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10 June 2004

# **Minutes, Technology Group on Distribution 10 June 2004**

**Advanced Television Systems Committee**

1750 K Street, N.W.

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Washington, D.C. 20006

[www.atsc.org](http://www.atsc.org)

The Advanced Television Systems Committee, Inc., is an international, non-profit organization developing voluntary standards for digital television. The ATSC member organizations represent the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries.

Specifically, ATSC is working to coordinate television standards among different communications media focusing on digital television, interactive systems, and broadband multimedia communications. ATSC is also developing digital television implementation strategies and presenting educational seminars on the ATSC standards.

ATSC was formed in 1982 by the member organizations of the Joint Council on InterSociety Coordination (JCIC): the Electronic Industries Association (EIA), the Institute of Electrical and Electronic Engineers (IEEE), the National Association of Broadcasters (NAB), the National Cable Television Association (NCTA), and the Society of Motion Picture and Television Engineers (SMPTE). Currently, there are approximately 140 members representing the broadcast, broadcast equipment, motion picture, consumer electronics, computer, cable, satellite, and semiconductor industries.

ATSC Digital TV Standards include digital high definition television (HDTV), standard definition television (SDTV), data broadcasting, multichannel surround-sound audio, and satellite direct-to-home broadcasting.

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## Minutes, ATSC Technology Group on Distribution (T3)

National Association of Broadcasters, 1771 N Street, N.W.,  
Washington, D.C., 10:00 a.m. – 4:00 p.m. EDT  
10 June 2004

### 1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman Ralph Justus (CEA) called the meeting to order at 10:00 a.m. at the headquarters of the National Association of Broadcasters in Washington, D.C. He thanked NAB for hosting the meeting and welcomed those in attendance.

Chairman Justus asked each person to identify him or herself. The attendance list is given in **Attachment 1**. Secretary Jerry Whitaker (ATSC) reported that a quorum was present.

### 2. APPROVAL OF PROPOSED AGENDA

Chairman Justus asked for consideration of the draft agenda, distributed to the T3 reflector on May 18 (**Attachment 2**), with subsequent updated versions posted on May 28, June 2, and June 4. He suggested that the item “Small Screen Device *service\_type*” be separated from the formal T3/S8 report and taken up at the end of item #13 (“13 prime”). This change was accepted by the committee. No further modifications were requested and the agenda was accepted as amended.

### 3. APPROVAL OF THE DRAFT MINUTES OF THE 2 APRIL 2004 MEETING

Chairman Justus called members attention to the draft Minutes of the 2 April 2004 T3 meeting, which was distributed to the T3 reflector on May 18 (**Attachment 3**). Mr. Whitaker reported that two corrections had been identified by Craig Tanner (Sharp) regarding: 1) comments attributed to him on the “Use of Advanced Codecs” discussion (Section 17.2.1), and 2) inclusion of an action item in the AI summary page. (Note that the AI was included in the body of the Minutes, but was not duplicated on the summary page.) Chairman Justus and Secretary Whitaker agreed that both of these changes were editorial in nature. Mr. Whitaker also noted that document number IS-309 referred to in the draft Minutes should be IS-308. No further changes were requested and the document was accepted as amended.

### 4. OPENING REMARKS

Chairman Justus observed that today’s agenda is a full one and he urged members to help move agenda item discussions along as expeditiously as possible.

### 5. COMMENTS BY THE PRESIDENT (MARK RICHER)

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

#### 5.1 Status of Ballots

Mr. Richer reported on the status of ballots, specifically:

- **Proposed Recommended Practice: Receiver Performance Guidelines.** The ATSC membership ballot was issued 21 May 2004 and closes on 18 June 2004.
- **A/53C Digital Television Standard, Revision C.** This ballot was issued on 23 April 2004 and closed on 21 May 2004. The document was approved: 24 yes, 0 no, 0 abstain;

editorial privilege approved, 24 yes, 0 no, 0 abstain. One editorial comment was received and integrated into the published document.

