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Comments on PR Docket No. 93-199
FCC 93-331 (Hereafter referred to as the NPRM)
in the matter of Amendment of Part 87
of the Commission's Rules to implement
technical requirements applicable to instrument
landing system receivers and VHF omnirange
receivers adopted by the International Civil
Aviation Organization.

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Notice of Proposed Rule Making
Adopted: June 24, 1993
Released: July 14, 1993

To the Commission:

In response to the above-referenced NPRM, adopted June 24, 1993 and released July 14, 1993; AlliedSignal General Aviation Avionics files the following plea that the Commission eliminate or revise the requirement for implementation of the ICAO standards for all ILS and VOR receivers manufactured in or imported into the United States by January 1, 1994, as it represents a severe and unwarranted economic burden on our company and the aviation industry.

We are now engaged in development efforts to design and implement hardware and software modifications to some, but not all, General Aviation Avionics' affected products in an effort to comply with ICAO Annex 10. We did not immediately start the redesign of all our affected products due to the high non recurring engineering costs (approx. \$200,000 for each product), our limited resources available to implement the design changes and the fact that our company was recently disappointed by the FAA's handling of the Mode S transponder regulations where we spent several million dollars in a crash development program only to have the FAA change its mind. Prior to the above-referenced NPRM, our intention was to design the hardware and software changes required for these products and schedule them into production in coordination with the ICAO requirement that all newly installed ILS and VOR receivers must comply with the standard by January 1, 1995. Our plan had been to have the receiver

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products currently offered in our catalog ICAO compliant and in production by the end of 1994. We then planned to work on identifying the necessary field modifications to the hundreds of thousands of receivers already in the field in an effort to come up with a modification option for our customers which would be economical (we currently estimate the modifications to cost from \$1,500 to \$2,000 in parts and \$500 in labor). It is unrealistic to believe that manufacturers of ILS and VOR receivers can engineer and test these types of changes into all affected products and procure parts and convert production in the period from July 14, 1993 (when the NPRM was released) until January 1, 1994 when it goes into effect. We do not have stockpiles of receivers on hand as we have aggressively reduced inventories to control our expenses in the intensely competitive business environment of the 90s. Responding to the first requirement date will cause significant lost sales revenue. The "free market" forces responding to the ICAO requirement for January 1, 1995 are adequate to drive compliance, and it is not necessary to constrain manufacturers with the January 1, 1994 date if all newly installed receivers must comply by January 1, 1995. The marketplace will force suppliers to provide product by a reasonable time. If all aircraft operating under IFR must comply by 1998, few operators will make an investment in non-compliant equipment in the next few years. Why not let the forces of supply and demand control the cutoff date for manufacture and importation rather than the FCC damaging the interests of the manufacturers by forcing this aspect of implementation on them? At the very least, consider moving the January 1, 1994 date out to coincide with the January 1, 1995 ICAO deadline for new installations.

The above-referenced NPRM has several adverse effects on our short-term business plan:

- The rule, if approved as is, would affect 19 different products currently in production. With the release of the NPRM July 14, 1993, the notice given by the Commission for compliance of these receivers is totally inadequate for our company to design the necessary modifications, thoroughly test the changes, procure parts and incorporate the changes into our production by January 1, 1994. As just one example, we recently experienced procurement lead times for many silicon-based integrated circuits extending from 12-13 weeks to 35 weeks ARO in the post recession economy. The sales revenues from these products represented 17% of our total sales in 1992. Loss of these revenues for even a short period of time in 1994 would have a severe negative impact on our business.

- The intent of the NPRM appears to include a class of navigation and communication equipment referred to as "hand-helds". These units are often purchased as emergency backup communications and/or navigation systems in the event of equipment failure or a complete aircraft electrical failure. Modification of these types of receivers to comply with the ICAO standards may increase power consumption and reduce battery life to the extent that these popular products would lose much of their utility to the general aviation user. This type product alone represents 2% of our sales revenues in 1992, and compliance to the ICAO standard could virtually eliminate the practical usage of this product and limit the market significantly further eroding our anticipated earnings.

In regard to the other dates for implementation of the proposed rule, our company estimates that we have shipped 190,000 radios of the types that are currently in production and which will be affected by the January 1, 1998 scheduled compliance dates for all IFR operation and the subsequent date of January 1, 2005 for all U.S. aircraft respectively. A substantial number of these receivers can be expected to be in operation at those dates, and owners of these receivers will have to replace or modify their receivers at a significant cost to be in compliance with the rule. While this represents a potentially lucrative market for our company, it places a severe economic burden on the general aviation user at a time when operating costs and other economic and legislative actions are increasing the cost to operate general aviation aircraft. The estimated 190,000 radios referred to above does not address the population of older, still functioning receivers which we no longer produce but continue to support with spare parts and technical assistance.

Regarding modification of existing receivers, the wording of the proposed rule states that receivers shall comply with the standard. If this is literally interpreted as the "envelope" of the actual radio, then modifications to allow the radio to meet the ICAO standards would have to be contained in that envelope. If the rule were amended to state that the receiver system will meet the ICAO standard, then, in theory, an "in-line" device could be provided which could be inserted into the antenna line to allow less intrusive and, therefore, less costly upgrade of existing receivers. This interpretation would address the intent of the rule without over constraining the implementation. Please note that AlliedSignal Inc. is not necessarily proposing the use of an in-line device as we believe that the specifications for such a

passive device are extremely critical. This represents a technical risk we have not yet evaluated fully and even this approach may prove economically unaffordable to the owner of equipment produced prior to the rule-making.

Conclusion

The implementation of the proposed rule represents a severe economic impact to AlliedSignal General Aviation Avionics, the largest manufacturer of the VOR receivers for the General Aviation market. The adoption of the ICAO standard for increased safety of international aviation and to meet obligations of the U.S. under the ICAO convention is not challenged, however, the first implementation date for all ILS and VOR receivers manufactured and imported into the U.S. by January 1, 1994 is excessive, more aggressive than required by ICAO and represents the Commission's attempt to force implementation of the standard without permitting free market forces to drive purchasers to order compliant equipment mandated by the subsequent implementation dates on January 1, 1995 and January 1, 1998. The issuance of the proposed rule as it stands does not allow sufficient time for the industry to react in a manner short of crisis implementation and is expected to negatively impact our competitive position in the next year. Furthermore, the rule as written may obsolete the profitable and popular hand-held receivers used by many sport, pleasure and business aviators. The cost of compliance will be significant to the industry and marketplace. A more lenient approach concerning the manufacture and importation of receivers is requested.

Regards,



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August 6, 1993