- IFD SERIES OF NAVIGATORS FAQs -

(Updated 7 Nov 2017)

Contents

GENERAL QUESTIONS

1. What is the IFD540? (Updated 13 September 2012)

The IFD540 provides the same navigation, communication, and multi-function display capability as found in our Entegra Release 9 systems in a touch screen, panel-mounted avionics form factor. The IFD540's easy-to-use Flight Management System (FMS) that meets TSO-C146c for full SBAS/LPV approach guidance, easy-to-use flight planning, 'one-touch' victor airway and jet-route navigation, Avidyne's exclusive GeoFill™ waypoint nomination, and FMS capability for fully-coupled guidance through all phases of flight without all the typical manual autopilot interaction. In addition, it is a plug and play replacement for the GNS 530/530W.

2. What are the variants of the IFD540 (Updated 27 December 2016)

Release 10.2 adds support for the:

- IFD550 - an IFD540 with built-in ARS to provide a out the window, PFD-like view
- IFD545 - an IFD550 without the radio
- IFD510 - an IFD540 without the radio

Note that except where specifically identified, the use of "IFD540" is equally applicable to the "IFD5XX" family of products.

3. What is the IFD440? (Added 5 July 2012)

The IFD440 is the same product as the IFD540, albeit it in a smaller form factor and minus some functions that are better suited for larger glass (e.g. Charts, TAWS). It is a plug and place replacement for the GNS 430/430W.

4. What are the variants of the IFD440 (Added 26 September 2016)

Release 10.2 adds support for the IFD410 which is a no-VHF variant of the IFD440.
Note that except where specifically identified, the use of "IFD440" is equally applicable to the "IFD4XX" family of products.

5. What is the IFD100? (Added 27 December 2016)

The IFD100 is a mobile app for Apple iPad users that shares the same code as the panel mounted IFD Series of Navigators. The IFD100 can send and receive data from its panel mounted counterpart. The IFD100 can be used in flight to do such tasks as add, amend or delete the flight plans, change radio frequencies, display charts (only when connected to an IFD5XX), load and activate approaches, change user settings and much more. The IFD100 can receive data from the panel mounted IFDs as well, data such as ADS-B weather and traffic, GPS position, velocity, ARS information (only when connected to an IFD550 or IFD545) and flight plan information.

6. What are the ICAO Equipment Codes for the IFD5XX, IFD4XX, AXP340, and AXP322? (Updated 26 September 2016)

The IFD540 and IFD440 and AXP340 and AXP322 ICAO Equipment codes as defined by Section 5.1.9 of the AIM are as follows:

5XX /4XX Equipment Codes	**Code**	**Definition**
	B	LPV
	L	ILS
	O	VOR
	R	PBN Approved
	S	VHF, VOR, ILS
	Y	VHF w/8.33 kHz spacing
IFD SERIES OF NAVIGATORS PBN Codes		
	A1	RNP-10
	C2	RNAV-2
	D2	RNAV-1
	L1	RNP-4
	S1	RNP APCH
AXP322/340 Surveillance Codes		
	E	Mode S transponder including aircraft ID, pressure altitude, extended squitter
	B1	ADS-B with dedicated 1090 MHz ADS-B Out capability

7. With Garmin's new GTN products, why would I want to buy the IFDs instead? (Updated 26 September 2016)

Avidyne has continually been awarded the 'ease of use' winner over Garmin in almost every head-to-head evaluation. This product is no exception. The IFD540 provides the same highly-capable FMS navigation and communication functionality as found in our Entegra Release 9 systems, in a standard panel-mounted avionics form factor for easy retrofit into virtually any general aviation aircraft.

Leveraging the highly-intuitive Page & Tab user interface of our Entegra Release 9 system, the IFD Series of Navigators provide plainly-labeled tabs, bi-directional keys, and on-screen, touch-sensitive labels that make it much easier to access the information you want when you want it, while avoiding the notion of home pages, nested-menus, unfamiliar icons and magic handshakes associated with other navigators.

With the streaming nature of data out of the IFD5XX/4XX products, you also get a "force multiplier" effect with the IFD100 mobile tablet application.

8. Can you install two IFD5XX's or two IFD4XX 's together? (Updated 5 July 2012)

Yes, all the features that your GNS530/530Ws had for cross-filling flight plans, etc are available with dual IFD540s or dual IFD440s (as well as between IFD5XX s and IFD4XX s).

9. Do the IFD5XX or IFD4XX crossfill with the Garmins? (Updated 5 July 2012)

No, crossfill **will not** work between the IFD Series of Navigators and Garmin units. Crossfill (called "CROSS-SYNC" in the Avidyne system) **will** work between any combination of the Avidyne IFD units.

10. Will the IFD4XX work with the IFD5XX? (Added 5 July 2012)

Yes, both units use the Avidyne Digital Databus architecture and communicate in a high-speed, digital manner.

11. Are there any features or functions that are in the IFD5XX but are not in the IFD4XX? (Updated 11 Mar 2014)

Yes, the IFD4XX will not be capable of displaying of Charts nor TAWS.

12. Is the IFD5XX or IFD4XX capable of acting as a "sole" source navigation device? (Updated 5 July 2012)

Yes, it can. Just like a GNS 530/530W and same for the GNS 430/430W.

13. Does the IFD5XX work in my existing cockpit? (Updated 10 Jan 2014)

Yes, the IFD5XX was designed to be a plug in replacement for the GNS530/530W so it must integrate with all the existing equipment that the 530/530W previously operated with. This includes a long list of PFDs, EFIS, CDIs, HSIs, remote sensors, discrete, autopilots, MFDs, etc. See this page for a list of the supported devices: http://www.avidyne.com/products/IFD5xx/ifd-interfaces.asp

14. Does the IFD4XX work in my existing cockpit? (Updated 10 Jan 2014)

Yes, the IFD4XX was designed to be a plug in replacement for the GNS430/430W so it must integrate with the existing equipment that the 430/430W previously operated with. This includes a long list of PFDs, EFIS, CDIs, HSIs, remote sensors, discrete, autopilots, MFDs, etc. See this page for a list of the supported devices: http://www.avidyne.com/products/IFD5xx/ifd-interfaces.asp

15. Is it hard to transition from the 530 to the IFD5XX or from the 430 to the IFD4XX? (Updated 5 July 2012)

You be the judge… Avidyne has continually been awarded the 'ease of use' winner over Garmin in almost every head-to-head evaluation. We made the transition from any of the GNS products to the IFD5XX simple by maintaining the most commonly used functions of the 530/530W. The functions are exactly the same between the two units.

