated 20.1" TFT Color LCD.



#### Screen Stand

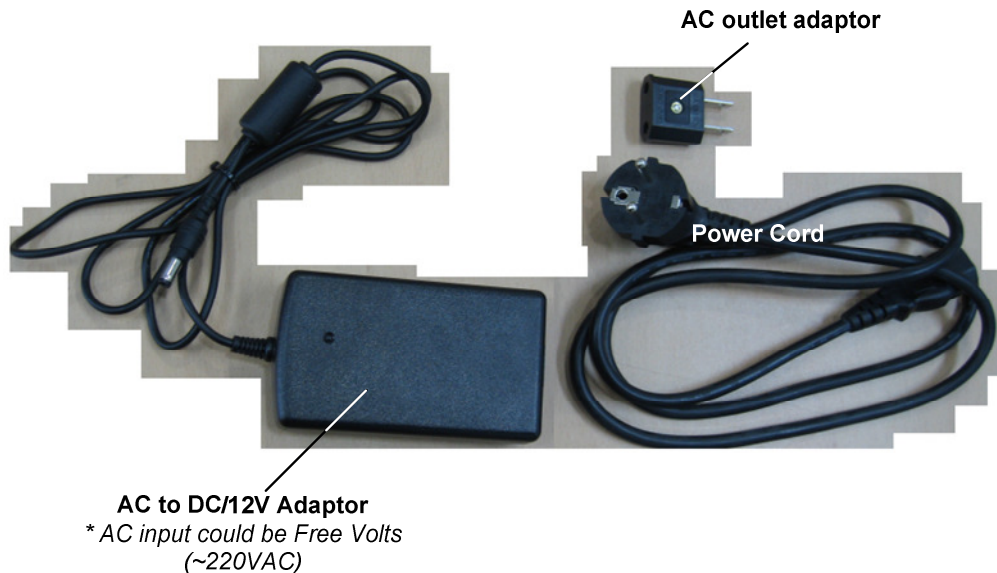
*\* This stand can be changed to manufacturer's situation.*



## Video Cable



## Power Kits for V1000Pit's Screen Power supply

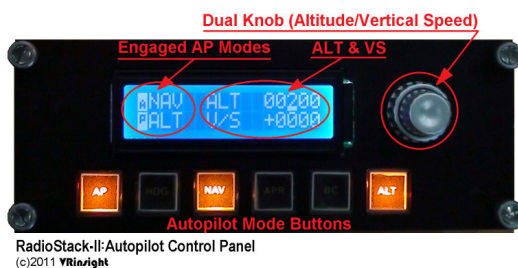


## Software DVD

\* Visit VRinsight's download page frequently for latest software.  
<http://www.vrinsight.com>

## 2.2 Options

Auto-pilot control (AFCS) and audio switch is NOT included in the V1000Pit. For this feature, additional panels, RadioStack-II: Autopilot Control Panel and Audio Switch Panel are available.

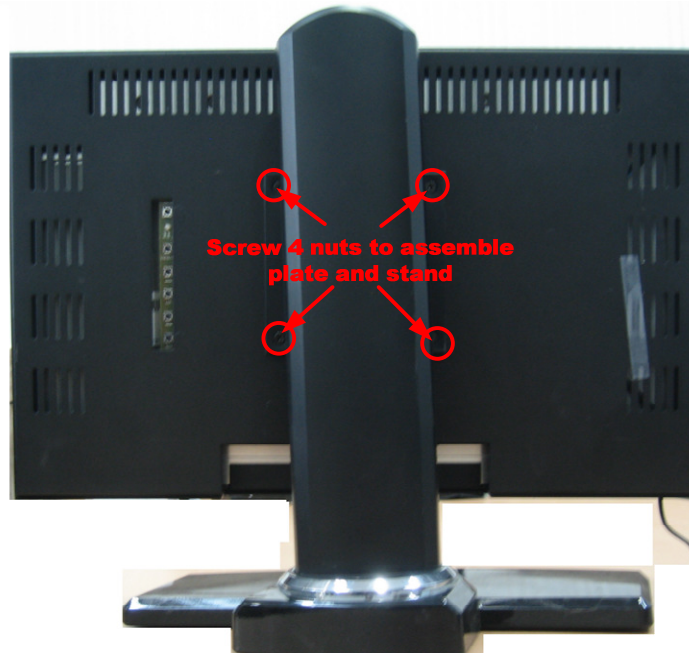




### 3. Before You Begin

#### 3.1 Plate and Stand Assembly

Assemble Plate and Stand by screwing 4 nuts.



