

MCP combo panel USER MANUAL

(MEA2.520-5JAN09)

Please read this manual before operating your
units and keep it for future reference



All stated here is subject to change without advanced notice for improvement.

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BEFORE USE : Thanks for purchasing VRi's MCP Combo panel.
Before operating your units, please read through this manual and keep it for future reference.
For any further question, visit VRi's web-site (www.vrinsight.com) or contact as below;

Tel : +082-31-284-7090 (7091)
Fax : +082-31-284-7092
E-mail (Support team) : tech@vrinsight.com

NOTE : This manual could be redistributed unless you modify the contents.
This manual has been written out on a Serial FP v2/Jet Liner's MCP combo panel basis.

All software (& software versions) stated here (MEA2.520-5JAN09) is subject to change without advanced notice for improvement.

If you want to download the latest driver version for panel & application programs, visit www.vrinsight.com

Box contents



VRinsight MCP combo panel



The **MCP combo panel** of **VRinsight** features various types of aircrafts' panel with full control complement ; default aircrafts of MSFS, most freeware and commercial add-on aircraft (Wilco's B737 Classic, PMDG's B737NG & 744, Level-D's B767-300 and PSS' A319,320,330,340). It is completely interfaced with MSFS9 and MSFSX through add-on software ***SerialFP2*** which enables **MCP combo panel** to perform full simulation with simple connection your computer through USB. Package including universal power supply adaptor (DC 5V).

The **MCP combo panel** is comprised of EFIS, MCP & COM (Instrument Radio) part to understand advanced flight controls for beginners and less advanced users starting flight simulation games at a first step.

Each control part; EFIS, MCP & COM has push buttons, rotary knobs, toggle S/Ws and/or 2 line character type LCDs offers actual flight circumstance with full control complement.

- **SerialFP2** software supports all functions to MCP combo panel
- MCP combo panel consumes high power. To avoid malfunction , do not use many other USB interfacing devices. We recommend using external power supply (DC 5V adaptor)
- 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.



EFIS part

MCP part

COM part

The MCP combo panel features the following controls:

EFIS part :

- Toggle S/Ws for VOR1,2/ADF1,2 .
- Knob S/Ws for MINS, BARO, CTR ; ND mode selector and TFC.
- Push buttons for FPV, MTR, WXR, NAVAID, WPT, ARPT, DATA
- All buttons and rotary knobs are user-programmable

MCP part :

- 2 line character type LCD displaying SPD, HDG, ALT and Pitch & Bank at Autopilot Status
- On/Off toggle S/Ws for F/D, A/T
- Thrust mode selection buttons: N1, SPD, FLCH
- Push buttons for HDG SEL & HOLD, ALT HOLD, V/S SEL, TOGA, CRZ, VNAV, LNAV, CMDA, CMDB, CMDC, LOC, CWSA(Y/D), CWSB(BCRS), APP
- On/Off toggle switch for DISENGAGE.

COM(Instrument Radio) and 8-User programmable control part :

- 2 line character type LCD displaying COM & NAV AID Frequencies, DME distance, speed, VOR ID & CRS, Squawk code
- 5 push buttons for Instrument radio function selector (COM, NAV, ADF, DME, TRANSPONDER)
- Rotary knob for NAV AID's frequency change, CRS/OBS, Squawk Code
- TFR button for activating stand-by frequency
- 8 User programmable control buttons

Features

- Integrated unit with full radio stack function : EFIS part, MCP part, COM part
- All necessary buttons, switches and LCD panel to input SPD, VOR, HDG and all other functions for getting close to real flight.
- Offer actual flight circumstance via MCP combo panel with full control complement
- Full metal cases
- One year warranty

Technical specifications

- USB interface type to computer
- External power requirement : DC 5V adaptor or USB power supply type to MCP combo panel. We recommend using DC 5V adaptor.
- 50cm(W) x 14cm(H)
- 4Kg

Compatibility software

- Flight simulator 2004 / FSX by Microsoft

Operating software

- SerialFP2

SerialFP2 Installation

With MCP combo panel, an “Install DVD” is included. When you insert it in DVD driver of your computer, “*VRinsight HTML*” document will be shown. Then click “SerialFP2” (operating software) and install it at a proper folder.

“SerialFP2” is the main operating software of VRinsight used for all VRinsight flight panels.

SerialFP2 software supports full functions of MCP combo panel and completely interfaced with MSFS9 and MSFSX enables full simulation with simple connection with your computer through USB.

Be sure that when installing SerialFP2, “Install USB-Serial Driver” must be checked.

After installation, you can find “SeiralFP2” in “All programs” of “Start menu”.

USB Connection

The connection between MCP combo panel and your computer is made using a USB cable that plugs into an 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.**

When you connect MCP combo panel to your computer at first, your computer will detect it and will describe the process step by step.

Power Connection

Power supplying of MCP combo panel is done by universal power supply adaptor DC 5V (Included in package) and/or USB port of your computer. Make sure that before trying to operate MCP combo panel, you must confirm the USB connection first in order to prevent malfunction.

Before trying to operate, be sure that LCD displaying is shown.

Run “SerialFP2”

When you confirm all setup processes done; “SerialFP2” installation, “USB connection” and “Power connection”, you are ready to operate MCP combo panel.

