

The



VFR Club

**SETTING UP a FLIGHT  
SIMULATOR SYSTEM**

for

**VATSIM**

and

The **CIX** VFR Club

**Part 1:**

**Connecting with  
Squawkbox 3**

**NOT TO BE USED FOR REAL WORLD AVIATION**

### Document History

<b>Date</b>	<b>Version</b>	<b>Changes</b>
03/02/2004	1.0	Initial Published version
13/02/2004	1.1	Errors corrected. Detail regarding the automatic start of AVC added.
01/03/04	1.2	Additional details added about SBRelay set up.
19/07/04	1.3	Details added about TeamSpeak set up.
08/10/05	2.0	Completely revised following the publication of Squawkbox 3.
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10/10/05	2.2	Descriptions of software expanded
12/10/05	2.3	Edited to conform to the 2-part structure describing the use of Squawkbox 3 (Part 1) and FSInn (Part 2)
12/11/05	2.4	Minor corrections to be compatible with Part 2 (FSInn)

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## 1 JOINING THE VATSIM WORLD

### 1.1 Introduction

This tutorial is specifically designed to help members of CIX VFR Club get started flying with live, simulated Air Traffic Control via VATSIM. It explains how to set-up FS2004 for multiplayer operation via the Internet, in company with other members of the CIX VFR Club, and the wider on-line Flight Sim community.

### 1.2 Why use Squawkbox 3?

The ATC connection program Squawkbox 3 works with FS2002 And FS2004, but only works with Windows XP, so those with older systems will have to use the alternative FSInn instead. FSInn is covered in Part 2 “Connecting with FSInn” also available on the web site. Squawkbox provides very similar facilities to FSInn, and it probably a matter of personal preference which you choose. Once you have got used to one of them, you might like to try using the other to see which you prefer.

Setting up and using Squawkbox 3 is covered in Part 1 of this Manual, “Connecting with Squawkbox 3” also available on the web site. The Squawkbox 3 Help System is available on the Squawkbox web site, though not available for download – it has to be read on line. It is well structured so that you can find the information you need, and you should read it before you install the software. Those with FS2002 should **definitely** read it before proceeding too far, as some details of use are different from FS2004.

### 1.3 VATSIM

VATSIM – Virtual Air Traffic Simulator is an international community of people linked by a passion for flight and air traffic control simulation. Believe it or not, there are almost as many people who want to be virtual Air Traffic Control Officers (ATCOs), as there are who want to be virtual pilots. Many are real-world pilots and air traffic controllers. As well as small groups like ours, there are virtual airlines; their pilots flying all over the world, and talking to many people in other countries, and there are both national and international events in which we can take part. The ultimate goal is to make flight simulation ever more realistic. Thanks to all those virtual Air Traffic Controllers, providing live ATC dialogue, flight simulation enters a completely new dimension.

Vatsim offers two methods of communicating with virtual Air Traffic Control; text and voice. With text, ATCOs type their instructions to pilots, which are then displayed on the pilot’s screen. The pilot responds by typing acknowledgements to the received instructions. The VATSIM software contains modules which allow voice-over-internet communications between controller and pilot. Cleverly, instead of having to enter an internet address to access a voice channel, pilots simply enter a radio frequency in the FS aircraft COM1 or

COM2 radio – usually COM1. To use voice, the pilot simply dials in the published frequency, e.g. Liverpool Approach is 119.85, and the software connects the pilot to the controller (as if by magic!)

## 1.4 CIX VFR Club

The CIX VFR Club is a group of Flight Simulation enthusiasts who like flying extremely realistic simulated light aircraft, chiefly around the United Kingdom, across a computer generated landscape made up of real photographs, within an Internet community environment. We normally navigate under Visual Flight Rules (VFR) which means flying by reference to ground features, using compass and clock.

Based at London Biggin Hill Airport, and also at Gloucestershire Airport, the club meets weekly and holds events such as visits to distant aerodromes, or to practice our flying skills. Thanks to Internet technology, members see each other's aircraft, and talk to each other on-line as they fly. Naturally, we use the realistic, live, simulated Air Traffic Control available from VATSIM.

Club members are strongly encouraged to use voice communications with Air Traffic Control, as this is realistic, and probably more importantly, it is very difficult to fly a light aircraft, navigating under VFR, therefore looking out of the windows constantly, and type your ATC messages. It is easier for the heavy brigade, as they have autopilots to fly the aircraft while they type. Although some of the aircraft we fly are equipped with autopilots, we don't use them generally, because in the real world, few of the simple single engined light aircraft that we fly have them fitted.

## 2 DOWNLOADS REQUIRED

The following software is required and may be downloaded from a number of sites. The recommended sites are shown against the software. A summary of the function of each piece of software is contained in sections 2.1.1 to 2.1.3 below.

### 2.1 Essential Software Tools

Software	Version	Download from
FSUIPC	3.5	<a href="http://www.schiratti.com/dowson.html">www.schiratti.com/dowson.html</a>
Squawkbox	3.0.3	<a href="http://squawkbox.ca/downloads/">http://squawkbox.ca/downloads/</a>
TeamSpeak 2RC2	2.0.32.60	<a href="http://www.goteamspeak.com/downloads.php">http://www.goteamspeak.com/downloads.php</a>

With the exception of FSUIPC, all this software is free. FSUIPC is available as a free version, but the registered version of FSUIPC costs only 20 Euros. If you buy WideFS at the same time, the price for the two is 30 Euros. You may choose not to register FSUIPC, but it severely restricts the flexibility of on line

flying if you use the unregistered version, because the registered version includes many benefits which are inaccessible in the unregistered version.

Further details about how these applications work and their many features, can be found in the excellent documentation which comes with the downloads from the sites listed above.

### 2.1.1 FSUIPC

FSUIPC is an interface utility which provides a doorway into and out of Flight Simulator for external programs. For example, you could write a program to monitor an aircraft's airspeed, and to reduce engine power to idle if a certain speed were exceeded. The program **receives** the FS airspeed data and compares it to its limit. When this is reached it **sends** a command which has the same effect as pressing the F1 key on the keyboard. In fact many of the most useful functions that you might like to set up to make FS work better are built into the registered, payware version.

### 2.1.2 Squawkbox

Squawkbox was originally created for FS98, and had to be seriously tinkered with to make it work with later versions. Squawkbox 3 is simplicity itself compared to the FS2002/Squawkbox 2 combination, though older users will recognise its parentage. It is a communications programme essentially, sending your aircraft data (via a basic version of FSUIPC which is built in) to one of a worldwide network of servers via the Internet and receiving data from other aircraft in a similar way. Using the built in Multiplayer function within FS, this incoming data is displayed on your screen as other aircraft. The virtual Air Traffic Controllers have simulated radar screens which display the aircraft (and other) data being sent to the server by Squawkbox.