**V1000Pit** displaying PFD, MFD and Scenery

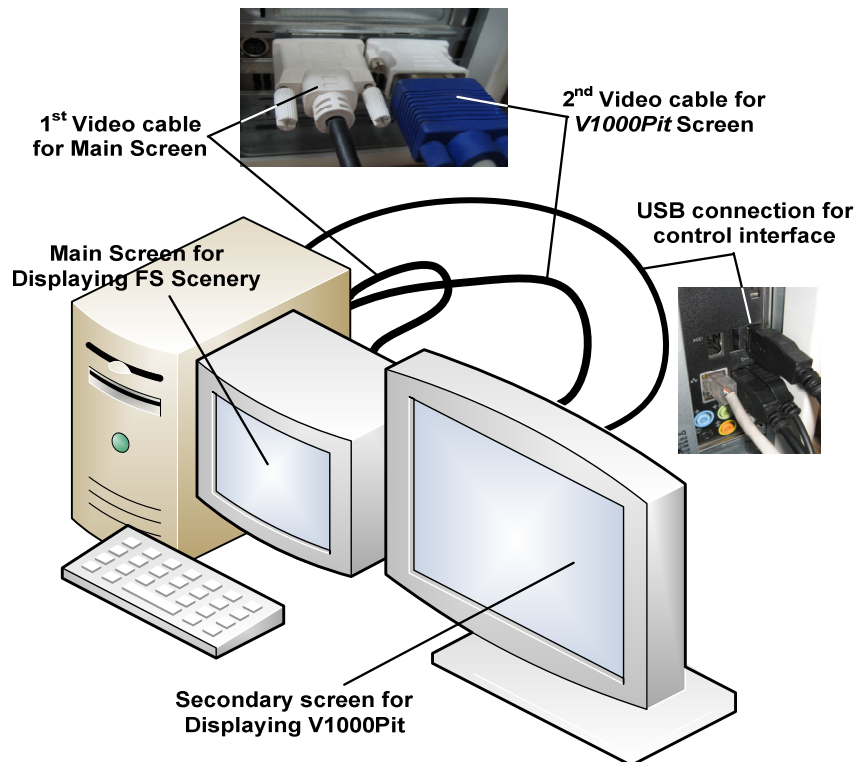


**V1000Pit**, displaying PFD, MFD and Stand-by gauge. Additional plate for Stand-By gauge

window is included in the deliverable package.



### 3.2 Plug/Connection Diagram



## VIDEO Connection:

**V1000Pit** requires a free video (DVI or RGB) ports to display G-1000's PFD and MFD glass cockpit gauges. Two video ports are available in the modern video adaptor.

**Most video adaptor has two  
DVI or RGB port.**



Two screens, one for main screen and the other for **V1000Pit** can be connected to single two-ported video adaptor.

## USB Connection:

USB connection is used to interface control inputs of **V1000Pit** rotary knobs and push buttons to your computer. Plug USB cable into one USB port on your computer. If you want to use a USB hub, be sure that the USB hub must compliant with USB 2.0 standard. Otherwise it may cause a malfunction.

## Power Connection:

Power supplying of **V1000Pit**'s TFT LCD monitor is done by supplied 110V / 220V free-volt power adaptor and cable.

## 3.3 Dual-Screen Set-up

**V1000Pit** is connected to PC and configured as extended 2<sup>nd</sup> screen where G-1000 glass cockpit gauge window is displayed. As **V1000Pit**'s video cable is connected to your PC's video adaptor, it will be detected automatically and desk-top image must be displayed.

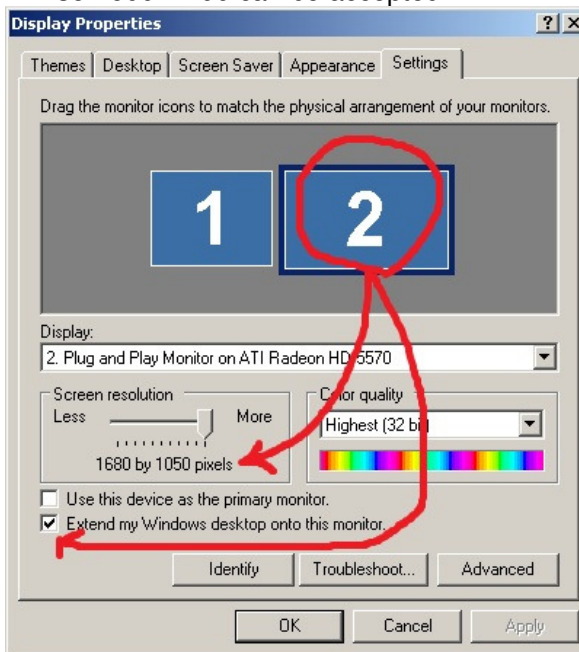
V1000Pit's screen should be configured as following set-up;

- Multiple display type as "extended display"
- Screen resolution as 1600x1200 or 1680x1050(recommended)

Multiple display type and screen resolution can be reconfigured through "Display Properties" (Windows XP) or "Screen Resolution" (Windows Vista and 7) window.

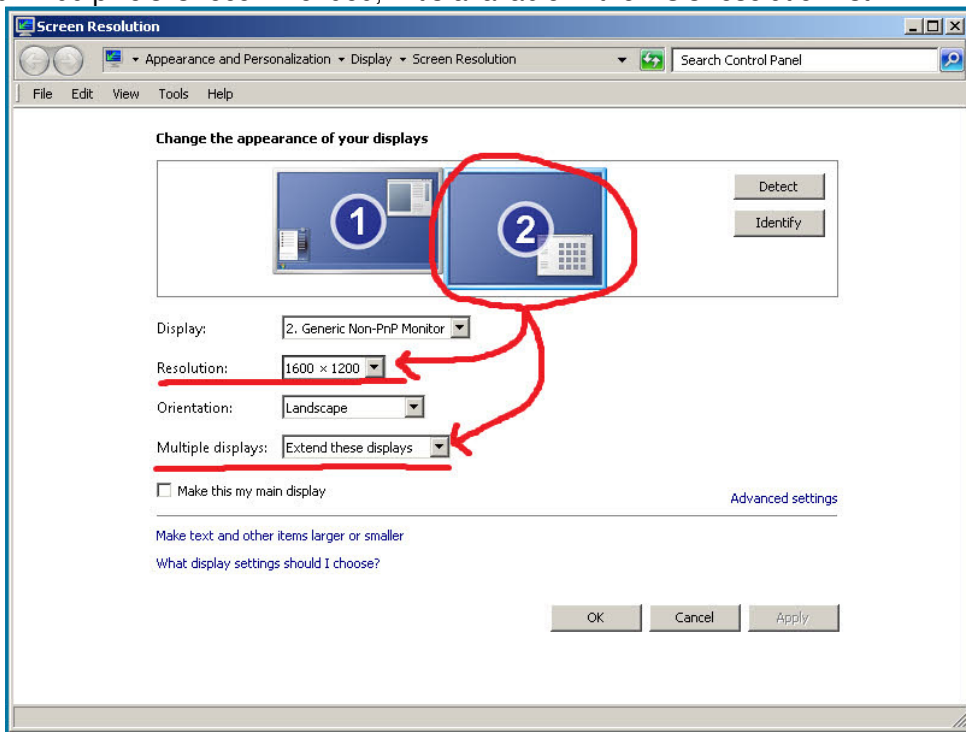
### “Display Properties” (Windows XP)

Note: Screen resolution is shown as recommended 1680x1050 pixels in the picture below. Also 1600x1200 can be accepted.



