RTCA Paper No. 175-10/SC209-028
Summary of the Plenary Meeting #12 of RTCA SC-209
held at EUROCAE Headquarters in Malakoff near Paris as a Joint Session
with EUROCAE WG-49 for the Maintenance of the ATCRBS and Mode S MOPS
http://adsb.tc.faa.gov/SC209.htm

The meeting was called to order by RTCA SC-209 Co-Chair Thomas Pagano of the FAA ATO-P organization at about 10:30am, 15 November 2010. Mr. Pagano welcomed all attendees and asked that each attendee introduce themselves and their organization. The participants during part, or all, of the meeting included:

Yves Audineau, Rockwell Collins (WG-49)	Andre Lewis, DoD AIMS Program Office	Charles Sloane, FAA AIR-130 (phone)
Steve Barber, UK NATS (WG-49) (phone)	Roland Mallwitz, Eurocae Tech Secretary	Trevor Smith, UK NATS (WG-49) (phone)
Clyde Colbeth, NAVAIR (USA Navy)	Tom Pagano, FAA ATO-P, AJP-653	Boris Stallings NAVAIR (USA Navy)
John Fisher, FAA AIR-130 (phone)	Eric Potier, Eurocontrol (WG-49)	Bill Thedford, US Air Force consultant
Lee Foster, Aeroflex (WG-49) (phone)	Ken Reeves, L-3 / ACSS	Chris Tourigny, FAA Spectrum Engineering
Gary Furr, Engility Corp, FAA ATO-P, AJP-653	Alex Rodriguez, Rockwell Collins	Don Walker, FAA AIR-130
Martin Gray, Trig Avionics (WG-49)	Pierre Ruault, Eurocontrol (WG-49)	Kevin Wilson, Honeywell International
Greg Grozdits, USAF GATM Office	Robert "Bob" Saffell, Rockwell Collins	
Kevin Hallworth, EASA (WG-49)	Kurt Schueler, Garmin International	

1. Tom Pagano began the meeting with **Agenda Item #1** by welcoming all participants to EUROCAE Headquarters in Malakoff near Paris France. Antoine Herve sent his apology for not being able to attend the meeting. The Meeting was informed by Roland Mallwitz that Antoine Herve had sent an email asking to resign as Chairman of WG-49. Eric Potier was appointed as the new Chairman of WG-49. It was further agreed that Gary Furr would accept the position of Secretary of WG-49 and would be responsible for the production of both documents as the Joint Sessions conclude the business of producing the changes to both documents.

2. After Tom Pagano concluded his initial remarks, the proposed Meeting Agenda was reviewed as it was presented in **Agenda Item #2** and Working Paper SC209-WP12-01. Eric Potier arrived to the meeting during this discussion, and presented a new working paper which was processed and posted during the first coffee break. After Eric's arrival, further discussion was held regarding the order of Working Paper presentations. Bill Thedford also indicated that he would provide a Working Paper about additional Interrogator Codes later during the meeting. Gary indicated that the revised Agenda will be posted on the web site after the end of the meeting as Working Paper SC209-WP12-01R1. The meeting held discussions on whether to roll the letters on each Transponder MOPS document instead of issuing change documents. It is the position of the Joint Session that the proposed changes should result in the production of DO-181E and ED-73E. After sending an email to RTCA, a response was received which indicated that RTCA also prefers to produce a complete new DO-181E. Roland Mallwitz also indicated that it is the position of EUROCAE that they would also prefer to produce ED-73E and he will gain approval for skipping the "D" version from the Council. It was the position of WG-49 members that they would also prefer to jump to the letter "E" version of ED-73 in order to show that the content is similar to DO-181E.

3. Next, under **Agenda Item #3**, the Meeting turned to Working Paper SC209-WP12-02 as presented by Gary Furr as the Summary of Joint Meeting #11, which was held at the facilities of RTCA in Washington DC on 8 – 10 September 2010. There was no discussion on the Summary of Meeting #11 and the Minutes were accepted as published.

