

# Panel Interface

There are three ways to interface MCP combo panel and CDU panel of VRinsight with default aircrafts of MSFS (FS 2004 / FSX) and payware aircrafts of add-ons;

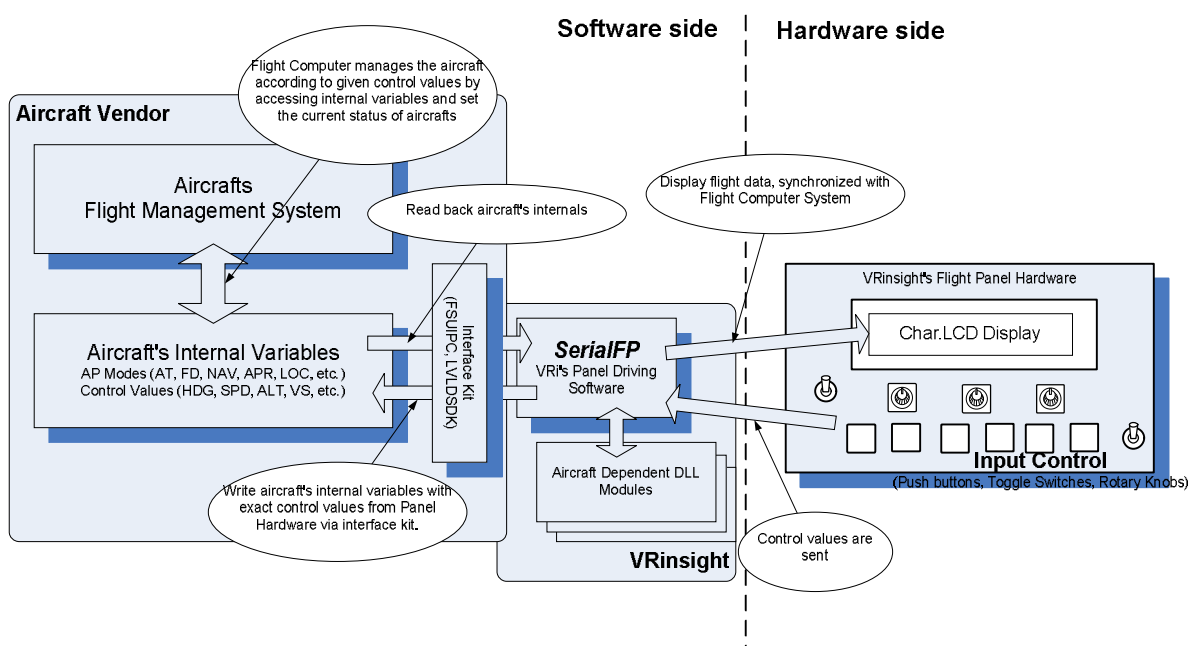
1. **Direct Interface (Accessing aircrafts internal variable)**
2. **Key-command (Keyboard emulation)**
3. **Mouse-key (Mouse emulation)**

## DIRECT INTERFACE (MSFS / Level-D)

It directly interfaces MCP combo panel and CDU panel of VRinsight with aircrafts control panel by using SDK(Software Development Kit). FSUIPC is used for MSFS original aircrafts and most freeware aircrafts. Level-D has released their own SDK(Software Development Kit) in order that hardware makers can get easily interface their aircrafts and hardware.