- **Withdrawal of Standard A/56: System Information for Digital Television.** This ballot was issued on 12 April 2004 and closed on 10 May 2004. Withdrawal was approved: 23 yes, 0 no, 0 abstain; no comments were received.

## 5.2 Other

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

- ATSC is planning a day-long seminar on ACAP for the fall. The event will be timed to coincide with an in-place meeting of T3/S2.
- The Applications Subcommittee is working to develop a meeting of non-technical industry leaders to address the future use of ATSC standards in the marketplace. The current working date for the day-long business-oriented program is October 27 in Washington, D.C.
- Finally, Mr. Richer reported that Christy Kehlbeck, ATSC Corporate Secretary and Director of Communications, will be leaving the organization on June 11 to in her words, "step back from standards development and focus all of her energies on child development." Mr. Richer thanked Christy for her long service to the organization, which she joined in 1989.

## 6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

Chairman Justus called attention to the action items developed at the April 2 meeting of T3:

- 1) Jerry Whitaker to assign a T3 number to AS-040, "Requirements for Remote ENG Communications Standard" and to forward the document to Mark Eyer.

*Completed*

- 2) Mark Eyer and T3/S8 to review "Requirements for Remote ENG Communications Standard" and to report back with recommendations for moving forward at the June 10 meeting of T3.

*On agenda*

- 3) Jerry Whitaker to assign a T3 number to IS-308, "Recommended Practice for Control of AC-3 Program Elements in the ATSC Transport" and to forward the document to Craig Todd.

*Completed*

- 4) Craig Todd to lead an AHG on Audio Program Elements to look at the issues identified in IS-308 and to begin the development of a Working Draft Recommended Practice. Mr. Todd to post a note to the T3 reflector announcing the formation of the AHG and asking interested persons to participate.

*Carried forward*

- 5) Bill Miller to forward T3S6-298 to ATSC staff for posting on the ATSC Web site as a Candidate Standard for a period of time ending 10 September 2004.

*Completed*

- 6) Bill Miller to forward T3S6-260r4 to ATSC staff for posting on the ATSC Web site as a Candidate Standard for a period of time ending 23 September 2004.

*Completed*

- 7) Chairman Justus to distribute a note to all ATSC members calling attention to the new E-AC-3 Candidate Standards and asking for explicit feedback and comments on the documents.  
*Completed.* The posting was made on April 27 (**Attachment 4**).
- 8) Chairman Justus to transmit the E-VSB Annex D Proposed Amendment to the membership with all due haste and to solicit comments from the entire membership on the document.  
*Completed.* The posting was made on April 27 (**Attachment 4**).
- 9) ATSC staff to issue a letter ballot to the membership regarding the proposed withdrawal of A/56.  
*Completed.*
- 10) Sam Narasimhan to post to the T3 reflector for comment details of an MPEG liaison issue relating to a Philips proposal to build a layered coding architecture.  
*Carried forward.*
- 11) William Miller and T3/S6 to consider the AS correspondence relating to advanced codecs in the main stream and to report back to T3 at the next meeting.  
*On agenda.*
- 12) Mark Eyer and T3/S8 to consider the AS statement relating to advanced codecs in the main stream and to report back at the next T3 meeting.  
*On agenda*
- 13) William Miller and T3/S6 to draft proposed language that would add the constraint `low_delay=0` in WD/53C.  
*On agenda.*

## **7. NEW WORK ITEMS FOR DISCUSSION**

### 7.1 Assigned by Board of Directors

Mr. Richer reported there were no new work items for T3 from the Board of Directors.

### 7.2 Implementation Subcommittee

Art Allison (NAB), chair of the Implementation Subcommittee, reported there were no new work items for T3 from IS, although there are two items that are expected to be offered up at a later date.

### 7.3 Other

There were no other work items reported.

## **8. ARCHITECTURAL TEAM (MIKE DOLAN)**

Mike Dolan (TBT), chair of the Architectural Team, said there were no items to report. He noted that the Code Points Registry is working as planned.