A second part of the program provides a Voice-over-Internet application, with the neat trick of reading (via FSUIPC again) the frequency tuned on your radio and matching it to an Internet voice server channel.

### 2.1.3 TeamSpeak

TeamSpeak is a stand alone Voice-over-Internet application similar in function to the one built into Squawkbox. The Club uses TeamSpeak to log into its private voice server, so that members can talk to each other as well as Air Traffic Control during club flights.

## 2.2 Almost Essential Software

The following software is not essential, but does make the experience of on-line flying easier and therefore more enjoyable.

Software	Version	Download from
Servinfo	2.02	<a href="http://www.avsim.com/hangar/utils/servinfo/downloads.htm">http://www.avsim.com/hangar/utils/servinfo/downloads.htm</a>
FS Navigator	4.7	<a href="http://www.fsnavigator.com/">http://www.fsnavigator.com/</a>
WideFS	6.50	<a href="http://www.schiratti.com/dowson.html">www.schiratti.com/dowson.html</a>

Servinfo is a stand alone programme which shows controllers and pilots currently active on VATSIM, worldwide. It has a number of screens which are effectively filters to display sub-sets of data, so that you can, for example, check who is flying with the club by selecting UK data only. You can display the data in map view, check the weather at any selected airfield, list all the VATSIM servers and voice servers, and several other useful functions.

FSNavigator is a comprehensive tool which has many useful functions. Fundamentally, it displays all the scenery data built into FS as a world map including all airfields, controlled airspace, reporting points, and, via a separate menu option, other aircraft around you during a multiplayer session such as a VATSIM Club night. You can zoom in to suit your flight details, right in down to the airfield layouts if required, which is very valuable if you do not have another source of this information. It has an excellent flight planning function, allowing you to plot a route on the displayed map, and then, if you really want it to, it will fly that route for you while you just watch.

It is most useful to the beginner in VFR flight as a “cheat” to tell you where you are when you look out of the window and you get that cold-stomach feeling that you actually don’t have the slightest clue! (and it always seems to happen when you are too close for comfort to forbidden controlled airspace).

WideFS is essential if you are going to run FS, Squawkbox and other flight programmes on more than one computer. See section 7 below. It is used in conjunction with FSUIPC.

FSNavigator and WideFS are payware. Servinfo is free.

### 2.3 UK VFR Scenery

In addition to the above, there are three very valuable additions to the basic Flight Simulator package. Because the club flies predominantly in the UK, we use the Visual Flight photographic scenery of the UK. This scenery allows accurate VFR navigation by recognition of ground features as they exist in the real world. A complementary package is the VFR Terrain Mesh, also available from Visual Flight. The complete England and Wales package, with terrain costs in the order of £100.00.

Many members also use the Airports 2000 detailed airports scenery which adds fine detail such as photo-realistic buildings, fences, signage and lighting to hundreds of airfields, large and small. A complete set of parts 1-7 costs about £100 if bought all at the same time.



Software	Coverage	Purchase on line from
VFR Photographic Scenery	England and Wales in 4 volumes	<a href="http://www.visualflight.net/photoscenery/">http://www.visualflight.net/photoscenery/</a>
VFR Terrain Mesh	All England & Wales	<a href="http://www.visualflight.net/vfrterrain">www.visualflight.net/vfrterrain</a>
UK2000	Highly detailed Airport scenery which covers all of England and Wales in 8 areas	<a href="http://www.uk2000scenery.com/main/index.htm">http://www.uk2000scenery.com/main/index.htm</a> Areas 1-7 can be bought separately or as a discounted whole set. The new Area 8 (December 2005) has not yet been offered as part of this deal.

## 2.4 Optional Software

There are too many applications and utilities available for Flight Simulator to list or recommend in this document. Only the packages above are regarded by the club as really important for getting the best out of membership.

## 3 HARDWARE REQUIRED

Flight Simulator is quite a demanding application, and a fast PC with a good graphics card is highly recommended. None of the add on software items add significantly to this load, so no addition computer hardware is necessary.

The only item needed is a headset – combined earphones and microphone. Expensive ones seem to be no better than cheap ones, so expect to pay between £12.00 and £20.00 for a set. They also reflect more accurately the real world aviation headsets. It is false economy to try and use built in microphones, or desktop microphones, as the background noise they pick up degrades clear voice transmission considerably, and feedback whistle is always a potential problem.

## 4 INSTALLING THE ESSENTIAL SOFTWARE TOOLS

With the introduction of Squawkbox 3 and FSInn, the annoying failures and crashes with previous versions of the VATSIM connection software are largely a thing of the past. Installation and set up of either application is now very straightforward, and most people new to VATSIM experience little, if any, difficulty.

### 4.1 FSUIPC

FSUIPC is an interface tool which allows all the flight parameters in Flight Simulator to be imported and exported to other software. This allows other programmes to control MSFS, and also allows other programmes to “see” what is happening in MSFS). Without FSUIPC, created by Peter Dowson, much on-line flying would not be possible in the form it is today.

To install FSUIPC, simply follow the instructions in the very clear installation manual included in the download. In a nutshell, copy the file FSUIPC.DLL from the download into the Modules folder of your FS installation.

Follow the registration instructions in the user manual. The registered version offers many more useful options than the unregistered version. You need to enter the registration key before being able to access these options, and for initial set up, you may pass over registration if you wish.

Once FSUIPC is installed, when you start FS2004 you will see an additional item called “Modules” in the top menu bar. If you click on Modules, there will be a single item in the dropdown menu – FSUIPC. If you haven’t registered FSUIPC, then opening it will have only two tab options, but if you register, then several more are available. They are all fairly advanced FS configuration options, some of which are an easier way to configure FS than from within the program itself, others are additional and clever features. However, this is advanced stuff for the moment, so you won’t open FSUIPC now. Suffice it to say that its essential function, of interfacing with external programmes, is working in the background whenever FS2004 is started.

## **4.2 Squawkbox**

Extract the content of the downloaded file sb3setup.zip with winzip into a temporary folder. Run the resulting file sb3setup.exe and follow the very straightforward installation instructions. A second entry will now be placed in your Modules section of the Flight Simulator top menu bar – ‘Start Squawkbox’.

The Squawkbox has options for installation either on the same PC as Flight Simulator, or on another computer networked to the FS PC. If you select the latter option, Squawkbox searches for a copy of FS on the network, and remembers which PC it is installed on.



**The Start Squawkbox option in the FS Menu**

### 4.3 Teamspeak

Teamspeak installation is also very straightforward. Double click the downloaded ***TeamSpeak\_Client\_v2.0.32.60.exe*** file and follow the on-screen instructions. Installation and set up for use with the Club is described fully in section 8 below.

