

Minutes ATSC Technology and Standards Group (TSG)

26 September 2006, 10:00 a.m. until 12:30 p.m. EDT
PBS, Arlington, VA

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman William Miller (SMPTE) called the meeting to order at 10:00 a.m. at the headquarters of the Public Broadcasting Service in Arlington, VA. He welcomed those in attendance and asked each person to identify him or herself. He reminded all participants of the confidentiality requirements of this meeting and the ATSC Patent Policy. The attendance list is given in **ATTACHMENT 1**. Secretary Jerry Whitaker (ATSC) reported that a quorum was present.

2. APPROVAL OF PROPOSED AGENDA

Chairman Miller asked for consideration of the draft agenda, distributed to the TSG reflector on September 8, with the last update posted on September 22 (**Attachment 2**). No changes were requested and the draft agenda was approved as submitted.

3. APPROVAL OF THE DRAFT MINUTES OF THE LAST MEETING

Chairman Miller called members' attention to the draft Minutes of the May 9 TSG meeting, distributed to the TSG reflector on June 26 (**Attachment 3**). Mr. Whitaker reported that an editorial correction to Section 11.4 had been identified by Pat Waddell (Harmonic) to change the term "low-delay" to "low-bit rate" in two places. Mr. Whitaker said he agreed with this change. No further changes were requested and the document was approved as amended.

4. OPENING REMARKS

Chairman Miller noted that TSG has a very full agenda today, and a compressed time schedule. He encouraged members to move the discussions along expeditiously. He also recognized that a considerable amount of work has been completed over the summer. He thanked the specialist group chairs and contributors for their efforts.

5. COMMENTS BY THE PRESIDENT (MARK RICHER)

Mark Richer (ATSC) reported on current activities within the ATSC.

5.1 Status of Ballots

The status of ballots is detailed in **Attachment 4**. Mr. Richer noted that all ballots authorized at the last TSG meeting were approved—both at the TSG level and the membership level. He noted the new standards from TSG/S13 and TSG-1.

5.2 Other

Other items included in Mr. Richer's report included the following:

- The ATSC Board of Directors is nearing completion on a strategic planning program that looks at the future of ATSC over the next five years or so. A draft report is being refined, based on work conducted during a two-day retreat last July.

- The 2007 meeting calendar is posted on the ATSC Website. He encouraged members to review the dates.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items were developed at the May 9 meeting of the Technology and Standards Group. Items carried forward from a previous meeting are noted with [meeting date].

- 1) Art Allison to forward to Jerry Whitaker CS/76A, with appropriate updates, for issuance of a TSG letter ballot as a Proposed Standard, following a two-week TSG comment period and assuming no substantive issues are identified.
Completed.
- 2) Art Allison to initiate an informal liaison with the SMPTE S22.10 Chair regarding possible future efforts with regard to a Recommended Practice on PMCP issues.
Completed.
- 3) Chairman Miller to follow-up with SMPTE officials on the TSG/S1 liaison relating to PMCP issues.
Completed.
- 4) Dane Ericksen to forward to Jerry Whitaker S3-010r32 for posting as a Candidate Standard for a period of time ending 15 December 2006.
Completed.
- 5) Pat Waddell to forward to Jerry Whitaker document S6-413r3, with the title changed to "Amendment" from "Corrigendum," for issuance of a TSG letter ballot.
Completed.
- 6) Jerry Whitaker to update document CS/TSG-658 to show a CS end date of 31 December 2006.
Completed.
- 7) Jerry Whitaker to update document CS/TSG-659r1 to show a CS end date of 31 December 2006.
Completed.
- 8) Jerry Whitaker to update document CS/TSG-674 to show a CS end date of 31 December 2006.
Completed.
- 9) Jerry Whitaker to create an email reflector for the TSG/S6 low bit rate AHG group.
Completed.
- 10) A group consisting of Mark Richer Pat Waddell, Chairman Miller, and Graham Jones to review the TSG/S6 low bit rate project before additional work is done.
Completed.
- 11) Mark Eyer to report to TSG/S8 approval of the proposed Scope, with shortened name, by TSG.
Completed.
- 12) Mark Eyer to report to TSG/S8 approval of the proposed Work Plan as presented.
Completed.