## **9. PROPOSED REVISIONS TO PS/T3-596, E-VSB (MARK RICHER)**

Mr. Richer reminded the committee that at the April 2 T3 meeting, he offered to convene an informal meeting of interested parties to help resolve some outstanding issues regarding the

membership ballot of the Proposed Standard for E-VSB (revised Annex D of A/53, PS/T3-596). Mr. Richer reported that meetings of interested members<sup>1</sup> were held over the past month, the outcome of which was to recommend to T3 that a revised version of PS/T3-596 be used for the upcoming membership ballot (**Attachment 5**). Mr. Richer said the revised document incorporates changes detailed in a new Section 5.6.1, which requires that at all times, the quality of video in the Main stream shall be equal to or better than the equivalent program in the Enhanced stream. In addition, during *premium programming* times, the maximum allowable bit rate of the Enhanced stream shall be constrained to 3 Mbps.

Mr. Richer said that, as per Section 10.4.2 of the ATSC Bylaws, he had agreed to delay the ballot of Annex D to allow T3 to consider these proposed changes during today's meeting. If T3 approves the changes, he said, the revised document will go out to the membership shortly after this meeting. If the changes are not approved by T3, the original PS/T3-596 will go out to ballot.

Mr. Allison **moved** that T3 accept the changes detailed in PS/T3-596r1 and approve the document as a Proposed Standard. **Second** by Mark Aitken (Sinclair). Chairman Justus opened the floor for discussion.

Jim Wendorf (Philips) called attention to a proposed editorial correction that he felt should be addressed prior to the membership ballot. Wayne Bretl (Zenith) and Mr. Allison reviewed Mr. Wendorf's points and did not concur with his interpretation of the document. Mr. Wendorf then brought up two substantive issues that he argued should be addressed. His points are detailed in **Attachment 6**. The elements of PS/T3-596r1 addressed by the Philips proposal are Section 5.7 and Figure D5.15. Discussion followed on the points raised by Mr. Wendorf:

- Mr. Allison questioned the need for the proposed changes, specifically the allocation of reserved bits. He said these issues were discussed at some length during the development of the E-VSB Annex D amendment. And, in any event, he argued that E-VSB—as drafted—is very extensible.
- Wayne Luplow (Zenith) questioned why this proposal was being brought up today, rather than earlier in the process. He pointed out that PS/T3-596 has been widely available for more than a year.
- Mark Eyer (Sony) said the issue is one of backward compatibility, which should be given careful consideration by T3.
- Lynn Claudy (NAB) said he felt the proposed changes were not appropriate because sufficient flexibility already exists to accommodate future VSB enhancements.
- Mr. Aitken expressed some concern over the discussion of limited flexibility for future VSB enhancements. He emphasized that flexibility for future applications is very important.
- Mr. Tanner argued that T3 should make provisions for careful study of this proposal. He said it was important to get the specification right before the ballot is issued.
- Richard Chernock (Triveni) argued that the flexibility proposed by Mr. Wendorf can be accommodated in other ways.
- Mr. Narasimhan questioned whether changes such as those being discussed here should be decided by T3 today, rather than first being studied by T3/S9 and then brought to T3 with a consensus recommendation.

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<sup>1</sup> CBS, CEA, Clear Channel, Hitachi, JVC, Mitsubishi, MSTV, NAB, NBC, Cox Broadcasting, Panasonic Broadcast, Panasonic PAVCAL, Philips, Samsung, Sanyo, Sharp, Sony, Thomson, Toshiba, Tribune, UPN, ETRI, Zenith.



- Matthew Goldman (Tandberg Television) said that extensibility of ATSC standards is critical and he urged T3 to take no actions that would limit the possibility of extending VSB enhancements.
- Robert Seidel (CBS), going back to the original changes outlined in Revision 1 of PS/T3-596, asked for clarification of the term “premium programming.” He said this term is vague and undefined.
- Additional comments were offered by C. B. Patel (Samsung), Mr. Bretl, Ren McMann (CBS), and Pat Waddell (Harmonic).