**Special thanks for them!**

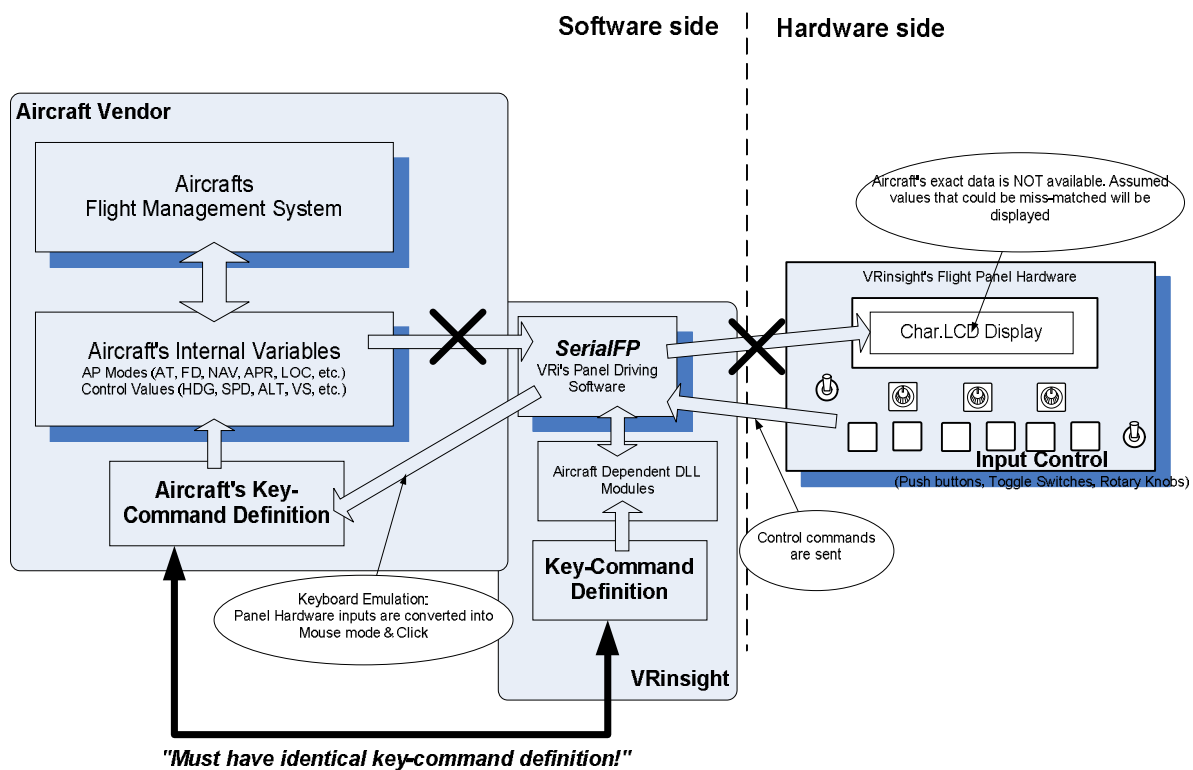
Direct interface method is explained at Fig.1. for this method, the software library, interface kit (SDK, Software Development Kit) must be provided. Mr. Peter Dowson's FSUIPC is the greatest add-on module for FS 2004 and FSX. Exact values and controls from hardware can be written into the aircrafts interval variables. Updated variables can be read synchronized with flight computer's management and displayed on panel hardware. As long as the add-on aircraft's interface kit is available, VRinsight will support it with aircraft dependent DLL modules.



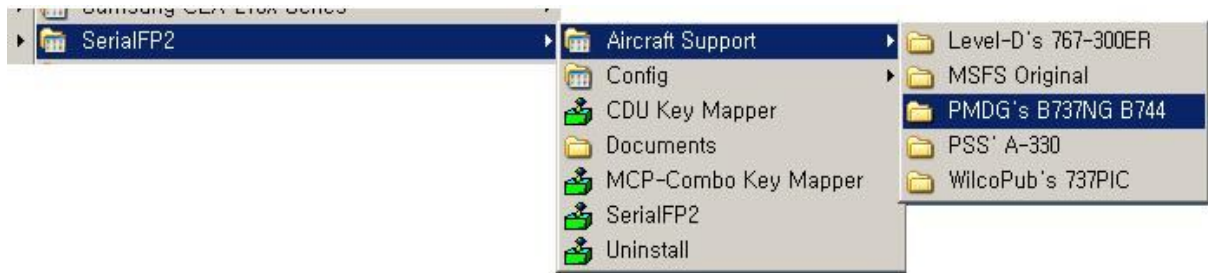
## KEY-COMMAND INTERFACE (Wilco, PMDG, PSS)

It is used for other add-ons aircrafts; Wilco, PMDG, PSS by key board emulation. Since they haven't opened their SDK for direct interfacing with hardware makers, MCP combo panel and CDU panel of VRinsight use Key-Command. Key-Command interface method is explained at Fig.2. Key-commanding is assigning combination of keyboard strokes to a button on hardware panel.

