



Equipment Suffixes

Evan ('evanet')

BVA Administration Team

An equipment suffix appended to your aircraft type designator in your flight plan tells controllers what type of navigation equipment you have. The suffix is the slash and letter that follow the aircraft type designator (i.e. for "BE58/A", "/A" is the equipment suffix). As of August, 2012, we have added a new set of equipment type suffixes for use on BVA that reflect the navigational capabilities available to computer pilots. As a BVA pilot, you should be familiar with the suffixes that are available and should file the correct suffix in every VFR or IFR flight plan. If no suffix is filed, controllers will begin to ask you for one.



This article provides more information about equipment suffixes and explains in more detail the changes we've made. The following sections are included; skip those which you are already familiar with.

- What are equipment suffixes?
- Why do you need to know about them?
- What's changing about equipment suffixes at BVA?
- Why are we adding new suffixes?
- What is RVSM and why are there separate codes for it?
- What constitutes "updated navigation data"?
- Where can you find your equipment suffix?
- What if I have a GPS and an FMC? Which code should I file?

In order to keep things simple, we have created an easy-to-use, interactive Equipment Type Suffix Selector which will ask you a few questions and then provide you with the correct suffix to file. If you are interested in learning about what suffixes are and why we've made these changes, read on! If not, bookmark and visit <http://suffixselector.bostonvirtualatc.com> and we'll do the work for you!

Once you've read the article and you're ready to test your knowledge, take our [Equipment Suffixes Quiz](#) and share your results on [this BVA forum post](#).

What Are Equipment Suffixes?

An equipment suffix provides controllers with information about your navigation capability. The lettered codes inform ATC what

type of transponder, if any, you have on board as well as what type of navigation equipment you have. The range of codes covers the simplest aircraft with no transponder or DME to advanced area navigation aircraft.

Why Do You Need to Know About Equipment Suffixes?

Equipment suffixes are important because they provide controllers with information needed to assign routes, departure procedures, arrivals, approaches, and other instructions (both for VFR and IFR aircraft). For example, if you don't have (or don't want to use) the FSX GPS and prefer to use what FSX calls "old-fashioned navigation" (VORs, NDBs, airways, radials, etc.), ATC can give you a route that only relies on this type of navigation and vector you on course appropriately.

The modernization of airspaces has also created new RNAV-only routes and procedures which can be faster, easier, and safer than conventional navigation procedures. When you file an equipment suffix that is able to fly these advanced procedures, controllers know that you can accept them and can improve the overall flow of traffic by assigning them to you.

By filing your equipment suffix correctly, you save transmissions like "are you able the REVSS1 departure?" and get a more realistic service from controllers.

Our controllers will now be asking you for your equipment suffix if you haven't included it in your flight plan. If you are unsure of which suffix to give, ATC will send you the link to the Equipment Suffix Selector and ask you to provide the suffix when you can.

What's Changing About Equipment Suffixes At BVA?

The FAA has a set of 21 equipment type suffixes which are filed by real-world operators in the United States (other countries have similar but different methods of conveying equipment information). Previously, BVA members were encouraged but not required to file equipment type suffixes from this FAA list when filing flight plans.

As of August, 2012, BVA has its own list of equipment suffixes which is consistent with the FAA list but is simplified to include the most common equipment types. BVA's set of suffixes also includes our own codes for flight simulator use only to represent aircraft which may not have updated navigation data. The two lists are congruent; '/A' from BVA's list is the same as '/A' from the FAA. But there are new codes for use on BVA that reflect the unique circumstances of flight simulation that will not be found in the FAA's set of equipment type suffixes.

A correct equipment suffix should now be filed with every flight plan. You can find the database of suffixes on the [Equipment Suffix Selector](#).
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Regional Circuit



Tuesday, September 3
(8-11pm ET)

PHNL (Honolulu) &
PHLI (Lihue)

Our controllers fully staff two airports and provide complete ATC coverage for flights between the two; pilots are encouraged to file preferred routes and can expect multiple handoffs and busy frequencies throughout the event

Domestic Journey



Thursday, October 25
(8-11pm ET)

KIAH (Houston) &
KOKC (Oklahoma City)

The Domestic Journey provides BVA pilots with the opportunity to enjoy medium-haul flights across North America with air traffic control coverage from gate-to-gate.

Pack the Pattern



Thursday, September 6
(8-10pm ET)

KBIL (Billings)

Pilots are encouraged to fly into the event or fly IFR or VFR circuits of a busy Class Bravo airport, with full ATC coverage for the entire evening (including Clearance, Ground, multiple Tower and Approach controllers, and maybe even a Center!)

