# SkyPad$^3$ Details

Seattle Avionics offers a powerful Windows 7 tablet, called the SkyPad$^3$, that incorporates everything we've learned in nine years of making aviation safer, easier, and more affordable.




First, a little history. Back in the Dark Ages of aviation (before 2009), you could buy aviation applications for your laptop, add a GPS, and you had a poor-man's moving map. Problem was, it was a bit hodgepodge and took more geek-work than some people like (those of you with actual lives). While we sold our Voyager software for such brave souls, we found our tech support lines were sometimes overloaded, mostly with basic Windows questions. Fact is, it wasn't so much a Windows issue but problems caused by the myriad of junk (let's call a spade a spade) that most PC vendors kindly pre-install for you (they were paid by the application makers to add them). And how about all those toolbars and "helpers" that came along for the ride when you installed something useful?

Our solution in mid-2009 was the SkyPad, a solid tablet PC that we carefully tuned to run Voyager well. That means we started from a clean Windows configuration, not the version that came on the machine, added just the pieces we needed, and made everything run smoother and start faster. The result was immediate. While I won't say this magically solved every issue, our technical support lines suddenly became much, much quieter.

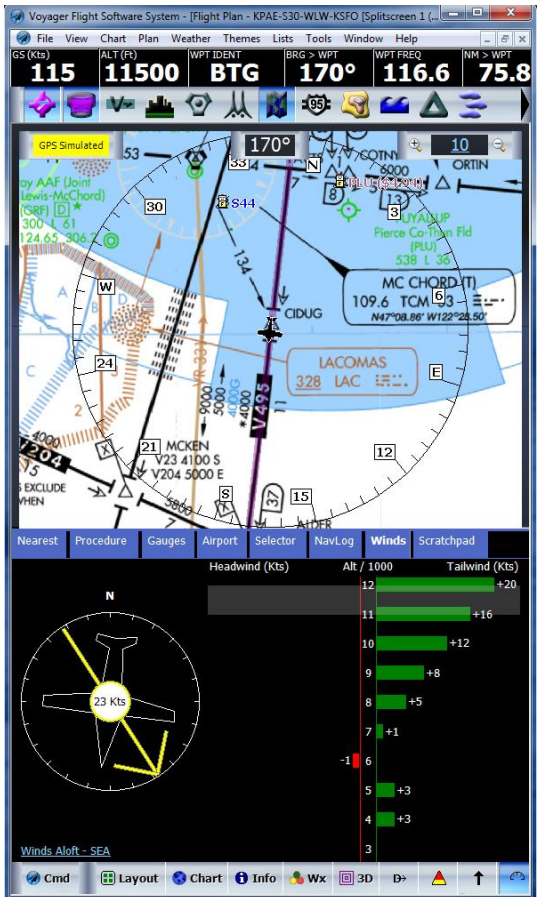
During 2010, we took a look at the shortcomings of the original SkyPad and came out with the SkyPad$^2$ based on faster hardware, improved software, and a newer version of Windows. The SkyPad$^2$ sold even faster than the original SkyPad.

And now, we introduce the SkyPad$^3$. The SkyPad$^3$ hardware is substantially improved over all previous SkyPads. Most notable are: dual-processor CPU, powerful ATI graphics processor, a solid state drive, and (perhaps best of all) an attachable keyboard so it functions equally well as a tablet PC or a laptop.

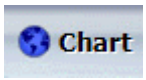
## Voyager - the Heart of the SkyPad$^3$

Aviation vendors often focus on the hardware. It's easy to do since you can measure hardware in terms of megabytes, pixels, and gigahertz. But it's really not the key issue. Day in, day out, it's the software you're using. Providing the hardware and operating system can run the software, the features and ease of use of the software are the important parts. And, in the case of the SkyPad$^3$, that's good because the heart of the SkyPad$^3$ is our award-winning Voyager.

Every aviation application in the world shows a moving map. What differentiates the SkyPad$^3$, because of its Voyager software, is that it turns the little computer into something more akin to an entire glass cockpit with a moving map, an FMS, sophisticated weather analysis, wind-optimized flight planning and more. And yet, it's easy to use. It is helpful if you spend a little time getting to know the system but, once you get the hang of it, you'll find that it's incredibly efficient to get the information you need. With fewer screen clicks, you have more time to actually fly the plane, according to *Aviation Consumer*.

