



AEROSPACE RECOMMENDED PRACTICE

ARP4102™/10**REV. B**

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Superseding ARP4102/10A

(R) Traffic Display and Collision Avoidance Systems

RATIONALE

This document has been modified so as to be compatible with all the various types of collision avoidance systems, to include TCAS, ADS-B, and systems that may be developed in the future.

1. SCOPE

This document presents criteria for flight deck controls and displays for Airborne Collision Avoidance Systems.

2. REFERENCES

2.1 Applicable Documents

The following publications form a part of this document to the extent specified herein. The latest issue of SAE documents shall apply. The applicable issue of other publications shall be the issue in effect on the date of the purchase order. In the event of conflict between the text of this document and references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

ARP4101	Flight Deck Layout and Facilities
ARP4102/4	Flight Deck Alerting System (FAS)
ARP4102/7	Electronic Displays
ARP4105A	Abbreviations and Acronyms for Use on the Flight Deck
ARP4153	Human Interface Criteria for Collision Avoidance Systems in Transport Aircraft
ARP5365	Human Interface Criteria for Cockpit Display of Traffic Information
AS8034	Minimum Performance Standard for Airborne Multipurpose Electronic Displays

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Documents
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2.1.1 Guidance may also be received from the following documents:

Advisory Circular 20-131A, Airworthiness Approval of Traffic Alert and Collision Avoidance Systems (T-CAS II) and Mode S Transponders, dated March 29, 1993.

Airborne Collision Avoidance Systems (ACAS) Manual, ICAO Doc 9863, AN/461, 2006.

Advisory Circular 120-55C, Air Carrier Operational Approval and the Use of T-CAS II, dated February 23, 2011.

2.2 Definitions

2.2.1 FALSE ADVISORY

A Resolution Advisory or Traffic Advisory given when the design criteria for issuing such an advisory do not actually exist.

2.2.2 MISSED ADVISORY

A Resolution Advisory or Traffic Advisory not given when the threat of a potential collision does exist.

2.2.3 NO BEARING TRAFFIC

A Resolution Advisory or Traffic Advisory generated by traffic from which no directional information can be derived.

2.2.4 NUISANCE ADVISORY

A Resolution Advisory or Traffic Advisory given in accordance with the design criteria, but when the threat of a potential collision does not exist.

2.2.5 OTHER TRAFFIC

Any other traffic within the range and selected altitude band of the display.

2.2.6 OWNERSHIP

One's own aircraft as represented in a traffic collision avoidance system.

2.2.7 PROXIMATE TRAFFIC

Any traffic detected by equipment onboard the ownship, that is not generating a Resolution Advisory or Traffic Advisory but is within 6 nautical miles horizontally and within ± 1200 feet vertically.

2.2.8 RESOLUTION ADVISORY (RA)

Aural and visual information given to pilots to avoid a potential collision (Emergency Condition, Level 3 ARP4102/4).

2.2.9 THREAT

Traffic that has satisfied the threat detection logic and requires a Resolution Advisory. This traffic may be beyond the altitude or range constraints of proximate or other traffic.

2.2.10 TRAFFIC ADVISORY (TA)

Aural and visual information given to pilots pertaining to the position of other aircraft in the immediate vicinity (Abnormal Condition, Level 2 ARP4102/4).