- 13) Jerry Whitaker to update the posted version of CS-660 to reflect a new end date of 31 December 2006.

Completed.

- 14) Jerry Whitaker to work with Mark Eyer to integrate appropriate editorial changes to PS-606, as documented in S8-623r1, and to proceed with publication.

Completed.

- 15) Mark Eyer to prepare a cover note for S8-626r1 and forward to Jerry Whitaker for distribution to the ATSC “admin” reflector.

Completed.

- 16) Art Allison to transmit S8-626r1 to SCTE as liaison.

Completed.

- 17) Mark Eyer to forward to Jerry Whitaker S8-620r5 for issuance of a TSG letter ballot as a Proposed Standard.

Completed.

- 18) ATSC staff to issue a TSG letter ballot on CS/TSG-675 as a Proposed Standard.

Completed.

- 19) Mike Dolan to report to TSG/S13 that TSG approved expansion of the SRM Scope to include the encoder insertion model.

Completed.

- 20) Rich Chernock to forward TSG1-0023, with appropriate editorial changes, to Jerry Whitaker for issuance of a letter ballot as a Proposed Recommended Practice.

Completed.

- 21) Craig Tanner to investigate whether A/63 is being used and report back to at the next meeting. [2006-02-08

Carried forward. Mr. Tanner said he would follow-up with Robert Graves, Chair of the ATSC Forum. Sam Narasimhan (Motorola) amplified on the inquiry to be made of Mr. Graves.

7. NEW WORK ITEMS FOR DISCUSSION

7.1 Assigned by Board of Directors

Mr. Richer reported there are no new work items from the Board.

8. ARCHITECTURE TEAM

Chairman Miller reported that the A/53 restructuring work has been completed. He recognized the efforts of Mr. Waddell in developing the working draft documents.

8.1 Reorganization of A/53

Chairman Miller reminded the committee of the effort to restructure A/53E as currently published into separate “Parts.” The core reason for this proposed change is to permit modifications in one “Part” to be made without impacting the entire document. No substantive changes are being proposed; this is an editorial restructuring of A/53E into six parts, as detailed below (**ATTACHMENT 5**):

- **TSG-800-1**, A/53 Part 1, System
- **TSG-800-2**, A/53 Part 2 RF Transmission
- **TSG-800-3**, A/53 Part 3, Transport Service/Multiplex
- **TSG-800-4**, A/53 Part 4, MPEG-2 Video
- **TSG-800-5**, A/53 Part 5, AC-3 Audio
- **TSG-800-6**, A/53 Part 6, E-AC-3 Audio

Chairman Miller reported that all Parts have been reviewed by TSG/S6, TSG/S8, and TSG/S9 as appropriate, and it is the consensus recommendation of these specialist groups that the documents be advanced to Proposed Standard by letter ballot.

Mr. Waddell **moved** to ballot A/53E Parts 1 through 6, rolling Amendment No. 2 to A/53E into Part 4 prior to distribution of the ballot. **Second** by Art Allison (NAB). The **motion** was approved without objection.

8.2 A-Team Action Items

- Mr. Whitaker to integrate Amendment No. 2 to A/53E into Part 4 and issue a letter ballot on documents TSG-800-1 through 800-6 as Proposed Standards.

9. REPORT OF THE SPECIALIST GROUP ON PSIP METADATA COMMUNICATION, TSG/S1 (ART ALLISON)

Art Allison (NAB), chair of TSG/S1, reviewed current work of the specialist group.

9.1 Status Report

Mr. Allison noted that the revision of A/76 has been approved by the ATSC membership and that A/76A will be published shortly. He said the effort to develop a Recommended Practice has stalled due to a lack of volunteers to work on the project. He encouraged interested persons to get involved in the effort.

9.2 TSG/S1 Action Items

No action items relating to TSG/S1 were developed at this meeting.

10. REPORT OF THE SPECIALIST GROUP ON DIGITAL ENG, TSG/S3 (DANE ERICKSEN)

Chairman Miller noted that Dane Ericksen (Hammett & Edison, representing SBE), Chair of TSG/S3, is unable to participate in today's meeting. He said that Mr. Whitaker, who serves as the Secretary of TSG/S3, will review current work within the specialist group (**ATTACHMENT 6**).