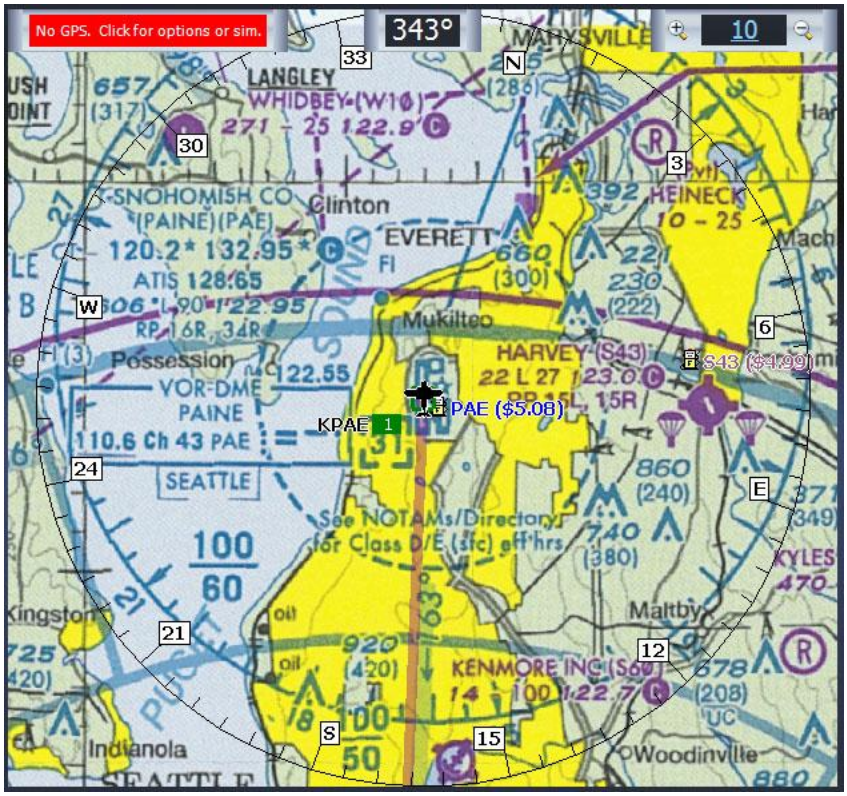


Widgets. It's a funny word with serious power. The Voyager screen is broken into one or more regions that contain what are essentially different flight instruments. Just one click moves between them. In some screen layouts, you can see more than one widget at a time. These include the Chart (map), Airport Info, Wind Optimizer, NavLog, the Scratchpad, and more. Combined, the widgets are the core of Voyager.



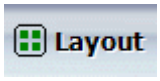

## Chart

The Chart is the most obvious element of a moving map application. The SkyPad$^3$ lets you quickly pick the chart you want, digital or "scanned." Click the Chart button at the bottom of the screen and, in just one more click, instantly select your choice of digital charts, true seamless Sectionals, seamless IFR Low Altitude or seamless High Altitude charts.




Want to modify the chart? No clunky menus or dialog boxes. Tap the ChartBar to add or remove the layers you want. Simple.






## Single Screen or Split Screen

Sometimes you want to focus on a single, large map. Sometimes, you want to see an approach plate and a map at the same time. Or perhaps two maps, one with a seamless IFR chart and one with a wide-view of the upcoming weather. With the SkyPad$^3$, click the Layout button and, with one more click, select the screen configuration that works best for you. Advanced users can pick from several layouts.