## 5 FIRST TIME START UP

### 5.1 Windows Audio Setup

It is important to set up your windows sound options correctly so that your microphone is enabled and recognized, and the recording and playback volumes are satisfactory. Sound configuration may be found within "Control Panel". In Windows XP it is called "Sounds Speech and Audio Devices", then a further link called "Sounds and Audio Devices" puts up a window with a number of tabs to look at. The "Volume" tab gives all the options - you only need to check that Mic is on and the volume slider set well up - 75% or so.

In general, selecting the "Advanced" tab under the microphone setting and ticking the "Boost" tick box, will result in over modulation (too loud), but on some systems it may be required. Try your setup first without boost enabled.

When you are flying, the aircraft sounds and the voice transmissions will be sent to your headset. You may need to reduce the sound output levels in MSFS

to enable the voice to be clearly heard. If you move on to using two networked PCs (See Section 7 below) you can have the voice coming out of the headset, and the aircraft sounds coming out of your speakers, which is a bit more realistic, and clearer too.

## 5.2 Start WideFS

If you are running Flight Simulator on one PC and Squawkbox on a different, networked PC, then you must start WideFS before starting Flight Simulator. See section 7 for WideFS installation.

## 5.3 Start FS2004

Now start FS2004. When FS is loaded, if you are using the full screen display, open the menu (“Alt” key) and untick the “Full Screen” option in the “Views” menu for the moment. Once everything is set up and running, you can go back to full screen if you wish.

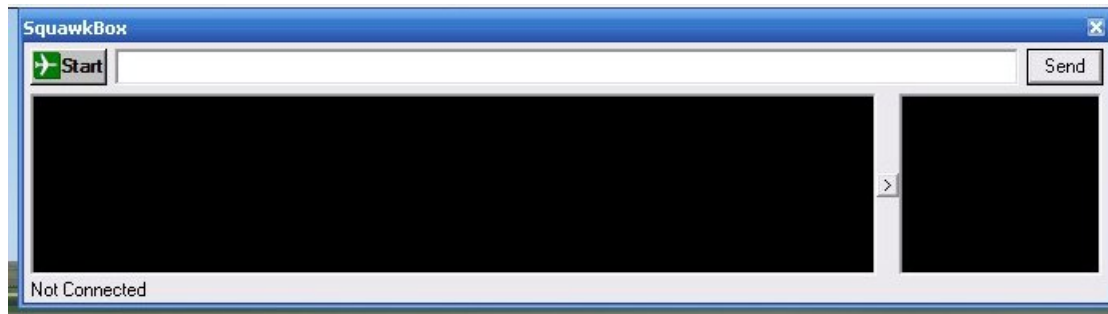
When you have started FS, selected your flight and have your engine(s) running, first move off to a safe place for experimenting. If you are on a runway or taxiway in the way of other aircraft, taxi off to a corner of the apron and save the flight (the ; key) and tick the “Default flight” box, so that this will be your starting point for the next few connections until you get used to the procedure. When you are used to making the Vatsim connection, you will always start on the apron anyway, because your first job is to request taxi clearance. You can’t just wander about where you like!

## 5.4 Connect to the Internet

If you do not have a Broadband connection, now is the time to connect to the Internet. This step **must** come before starting Squawkbox. Use the Start button in the bottom left and corner of the screen to find the Internet Explorer icon (Or Netscape etc) in the Start Menu. Alternatively, you can temporarily minimize FS and start Internet Explorer from the desktop icon, if you have one. The default screen on connection – usually a search engine – is irrelevant to the session at the moment, so you can minimize Internet Explorer.

## 5.5 Starting Squawkbox

When you first start Squawkbox (from the Modules Menu in Flight Simulator) it displays the screen below overlaid on your cockpit view.



**The Initial Squawkbox Screen**

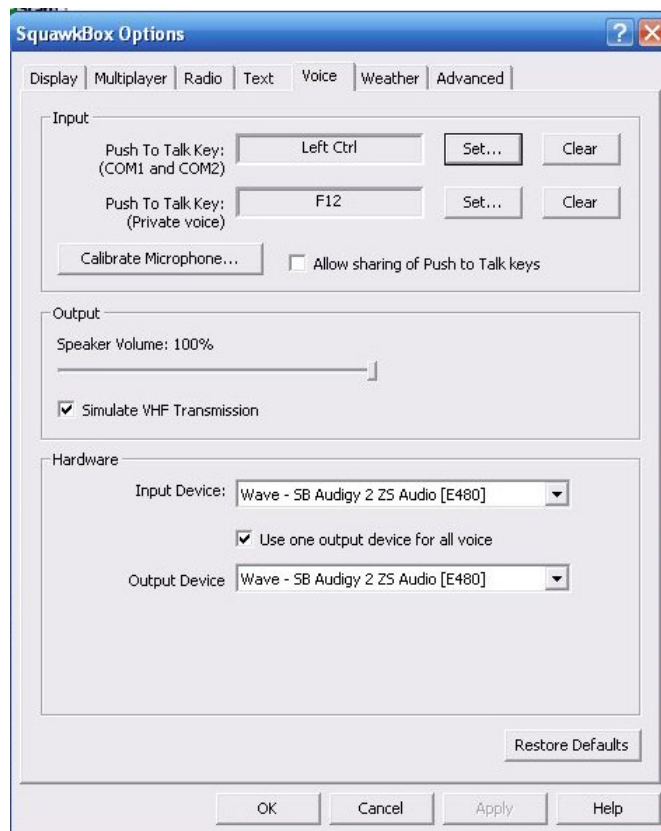
### 5.5.1 Audio & Voice Set Up

The first time you start Squawkbox, a warning will appear telling you that you have not yet calibrated your microphone. Click the “Yes, calibrate now button” to start the process.

A calibration wizard will guide you through the several stages of the test. When the calibration is complete any problems that occurred will be displayed. These tests are very sensitive, and often, when the test reports that there is too much background noise, in fact, voice quality is fine. Nevertheless it is best to try to get it right if possible.

If you want to calibrate the microphone in the future, you can do so at any time by clicking on "Start" and selecting "Options" from the drop down menu. Select the “Voice” tab in the window which is displayed and click on the “Calibrate Microphone” button in the next window. (See **The Voice Options Screen** screenshot below.)

Once you have got your microphone working to your satisfaction, you will of course want to test your setup on a live system, and this we will come to in section 5.7 below. If after the live test, voice quality problems remain, check the Squawkbox Manual Frequently Asked Questions section on the Squawkbox web site <http://www.squawkbox.ca> for tips about achieving better results.



