



April 2024 Newsletter

### **Mike Goulian Aviation Pro Tip of the Month – Nerd out to avoid going “NORDO”**

Once again, the conga line of corporate jets aiming at Hanscom Field in Bedford, MA (KBED) interrupted our pattern work. Instead of the usual instructions to make multiple 360s, the controller told us to extend our downwind until they called our base turn. A strange quiet settled on the frequency as we headed directly for the surface ring of the Boston Bravo airspace. I called the tower to ask for our sequence and a base turn. No answer, no other radio traffic.

Tried it again, no answer, turned off squelch, no luck.

Switched to COM2, typed in the tower frequency, and tried again. I also pulled my handheld radio out and turned it on.

The tower responded: “Glad to hear from you – we lost contact with you, TURN BASE NOW!” We turned just short of the Bravo inner ring, and all was well.

NORDO is verbal shorthand for an aircraft with a two-way communications failure. Why were we briefly NORDO? What happened?

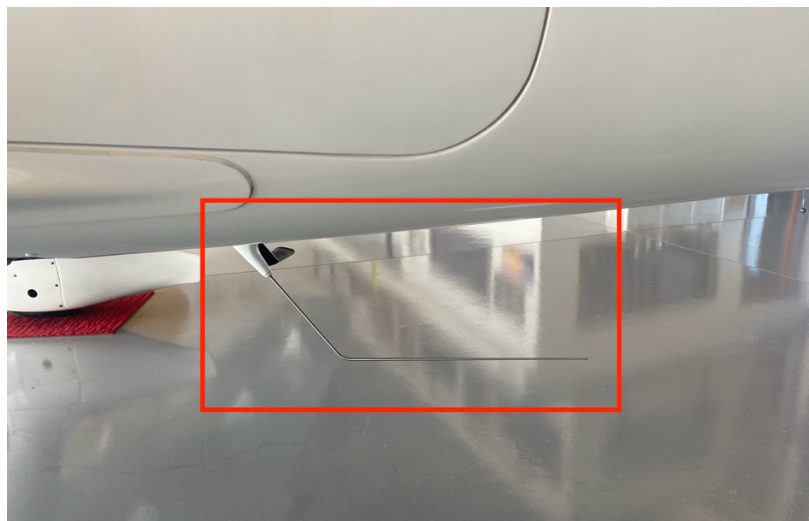
After landing, COM1 worked fine, but on our downwind at pattern altitude we had encountered an area blanketed by other antennas and very poor reception for COM1. Remember, VHF communications work on direct line of sight. Obstacles between the transmitter and receiver can block a transmission.

Why did COM2 work? And what can this episode teach us? First, realize that you need to know more than what you find in [Airman’s Information Manual](#). The [Air Traffic Controller’s Handbook](#) lists all the methods that controllers use in their efforts to contact you. They, like you, are hoping to avoid a reportable incident which happens when communication is lost for more than five minutes.

You can save yourself and the controllers trouble by understanding the details of the antennas on a Cirrus. Let’s nerd out by looking at the location of the COM1 and COM2 antennas. Notice the relative placement of each antenna on the images below:



The COM1 antenna is on top of the fuselage.





## April 2024 Newsletter

The COM2 antenna is on the bottom of the fuselage to provide a different angle of transmission.

### How your COM radios work

Your COM radios (1 and 2) are part of a redundant set of communications hubs called **GIA 64Ws** (in G6 Perspective + aircraft). The GIAs contain a GPS satellite-based augmentation system (SBAS) receiver and VHF COM, NAV, and glide slope receivers. There are two GIAs. *They are not paired and do not communicate with each other in the event of failure* as do some of the other Garmin units.

The GIAs also link all the other Garmin Line Replaceable Units (LRUs) that deliver other functions to your PFD.

### Keep it simple!

Communications failures are rare, but when they happen in busy airspace or adverse weather conditions, they can be demanding to sort out. Remember – fly the airplane first, navigate away from any hazards and to a safe altitude while you think through your options. Don't go heads down and fly into cumulo-granite while pushing buttons and pulling breakers. Think about a safe way to get the airplane on the ground so that you can identify and fix the problem when stationary.

For the sake of simplicity, we will not itemize all the commonsense things you should do to avoid going NORDO inadvertently in the first place:

- 1) Listen up and be careful with temporary volume and squelch changes
- 2) Monitor 121.5 ("guard") on COM2 when enroute
- 3) When in doubt, call for a radio check or switch to a previous frequency and report the trouble

Presuming the obvious and commonsense approaches to resolving a communications failure don't work, let's look at how to handle this abnormal situation regardless of your conditions of flight.