### “Screen Resolution” (Windows Vista and 7)

Note: Screen resolution is shown as 1600x1200 pixels in the picture. Resolution of 1600x1200 pixels is recommended, if it's available in the PC's resolution list.





**Trouble Shooting:** When **V100Pit** screen display nothing or black,

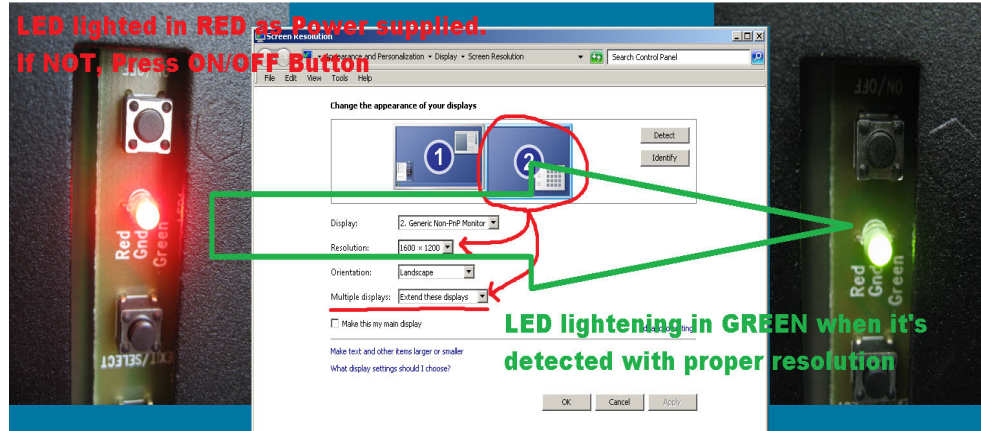
- Be sure NO BENTED PINS in VGA connector and securely connect video cable between V1000Pit and PC's video adaptor



- V1000Pit's LCD screen power is supplied properly. Power LED should be lightening in RED or Green. Press power button when NO LED IS LIGHTENING.



- Open "Screen Resolution" or "Screen Properties" window and Press "Detect" button to activate **V1000Pit**'s screen as 2<sup>nd</sup> extended screen. Power LED light will be lightening in Green as it displaying desk-top image.



### 3.4 Additional Software

#### **Minstar Aviation G-1000** (*highly recommended*)

V1000Pit's hardware featuring modern GA aircraft's glass avionic suits is made of PFD and MFD of G1000 Integrated Flight Deck on Microsoft's Flight Simulator; FS9 and FSX. Whereas, implemented functions are limited by aircraft and cockpit type to be used. Functionalities of original aircraft's G-1000 is very limited. Mindstar Aviation's Garmin G1000 for Microsoft's Flight Simulator is recommended, where as many functions as are presented in real units. Mindstar Aviation's G-1000 software is updating continuously for more functionality as real one. Visit web site for implemented feature lists at following link;

[http://www.mindstarprods.com/aviation/G1000\\_Features.html](http://www.mindstarprods.com/aviation/G1000_Features.html)

#### **FSUIPC** (*mandatory*)

VRinsight's V1000Pit is interfaced to Microsoft's Flight Simulator via FSUIPC and provided software "SerialFP2". FSUIPC written by Pete Dowson enables an interface between Microsoft's Flight Simulator (FS9 and FSX) and external software (or hardware). Thus, you must install this software otherwise V1000Pit will not interface with MSFSX/FS9. FSUIPC software is free but you have the option to pay for additional features in FSUIPC. You don't need the paid version to use with V1000Pit and run "SerialFP2" software. Compatible version of FSUIPC is 3.7 (FS9) and 4.2 (FSX) or above.

Download latest version of FSUIPC at Pete Dowson's official home page;

<http://www.schiratti.com/dowson.html>

#### **HOW-TO: Check installed version of FSUIPC and Re-Install**

FSUIPC is installed in "Modules" folder under MSFS is installed. Full path string would be as follows, if it was standard installation;

FS9:

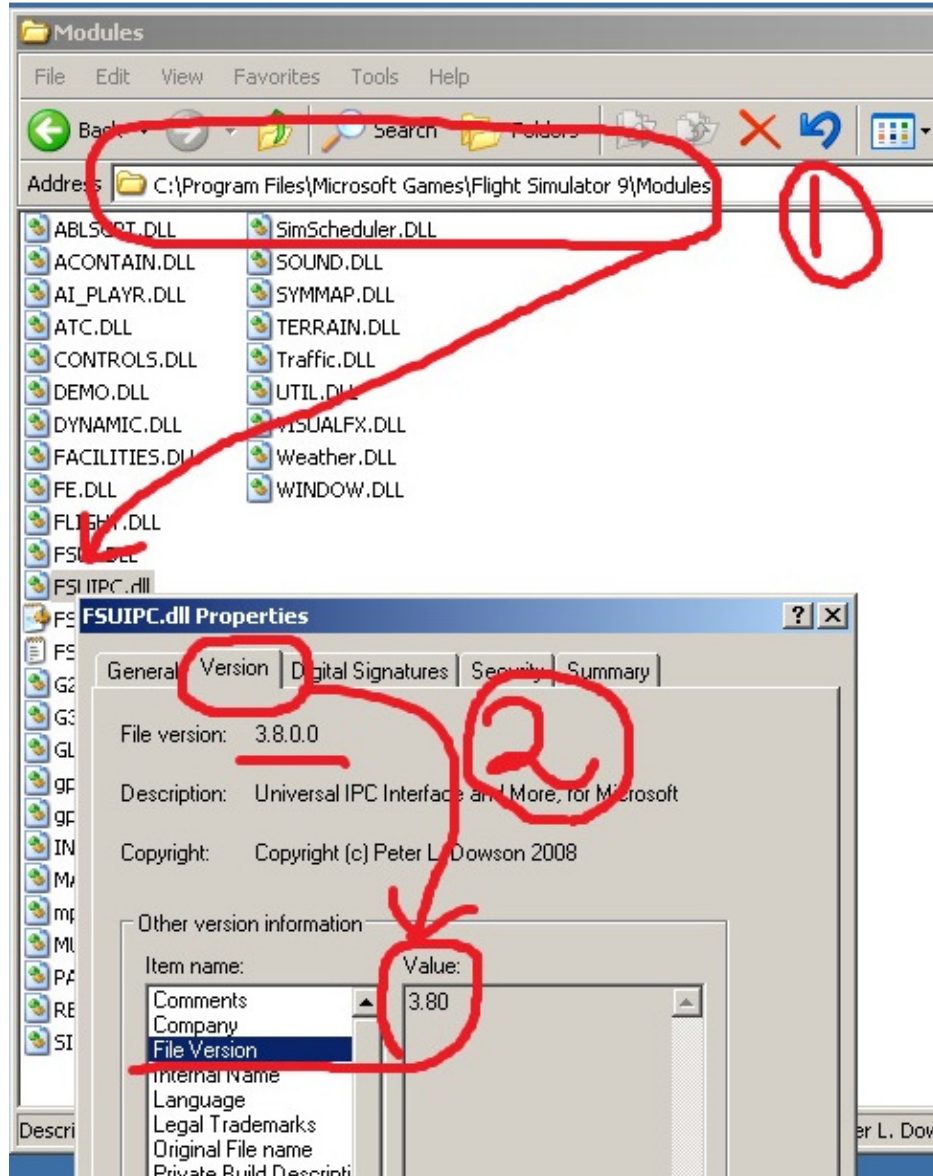
"C:\Program Files\Microsoft Games\Flight Simulator 9\Modules"

FSX:

"C:\Program Files\Microsoft Games\Flight Simulator X\Modules"

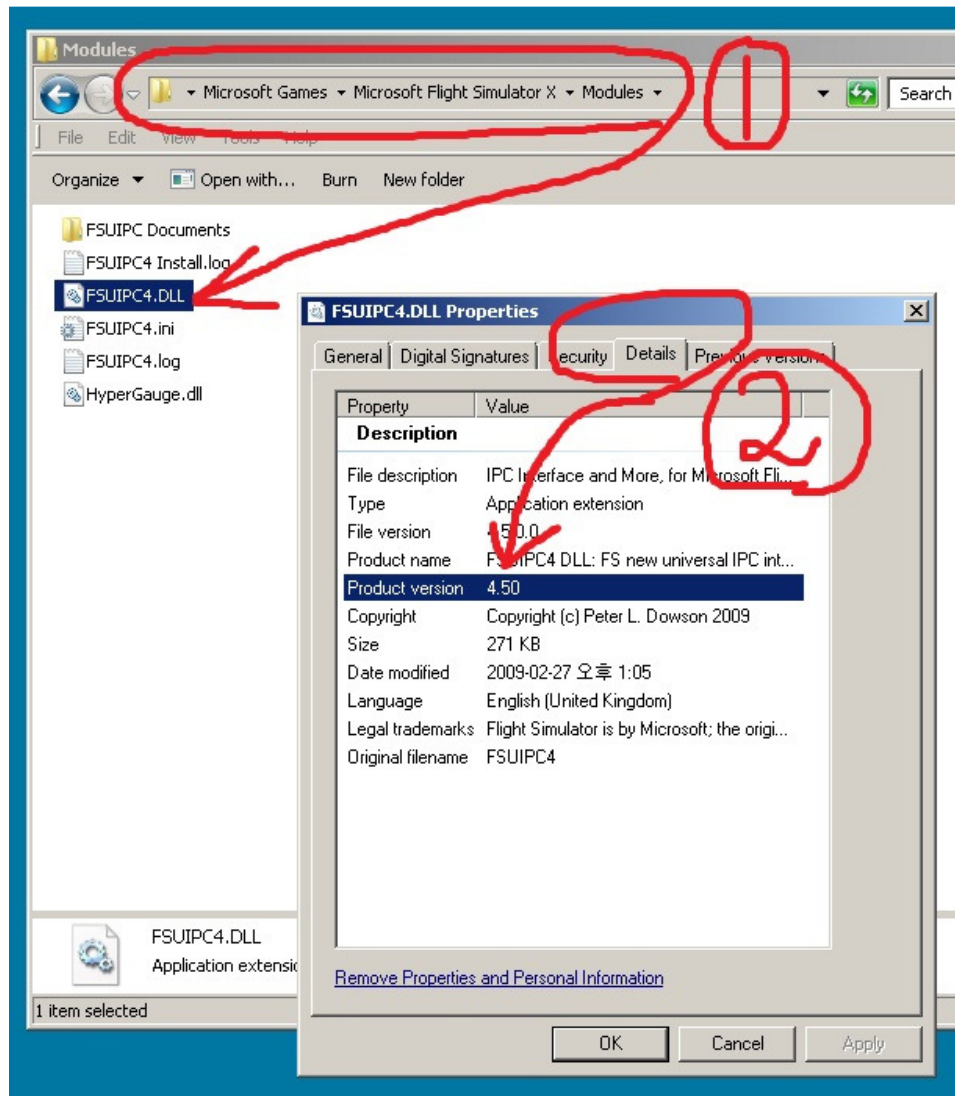
FSUIPC file could be installed without knowing, when you installed add-on aircraft. Verifying installed FSUIPC's version is highly recommended. Major version number of FSUIPC represents which MSFS is for. FSUIPC 3.xx is for FS9. FSUIPC 4 is for FSX. To check the version of installed FSUIPC, see relevant number in the screen shot images. Find file "FSUIPC.dll" in the "MSFS" "Modules" folder (1) and see version information of the file properties (2).

