



TRANSPONDER WITH IVAP

1. Introduction

When an aircraft carries a transponder, the pilot shall operate the transponder at all times during flight regardless of whether the aircraft is within or outside airspace where radar is used for air traffic service purposes (secondary surveillance radar SSR).

Pilots shall indicate the capability of the transponder aboard the aircraft in item 10 of the flight plan by inserting the appropriate letter.

Except in specific cases (see specific procedure), the pilot shall:

- Operate the transponder and select transponder code as directed by ATC unit with which contact is being made.
- Operate the transponder on code as prescribed on the basis of regional air navigation agreements
- Operate the transponder on code 2000, in the absence of any ATC unit.

Regional VFR non controlled codes are examples of prescribed codes defined by regional air navigation agreements.

When requested by ATC to confirm squawk (code), the pilot shall:

1. Verify the code setting on the transponder
2. Reselect the assigned code if necessary
3. Confirm to ATC the setting displayed on the controls of the transponder

Pilot shall not SQUAWK IDENT unless requested by ATC.

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1.1. Transponder mode with IvAp

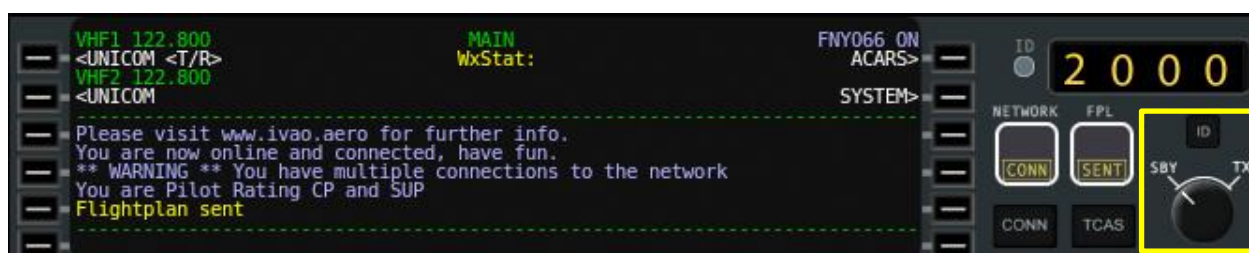
IvAp shall be considered as a type mode S transponder at the IVAO network.

Other modes can be programmed when filling the flight plan using adequate letter.

1.2. Transponder status with IvAp and x-IvAp

The transponder has two settings at IVAO:

- **STBY** (associated with the orange spot)
- **TX** (associated with the green spot) can be considered as **ALT real mode**.



1.3. Transponder rules to follow at IVAO

All pilots must:

- Set transponder to **STDBY** position before connecting to the IVAO network
- Set transponder to **STDBY** position on apron and during taxi
- Set transponder to **TX** position when cleared entering on runway for departure, and at the latest before take-off.
- Keep transponder to **TX** position while flying all the time
- Set transponder to **STDBY** position after vacating the landing runway

As a pilot in command, you must set your transponder code yourself.

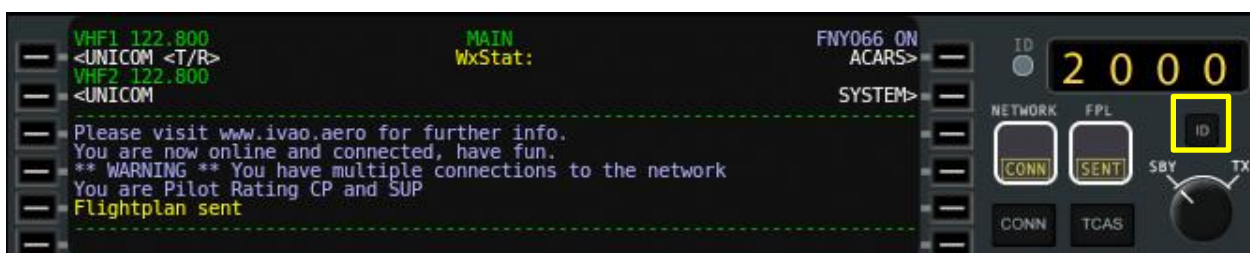
During formation flights, only the leader has to set his transponder on **TX**. The other aircraft must maintain visual contact with the leader and will keep their transponder on the **STDBY** position.

There is no OFF mode in transponder equipment at IVAO. Equipment lower position is always standby. In conclusion, you cannot disappear from the IVAO radar. TA and TA/RA modes are simulated using the IvAp TCAS system

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1.4. Transponder IDENT button

When an air traffic controller wants to locate you quickly, he can request a “transponder ident” to the pilot. The pilot accordingly will press the **IDENT** button of his IvAp interface.



Note that the pilot must press the IDENT/ID button only when requested to do a “transponder IDENT” or “SQUAWK IDENT” procedure from an air traffic controller.

1.5. Transponder code

The pilot shall tune the transponder code using the IvAp interface or instrument in the cockpit. The air traffic controller will receive the transponder code displayed on the IvAp interface.

In phraseology, controllers use the term “squawk” before sending the transponder code – for example “Squawk 2103”.

When entering a control zone, the pilot shall initiate communications with the active ATC. After first contact, the controller can assign a new transponder code. The pilot shall tune it without delay.

When leaving a control zone or when flying in uncontrolled airspace, a pilot shall tune the default transponder code in accordance with his navigation rules even if not requested by ATC.

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1.5.1. Non-controlled IFR code

There is one unique worldwide code for non-controlled IFR flights which is 2000.

It is the responsibility of the pilot to setup this code when he is not inside controlled airspace.

1.5.2. Non-controlled VFR code

Depending on local R&R, several codes can be used for uncontrolled VFR flights; the most frequently used are:

- **1200** : USA and Canada standard squawk code used when no other code has been assigned
- **7000** : Europe VFR standard squawk code when no other code has been assigned
- **2000** : ICAO standard squawk code and when local regulation is unknown by the pilot

If you fly outside any controlled zone, you are not allowed to tune a code given by any air traffic controller except non controlled code.

Example:

You fly IFR in Uruguay in a non-controlled zone; a Brazilian controller outside your flight zone gives you 0535 transponder code => you must **keep 2000 or tune 2000** if you forget to tune it.

You fly IFR in Uruguay in a non-controlled zone; a Brazilian controller outside your flight zone gives you 2000 transponder code => you **must tune 2000** as this is a non-controlled transponder code.

Other default codes dependant on local regulations are available (ex 1400, 3000).

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