Here is the standard Cirrus checklist which you should use first:



April 2024 Newsletter

## Communications Failure

1. Switches, Controls..... CHECK
2. Frequency ..... CHANGE
3. Circuit Breakers..... SET
4. Headset ..... CHANGE
5. Handheld Microphone .....CONNECT

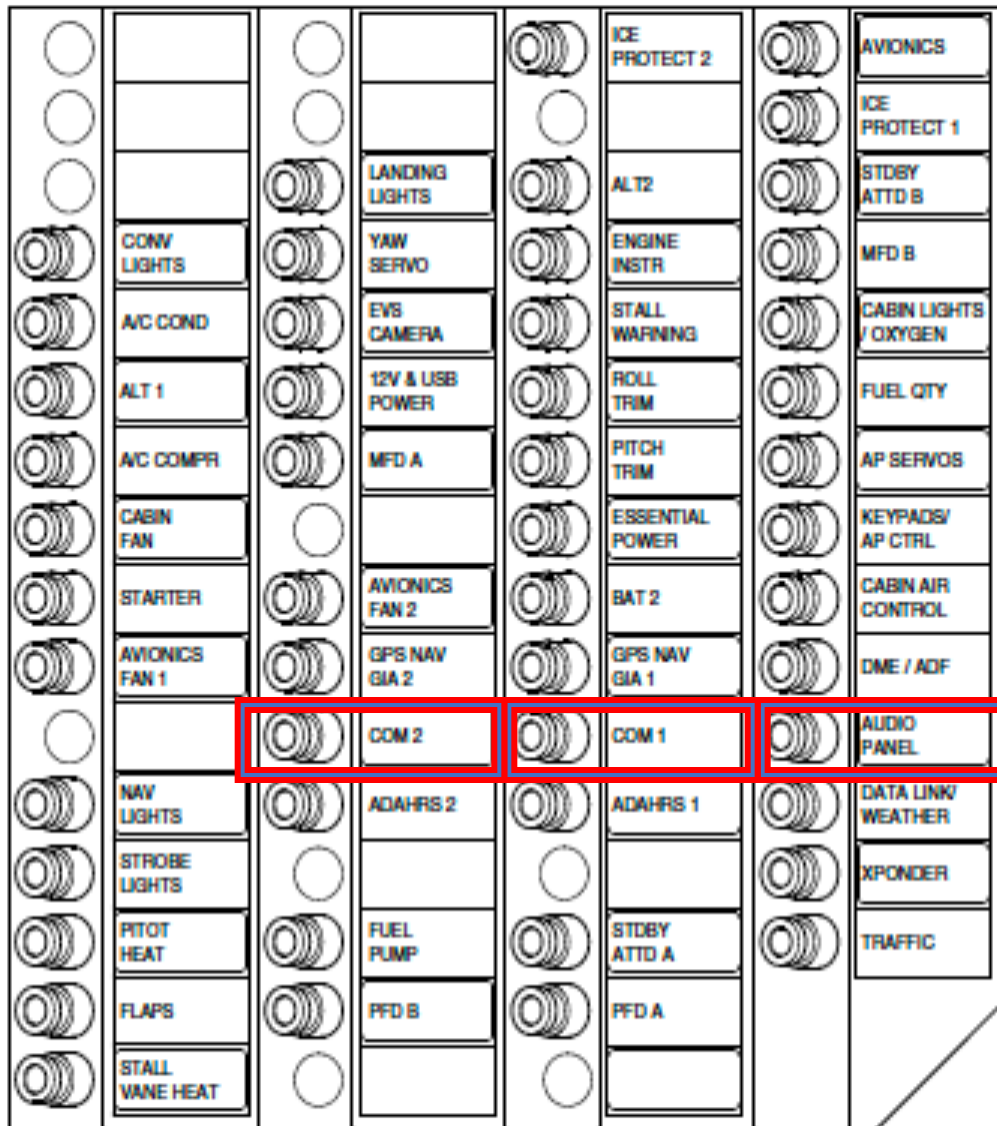
Procedure Complete

**• NOTE •**

If, after following the checklist procedure, communication is not restored, proceed with CFR/AIM lost communications procedures.

In the event of an audio panel power failure the audio panel connects COM 1 to the pilot's headset and speakers. Setting the audio panel 'Off' will also connect COM 1 to the pilot's headsets and speakers.

Here are the circuit breaker locations for COM1, COM2 and the Audio Panel.

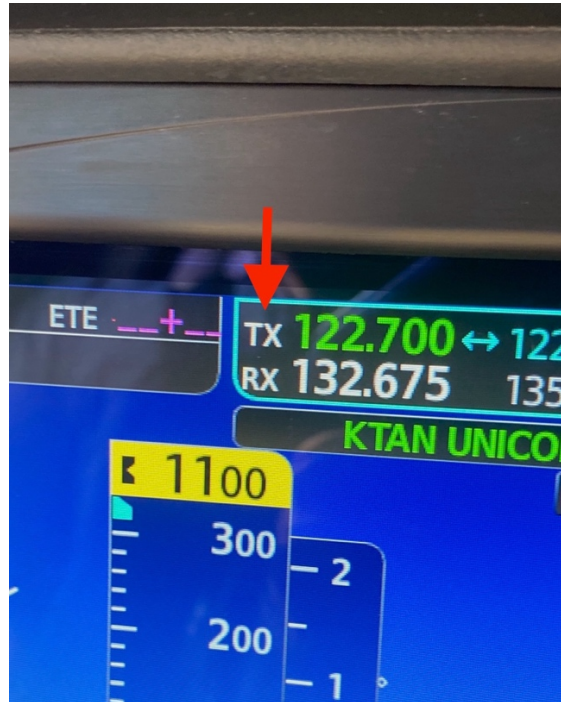


If a breaker is popped, it will show white. Reset once. If the breaker pops again, don't reset a second time.

