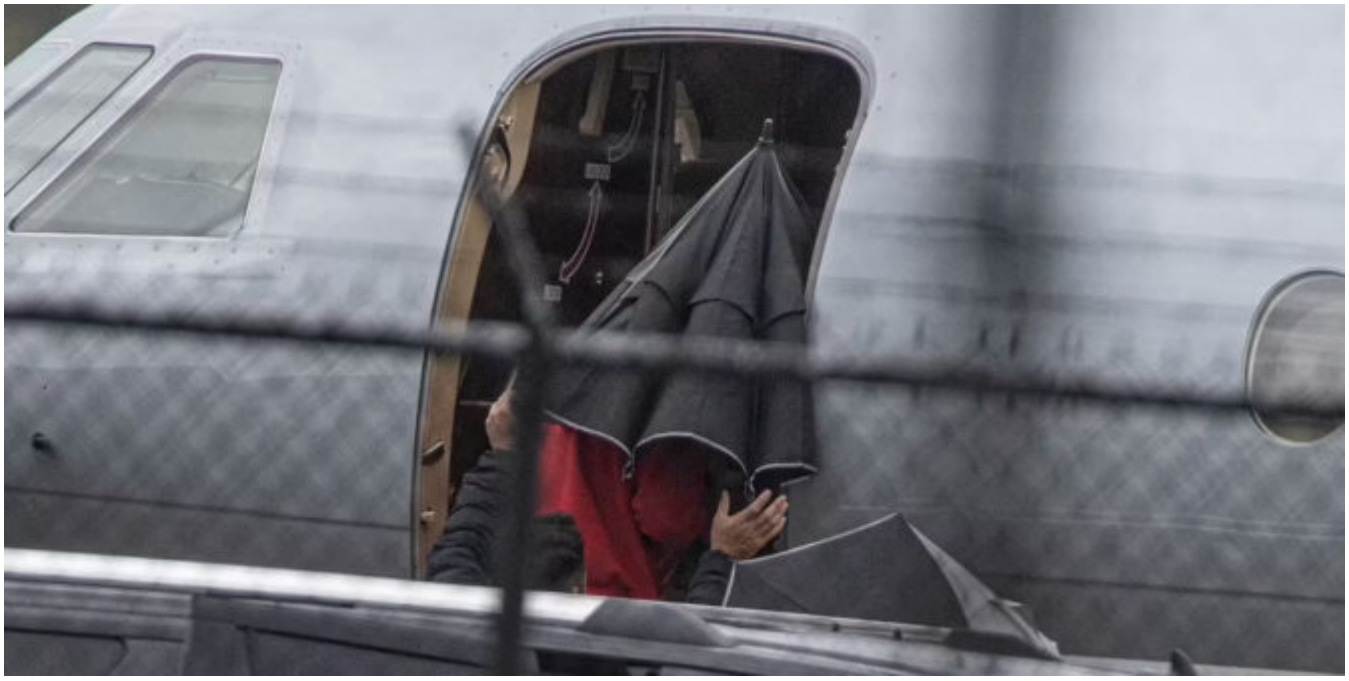
US FAA Improves Flight Tracking Privacy

OPSGROUP Team
11 December, 2024



Dec 2024 Update:

- The FAA's Privacy ICAO Address Program (PIA) has been updated. **CPDLC services are now available for flights using a PIA.** To receive it, pilots must file the PIA ICAO 24-bit address and N-reg in the flight plan.
- Two other important changes – aircraft info held by the FAA and associated with a PIA are **exempt from the Freedom of Information Act**, and pilots can now **request a new PIA every twenty days** if they want. You view the updated FAA Privacy page here.

Feb 2024 Update:

- The FAA's Privacy ICAO Address program has been **expanded to include some new oceanic and Gulf of Mexico routes.**
- Check below for exactly which routes this program now applies to, and our **Opsicle with steps on how to register.**

If you're not familiar with this program, it prevents users' aircraft registration from being tracked by third parties using ADS-B output during US domestic flights. We wrote about it before here. But to explain what this program is and how it works in two sentences:

All Mode S equipped aircraft are assigned a unique ICAO 24-bit address – this is uniquely identifiable to your aircraft's registration. The FAA's PIA program assigns you another one to use that renders you secret-squirrel.