10.1 CS/TSG-696r1, DRL ATPC Candidate Standard

Mr. Whitaker noted that CS/TSG-696r1, "Candidate Standard: ATSC Automatic Transmitter Power Control Data Return Link Standard" is now available on ATSC Web site. The updated "A" version adds a new Annex A relating to identification of TV ENG BAS transmitters; revision A was published on July 20. Mr. Whitaker said the target date for requesting elevation (by letter ballot) of CS/TSG-696r1 to Proposed Standard remains the December 14 TSG meeting. No corrections or errors have been identified so far in the document.

10.2 Field Communications Working Draft Status Report

Mr. Whitaker reported that progress is being made on the ATSC Field Communications System Working Draft, document S3-061r8. He said it may be possible to request elevation from Working Draft to Candidate Standard by the December 14 TSG meeting. Significant interest has been expressed in this effort by a number of broadcasters.

10.3 TSG/S3 Action Items

No action items relating to TSG/S3 were developed at this meeting.

11. REPORT OF THE SPECIALIST GROUP ON VIDEO AND AUDIO CODING, TSG/S6 (PAT WADDELL)

Pat Waddell (Harmonic), Chair of TSG/S6, provided a status report on the work of the specialist group (**ATTACHMENT 7**).

11.1 A/53 Partitioning

Mr. Waddell noted that Amendment 2 to A/53E (Annex A) passed the TSG and ATSC ballots, and has been posted on ATSC web site Standards Page. As discussed previously (agenda item 8.1), this amendment will be rolled-into TSG-800 Part 4 prior to issuance of the TSG ballots on A/53E partitioning.

11.2 Low Bitrate Coding

Mr. Waddell reported that discussions on low bitrate coding have begun within TSG/S6, observing that closure may take some time. The specialist group is seeking to determine how low (in terms of bitrate) video coding can go, within the current constraints. The output of this effort may provide guidance to users and manufacturers, and lead to possible future updates to A/53E Part 4.

11.3 Changes to dialnorm Measurement Technology

Mr. Waddell called attention to ITU-R BS.1770 and ITU-R BS.1771, which offer better dialog normalization (dialnorm) measurement capabilities than current methods. He said TSG/S6 is looking at these documents, and expect to recommend appropriate amendments to A/53E Part 5 (AC-3 Audio) and Part 6 (E-AC-3 Audio). He encouraged interested persons to participate in this work.

11.4 TSG/S6 Action Items

No action items relating to TSG/S6 were developed at this meeting.

12. REPORT OF SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, TSG/S8 (MARK EYER)

Mark Eyer (Sony), Chair of TSG/S8, reported on activities in the specialist group (**ATTACHMENT 8**).

12.1 Content Identification Work

Mr. Eyer reported that S8-6, the Content Identification ad-hoc group, continues its work. He said S8-6 has considered the ISO descriptor published in Amendment 1 and further defined in Amendment 4 of MPEG-2 Systems, and found it to be a good way to carry content identification.

He said S8-6 plans to craft an amendment to A/65C to describe the ISO descriptor, as well as an amendment to A/57A describing the ISAN and TSID house-number content identifier methods. Mr. Eyer encouraged interested persons to participate in this ongoing work.

12.2 ETT Table ID Extension Issue

Mr. Eyer reported that an apparent problem has been discovered in A/65C; specifically, there is an inconsistency in the ETT_table_id_extension field. He noted that Table 6.13 currently indicates 0x0000 for ETT_table_id_extension, yet semantics say the field shall be unique. He said legacy receivers in Korea may be impacted. Mr. Eyer reported that TSG/S8 has prepared a White Paper on this issue (S8-626r1), which ATSC has distributed widely. He said the specialist group has reached consensus on a specific change to be made to a future revision of A/65 to address this issue.

12.3 A/65C Corrigendum Issue

Mr. Eyer reported that an error in Figure F2 of Annex F of A/65C has been identified. He said the specialist group will work up the appropriate correction.

12.4 A-VSB Transport Questions

Mr. Eyer noted that TSG/S9 asked TSG/S8 to consider the implications of removing the restriction against adaptation fields (AF) in Transport Stream packets carrying PSI/PSIP data. He said the response from the specialist group was that certain legacy designs may not tolerate AFs in these packets, and furthermore that proponent would need to survey existing fielded designs for compatibility with such a change. He said TSG/S8 has requested proponent to compile a list of current and legacy DTV receiver models to be tested in a proposed “backward compatibility” test plan. Discussion followed on specific elements of this issue.