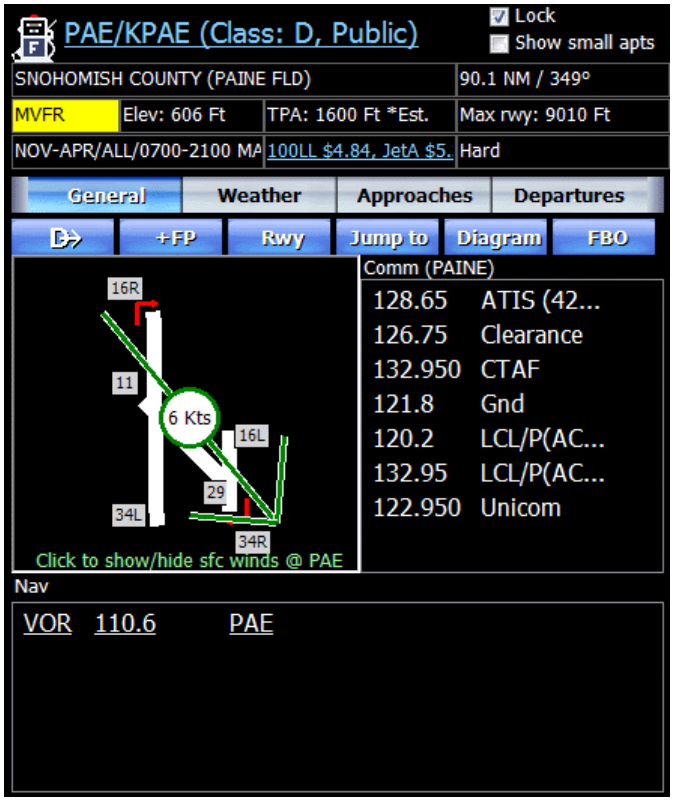

## 2D and 3D

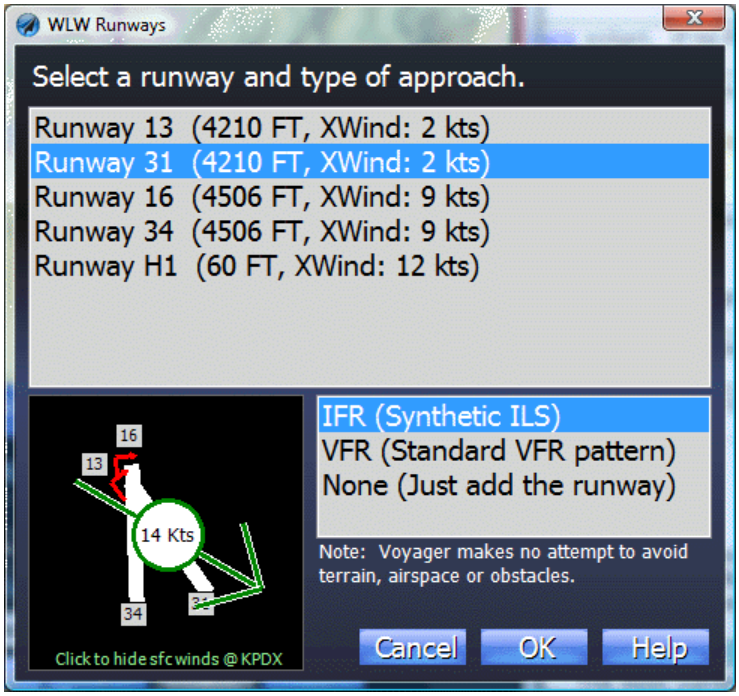
While flying is fundamentally 3D, it's ironic that aviation moving maps are generally 2D. The advanced DirectX-based charting engine we designed for the SkyPad$^3$ is equally at home in 2D or 3D mode. And our 3D mode is much closer to a true HITS (Highway In The Sky) than anything we've seen on the iPad. That means 3D terrain, 3D airspace, TAWS, and a "fly through the boxes" representation of your flight plan. Just click the 3D button to toggle between 2D and 3D.