1. Direct To – you can still do <Direct To> <ENTER> <ENTER>
2. Com tuning is performed with the dual concentric knob (Outer = MHz, Inner = kHz)
3. Procedure entry by pressing PROC

Others include

- Flip-flop comm/nav with a dedicated button
- Dedicated volume knob

The same holds true with the IFD4XX.

16. What is the size of the IFD5XX display? (Updated 3 January 2012)

The IFD5XX display features a LED-backlit 5.7" diagonal color liquid crystal touch-screen display with 65,535 colors and a 640x480 pixels (Full VGA) display. In contrast, your 530/530W was a 5" diagonal, 8-color TFT LCD with 320 x 234 pixels. This increased number of pixels will provide better visibility of the data as well as allowing more information and colors than what you are replacing.

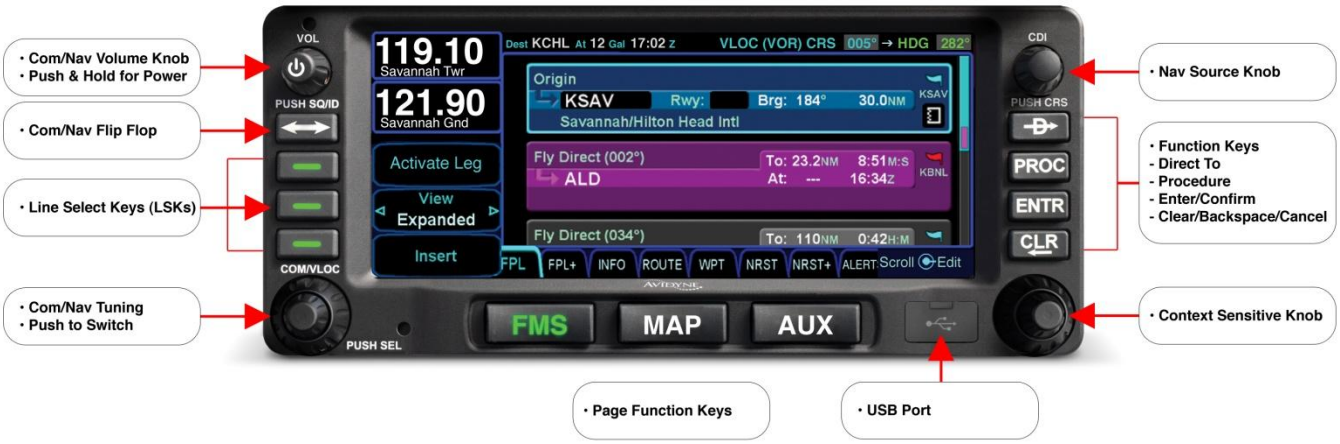
17. What is the size of the IFD4XX display? (Added 5 July 2012)

The IFD4XX display features a LED-backlit 4.8" diagonal color liquid crystal touch-screen display with 65,535 colors and a 640x235 pixels display. In contrast, your 430/430W was a 3.8" diagonal, 8-color TFT LCD with 240 x 128 pixels. The increased number of pixels in the IFD4XX will provide better visibility of the data as well as allowing more information and colors than what you are replacing.

18. What are all the buttons and knobs on the IFD5XX? (Updated 26 September 2016)

*The IFD510 and IFD545 do not contain a VHF nav/com radio and therefore does not have a volume knob, flip/flop button, and Com/Nav push knob.

19. What are all the buttons and knobs on the IFD4XX? (Updated 26 September 2016)



*The IFD410 does not contain a VHF nav/com radio and therefore does not have a volume knob, flip/flop button, Com/Nav push knob.

20. Does the IFD Series of Navigators have graphical flight planning? (Updated 13 September 2013)

Yes, the IFD Series of Navigators allows rubber-banding flight planning. The pilot may select any flight plan leg and stretch it to another waypoint on the map or create a temporary user waypoint if there are no waypoints where the pilot stretched the leg.

21. Is there Procedure Preview like there is on Release 9? (Updated 3 January 2012)

Yes, FMS Preview makes it easy to visualize before selecting a desired waypoint, airway, hold or hold geometry, direct-to, approach, approach transition and any other terminal procedures by displaying it on the moving map.

22. Can I nominate frequencies to my radios? (Updated 13 September 2013)

Yes, any frequency that you see, you can touch to nominate to the standby. There is also a FREQ function that will provide the most likely frequencies that you'll need based on your phase of flight. Press FREQ and press a row to nominate the frequency.

- Airport tab allows selection of either origin frequencies if you are on the ground or within 5 nm of the origin and it shows the destination frequencies when you are within 40 nm of your destination or more than 5 nm from the origin.
- Enroute shows the frequencies from the nearest ARTCC, and the nearest FSS as well as approach and departure control frequencies along your route.

23. Can I type numbers in for tuning a radio? (Updated 13 September 2013)

When you touch the standby frequency location the IFD Series of Navigators assumes that you want to type in a frequency. A numerical keypad is launched for entering numbers. The same rules as the R9 keyboard apply, which are the leading '1' is optional, '.' is optional, the frequency fills in after a certain timeout (3 seconds), pressing ENTR puts it in the Standby and pressing the swap button puts it in the Active.

24. How do I update the IFD Series of Navigators charts, navdata, software, etc? (Updated 4 June 2014)

There is a USB port on the front bezel of the IFD Series of Navigators that allows a single step uploading of subscription NavData, Charts and Obstacles. This data is available from Jeppesen JSUMs and there are programs for a single subscription per airplane. The details of how to get the data from JSUMs to the USB port are complete and will be supplied with updated JSUM instructions at time of certification. Note that the IFD4XX does <u>not</u> display Charts but approaches are a part of the Nav database and will be displayed on the map page and in the FMS.

25. What other things can the USB port do? (Updated 27 December 2016)

The USB port is a powered port. It is a 2 amp power source, that means it is capable of charging smart phones and tablets.