Fly-In



Saturday, October 13
(3-6pm ET)

Socal
(KPMO, KBUR, KVNY, KWHP)

Tower (Local) Controllers will feature several small airports designed for General Aviation aircraft. Fly IFR or VFR within controlled airspace; general aviation aircraft (anything from a Cessna to a LearJet) are preferred.

Challenge



Sunday, September 2
(3-6pm ET)

Washington SFRA
(KHEF, KESN, and KFDK)

BVA's Challenge event will test your piloting skills in the realistic atmosphere of BVA. This event is about exercising your multi-tasking ability in challenging and unfamiliar situations—something pilots have to do all the time.

Getaway



September 23-30

South Florida
(KMIA, KMCO, KRSW, KPBI)

BVA's Getaway Event takes pilots and controllers for a change of scenery, and features various airports across North America. Join BVA as we 'Getaway' to explore new airports and destinations

Controller of the Month

Evan ('evanet')

BVA Administration Team

Each month, one member of our controller community is selected by ATC Instructors for special recognition for outstanding performance and ongoing dedication. As essential frontline service providers, controllers play the most important role in ensuring the satisfaction and enjoyment of our membership.

This month, we recognize **Rob (regs695)** as the Controller of the Month. At times, it seems like Rob must have a clone. He jumps in to control events when we're short staffed, logs in to Approach and at times is the only controller online, and still manages to lead United Regional and get in a few flight hours himself. Willing to control whenever he's needed while still managing to be an active pilot participation makes Rob a model controller and well deserving of our commendation this month.



Equipment Suffixes

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Suffixes page of BVA's website or you can use our automated tool at <http://suffixselector.bostonvirtualatc.com> to find your suffix for you.

Why Are We Adding New suffixes?

One of the limitations of a default FSX installation is that the navigation data for VORs, NDBs, fixes, and other nav aids in the simulator is current as of 2006. In the real world, nav aids have been moved, changed, removed, or added since the release of FSX. However, keeping up with these changes in FSX can be difficult. While there are ways to keep your navigation data current, many of them are payware and certainly not something we expect or require of BVA members. However, many BVA members have, of their own accord, purchased or found updates for navigation data that allows them to fly procedures which are not available in the default version of FSX. We're adding the new equipment type suffixes to enable those who have updated navigation data to use it in a realistic manner—while ensuring that those who are using default FSX navigation data can do so as they have been without interruption.

We have added four new equipment type suffixes to the FAA's set. They are: /O /Z /V and /S. These suffixes indicate to ATC that you do not have updated navigation data for either your default GPS or add-on navigation equipment.

For users of the FSX default GPS, filing a new code (either /O or /Z, the difference is explained in the next section) will ensure ATC does not assign you a procedure that is impossible to fly in your aircraft. For example, many of the smaller uncontrolled airports in the ZBW and ZNY ARTCCs have RNAV approaches which are more recent than 2006. If you try to fly into one of these airports during bad weather and that RNAV approach is the only one available, ATC can let you know ahead of time and help you plan an alternate course of action.

For pilots with an add-on GPS or FMC that does not have current navigation data, filing a new suffix (either /V or /S) will allow you to take advantage of the equipment you have without exceeding your capabilities. For example, /V or /S aircraft can accept an arrival requiring a computer-assisted descent profile with RNAV waypoints, provided those waypoints are in the database. Filing that code will enable ATC to assign those types of instructions but will prevent ATC from assigning you a procedure for which your aircraft does not have navigation data.

Finally, users with updated navigation data and advanced equipment who file /R or /Q codes can now do so with the knowledge that ATC will assign RNAV procedures without needing to ask about capability.

If you are interested in finding out more information about up-to-date navigation data or finding out how you can get updates for both default as well as add-on aircraft, check out [this post](#) on our forums.

What Is RVSM And Why Are There Separate Codes For It?

In the United States, the airspace between FL290 and FL410 is classified as Reduced Vertical Separation Minima (RVSM) airspace. The goal of RVSM is to reduce the vertical separation above FL290 which was 2,000' down to 1,000', thus allowing aircraft to safely fly more optimum profiles, gain fuel savings, and increase airspace capacity.

In real life, operators wishing to utilize RVSM airspace are required to gain FAA approval and have certain equipment including two independent altitude measurement systems, a secondary surveillance radar reporting transponder, an altitude alerting system, and an automatic altitude control system. Many default FSX aircraft technically do not meet these criteria; several add-on aircraft do.