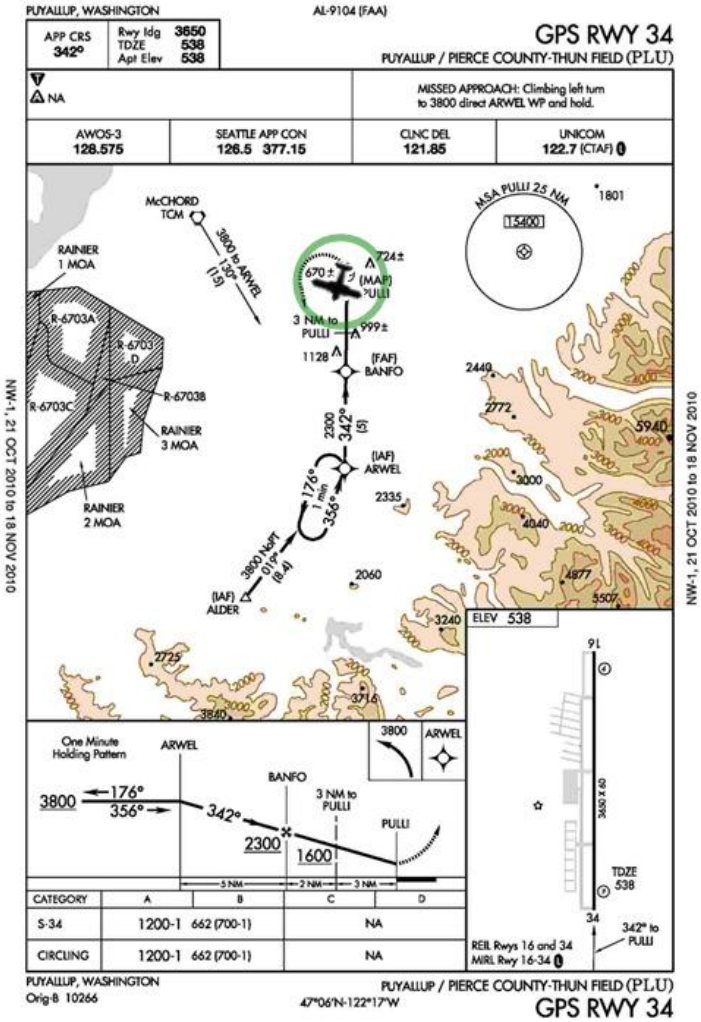


## Airport Info

Generally speaking, you fly to and from airports, so getting the airport information quickly can make the difference between a fun flight and a tedious one. The SkyPad$^3$ Airport Info widget means it only takes a click or two to get to the information you need (in fact, as you fly, Voyager automatically flips to the nearest airport without even a click). Not only does that mean quick access to weather and geo-referenced approach plates, it also means some unexpected but useful touches such as a surface-wind indicator (the green arrow) and a super-simple way to have the computer calculate the ideal runway given the winds. It even generates a perfect VFR or synthetic ILS approach and adds it to your flight plan!

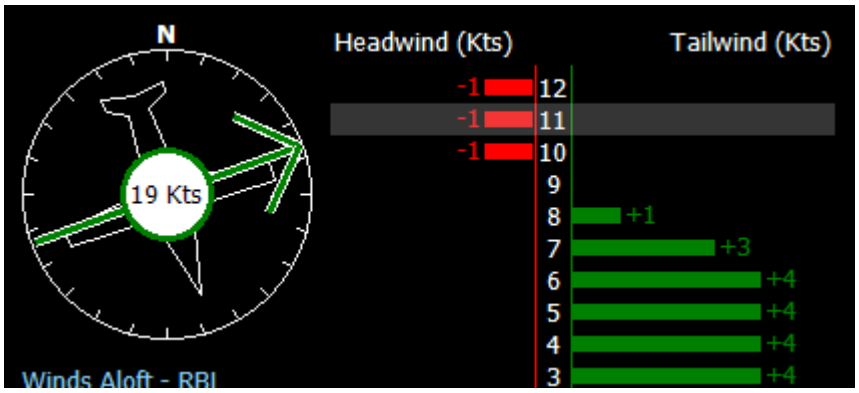



WLW Runways
Select a runway and type of approach.
Runway 13 (4210 FT, XWind: 2 kts)
Runway 31 (4210 FT, XWind: 2 kts)
Runway 16 (4506 FT, XWind: 9 kts)
Runway 34 (4506 FT, XWind: 9 kts)
Runway H1 (60 FT, XWind: 12 kts)
16
13
14 Kts
34
Click to hide sfc winds @ KPDX
IFR (Synthetic ILS)
VFR (Standard VFR pattern)
None (Just add the runway)
Note: Voyager makes no attempt to avoid terrain, airspace or obstacles.
Cancel
OK
Help


PUYALLUP, WASHINGTON
AL-9104 (FAA)
GPS RWY 34
PUYALLUP / PIERCE COUNTY-THUN FIELD (PLU)
APP CRS 342°
Rwy Idg 3650
TDZE 538
Apt Elev 538
NA
MISSED APPROACH: Climbing left turn to 3800 direct ARWEL WP and hold.
AWOS-3 128.575
SEATTLE APP CON 126.5 377.15
CLNC DEL 121.85
UNICOM 122.7 (CTAF)
McCHORD TCM
3800 to ARWEL 130° (15)
RAINIER 1 MOA
R-6703A
R-6703 D
R-6703C
R-6703B
RAINIER 3 MOA
RAINIER 2 MOA
MSA PULLI 25 NM
15400
1801
724±
670±
(MAP) PULLI
3 NM to PULLI
999±
1128
(FAF) BANFO
2300
342° (5)
(IAF) ARWEL
176°
1 min
356°
3800 NoPT
019° (8.4)
(IAF) ALDER
2060
2335
2449
2772
5940
3000
4040
4877
5507
3240
ELEV 538
2725
3716
3840
NW-1, 21 OCT 2010 to 18 NOV 2010
One Minute Holding Pattern
ARWEL
BANFO
3800
176°
356°
342°
2300
1600
3 NM to PULLI
PULLI
5 NM
2 NM
3 NM
CATEGORY A B C D
S-34 1200-1 662 (700-1) NA
CIRCLING 1200-1 662 (700-1) NA
3800
ARWEL
9L
3650 x 60
TDZE 538
34
342° to PULLI
REIL Rwys 16 and 34
MIRL Rwy 16-34
PUYALLUP, WASHINGTON
Orig-B 10266
47°06'N-122°17'W
PUYALLUP / PIERCE COUNTY-THUN FIELD (PLU)
GPS RWY 34