26. Is the IFD Series of Navigators software able to be updated in the field? (Updated 6 January 2015)

Yes, the IFD Series of Navigators can be updated without the need to return it to Avidyne. Periodically, there will be new features added to the IFD Series of Navigators that you have the option to receive. The process for making this updates is very quick and will include loading it through the USB port on the front of the bezel. The person or shop will verify the installation according to a service bulletin, and will update the aircraft log books. The Avidyne position is that any shop that holds a repair station certificate, an A&P, or an Experimental Aircraft owner with log book signoff authority can perform the update. They will of course, have to follow the provided Service Bulletin explicitly and mail/fax/email back in the completed update sheet that is part of the Service Bulletin but we don't restrict this to just Avidyne dealers.

27. Is there data logging in the IFD Series of Navigators? (Updated 5 July 2012)

Yes, there is logging of all parameters that you see and more in the IFD Series of Navigators. There are user logs for position, altitudes, deviations, time, flight plan waypoints, etc that you can download for plotting. There are also logs for the installers and Avidyne tech support to use to resolve any issues that may arise on your unit.

28. Is this the same GPS/SBAS receiver as R9? (Updated 23 June 2015)

No, this is the next generation GPS/SBAS receiver from Avidyne. It is being developed for this and many future Avidyne products. It is a 16-channel, fast acquisition, GPS/SBAS TSO-C146c/DO-229D Beta Class 3 receiver. As part of Release 10.1.0.0 in June 2015, we improved the GPS receiver to be a high-gain receiver which improves helicopter performance under the spinning rotor blades.

29. Is it WAAS capable? (Updated 13 September 2013)

Yes, it meets the latest GPS/SBAS TSO-C146c and is capable of receiving satellite based GPS corrections (WAAS/EGNOS/MSAS) worldwide. It has been tested for the new EGNOS satellite corrections.
Wide area/regional satellite position augmentation support provided by the IFD include WAAS (Continental US, Alaska, Canada and most of Central America), EGNOS (most of Europe and North Africa), MSAS (Japan) and GAGNAN (India). These are regional augmentations of the GPS satellite constellation and should not be interpreted as meaning the IFD is compatible with other GNSS constellation systems such as Galileo (Europe), GLONASS (Russia), or Compass (China).

30. Does the IFD Series of Navigators work with my existing GPS antennas? (Updated 26 September 2016)

Yes, it will work with your existing GPS antennas but in order to use the IFD Series of Navigators for precision GPS approaches (LPVs) you'll need to have either TSO-C190 antennas or antennas on the following list or others that are included at certification:

Antenna Type	TSOA	Comments
Comant CI-428-200	TSO-C144a	Used in R9 (also on GTN)
Garmin GA-56A	TSO-C144a	Used in GNS-430W
Garmin GA-56W	TSO-C144a	Used in GNS-430W
Garmin GA-57	TSO-C144a	Used in GNS-430W
Garmin or Aero Antenna GA-35	TSO-C144a	Used in GNS-530W and 430W
Garmin or Aero Antenna GA-36	TSO-C144a	Used in GNS-530W
Garmin or Aero Antenna GA-37	TSO-C144a	Used in GNS-530W
Comant CI-2580-200	TSO-C144	Used in GNS-530W. Older variants were WAAS Gamma 1 only (i.e. no precision approaches) and new variants are WAAS Gamma 3 (precision approaches capable)
Comant CI-2728-200	TSO-C144	Used in GNS-530W
Comant CI-2728-410	TSO-C144	Used in GNS-530W
Garmin or Aero Antenna A-33	TSO-C144a	Used in GNS-430W
Garmin or Aero Antenna A-34	TSO-C144a	Used in GNS-430W

Most of the existing approved Garmin GNS530W and GNS430W approved antennas are on that list. This list may be expanded to accommodate other antennas that meet the strict TSO-C146c requirements (especially low horizon view angle requirements). Otherwise you can use your existing antennas but it is not legal to fly LPVs and possibly not any kind of WAAS approach.
The non-WAAS GA-56 antenna is not acceptable for the IFD series.

31. What about your GPS and the G4 network? (Updated 13 September 2013)

Our GPS is being built to filter out the issues with the Lightspeed 4G data network. We investigated the developments of this interference over the last year and concluded our system should not be affected by the 4G network. We are continuing to monitor developments.

32. Is this the same digital radio that is in Release 9? (Updated 5 July 2012)

Yes, it is the same radio as R9 with some minor modifications to fit in this mechanical package of the IFD Series of Navigators. It has 2 VHF communication receive channels and 4 navigation channels.

33. How many watts is the radio? (Updated 26 September 2016)

The standard unit will contain a 10-watt radio and there is a 16-watt option for an extra charge. Note that the 16-watt variants require 28VDC power buses in the airplane. The IFD4XX added a 16 watt variant with Release 10.2.

34. Are the IFD5XX and IFD4XX Touchscreen? What type of touch screen technology? (Updated 5 July 2012)

Yes, the IFD5XX and IFD4XX all use a capacitive touch screen display with Multi-Touch. Almost everything that you can do with the touchscreen can be performed with the knobs and buttons. Some pilots like knobs while others will enjoy the new features of the touch screen, like graphical flight planning, rubber banding, keyboard entry, frequency nomination, map panning, etc.

Multi-Touch allows pilots to gesture using two or more fingers to easily zoom the map range setting in and out. This makes it familiar to anyone using Smartphone or Tablet PC/iPad

35. Can I use gloves with the touch screen? (Updated 2 July 2014)

Yes, many gloves will work just fine on the capacitive touch screen displays. Since the capacitive technology senses a change induced by the proximity of a finger, differences in glove size, thickness and type may affect the performance and responsiveness of the touch screen glass. As you can imagine, thinner gloves will typically work better than thicker gloves. Special made-for-touch screen operations gloves are also becoming increasingly available. In all cases, a brief and informal qualification of a given glove will be recommended and procedures are included in the Pilot Guide.

