



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Alaskan Region  
Capstone Program Office

222 W. 7th Avenue #14  
Anchorage, Alaska  
99513-7587

**DEC 04 2001**

Mr. David Watrous  
RTCA  
1828 L Street, N.W.  
Washington, DC 20036

Dear Mr. Watrous: *D.A.W.*

MASPS Recommendations for ADS-B

Anchorage ARTCC has had the capability to deliver "radar-like" air traffic control services utilizing the Capstone Automatic Dependent Surveillance-Broadcast (ADS-B) system since January 1, 2001. Our operational experience at the Center may, therefore, be of use as RTCA revises the Minimum Aviation System Performance Standards (MASPS) for ADS-B.

Enclosed are two memos - the first from Robin Badger, Support Manager of NAS/Plans and Programs at Anchorage ARTCC, and the second from Ray Collins, Capstone Liaison to the Alaskan Region Air Traffic Division. These provide information to be considered, as the revised MASPS are prepared.

Please contact Robin at 907-269-1118 or Ray at 907-271-1664 if you have any questions regarding their observations and operational requirements.

Thank you.

Sincerely,

*John R. Hallinan*  
John R. Hallinan  
Capstone Program Manager

cc:  
Rocky Stone, United Airlines;  
Thomas Foster, Rockwell Collins;  
Paul Fontaine, FAA



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# Memorandum

Subject: INFORMATION: ZAN ADS-B Requirements

Date: DEC 3 2001

From: Support Manager, NAS Plans and Programs,  
ZAN-510

Reply to  
Attn. of:

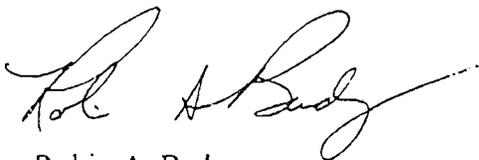
To: Capstone Program Manager, AAL-iS

Anchorage ARTCC (ZAN) has been a pioneer with the use of Automatic Dependant Surveillance-Broadcast (ADS-B) to support ATC "radar-like services" as part of the Capstone Program. Our experience with ADS-B to date has been very positive and we clearly see ADS-B as a step forward in surveillance technology. We also feel it's important to provide feedback to RTCA relative to ADS-B improvements.

Certain functionality that is supported by the transponder and Secondary Surveillance Radar (SSR) system we find are not part of the RTCA concept for ADS-B as described in the ADS-B Minimum Aviation System Performance Standards (MASPS) (DO-242). Specifically we note the following for your consideration in future versions of RTCA DO-242:

- a) IDENT: We believe it would be helpful in our current operational environment to be able to instruct pilots under ADS-B surveillance to IDENT in a way similar to pilots under SSR surveillance. This would aid us in positive identification and providing efficient service to "pop-up" flights that have not previously filed flight plans.
- b) Ability to distinguish flights under ATC control vs. one that is not: With a transponder and SSR this distinction can be made through the fact that a user is "squawking" a discrete code issued by ATC vs. "1200" respectively. We currently have no equivalent way to make this determination with ADS-B. For ADS-B we believe a pilot switch to indicate the equivalent of "Discrete code" vs. "1200" would be helpful in preventing false flight plan associations when users cancel IFR flight plans and proceed VFR. This switch would be set by the pilot upon receiving initial clearance and would be reset to the equivalent of "1200" upon canceling IFR. Since a user may wish to use the permanent ICAO address in both modes of flight, this additional indicator (switch) appears to be needed.
- c) ALT OFF: We feel it would be helpful for ADS-B to support the ability for pilots to inhibit the transmission of altitude if so instructed by ATC.

We appreciate your consideration and look forward to continued operational use of ADS-B.

A handwritten signature in black ink, appearing to read "Robin A. Badger". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Robin A. Badger

File: Capstone

WP: capzanadsb.doc

ZAN ARTCC:RBadger:ERM:X5943:12/03/2001



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**Federal Aviation  
Administration**

# Memorandum

Subject: **ACTION:** Controller Display - ADS-B

Date: December 3, 2001

From: Capstone Liaison, AAL 539

Reply to  
Attn. of:

To: Capstone Program Manager, AAL-1S

The following are controller display requirements for ADS-B 'transmitting' aircraft.  
They mirror current display requirements for Mode C returns:

- Basic data – Call sign, type a/c, altitude, speed
- Identification (IDENT) feature
- Stop altitude squawk
- Emergency
- Hijack
- No radio
- VFR (1200)
- Stand-by, i.e., no squawk

On any ATC displays, ADS and Mode A/C and Mode S are to be displayed; this includes all BRITE type and surveillance displays. Where available, radar data is to be displayed.

*Original signed by:*

Raymond H. Collins, Jr.