



Service Information Letter

SIL Number:	606-00182-002		
To:	Owners/Operators of Avidyne IFD540		
Subject:	Potential loss of function		
Purpose:	This Service Information Letter (SIL) advises owners and operators of Avidyne IFD540 of a potential total loss of system functionality when system is configured for ARINC 429 traffic		
Revision:	01	Date:	11/11/2014

Issue Description:

This Service Information Letter (SIL) advises owners and operators of Avidyne IFD540 with Release 10.0.1.0 (or earlier) Software that, under specific circumstances, a total loss of system functionality may be experienced in system configurations with ARINC 429 traffic.

Effectivity:

Description	IFD540
Avidyne Part Number	700-00182-000, 700-00182-002
Avidyne Software Release	Release 10.0.1.0 and earlier
Aircraft Installation	ALL when configured for ARINC429 Traffic

Avidyne IFD540 systems with Release 10.0.1.0 (or earlier) software configured for ARINC429 traffic (e.g., L3 Skywatch-497 or 899 Traffic Systems, Bendix King KTA-870 or KMH880, Garmin GTS 800/820,850 Traffic Systems) or interfacing with TIS-based systems supplying mode A traffic (e.g. GTX-330) may, under specific circumstances, experience a temporary loss of the functionality on one or both IFDs (dual installations). In the event that the first intruder to be displayed does not report altitude data, all display and control functions on the affected IFD will be temporarily lost, including all support of navigation and communication functions while the system performs an automatic reboot.

Additionally, if the IFD540 is coupled with an autopilot system, and configured as the navigation source, the autopilot functionality may be degraded. Course deviation and vertical deviation indicators on affected displays will be unavailable.

After this event, the IFD540 will go through a reboot cycle in order to restore all system functionality. This reboot will delete any active flight plans and active approaches. The reboot will take approximately 30 seconds.

Note: If after rebooting, 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 itself.



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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.

The following preventive actions and corrective actions are not required and do not apply to traffic systems communicating over the serial RS-232 protocol (e.g. Ryan TCAD 9900BX and Avidyne TAS 6XX series).

Preventive actions:

- Prior to taxi, power up the IFD540 system(s) and traffic sensor normally.
- Configure the IFD540 so that the traffic thumbnail is displayed along the left edge of each IFD the traffic sensor is physically wired to.
 - This configuration item is under the datablocks config settings – see Pilot’s guide for details. If it doesn’t show up in the datablock list then it is not wired to that IFD and therefore that IFD is not susceptible to this issue.
- Press the MAP key to display the MAP page on **all** IFDs the traffic sensor is wired to. When the traffic thumbnail displays “Touch for Self-Test”, touch the upper 2/3 of the thumbnail on at least one IFD the traffic sensor is wired to and wait for the test to complete.
- Confirm that targets generated by the self-test function are displayed. Make sure the self-test targets are displayed on all affected IFDs.
- If Self-Test is successful and the targets are displayed, 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.

Note: If there is a dedicated control or display head for the traffic sensor in the airplane that has an ability to command the self-test, then that is an acceptable alternative method to command self-test in the Preventative actions section above but all IFDs must still be on the Map page when that is accomplished.

Corrective actions:

Pilots should have a plan in place to properly monitor IFD performance during all phases of flight, especially in the take-off and approach phases, and a pre-planned course of action in case IFD performance becomes compromised. In the event of any loss of function, the pilot’s plan of action will vary based on the pilot, aircraft configuration and phase of flight and other factors. Taking into account those variations, the pilot should consider the following actions:

- Continuously monitor GPS integrity for suitability to phase of flight, especially when using a GPS departure or approach procedure in IMC.



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- Establish safe separation from terrain, traffic and hazardous weather, using ATC assistance as necessary.
- If the affected IFD is in use for primary nav or comm, transition to secondary, GPS or VHF Nav/Com unit(s), if available.
- Seek VMC conditions, if necessary.
- If after automatic system reboot, 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 itself. Consider disabling the ARINC429 traffic system for a period of time to avoid displaying the offending target again. (Self-test is not available in-flight.)
- When all conditions are right for a successful reboot (e.g. ARINC429 traffic disabled), allow approximately 30 seconds for the system to restore all functionality.
- 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 10.0.2.0) which is expected to be available in November 2014.

Contact Information:

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

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