Following screen shot image is taken in Windows XP and FS9(2004). FSUIPC's version number should be 3.7 or above.



FSUIPC for FS9(2004), can be re-installed easily. Download latest version of FSUIPC 3.XX at Pete Dowson's official home page. Extract "FSUIPC.dll" in the downloaded zip archive and copy into the "Modules" folder (or replace with, if it's exists).

Following screen shot image is taken in Windows 7(Vista) and FSX. FSUIPC's version number should be 4.2 or above.



Installation procedure of FSUIPC4 is a bit different from version 3. It is installing executable. Download latest version of FSUIPC 4 at Pete Dowson's official home page. Extract "Install FSUIPC4.exe" in the downloaded zip archive and run it. Installation procedure will be proceeded with finding FSX path and coping "FSUIPC4.dll". Finally, it'll be prompted for registration code input. Then, press "Cancel" button.

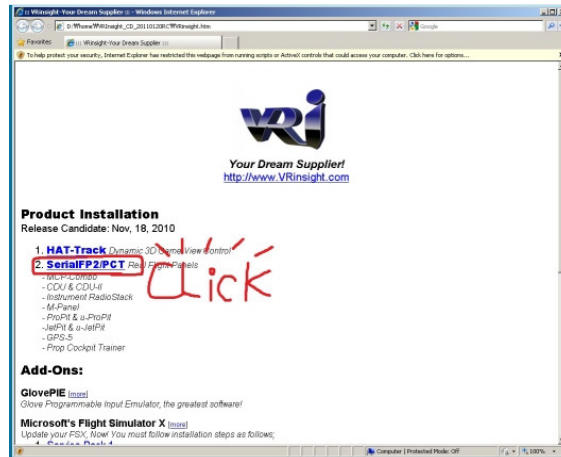


## 4. Software Installation

### 4.1 Install Software

Driver and application software is installed to make V1000Pit work in the PC.

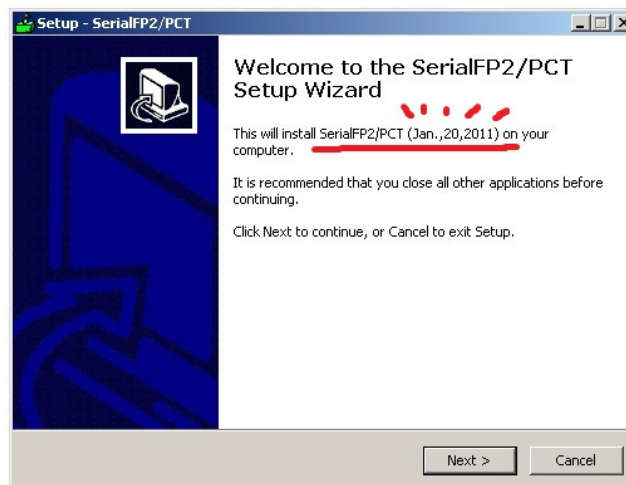
1. Detach all VRinsight's units from USB port. Then, power up the PC.
2. Insert supplied DVD. It will launch internet browser showing start-up page. Click link named "SerialFP2/PCT".



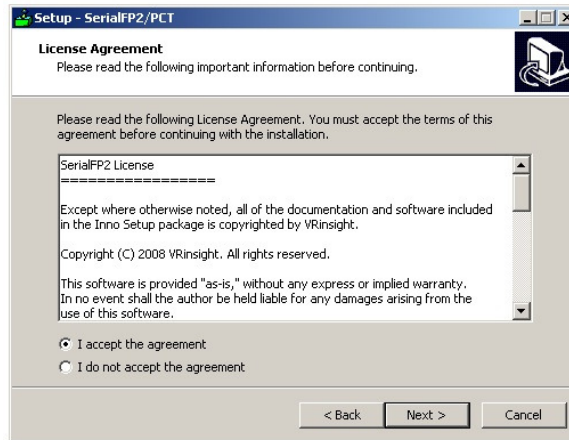
Up to PC's environment setting, above page could not be launched automatically. Installation set-up file can be found in the supplied DVD at the folder path, "SerialFP2\setup.exe". Run "setup.exe" by double-clicking it.



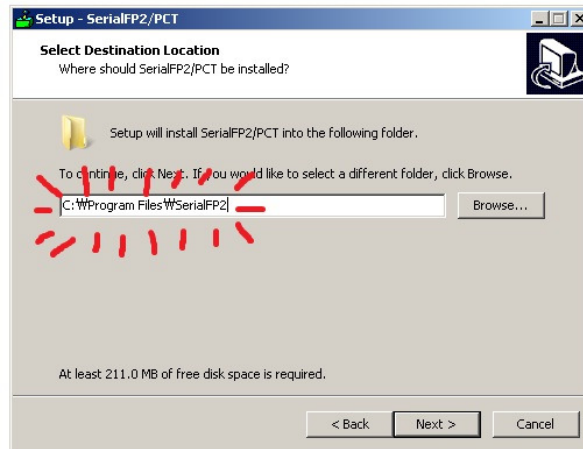
3. Check installer version and release date which is close of today. Visit VRinsight's home page ( <http://www.vrinsight.com> ) frequently for the latest software. Press "Next"



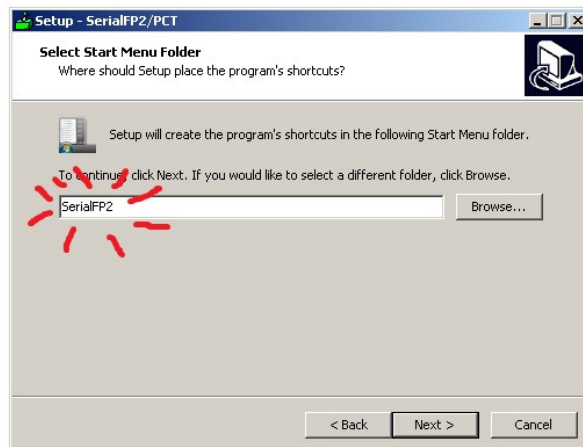
4. License Agreement. Accept it and press “Next”