Download & install “FSUIPC”

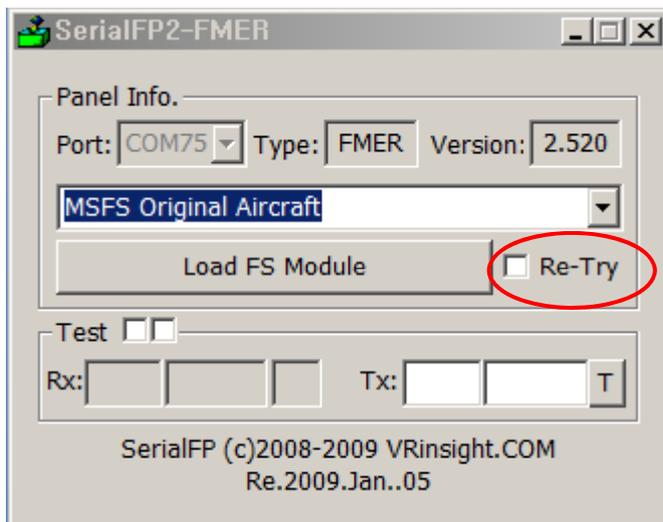
Refer to “Download & install FSUIPC” at “Download” part of www.vrinsight.com

Double click shortcut of “SerialFP2” or find it in “All programs” of “Start menu .
If everything is done properly, below window will be shown.

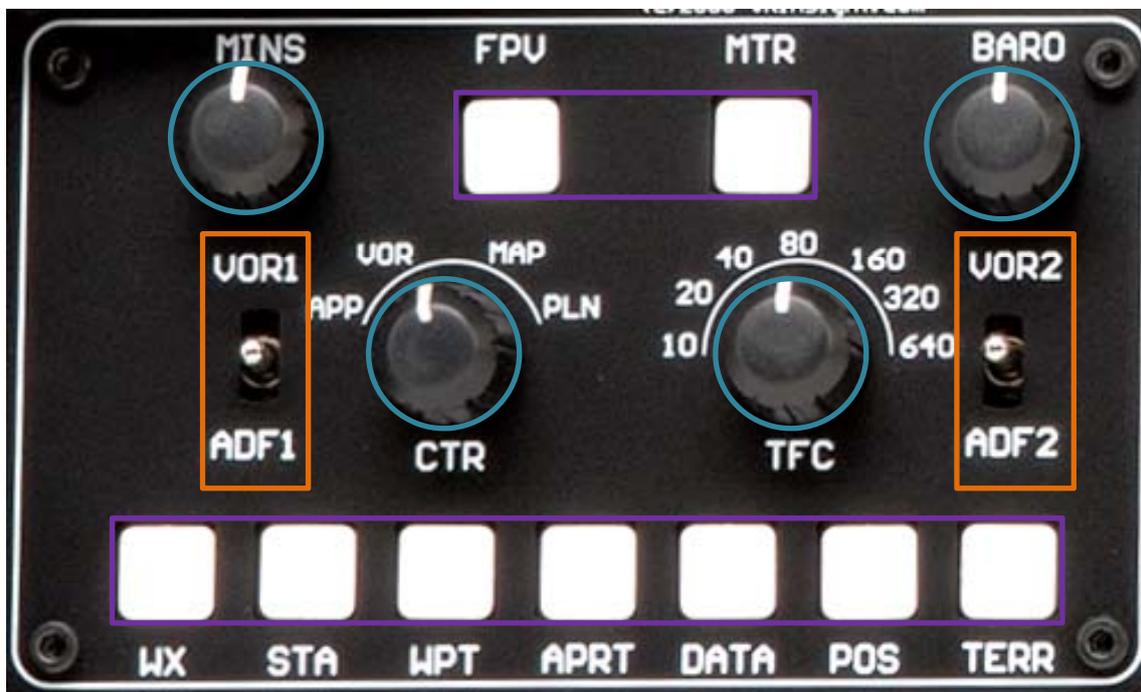


Run MSFS9 / MSFSX and run SerialFP2. Drop down “Select Aircraft” to select aircrafts and press “Load FS Module” button.

*** Before operate MCP combo panel, check “Re-Try”.**



EFIS part controls explanation



EFIS (Electronic Flight Instrument System) : It is used to control the respective Primary Flight Display (PFD) and Navigation Display (ND). EFIS panel includes controls for selecting various modes and ranges on the ND as well as switches to display NAVAIDS, waypoint, airports and etc. Two toggle S/Ws allow displaying of the left and right VOR and ADF bearing pointer on the ND. Controls are available to set barometric altimeter settings for displaying on the PFD.

- The functions of each button and knob can be differed from the explanation according to the aircraft's implementation. Also, buttons and knobs are user programmable for another functionality.



Toggle
S/W

L or R VOR / ADF switch : Select NAVAID between VOR or ADF.



Pushing : Resets or blanks PFD display
Rotating : Adjusts PFD radio or baro minimums altitude



Pushing : Displays preselected barometric setting
Rotating : Adjusts barometric reference



Pushing : Displays full compass rose for APP, VOR and MAP modes. Subsequent pushing alternates between expanded and centered displays
Rotating : Changes ND(Navigation Display) mode among APP, VOR, MAP, PLN.



