FREQUENCY

1. Introduction

An air traffic controller shall communicate with pilots in command of all aircraft in his airspace.
In real aviation, all aircraft and all air traffic controllers are equipped with radio transmitters and antennas.

Each radio transmitter uses one unique frequency at a time and performs half duplex communication (this frequency is sometimes also called a radio channel). The radio transmitter can be tuned to the selected frequency manually by its user. In half-duplex communication, each party can communicate to the other, but not simultaneously; the communication is one direction at a time.

1.1.   In the real world

In the real world, the pilot uses **radio communication in the VHF band** (very high frequency).
Voice communication starts from 118.00 MHz to 136.000 MHz in the VHF band.

Oceanic flights can use the HF band (high frequency) using the long range communication property of this frequency. Military aircraft can use the UHF band (ultra high frequency). These bands are not simulated in IVAO.

1.2.   In IVAO network

In the IVAO network, users must not use any real radio transceiver.

The use of aeronautic radio transmitters is reserved for real world flights.
It is forbidden to use them for any IVAO activities.

In IVAO, the radio communications are simulated using communication software:

- **TeamSpeak 2** software for communication using voice
- **IvAp interface** for communication using text and to obtain ATIS information, METAR, TAF …

In order to make the communications more realistic, you can choose the VHF frequency in your cockpit or IvAp interface and the software will do the rest to connect you to the correct channel.

The **IvAp** interface is an IVAO tool which synchronizes the pilot frequency in the cockpit and the interface with the air traffic controller TeamSpeak channel (if existing).
An air traffic controller in IVAO is responsible to tune the frequency of his position in the **IvAc** radar software, to create a channel in the selected TeamSpeak server, and to complete his ATIS accordingly in order to perform voice control sessions.

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2. Use of frequency in IVAO

2.1.   For the IVAO air traffic controller

Before you can control an active position, you must manually set the VHF frequency of your controller position in your IvAc radar scope. This frequency tuning is not automatic.

This frequency can be taken from:
- The IVAO database (HQ database or your division database)
- Real charts if the database was not updated

We advise you not to take any real frequency you may have heard on a real radio receiver. These frequencies are subject to changes in the functionality of many parameters that IVAO does not use nor simulate.

2.1.1. How to tune the frequency in IvAc?

Follow the procedure below:
- Click on COM1 tab in the IvAc COMMbox window
- Type double bars **//** followed by the VHF frequency wanted

Example: //130.275
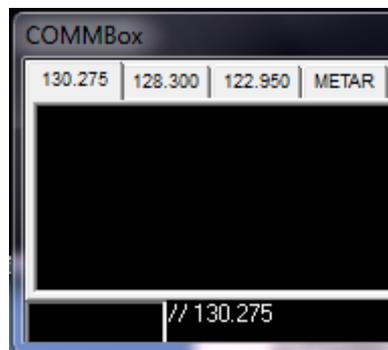
2.1.2. How to tune TeamSpeak for voice communication?

Tuning TeamSpeak does not require any VHF frequency. You create a channel by only using your position name. If you use a frequency value as a channel, the system will not work.

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What happens when you open an active position as an air traffic controller?