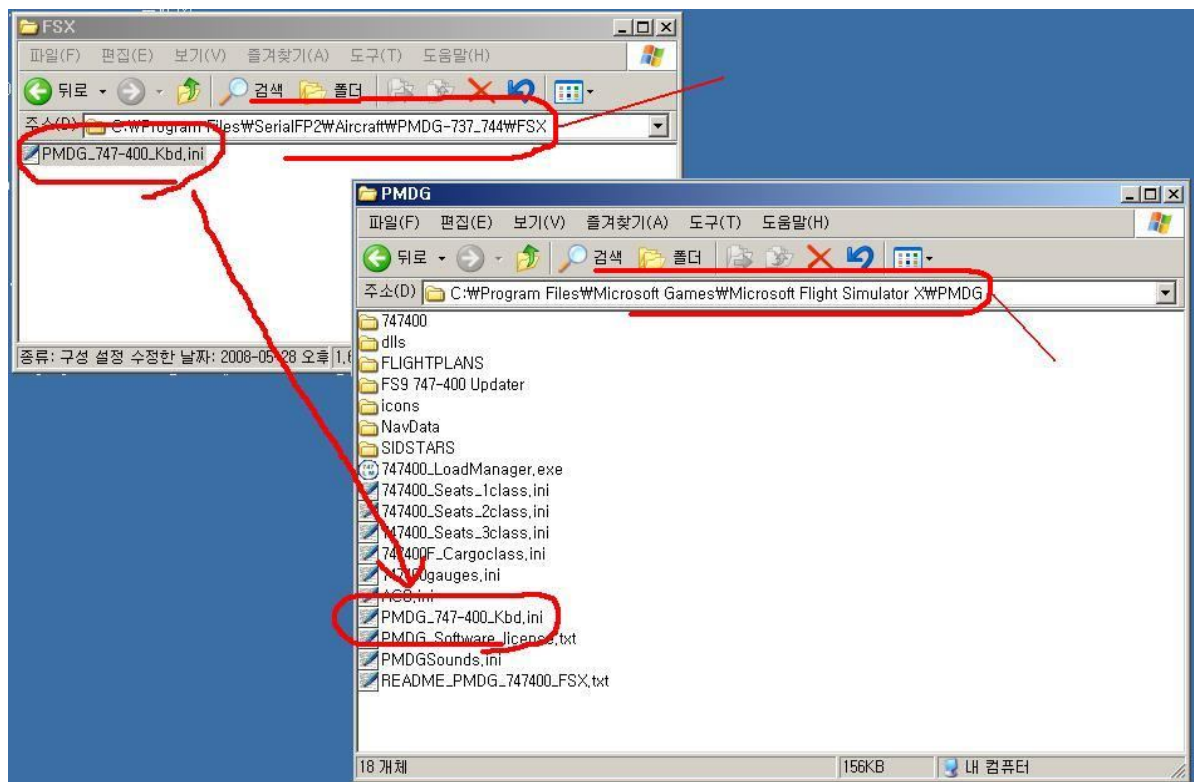
Shortcoming of key-commanding is NO two-way communication between aircraft software and panel hardware. It's only "Input Device". The panel has display device showing current aircraft status(i.e. engaged autopilot mode, SPD, HDG...). These status and values are varies with controlling of flight computer. The hardware panel can display various data synchronized, as far as the interface kit is available and internal variables are accessible.



To control the aircraft with Key-Command Interface, key-command definitions of aircraft's and SerialFP's must be identical. There're very various aircrafts flying over the virtual sky and limited number of aircraft is supported from VRinsight. You can find which aircraft is supported at the time when SerialFP is released, follow the system menu, Start->Program->SerialFP2->Aircecraft Support.