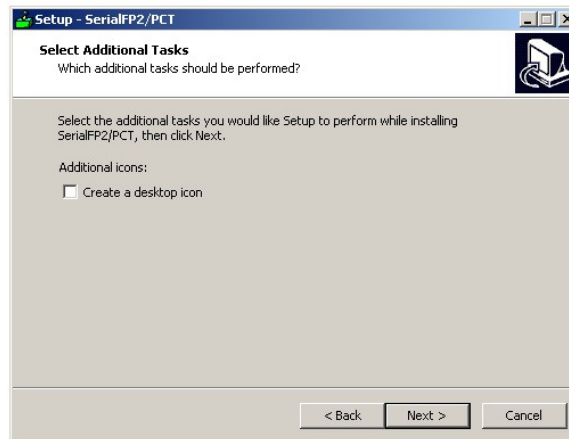
5. Destination folder where the software is copied. It could be changed to preferred path, but default path is highly recommended. Then, press “Next”



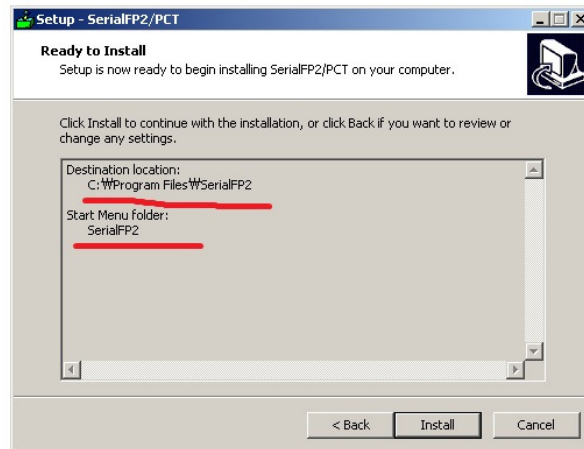
6. Start menu folder named to “SerialFP”. Ok, press “Next”.



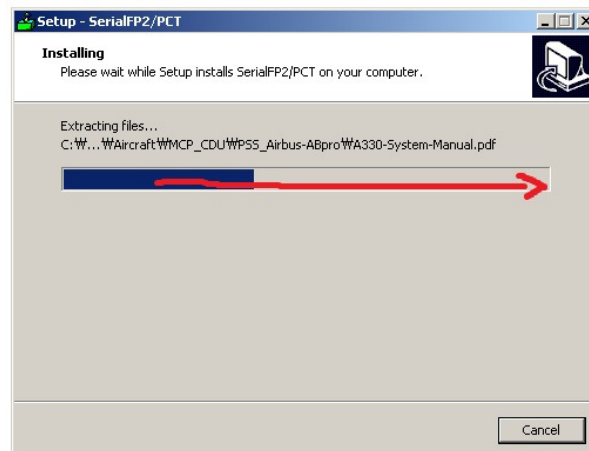
7. There's nothing to do additionally. Press "Next".



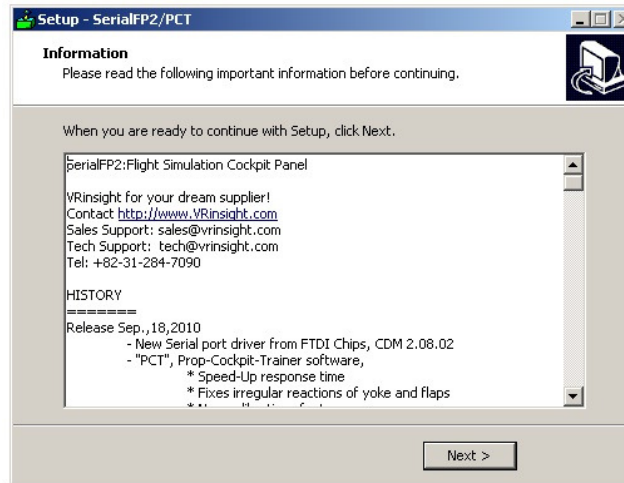
8. Are you ready to install? Review installation options; destination folder and program group. Press "Next"



9. Now installing... Files are extracted and copied into destination folder. Do NOT cancel installation process. Wait for progress bar is reaching to the end.



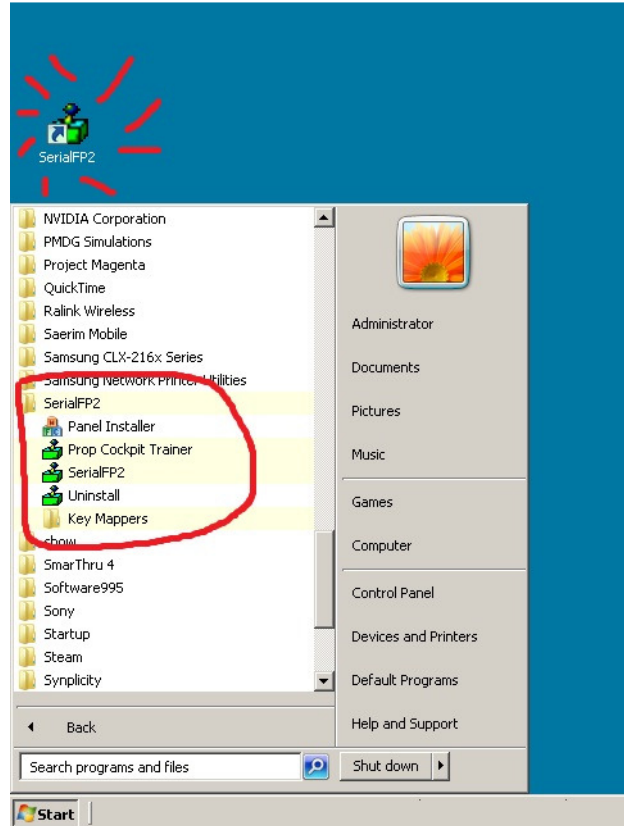
10. Read useful information; web site, contact point, e-mail address for the support, etc. As the installation is to an end, it is unable to go back. Just press “Next”



11. Software installation is completed. To install (hardware interfacing) device driver, Be sure to CHECK “Install USB\_Serial Driver”. Then, press “Finish” button.