Chairman Miller encouraged interested persons to participate in this ongoing work.

12.5 Withdrawal of A/55

Mr. Eyer said that TSG/S8 has found references to withdrawn standards A/55 and A/56 in A/69, “PSIP Implementation Guidelines for Broadcasters.” He reported that a draft revision to A/69 is planned, and that member input is sought regarding any needed changes.

12.6 Recommendation on Parameterized Services

Mr. Eyer reported that work on the technical specification of a proposed Component List Descriptor, detailed in document S8-640r2 (“Working Draft: ATSC Parameterized Services Standard”), has been completed (**ATTACHMENT 9**). He said the specification is crafted as a standalone document, and is now ready for formal consideration by TSG.

Mr. Eyer reported the consensus recommendation of TSG/S8 that S8-640r2 be advanced to Proposed Standard by a 4-week ballot. Chairman Miller recognized the **motion** of the Chair of TSG/S8 on behalf of the specialist group.

Discussion followed on the issue. Jeff Krause (NCTA) noted that SCTE is expected to address this application, but using different techniques. He suggested that a Candidate Standard period might be appropriate. Mr. Eyer commented that he believed the two systems can coexist without problem.

Chairman Miller called the question. The motion to authorize a letter ballot on S8-640r2 as a Proposed Standard was **approved** on a roll call vote; 22 yes, 7 no, 7 abstain.

Chairman Miller expressed the strong hope that the ATSC and SCTE work be interoperable to the extent possible—and necessary. Mr. Richer suggested that when the ballot goes out, the ballot and the Working Draft be provided—via the SCTE liaison—for comments. The committee agreed to this approach.

12.7 TSG/S8 Action Items

The following action items relating to TSG/S8 were developed at this meeting:

- Mr. Eyer to forward to Mr. Whitaker document S8-640r2 for issuance of a TSG letter ballot as a Proposed Standard.
- Mr. Allison, as the liaison to SCTE, to forward the TSG ballot on S8-640r2, along with the Working Draft, to SCTE encouraging comments.

13. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, TSG/S9 (CHARLES EINOLF)

Charles Einolf (CBS/MSTV), Chair of TSG/S9, reported on current work within the specialist group (**ATTACHMENT 10**).

13.1 Status Report

Mr. Einolf reported that the S9-4 ad-hoc group developing A-VSB technical disclosure documents, led by Mr. Allison, has completed its work and provided the documents to the specialist group for review. He said TSG/S9 is currently reviewing the documents, which are listed below:

- S9-304r0, “Technical Disclosure: Advanced VSB System (A-VSB)”
- S9-4-008r1, “Technical Disclosure: Advanced VSB System (A-VSB) Single Frequency Network (SFN)”

Mr. Einolf said the S9-5 ad-hoc group developing an A-VSB test plan, led by Victor Tawil (MSTV), has completed a draft test plan. He noted, however, that the draft plan does not include backward compatibility testing, which is still under discussion in the specialist group. Discussion followed on the scope of the S9-5 draft test plan.

13.2 Recommendation to Approve Proposed Corrigendum to A/54A

Mr. Einolf reported that an error has been identified in Figure 8.1 of Recommended Practice A/54A, and that TSG/S9 has developed a proposed correction. This correction is detailed in TSG-799r2, “Working Draft: Corrigendum No. 1 to A/54A, Guide to the Use of the ATSC Digital Television Standard” (**ATTACHMENT 11**). Mr. Einolf reported the consensus recommendation of TSG/S9 to elevate this document to Proposed Standard. Chairman Miller observed the **motion** on behalf of TSG/S9, but noted that a voice vote at this meeting might not be appropriate since the document has been available only since Friday September 22. He suggested, instead, a two-week letter ballot. Accordingly, Mr. Allison **moved** that a two-week letter ballot be issued on TSG-799r2. **Second** by Mr. Waddell. The motion was **approved**.

13.3 TSG/S9 Action Items

The following action items relating to TSG/S9 were developed at this meeting:

- Mr. Whitaker to issue a two-week TSG letter ballot on TSG-799r2 as a Corrigendum to A/54A.

