

Pilots Avionics Troubleshooting Checklist

Here is a great tool for you to use before sending us your radio for repair. Just print out this page or click the checkboxes and send it online and answer the questions that pertain to your system problem. Frequently, avionics squawks have nothing to do with the avionics. It may be a problem with the installation or the user! When all the common problems have been eliminated, pack up your radio in a strong box (with at least 5 inches of packing material on all sides) and ship it to **SBS Enterprises**.

Our service Technicians are ready and able to repair virtually any piece of Flight Control or Avionics System...
at prices substantially less than factory service!

General Troubleshooting

- ☐ Check the aircraft breakers or fuses. Reset once only
- ☐ Is electrical system properly charging?
- ☐ Could water have leaked onto the avionics?
- ☐ Could a connector be loose or wire broken from recent maintenance?
- ☐ Do you hear alternator or mag noise?
- ☐ Are any antennas missing, corroded, dirty, broken, oil coated, delaminated?
- ☐ Is the problem intermittent?
- ☐ Could heat, cold, altitude or time be a factor?

Loran

- ☐ Has the correct triad been selected?
- ☐ Is manual triad mode selected?
- ☐ Verify correct waypoint.
- ☐ Is there a NOTAM of any outages?
- ☐ Are the signal and SNR levels adequate?
- ☐ Are you in a fringe coverage area?
- ☐ Is precipitation-static a factor?
- ☐ Does it have the latest hardware / software update?
- ☐ Check present position or nearest airport.
- ☐ Are there any warning or error messages?
- ☐ Is interference also affecting the ADF?
- ☐ Are you near a thunderstorm?
- ☐ Is the NAV selected to an ILS frequency locking out course deviation ?

Transponder

- ☐ Is ATC receiving both Mode-A (squawk code) and Mode-C (altitude)?
- ☐ Has the problem occurred with more than one ATC facility ?

COM / Audio Panel / Intercom ext

- ☐ Is the correct frequency active (not standby)?
- ☐ Are the audio switches set correctly?
- ☐ Is the auto mode being used?
- ☐ Is the same radio selected for transmit & receive?
- ☐ Is the volume turned down?
- ☐ Is a mic key stuck?
- ☐ Are both the headset and the speaker working?
- ☐ Do you hear your voice in a headphone during transmit (sidetone) ?
- ☐ Did ATC say they heard carrier only without voice?
- ☐ Is there background noise when in test mode (squellch off) ?
- ☐ Try a different headset or microphone
- ☐ Try emergency or isolation modes
- ☐ Are the plugs or jacks dirty, corroded or loose?
- ☐ Do all crew and passenger headset locations have the same problem?
- ☐ Does another com act the same?
- ☐ Is oxygen mic switch in proper position?

Autopilot

- ☐ Review operating procedures.
- ☐ Does it pass self-test on the ground?
- ☐ Does the autotrim work?
- ☐ Does the manual electric trim work?
- ☐ Does it engage?
- ☐ Can you overpower it on the ground?
- ☐ Do the controls lock when engaged?
- ☐ Could the cables be loose from maintenance?
- ☐ Is the aircraft out of trim?
- ☐ Is the horiz gyro precessing?
- ☐ Is gyro vacuum within limits?

- ☐ In Mode-C inop, or just reporting wrong altitude ?
- ☐ Does the reply lamp illuminate in radar coverage?
- ☐ Is the reply lamp dimmer turned down?
- ☐ Is it in the correct mode (standby / on / alt)?
- ☐ Does it recycle (power off, then on, then wait 30seconds)?
- ☐ Does test position illuminate reply lamp?
- ☐ Does turning off the DME resolve the problem?

Radar

- ☐ Does it paint rain and ground clutter?
- ☐ Is the gain turned down?
- ☐ Is the brightness turned down?
- ☐ Does it test?
- ☐ Does it display wheel spokes?
- ☐ Does the tilt work?
- ☐ Are the images smeared?
- ☐ Does it lose targets within 40 miles?
- ☐ Is the radome damaged or delaminating or leaking ?
- ☐ Is stabilization working?

DME

- ☐ Does it receive an ident code? (Listen for 60seconds)
- ☐ Is the remote channeling switch set?
- ☐ Is the display dimmed?
- ☐ Does the GS and TTS function? (Flying directly to/from but not over station)
- ☐ Is problem present on other frequencies?
- ☐ Does it test?
- ☐ Is there a NOTAM of any outages?

ADF

- ☐ Is it on the correct frequency?
- ☐ Is the unit in ADF mode?
- ☐ Does it point to the station?
- ☐ Does the needle move in test?
- ☐ Does the unit receive in ANT mode?
- ☐ Does the unit receive in ADF mode?
- ☐ Do all three frequency bands work?
- ☐ Do you hear alternator or mag noise?

- ☐ Does it hold the wings level?
- ☐ Does it hold heading?
- ☐ Do the wings rock?
- ☐ Does it response in basic pitch hold?
- ☐ Does it hold altitude?
- ☐ Does it lose altitude in a turn?
- ☐ Does it porpoise?
- ☐ Does it response in NAV?
- ☐ How does it respond on an ILS?

GPS

- ☐ Verify the correct waypoint.
- ☐ Check present position or nearest airport.
- ☐ Are at least three satellites being tracked (VFR), four satellites (IFR)?
- ☐ Is the satellite geometry poor?
- ☐ Are the satellite signal levels adequate?
- ☐ Has the unit been inactive for a few month?
- ☐ Is the hold or OBS mode selected?
- ☐ Is the NAV selected to an ILS frequency locking out course indication?
- ☐ Is there a NOTAM of any outages?
- ☐ Are there any warning or error messages?
- ☐ Does it have the latest hardware / software updates?

VOR / ILS

- ☐ Is the correct frequency active (not standby)?
- ☐ Does it receive the ident code?
- ☐ Do the needles or flags move at all?
- ☐ Can you select a reciprocal OBS course?
- ☐ Does the To / From indicator work?
- ☐ How many degrees off is the VOR?
- ☐ Does the NAV test (self or VOT)?
- ☐ Does it have 20° course width peg to peg?
- ☐ Do both NAVs have the same problem?
- ☐ Does the Localizer work but not the VOR?
- ☐ Are you close or far from the station?
- ☐ Does a change in engine rpm have an effect?
- ☐ Is the RNAV or PAR mode active?
- ☐ Is the Loran / GPS switched to the indicator?

- ☐ Is the reception better on the ground with the engine off?
- ☐ Are other radios interfering with the ADF?
- ☐ Are there thunderstorms in the area?
- ☐ Is there a NOTAM of any outages?
- ☐ Is there a NOTAM of any outages?
- ☐ Is problem present on different frequencies?
- ☐ Does VOR station position relative to aircraft have an effect?

Lightning Detection

- ☐ Does it pass self test?
- ☐ Does it display aircraft electrical noise?
- ☐ Is heading orientation functioning?
- ☐ In a turn, are the dots all in the same relative position?
- ☐ Is the brightness turned down?

Marker Beacon

- ☐ Do the lamps illuminate over markers?
- ☐ Do lamps test?
- ☐ Are the lamps dimmed?
- ☐ Is the problem solved when high sensitivity selected?
- ☐ Is the audio turned down or not selected?
- ☐ Are lights seen but tones not heard?
- ☐ Are the correct tones heard?

Pilots Avionics Troubleshooting Checklist

Your Name:

Your Email:

Your Phone No.:

Your Message:

Click on the button below to print the checklist

Click on the button below to submit the checklist by email (will be send automatically)