



# Illinois Valley Beacon

December

Chapter 563 Chartered in 1976

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## Seeing Traffic, Obtaining Weather

By Steve Bonfoey

I've always wanted a better way of guarding against traffic and I purposely bought an airplane with the Garmin GTX-327 1090 MHz transponder. I sent this transponder to Garmin and they upgraded it to the GTX-330, a unit that supports TIS (Traffic Information Service). As you travel across the country air traffic control "Center" can send their radar traffic information to the GTX-330 and it will display on your GPS unit. That's called TIS. I have the Garmin GNS-430 GPS and when I'm near Chicago traffic appears on the GPS display screen about the same time as I get an advisory from Center.

TIS system is an old system and is being replaced by ADS-B but it's still operative around Chicago and around areas of heavy traffic such as Florida and the east coast. TIS is not ADS-B and you probably don't want to spend money on it, it's being phased out, but it was the cheapest and at the time, the only way for me to get in the game.

Last year I was able to upgrade my transponder again, this time to the GTX330-ES and that upgrade makes me compliant with the January 1, 2020 requirement for ADS-B Out. This transponder takes information from my GPS and sends it out to both FAA ground stations and to any aircraft equipped to receive my 1090MHz data. I want ADS-B Out because the FAA ground stations use my transmissions to identify my aircraft's location and return the location of other airplanes in my immediate vicinity.

A digression: The FAA recommends transmission of GPS data (ADS-B Out) on 1090MHz for high flying aircraft and 978MHz for low flying aircraft. For GA people they urge the use of 978MHz. By chance I wound up with the 1090MHz but that's perfectly legal and it has an advantage because my outbound signals not only go directly to the FAA ground station but also go

directly to commercial (read airline) traffic. If you have the 978MHz transmitters, your signal will only be received by the FAA ground station and they then relay it to commercial aircraft 1090MHz receivers.

We now have limited traffic advisories, TIS, on our GPS screen and we're sending stuff out from my transponder but not receiving anything from the FAA ADS-B ground stations. They now know where we are but we don't have a way to receive their ADS-B IN traffic info and we can't get their weather information. To solve that reception problem I bought an iPad and the Sagetech Clarity SV ADS-B In receiver. Total cost for iPad and Sagetech receiver was about \$1700.

The Sagetech Clarity SV receives both 978MHz traffic and weather info from the FAA ground stations and also receives 1090MHz traffic from the modems of those high flying airliners. The Clarity receiver relays that traffic information with a built-in Wi-Fi to the waiting Apple iPad. So when you start your iPad up in the cockpit you connect it with the Clarity Wi-Fi network. Of course you also need software on the iPad to interpret the Clarity's info and in my case that's WingX.

During a couple of long trips this year I've been disappointed with the traffic function. Out west it appears that many of the FAA ground stations are still being built. I do get good traffic info around Chicago, although it disappears as I go north into Michigan, and I'm sure it works around Florida. It may be a little hit and miss, I've had an airliner directly above me which did not appear on the TIS GPS display nor on the iPad.

On the other hand during a recent trip to Michigan I was startled to see the iPad displaying an airplane directly underneath me. The FAA ground station was receiving transmissions from my transponder and the Clarity/iPad combination showed my position on the iPad display as de-

scribed by that FAA ground station. Meantime the iPad's GPS was also following my flight path and also plotting it on the iPad's display. One was on top of the other.

#### **Battery life and heat.**

Both the ADS-B receiver and the iPad can be battery powered and I've read reports of the iPad shutting down in flight, probably due to heat. There's a lot going on in there. The ADS-B receiver I use, the Sagetech Clarity SV, has a reputation for becoming very hot and the unit will shut down if it exceeds design temperatures. Recently Sagetech responded to complaints and sent sun umbrellas that fit over the top of the unit and they plan to release a small fan.

Dick Barthel wise'd me up when he pointed out the obvious -- a battery produces heat. If we had a steam engine sitting on our instrument panel and producing power, no one would be surprised to see smoke from the exhaust stack, escaping steam, and a red hot boiler. Using a lithium battery to produce the same power from chemical reactions in a tight little container can produce hot surfaces. The solution is to plug both iPad and ADS-B receiver into the instrument panel cigar lighter and bypass their internal batteries. Take your electrical power directly from the aircraft alternator. By chance I had always done so and temperatures in the iPad and ADS-B receiver, even before the umbrella, have never been problem.