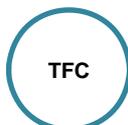
Rotate &
Push

APP : Approach mode, displays ILS, localizer and glide slope information in heading up format. Reference ILS receiver, ILS frequency or identification, course and DME

VOR : VOR mode, displays VOR navigation information in heading up format. Reference VOR receiver, VOR frequency or identification, course and DME and TO/FROM information

MAP : Map mode, displays FMC-generated route and map information airplane position, heading and track in tracking-up format. Displays waypoints, including the active waypoint within the selected range. Also displays VNAV deviation

PLN : Plan mode, displays a stationary true north-up route depiction. Route may be reviewed selecting "STEP" at using the CDU legs



Pushing : Displays TCAS information on the ND
Rotating : Selects the desired ND nautical miles range scale



Push SW

FPV

Displays flight path vectors on PFD

MTRS

Displays PFD altitude meters indications

MAP buttons : Selects or removes ND information. More than one displayed may be selected at a time

WXR

Displays weather radar information

STA

Displays high and low altitude navigation aids in the 10, 20 or 40 NM range and high altitude navigation aids only if range is selected above 40 NM

WPT

Displays waypoints if range selector is set to 10, 20 or 40 NM

ARPT

Displays airports information ; ID, distance and etc

DATA

Displays the FMC estimated time of arrival and altitude at each waypoint

POS

Displays ADIRU and both GPS positions and VOR raw data radials extended from the nose of the airplane to the stations

TERR

Displays the Enhanced Ground Proximity Warning System terrain data on the ND. The data is mutually exclusive of WXR data, so selecting one deselects the other.

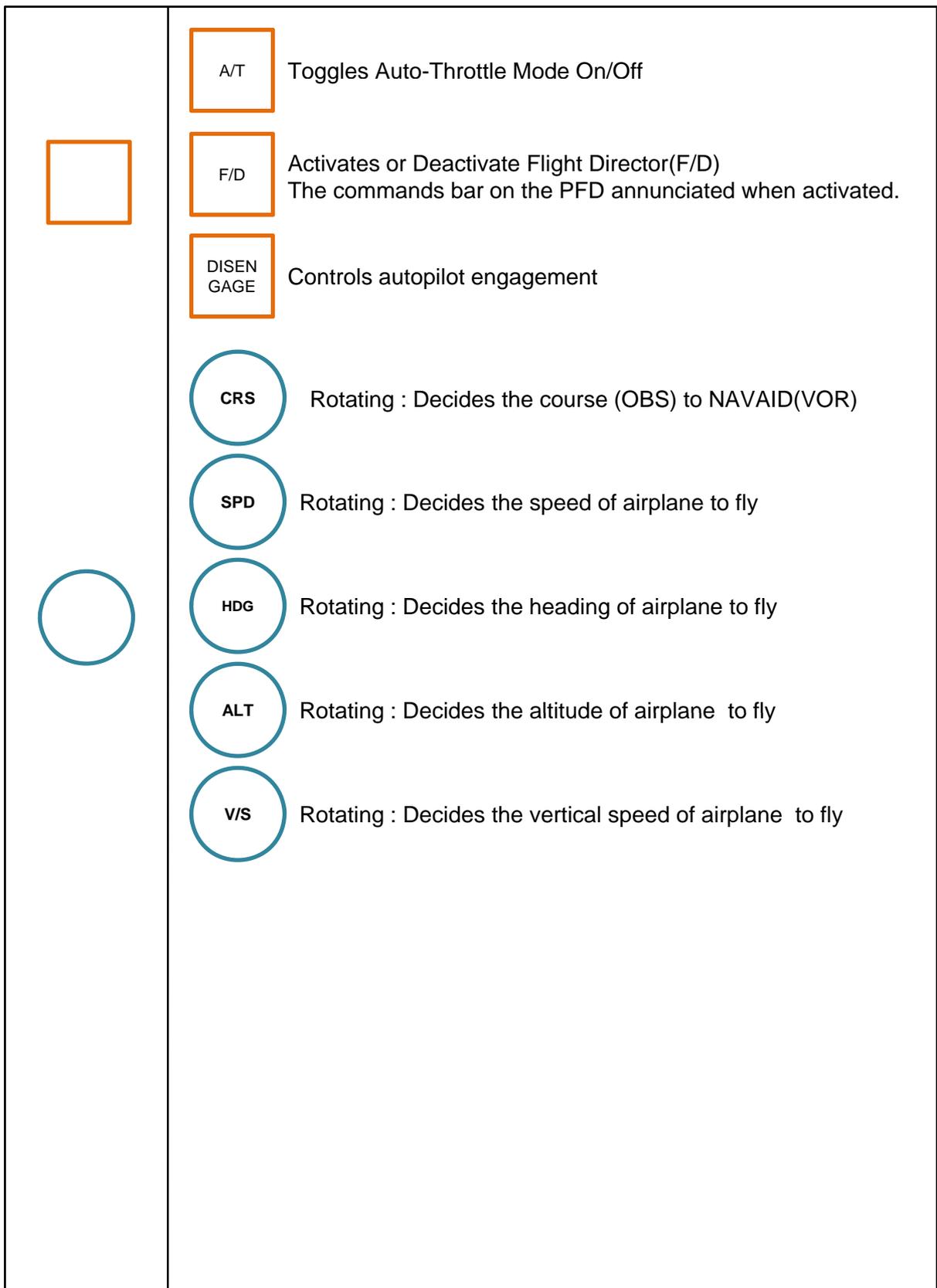
Between WXR and TERR the priorities are :

- Terrain warning
- Predictive wind shear warning
- Terrain caution
- PWS caution

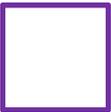
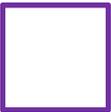
MCP part controls explanation



MCP (Mode Control Panel) : It provides control of the Autopilot, Flight Director, Altitude alert and Auto-throttle System. The MCP is used to select and activate Autopilot Flight Director System, (AFDS) modes and establish altitudes, speeds and climb/descent profiles.