For BVA's purposes, any aircraft that is capable of flying at or above FL290 has received RVSM authorization and is therefore permitted to cruise within RVSM airspace. Thus, if you are using the FSX default GPS with default navigation data, your choices are /O (non-RVSM) or /Z (RVSM). If your aircraft is capable of FL290 or higher, then file /Z; file /O otherwise.

What Constitutes "Updated Navigation Data"?

Updated navigation data refers to an add-on update you have made to your simulator to modify nav aids and waypoints to AIRAC Cycle 1208 (August, 2012) or newer. In order to have updated navigation data, you would have had to purchase a payware update (from a provider like Navigraph for specific add-on aircraft) or use a freeware update which you downloaded and installed (for default aircraft). In other words, if you haven't done something to modify your navigation data, then you have the default navigation data from 2006 when FSX was designed.

If you aren't sure whether or not your navigation data is current, try to enter the "QUABN" waypoint into either your aircraft or the default FSX flight planner/GPS. Since this waypoint was added after FSX was released, you will only be able to access it if you have the current data. If you are able to navigate direct to QUABN without using VOR radials, you can file a suffix with updated navigation data.

Where Can You Find Your Equipment Suffix?

The Equipment Suffixes page of BVA's website provides both the original FAA suffixes as well as BVA's simplified list. You can file an equipment suffix from either list; some suffixes appear in both. For simplicity, this article focuses on equipment suffixes from the simplified list at the top of the page.

The easiest way to find your suffix is to use our automated selector. The tool will ask you a few questions about your capabilities and then provide you with the appropriate code.

There are three basic categories of suffixes: 'No GPS', 'FSX Default GPS', and 'Advanced Navigation Equipment'. Within the last two **Continued on Page 4...**



Equipment Suffixes

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categories there are suffixes for aircraft using default and updated navigation data, as well as RVSM and non-RVSM capabilities. When determining your suffix, select the category and then the suffix that best describes your aircraft.

'No GPS' aircraft are those which do not have GPS or other navigation equipment like LORAN on board. These aircraft would use ground-based navigation aids like VORs, NDBs, and DMEs to complete their flights. This is the simplest type of navigation and the type that is stressed in Pilot Ratings Program flights.

'FSX Default GPS' aircraft use the standard GPS interface which comes with default FSX aircraft. A key feature of this interface is its limited ability to be programmed in flight. While a user can enter one waypoint and proceed direct to it, there is no way to manually enter an entire route into the default GPS without pausing the game to use the flight planner or load an externally-created .PLN file.

'Advanced Navigation Equipment' aircraft are those which use add-on GPS, FMS, or similar navigation equipment. The key difference between these aircraft and those using the default FSX GPS is that 'Advanced Navigation Equipment' aircraft can be programmed with entire routes from within the aircraft without pausing FSX.

What If I Have A GPS And An FMC? Which Code Should I File?

The general principle with equipment suffixes is to file the "highest" capability you have, even if you won't be using it on a particular flight. For example, if you have a GPS but aren't planning to use it, you should still file a GPS code to let ATC know you have that capability if needed. Similarly, if you filed for a flight at 12,000' but are able to fly above FL290, you should file the RVSM code. Keep in mind that if you file a suffix you are expected to be able to use that equipment on command.

Let's take the example of a pilot of a default FSX C172 that has a default FSX GPS and is using default navigation data. If the pilot plans to fly direct to the BOS VOR for the flight and will use NAV1 to do so, the /O code (FSX default GPS) should still be filed because that capability is available, even though it is not being used. However, if the /O code is filed, the pilot must keep in mind that ATC might assign a waypoint that requires the use of the GPS (i.e. "proceed direct SCUPP"), so the pilot must be familiar with and able to use the GPS.

If the pilot wishes to use VOR navigation only and not use the GPS for the flight (pretending the GPS doesn't exist), then the /A can be used. In this case, ATC will not assign anything that requires the use of a GPS. However, the pilot must keep in mind that this could result in additional vectors on course or a slightly longer flight depending on the operational demands on controllers at the time.

Ready For Another Challenge?

Evan ('evanet')

BVA Administration Team

On **Sunday, September 2 from 3-6pm ET**, BVA will hold one of the most complex, challenging, and exciting events we've ever had on the server. In our [Washington Special Flight Rules Area Challenge](#), pilots will fly between three controlled airports. Manassas (KHEF) is located within the SFRA while Frederick (KFDK) and Easton (KESN) lie just outside the SFRA boundary. Your mission, should you choose to accept it, is to successfully fly these routes VFR, without entering restricted or controlled airspace (unless otherwise cleared by ATC), and while operating in and complying with the restrictions of the Special Flight Rules Area (SFRA) around Washington, DC.