To participate, you must tick all three of these boxes:

1. Operating an **US-registered aircraft which is ADS-B equipped**
2. Using a **third-party call sign**
3. Flying in **US territorial airspace** (the mainland, Alaska, Hawaii, and other US territories). Additionally, the PIA has been expanded to include US oceanic FIRs too – those more than 12nm from shore.

After news broke the program had been improved, we struggled to find a summary of the changes and got in touch with the FAA directly.

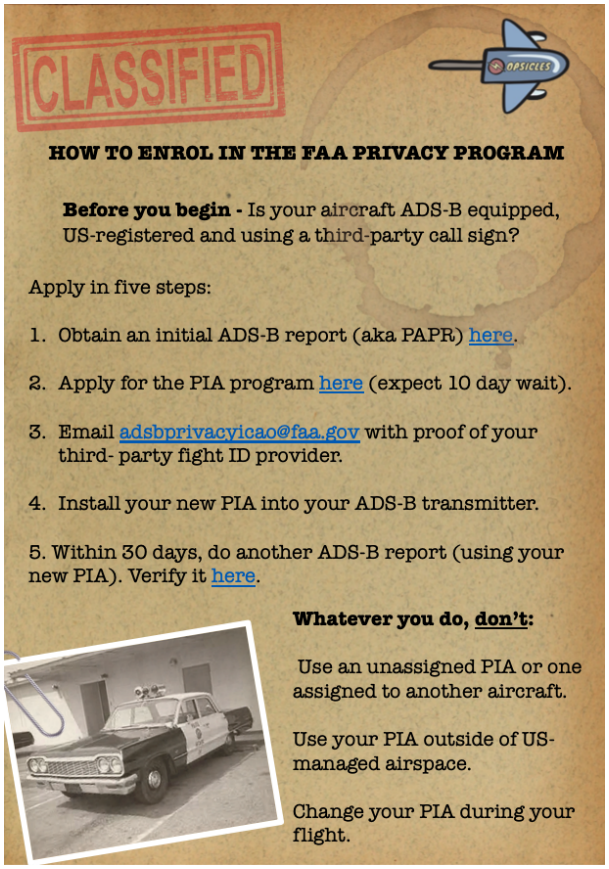
They advised while there is no 'master list' of the newly included routes, they have updated their website to include some valid examples including:

- **NYC to LA**
- **Miami to Houston (via the Gulf of Mexico)**
- **LA to Hawaii**
- **Boston to Miami (with offshore routes more than 12nm from shore).**

If you have an enquiry about a specific route, you can reach them on adsbprivacyicao@faa.gov. Chances are, as long as you stay **within US jurisdiction**, your route will be valid.

How to apply?

So, you want in? We've put together this little Opsicle with steps on how to register.



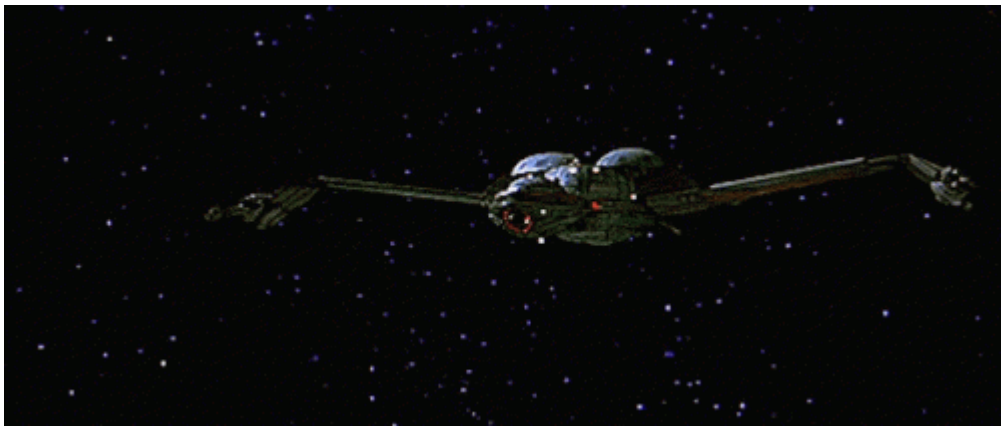
Click to open PDF.

More questions?

The FAA has quite a good FAQ section on the PIA which you can access here.