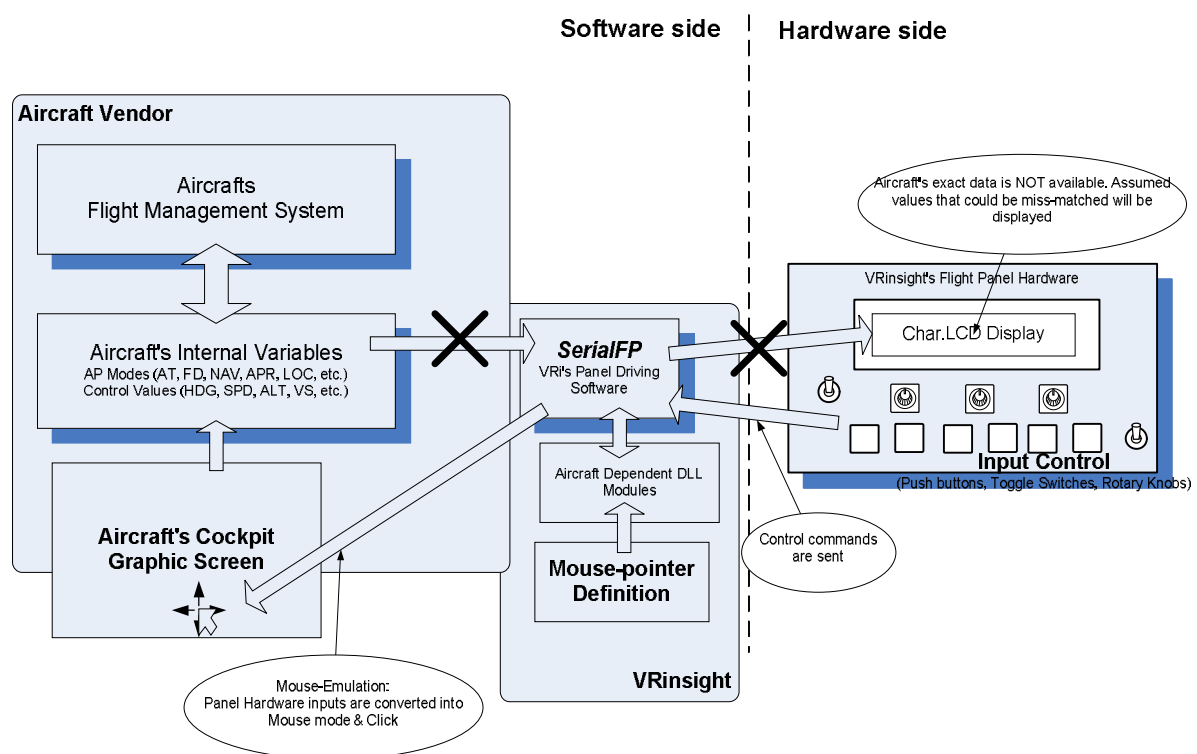


By selecting one, aircraft supporting folder will be opened where the pre-defined key definition files is found. Just copy the provided key definition file into where the aircraft is installed. See following fig. as an example of PMDG-744X.



## MOUSE-KEY INTERFACE

It is used for all aircrafts; default aircrafts of MSFS / add-ons aircrafts; Wilco, PMDG, PSS by key board emulation. The key-commanding is simple but cause confliction with other add-ons. For complicated aircrafts, hundreds of key-commands are required. Unfortunately, some aircrafts does not have enough key-command definitions. For this case, any buttons, switches and knobs are defined to “moving mouse pointer and click”. The most defeat of mouse-key interface method is the definition is very dependent to user’s graphic configuration. Mapping software is provided for mouse pointer can be programming.



## How to use

### Direct Interface

**Step 1.** Setup “SerialFP2” program

**Step 2.** Connect your panel to you computer and confirm the initial LCD screen display.



**Initial message of MCP part**



**Initial message of COM part**

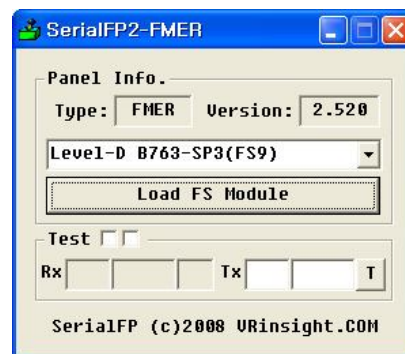
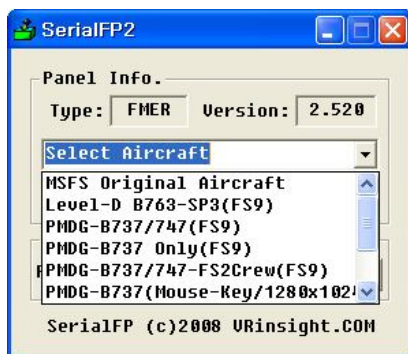


**Initial message of CDU panel**

**Step 3.** Run MSF (FS 2004 / FSX)

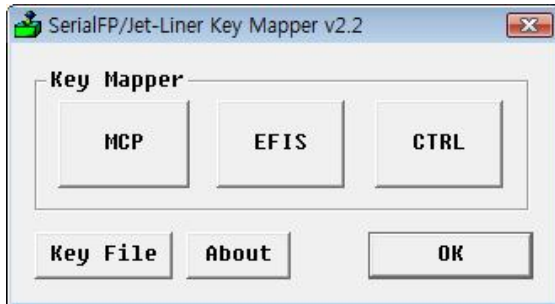
**Step 4.** Run “SerialFP2”

