

LORAN TO GPS & BEYOND

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I STARTED TO THINK ABOUT REPLACING MY 1980 TI-960 LORAN WITH A GPS IN 1999 when I found that I could no longer get the IFR-certified Loran repaired, and had already exchanged it once for a unit my avionics shop had pulled out of a helicopter. I looked at the Garmin 430 and Apollo/UPSAT GX60. I really liked the upgrade and exchange programs Apollo ran in the past and wanted eventually to install an MX20 MFD, which played well with the GX60, and upgrade to a WAAS-capable GPS.

So I paid my money and took my chances installing an IFR-certified GX60. I felt good knowing there would be a generous trade-in policy when I wanted to upgrade to the UPSAT WAAS-certified CNX80 that was under development.

FAST FORWARD TO 2004. UPSAT was purchased by Garmin, the CNX80 became the GNS480 and those liberal trade-in policies disappeared under the Garmin marketing jug-



Caption to come

ernaut. So I went to Sun 'n Fun, Oshkosh and every Garmin seminar I could find about GNS530 vs. GNS480.

Every Garmin salesman said you want a GNS530, as the GNS480 is just too hard to program. But I persevered because I knew the MX20/GNS480 interface was seamless and I still really wanted an MX20. It got so bad that at the Garmin booth at Sun 'n Fun, I had to prove to the Garmin rep I could program a flight plan in the 480 faster than he could in a 530.

What put me over the top was when Garmin announced yet another delay in the release of the WAAS upgrade for the GNS530. (*WAAS is now available with the GNS530W—Ed. Note*) I decided to install a GNS480/MX20 to replace my GX60 and aging Collins 251/351 com/nav, upgrading my audio panel and transponder at the same time.

A SEARCH FOR AN AVIONICS SHOP. I had been happy with two local shops for maintenance and went to them first for quotes. As two friends of mine had used a shop in Pennsylvania for major upgrades and were pleased with both price and service, I flew to Perkiomen Valley Airport and met with Dave and Pete at Penn Avionics. (Penn Avionics has moved to Brandywine, PA N99 <http://www.pennavionics.com/>)

I was impressed by Penn's operation. Not only had they done hundreds of Bonanza upgrades, Pete, the owner, flew an A36. The shop was complete from an automatic harness machine to a laser CNC for cutting out my new panel. To top it off, the price was right. Since both buddies had experienced minimum squawks, I was not as concerned about using a shop an hour's flight away.

THE FUN PART BEGINS. Working closely with Dave, we planned out the new panel. He had a number of recommendations, including PS Engineering's PMA8000 for my audio, WSI for datalink with my MX20 and a GTX 330 Mode S transponder with TIS.

After reviewing the options, I decided to go with a PMA8000 and GTX 330 but chose the GDL69 with XM Radio's WxWorx for datalink weather. I had seen a Garmin demo using the MX20 and the GDL69. It looked really slick and XM Radio's two-tiered subscription price was more economical and simpler than WSI's annual plans.

We decided to replace my old floating panel with a new one from Beech that Penn would cut on their CNC equipment to accommodate my new and old instrumentation.

We were all set to go until the FAA announced it was decommissioning TIS at a number of approach radar sites that were being upgraded to new equipment, and eventually there would be no TIS uplinks as ADS-B came on line. Here I was about to spend five figures on equipment that's about to become obsolete.

A quick call to Garmin AT confirmed that I could install GDL90 and get ADS-B for weather and traffic. The only drawback: It was only available in the Southeast and a few other



Before



After

spots around the country, and they weren't sure what the FAA's plans were to complete the national rollout. And oh, by the way, it would be about an extra five grand for the GDL90. Ouch!

After I made a number of calls to Dave, friends and the folks at Aviation Consumer, I decided it was too early to adopt ADS-B and, since most of my flying was in the Northeast, I would have TIS at least into the next decade. I went with the original plan.

I dropped N6024A off at Penn Avionics just before Oshkosh into the good hands of Dave and Chris with assurances that they would take good care of her. Dave gave me regular updates and—except for a few minor adjustments—my upgrade was installed as quoted.

The only mistake I made was going to Oshkosh while the plane was in the shop. As I walked the exhibit halls and talked to exhibitors, I would immediately call Dave to ask if we could do this or add that. After about the third or fourth call, Dave said, "I *knew* this would happen." So I promised not to call again until I got back from Oshkosh and his headache got better.

PICKING UP N6024A. After all the oohs and aahs, Dave walked me through the new panel and showed me how everything worked. Then it was time to fly home. Well, wouldn't you know it! In the distraction of powering up and programming all my new toys, I must have forgotten to latch the door because it popped on takeoff. Fortunately, N6024A flew like a good Bonanza and I made one circuit in the pattern, landed, latched the door and was on my way home with a great new panel.

Subsequently, I returned to Penn for a one-day training session by Judy Cadmus of Avionics Training Unlimited, which was well worth the cost and ensured that I am able to get the most out of my new panel for many years.

MY NEW PANEL GETS BAPTIZED. I recently flew a series of trips over a three-day period that involved transversing a warm front, a cold front and the backside of the low, requiring dealing with low IFR, thunderstorms, icing, snow and freezing rain.

The first leg from Chester, Connecticut (KSNC), to Caldwell, New Jersey (KCDW), was an early morning VFR flight when the low pressure was winding up over Quebec and the warm front was still in Pennsylvania.

The return leg that evening wasn't quite so simple. The

low had moved in and IFR existed along my entire route. After working out an alternate with flight service, I fired up and waited on the ground at CDW for a slot into the now-busy NY TRACON. With the MX20, I was able to see the weather developing from the west and into the New York area.

When my release came, I knew I needed an immediate left turn to avoid weather. With a quick handoff to ATC, I requested an immediate turn 20 degrees left for weather. I could see from the NEXRAD screen on the MX20 no further deviations would be necessary and I was able to focus on weather at my destination.

There was no waiting to listen to the ATIS as I went to the text screen on the MX20. (*ATIS may include NOTAMs and updated weather information potentially not available on the MX20, so you'll still need to listen to ATIS.—Ed. Note.*) I was able to see all the METARS along my route. I was immediately able to work out a plan on which approach I would use and the confidence that it was well within my limits. So when New York asked my intentions, I had everything set up and flew the VOR-A, circle to land Runway 17 at SNC.

The next morning I woke to a cold front draped across my route to Portland, Maine (KPWM). Once again, there was no problem staying on the warm side and out of the weather with my MX20/GDL69/WXWORX system and I ended shooting a GPS RNAV approach to PWM with vertical guidance to the MDA.

The next leg that day was over the White and Green Mountains to Burlington, Vermont (KBVT) for lunch. The cold front had pushed through PWM but the backside of the low was now bringing snow and rain showers to BTV.

Knowing the tops as shown on the MX20 gave me the confidence to go over on top and descend into BTV with a clear picture of the weather. The flight went as planned and I could see on the MX20 that the snow and rain showers were still staying west of Lake Champlain. I shot the ILS into BTV and was on the ground in time to make my lunch appointment in town.

THE BOTTOM LINE: While both flights could have been made before the upgrade, it certainly gave me peace of mind to see everything in advance and know the mission could be accomplished within my personal limits. I had numerous alternate options if I needed them. My only regret: That I had not done the panel upgrade sooner.