#### **Cockpit mounts for the iPad.**

I tried one on the control wheel and didn't like it. I use a suede cover for my iPad that won't slide off my knee. If the sun washes out the screen I can move it and I can toss it aside when it is not needed.

#### Enroute

We downloaded Duat info for the airports and weather systems along our flight path before we left the FBO and WingX immediately organized it for us. Now, as we cross the country the FAA provides updates to the Duats data via 978MHz. WingX advises us if the weather appearing on the iPad is old Duats weather or current ADS-B Duat weather. I believe all of the information you can get from flight weather briefer is available via ADS-B and it is presented in clearly understandable language and graphic displays and is well organized

for your flight.

If the iPad display becomes cluttered with traffic from airline 1090MHz transponders, a WingX option will filter out airplanes 3,000 above you and 3,000 below. The FAA filters traffic too, sending you only aircraft within a radius of 15 miles and +/-3500 feet. (That's why they want to know where your are.) WingX won't block out FAA transmitted traffic at 15 miles but does block FAA traffic depictions beyond its +/- 3000 foot band.

Resuming our flight, your WingX app on the iPad shows your airplane traveling your planned route and the WingX GPS provides a TAWS or Terrain Awareness Warning System. If you are flying down a mountain valley WingX warns if the surrounding mountain peaks are above your altitude. Prior to departure, on the route planning page, it showed segment by segment, whether your planned course and altitude would get you over or around those mountains.

As you fly along the moving map on the iPad is showing, based on ADS-B, which airports are VFR and which are IFR and it changes their classification as conditions change. The background map is either the VFR or IFR map.

Touch the iPad screen over an airport and you can call up the current airport weather or you may add to or remove it from your planned route. You can also get the runway diagram and the TERP approach charts.

As you approach your destination airport WingX advises you of the descent rate in feet per minute to descend to the airport.

Ever struggle to advise Peoria Approach of your present position before entering Class C airspace? On the WingX moving map page touch the lower left corner and it will tell you. "Twenty miles out on the 200 degree radial from PIA VOR".

#### End

Enabling data sharing with FAA ground stations is the objective of NextGen. By January 1, 2020 your transponder must be capable of obtaining your GPS data and transmitting to FAA ground stations. To make that investment palatable to us, the FAA is giving us weather and traffic info. That's the deal. At the rate computer technology is going, inexpensive solutions for the

ADS-B Out transponder may be available by 2020.

I'd advise you to go ahead and buy the iPad, WingX or some other software, and a compatible ADS-B receiver today.

## A DIGITAL COCKPIT



This is a shot of the cockpit in the OneX. What a change from the C-150. All the engine operating instruments are displayed in graphics and numbers and the GPS, navigation, and flying instruments are also all on the one digital panel. Over on the right is a Nexus 7 Google tablet operating an Android system and the application shown is Avare which is free and gives you all the charts published both VFR and IFR. The built in GPS takes care of the navigation. Another free application called In-Flight provides a backup artificial horizon with altitude, airspeed, and heading.

The Nexus is battery powered and plugged into the 12 v. panel source. The only thing I'm lacking at this point is a transponder and an ELT. I didn't know that an ELT is not required in a single place aircraft and it's not required in any other experimental aircraft during the 40 hour test fly off. The certification inspection was done by Stephanie Williams from the Springfield FSDO and went very well. She was most accommodating and wanted to schedule it before I was ready. I didn't expect that. Of course one of the good reasons for using the FSDO is, it's free. It's the one time the FAA can't charge for their services. N2107X is now an official airplane.

## Pilots N Paws

<http://pilotsnpaws.org/>

By Steve Bonfoey

If you'd like a reason to fly an organization called 'Pilots n Paws' (PnP) would like to hear from you. They operate a well designed web site and organization assisting dog rescue organizations transporting dogs across the U.S. I learned about them from a newspaper account in the Journal Star recounting a trip by a pilot in Morton who assisted a couple whose dog was placed in a kennel after the two of them were hospitalized following a car accident.

My first trip turned out to be for a blind Border Collie who had been sent to a foster organization in Canada. When the dog was not adopted the original owner, in Owensboro Kentucky, asked PnP's help to get the dog back so she could give it a home for the rest of its life. I was about the fourth person in the chain.