4. Next, under **Agenda Item #4** the Joint Session began the review of Working Papers that have been submitted as the result of Open Action Items, which were initially accepted during Meeting #11. Working Papers in Agenda Item #4 were taken in no particular order and were interleaved with Working Papers in Agenda Item #5. The presentation of a given Working Paper was dependent on the availability of certain Joint Meeting Members. The summaries below simply represent the summaries at the time of the presentation.

   4.1 The Meeting began the review of Working Paper SC209-WP12-06 related to changing the test procedures because of approved changes to the TCS/RCS commands. These test procedures have been broken up into bullets instead of text stringed together as is currently represented in the test procedures. During the review of the working paper, several editorial errors were discovered and corrected and Working Paper SC209-WP12-06R1 was produced. During the reviews of other Working Papers during the Joint Session, WP12-06R1 was again modified to produce WP12-06R2 and ultimately reviewed and revised yet again to produce Working Paper SC209-WP12-06R3. This Working Paper was finally agreed to and will be implemented into the change documents and into the integrated documents.

   4.2 The Meeting then began to review Working Paper SC209-WP12-08 which builds on change proposals that were originally made in SC209-WP11-09R1 and makes recommendations for changes to the Comm-B protocol tests to provide additional negative testing to ensure that DI Codes are processed properly and do not incorrectly modify Comm-B transponder states. There was discussion on why this change is proposed and what were we to do with the DI=4, 5 or 6. After looking through the transponder MOPS, it was concluded that we need to insert a new bullet "g" into DO-181D, §2.2.19.2.1.1 (ED-73C, §3.23.2.1) defining the requirement for DI=4, 5 or 6. Review of WP12-08 was suspended on Monday afternoon for Tom Pagano and Don Walker to review whether or not to delete the reference in DO-181D §2.2.19.1.12.4 (ED-73C, §3.23.1.12.c). When we came back to this discussion on Wednesday morning, there was a review of DO-181D, §2.2.19.1.12.4 and real-time editing of the cases for DI=4, 5 or 6. It was determined that we needed to address the changes in Figure 2-20 where box "K" was broken into K, M & N. The meeting agreed that the FAA Technical Center (FAATC) would review the test procedure in this Working Paper and make final proposals for changes to this procedure. It was agreed that whatever the final test procedure ends up to be, that the two documents will be harmonized to the same procedure. John Van Dongen of the FAATC came back to the Joint Session with some revised test procedures, which were reviewed on Friday morning and edited during discussions to produce Working Paper SC209-WP12-08R1. As the changes were proposed and reviewed, they were accepted for implementation into the Change Documents and in to the integrated documents.

4.3 The Meeting then began to review Working Paper SC209-WP12-09 presented by Alex Rodriguez of Rockwell Collins, dealing with the proposed maintenance register. This Working Paper is the third version of this maintenance Register suggestion. The initial proposal was reviewed at the Joint Session at RTCA held in September 2010. The draft of the proposed Register was reviewed again during the ICAO ASP Working Group meeting in Brussels 4-8 October 2010. All of the suggested revisions have been brought together in this Working Paper. It was discussed that during the ICAO ASP Meeting, Dan Nixon of AirServices Australia, had suggested that this proposed Register could be broadcast in an 1090ES Message while on the surface and not moving. It was pointed out that because of the SURF IA trials and the subsequent flight data gathering and analysis at the FAATC, that it would not be reasonable to expect that this could be broadcast on the surface at a low rate and that it would be regularly received. It was further suggested that the 1090ES community should review the entire issue of transmitting at a low rate on the surface because of the multi-path issues uncovered by the SURF IA and FAATC test flight data. There was considerable discussion regarding the implementation specification of several bits in the proposed Register. It was pointed out that if a vendor does not have the ability to set a specific bit, then it should be set to ZERO. This fact will be presented in a Note attached to the Register definition. The usefulness of a pure dynamic transmission rate limiting indication was considered limited due to slow sampling radar rate (once every 4-10s). It was therefore decided to leave the indication of transmission rate limiting set for 18s +/1s after it happens. This will be added to the description of the new proposed Register. The resolution of this Working Paper was in connection with the review and discussion of the following Working Paper SC209-WP12-10 from Kurt Schueler of Garmin.