	<div data-bbox="429 362 539 472">TOGA</div> <div data-bbox="564 362 675 472">CRZ</div> <p data-bbox="707 392 1358 459">In takeoff / go-around / Cruise : Generates certain torque with A/T is On.</p> <div data-bbox="429 512 539 622">N1</div> <div data-bbox="564 512 675 622">SPD</div> <div data-bbox="703 512 813 622">FLCH</div> <p data-bbox="587 645 1324 745">Changes the flight level to the altitude indicated on LCD Displayed on PFD pitch flight mode annunciator as pitch mode and auto-throttle automatically engaged.</p> <div data-bbox="429 786 539 896">HDG SEL</div> <div data-bbox="564 786 675 896">HDG HLD</div> <p data-bbox="722 808 1326 875">Autopilot heading mode: Heading Select(HDG SEL), Heading Hold (HDG HLD)</p> <p data-bbox="512 913 1187 981">HDG SEL sets heading on LCD, PFD and ND HDG HLD holds heading established at wings level.</p> <div data-bbox="236 1055 346 1164"></div> <div data-bbox="429 1041 539 1151">ALT HLD</div> <p data-bbox="557 1048 1342 1149">Engages Altitude as a pitch mode and displays it PFD pitch flight mode annunciator. AFDS commands pitch to maintain Altitude</p> <div data-bbox="429 1207 539 1317">VNAV</div> <p data-bbox="557 1214 1362 1314">Takes over and controls the pitch and airspeed in accordance with a pre-set profile(If VNAV and Auto-throttle armed). VNAV engages above 400 feet radio altitude</p> <div data-bbox="429 1344 539 1453">LVNA</div> <p data-bbox="557 1350 1386 1480">Makes airplane tracking Magenta line on the ND. LVNA engages if airplane is above 50 feet radio altitude, within 2.5 NM of active leg, and within path capture parameters of ground, intercept angle and bank angle, to active leg.</p> <div data-bbox="429 1505 539 1615">CMDA</div> <div data-bbox="564 1505 675 1615">CMDB</div> <div data-bbox="703 1505 813 1615">CMDC</div> <p data-bbox="831 1525 1390 1592">Engages A/P (A, B, C is the number of /AP and is different on the type of airplane)</p> <div data-bbox="429 1641 539 1751">LOC</div> <p data-bbox="557 1664 1310 1731">Engages Localizer and AFDS as roll mode to capture and track inbound on front course</p>
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		Engages vertical speed or flight path angle as pitch mode
		Engages Localizer as roll mode and glide slope as pitch mode. AFDS captures and tracks localizer in LOC mode and capture glide slope in glide slope mode. Localizer captures when intercept track angle is within 120 degrees of localizer course. Glide slope captures when intercept track angle is within 80 degrees of localizer course.
		Yaw Damper
		Back-Course Mode
	LCD display : It shows SPD, HDG, ALT, V/S and Autopilot Status or Aircrafts attitude (Pitch & Bank)	

COM part controls explanation



COM (Instrument Radio) Panel & 8-User Programmable Buttons :
It provides radios stack function and user programmable control buttons

Selection buttons : Buttons are used to carry out a pre-defined function that has been assigned to it by the current menu



8 User programmable control buttons according to the aircraft. Above definitions are the example when it's used with Level-D 767-300ER



Select one of 5 Radio Panel functions.



Swap COM/NAV's standby to Active frequency



AUX button.



Rotate to select COM/NAV/ADF frequency, Squawk Pushes to change the digit



LCD display : It shows the information of COM1 &2, NAV1 & 2, ADF, DME, TRANSPONDER(SQUAWK CODE)



Converts power source
USB : Supplied the power from USB port
Neutral : Power off
EXT : Supplied the power from external power supplier (DC 5V adaptor)

Preparing MCP combo panel before flight

Check installation “SerialFP2”.

Step 1 : Initial check up

As USB cable is plugged into your computer, initial messages are displayed on LCD screen. MCP combo panel has 2-line character type LCD to display various flight data and control information.