Volunteers first took it from Canada to Minneapolis by automobile. Last Sunday another volunteer took it by automobile to Chicago. Andrew James received the dog and would have flown it to Peoria on a VFR night flight but weather made it advisable to drive and because Andrew had a class at Lewis University the next day, he delivered it to us about 10:30 pm Sunday evening.

Border Collies are very smart dogs with a lot of energy, both of which became apparent. We kept the dog for three nights and it quickly located the walls and furniture. When introduced to my car it jumped in easily but since the dog didn't know how far the drop was I had to lift it out to the ground. When we walked I was the 'seeing-eye' human and discovered you had to be careful around sewer grates, the dog, 'Koda' was attracted by the odors but its feet, all four of them, fell through the grates. Strong dog, could have been a sled dog. As time went on Koda took charge of our walks.

When you fly for this organization the distance is up to you. In your profile you specify the maximum distance you are willing to fly and whether or not you can provide temporary shelter for the animal. Since you pick the weather, VFR and IFR are equally acceptable. The size of

the animal and the number of animals you transport is up to you. The organization attempts to weed out those who would take advantage of you for free transportation and in, my experience, those receiving your help need it and are grateful.

I have a dog transport crate suitable for dogs 20 to 30 lbs or less and with some effort it would fit on the back seat of my C172. It would not fit thru the baggage door. Koda could have been forced into it but I decided not to use it. I covered the back seat with a thick rug and used a car harness called "Easy Rider" which attaches to safety belts or other restraints and Koda slept on the back seat through the two hour trip.

## MINUTES OF EAA 563 BOARD MEETING November 21st 2013 at the Chapter Hanger

Meeting called to order by President Sam Sisk at 6:59 pm

Those Board Members in attendance were Sam Sisk, Jerry Pilon, Al Phipps, Morrie Caudill, Jeff Meyer, Bob Young, Al Phipps, Greg LePine, Rob Meyer and Donald Wolcott with three chapter member in attendance.

### Secretary report:

The October Board Meeting minutes were read, motion made to accept by Jerry, seconded by Bob and approved by voice vote.

### Treasurer's report:

Jerry Pilon provided a report on month to date and year to date income and expenses. Motion to accept by Don, seconded by Bob and approved by voice vote

Membership Committee: One new member

### Publications: No report

Program Chairman Jeff Meyer stated that he will provide a DVD to show for the January Membership meeting. The videos have been well received in the past.

### Property and safety chair:

Greg stated that the sink has been removed from the end cap and the pigeon hole cabinet will be

next.

### Public Relations:

no report

### Youth outreach:

Chair Rob Meyer stated that no one has stepped forward to volunteer to help with the leadership of the Explorer Post and this presents a great concern as to the future of the Post.

### Donations:

Greg stated the Dean Frye has donated a Gull Wing Ultralight to the chapter and has been listed on Ebay for sale.

### OLD Business:

Sam stated the Jerry Peacock has donated a Dave Clark headset to be sold thru a silent auction at the Christmas party.

Jerry Pilon reminded us that the Chapter Christmas Party will be the evening of Dec 6<sup>th</sup> at Suzanne's and he will be firming up the food offering for the party.

The Financial Audit Committee has been formed. This committee is made up of Dave Cook, Kent Lynch and Dick Barthel and Jerry Pilon They will set the dates of their meetings and will start the audit after Dec 31<sup>st</sup>.

### New Business:

Greg has talked with a teacher at Washington Grade School and will invite the kids from the science class for a Young Eagle event in the spring.

Rob Meyer talked with Steve Bonfoey and Kent Lynch about forming a committee to recommend to the board how the Chapter could provide an ongoing scholarship program for young people wanting to further their education in the aviation field. This committee will report back to the board with their recommendations.

Meeting adjourned at 8:00

Respectfully submitted:

Your Secretary Donald Wolcott

Guys and Gals,

I am happy to say that we have our Christmas Party booked. See the info below this E-Mail which is a new page on our Web Site. Simply go to our Web Site and notice the temporary Christmas Party Link (flashing).

On that document is a link to the Restaurant's Web site as well. I am looking forward to the party and the great Restaurant.