14. REPORT OF THE SPECIALIST GROUP ON RECEIVERS, TSG/S10 (JOHN HENDERSON)

John Henderson (Hitachi), Chair of TSG/S10, noted that correspondence has been received from Allen Limberg regarding T3-600, "Technology Group Report: DTV Signal Reception and Processing Considerations." He said the submission provides an overview of recent patents in the field of DTV reception, and that while the data is interesting and useful, it is probably not something that ATSC would want to publish—at least in its present form. Mr. Henderson suggested archiving the T3-600 input until such a time as a revision of the Technology Group Report is undertaken. The committee accepted this approach.

Mr. Allison questioned whether an update to A/74, "Receiver Performance Guidelines," might be appropriate based on recent advancements in receiver technology. Chairman Miller suggested that Mr. Allison submit a contribution on A/74, after which it can be considered by TSG/S10.

14.1 TSG/S10 Action Items

No action items relating to TSG/S10 were developed at this meeting.

15. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, TSG/S13 (MIKE DOLAN)

Mike Dolan (TBT), Chair of TSG/S13, updated the committee on work within the specialist group (**ATTACHMENT 12**).

15.1 System Renewability Messages (SRM)

Mr. Dolan reported that TSG/S13 has completed work on a System Renewability Message (SRM) specification. He called attention to the original New Work Item Proposal (NWIP) Scope as approved by the ATSC Board of Directors:

"Undertake work to define a System Renewability Message (SRM) carriage mechanism, in the form of an informational document or recommended practice, utilizing the existing ATSC private data carriage. Non-private data methods may be considered if private data is shown to be insufficient."

In addition to the Board of Directors-approved NWIP, Mr. Dolan noted that TSG directed the specialist group to:

- Include a maximum bit rate in the buffer model
- Include an informative insertion model
- Draft the work in the form of a standard

Mr. Dolan said the system requirements were developed by TSG/S13 and captured in document S13-317r4 (**ATTACHMENT 13**). He said an RFI was issued, which resulted in three technical proposals:

- Sony new table section
- Update Logic A/97 application
- Motorola/ETRI IPMP (13818-11) application

Mr. Dolan said comparison points were developed and agreed to by TSG/S13, including complexity and overhead issues. Self-evaluations on these points were captured in document

S13-337r5 (**ATTACHMENT 14**). He noted no evidence was presented that any design failed to meet all the requirements.

Mr. Dolan reported the consensus of TSG/S13 to proceed with a design based on the Sony new table section, captured in document S13-351r3 (**ATTACHMENT 15**). He pointed out key elements of the system, including:

- A new long form table section (with a new table_id value)
- The SRM provider/payload is identified by a table_extension_id field
- The provider code point is CA_system_id
- Multiple CA vendors per PID (but only one per section)
- One PID is used
- Maximum average bit rate of 50 kbps
- Design goal was to be DTV-system agnostic

Mr. Dolan said S13-351r3 was shared informally with relevant DVB members and informal feedback was encouraging. A CA_system_id code point is needed from DVB for the CAT signaling to indicate “SRM PID”. He added that ongoing communication with DVB is desirable to coordinate a single SRM design between ATSC and DVB transports.

15.1.1 ETRI Minority Report

Mr. Dolan introduced Gun Bang (ETRI) who provided a minority report on the SRM discussion and decision within TSG/S13. Mr. Bang reviewed the history of the ETRI/Motorola proposal and provided technical details on its operation (**ATTACHMENT 16**).

Discussion followed on the ETRI proposal and the relative merits of the system, compared to the Working Draft reported out by TSG/S13. Chairman Miller thanked Mr. Bang and ETRI for their efforts.

15.1.2 SRM Recommendation

Mr. Dolan reported the TSG/S13 consensus recommendation that the SRM carriage design, S13-351r3 be elevated to Proposed Standard. Chairman Miller observed the **motion** from the Chair of TSG/S13.

Chairman Miller noted that TSG/S13 is requesting S13-351r3 be balloted as a Proposed Standard. He pointed out, however, that the NWIP approved by the Board specified the development of an “informational document.” He said the key point is that the Working Draft contains a constraint on the maximum bit rate for SRM conveyance. As such, *shall* statements are necessary.