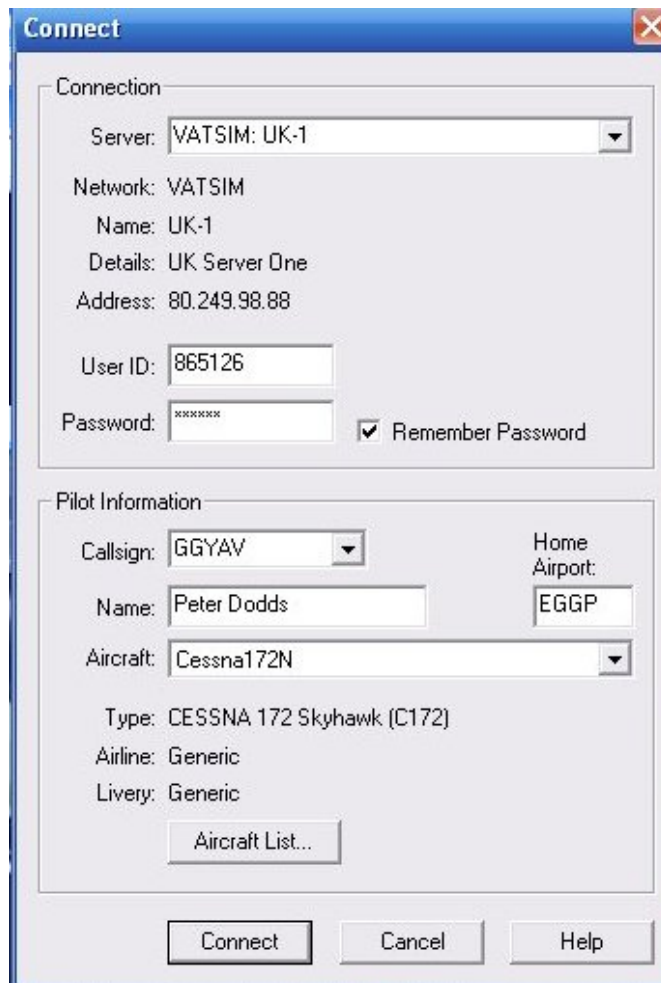
### The Voice Options Screen

The Push to Talk (PTT) key is the keyboard key which when pressed allows your speech to be transmitted, in exactly the same way as in real world radio communications. If you have a registered version of FSUIPC you can configure one of the buttons on your joystick or yoke to act as the PTT switch, which is more realistic than using the keyboard. How to do this is covered in section 9 below.

Once microphone calibration is complete, select the “Connect” menu option and enter your VATSIM registration information. Leave the VATSIM Authentication Server field blank.

#### 5.5.2 Connecting to the VATSIM Network

Finally, select the “Connection” tab and complete the details in the screen displayed. In the Pilot Callsign field enter the aircraft registration letters, e.g. GGYAV (the Author’s callsign, so he would be grateful if you used a different one!). The hyphen usually inserted after the first letter when painted on real aircraft (e.g. G-GYAV) is omitted for VATSIM, as it caused problems in the ATC software..



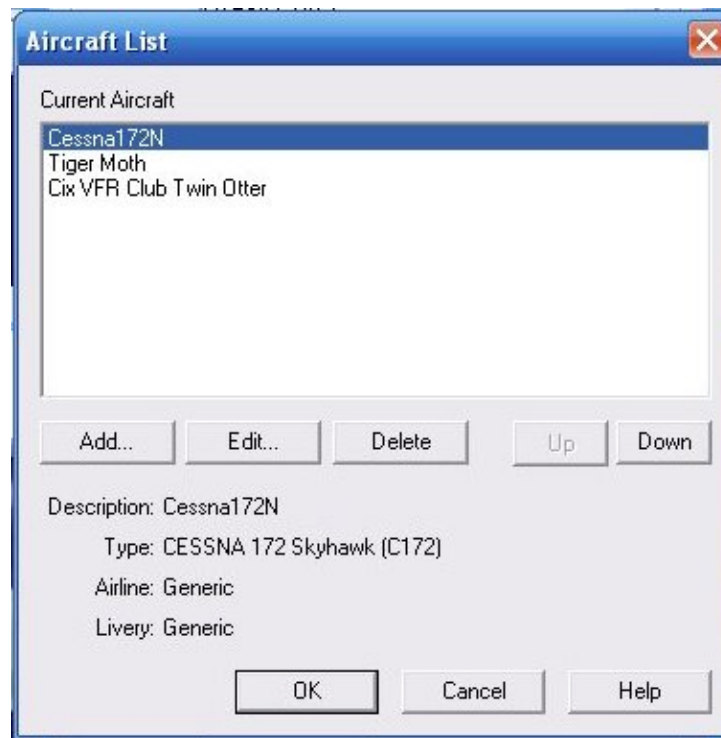
### The Squawkbox Connect Screen

The first time you try and enter an aircraft type, you will be transferred to another screen where you built a list of aircraft you intend to fly. In the “Name” field, you can enter text of your choice, e.g. “Cix Cessna 172N” but in the “Type” field, you must select an aircraft from one of three lists:

- Default Flight Simulator aircraft
- Most common aircraft
- Complete list

The software looks in the FS Aircraft folder to create the lists of options. If you have installed the Cix liveried Cessna 172N, you will only find this under the “Complete list” option. You can add as many aircraft as you wish. These are the aircraft which will be displayed in the dropdown list on the “Connect” screen.

Be aware that some aircraft, particularly those designed outside FS, may not appear to others as you see them yourself. This is one of the limitations of the FS technology at present.



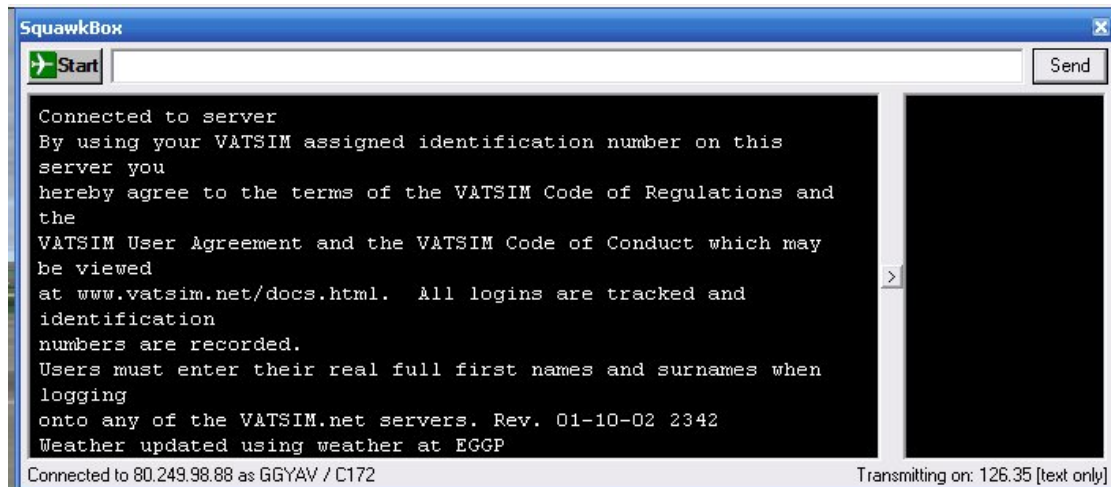
### Creating a List of Aircraft You Intend To Fly

When you have created your list, clicking OK takes you back to the “Connect” screen. NOW you can enter your aircraft type in the “Aircraft” field. Once you have successfully connected to VATSIM, these details are remembered, and appear already in the fields next time you start Squawkbox, so the connection process is much faster second time around.