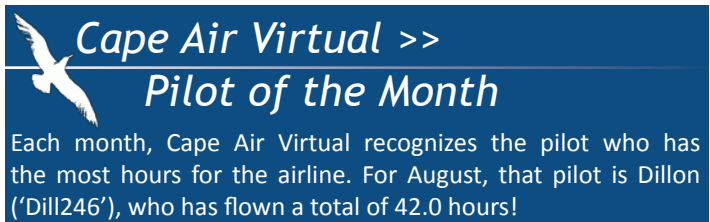
If you've done it right, you can call yourself a master of airspaces and a brilliant VFR navigator. If not, you'll see an F18 zoom up behind you rocking its wings to tell you that you've been intercepted.

This Challenge is all about airspace: understanding where you are, what the requirements are to go where you want to, and how to navigate between airports without violating airspace or restricted areas. Most BVA members will never fly into the Washington SFRA in real life. However, many will encounter TFRs which create similar structures or fly through complex, multi-layered airspace

environments. That makes this event a useful training tool for any VFR pilot...and a lot of fun for anyone else!

The [Challenge](#) page of our website provides a wealth of information about the event and the SFRA. It links to real-world FAA instructional materials as well as BVA's [Event NOTAM](#).

This event won't be easy—it wouldn't be called "Challenge" if it was—but you aren't alone. Our controllers will be happy to support your SFRA operations with Flight Following and the instructional materials we've provided have plenty of information for you to safely use the SFRA. You should be a little bit nervous about flying in this airspace for the first time but you shouldn't be scared away from the event by the seemingly-complex requirements. For one thing, the SFRA requirements are actually quite straightforward. For another, it's much better to bust airspace here—where the worst that can happen is an interception—than to have the FAA knocking on your door.



Cape Air Virtual >>
Pilot of the Month
Each month, Cape Air Virtual recognizes the pilot who has the most hours for the airline. For August, that pilot is Dillon ('Dill246'), who has flown a total of 42.0 hours!



A Lobster Run Experience

Brandon ('bcarter755')

Cape Air Virtual Administration Team

7:40pm: I just finished spawning my Baron into the gate at Boston. I open up TeamSpeak and enter the company channel, awaiting the briefing for our group flight down to Nantucket: the Lobster Run.

7:45pm: A few other pilots spawn up and join the briefing. The ramp is getting busy now; virtual baggage handlers are hastily loading aircraft, and passengers are covering the ramp, quickly piling into the many Twin Cessnas and Beech Barons.

7:50pm: Briefing is complete, and I now have my assignment: fly three V.I.P. passengers down to Nantucket. They will need to be there for an urgent meeting in two hours, so I checked my fuel, glanced once more at my sectional, and filed my route (LFV). It's a straightforward flightplan, and we should be arriving at the ramp in Nantucket within the hour.

7:55pm: The other pilots are ready, and we begin to call Boston Clearance Delivery for our IFR clearances. He quickly becomes swamped - the pilot in the plane next to us is number seven for the clearance.

8:00pm: I picked up my clearance with the LOGAN6 departure and call Boston Ground for the short taxi to Runway 4L before he too becomes flooded with the rest of the company traffic. I'm number one in line, and I can see a quirky smile on the faces of my passengers as I maneuver onto the runway and begin to inch the throttle forward.

8:06pm: I'm switched over to departure and begin to receive vectors to the east. Before my company checks in, I am joined

by a few late jet departures, and in a few moments, I find myself on course headed directly to Marconi. We hit a few chops on the climb, but after I broke through the clouds, we had a smooth climb to cruise.

8:20pm: The rest of the company is now with Boston Departure as well. Some, like us, are well en-route, and others are just climbing out.

8:22pm: I quickly tune COMM2 to pick up the ATIS at Nantucket and call up Cape Approach: overcast skies and easterly winds, but still a nice night to fly into the cape.

8:30pm: I receive my initial vectors for the approach, and most of the company is now speaking with Cape Approach as well.

8:35pm: The approach controller seems tired, but I can't blame him - it is, after all, Sunday night, and he is just wrapping up his evening shift. He's clearly tested while trying to organize the slew of Cape Air aircraft, all for the same approach into Nantucket.

8:50pm: I gracefully join the localizer for the final approach and keep my speed up for the ensuing traffic. As I meet the glideslope, I switch to Nantucket Tower on 118.30 and receive a landing clearance.