36. Does the IFD Series of Navigators do VNAV? (Updated 5 July 2012)

The FMS has a much more integrated and useful VNAV than what the 530/530Ws has. In the 530/530W you could do enter a vertical constraint on a single waypoint. In comparison, the IFD5XX lets you put altitude constraints on multiple waypoints in your flight plan. These altitude constraints are located in the bottom row of each waypoint. The type of constraint (at, at or below, at or above) and an offset prior to the waypoint is also easily entered. All this is done within the same flight plan view.

A vertical speed required (VSR) value can be configured in the datablock to show what vertical speed the aircraft needs to be flown at to meet the current altitude constraint. This constraint could be on your active waypoint or a downpath waypoint. The VSR is only available on the Avidyne digital Databus at this time.

If the IFD5XX is interfaced to a remote air data computer then it will use this altitude. If baro altitude is not available then the system will use the GPS MSL altitude (same altitude as the TAWS function).

The same is all true with the IFD4XX.

37. Does the IFD4XX/5XX have any WiFi capability? (Updated 27 December 2016)

Yes, the IFD4XX and 5XX both have an internal WiFi transceiver (it's underneath the Avidyne logo on the bezel). This is included on every IFD ever built – so NO additional hardware or wiring is required. The software that supports this the initial one way (from the panel IFD to the app providers) capability is part of Release 10.1.0.0 which was approved and released in June 2015. The two way communication (to and from the panel IFD) is a part of Release 10.2.0.0 which was approved and released in March 2017. We work with several app makers in various different forms and functions. You should assume that basic functions such as flight plan transfer, traffic and weather transfer are part of that capability but should check with your favorite app vendor for all of the capabilities.

38. Does the IFD4XX/5XX have any Bluetooth™ capability? (Updated 23 June 2015)

Yes, the IFD4XX and 5XX both have an internal Bluetooth™ transceiver in addition to the WiFi transceiver (also underneath the Avidyne logo on the bezel). This has also been included on every IFD ever built and so NO additional hardware or wiring is required. The software that supports this capability is part of Release 10.1.0.0 which was approved in June 2015. Bluetooth™ functionality includes the ability to accept input from an external Bluetooth™ capable keyboard. When paired with the external keyboard, anywhere/anytime an on-screen keyboard is displayed for data entry purposes (e.g. entering a comm frequency, creating a new waypoint, entering a new transponder code, editing a flight plan, etc) the external keyboard can be used instead of the touchscreen keyboard. This may prove useful in turbulent conditions, for folks who don't like using the touchscreen in general, or by a co-pilot/passenger helping with cockpit management.

39. Does the IFD4XX/5XX support GPSS-capable autopilots? (Updated 13 September 2013)

Yes, The IFD4XX/5XX FMS provides true roll steering capability including full support for GPS Steering (aka "GPSS" or "roll steering") capable autopilots.

40. Can the IFD Series of Navigators support a Track-Up map depiction? (Updated 27 December 2016)

Yes, this capability was added to the baseline definition of the initial release of the IFD Series of Navigators due to customer requests. To access this view, while on the MAP page, press in on the right hand knob.

41. How does the Nav Source knob equate to the Garmin CDI and OBS buttons? (Updated 13 September 2013)

The IFD Series of Navigators is using the nav select (PUSH/CRS) knob as the corollary to the Garmin VLOC/OBS button but it does more than the 430/430W/530/530W. The Garmin implementation only applies to GPS legs. In the Garmin scheme there is no means to adjust a VLOC OBS other than the airplane's primary nav indicator CP/OBS knob which is not depicted anywhere on the GNS (except in a cal mode). The IFD Series of Navigators uses this primary indicator course and displays the VLOC leg on the map. Changes to the VLOC course on the IFD Series of Navigators are not sent to the primary nav indicator so the IFD Series of Navigators displays an alert to the pilot indicating that the two are not synchronized. The Nav Source knob on the IFD Series of Navigators is a channel selector to pick what Nav source the pilot wants depicted on the moving map and sent to other on-board systems like an EFIS (e.g. Aspen PFD) and in-turn, the autopilot, as well as driving any steam gauge CDI or RMI or HSI indicator. The available options are GPS, GPS → VLOC, VLOC, OBS, OBS → VLOC.

When VLOC is selected, the display on the map shows the inbound radial as a green line and the outbound radial as a white line to the tuned navaid frequency.

42. What are we depicting when the Nav Source VLOC is selected? (Updated 31 Mar 2013)

Garmin 430/430W/530/530Ws have always displayed the GPS flight plan (map page) whether VLOC or GPS is selected. This is a significant deficiency that has become more accepted because of wide application. The G-series even displays a GPS CDI (on the correct page) whether VLOC or GPS is selected. To correct Garmin's (deficient) design we use the implementation that we developed for our R9 CRS (OBS) mode. This design is that when VLOC is selected and the tuned navaid station Morse code is identified, then the map depiction of the navaid can be used as the anchor for a green line to and white line from that station. This line is the inbound and outbound radial to/from the station. A pilot can change the course/radial but the IFD Series of Navigators course is not sent back to the primary indicator. The IFD Series of Navigators has varying levels of integration with other cockpit devices depending on how

"cooperative" the external unit is. The Pilot Guide (which will be available at product release) contains more information on this design. VLOC nav depiction on the IFD Series of Navigators significantly improves your situational awareness by providing a visual indication of where you are from the radial.

43. What other display sizes will these IFD products be made in? (Updated 5 July 2012)

The product is scalable to this size or could be to other sizes. According to the demand, Avidyne will investigate other display sizes for future products. The IFD4XX announcement in early July of 2012 is an example of reaction to that demand. What other sizes would be of interest to you?

44. What other products does Avidyne plan to release in the coming months/years? (Updated 27 December 2016)

Avidyne is continually improving the Entegra Release 9, traffic products, ADS-B developments and DFC90 certifications. The AXP340/322 ADS-B Out transponder is both TSO and ETSO certified; the SkyTrax100 ADS-B In Receiver that takes in ADS-B traffic and weather and are available now. Additionally, Avidyne is also pursuing products in the aircraft connectivity sector as an example, Avidyne has partnered with both GlobalStar and SmartSky Networks in 2016.

45. Is this just a R9 on a smaller display? (Updated 5 July 2012)

Yes it is a derivative of Release 9 without the ADAHRS and with a different I/O board and new features like multi-touch. The same software is contained in the IFD Series of Navigators as the award winning Release 9.