4.4 The Meeting then began to review Working Paper SC209-WP12-10 presented by Kurt Schueler of Garmin, which was an alternative representation for a proposed General Transponder and ADS-B OUT Diagnostic Register. After a brief introduction of this proposed Register, there was Meeting discussion regarding the possible reserving/assignment of multiple Registers in the Register $E7_{16}$ to EA_{16} range for this issue of maintenance and analysis. It was ultimately agreed that Register $E7_{16}$ would come from Working Paper SC209-WP12-09, with E8 and E9 to be reserved, and that the definition of Register EA_{16} would come from SC209-WP12-10 with Registers EB_{16} and EC_{16} to be reserved for vendor specific information. The Working Paper proposed to include a Company ID field in the Register to differentiate the content provided by different manufacturers. However, the completeness of the referenced Company ID list (ARINC) was questioned. There was a discussion about how the Company ID list could be managed. In conclusion it was agreed that the full content of the Register should be company specific and will depend on the content of Register $E3_{16}$ which will be required to be provided together with register EA_{16}. It was then requested by SC-209 Co-Chair Bob Saffell that the respective Working Papers be revised into the standard format that was acceptable in DO-181/ED-73 and ICAO Doc 9871. The modification of these Working Papers into the standard formats resulted in the approved Working Papers SC209-WP12-09R1 and SC-209-WP12-10R1. Gary will take these Register definitions and update DO-181/ED-73 Appendix B and ICAO Doc 9871.

4.5 The Meeting then began to review Working Paper SC209-WP12-05 presented by Bob Saffell of Rockwell Collins for the proposed changes to test procedures for necessary changes because of the previously agreed changes to the documents for Register 08_{16}. During the review of the Working Paper, there were agreed upon changes which resulted in Working Paper SC209-WP12-05R1, and also some editorial changes in the draft versions of DO-181D and ED-73C. As the changes were proposed and reviewed, they were accepted for implementation into the Change Documents and in to the integrated documents.

4.6 The Meeting then began to review Working Paper SC209-WP12-15 presented by Eric Potier of Eurocontrol on the topic of 1030 DPSK Modulation clarifications. During the Joint Session in June 2010, there was a presentation of the results of a study that was commissioned by EASA in Working Paper SC209-WP11-14. This Working Paper proposes different modifications of the transponder MOPS to clarify the issue reported in section 2.1 of SC209-WP11-14 (misleading interpretation of the use of a diode detector) and to clarify that transponders should be able to reply to interrogations generated by the different phase modulators currently used by the Mode S interrogators. After discussion, it was agreed by the Joint Session that the "Notes" that were proposed in the Working Paper would be accepted to be inserted into the integrated documents and the Change Documents. The notation of the specific Notes to be implemented were captured in Working Paper SC209-WP12-15R1 and Gary will implement these Notes.

