737NG STICK SHAKER

COD. 118576 737NG-STICK-SHAKER/CPT(NO-PSU)
COD. 237591 737NG-STICK-SHAKER/CPT+PSU
COD. 116526 737NG-STICK-SHAKER/CPT+FO/PSU

Installation and Operation Manual

English

Version 1.01 — September 2016

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1-1 Features and Requirements

FSC Stick Shaker provides vibration to the control yoke in case of an imminent stall, in order to reproduce the behavior of a real stick shaker found in most modern cockpits.

The Stick Shaker kit is composed by the following items:
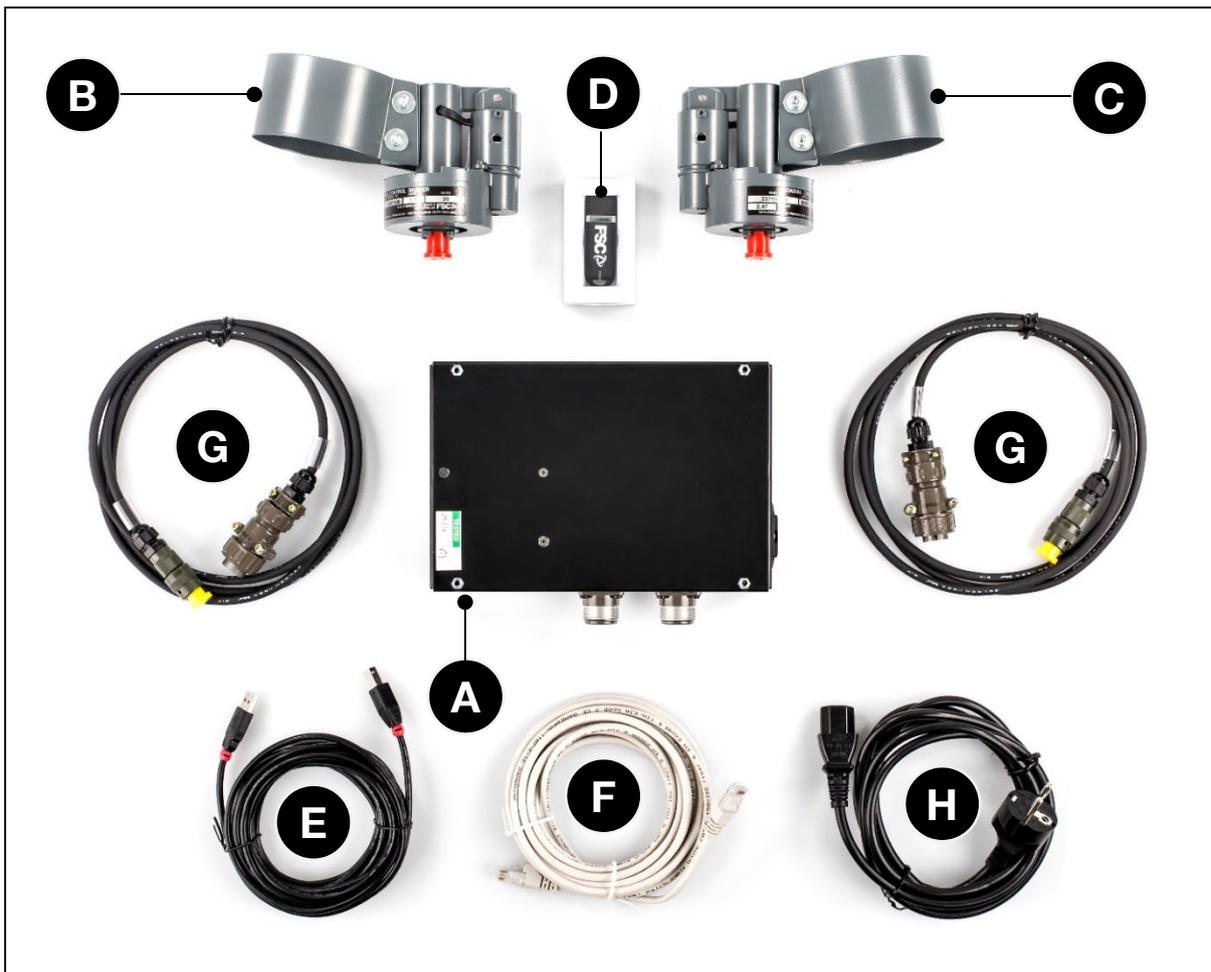
A) Remote Central Control Unit (CCU)

B) Stick Shaker module to be installed onto Captain's control yoke

C) Optional Stick Shaker module to be installed onto First Officer's control yoke

D) Universal driver interfacing the Stick Shaker kit to a compatible simulator

E) USB cable

F) LAN cable

G) Cables connecting the Stick Shaker modules to the CCU

H) CCU Power supply cable

The Stick Shaker kit provides very flexible features, letting to use it in a huge variety of situations and with most simulation software currently available:

- Can be connected via either USB or LAN cable (the LAN cable can be plugged either into a network port directly on a computer, or into a hub/switch)

- User's selectable IP address and Port, letting to use the Stick Shaker kit in a variety on LAN environments.