Chairman Miller proposed that TSG approve the document for ballot with the understanding that it will be held until the October 11 Board meeting, after which the ballot will go forward unless objections are raised.

Discussion followed. Mr. Einolf questioned whether the document should be made a Candidate Standard first. Mr. Dolan acknowledged this possibility, but reported that TSG/S13 discussed the CS option and decided that a move directly to Proposed Standard was appropriate.

The committee agreed to the approach outlined by Chairman Miller. Restating the motion:

“**Moved** that a letter ballot on S13-351r3 be issued as Proposed Standard, contingent upon approval by the ATSC Board of Directors of the Scope change relative to the original NWIP.”

Seconded by Jim Williams (MPAA). Chairman Miller called the question. It was **approved**.

15.2 TSG/S13 Action Items

The following action items relating to TSG/S13 were developed at this meeting:

- Chairman Miller to report to the ATSC Board the recommendation of TSG that the SRM Working Draft document go forward to ballot as a Proposed Standard, rather than an informational document or Recommended Practice as originally specified in the NWIP approved by the Board.
- Mr. Whitaker to issue a TSG letter ballot on S13-351r3 contingent upon approval from the Board of this document moving forward as a Proposed Standard.

16. OTHER BUSINESS

16.1 Liaison Reports

16.2 MPEG

Mr. Narasimhan reported on current work within MPEG, specifically:

- MPEG promoted the Scalable Video Coding extension to AVC (MPEG4-10 / H.264) to Proposed Draft Amendment (PDAM) at the last meeting in Austria. This uses the AVC coding as base layer and provides very fine scalability in both temporal and spatial domains. Applications for this scheme include mobile systems, whole home DVR, IPTV, and video conferencing. He said this technology may have limited use in broadcast applications due to the decoder complexity.
- MPEG has expanded the video compression standard to add depth information to 2-D video (part of MPEG-C), and developed an amendment to MPEG-2 systems to transport this information in conjunction with 2-D video. He said the primary application for this scheme is 3-D display-based transmissions. He explained this technique is more flexible than the older MPEG-2 “multi-view” profile.
- MPEG is continuing to consider a “layered coding” scheme proposed by Philips as a path to implement 1080/60P and 1080/50P transmissions with 1080i or 720P as base layer.

Chairman Miller thanked Mr. Narasimhan for the liaison briefing.

Mr. Waddell noted additional liaison that might be appropriate to MPEG relating to lip synch issues. Chairman Miller suggested that he draft the appropriate liaison statement for further consideration.

16.3 Planning Committee

Chairman Miller noted that the next meeting of the ATSC Planning Committee will be held this afternoon.

17. SCHEDULE OF NEXT TSG MEETINGS

The next meeting of the ATSC Technology and Standards Group will be held on December 13.

18. ADJOURNMENT

There being no further business before the committee, the meeting adjourned at 12:20 p.m. EDT.

Action Item Summary

The following action items were developed at today's meeting of TSG. Items carried forward from a previous meeting are so noted.

- 1) Mr. Whitaker to integrate Amendment No. 2 to A/53E into Part 4 and issue a letter ballot on documents TSG-800-1 through 800-6 as Proposed Standards.
- 2) Mr. Eyer to forward to Mr. Whitaker document S8-640r2 for issuance of a TSG letter ballot.
- 3) Mr. Allison, as the liaison to SCTE, to forward the TSG ballot on S8-640r2, along with the Working Draft, to SCTE encouraging comments.
- 4) Mr. Whitaker to issue a two-week TSG letter ballot on TSG-799r2 as a Corrigendum to A/54A.
- 5) Chairman Miller to report to the ATSC Board the recommendation of TSG that the SRM Working Draft document go forward to ballot as a Proposed Standard, rather than an informational document as originally specified in the NWIP approved by the Board.
- 6) Mr. Whitaker to issue a TSG letter ballot on S13-351r3 contingent upon approval from the Board of this document moving forward as a Proposed Standard.