46. How do I stay in touch with the progress of the IFD Series of Navigators? (Updated 27 December 2016)

If you join our mailing list, and keep in touch with www.IFD5xx.com, www.IFD4xx.com and especially www.avidynelive.com, you'll see news and updates on the product. We may also be announcing some new features, improvements and reasons for jumping onto the IFD Series of Navigators.

47. Why are the IFD Series of Navigators better than what I have or any other system available today? (Updated 5 July 2012)

Entegra Release 9 was a clean sheet design that was designed to make you a safer pilot in all conditions. The R9 ease of use has evolved into the IFD Series of Navigators so it will also reduce your workload even in the most challenging of environmental or airspace conditions. You will spend much more time managing your aircraft or enjoying the flight instead of managing your avionics and aircraft systems. It will give you the confidence to use your airplane the way it was meant to be used, whether that is day VMC or single-pilot heavy IFR. Simply put, it improves your Safety and Utility.

48. How can I learn more about IFD Series of Navigators? (Updated 27 December 2016)

You can log on to the IFD5XX website at www.IFD5xx.com, IFD4XX website at www.IFD4xx.com for more information. We also keep AvidyneLive (www.avidynelive.com) current and post periodic updates. We also posted a draft of the IFD5XX Pilot Guide at:
http://www.avidyne.com/support/downloads.asp?prod=ifd
Finally, don't hesitate to call one of our sales representatives at 1-800-AVIDYNE.

49. How can I see IFD Series of Navigators in-person? (Updated 27 December 2016)

Avidyne will be showing the IFD Series of Navigators at multiple trade shows. If you are planning on going to a trade show and want to know if Avidyne is going to be there with the IFD Series of Navigators then call Avidyne sales at 1-800-AVIDYNE or visit http://www.avidyne.com/news/shows.asp.

50. Does the IFD5XX have internal TAWS-B? (Updated 2 July 2014)

The optional upgrade to a full TAWS-B capability is planned to be available in a not-yet-defined follow-on release. The TAWS-B upgrade retails for $7,995. The standard IFD5XX and IFD4XX has integrated terrain awareness and alerting that meets AC20-167, Appendix 7 and this is available at initial release (no additional charge).

The terrain awareness and alerting includes:

1. Approximate one-minute caution and 30-second warning if the airplane's current flight path will collide with terrain or an obstacle.
2. Aural call-out for both the caution and the warning (CAUTION - TERRAIN, TERRAIN; WARNING - TERRAIN, TERRAIN).
3. Terrain impact region highlighted on the moving map indication on your map displays to show.

51. What will the future TAWS-B use for an altitude? (Updated 2 July 2014)

The TAWS system uses GPS position and altitude from calculating the TAWS alerts. This GPS altitude is used with the database terrain and geoid information to determine a mean sea level (MSL). The accuracy of the GPS altitude is based on the GPS satellite geometry and whether SBAS/WAAS corrections are available. The GPS altitude is not subject to temperature or pressure differences so this altitude does not require a local altimeter setting.

52. Do the IFD4XX have internal TAWS-B? (Updated 2 July 2014)

There are no plans to add TAWS-B capability to the IFD4XX.

53. Do the IFD Series of Navigators Support TIS traffic? (Updated 5 January 2015)

Yes but that traffic data is displayed as "standard" traffic icons and do not include the directional tail depiction on the moving map.

54. Do the IFD Series of Navigators Support TAS600 and SkyWatch traffic? (Updated 5 July 2012)

Yes, the IFD Series of Navigators will support all traffic products that the 530/530W currently supports, this includes the Avidyne TAS600, 605, 610, 615 and 620, Ryan TCAD products and the L3 Skywatch products.

55. Do the IFD Series of Navigators support WSI MLB weather? (Updated 07 November 2017)

Yes, the IFD Series of Navigators supports the full WSI MLB weather broadcast over the Sirius/XM satellite network. There are all the broadcast weather data products displayed, which include, NOWrad®, Graphical METARs, Textual METARs, TAFs, TFRs, Lightning, Storm Tracker (Cell Movement), Echo Tops (Cell Height), Winds Aloft, Temps Aloft, Graphical AIRMETs, Graphical SIGMETs, Canadian - Radar, METARs & TAFs and Caribbean - METARs & TAFs. For a more detailed list of the devices and products supported, see: http://www.avidyne.com/products/IFD5xx/ifd-weather.asp.

WSI discontinued the support for weather products to the MLB700 as of 12/31/2017.

56. Do the IFD Series of Navigators support XM Wx from a Garmin GDL-69? (Updated 10 Jan 2014)

Yes, the IFD Series of Navigators will receive the same XM weather data from the GDL-69 and 69A as the GNS 430/430W/530/530W currently receives and then some. Garmin was not willing to supply the

interface protocol so this was reverse engineered. For a more detailed list of the devices and products supported, see: http://www.avidyne.com/products/IFD5xx/ifd-weather.asp

57. Does the IFD4XX support the Heads Up Technologies XMD-075/076 weather Datalink system? (Updated 23 June 2015)

No, the IFD Series of Navigators does not yet support the HUT XMD-075/076 in Cirrus (and any other) aircraft. It is presumed that all of those aircraft are equipped with large format MFDs that already display XMD data.

58. Do the IFD Series of Navigators support satellite radio and channel changing? (Updated 5 January 2015)

Yes, the IFD4XX and 5XX supports channel selection on the display for the GDL69A. A remote control, like the GRC 10 (for the GDL69A) or the Avidyne Sirius remote (for the MLB700) can also be used.

59. Does this product display MLX international weather? (Updated 5 January 2015)

No, the IFD4XX and 5XX do not currently integrate with the MLX product. Avidyne recognizes it needs an international Datalink solution and MLX support is expected in a future release.

60. Do the IFD Series of Navigators integrate with the new Avidyne audio panel? (Updated 23 June 2015)

Yes, they both integrate with the AMX240 audio panel. The initial release of the IFD5XX didn't support the MON function of the AMX240 but that was resolved by Release 10.1.0.0 in June of 2015.