NOTE : Please check the Serial No & Version.
All software(& software version) stated here are subject to change without advanced notice for improvement.
Please verify the latest version for panel via www.vrinsight.com



Initial message of MCP part

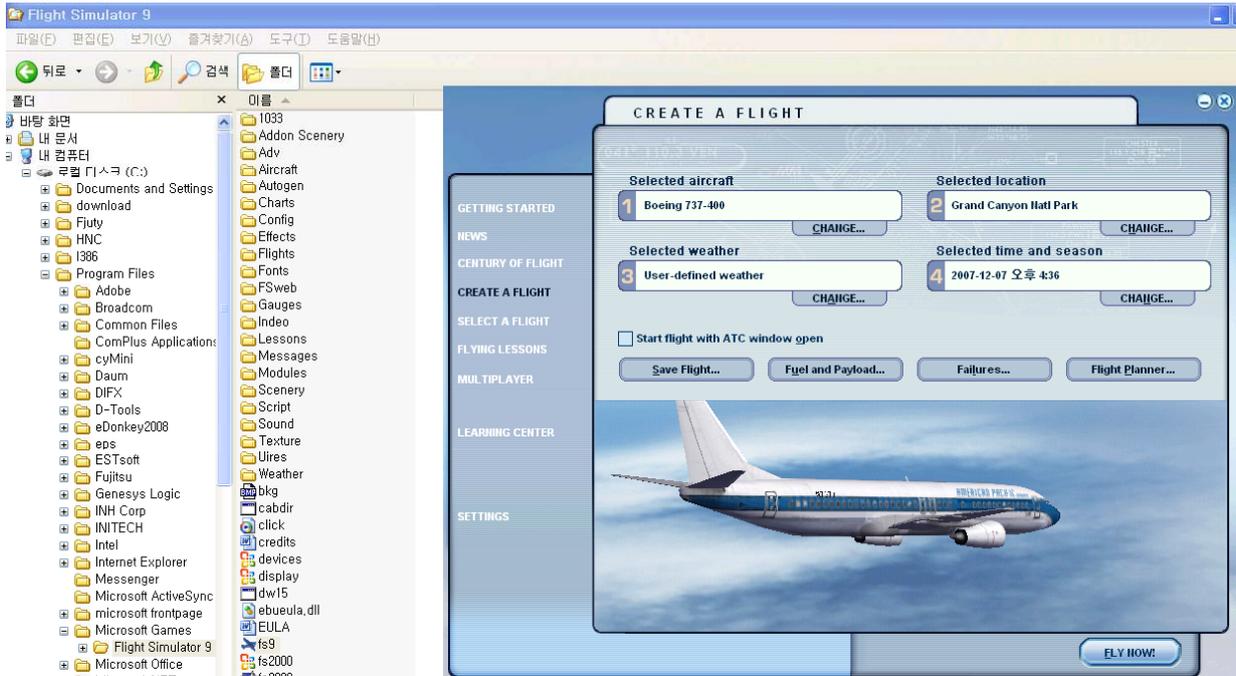


Initial message of COM part

Initial message of MCP combo panel, firmware version is showed up.
LCD blinking is normal. LCD is blinking from time to time until the panel is linked to application software and flight simulator.

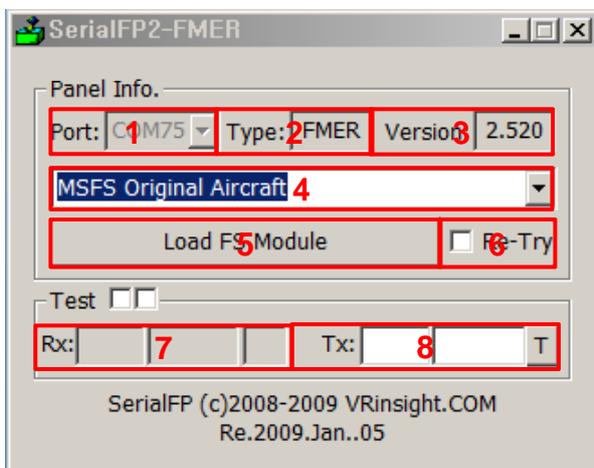
Step 2 : Run flight simulator (MSFS9 / MSFSX)

- 1) Run flight simulator (MSFS9 / MSFSX) before linking USB connected panel to application software “SerialFP2”.
- 2) Select flight.



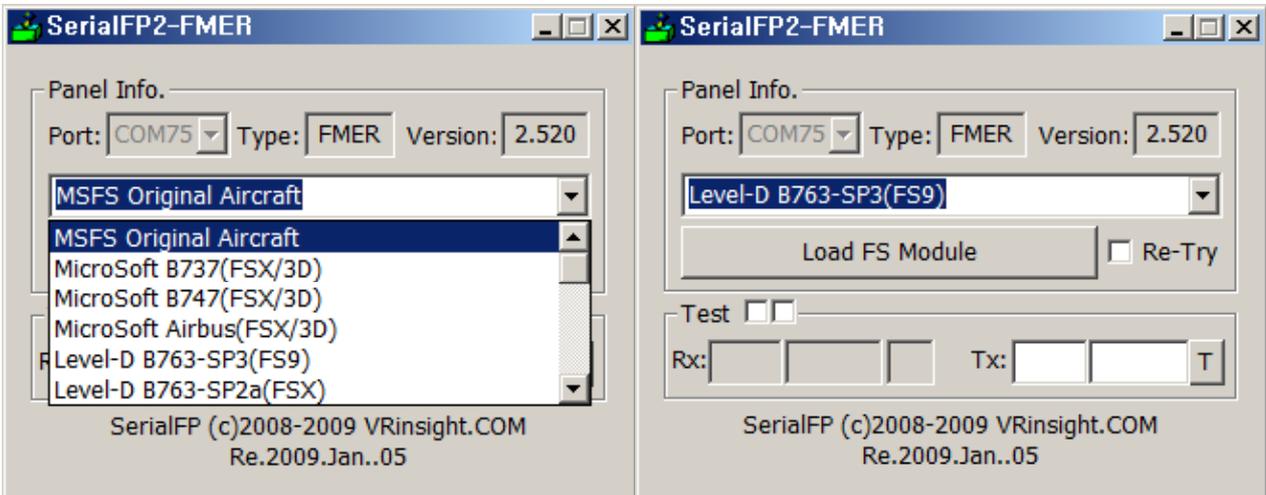
Step 3 : Run panel linking application software “SerialFP2”.