**Troubleshooting communications**

Okay - time to further nerd out so that you can impress your Cirrus flying friends.

How can you determine that you are transmitting on a given COM radio when the mic button on the side yoke is depressed? The system displays a “TX” next to the selected COM radio on the audio panel to indicate active transmitting.



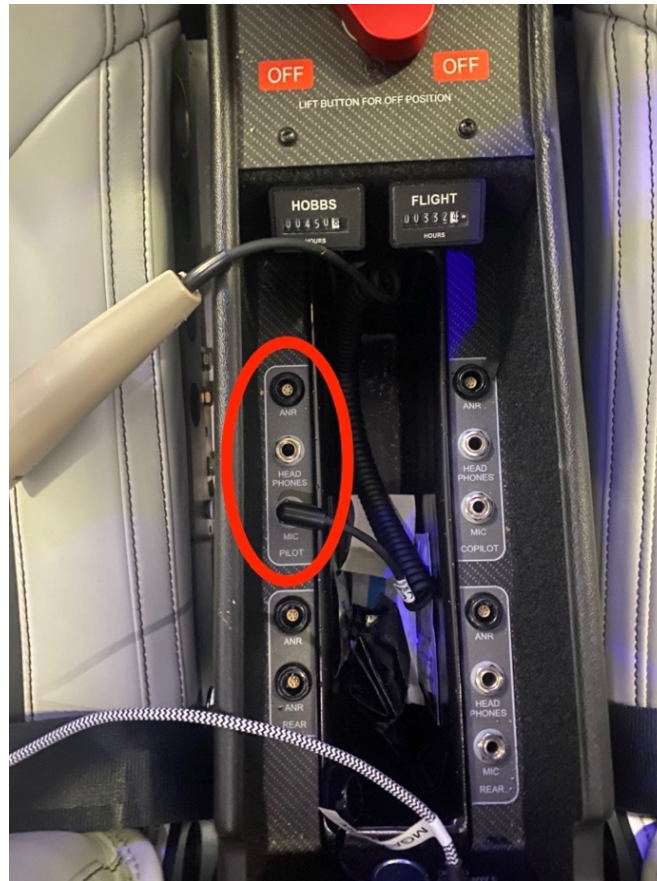
If this indication shows that you are not transmitting when you push the Mic button, and your headset has gone belly up, it is likely time to remove the headset and improvise.

### Using your handheld microphone

You may have wondered about awkward looking device floating around in the armrest storage compartment between the two seats – the one with a mic plug attached. That is the **handheld microphone** and, although it is a relic of the flying past, it can save your bacon when you are unable to communicate using any of the headsets in the airplane. Don't roll your eyes. You could be flying airplane with a [rear-view mirror](#) on the dash!



To use the handheld microphone, unplug your headset mic jack and plug the handheld into the pilot's side mic jack. Keep this changeover simple by turning on the overhead speaker using the Speaker button on the audio panel at the same time and taking off your headset.



It is LOUD in a Cirrus cockpit, so turn up the volume and when transmitting, hold the blunt end of the handheld mic close to your lips and use the press-to-talk button. When you get back on the ground, you will appreciate noise cancelling technology in your headset more than ever. Don't be surprised if you find yourself wandering around saying "WHAT?" for a while after landing.

**Note:** Cirrus has stopped including a handheld mic in its newest airplane deliveries. If you don't have one, or can't find yours, buy one. Your Cirrus flying buddies will be impressed and your Cirrus sales rep will owe you a nice lunch.



April 2024 Newsletter

### **Audio panel failure**

An odd quirk of the system is that the Audio panel itself can fail without much indication other than no annunciator lights being illuminated when you depress a button. Reminder: When the audio panel fails, it **fails safe** and will hardwire your headset (but not the cabin overhead Speaker) to COM1.

### **Using a cellphone as a backup**

If you don't have a handheld, or if it is not working, and you have a cell phone signal, call 1-800-WXBRIEF and dial the EMERGENCY option on the main menu. Flight Service can coordinate emergency assistance with ATC.

If you are one of the lucky few with a Satellite phone built into your Cirrus, you can call 1-800-WXBRIEF using that device and feel smug while doing so.

In addition to being ready for most communications problems, you now officially qualify for a Cirrus Nerd Badge. Go win that trivia competition at your local Cirrus Training Center!

Lex Crosett