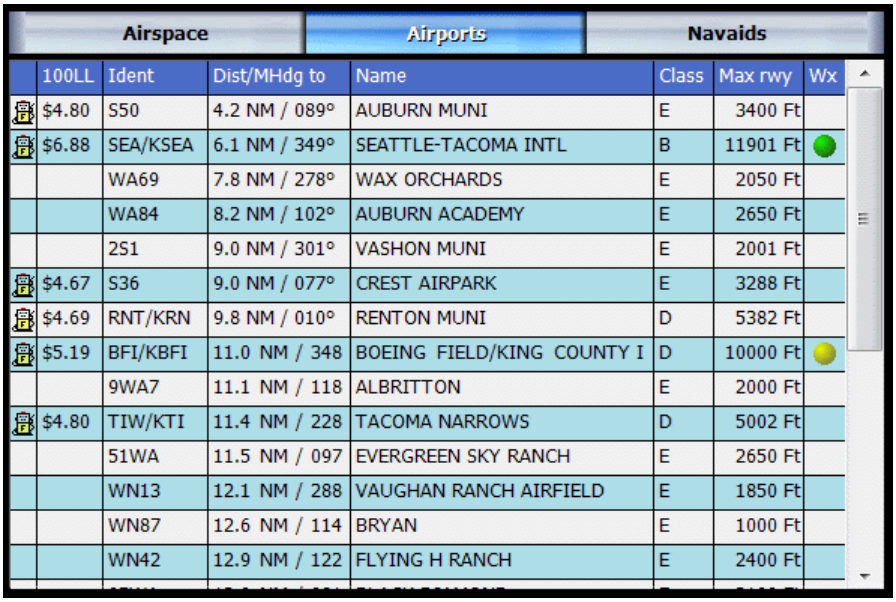
# Wind Optimizer

I think this is just flat-out cool. The Wind Optimizer widget uses simple green and red indicator bars to tell you how much headwind or tailwind to expect at any altitude. In other words, mid-flight it tells you what altitude is best.




# Nearest

All GPS systems have a Nearest button or Nearest page. The SkyPad[3] goes further by having a Nearest widget that is constantly updated to show you the nearest airports and navaids. More than a simple list, it also shows key information about each such as runway length, airspace class, weather conditions, and even fuel prices. Want more info about an airport? Just tap.