Finally, when all details are complete, click the Connect button at the bottom of the “Connect” screen. This action automatically starts a multiplayer session in FS and connects you to VATSIM. You will know when the connection has succeeded because the main Squawkbox window displays the VATSIM Terms and Conditions information, plus a message that the local weather has been updated, for VATSIM takes real world weather information and feeds it through the server to your Flight Simulator. The realism continues!

In the right hand pane of this window, displayed in green text will be the names and frequencies of manned Air Traffic Control stations within a 40 nautical mile radius of your position. This range is adjustable via the “Options” menu, but you are not advised to do so.





### Confirmation of a Successful VATSIM Connection

## 5.6 Filing a Flight Plan

Once connected to the server, you need to complete a Flight Plan before you can take off (a VATSIM rule). You might prefer to create your flight plan before connecting to VATSIM, but you will not be able to send it until you connect. If you do complete a flight plan before connecting, save it, and then, once connected, reload it and send it.

Flight plans are remembered by Squawkbox for subsequent sessions, so that if you always use the same aircraft type, and fly VFR, then many of these boxes only need to be completed once. In every case, the flight plan will import your aircraft type and callsign from your Connect screen information. These two fields cannot be changed on the flight plan form.

Continue as follows: -

- Enter the 4-letter ICAO code for you Departure, Arrival and Alternate Airports.
- The Alternate is where you will go if the aerodrome you intend to land at is unavailable unexpectedly. It is a good idea to enter one even for circuits, because an aircraft landing before you might just land wheels up, and that closes the runway for the rest of the day.

*There is a famous case of this happening to a lady student pilot on her first solo. Her instructor (on the ground of course) helped her plan a flight to an aerodrome 20 miles away while she was also flying orbits overhead her home field. She made the flight and landed successfully at the unfamiliar field. Both she and her instructor deservedly shared the CAA's Safety Award for that year.*

- The true Airspeed is generally aircraft specific – for the Cessna 172, it is 105 knots. This information is available from the Aircraft menu in FS.

- Enter the Departure Time, En Route time and fuel. The Cessna 172 has a fuel endurance of 4 hours 30 minutes starting with full tanks.
- You may enter a Route if you wish, but “VFR” is sufficient for VFR flights.

When you finally click “Send Flight Plan” (the next one will take far less time, I promise), you will see the words “Flight plan sent” appear in the Squawkbox message window.

## 5.7 Tuning In to an Air Traffic Controller

Finally, tune your FS COM1 radio to the frequency you are going to talk to first, using the mouse or, a Goflight® radio if you are lucky enough to have one. Assuming you are at the Club’s operating base, Biggin Hill, and Biggin Hill Approach is manned, then you should see among the list displayed in the right hand pane of the Squawkbox Screen

EGKB\_APP (129.40)

The APP letters mean that it is an Approach frequency, not Tower. Sometimes, both TWR and APP will be manned at the airfield. If this is the case you should select the Tower frequency while on the ground. Once you are airborne, the Tower controller will “hand you over” to the Approach Controller (even though you are departing, not approaching!).

In the old version of Squawkbox, you selected frequencies by double-clicking on one of the frequencies, but this no longer is possible. It wasn’t realistic, after all.

When you have tuned the frequency, a short warbling sound is heard, and the bottom border of the Squawkbox window contains the text “Transmitting on 129.40 on voice + text”. You will now see, on the main screen, the Automated Terminal Information Service (ATIS) for Biggin Hill. This is not like the real world, where ATIS is a voice recording giving a lot of detail, but on VATSIM, it is usually quite brief - a link to the Vatsim web site, and optionally, the time that the controller will be on duty. Sometimes controllers publish something akin to the real world ATIS, with the landing and departing runway in use with wind speed and cloud information.

## 5.8 Testing Testing

All that remains now is to summon a huge resource of courage (I know – I’ve been there), press your chosen PTT switch on the keyboard and say: -

**Biggin Approach, Golf Golf Yankee Alpha Victor, on the Apron south of the tower. Request radio check.**

The controller will reply: -

**Golf Golf Yankee Alpha Victor, reading you strength five, how do you read.**

And you reply: -

Biggin Approach, Golf Golf Yankee Alpha Victor, reading you strength five also, Alpha Victor out.

## **6 ROUTINE STARTUP**

The next time you connect to VATSIM using Squawkbox, and all subsequent occasions, the “Connect” screen will already contain your details, there will be no microphone calibration routine, and you will be able to select your aircraft from the drop down list you created the first time.

Your previous flight plan will be displayed when you select the Flight Plan option from the main Squawkbox menu. For a new flight, simply change the few details necessary. If you get into the habit of saving your flight plans, then if you are repeating a flight, you can load the flight plan from your saved library.

## **7 USING MULTIPLE PCS**

Flight Simulator uses a large amount of your computer’s resources. Running Flight Simulator, Squawkbox, and TeamSpeak, and possibly other utilities such as FSNavigator all on one computer can overload it, causing problems. If you have a second PC, then by networking them together you can share this load between both. If you have upgraded your PC and kept the old one, consider bringing it back into service for running the FS ancillaries, which do not place a heavy burden on the CPU or memory.

For the purposes of this tutorial, it is assumed that the machines are already networked and communicating satisfactorily with each other, and that you will run Flight Simulator on one PC, and everything else on the other. However, you can divide the load to suit your personal preferences.

### **7.1 Software Required**

Peter Dowson’s WideFS is the essential tool for using two (or more) PCs for Flight Simulator and ancillaries. You also need the payware version of FSUIPC to ensure that all the desirable functions can be set up. Wide FS will not work without FSUIPC. The two packages need to be compatible, so when downloading an upgrade for the one, always check to see if there is an upgrade available for the other at the same time. (Peter Dowson always recommends using the latest version of each, and normally updates both at the same time - 6.50 and 3.50 were released together.) WideFS version 6.50 requires FSUIPC 3.44 or later. The good news is that the reasonably frequent upgrades of these two programs are entirely free to registered users.