Run application software “SerialFP2” which linking MCP combo panel to flight simulator. Be sure that flight simulator is already started. When you run “SerialFP2”, below window will be shown.



- 1 : Number of COM(USB) port
- 2 : Type of panel
- 3 : Firm ware version
- 4 : Aircraft selection
- 5 : Link to game
- 6 : Software loading sequence change
Original sequence
(MSFS loading first => SerialFP2 running)
New sequence
(MSFS loading / SerialFP2 running first => SerialFP2 running / MSFS loading)
- 7 : Input test for panel
- 8 : Link test for panel with game

Drop down “Select Aircraft” and press “Load FS Module”.



As connection success, LCD display will be also changed as follows.



After connection message of MCP part



After connection message of COM part

Above pictures showing the display on MCP combo panel after successful linking. Basically It displays SPD, HDG, ALT and aircraft’s attitude; bank and pitch on upper and lower line of “----”.

MCP combo panel supports various aircrafts (MSFS’s original aircrafts and other payware aircrafts such as Wilco, PMDG, Level-D & PSS). All of buttons on the panel are user programmable. Use key-mapping software provided; “SPF2_MCP_KeyMapper” for MCP-Combo panel. After an aircraft selected, press “Load FS Module” button.

Key-command sticker

key-command sticker is provided with product and enclosed DVD has “KeyCap_Decal.pdf” file for “LETTERING” based on MSFS9 / MSFSX . Please print it out and use for your purpose.

Payware aircrafts.

MCP combo panel supports various type of aircrafts including default aircraft of MSFS, freeware and payware. Supported payware aircrafts are;

MSFS Original Aircraft

Level-D B763-SP3(FS9) Level-D B763-SP2a(FSX)

PMDG-B737/747(FS9) PMDG-B737 Only(FS9) PMDG-B737/747-FS2Crew(FS9)

PMDG-B744(FSX)

Wilco B737 PIC Wilco 777ER Wilco airbus ½ (2D) Wilco airbus ½ (3D) Wilco A380 v2

Wilco embraer-ERJ Wilco embraer-Legacy Wilco Cessna Citation X

PSS A319/320(FS9) PSS A330/340(FS9)

Cooksky Super 80 pro

F1 ATR-72

All of controls on the panel, push buttons and rotary encoders, are programmable using key-mapping software. **Any aircrafts can be supported, if key-commands are known at least and added on “SerialFP2” software’s aircraft list.**

PMDG-737NG/744

PMDG controls aircrafts using key-commands. Many controls are missing in pre-defined key-commands. Fully defined command files are provided in enclosed DVD. Apply These files before flight with PMDG’s 737NG and 744 aircraft. To work correctly with provided definition file and the MCP combo panel, service pack and update patch must be applied; SP1 and update patch 1.3 for PMDG-737NG and update 1.x for PMDG-744.

Installing Key-Command Definition file

(1) PMDG’s key-command files are exist at ...\\Flight Simulator 9\\PMDG.

It’s 737Kbd.ini for PMDG-737NG and 747400Kbd.ini for PMDG-744.

Replace these files with provided.

(2) **If only PMDG-737NG aircraft is installed,**

Find key-command definition file named “737Kbd.ini” at \\Aircraft support\\PMDG_ B737NG_747400\\Installed_737_only\\ and copy to ...\\Flight Simulator 9\\PMDG\\.

(3) **If PMDG-737NG/744 are installed,**

Find two key-command definition file named “737Kbd.ini” and “747400Kbd.ini” at \Aircraft support\PMDG_B737NG_747400\ and copy to ...Flight Simulator 9 \PMDG\.

(4) Confirm key-commands are loaded correctly. Follow MSFS menu, PMDG -> General->Keyboard Commands and examine the definitions.



Be sure that all commands are defined to Key Combination without blank.



Find matched panel drawing with newly defined key-commands at \Doc\SerialFP2_MCP_Setting_PMDG.pdf. Now you are ready to fly PMDG’s aircraft with MCP combo panel.

MCP combo panel application to PMDG’s

- (1) Confirm “FSUIPC” and KeyMapper files are installed before running MSFS9.
- (2) Follow MCP combo panel running procedure (Panel checking → Running MSFS9 → Running SerialFP2)
- (3) Default key-map definitions for PMDG are below.