Cloaking Devices: The ADS-B Privacy Issue

OPSGROUP Team
11 December, 2024



ADS-B is fantastic bit of technology that has big safety and efficiency benefits for air traffic. The trouble is, there is also a growing level of *insecurity about security* surrounding it, because it doesn't just allow ATC to know precisely where you are at all times – anyone who wants to can find that info too.

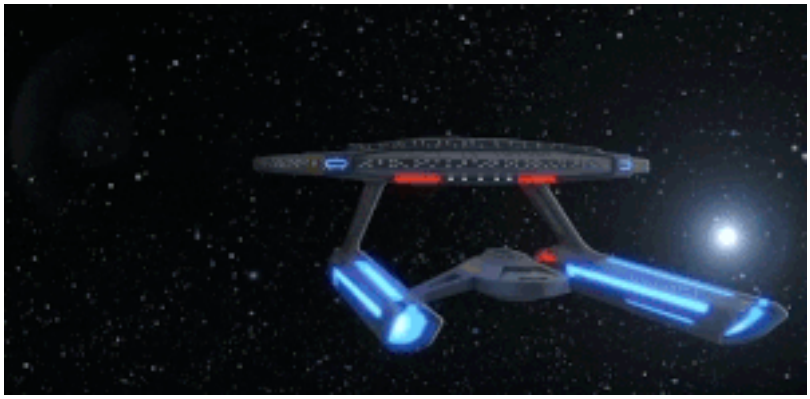
Are you ADS-Being watched?

We said all this about it before.

If you can't be bothered to read it, then it basically says this:

- **Big benefit** because it gives 'radar like coverage' in remote regions like the North Atlantic.
- **Big problem** because it reduces privacy, and this could lead to security issues.

Whilst airlines don't mind/aren't really bothered about this as much (you can kinda tell where they are heading to and from, and get other info on the airplanes, with relative ease), the business aviation and private aviation world are more concerned.



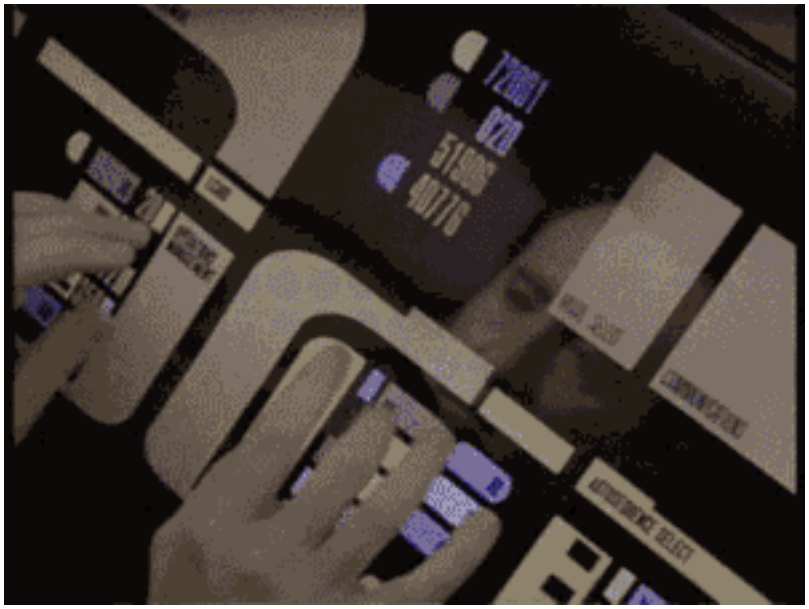
The OPSGROUP 'All Call'.

Here's the frustration: The FAA runs a program called **LADD** which offers "hiding" of our ID on tracking sites (like FlightRadar24). The theory is good, but we're now at a point here LADD simply highlights your aircraft on tracking sites that don't play by those rules (like ADS-B exchange).

Here's a video. **One click shows everyone airborne that has requested privacy!**

And then there is the issue of *everywhere not the US* because the FAA PIA system only works in US airspace. Cross the invisible boundary and you're visible again. This includes offshore routes to the Caribbean or across the Gulf of Mexico.