61. Do the IFD Series of Navigators integrate with the Avidyne AXP340/322 transponder? (Updated 5 January 2015)

Yes, the IFD Series of Navigators is an approved as a position source for the Avidyne AXP340 and AXP322 ADS-B Extended Squitter Mode S Transponder. This WAAS GPS position is the position that is used for the ADS-B out messages. If there is altitude available to the IFD Series of Navigators then it could be used as the altitude source for the transponder.

62. Will the IFD Series of Navigators allow me to meet the ADS-B mandate in 2020? (Updated 27 December 2016)

Yes, for the position part. ADS-B is a complex topic and more information can be found at www.ads-bee.com. Think of it as 4 pieces in the puzzle – a need for a compliant GPS position source (that's the part met by the IFD Series of Navigators), a means to indicate to the pilot where the traffic/weather is via a display (also met by the IFD Series of Navigators, or any other Avidyne MFD), a means to transmit your aircraft location to others (Avidyne AXP340 or AXP322 transponder), and a means to receive weather and traffic information from the ADS-B ground stations (SkyTrax Series of ADS-B Receivers).

63. Will the IFD Series of Navigators display UAT Weather? (Updated 7 November 2017)

Yes, the IFD4XX and 5XX will support display of UAT (FIS-B) weather from the SkyTrax100 in Release 10.1.0.0 that came out in June 2015. In Release 10.2.0.0 the GTX345 was supported.

64. Do the IFD Series of Navigators support remote mounted transponders? (Updated 27 July 2015)

Yes, the IFD4XX and IFD5XX will both support remote transponder tuning of the AXP322 as part of Release 10.1.0.0 that came out in June 2015. Check with Avidyne Sales on the models of remote transponders that are supported.

65. Do the IFD Series of Navigators support fuel flow information? (Updated 14 Mar 2014)

Yes, the IFD Series of Navigators will support a fuel flow system input. The supported sensors are the ARNAV, EI and Shadin fuel flow units (all the same sensors are supported that work with the Garmin 530/530W or 430/430W).

66. Do the IFD Series of Navigators support fuel on board information? (Updated 5 July 2012)

Yes, if the fuel on board is being received from a fuel totalizer source then this information is displayed.

67. Do the IFD Series of Navigators support the display of engine instruments? (Updated 5 July 2012)

No

68. Do the IFD Series of Navigators show EVS or another video input? (Updated 27 December 2016)

Yes, the IFD Series of Navigators will display video via RS170 and the IFD software Release 10.2.0.0.

69. Will the IFD Series of Navigators allow me to save user waypoints on a computer and move them to the IFD or at least backup IFD user waypoints on a computer? (Updated 23 June 2015)

As of the initial release, user checklists can be saved on a USB fob and reloaded on any IFD at any time. As of Release 10.1.0.0, all user data (flight plans, user waypoints, user settings, user checklists) can be saved on a USB fob and reloaded on any IFD at any time, serving as a useful backup function.

70. Does the IFD Series of Navigators work with my autopilot? (Updated 13 September 2013)

Yes, the IFD Series of Navigators provides VHF radio and FMS guidance commands to the same autopilots that the GNS 430/430W/530/530W is interfaced with.

For the VHF Radio deviations, the IFD5XX interfaces with the compatible 530/530W analog and digital indicators. These include CDIs, VOR/ILS indicators, discrete and annunciators, electronic HSI's and PFDs. The autopilot are configured either to measure these signals in parallel with the indicators or the indicator are the source of the deviations. The same is true for the IFD4XX and compatible 430/430W indicators

For the FMS, there are ARINC429 roll steering command outputs that it transmits to the autopilot and/or flight displays. This means that GPSS capable autopilots are supported at initial release.

71. Do the IFD Series of Navigators work with the Avidyne DFCs? Which one? (Updated 5 July 2012)

Yes, the DFC90 is available for integration with the IFD Series of Navigators for aircraft that are currently on the DFC90 STC list. In order to use the DFC90 you need an Avidyne Entegra EXP5000 PFD or an Aspen EFD. The DFC90 provides a digital, attitude-based capability to your aircraft.

The DFC100 is our autopilot for the Entegra Release 9 system only.

72. What is the difference between a Mode C transponder and a Mode S transponder and why should I care? (24 July 2011)

Among other things, Mode S transponders encode your aircraft registration (e.g. N-number) in its stream and is required for flight in Europe under many conditions. ATC can also send information to your Mode S

transponder so as the Mode S and ADS-B functionality matures there are more features that could be sent up to you through your transponder (e.g. traffic, weather).

73. Should I do the WAAS modification to my aircraft now or wait until IFD Series of Navigators? (Updated 11 Mar 2014)

If you haven't already upgraded to WAAS, Avidyne recommends now that you wait until IFD Series of Navigators. Both the IFD5XX and IFD4XX are WAAS enabled so you won't need to incur the extra costs of upgrading your 530 to a 530W or 430 to a 430W. You could upgrade your antennas if they are not on the WAAS antenna list. While the composite and antenna work is reusable, it is unlikely that you would recoup all the expense in upgrading to 430Ws/530Ws when you go to resell them as part of the IFD Series of Navigators modification. It is very important to consult the IFD5XX Installation Manual before performing any work on your airplane. See http://www.avidyne.com/support/downloads/ifd-series.asp

74. If I've already done the WAAS modification to my aircraft, will it work as is in IFD Series of Navigators? (Updated 11 Mar 2014)

Yes, it will. We have engineered our WAAS solution to use the exact same antennas as those in the 530W/430W installations. Therefore, you are able to leave the WAAS antennas, mounting, and coax all in place, saving several thousands of dollars of installation expense. It is very important to consult the IFD Series of Navigators Installation Manual before performing any work on your airplane. See http://www.avidyne.com/support/downloads/ifd-series.asp

75. Are there any other options or related products? (13 September 2013)

Yes, we've also announced the IFD510/410 products which is best described as the touch-screen plug-and-play replacement to the Garmin GPS500/400 (similar to 530/430 but without Com/Nav). All the IFD Series of Navigators come in black or grey bezel variations.

76. What if I don't want the touch-screen capability? (3 January 2012)

For those customers who do not want any touch screen functions, there is a selection that can be made in the setup pages that turns all touch-screen functionality off.