Jerry Pilon

Well it's time again for our annual **Christmas Party**. We are particularly excited about the event this year because of the choice of restaurant.

The following is what we know as of this date Sept. 26.

**Place:** SAZANI'S Steak and Pasta House 7327 N Galena Road (Old Jill's)  
Peoria, IL 61615 PH: (309) 691-3416 [www.sazanis.com](http://www.sazanis.com)

**Date:** Friday December 6, 2013

**Time:** 6:30 Cocktails, Dinner at 7:00-7:15

**Menu:** We will be eating in the fireplace room which is very nice. The food choices will be from a great buffet which will include RIBS, CHICKEN, FISH, GREEN BEANS WITH BACON, POTATOES, PASTA, DESERT, AND SOFT DRINKS. (more items as well)

**Price:** \$10.99 per person. with tax and tip it will be around \$15.00. (Alcohol Bar drinks not included)

I have eaten at this great restaurant on more than one occasion. Other Chapter members have eaten there as well. We can assure all of our members that the food is nothing short of excellent. Check out their web site. [www.sazanis.com](http://www.sazanis.com)

Jerry Pilon

EAA Chapter 563  
November 14th, 2013 Chapter Meeting Minutes

President Sam Sisk called the meeting to order at 7:04

Secretary Report: Don read the minutes from the last board meeting

Treasurers report: Jerry Pilon presented the treasures report showing both month to date and year to date numbers. Motion to approve by Dick Barthel seconded by Marty Martin approved by voice vote.

Membership Chair Morrie Caudill reported there were currently 54 paid members.

Program chair Jeff Meyer reported that there will be a video for the January meeting the title of which will be provided at a later date.

Publications Chair: No report

Special Events Chair: No report

Youth Outreach Chair: Rob Meyer discussed how the Explorer post is progressing. Some of the parents of the Explorers are stepping up and volunteering to help with the running of the Post. Rob stated that he was very appreciative of the help. Rob also discussed some of the projects and trips that are in the planning.

Donations committee: Greg LePine reported that Dean Fry had donated two projects and a trailer to haul one of the projects in to the Chapter. One of these projects, a Gold Wing Ultralight was on display for the members to see. Greg stated that the trailer need new tires before it can be safely used. After discussion as to what to do with the projects Rob Meyer made a motion and seconded by Steve Bonfoey to put the Gold Wing project up for sale on Ebay. The decision as to what to do with the proceeds will be discussed at the next board meeting.

Jerry Pilon stated that he has put a button on the Chapter web site for those wishing to attend the Christmas party to be able to let him know if they are coming.

Sam Sisk stated that Jerry Peacock will be donating a David Clark headset to the Chapter. Sam felt the best and fairest way to sell this to a chapter member was to have a silent auction for the headset at the Christmas party.

The Chapter budget for 2014 was presented by Jerry Pilon. After discussion a motion to approved was made by Dick Barthel and seconded by Steve Bonfoey. The motion was approved by voice vote.

Sam Sisk presented the slate of officers and directors for 2014 as provided by the nominating committee. He asked if there were any additional nominations from the floor. Hearing none a vote to approve the slate was taken and approved by voice vote.

You 2014 officers and directors are as follows:

President	Sam Sisk	Vice President	Steve Bonfoey
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Secretary	Donald Wolcott	Treasurer	Jerry Pilon
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Class II Directors Morrie Caudill, Bob Young, Rob Meyer, Jeff Meyer and Greg LePine

Ron Wright submitted the invoice for the cost of selling the Vari Ez on eBay for \$134.

A motion to adjourn the meeting was made by Al Phipps and seconded by Dick Barthel and approved by hardy voice vote.

Respectively Submitted;

Your Secretary Donald Wolcott



DECEMBER 2013  
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SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7 First Breakfast
8	9	10	11	12 Directors Meeting	13	14
15	16	17	18	19	20	21 Second Breakfast
22	23	24	25	26	27	28
29	30	31	1	2	3	4

The Regular Chapter 563 meetings will be held at the Chapter Hangar at 7:00pm on the second Thursday of each month.

All Chapter 563 breakfasts will be held at the Chapter Hangar from 8:00 am to 10:00 am on the first and third Saturday mornings.

The Chapter 563 Directors meetings will be held at the Chapter Hangar on the third Thursday of each month at 7:00pm.