1. When connecting to the IVAO network (which is called IVAN) with IVAC, you must choose a network server and a TeamSpeak server.
2. Your position is identified by using the **ICAO code of your control zone or airfield** - for example: **ICAO_POS**
3. The VHF frequency is tuned on IvAc and sent via IvAc to the IVAN network to associate your position with the frequency.
4. On TeamSpeak you are connected as - for example: **ICAO_POS**
5. Now create your unique channel on TeamSpeak using your position - for example: **ICAO_POS** (since two different positions can share the same frequency, you cannot use the frequency in the channel name).
6. The link between the position and the frequency is created by the ATIS of the position and it is broadcasted in the IVAN network.
7. When a pilot wants to connect to an air traffic controller, and after tuning to the correct frequency, he receives the ATIS information automatically in the IvAp interface and IvAp then tunes TeamSpeak to the correct IVAO ATC channel using the position **ICAO_POS**.
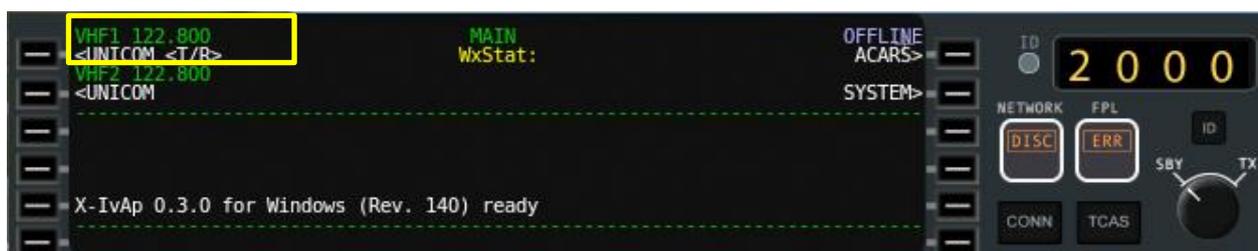
2.2. For IVAO pilots

If you want fly on IVAO and you are on the apron of an airfield, you must connect to the IVAO network named IVAN.

The first step is to tune IvAp to UNICOM 122.800MHz as the active frequency.

IvAp version

x-IvAp version

This frequency is the unique worldwide self-announcement air to air frequency for all airfields in IVAO.
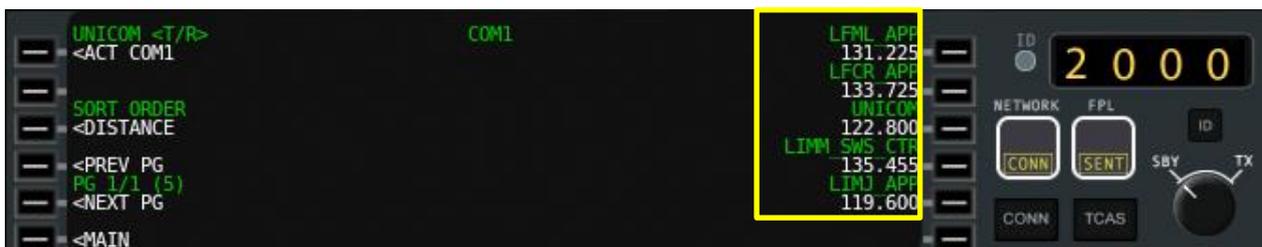
This frequency can only be used utilising text for technical and practical reasons.

When you are ready to begin your flight, check in the IvAp interface if there are any air traffic controllers available in your zone.

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IvAp version

x-IvAp version

Any air traffic controller requires <u>2 way radio communication contact prior to any movement</u>:
1. If an Air Traffic Controller is available, set the VHF frequency on IvAp as the active frequency. You will **receive the ATIS information by text** and **TeamSpeak will automatically connect to his channel** (except if you have deactivated voice mode or the air traffic controller is in text only mode).
2. If there are no air traffic controllers in your area, you must remain on the Unicom frequency 122.800MHz and perform self-announcement text messages using the scratchpad in IvAp interface.

Be aware that when there is any technical problem with TeamSpeak software that does not permit two way voice communication, you <u>shall communicate</u> using the IvAp scratchpad using <u>text as secondary mode</u>. <u>You are not permitted to ignore the text mode procedure in that case.</u>

2.3.   8.33 kHz

The new 8.33 kHz channel width for radio communication frequency is already integrated via IvAp, IvAc and IVAN network.

In your cockpit, you must setup only the first 2 digits after the decimal and the 3rd digit is automatically tuned by the system to either a 0 or 5.

The 8.33 kHz spacing channel is mandatory in some countries in upper airspace.
As the IvAp interface is compatible with 8.33kHz, please add the letter Y in the equipment in your flight plan.

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