77. Is there an integrated audio panel control and display capability in the IFD Series of Navigators? (Updated 5 July 2012)

No, we've found that the majority of customers prefer dedicated controls for the audio tuning and it isn't feasible to put that dedicated control space on the IFD5XX and especially not the IFD4XX, remembering that the IFD5XX was designed to be the same form factor as the 530/530W, albeit with a larger display and the IFD4XX a replacement for the 430/430W.

78. Will the IFD5XX be able to interface with, and display all external data to specifically include the GDL69/69A, WX500, and Skywatch 497 using the existing connections to the 530 tray or will there really be re-wiring required as part of the installation? (Updated 31 Mar 2013)

The IFD5XX truly is a slide-in replacement for the 530/530W in that sense. If the 530/530W unit was a TAWS-B equipped unit or the 530/530W unit had otherwise already had wiring from the TAWS audio output to the audio panel, then **No** re-wiring will be required. If the TAWS audio output is not already wired from the 530 tray to the audio panel, then two wires will need to be added as part of the install in order to get the IFD5XX Terrain Awareness/Alerting aural alerts into the aircraft audio system.

79. Will the IFD4XX be able to interface with, and display all external data to specifically include the GDL69/69A, WX500, and Skywatch 497 using the existing connections to the 430 tray or will there really be re-wiring required as part of the installation? (Added 5 July 2012)

The IFD4XX truly is a slide-in replacement for the 430/430W in that sense. **No** re-wiring will be required.

80. If I have a G500 with a GAD43 autopilot adapter driving a KFC225 autopilot, will the IFDs require the same "Enable Autopilot Approach Outputs" command when crossing the Final Approach Fix or will the IFDs be able to drive the KFC225 without further intervention once the approach has been enabled? (Updated 30 January 2015)

The KAP-140 and the KFC 225 autopilots do not support automatic switching to VLOC; switching the nav mode and entering the in-bound course must be manual operations with those autopilots In the case of KFC-225 and KAP-140 autopilots, depending on how the IFD was configured, a prompt is provided when GPS is the nav source to enable the approach ("Enable A/P Approach" CAS message displayed which directs a pilot selection along the left side of the FPL tab). At that point, APPR mode can then be selected on the autopilot. This setting will also ignore the GPS → VLOC Capture option on the User Options part of the Setup tab on the AUX page.

81. Are there any plans for a Bluetooth or Wifi solution similar to Aspen's Connected Panel that will allow users to upload a ForeFlight flight plan to the IFD Series of Navigators? (Updated 23 June 2015)

Yes, Release 10.1.0.0 supports both WiFi and BlueTooth™ functionality. See FAQ questions 33 and 34 for more detail/information.

82. Can the IFD550 or IFD545 be used as a Primary Flight Display? (added 27 December 2016)

No, the initial Release 10.2.0.0 will not have the necessary requirements met for a PFD.

83. What is the difference between the synthetic vision on the IFD540, IFD510, IFD4XX and the synthetic vision on the IFD550 and IFD545? (added 27 December 2016)

First, all IFDs get the "in-trail" synthetic vision with Release 10.2.0.0. This form of synthetic vision gives the pilot a 3D, 3rd person, view of the aircraft. The IFD550 and IFD545 have the built in ARS that gives the ability for the "out the window" synthetic vision, similar to what modern PFDs provide.

84. Can I get onboard radar on my IFD4XX? (added 27 December 2016)

While the IFD4XX does not have enough physical space on its connectors to support onboard radar, onboard radar can display on the IFD4XX if the it is connected to an IFD5XX that has the radar wired to it.

85. What onboard radars will be supported with Release 10.2.0.0? (added 27 December 2016)

The IFD5XX will support RDR2000.

86. Will the Schedulers, Timers and Checklists that are available in the Garmin 430/430W/530/530W be available in the IFD5XX and IFD4XX? (Updated 5 July 2012)

Yes, the IFD5XX and IFD4XX will have all the same capabilities for schedulers, timers and user checklists.

INSTALLATON QUESTIONS

87. How long does an IFD Series of Navigators installation take? (Updated 5 July 2012)

This depends heavily on what configuration you are starting out with and what you want to end with. If you are replacing a GNS530W then it is very quick. It would be the time to pull out the 530W, slide in the IFD5XX, test out the interfaces and add entries in the aircraft log book. This is true for single or dual 530W replacements.

If you are not replacing a GNS530W, then it will take about the same amount of time to install a GNS530W. If you have a 530 then it will take about the same time as if you are upgrading your 530 to a 530W. This time is highly variable and depends on the experience of the shop and the interfaces involved in the installation. Avidyne recommends contacting your local Avidyne dealer to provide you with the time and cost for the installation. Please visit http://www.avidyne.com/dealers to find an Avidyne dealer near you.

The same is true for IFD4XX installs when replacing a GNS 430, 430W, or new install.

88. What is included in the installation kit? (Updated 2 July 2014)

IFD5XX:

For installation where a 530 or 530W is being replaced, the IFD5XX is supplied with a copy of the pilot's guide.

For new installations, the installation kit will include the tray (which includes the backplate), connectors and pins. Optional antenna ship kits are also available from Avidyne.

If WAAS antennas are required then they can either be purchased through Avidyne or directly from the antenna supplier.

IFD4XX:

For installation where a 430 or 430W is being replaced, the IFD4XX is supplied with a copy of the pilot's guide.

For new installations, the installation kit will include the tray (which includes the backplate), connectors and pins. Optional antenna ship kits are also available from Avidyne.

If WAAS antennas are required then they can either be purchased through Avidyne or directly from the antenna supplier.

89. What additional hardware will be needed for the IFD550 and IFD545 to display the "out the window" synthetic vision? (added 27 December 2016)

The ARS for the IFD550 and IFD545 are built in to the IFD box themselves. No additional hardware is required to make this feature work.

90. What are the approved IFD Series of Navigators Installation Sites? (Updated 27 December 2016)

Avidyne recommends contacting your local Avidyne dealer to provide you with the time and cost for the installation. Please visit http://www.avidyne.com/dealers to find an Avidyne dealer near you.

91. Where can I get my IFD Series of Navigators system serviced if/when it needs it? (Updated 5 July 2012)

There are more than 800 qualified shops across the globe where service will be able to be conducted on the IFD Series of Navigators system.