**Step 5.** Select your aircrafts; MSFS original aircraft or Level-D B 763-SP3, and then press “Load FS Module”.

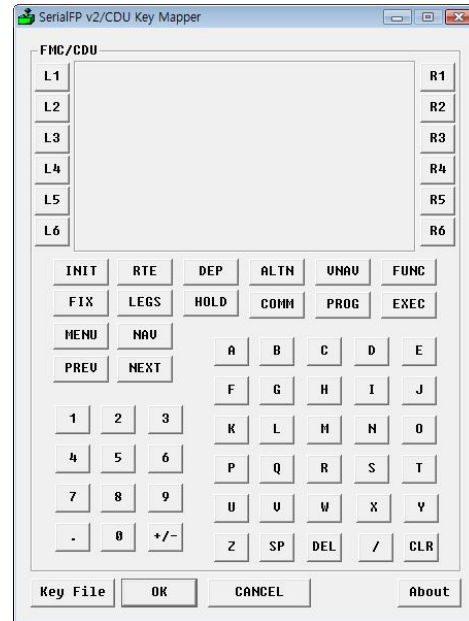


## Key-command

**Step 1.** Run “MCP combo Key Mapper”/“CDU Key Mapper”.

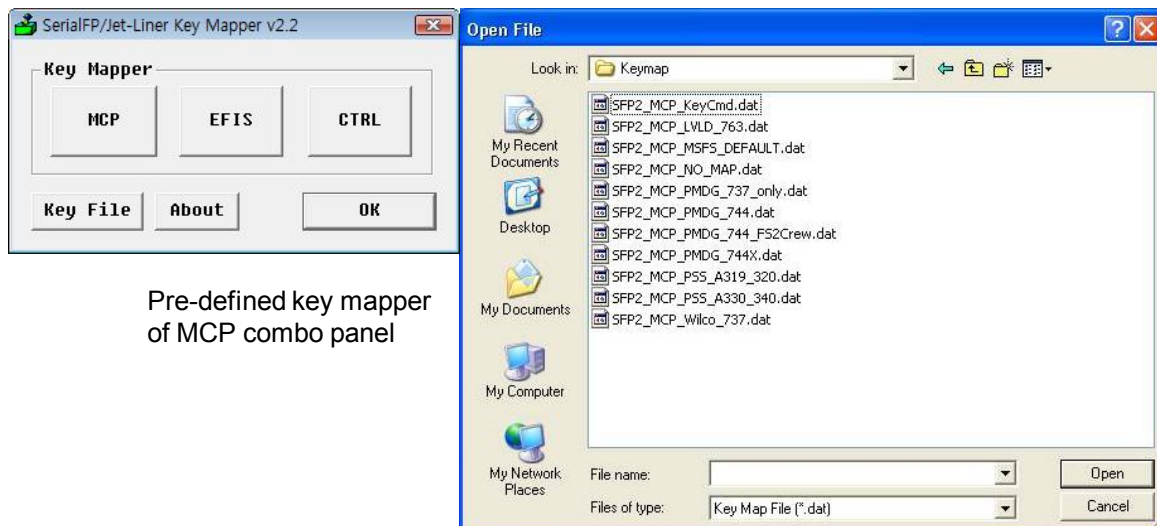


Key Mapper screen of MCP combo panel

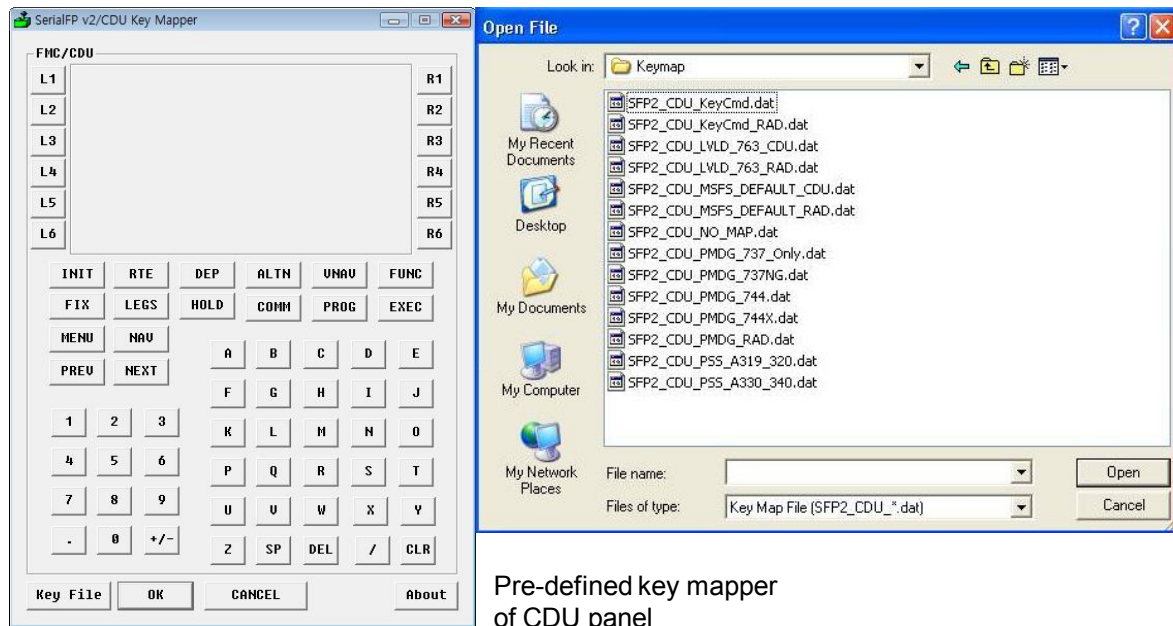


Key Mapper screen of CDU panel

**Step 2.** Press “Key File” to load pre-defined key mappers. Listed aircraft have pre-defined key