### **7.2 Installation**

Both FSUIPC and WideFS are extremely simple to install, and the instructions given in the user guide are clear and obvious, if a bit buried in a fascinating essay about how it all works. In a nutshell: -

- 1) Unzip FSUIPC.zip into a folder of your choice on the PC running Flight Simulator – a dedicated FSUIPC folder is best.
- 2) On the PC which will be running Flight Simulator, copy the file FSUIPC.dll which you should see in the folder, to the Modules folder of Flight Simulator 2004.
- 3) Unzip WideFS.zip into a folder of your choice on the PC which will NOT be running Flight Simulator – a dedicated WideFS folder is best.
- 4) Copy the files WideServer.dll and WideServer.Ini to the Modules folder of Flight Simulator on the PC which will be running Flight Simulator.
- 5) On the PC which will NOT be running Flight Simulator, go to your WideFS folder and create a shortcut to WideClient.Exe and place it on the desktop near your Squawkbox icon. This helps remind you to run WideFS before starting Squawkbox.

*Of course, if you have already installed FSUIPC, start at step 3 above.*

### **7.3 Working with Multiple PCs.**

The only important requirement for a smooth start up of Flight Simulator and Squawkbox on multiple PCs is to start WideFS before any other software which needs to interface directly with FS. FSUIPC will load with Flight Simulator and “talk” to WideFS.

## **8 USING TEAMSPEAK**

The Club uses TeamSpeak, an Internet voice client application, during our meetings and events. You talk to ATC using Squawkbox, but you have TeamSpeak loaded at the same time. You will need a PTT switch for TeamSpeak too, and having the Squawkbox one on the yoke (see section 9) and the TeamSpeak one as a keyboard key tends to avoid confusion. (After all, you don't want to be telling ATC that you don't know where you are, unless you really need to!).

TeamSpeak has excellent voice quality and functionality. The Club have had very few, if any, problems in using it. Most members running Windows XP can run TeamSpeak and Squawkbox simultaneously without difficulty. TeamSpeak gives us the ability to talk pilot to pilot without involving ATC, and thus can be used for training, and help-as-you-fly.

### **8.1 Installation**

Installation is straightforward. Double click the downloaded **TeamSpeak\_Client\_v2.0.32.60.exe** file and follow the on-screen instructions. Accept the default installation directory. The installation will place a TeamSpeak icon on your desktop during installation, which is very useful.

## 8.2 Set Up a TeamSpeak PTT Button on the Keyboard

The next stage is to set up a PTT button on your computer keyboard. This has to be a different one to that which you use with Squawkbox. A key which does not auto-repeat is necessary. The most commonly used is the RIGHT-CONTROL Key. On some systems, particularly laptop computers, the LEFT-CONTROL key and the RIGHT-CONTROL key are not separately identified, so it is preferable not to use the LEFT-CONTROL key for Squawkbox unless you are sure that there is no conflict. The Caps Lock key can often be used successfully.

Click on the “Settings” main menu bar option, followed by Sound Input/Output from the dropdown menu. Click the Push to Talk radio button (we don’t want to use voice activation), then press the Set Button and then press the RIGHT CONTROL Key. Set the Output volume slider to the midpoint “Normal” position. Finally press Close on this menu.

## 8.3 Options Set Up

Click on the “Settings” main menu bar option, followed by “Options” from the dropdown menu. Set up the following parameters.

### 8.3.1 Sound Devices Tab

Select the Wave radio button as the “Sound Driver” and move the “Direct Sound Buffer Size” slider fully right to “Better Sound Quality”. This has no effect using Wave sound, but if later we select “Direct Sound” to produce better sound quality, then setting this slider to the right is necessary.

### 8.3.2 Sound Notifications Tab

Select the Sound Notifications slider to about 30%, otherwise the anonymous lady announcer within TeamSpeak will deafen you when a member joins or leaves.

### 8.3.3 Bandwidth Tab

This can be skipped.

### 8.3.4 Other Tab

Tick the “Show Item in Traybar” tickbox, and select the Process Priority High radio button. This makes sure you can use TeamSpeak while running Flight Simulator. Ignore other settings.

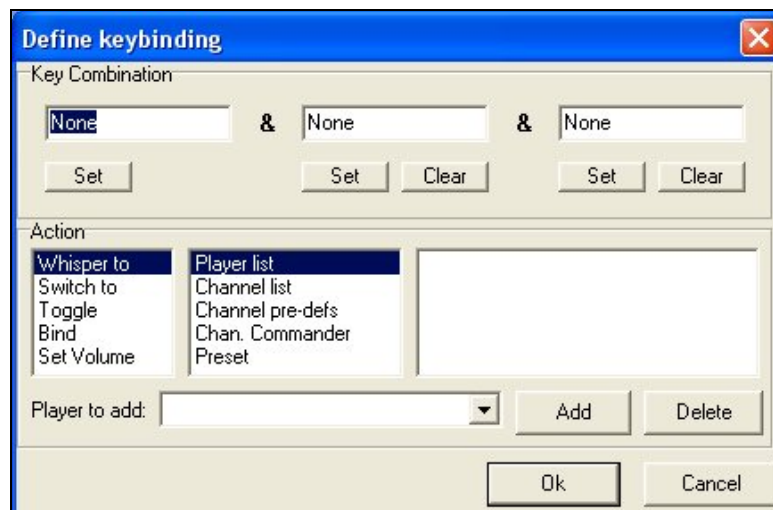
## 8.4 Key Settings

It is useful to set up an AWAY key and a MUTE TeamSpeak key to enable you to show other users that you have left your PC for a few minutes with (the away

key) and to silence TeamSpeak if other members are talking and ATC is calling you.

#### 8.4.1 Away Key

Click on the “Settings” main menu bar option, followed by “Key Settings” from the dropdown menu. In the Key Bindings window, click “Add”, then select TOGGLE from the “Action” pick list box. From the pick list box to the right select AWAY. Click the “Set” button above the “Action” Box and press the RIGHT ALT GR key (to the right of the spacebar on the keyboard). Click OK.