92. How much does an IFD5XX system weigh and what does that do to my useful load? (24 July 2011)

IFD5XX is equal to the weight of the GNS530/530W so your weight and balance will not change. Each IFD5XX is approximately, 8.5 lbs.

93. How much does an IFD4XX system weigh and what does that do to my useful load? (Added 5 July 2012)

IFD4XX is equal to the weight of the GNS430/430W so your weight and balance will not change. Each IFD4XX is approximately, 6.6 lbs.

94. How much voltage does IFD Series of Navigators require? (Updated 5 January 2015)

The IFD Series of Navigators is powered from 11 – 33 VDC. Note that 16W radio options require 28VDC power bus.

95. For which Aircraft will the IFD Series of Navigators be certified? (Updated 27 December 2016)

Avidyne has an Approved Model List (AML) STC for installation of the IFD Series of Navigators. It includes more models than Garmin's AML for the GNS 400W/500W Series products. Avidyne has ANAC and EASA validation for the IFD Series of Navigators.

SERVICE AND SUPPORT

96. What is the IFD Series of Navigators warranty story? (Updated 27 December 2016)

For new sales, the product will come with a 1 year standard warranty, an additional 1year when you register your IFD on www.myavidyne.com as well as an option to get 2 years of Aeroplan Extended Warranty for free if you sign up within 30 days after installation. A grand total of 4 years of free warranty is available.

The following is a link to the standard warranty coverage description: http://www.avidyne.com/support/warranty.asp

We have also published the out-of-warranty flat-rate repair pricing for the IFD4XX and IFD5XX at: http://www.avidyne.com/files/downloads/warranty/Avidyne_OutofWarranty.pdf

97. If my IFD Series of Navigators system needs service, what do I need to do? (Updated 5 July 2012)

In many cases, IFD Series of Navigators will tell you what is wrong. Through the extensive human-readable diagnostics that are available, you and/or your avionics shop are able to very quickly diagnose a problem and identify any part that may need replacement. Your quickest path to service is via your Avidyne Dealer or Service Center.

98. Is there any data logging in IFD Series of Navigators that I can get access to? (Updated 5 July 2012)

Yes, quite a bit. Each IFD has a data recorder provided at no charge. While you can access much of the data, the data does remain the property of Avidyne. Flight logs are available for download via the front USB port during ground operations. The type of data available is described in greater detail in the IFD Series of Navigators Pilot's Guide.

99. How do I get software updates for IFD Series of Navigators? How will I know they exist? Will there be a charge? (Updated 27 December 2016)

With very few exceptions, all software inside the IFDs is capable of being updated via the bezel USB port. This means the IFD does not need to be returned to the factory for any future software updates. Any shop that holds a repair station certificate, an A&P, or an Experimental Aircraft owner with log book signoff authority can perform the update. They will of course, have to follow the provided Service Bulletin explicitly and mail/fax/email back in the completed update sheet that is part of the Service Bulletin but we don't restrict this to just Avidyne dealers. We are using a number of overlapping means to notify owners that a software update is available, the nature of the update, if it is considered mandatory or optional and if there is a fee associated with the update. Some new features should be expected to come with a fee but other sustaining engineering type of software changes may be no-charge.

Releases made so far, include:

- Release 10.0.0.0 – initial release, certified in July 2014.
- Release 10.0.1.0 – contained improvements to GPS code, data logging and IFD5XX-G500/600 integration, certified in August 2014.
- Release 10.0.2.0 – addressed the following SILs and certified in November 2014:
    - 606-00182-002 429 Traffic Resets
      606-00182-003 Freq List Resets
      606-00182-004 GPS Position Fix Loss
      606-00182-005 MapMx Integration Issues
      606-00182-006 G500/600 Integration Issues
      606-00182-007 Fuel Totalizer Issues
- Release 10.0.3.0 – addresses an issue with scrolling flight plans, EGNOS support, GPS reset issues, improved GPS datalogging, 8.33 kHz VHF tuning improvements, DME improvements, and Weight-on-Wheels improvements for ADS-B transponder support and certification was achieved in early Feb 2015.
- Release 10.1.0.0 – a major software release that added over 50 new features or changes to the system as well as being the initial release of the IFD4XX. It was certified in June 2015.
- Release 10.1.1 - minor release contained 23 improvements, certified December 2015
- Release 10.1.2.0 - minor release contained improvements to ConUS Radar display code from the SkyTrax100 (MLB100), certified March 2016
- Release 10.1.3.0 - a minor release contained improvements to GPS code, certified June 2016
- Release 10.2.0.0 - a major software release that added over 70 new features or changes to the system as well as being the initial release of the IFD550, IFD545, IFD510, IFD410. It was certified in January 2017.

TRAINING QUESTIONS

100. Is there training that I can read for this product? (Updated 27 December 2016)

Avidyne has developed information material, videos and PIREPs of the IFD5XX. Many of these have been posted on Avidyne Live, www.avidynelive.com, www.IFD5xx.com and www.IFD4xx.com. Avidyne has also partnered with a Master CFI to conduct and produce training for customer. Their information can be found here http://pilotsafety.org/Avidyne.html; additional information here http://ifdlearning.com/.

All IFD Series of Navigators documents are available at:
http://www.avidyne.com/support/downloads.asp?prod=ifd

101. Is there a simulator for IFD Series of Navigators? (Updated 23 June 2015)

Avidyne has released a Windows-based simulator for IFD5XX which can be downloaded at: http://www.avidyne.com/products/IFD5xx/demo-sim-signup.asp. An iOS7 or later version of the simulator for the iPad2 or later has also been released and is available for download, free of charge from the Apple App Store. The IFD4XX version of the iPad simulator is also available.

PRICING

102. How much will the IFD Series of Navigators cost me to install? (Updated 27 December 2016)

This depends on what configuration you are starting out with and what you want to end with. If you are replacing a GNS530W then it will be very quick. It would be time to pull out the 530W, slide in the IFD5XX, test out the interfaces and add entries in the aircraft log book. This is true for a single or dual 530W replacements.

If you are not replacing a GNS530W then it will take about the same amount of time as it would take to install a GNS530W if you have a GNS530 it will take about the same time as doing the 530W WAAS upgrade.

The same holds true for the IFD4XX and GNS 400/430/430W variations.