- User's selectable COM port when the Stick Shaker kit is connected via USB cable

- High quality and robust materials, all metal built

- Compatible with any flight simulation software that supports FSUIPC or equivalent interface (including X-Plane, FSX, FSX Steam, FS9 and Prepar3D). Compatible with most add-on aircraft, including PMDG 737NGX, and most glass cockpit software.

  FSUIPC (or equivalent interface) not supplied with this package

- Easy to use driver, not requiring installation.

2-1 Hardware Installation and Setup

The CCU can be conveniently connected via LAN (to either a hub/switch or to a computer's free LAN port) or via USB. The connectors are located on the side of the CCU.

The Stick Shaker driver is a small application not requiring any installation procedure: just copy the supplied program on the Windows desktop, or anywhere in the hard drive, and run it by simply double clicking the icon. If needed, it can be run also directly from the DVD or USB pen drive supplied in the Stick Shaker kit. To perform the initial Stick Shaker hardware configuration:

- Make sure the CCU is powered ON and connected to the computer by either LAN or USB cable

- Make sure the stick shaker modules are connected to the CCU

The hardware setup changes depending if the CCU has been connected to the computer via USB or LAN cable. In the first case (USB) we have to know on what port the virtual COM has been mapped to. In the second case (LAN) we have to input a free IP address and port.

2-2 Configuring USB Connection

Once the Stick Shaker CCU has been connected for the first time to the computer through an USB cable, relevant drivers are automatically installed by the operative system (an active internet connection may be required), then a virtual COM port is assigned to the hardware.
Before using the Stick Shaker, we have to know the exact port number (it changes from system to system, depending on how many other COM ports, either real or virtual, have been previously installed).

To know the port number, it is necessary to access the computer management console.
This can be done by selecting "Manage" after having right-clicked "My Computer" on the desktop, or by running the management console directly via devmgmt.msc from Windows command line / search box / start button, as follows:

After the management console has been invoked via either of the methods previously explained, all the peripherals installed in the computers are displayed in a tree-like style. To get a list of installed COM ports, just click Ports (COM LPT), like in the sample below, to expand the tree:
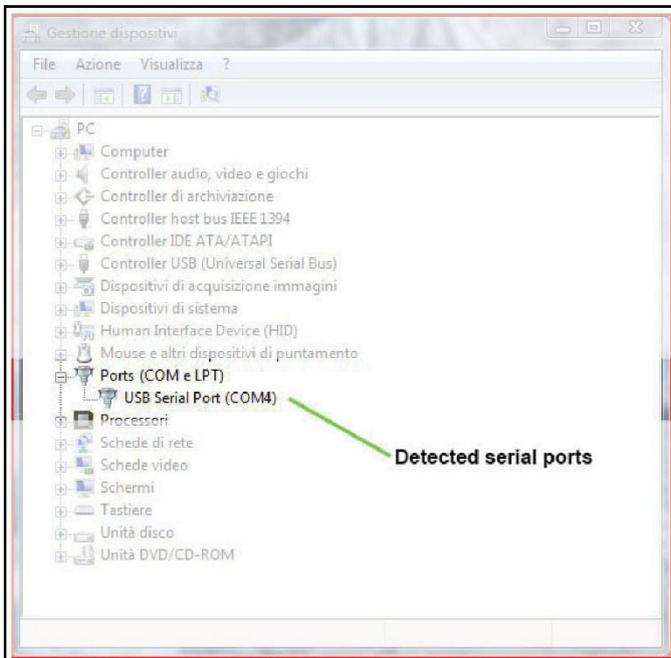
This screen-shot shows a Stick Shaker installed into COM 4. At this point, just annotate the COM number, as this will be required later when the Stick Shaker driver will be used for the first time. If case multiple serial ports are displayed and you don'know what COM ports actually belongs to the Stick Shaker, just disconnect the USB cable from the CCU and check what COM port disappears from the list.