Changing the PIA back to the ICAO one is a bit of a mission, and if you aren't using it, then you're not going to be able to log on to Domestic Enroute CPDLC, ARINC and SITA stations won't recognise you. You'll have to switch to a new flight plan provider to get the required call sign. In other words, **it is not practical for a lot of operators.**



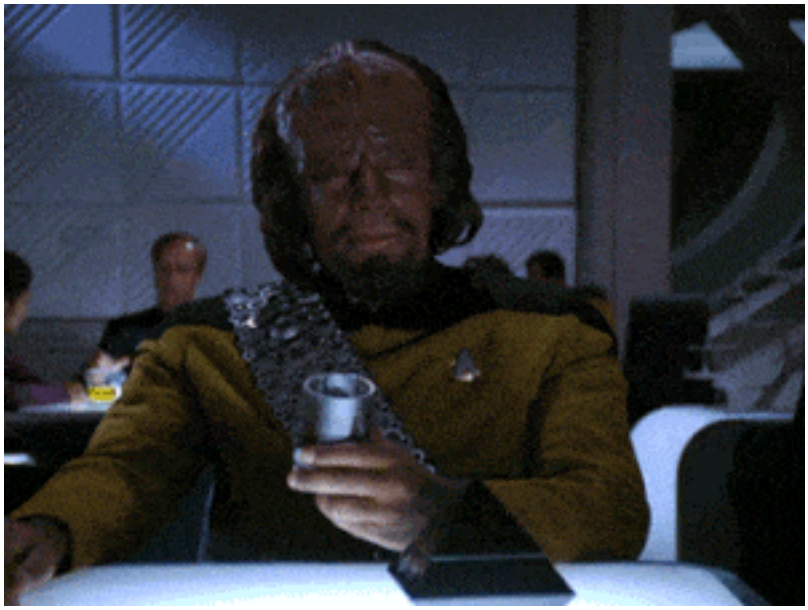
We wanted to get an idea of how bothered folks are, and to share some of the info, so we sent out an 'All Call' to our members. The response was big. The concern and frustration is big**.**

So what has been happening?

ICAO held their 41st assembly earlier in 2022, and Saudi Arabia submitted a technical paper **asking ICAO to fix the problem.** Read it here.

The key points from the paper:

- ADS-B Tracking of flights creates safety, security and privacy concerns.
- There are some ways to hide your ID, but they don't really work.
- **ICAO, please fix this.**



So, maybe ICAO will take a look at it, but there isn't an easy fix. It's an inherent system problem that needs the system to change (maybe encryption, maybe dynamic hex codes, maybe something else…)

The NBAA are on it.

A panel to discuss the growing issue was held at NBAA-BACE on Oct 19, 2022. There is a great article on it which you can read here.

Here's what we picked out of it:

- Pre-ADS-B systems worked on interrogation – so you knew who was asking for the info.
- The issue got bigger with ADS-B Out.
- ADS-B isn't going away because it is useful.

So they laid out a 4 step plan:

- Aircraft registration should be **held by a trust or LLC** so there is a layer of separation between the principle owner and the name on the certificate of registration (because that's on the public record and anyone can view it).
- Folk should make sure their aircraft is **participating in the LADD program** (it does still do something). Find that here.
- **Use a third-party call sign**. You can get this from a bunch of vendors like Foreflight and FltPlan.com.
- **The most important one:** Take steps to change your 24-bit code associated with your registration. You can do this through the **PIA** system. Basically, the FAA assigns you an alternate 24-bit code to fool the sneaky flight trackers into seeing a different registration number.

The FAA are on it.

They have a whole site dedicated to ADS-B privacy which you can find here.

The info is pretty much everything we've said above, but they have some handy links and things too.

Is it enough though?

We aren't sure it is.

It is an ongoing thing, which lots of people are looking into. In the meantime, we do have these questions, and your answers to them might help:

- How have you solved this problem?
- Have you worked out some black magic that hides your ID?
- Have you found something that other operators can use?
- Since LADD appears almost pointless, does PIA work for you?
- Have you experienced any security or privacy issues because of public tracking?
- Any suggestions or thoughts to share?

Drop us an email at news@ops.group if you have any answers/idea/suggestions/tips/questions/queries or other…

Are you ADS-Being watched?

OPSGROUP Team
11 December, 2024

ADS-B is quickly becoming mandated around the world – especially for IFR aircraft operating in busy controlled airspace at higher levels.