12. Command window could be shown during driver installation. Just wait until it is closed. It may take a minute according to PC's status.
13. As installation of application software and hardware driver is completed, short-cut icon for “SerialFP2” is added to the PC's desk-top. Also, program group named “SerialFP2” is added in the “Start”. There are application's icons for “SerialFP2” and “Panel Installer” under the program group.



## 4.2 “Panel Installer”

### What is “Panel Installer”

Generally, aircraft's cockpit gauges are displayed with scenery in a single screen. If it is dual screen configuration, scenery and/or gauges are displayed in the separated screen. It resolves limitations of visual environment and helps gauge reading.



Gauges on the dashboard can be zoomed and undocked from the single screen cockpit view. These undocked gauge windows could be re-sized and moved to any position of PC's current display area.



V1000Pit is not only input control device made of knobs and buttons but also additional screen extending PC's display area. To make undocked gauge windows fit into **V1000Pit's** display, aircraft's panel configuration file (panel.cfg) would be modified. The software, "Panel Installer" does this modification automatically.

### How to start "Panel Installer"

Run "Panel Installer" that can be found in the program group "SerialFP".

1. Go to Windows "Start"
2. Find program group "SerialFP2"
3. Click "Panel Installer"

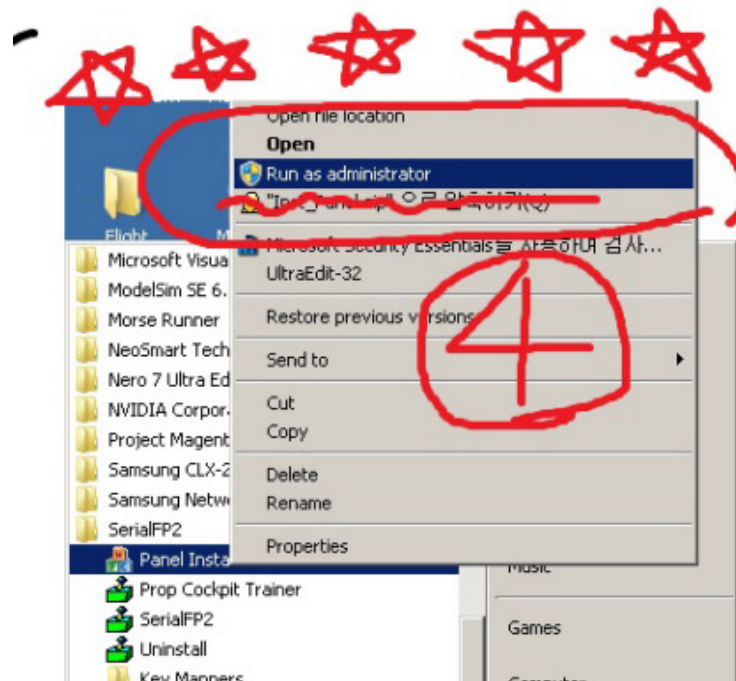
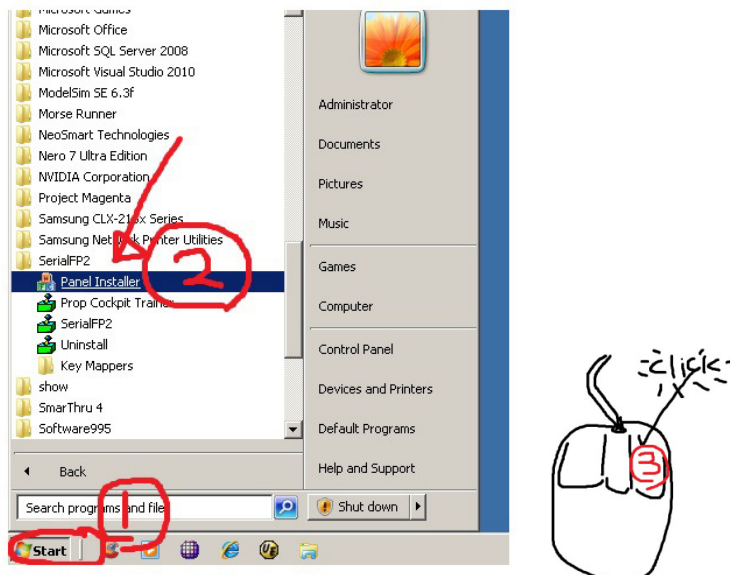
### IMPORTANT NOTE: "Run As Administrator"

Windows 7 and Vista has more intensive security policy for system safety from accidental corruption of system files. A user can't access system folder (i.e. "Program Files", "Windows") for reading and writing, even if he/she has administrator's privilege. To access these folders, he/she must be "Administrator".

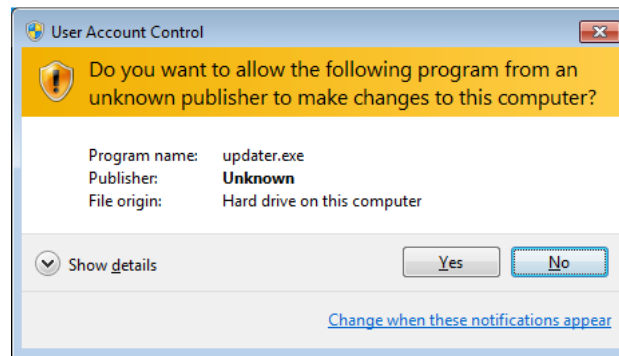
"Panel Installer" or "SerialFP2" try to access system folder to know where FSX is installed. But it could be blocked if it's not "Run As Administrator". So, please do as following procedure to run softwares,

- (1) Go to "Start" and find program group "SerialFP2"
- (2) Place mouse pointer upon "Panel Installer"
- (3) Click right mouse button then "Run As Administrator"





You'll see a UAC message if you try to "run as administrator". Press "Yes" to allow the software running.



