



Service Information Letter

SIL Number:	606-00161-000		
To:	Owners, Operators, and Installers of TAS600, TAS610, TAS620, and 9900BX Systems		
Subject:	Electromagnetic interference from Bendix/King KN-62A DME		
Purpose:	This Service Information Letter (SIL) advises owners, operators, and installers of Avidyne TAS600 series traffic systems that Bendix/King KN-62A DMEs have been observed to radiate RF energy which decreases the performance of the TAS600 series units.		
Revision:	00	Date:	12/18/09

Problem Description

This Service Information Letter (SIL) advises owners, operators, and installers of Avidyne TAS600 series traffic systems (TAS) that Bendix/King KN-62A DMEs have been observed to radiate RF energy which decreases the performance of TAS and TCAS I units, including the Avidyne TAS600 series units.

Through testing Avidyne has discovered that Bendix/King KN-62A DME radiates high levels of continuous wave (CW) radio frequency (RF) energy. When the DME is tuned to a frequency that is used by a TAS system, it radiates this CW RF Electromagnetic Interference (EMI) that reduces the sensitivity of the TAS receiver independent of whether the DME is tracking or acquiring. The TAS is not negatively impacted by the DME interrogations themselves, just the EMI emissions. Since the EMI emissions are present even when the DME is not transmitting, the DME suppression bus has no effect.

The following DME frequencies may cause degraded TAS performance:

DME Chanel	DME Interrogation Frequency	Associated VHF Frequency
57X, 57Y	1081 MHz	112.0 (57X), 112.05 (57Y)
58X, 58Y	1082 MHz	112.1 (58X), 112.15 (58Y)
59X, 59Y	1083 MHz	112.2 (59X), 112.25 (59Y)
70X, 70Y	1094 MHz	112.3 (70X), 112.35 (70Y)
71X, 71Y	1095 MHz	112.4 (71X), 112.45 (71Y)
72X, 72Y	1096 MHz	112.5 (72X), 112.55 (72Y)
73X, 73Y	1097 MHz	112.6 (73X), 112.65 (73Y)
74X, 74Y	1098 MHz	112.7 (74X), 112.75 (74Y)
75X, 75Y	1099 MHz	112.8 (75X), 112.85 (75Y)

Probing the KN-62A DME unit found CW RF energy being radiated from all gaps, openings, connectors, and cables. The opening for the connector was largest source of EMI emissions.



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Avidyne has only observed this problem with the KN-62A model DME. However, there may be other DME units that exhibit the same problem.

Solution

Avidyne offers the following options to mitigate this problem:

- 1) Avoid use the DME on the frequencies listed in the Problem Description
- 2) Shield the DME and interconnecting cables to reduce the EMI emissions. Avidyne has found that the use of copper tape over gaps in the DME unit reduces the EMI emissions.
- 3) Relocate the DME unit away from the TAS antennas and cables.

Effectivity

Avidyne TAS600, TAS610, TAS610 P/Ns 70-2420-()
Ryan TCAD 9900BX P/Ns 70-2420-()

Accomplishment Instructions:

No Avidyne changes necessary.

Warranty Information:

Not Applicable.

Contact Information:

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