Service Information Letter

SIL Number:	**606-00083-013**
To:	**Owners/Operators of Avidyne R9 IFD with Software version 9.2.4 or earlier**
Subject:	**Partial loss of display and loss of communication with keyboard**
Purpose:	**This Service Information Letter (SIL) advises owners and operators of Avidyne R9 IFD of a potential partial loss of display after unusual sequence of entries to flight plan**
Revision: 00	**Date:** 12/18/2013

Issue Description:

This Service Information Letter (SIL) advises owners and operators of Avidyne R9 IFD-equipped aircraft with release 9.2.4 software (or earlier) that, under a specific sequence of entries to the flight plan, the IFD may lose the bottom half of the display and consequently, communication with the keyboard.

Effectivity:

Description	R9 Integrated Flight Display
Avidyne Part Number	700-00083-00X
Avidyne Software Release	9.2.4 or earlier
Aircraft Installation	ALL

As described in the IFD Pilot's Guide 600-00190-000, section 10 "System Failures", a Loss of the Lower Half of an IFD may occur. Each IFD contains multiple software partitions that isolate each software function within a display. There could be a rare event that could cause a single or multiple partitions to fail without impact to other partitions. If there is a software failure in a partition that is not the PFD then the lower half of that display will go blank. The primary flight information will continue to be displayed and is valid. Due to the redundancy of the R9 system, the other IFD will continue to operate and have a fully functional display, and could utilize the hardware in the failed display (i.e air data sensors). For further information on the R9 system redundancy and dual databus architecture, please refer to your Pilot's Guide (Section 1: System Overview).

The paragraph below contains a specific example of a sequence of events that can lead to this software partition failure:

The 9.2.4 (or earlier) release of the R9 FMS will fail if the following steps are performed in sequence.

1. Insert an arrival on a destination airport that has no associated arrival or approach

2. Using the insert cursor anywhere within the arrival or immediately prior to the first leg of the arrival, replace the arrival by choosing a new transition from the dropdown menu.
3. Again using the insert cursor, attempt to open the dropdown menu to replace the arrival again.

At the point where the attempt to open the dropdown menu is made, the software partition that contains the FMS will fail and the R9 system will lose the lower half of the display. In order to avoid the failure, the user should instead delete the arrival and then insert it with the desired transition.

Solution:

If the above condition (partial loss of display) is present as a result of the entries to the flight plan as described previously, consider the following recommended actions:

1) No change in operations but be aware that the software displayed in the lower half display location is no longer available. Do not perform the same set of triggering steps on the 2nd IFD. Instead, delete the arrival from the flight plan on the 2nd IFD;
2) Cycle power to the failed display (by resetting the circuit breakers). Note that the flight plan may still contain the incorrect arrival. Once the unit reboots, the user should delete the arrival (if it remains on the flight plan) and then the flight plan will be back to a good state.
3) Land as soon as practical and cycle power to all the avionics.

Avidyne's software engineering team has incorporated a fix to this scenario in the next release (R9.3). The software change in Release 9.3 introduces new functionality and addresses the issue described on this Service Information Letter.

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

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