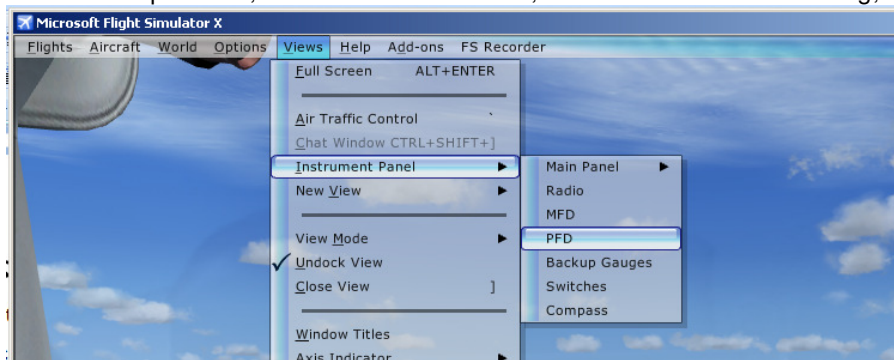
Want to know more about UAC (User Account Control)?  
[http://en.wikipedia.org/wiki/User\\_Account\\_Control](http://en.wikipedia.org/wiki/User_Account_Control)



## 5. Quick Start

In this section, it describes how to fly with V1000Pit and Microsoft's original aircrafts.

1. Complete hardware set-up between PC and V1000Pit
2. Install SerialFP2 software. Panel Installer is NOT needed for MSFS original Aircrafts
3. Run FSX and select an aircraft that has G-1000 cockpit. There're three aircraft types available;
  - Cessna 172SP Skyhawk G1000
  - Beechcraft Baron 58 G1000
  - Mooney Bravo G1000
4. Open G-1000 gauge windows; PFD, MFD and Backup Gauges.
  - To open PFD, MFD instrument window, follow FSX menu as following;



- Make three instrument windows undocked. Place mouse pointer to the instrument window and press right mouse button. You can choose "Undock Window" menu.



- Now three undocked instrument windows could be moved out of MS-FSX

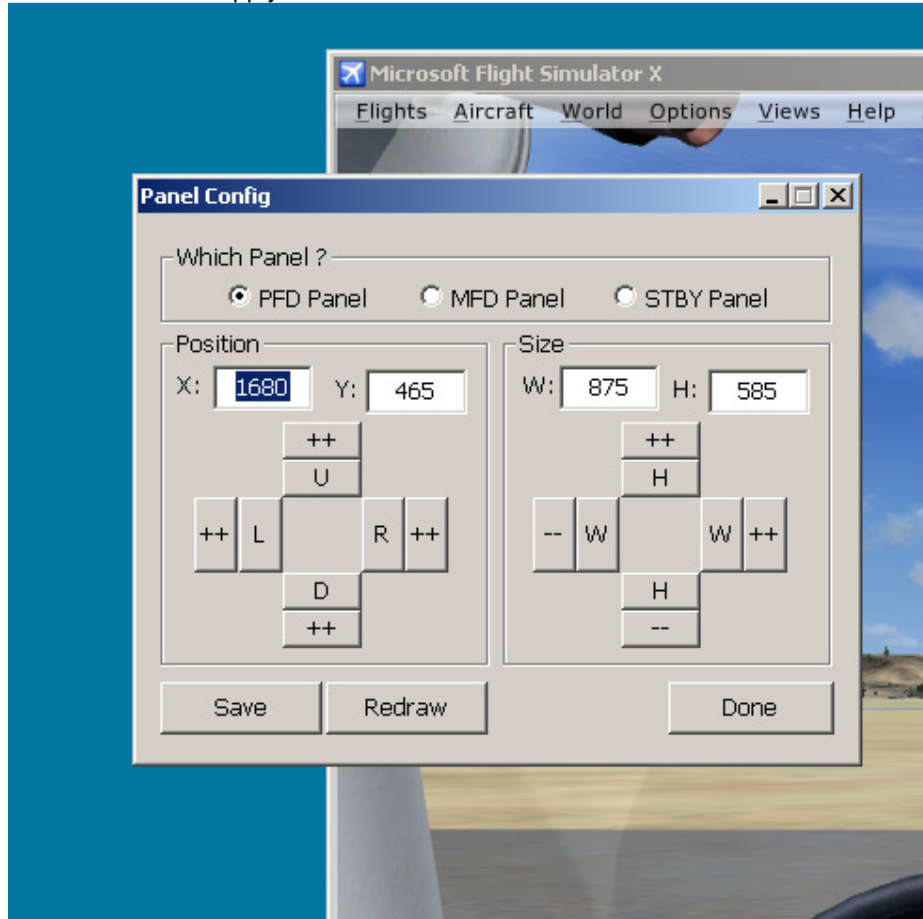


5. Run SerialFP2.

- (1) It shows connected panel "type" as "V1Kpt".
- (2) Select Aircraft option as "MSFS Aircrafts/STBY (FSX)"
- (3) Press "Load FS Module"



6. Instrument window will be moved to V1000Pit's screen. These windows can be resized or repositioned.
  - Select panel to be resized and repositioned in the "Which Panel?"
  - Give upper-left corner "Position" of X and Y, and "Size" values as Width and Height and press "Redraw" button to apply new window information.



7. Press "Save" button to save current status. Then press "Done" button
8. All done.