Level-D 767-300ER

Level-D provides SDK (Software Development Kit) for 767-300ER aircrafts. External add-on software or hardware can access Level-D's controls directly instead of key-command. This SDK is great for developers. Interfacing DLL module which is developed with Level-D's SDK is provided for MCP combo panel. The DLL module is developed with SP3 of Level-D 767-300ER. Be sure this patch, SP3 is applied. Find matched panel drawing with interfacing module at \Doc\SerialFP2_MCP_Setting_LVL_D_763.pdf. Now you are ready to fly Level-D's greatest aircraft with MCP combo panel.

MCP combo panel application to Level-D's

- (1) All service packs (SP3) must be installed before running MSFS9 2004.
- (2) Follow MCP combo panel running procedure (Panel checking → Running MSFS9 2004 → Running SerialFP2).
- (3) Enjoy your flight. Basic functions of panel are below.

3-3. PSS-A330

PSS's A330 aircraft is controlled by key-command similar to PMDG's. Defect to PSS's aircraft command definition is "fast rotation", i.e. SPD, HDG, ALT etc, are missing. Response to incoming command from the panel is very slow. Newly defined key-command file is provided and find matched panel drawing at \Doc\ SerialFP2_MCP_Setting_PSS_A330.pdf.

PSS A-330 aircraft's configuration file where key-commands are defined exists at ... \Flight Simulator 9\Pss\Airbus A3XX\. Copy provided new configuration file Aircraft support\PSS_A3XX\ config330.pnl to ... \Flight Simulator 9\Pss\Airbus A3XX\. Now you are ready to fly PSS A-330 aircraft with MCP combo panel.

4. Radio panel

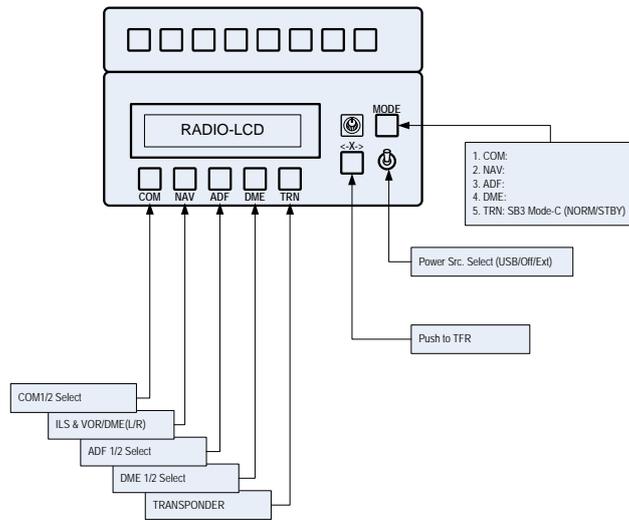
MCP combo panel is incorporated with MCP, EFIS and radio panel. Radio panel used for all aircrafts features frequency input (COM / NAV / ADF), information display (VOR / DME) and Squawk code input to Transponder.

After converting DME screen, input OBS1, OBS2 value with rotary switch.

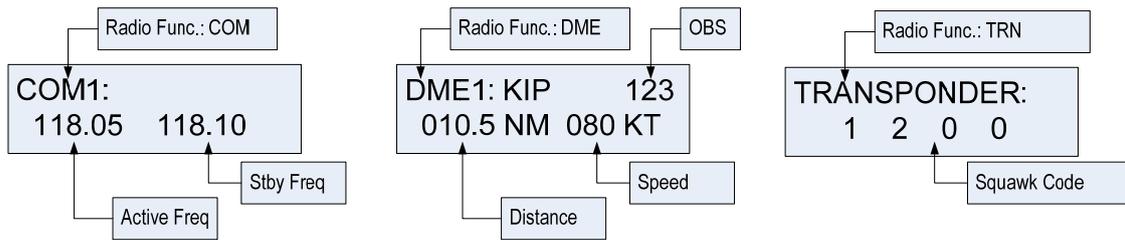
- COM1,COM2 : Inputs ATC and communication frequency.
- NAV1, NAV2 : Inputs frequency of radio navigation facility (VOR, ILS/DME).
- ADF : Inputs ADF frequency.
- DME : Displays frequency information of radio navigation facility (VOR,ILS/DME) inputted by NAV1, NAV2. Also displays ID, distance & deviant speed (from radio navigation facility) and approaching speed (to radio navigation facility).
- TRN : Inputs Squawk code.

Radio panel has selection buttons (COM/NAV/ADF/DME/TRN).

TFR button for activating stand-by frequency. Rotary-key for changing digit.



As pushing each function button, LCD displays various information



Rotating rotary switch changes stand-by frequency (or squawk code).

Pushing rotary switch changes a digit. TFR switch(< - X - >) activates current stand-by frequency (or squawk code). DME just displays information of radio navigation facility tuned to navigation.

With SquawkBox3 of VATSIM, TRNspnder offers “MODE-C NORM/STBY” conversion function.

Power source select switch :
Convert switch when you change power source



Trouble shooting

ON/OFF trouble - USB port and power supply.

MCP combo panel is high power consuming device. Connect the panel to USB port on your computer directly. When it works incorrectly, using external power supplying AC-to-DC adaptor is recommended.



Adaptor 5V, 1A

If DC power adaptor is used, be sure power switch position to EXT.



INITIAL LCD DISPLAY trouble - Link test.