ATTACHMENTS**ATTACHMENT 1.** Attendance List

ATSC	Jerry Whitaker
ATSC	Mark Richer
CBC	Guy Bouchard
CBS/MSTV	Charles Einolf
Comcast	Bill Warga
Cox Broadcasting	Sterling Davis
DirecTV	Joseph Kuriacose
Eastman Kodak	Art Cosgrove
ETRI	Sung-Hoon Kim
ETRI	Gun Bang
Genrsis	Yuwei Zhang
Harmonic	Pat Waddell
Harris	Joe Seccia
Harris	Chris Lennon
Hitachi America	John Henderson
JVC	John Meehan
Micronas	Bob Rast
Motorola	Sam Narasimhan
MPAA	Jim Williams
MWG/Tribune	S. Merrill Weiss
NAB	Art Allison
NBC	Glenn Reitmeier
NCTA	Andy Scott
NCTA/consultant	Jeff Kruass
Nielson	Mike Dolan
PBS	James Kutzker
Philips	Brian Smith
Pioneer	Adam Goldberg
Pioneer	Rich Annibaldi
Samsung	John Godfrey
Samsung	CB Patel

SBG	Mark Aitken
Scientific Atlanta	Bill Wall
Sharp	Craig Tanner
SMPTE/ABC	William Miller
Sony	Mark Eyer
Techwell, Inc.	Paul Snopko
Telegent	James Chen
Toshiba	John Gawel
Triveni Digital	Rich Chernock
TWC	Steve Johnson
Zenith	Wayne Bretl
Zenith	Wayne Luplow

The following persons participated by telephone:

ABC	Tom Hankinson
Auvitek	Gordon Cookman
Cox Communications	Craig Smithpeters
Dolby	Walt Husak
Dolby	Craig Todd
Eastman Kodak	Mark Henry
Microsoft	Pat Griffis
Sarnoff Corporation	Hans Baumgartner
Sun Microsystems	Bill Sheppard
Tandberg Television	Matthew Goldman

ATTACHMENT Links

ATTACHMENT 2. TSG-691r6, Draft Agenda

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_2_TSG-691r6-Agenda-2006-09-26.doc

ATTACHMENT 3. TSG-685r4, Draft Minutes of May 9 Meeting

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_3_TSG-685r4-Minutes-2006-05-09.doc

ATTACHMENT 4. TSG-695r0, Status of Ballots

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_4_TSG-695r0-Status-of-Ballots.doc

ATTACHMENT 5. TSG-800-1 through -6:

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-1-A53-Part-1-System.doc

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-2-A53-Part-2-Transmission.doc

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-3-A53-Part-3-Transport.doc

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-4-A53-Part-4-MPEG-2.doc

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-5-A53-Part-5-AC-3.doc

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_5_TSG-800-6-A53-Part-6-E-AC-3.doc

ATTACHMENT 6. TSG/S3 Status Report

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_6_S3-100r1-S3-status-report.ppt

ATTACHMENT 7. TSG/S6 Status Report

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_7_S6-429%20S6%20Report%20to%20TSG%20for%20092606.ppt

ATTACHMENT 8. TSG/S8 Status Report

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_8_S8-650r0-S8-Status-Report-2006-09.ppt

ATTACHMENT 9. S8-640r2 Working Draft Parameterized Services Standard

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_9_S8-640r2-Parameterized-Services-standard.pdf

ATTACHMENT 10. TSG/S9 Status Report

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_10_ATSC%20TSG%20S9%20Status%20September%202006.ppt

ATTACHMENT 11. TSG-799r2, Working Draft Corrigendum to A/54A

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_11_TSG-799r2-WD-Corrigendum-to-A54A.pdf

ATTACHMENT 12. TSG/S13 Status Report

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_12_S13-356r2-Status-20060926.ppt

ATTACHMENT 13. S13-317r4, SRM Requirements

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_13_S13-317R4-SRM-Requirements.doc

ATTACHMENT 14. S13-337r5, SRM Proposal Evaluations

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_14_S13-337r5-SRM-Eval-clean.doc

ATTACHMENT 15. S13-351r3, SRM Transport Working Draft

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_15_S13-351r3-SRM-Carriage.pdf

ATTACHMENT 16. ETRI Minority Report on SRM Transport Working Draft

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_16_ETRI-SRM-Minority-Report.ppt

ATTACHMENT 17. TSG-649r0, TSG Voting Eligibility

http://www.atscmembers.org/sg/T3/2006_09_27/documents/Attachment_17_TSG-649r0-Voting-After-2006-05-09.xls