One of the major benefits of this is it provides 'radar-like' coverage where radar isn't possible. They no longer have to wait many minutes for the next bit of info about where you are. Now aircraft can be tracked *"as good as"* live.

But this means you are trackable by, well, anyone, and it's got some wondering whether this is an issue?

'B' equals Big Benefits.

The 'B' stands for broadcast and this is what makes this system so great. Your aircraft **continually broadcasts its precise GPS position**, along with other info through a Mode S transponder, to any receiver listening.

The biggest benefit seen so far is probably over the **North Atlantic** where ADS-B allows controllers to "see you" a lot better. Not literally see you, but receive info on where you are with a lot of accuracy and most importantly in a decent time frame (a mere snippet of a second).

The benefit is it allows for **reduced separation**.

But the Problem is also the 'B.'

Anyone with the right ears (including near airports) can listen in, and see who you are, where you are and what you're doing. You can literally buy ADS-B receivers on Ebay for less than a hundred dollars.

Take a look at FlightRadar and select the 'ADS-B' visibility on and suddenly the map fills up with many, *many* aircraft.

But this isn't the main concern.

An aircraft's ADS-B broadcast also contains a unique ICAO aircraft address – specific to every airplane and directly linked to the tail number. Which means folk can not only track an aircraft, but see a lot of information about it that the operator might not want any old Joe Bloggs seeing.

If someone knows your tail number, it is pretty easy to discover who owns the aircraft, and even the address of the person registered to it.

And this is the concern. **ADS-B has created a privacy and potentially even a security issue.**

How can we be less visible?

If you are flying in **USA domestic airspace** then the FAA have two systems you can sign up to.

First up **LADD, which stands for 'Limiting Aircraft Data Displayed'.**

This came into place from the *'2018 HR 254 FAA Reauthorization Bill: Section 566, Right to Privacy When Using Air Traffic Control System'* as a replacement for the old BARR (Block Aircraft Registry Request) system.

This scrubs your data out of the FAA SWIM feed – the place where commercial tracking providers get their info.

You have two levels of privacy you can opt for. One that removes it all so these sites get none of your data, and one that allows tracking providers to still track you (the airplane owner or operator might like this), but not publish the data to the general public.

Then there is **PIA – the Privacy ICAO aircraft address program** where you can request an *'alternate, temporary ICAO aircraft address which will not be assigned to the owner in the Civil Aviation Registry'.*

Let's Talk Hexes.

How does the PIA program work?

Well, your aircraft has a HEX code assigned to it – the **unique 24-bit ICAO address**. This is linked to the registration number which is registered in the Civil Aviation Registry, along with a bunch of private information about the aircraft and its owner.

So via the PIA system, you can get a different code assigned to your aircraft. One that isn't linked to the tail number. This doesn't stop your aircraft being tracked, but does mean not identifying data will be published because no-one can find it now.

These don't solve the whole problem though.

There are several big limitations to know about.

Firstly, the **FAA can only tell the commercial providers what to do** with the data they receive from SWIM. Unfortunately, there are a lot of random trackers out there who have their own ways of tracking you, and the FAA has absolutely no power to stop them. Which is why getting the HEX changed is useful.

But, both **LADD and PIA also only work in US domestic airspace** which means as soon as you leave this and head into somewhere like the Deep Waters routes for example (which is Oceanic and managed but not owned by the US) then the FAA can no longer stipulate what is available and what isn't.

The Atlantic, Pacific, off the East coast of the USA, and of course anywhere else in the world, still has the

same problem.

Then there is the actual **hassle of changing your ICAO HEX code**. It has to be changed within a lot of your aircraft systems and involves a fairly lengthy maintenance process.

The NBAA are on it.

As usual, the very helpful NBAA are looking out for you already, and are working with the FAA to improve the timeframe it takes for your PIA request to be processed (currently within 60 days). And they are working to see if things like multiple codes could be an option.

There is also discussion as to how the programs can be extended into non-US domestic airspace.

So if you want to register, how can you?

All of it can be done via the FAA website.
File your LADD request here.
Head to this page for more info on the PIA.

If you want some more info?

The NBAA did an excellent podcast on this not so long ago which you can listen to here.

There is a good article on it here as well courtesy of 'Plane and Pilot'.