4.7 In conjunction with the discussion of Working Paper SC209-WP12-15 on the DPSK topic, the Joint Session then began to review Working Paper SC209-WP12-13 presented by Alex Rodriguez as information on DPSK phase reversal impact on the test equipment. This Working Paper addressed the impact that I&Q modulation would have on existing test equipment. **Action Item 12-01** was accepted by Eric Potier to produce a separate Working Paper during the meeting to specify the 1030 signal that would allow the manufacturers to test and report back ASAP, preferably prior to the time that the documents need to be distributed as FRAC/WC. It was agreed that if the manufacturers could not come up with any other suggestions, then the proposed Notes that are in WP12-15 will be accepted at a minimum. Those notes were marked in revision SC209-WP12-15R1. Later during the meeting, Eric came back with what was documented as Working Paper SC209-WP12-24 and at that time, the Meeting continued with the review of the Working Paper. While reviewing the Working Paper, there were suggested changes that were captured in Working Paper SC209-WP12-24R1. The production of this Working Paper was the resolution of Action Item 12-01 against Eric Potier, and an entry was made for **Action Item 12-02** against all transponder manufacturers to test their existing and newly designed transponders using this proposed test and to report back to the Joint Session as quickly as possible, such that the test can be considered to be included in the updated MOPS. It will be requested that manufacturers respond back to Gary NOT LATER THAN close of business on Monday 6 December 2010 in preparation for a Teleconference of the Joint Session to be scheduled to start at 9:00am EST (New York) on Thursday, 9 December 2010.

5. Under **Agenda Item #5**, the Meeting discussed the additional Working Papers that made proposals on issues related to proposed changes to DO-181D and ED-73C. Working Papers in Agenda Item #5 were taken in no particular order and were interleaved with Working Papers in Agenda Item #4. The summaries below simply represent the summaries at the time of presentation.

5.1 The Meeting reviewed Working Paper SC209-WP12-04 as a request to set additional bits in Register 40_{16} to ZERO (0). Gary Furr reviewed several proposed changes to clarify the setting of reserved bits in Register 40_{16} to zero in several places in DO-181D/ED-73C. Bob Saffell commented on whether or not these changes would require test procedure changes and after a review of DO-181D, it was agreed that no additional test procedures would need to be changed. Ken Reeves of L-3/ACSS commented that the proposed change to Table B-3-64 should be revised so that the bits 40-47 be discussed in bullet 5 whereas bits 52 & 53 be discussed in bullet 6. Gary agreed that these changes would be made when he implements these changes into the change documents and into the integrated documents.

5.2 The Meeting continued with the review of Working Paper SC209-WP12-07. This Working Paper deals with one of the open issues discussed during the September meeting from Working Paper SC209-WP11-10R1. Since none of the manufacturers had responded to the Meeting #11 request for their analysis, the ICAO ASP TSG was requested to analyze the proposed change. The TSG Chairman came back with a response which is included in Working Paper SC209-WP12-07. The bottom line is that the preferred solution would be no change recommended to ED-73C paragraph §5.5.8.13.3. During discussions on this Working Paper, manufacturers in the room during the Meeting indicated that each of them had run the test in §5.5.8.13.3 and had failed, and they simply reran the test and passed. There was some Joint Session discussion between accepting option #2 with a *Note*, and option #3 without doing anything. It was agreed that we would select the option #2 to add a *Note* at the end of the table referenced in the comments. The *Note* was edited starting from the option in the Working Paper and the result was captured in Working Paper SC209-WP12-07R1. It was agreed that the change will be implemented into the change documents and into the integrated documents.

5.3 The Meeting continued with the review of Working Paper SC209-WP12-17 as presented by Eric Potier of Eurocontrol detailing the issues that were not resolved during the review of Working Paper SC209-WP11-10R1 at the meeting in Washington DC 8 – 10 September 2010. During the review of WP11-10R1 after Meeting #11, Gary Furr identified the issues that were not yet resolved, and Eric has reviewed those items and expanded on the proposed resolutions in WP12-17. Some editorial changes were made during the review, which resulted in Working Paper SC209-WP12-17R1. The remaining question from this Working Paper during the meeting was the test procedure in DO-181D, §2.4.2.6, (ED-73C, §5.4.6.2) steps 7A through 7I. After thorough review of these test procedure steps by Bob Saffell of Rockwell Collins, it was determined that the test procedure steps were technically correct as written. However, a clarifying sentence was inserted just prior to the second to last paragraph in the test Step to assist in understanding that it is another sub-step of the procedure. This will solve the problem of understanding expressed by EADS originally presented in SC209-WP11-

10R1. It was agreed that Eric Potier would return the information to EADS on the changes to this test procedure. The proposed modifications that were performed to the draft DO-181D during the meeting, will be taken by Gary Furr and turned into items in the Change Document and the integrated documents will be resolved.