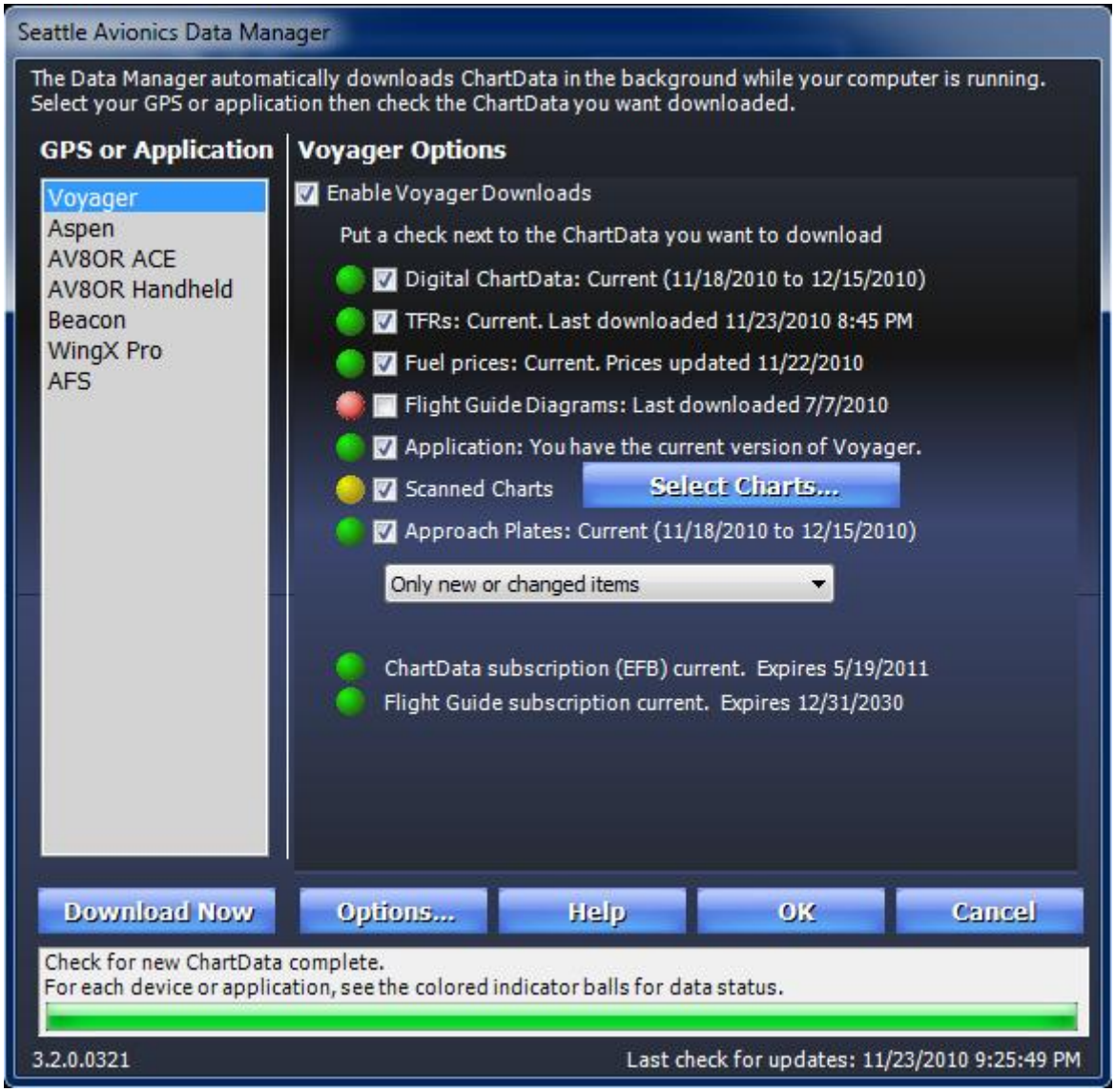



| | 100LL | Ident | Dist/MHdg to | Name | Class | Max rwy | Wx |
|---|---|---|---|---|---|---|---|
| | $4.80 | S50 | 4.2 NM / 089° | AUBURN MUNI | E | 3400 Ft | |
| | $6.88 | SEA/KSEA | 6.1 NM / 349° | SEATTLE-TACOMA INTL | B | 11901 Ft | |
| | | WA69 | 7.8 NM / 278° | WAX ORCHARDS | E | 2050 Ft | |
| | | WA84 | 8.2 NM / 102° | AUBURN ACADEMY | E | 2650 Ft | |
| | | 2S1 | 9.0 NM / 301° | VASHON MUNI | E | 2001 Ft | |
| | $4.67 | S36 | 9.0 NM / 077° | CREST AIRPARK | E | 3288 Ft | |
| | $4.69 | RNT/KRN | 9.8 NM / 010° | RENTON MUNI | D | 5382 Ft | |
| | $5.19 | BFI/KBFI | 11.0 NM / 348 | BOEING FIELD/KING COUNTY I | D | 10000 Ft | |
| | | 9WA7 | 11.1 NM / 118 | ALBRITTON | E | 2000 Ft | |
| | $4.80 | TIW/KTI | 11.4 NM / 228 | TACOMA NARROWS | D | 5002 Ft | |
| | | 51WA | 11.5 NM / 097 | EVERGREEN SKY RANCH | E | 2650 Ft | |
| | | WN13 | 12.1 NM / 288 | VAUGHAN RANCH AIRFIELD | E | 1850 Ft | |
| | | WN87 | 12.6 NM / 114 | BRYAN | E | 1000 Ft | |
| | | WN42 | 12.9 NM / 122 | FLYING H RANCH | E | 2400 Ft | |

# Downloading Data

Every aviation application needs to download new data at least once a month. Some items, like fuel prices and TFRs, need to be downloaded at least daily. This is a major difference between the SkyPad$^3$ and all iPad apps. To download data to an iPad app, you need to open the app and click buttons to select and download the data you need. Then you have to wait while it does it because most iPad apps can't download data while doing anything else.