8:57pm: I park at the gate and cut the mixture. My passengers are delighted to be a few minutes ahead of schedule. They throw me a few bucks, scurry out of the ramp, and enter the terminal to catch a cab.

Join us every Sunday night at 8pm for our weekly Lobster Run! See the [Cape Air Website](#) for event details.

Pilot Tip of the Month

"Exit left on..."

You've landed and you're slowing to taxi speeds and the unthinkable has happened: you haven't received a taxiway to exit the runway onto. Do you stop on the runway and wait for ATC to instruct you? If the controller is busy and you don't have to cross any runways, should you just turn off the runway and proceed to the ramp? This month's Pilot Tip is all about exiting the runway after landing ([AIM section 4-3-20](#)).

When reaching taxi speeds after landing, exit the runway without delay at the first available taxiway or a taxiway as instructed by ATC. Pilots must not exit the landing runway onto another runway unless authorized by ATC. At towered airports, pilots should not stop or reverse course on the runway without first obtaining ATC approval. In the absence of ATC instructions, taxi clear of the landing runway on the first available taxiway, even if that requires you to protrude into or cross another taxiway or ramp area.

An aircraft is considered clear of the runway when all parts of the aircraft are clear of the runway edge and there are no restrictions to its continued movement beyond the runway holding position markings (these restrictions could be another aircraft, an obstacle, etc.). Once all parts of the aircraft have crossed the runway holding position markings, the pilot must hold unless further instructions have been issued by ATC. Do not just taxi to the ramp, even if the route is straight ahead and does not intersect any taxiways.

Remain on the last frequency until instructed. When advised, change to the ground control frequency and obtain a taxi clearance.



BVA's South Florida Getaway: September 23-30

Miami International Airport - KMIA

Airport Information:

Elevation: 9ft
 Class: Bravo
Runways:
 8R/26L 10,506ft
 8L/26R 8,600ft
 9/27 13,016ft
 12/30 9,355ft
Frequencies:
 Ground: 121.80
 Tower: 118.30
 Approach/Departure: 120.50

Preferred Routes:

To KMCO
 HEDLY1 HEDLY J53 PHK BAIRN2 (RNAV)
 MIA1 J53 PHK GOOFY5 (High Altitude)
 MIA1 V267 PHK GOOFY5 (11,000' to 17,000')
 MIA1 PBI V531 ORL (At or Below 10,000')
To KRSW
 WINCO1 WINCO LBV (RNAV)
 MIA1 WINCO LBV
To KPBI
 HEDLY1 HELDY (RNAV)
 MIA1 HEDLY



Orlando International Airport - KMCO

Airport Information:

Elevation: 30ft
 Class: Charlie
Runways:
 17R/35L 10,000ft
 17L/35R 9,000ft
 18R/36L 12,004ft
 18L/36R 12,005ft
Frequencies:
 Ground: 126.40
 Tower: 118.45
 Approach/Departure: 119.40

Preferred Routes:

To KMIA
 RSW CYY SSCOT1 (RNAV)
 RSW CYY CYY6
 PHK V267 BRIKL (At or Below 10,000')
To KRSW
 MCO LBV RSW
To KPBI
 VALCA MLB VRB FRWAY4 (RNAV)
 MLB VRB TUXX11



Southwest Florida International Airport - KRSW

Airport Information:

Elevation: 30ft
 Class: Charlie
Runways:
 17R/35L 10,000ft
 17L/35R 9,000ft
 18R/36L 12,004ft
 18L/36R 12,005ft
Frequencies:
 Ground: 121.92
 Tower: 121.00
 Approach/Departure: 119.75

Preferred Routes:

To KMIA
 CYY SSCOT1 (RNAV)
 V35 CURVE (Non-Jet; Below 16,000')
 CYY CYY6
To KMCO
 LAL MINEE5 (Jet)
 DOWNN MINEE5 (Non-Jet)
To KPBI
 WLACE WLACE2 (RNAV)
 LBV V492 PBI



Palm Beach International Airport - KPBI

Airport Information:

Elevation: 20ft
 Class: Charlie
Runways:
 10R/28L 3,213ft
 10L/28R 10,000ft
 14/32 6,391ft
Frequencies:
 Ground: 121.90
 Tower: 119.10
 Approach/Departure: 124.60

Preferred Routes:

To KMIA
 BUFIT1 HILEY HILEY3 (RNAV)
 PBI6 HEATT V295 HILEY ANNEY1 (Low Altitude)
To KMCO
 TBIRD1 TBIRD VRB BAIRN2 (RNAV)
 VRB GOOFY5
To KRSW
 LMORE1 MKYDG RSW (RNAV)
 LBV