5.4 The Meeting continued with the review of Working Paper SC209-WP12-18 presented by Trevor Smith and Steve Barber as the UK NATS and Eurocontrol position on the expected behavior of Register 08_{16} when data is lost or a fault condition occurs. This Working Paper is based on the Working Paper submitted by Steve Barber as WP ASP09-24 during the ICAO ASP Working Group meeting in Brussels on 4 – 8 October 2010 after the discussion that resulted in proposed changes accepted for Doc 9871, Edition 2. The issue discussed is that the last valid Aircraft Identification continues to be reported by 1090ES while Register 20_{16}, currently used for Mode S downlinking of the same information, is reset to ZERO under the same conditions. SC209-WP12-18 presented some concerns about having inconsistent information available at different places within the ATM system and recommended making the implementation of Register 08_{16} and 20_{16} consistent in the event of a data source loss, and to leave to the application the decision to continue to use the previous value.

There was an extensive discussion about the need to indicate that a data is stale. It was noted that UAT is indicating that the Aircraft Identification is “not available” when the source is lost. Different options for indicating the loss of Aircraft Identification in 1090ES were investigated. One of them was to continue to transmit the Aircraft Identification, but to use another Type Code already reserved for Aircraft Identification to indicate that the source is lost. However Don Walker of the FAA certification branch was of the opinion that the timing for such improvement is not adequate.

There was also a discussion about the management of the Mode A Code. No specific requirement was found in the transponder MOPS about what should be done when the source of the Mode A Code is lost. However, it was noted that in the great majority of current implementations the loss of Mode A Code means the loss of communication with the ATC control panel which will result in some of the transponders reverting to Stand-By.

After considerable discussion, it was determined that there would be no change in the behavior of Register 08_{16}, unless or until a complete review of the implications of such a change have been taken into account by ICAO, RTCA, EUROCAE, Eurocontrol, the FAA and all other interested parties. It was agreed that there would be no change in the current DO-181 or ED-73 change documents with regards to the behavior of Register 08_{16}.

5.5 The Meeting continued with the review of Working Paper SC209-WP12-03 as presented by Don Walker of the FAA as the position of the FAA Certification Branch on the topic of how to treat the contents of Register 08_{16} if there is a loss of data, or the data becomes corrupt or stale. Don makes the point that the full reason for the Flight ID being available through ADS-B is for third party identification of aircraft. Either the controller is trying to identify another aircraft to the flight crew, or the flight crew is

trying to identify another aircraft to the controller so that you are all talking about the same third party aircrafts.

After extensive discussion, it was agreed that the Joint Session of RTCA SC-209 and EUROCAE WG-49 does not have the authority to make a decision to require a change to the way Register 08_{16} works. It was agreed by the Joint Session that a record of this issue would be maintained and reported to the respective organizations at the end of the document update process, to include RTCA SC-186, EUROCAE WG-51, the FAA, Eurocontrol and ICAO.

5.6 The Meeting continued with the review of Working Paper SC209-WP12-14 as presented by Don Walker for detailing the information that the FAA Technical Center gathered during data gathering test flights. The data in this Working Paper was gathered on different flights sponsored through the FAATC and reported on in two official reports, which were offered to be made available to meeting participants via USB memory stick. The issues that are related in this Working Paper need to be considered by the manufacturers because we need them to be aware of the real world interrogations in the Northeast corridor of the USA between now and the year 2020.