After connection, check the initial messages (MCP & COM part). If no message shown, confirm whether you have checked "Install USB Serial Driver" of "SerialFP2" setup wizard. If SerialFP2 can not find COM port for CDU, check Device Manager whether CDU has been assigned or not.

After checking, linkage still does not work. Then use other USB ports. Some USB port is dummy port.

Initial LCD display

MCP part

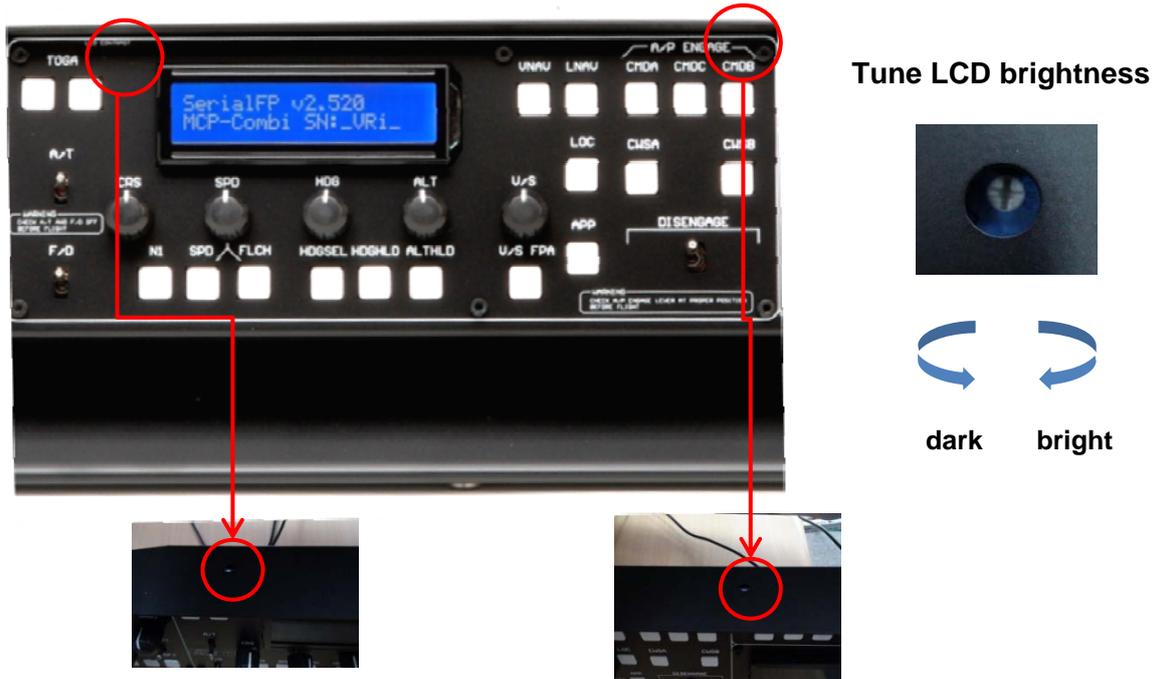


COM part



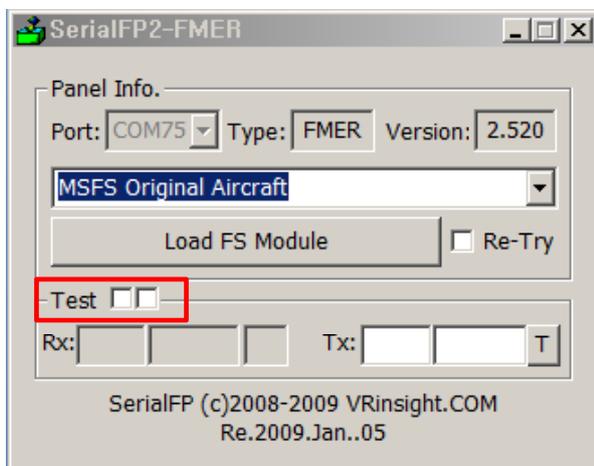
LCD BRIGHTNESS trouble - LCD contrast

When the panel is plug into your computer, initial messages are displayed on LCD after power-on selftest. If it's dimmed or cloudy, tune the contrast.



PANEL FUNCTION trouble 1 - Panel function test

When MCP combo panel is linked to "SerialFP2" software correctly, control linkage and functioning of the panel can be tested without starting flight simulator.



- (1) Check the check box.
- (2) Press buttons or rotate rotary-encoder of your MCP combo panel. Commands are transferred to your computer and result will be displayed on software. Some transferred values, i.e. SPD, HDG, and ALT, are identical to displayed on LCD.

PANEL FUNCTION trouble 2- FSUIPC check

Download & install FSUIPC is required for MCP combo panel use with Microsoft's Flight Simulator. If you didn't download & install, do it now. Basic function of FSUIPC is enough to operate. **No registration is required.**

Also check "FSUIPC.dll" file is in "\Program Files\Microsoft Games\Flight Simulator9\Modules". Further information, see "download & install FSUIPC" part.

PANEL FUNCTION trouble 3 – Procedure check

- 1) Run MSFS first
- 2) Download & install FSUIPC
- 3) Setup "SerialFP2"
- 4) Connect MCP panel to PC
- 5) Run "SerialFP2"
- 6) Check "Re-Try" is checked
- 7) Select your aircraft