mappers. And select one of pre-definined key mappers. Some keys have pre-defined key command and some aren't.



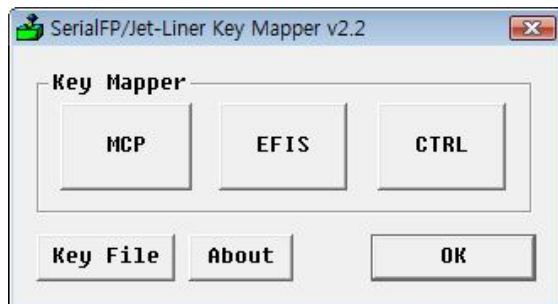
Pre-defined key mapper of MCP combo panel



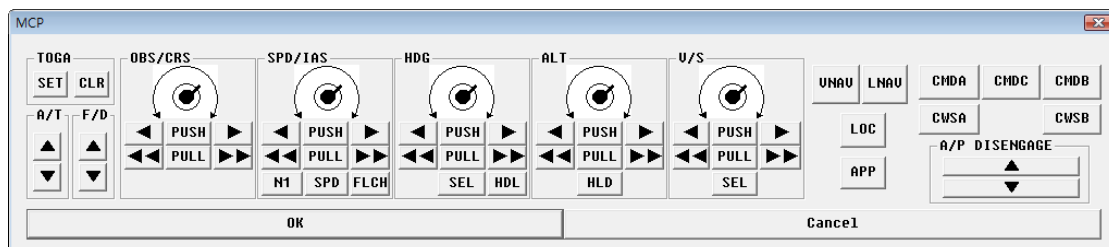
**Step 3.** When you select pre-defined key mapper for your aircraft, let's do key-mapping.

### Step 3-1. MCP combo panel

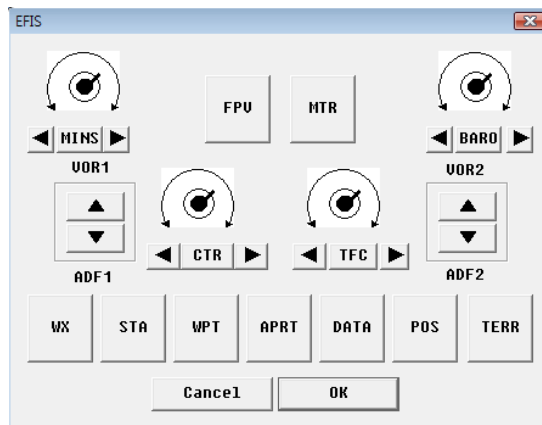
**Step 3-1-1.** Press any part of MCP combo panel that you want to do key-mapping