2-3 Configuring LAN Connection

The Stick Shaker CCU is shipped configured on the factory-default IP address of 192.168.1.199 on port 12345 (net submask 255.255.255.0). To let the device be "seen" by your network, the following conditions must be met:

- The IP address and port used by CCU must be unique and therefore not used by any other device on the same LAN

- The CCU must be on the same address class and range of the other devices

If your LAN is already based on 192.168.1.x range and no other device is using 192.168.1.199 or port 12345, then the Stick Shaker may be used with the factory-default LAN parameters and no further steps are required. Differently, before using the Stick Shaker, it will be necessary to enter the setup page and input the LAN parameters accordingly, as follows:

- Connect the CCU directly to a computer's LAN port, avoiding to operate through a switch or router (if simpler, you may configure the CCU using another computer, as the settings will be permanently stored inside the CCU itself, not inside the computer)- Configure the computer's /P address on the same range used by the CCU, as displayed below:
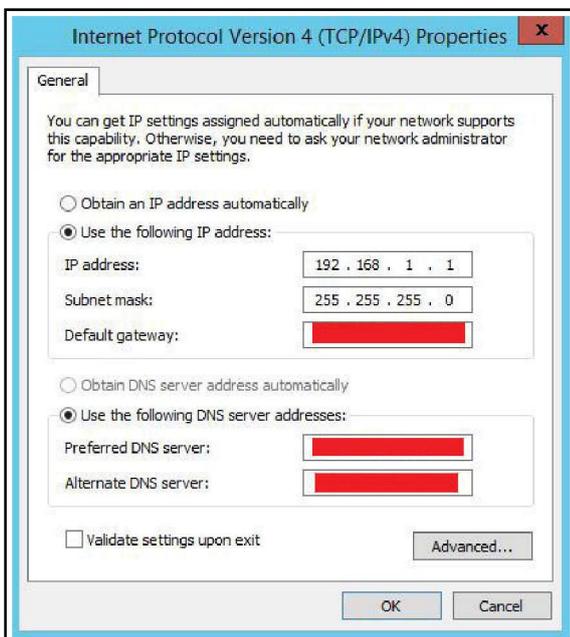
Before changing any of the numbers, make sure to annotate them because, after the CCU configuration has been completed, you will need to restore the old values, or the computer will no longer operate correctly once reconnected to the LAN and Internet (parameters marked in red are not needed by the CCU)

- Open a web browser and on the address bar, enter the IP address of the CCU as follows:

- When an authentication window is displayed, login with username:admin password:admin

- From the page that will be displayed in the browser, enter the parameters accordingly to the LAN where the Stick Shaker will be actually used

- leave "Enable DHCP" deactivated

- enter the "IP Address" for the Stick Shaker CCU device. For example, if the LAN where the Stick Shaker will be actually used is based on range "10.0.0.x" and .199 is free, enter 10.0.0.199 (otherwise just enter the IP address suitable for your LAN)

- leave the "Subnet Mask at 255.255.255.0 or set it to match your LAN setup

- leave the "HTTP Port" at 80

- set both Source and Destination UDP port to a number not used by any other device. The default value of 12345 is usually fine.

- Click Save Config.

- As soon as the LAN setup is saved, you will be no longer able to access the configuration again, not until the CCU will be connected to a LAN that doesn't use the same IP address range.
  Should you need to reset the IP address and the other parameters to factory default, just press the reset button on the side of the LAN port:

- Once the LAN setup of the CCU has been completed, the computer's IP address can be restored back to the previous values:
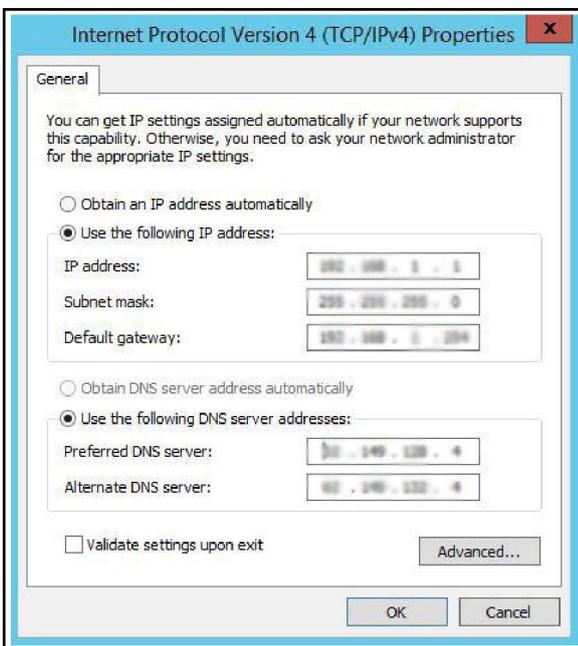
- Now just reconnect the computer to the LAN and connect the CCU to the network port where it will actually operate. If all the steps where made correctly, the CCU will be "seen" by your LAN as expected. If you would like to make a test, supposing that no firewall is blocking the ping command, you may ping the CCU from command prompt and get a response:

- From Windows command line / search box/start button run either cmd.exe (Command Prompt) or powershell.exe (Power Shell)

- Type ping followed by the IP address of the CCU, for example, ping 89.46.72.1

```
Windows PowerShell
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PS C:\Users\Administrator> ping 89.46.72.1

Pinging 89.46.72.1 with 32 bytes of data:
Reply from 89.46.72.1: bytes=32 time<1ms TTL=255
Reply from 89.46.72.1: bytes=32 time<1ms TTL=255
Reply from 89.46.72.1: bytes=32 time<1ms TTL=255
Reply from 89.46.72.1: bytes=32 time=10ms TTL=255

Ping statistics for 89.46.72.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 10ms, Average = 2ms
PS C:\Users\Administrator> _
```

- "Reply from" indicates that the computer where you are operating, is able to communicate with the CCU. Differently a timeout error will be displayed, as shown below:

```
PS C:\Users\Administrator> ping 192.168.0.1

Pinging 192.168.0.1 with 32 bytes of data:
Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.0.1:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PS C:\Users\Administrator> _
```

- IMPORTANT! Ping command may not work, even if the CCU configuration is OK, if firewall or other software is blocking such command (eventually, make sure to disable them before doing such test). In case you will contact customer support department to submit issues, we will need to know if the computer can "ping" the CCU as first instance.

3-1 Operating the Stick Shaker

The first time that the Stick Shaker is used, it is necessary to configure the software.

The Stick Shaker driver is usually supplied in an USB key and doesn't need an installation: to use it, just copy the supplied stickshaker application anywhere on your hard drive or onto the desktop, and run it directly from there.

To proceed, just follow the steps below:

- Run a compatible flight simulator and make sure that FSUIPC or equivalent interface is started and operating normally. Start the flight and select the aircraft that you wish to use with the Stick Shaker.

- Run stickshaker application. The first time the application is run, error messages indicating that no communication is established are displayed: this is normal until the Stick Shaker driver is not properly configured.

- From the Device menu, select Stick Shaker configuration to open the setup window displayed below, and set all the parameters as needed. Settings are stored per aircraft, so you can have different aircrafts using different parameters.

- The currently selected aircraft is displayed on the top of the window (settings, except communication parameters, will be applied to current aircraft only)
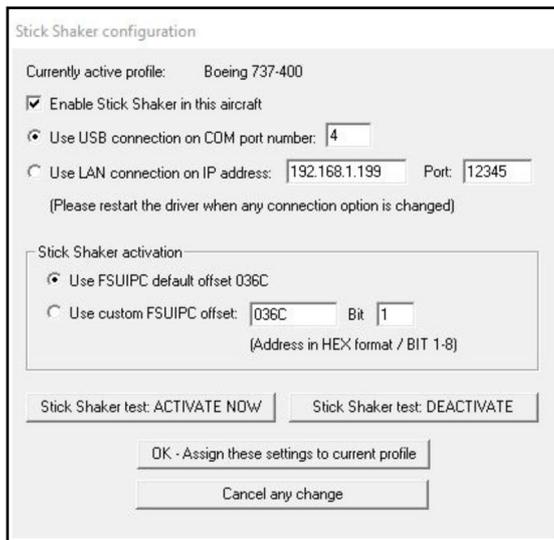
- Check "Enable Stick Shaker" if you wish to activate the Stick Shaker in current aircraft

- Select USB or LAN connection, accordingly to the cable actually used to connect the CCU. Enter the COM number you annotated before (for USB connection) or the IP address and Port (for LAN connection). Stick Shaker application must be restarted when communication parameters are changed.

- Set how the Stick Shaker should be activated. For most situations and add-on aircraft, FSUIPC default offset of 036C is fine and doesn't need to be changed. If you are using a glass cockpit software or an add-on aircraft that use a custom offset, just select the relevant option and set such offset and bit (please refer to the documentation shipped with the add-on to know how the exact offset and bit)

- Click ACTIVATE NOW to test the stick shaker and DEACTIVATE to stop it. If communication parameters were changed, you must restart the Stick Shaker driver before doing any test

- Click OK to save the parameters for current aircraft or Cancel to quit without saving

- Test if the Stick Shaker is working as expected. Fly your plane at a safe altitude, then enter in a stall.
  If everything is working fine, the Stick Shaker will start to vibrate as soon as the STALL warning is displayed in the cockpit, and will stop as soon as the normal flight conditions are resumed.

- If using mutliple aircraft, repeat the above steps to check/set if the parameters apply to every aircraft.

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