



Service Information Letter

SIL Number:	606-00083-015		
To:	Owners/Operators of Avidyne R9 IFD5000i		
Subject:	Potential partial loss of function		
Purpose:	This Service Information Letter (SIL) advises owners and operators of Avidyne IFD5000i with Release 9.3 of a potential partial loss of system functionality when system is configured for ARINC 429 traffic		
Revision:	02	Date:	10/14/2014

Issue Description:

This Service Information Letter (SIL) advises owners and operators of Avidyne IFD5000i with Release 9.3 Software that, under specific circumstances, a partial loss of system functionality may be experienced in system configurations with ARINC 429 traffic.

Effectivity:

Description	R9 IFD5000i
Avidyne Part Number	700-00083-000, 700-00083-001
Avidyne Software Release	Release 9.3
Aircraft Installation	ALL when configured for ARINC429 Traffic

Avidyne IFD5000i systems with Release 9.3 software configured for ARINC429 traffic (i.e., L3 Skywatch-497 or 899 Traffic Systems only) may, under specific circumstances, experience a partial loss of the functionality on one or both IFDs. In the event that the first intruder to be displayed does not report altitude data, all display and control functions on the lower half of each affected IFD will be lost, including all support of navigation and communication functions. In addition, all synthetic vision (SVT) functions, including terrain display and alerting and FLTA, will be lost. If the right (co-pilot) IFD is affected, autopilot functionality (if equipped) will be lost with an S-Tec 55X and reduced to modes that do not require interaction with the IFD on a DFC100 Straight and Level Mode, Pitch and Roll Hold Mode, and Altitude Hold Mode. If both IFDs are affected, all navigational functions are lost and comm frequency changes will not be possible. Communication on the currently selected frequency will be unaffected and the keyboard will be unusable.

Primary flight information (the PFD “upper half”) will continue to be displayed accurately, including altitude, airspeed and attitude indicators (ADI), on all IFDs. Course deviation and vertical deviation indicators on affected displays will be unavailable.



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Recommended Pilot Actions:

In all cases, basic airmanship should be exercised and fundamentals utilized such as Maintain Aircraft Control, Analyze the Situation, and Take Proper Action.

Preventive actions

- Prior to taxi, power up the IFDs normally.
- After the IFDs have completed booting up confirm the left IFD is on NAV DISPLAY tab on the PFD page. The right IFD must be on the MAP+ tab on the MAP page. On the MAP+ page on the right (co-pilot) IFD, locate the Traffic thumbnail on the upper left-hand side of the screen.
- Confirm that the Traffic System is on Standby (Ground) Mode
- Once in Standby (Ground) Mode, conduct a "Self-Test" by pressing on the right portion of the corresponding LSK button.
- Confirm that targets generated by the self-test function are displayed on *both* IFDs.
- If Self-Test is successful and the targets are displayed on both IFDs, complete your normal flight preparations. The self-test action ensures that the first intruder has an altitude associated with it, thereby eliminating this anomaly during this power cycle.
- If Self-Test is unsuccessful, further flight should be conducted only with the traffic system disabled by pulling its circuit breaker. Please contact the associated equipment manufacturer or preferred avionics shop for proper troubleshooting and repair of the system.

Corrective actions

In any case where a Partial Loss of IFD functionality as described above is experienced on both IFDs in-flight, and as conditions permit, consider the following recommended actions:

- Establish safe separation from terrain, traffic and hazardous weather, using ATC assistance as necessary. Consider declaring an emergency if in IMC.
- Seek VMC conditions, if feasible.
- If conditions permit and the airplane is equipped with a DFC100 autopilot, consider using the autopilot in Straight & Level while performing the remaining steps of this procedure.
- Each IFD is powered through two circuit breakers, both of which must be pulled in order to remove power from the associated IFD. Identify the two circuit breakers associated with the right (co-pilot) IFD.
- Cycle power to the right (co-pilot) IFD by pulling, then resetting its two circuit breakers. The screen will blank when the second circuit breaker is pulled. Wait five seconds, then reset each circuit breaker. A warm IFD restart should follow in a few seconds. This will restore full functionality on right IFD and full autopilot functionality (if equipped).

Caution: Do not allow more than 25 seconds to elapse after pulling the second circuit breaker or a full AHRS realignment may be necessary. A full AHRS realignment may not be possible in flight.

- If after cycling power, the same intruder (or a different intruder not reporting altitude) is within range and becomes the first intruder to be interrogated, the issue described above may repeat



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itself. Consider disabling the ARINC429 traffic system for a period of time to avoid displaying the offending target again, then recycle power to the right IFD to restore normal function.

If only one IFD was affected or once normal function is restored on the right IFD, consider landing as soon as practicable so that the systems can be fully reset. If possible, maintain VMC to a safe landing. If continued safe flight and landing will require any operations in IMC, use judgment to choose an airport for landing that offers the best combination of conditions (weather conditions, ATC assistance, approaches, facilities, etc.) to promote safety.

Solution:

Avidyne's software engineering team has identified the fix to this issue, which will be incorporated in the next Software release (Release 9.3.1)

Change history

Rev 00	Initial release
Rev 01	Improved mode selections in Preventive Actions
Rev 02	Adds recommendations for the case in which only one IFD is affected

Contact Information:

For any questions regarding this Service Information Letter please contact Avidyne Technical Support at:

1-888-723-7592 Toll Free US
1-781-402-7592 International Direct Dial
techsupport@avidyne.com
www.avidyne.com/support

Avidyne Corporation
55 Old Bedford Road
Lincoln, MA 01773