5.7 The Meeting continued with the review of Working Paper SC209-WP12-16 presented by Chris Tourigny regarding the changes that were made in DO-260B/ED-102A to indicate that the maximum squitters are 6.2 per second averaged over any 60 second interval. Chris draws attention to the presentation of a proposed change to the ICAO SARPs which was reviewed and discussed during the recent ICAO ASP Working Group meeting on 4 – 8 October 2010 in Brussels. There was a proposed change to the SARPs in order to bring them into harmonization with the changes made in DO-260B/ED-102A for the phrase "**averaged over any 60 second interval**." The need is to specify conditions where the peak transmissions are not exceeded. It is noted during discussions that the *Note* in DO-181D, §2.2.23.4 [ED-73C, §3.28.3.2] does not agree with the DF=19 language that was accepted in ICAO Annex 10, Vol. 4, §3.1.2.8.9.2. It was decided to remove the *Note* which is not really applicable to a Mode S transponder which is not transmitting DF=19. It was also agreed to have the requirement reflecting the reality of possible higher transmission rates during an Emergency situation. Therefore the 6.2 squitters per second averaged over any 60 second interval will only be applicable when there is no Emergency condition. A change was made in Section 4 of the Working Paper to produce Working Paper SC209-WP12-16R1 to indicate that an effort will be undertaken by Chris Tourigny to create a requirement for the peak transmissions that can be put into the ICAO SARPs language to be presented to the ICAO ASP Technical Subgroup at their January 2011 meeting in Fort Lauderdale, and later to the ICAO ASP Working Group for consideration in the next SARPs amendment. Considering the proposed changes in the Working Paper, there were changes made to each of the respective Change Documents and to the draft integrated DO-181 and ED-73 during the review and discussion.

5.8 The Meeting continued with the review of Working Paper SC209-WP12-22 presented by Kevin Hallworth of EASA detailing the request of WG-49 to modify ED-73C, §6.4.2.2 to enhance the section on testing transponders. The Working Paper is suggesting that there be changes to §6.4.2.2 to bring ED-73C into compliance with the ICAO State Letter that was distributed in December 2009. After review of the State

Letter, it was determined that there was also an additional paragraph that should be added to §6.4.2.2 and there was editing of the WP to produce Working Paper SC209-WP12-22R1. After discussion, it was agreed that inserting the same paragraphs into DO-181D would have no effect since there is nothing in the TSO that directs tests in Section 3 of DO-181D to be run.

5.9 The Meeting continued with the review of Working Paper SC209-WP12-19 and SC209-WP12-20 presented by Dr Bill Thedford on the subject of requesting the extension of SI Codes. There were various discussions of the technical merit of the proposal in this Working Paper. A majority of Meeting participants questioned the need for such additional codes and the possible RF impact of such change. The Joint Session was not convinced of the need of such additional codes. It was proposed that this subject would be presented to the higher level committees, such as ICAO ASP. The Joint Session therefore recommended that the presentation be given for the next ICAO ASP Technical Subgroup meeting in January 2011 in Fort Lauderdale. The Joint Session quickly reviewed Working Paper SC209-WP12-20 just to review the amount of changes that would have been necessary in the transponder MOPS documents, if the implementation would have been agreed upon.

5.10 The Meeting continued with the review of Working Paper SC209-WP12-23 presented by Pierre Ruault of Eurocontrol detailing issues related to the problem of BDS Register Swap. This Working Paper is a compliment to the report that was given to the Joint Session in June 2010. This report adds the measurements taken at the BROCKEN radar in Germany. The report indicates that at the BROCKEN radar site, the BDS swap rate is about 3 times higher than previous measurement made in Belgium. Two problems have been noticed on this site. One is a real FRUIT problem impacting the Mode S system. Second, there appears to be a problem with a military specific transponder. Previous discussions related to this issue have concluded that the current resolution could be to filter ASTERIX data. After discussion, it was agreed that Eric Potier would accept **Action Item 12-03** for the preparation of a proposal to help with this issue and propose the requirements and test procedures and have them to Gary not later than close of business on Monday, 6 December 2010. The Joint Session agreed to hold a Teleconference starting at 9:00am EST on Thursday, 9 December to discuss, among other things, any proposal issued by Eric on this topic.