Main display of MCP combo panel key-mapper



Key-mapper display of MCP part

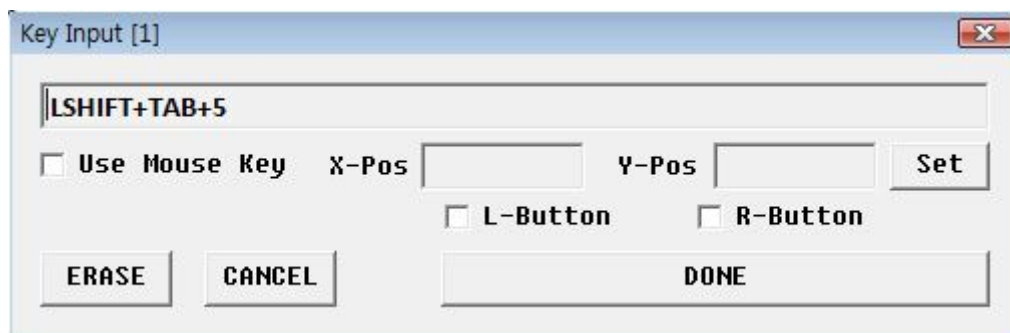


Key-mapper display of EFIS part



Key-mapper display of COM(CTRL) part

**Step 3-1-2.** Press any of buttons you want to define. Then you can see below window.

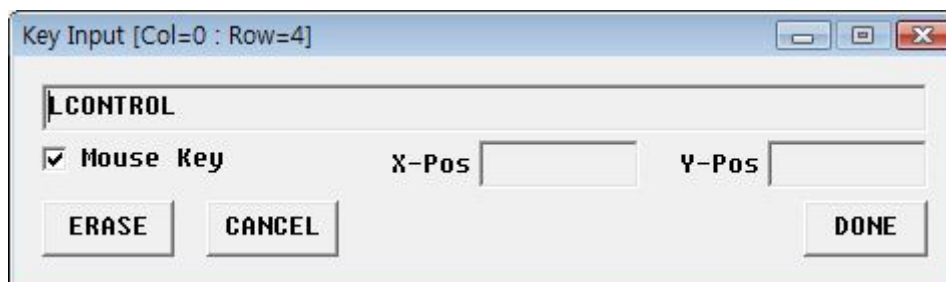


**Step 3-1-3.** Press key or key combination to change. And do this for MCP, EFIS, COM(CRTL) part.

### Step 3-2. CDU panel

**Step 3-2-1.** Press any part of CDU panel that you want to do key-mapping.

**Step 3-2-2.** Press any of buttons you want to define. Then you can see below window.



**Step 3-2-3.** Press key or key combination to change.



## Mouse-Key

### Step 1-1. MCP combo panel

**Step 1-1-1.** Press Key File to load pre-defined key mapper and select one.

**Step 1-1-2.** Press any button you want to define as mouse-key. Then you can see below window.



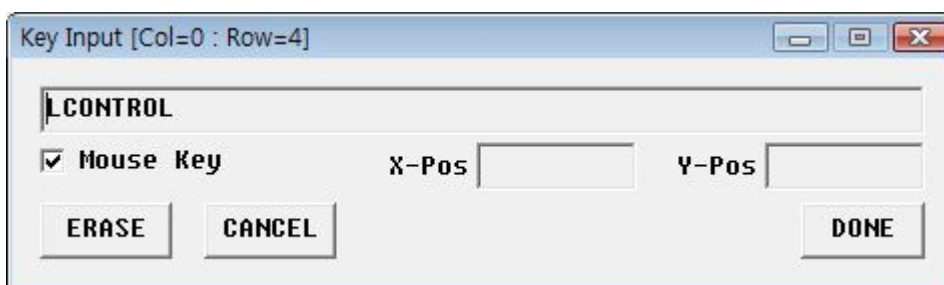
**Step 1-1-3.** Check “Use Mouse Key” and “L-Button”/”R-Button”.

**Step 1-1-4.** Press “Set”

**Step 1-1-5.** Move your cursor and place it you want to. Then press left button of your mouse to recognize the position. Press “Done” to save this position value

**\* While you move your cursor in the above window, you can see position value which is changing. But you move your cursor outside of the above window, current position of your cursor will not be displayed. When you press “Set” button, window will show the position value.**

### Step 1-2. CDU panel



**Step 1-2-1.** Press Key File to load pre-defined key mapper and select one.

**Step 1-2-2.** Press any button you want to define as mouse-key. Then you can see below window.

**Step 1-2-3.** Check “Mouse Key” and move your cursor where you want to place. Then press left button of your mouse to recognize the position. Press ”Done” to save this position value.