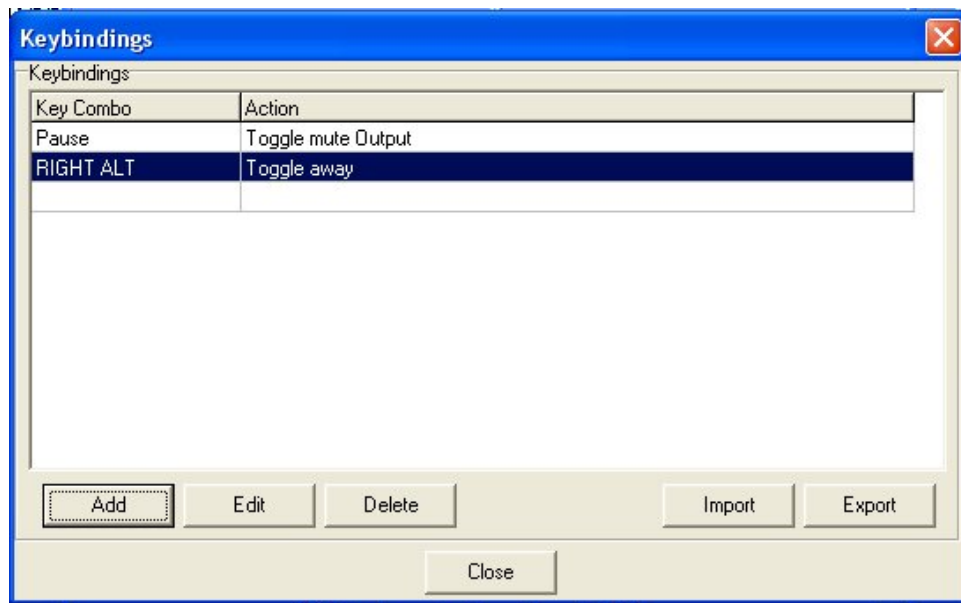


**The Key Bindings Dialogue Box**

#### 8.4.2 Mute Key

Click on the “Settings” main menu bar option, followed by “Key Settings” from the dropdown menu. In the Key Bindings window, click “Add”, then select TOGGLE from the “Action” pick list box. From the pick list box to the right select MUTE.

Click the “Set” button above the “Action” Box and press the PAUSE/BREAK key (to the upper right of the keyboard next to “Scroll Lock”). Click OK. The Keybindings window should now look like the screenshot below.



**“Mute” and “Away” keys set**

## 8.5 Connections

When you joined the Club, the Membership Secretary, Peter Allnutt, will have given you a TeamSpeak login name and password. With this information to hand, click on the “Connections” main menu bar option, followed by “Connect” from the dropdown menu. The following screen appears.

Right-click anywhere in the large white box and select ADD SERVER from the menu. Type “Cix VFR Club” (without the quotes of course). Press the keyboard “Enter” key.

Complete the following details.

Server Address	ts.cixvfrclub.org.uk
Nickname	Your first and last name and (optionally) the aircraft registration that you use in the Club. Do not use non-text characters such as ( or *
Allow Server Nickname	Leave blank
Anonymous or Registered	Select the “Registered” radio button
Login Name	Provided by Peter Allnutt when you join the Club
User Password	Provided by Pete Allnutt when you join the Club
Auto-Reconnect	Tick this tick box
Default Channel	Leave blank
Default sub-Channel	Leave blank
Channel Password	Leave blank



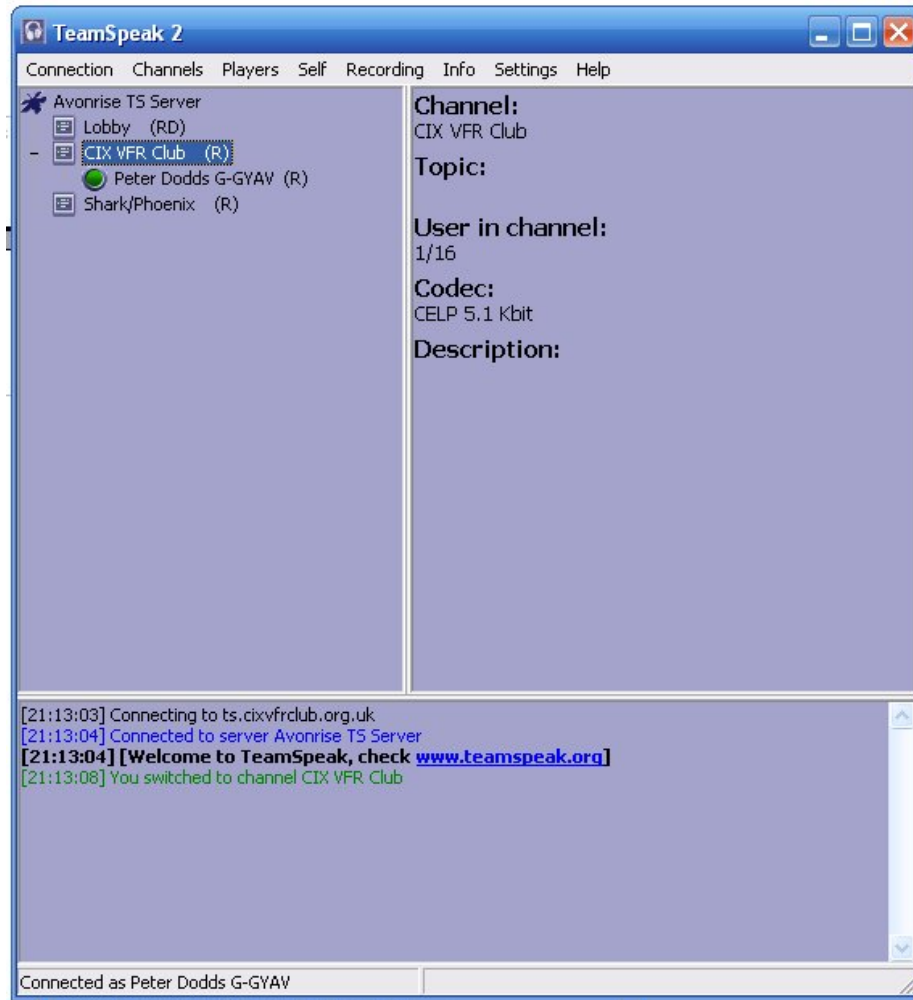


### The TeamSpeak Connection Screen

Once the details have been entered, click the CONNECT button at the bottom of the window, and you should be connected with the following window displayed if there is no-one else on line.

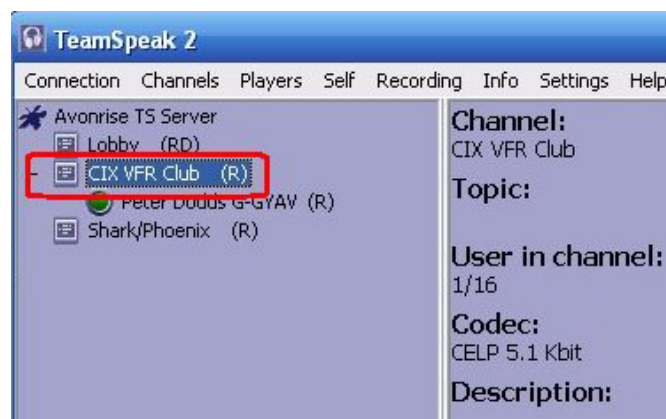
For future TeamSpeak sessions, these details are remembered and shown in the list of Servers on the left pane of the window. Simply click the chosen Server once to display its details, followed by the CONNECT button.





### Connected to the Club TeamSpeak Server

To move from the lobby to the Club specific voice “Room”, simply double click the “CIX VFR Club” label, as indicated below.