5.11 The Meeting then began to review Working Paper SC209-WP12-21 presented by Eric Potier on the subject of Barometric Pressure missing in the list of Downlink Aircraft Parameters in both MOPS documents. The addition into the MOPS documents was agreed and will be implemented.

5.12 The Meeting continued with the review of Working Paper SC209-WP12-25 presented by Charles Sloane as a meeting action requesting that the test procedures for non-selected lockout be reviewed and altered if necessary. **Action Item 12-04** was accepted by Don Walker and Charles Sloane to review these test procedures more closely and to forward any proposed revisions to Gary not later than close of business on 6 December 2010 in preparation for discussion during the Teleconference on 9 December 2010.

6. Under **Agenda Item #6**, the Meeting was presented with the actual drafts of the proposed Change 1 to DO-181D and Change 1 to ED-73C that had been prepared prior to the meeting and posted as Working Papers SC209-WP12-11 and SC209-WP12-12.

   6.1 The Meeting had a separate undocumented discussion on what has been done in the Transponder MOPS documents to resolve the issue of the Wide P4. After research, it was discovered that the most recent discussion was held during the Brussels ASP Working Group meeting where Working Paper ASP09-12 was presented and two actions were placed on the TSG to review and produce a *Note* to go into the ICAO SARPs. In WP ASP09-12 a projected solution was presented. During the discussion, the Joint Session participants investigated the possibility of using a pair of P1P2 pulses just before the Mode S interrogation to replace the P5 transmitted over side lobes.

   6.2 The Meeting continued with the review of Working Papers SC209-WP12-11 and SC209-WP12-12. There were various edits performed as the two documents were reviewed. The single most significant edit was the agreed upon removal of the Register definitions for the Target State and Status, the Aircraft Operational Status and the Aircraft Status from Appendix B of both DO-181 and ED-73. The lead-in paragraph to the Register definitions will indicate that the definitions of these Registers can be found in DO-260B/ED-102A.

7. Under **Agenda Item #7**, the Meeting discussed the schedule required for having the documents ready for RTCA PMC and EUROCAE Council approval in March 2011. The documents should be out for Final Review and Comment (FRAC) and Wider Consultation (WC) by 14 December 2010. The comment period should end by 14 January 2011. The comments will be reviewed during Joint Session in Melbourne Florida the week of the 24 January 2011. The Final versions of both documents should be ready before mid February for approval by the RTCA PMC at their meeting on 17 March and by the EUROCAE Council as scheduled in March 2011.

Meeting #	Dates/Time	Meeting Location
13	9 December 2010 9:00am EST (3pm Brussels)	Teleconference to discuss open issues
14	24 – 28 January 2011	Melbourne Florida hosted by Rockwell Collins

8. The following is a summary of all of the Open Action Items from previous Meetings, and those accepted during Meeting #12.

Action Number	Open Action Item Descriptions	Assigned to	Status
12-02	Take the test established in Working Paper SC209-WP12-24R1 and test their transponders and report back to the Joint Session ASAP, but not later than close of business 6 December in prep for a Joint Session Teleconference on 9 December 2010.	Manufacturers	
12-03	Review the possible solutions to the BDS Register Swap and propose requirements and test procedures. Get a working paper to Gary not later than close of business 6 December in prep for a Joint Session Teleconference on 9 December 2010.	Eric Potier	
12-04	Take Working Paper SC209-WP12-25 and review it for better language and get it to Gary not later than close of business 6 December in prep for a Joint Session Teleconference on 9 December 2010.	Charles Sloane Don Walker	

9. The **Working Papers** for all SC-209 Meetings, as well as the Meeting Agendas, Meeting Minutes, and Meeting Schedules are posted on the ADS-B web site maintained at the FAA William J Hughes Technical Center, located at: **http://adsb.tc.faa.gov/SC209.htm**