The SkyPad$^3$, by contrast, uses our exclusive Data Manager applet that always runs quietly in the background of the SkyPad$^3$ to monitor for and download new info as it becomes available. So long as you leave your SkyPad$^3$ connected to the Internet, that means it downloads all the new monthly data overnight on the day it comes out. When you wake up, you'll find that the SkyPad$^3$ is already loaded with the new data and ready to fly. Once downloaded, it's ready for use in-flight while you have no Internet connection.



## Aviation-Grade WAAS-enabled GPS

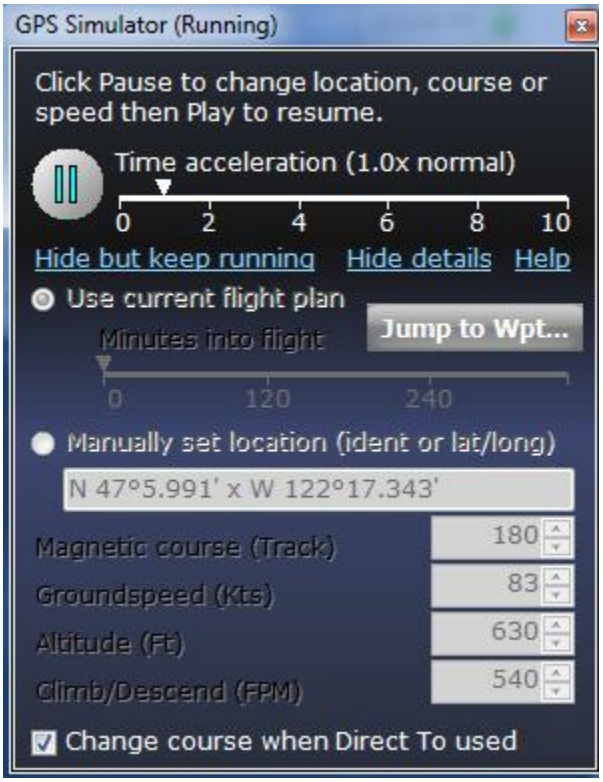
The iPad, depending on which model you buy, may have a built-in GPS. That's good because it's one less thing to carry around. But it's bad for two reasons. First, it simply isn't a good GPS. Not only does it lack WAAS so can't be very precise, it seems to rely on assistance from cell-phone triangulation and Wi-Fi lookups for optimal performance. Since these don't apply when you're at 10,000 ft., it just won't be as accurate as an aviation-grade, WAAS-enabled GPS. And, honestly, the GPS in the iPad sometimes just doesn't work at all in flight. Recently, on our way from Seattle to Long Beach for the AOPA Summit, we used both an iPad and a SkyPad$^3$ on a Cessna 414. For whatever reason, the iPad simply could not get a GPS lock at all, let alone an accurate one, until we were about to land. We tried every aviation app we had, even a hiking GPS program, but nothing worked so I don't think it was a software issue. The SkyPad$^3$, by contrast, acquired and held the GPS lock the whole flight.

In addition, having a separate GPS, while a slight pain, means you can position the GPS itself for optimal reception on the windscreen (often with Velcro) while the tablet remains on your knee or in your yoke.

The GPS that we include with every SkyPad$^3$ is a hard-core, time-tested, WAAS-enabled Bluetooth receiver made by GlobalSat. We've been selling it for your years and it never lets us down.

## GPS Simulator

We think it's best to learn how to use a GPS while sitting at home. Therefore, we put a powerful GPS simulator into the SkyPad$^3$. You can load a flight plan into it and "fly" the mission, testing every feature as you go. Don't have six hours for the flight in real-time? Use the "warp-factor" (time acceleration) feature to travel as much as 10 times faster than normal.



# Flight Planning

Voyager consistently wins the *Aviation Consumer* award for best flight planner, most recently winning just a few months ago. Wind-optimized routing, routing that automatically optimizes to get you the lowest fuel bill, and much more. This is where Seattle Avionics began.