### Double Click the Label to Move “Rooms”

There are other options within TeamSpeak, including the facility to send a private text message to just one of the members connected, or the setting up of additional “rooms” for confidential conversations etc. For the Club’s purposes, however, this tutorial covers all that you need to talk to other members. When you come to disconnect, simply click on the “Connections” main menu option, followed by “Disconnect” from the dropdown menu.

## 9 SETTING UP A PTT BUTTON ON THE YOKE

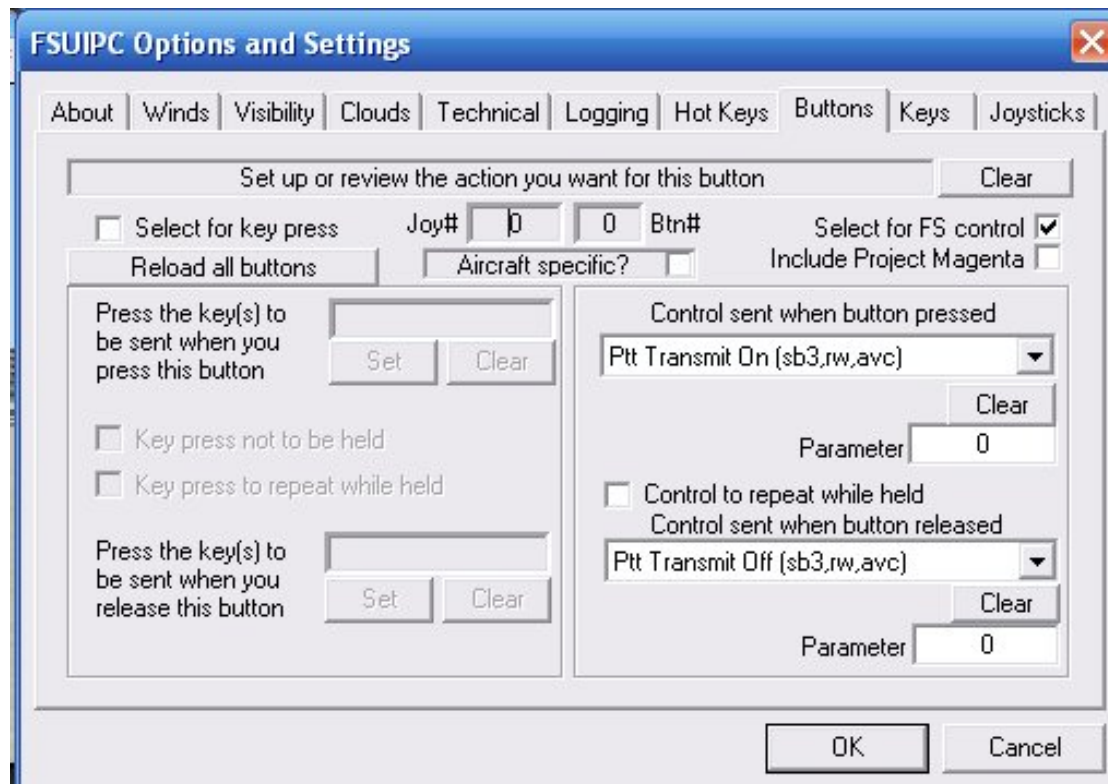
If you have enough buttons on your yoke or joystick, it is highly recommended to assign a yoke button as your ATC Press to Talk (PTT) button. This is not only true to real world practice; it helps avoid any confusion about which keyboard button to press for ATC, and which for the Club TeamSpeak service.

**Note:** This feature is only available for registered versions of FSUIPC. Once you have installed FSUIPC, setting up a yoke PTT key couldn’t be simpler with the new versions of FSUIPC (3.50) and Wide FS (6.50).

- 1) Start Flight Simulator
- 2) Open FSUIPC from the ‘Modules’ menu option
- 3) In FSUIPC, select the buttons tab.
- 4) Press the yoke button you want to use.
- 5) Tick the "Select for FS Control" tickbox.
- 6) Open the dropdown list in the "Control sent when button pressed" box
- 7) Scroll down to Ptt Transmit On (sb3, rw, avc)"
- 8) Open the dropdown list in the "Control sent when button released" box
- 9) Scroll down to "Ptt Transmit Off (sb3, rw, avc)"
- 10) Click OK to close the FSUIPC window.

The procedure is identical if you have two PCs and are running WideFS and Squawkbox on PC2, with Flight Simulator running on PC one, with the yoke plugged into PC1.

On a network, when starting up your Flight Simulator system, you must start WideFS first (on PC 2), then Flight Simulator on PC 1, then Squawkbox on PC 2, in order that Squawkbox can find the Flight Simulator session.



**FSUIPC Screen Set up for a PTT Button on the Yoke**

## 10 READY TO FLY

Once you have successfully tested your software, your personal preferences of PTT and command keys etc., and your voice communication system, you are almost ready to start flying. If you have no previous experience of Flight Simulator or real world flying, then the tutorials in the Training section of the web site should help you. The FS2004 Help & Learning Centre goes into a lot of detail about aviation in general as well as help on the actual software, and also deserves study. If you know any real world private pilots, you may also be able to also borrow their training manuals, written by Trevor Thom. Or you could buy your own from Pilot shops such as Transair or Flightshop, but they are a bit expensive for “mere” simulator pilots. Do a web search on “Trevor Thom” and you will find plenty of links.

The standard dialogue used in Air Traffic Control is a “must learn”, as using non-standard phraseology is much frowned on, in both the real and the virtual aviation world. In the Club, beginners can expect a lot of help to get going with the unfamiliar language, but you are expected to get better and more realistic relatively quickly. There is a comprehensive radiotelephony tutorial for Club use in the Training section of the Club web site, and if you want it from the horses mouth, the Civil Aviation Authority (CAA) publish a Radiotelephony Manual – CAP 413, which is available free on their web site. See <http://www.caa.co.uk/docs/33/CAP413.PDF> .

OK, so you have boned up on the flying techniques, and the RT phraseology, and you are itching to get started. The [CIX](#) VFR Club meets regularly at Gloucestershire Airport on Tuesday evenings, and Biggin Hill on Thursday evenings. Before connecting to VATSIM via Squawkbox, park on the main apron of either airfield (absolutely never on a runway – someone might be landing as you connect and “pop up” in front of them!). Open your Club TeamSpeak connection and have a chat with other members.

You may choose to sit and “listen in” for an evening – no-one will pressure you into doing anything – this is a hobby! When you feel ready to make a flight, we recommend a short flight of perhaps 30 minutes out of the aerodrome traffic zone and back. Flying circuits, although excellent training, is not the best way to learn the ropes from scratch, as the workload is too high for beginners. Always remember that in the [CIX](#) VFR Club, we are all here to help you get the most out of membership and VATSIM.

Have a good flight!