Following some discussion, Mr. Allison said that a text change to PS/T3-596r1 was appropriate. Specifically, in Section 5.5.2.3, second sentence, insert “not” between “is” and “signaled”. Mr. Allison, therefore, amended his motion to include the specified change, which was also accepted by Mr. Aitken.

Restating the motion, **moved** that T3 accept the changes detailed in PS/T3-596r1, with the Section 5.5.2.3 wording change detailed above, and approve the document as a Proposed Standard.

Chairman Justus, seeking the best path forward, entertained suggestions on how to proceed. Mr. Tanner recommended that an extraordinary meeting of specialists be convened by teleconference to look at the issues raised by Mr. Wendorf and to arrive at a consensus solution that could be integrated into PS/T3-596r1 prior to the membership ballot.

Mr. Wendorf said he did not want the points raised by Philips to hold up PS/T3-596r1 and prevent it from moving to a vote of the membership. Mr. Wendorf said that while he has some concerns about the specification, he accepts that the issues raised can be addressed at a later date.

Mr. Richer suggested that T3 might ask T3/S9 to consider the Philips points and come back with a recommendation.

Mr. Luplow asked Chairman Justus to call the question. Chairman Justus interpreted this request as a **motion** to move the previous question, which was **approved** by the committee without objection.

Chairman Justus called the Allison motion. It was **approved** on a vote of 24 yes, 4 no, 20 abstain. The vote tally is given in **Attachment 7**.

Chairman Justus questioned the best wording for the direction to T3/S9 regarding the extensibility issue, in general, and the unresolved Philips issues, in particular. Following some discussion the committee agreed to the following consensus wording: “T3/S9 is directed to provide a recommendation on how to facilitate extensibility in VSB enhancements.”

## **10. REPORT OF THE SPECIALIST GROUP ON PSIP METADATA COMMUNICATION, T3/S1 (GRAHAM JONES)**

Graham Jones (NAB) reported on current activities within T3/S1 (**Attachment 8**).

### **10.1 Status Report**

Mr. Jones reviewed the status of activities, focused on the PMCP Candidate Standard. He said T3/S1 is continuing to review comments received on CS/75 and is considering possible revisions to the document. A record of all comments can be found on the T3/S1 page of the atscmembers.org Web site. Mr. Jones briefed the committee on trial implementations currently underway and the demonstrations of PMCP given at the recent NAB Convention.

Mr. Jones reported that work continues to develop a “Guide to the Use of the PMCP Standard,” but that a date for completion of a Working Draft is difficult to predict.

Mr. Jones observed that, with the existing timeline on CS/75, action by T3 is required at this meeting to either extend the CS period or elevate the document to Proposed Standard status.

#### 10.2 Proposal to Extend Candidate Standard Period for CS/75 to 30 September 2004

Mr. Jones reported that, given the amount of testing and verification that still needs to be done on CS/75, and issues still to be resolved, T3/S1 is not yet in a position to recommend raising PMCP to Proposed Standard. He reported the consensus of T3/S1 to extend the Candidate Standard period by approximately 3 months.

Mr. Jones, on behalf of T3/S1, **moved** that the Candidate Standard status of CS/75 be extended to 30 September 2004. The motion was **approved** by a voice vote. There were no objections or abstentions.

### 11. REPORT OF THE SPECIALIST GROUP ON ACAP, T3/S2 (CRAIG SMITHPETERS)

Craig Smithpeters (Cox Communications) reported on activities within T3/S2 (**Attachment 9**).

#### 11.1 Status Report

Mr. Smithpeters reported that T3/S2 held a two day face-to-face meeting in early May and four corrigenda teleconferences since the last T3 meeting to work on the ACAP specification. He provided an overview of the progress of corrigenda resolution and said T3/S2 intends to be ready to propose at the next T3 meeting that CS/101 be elevated to Proposed Standard.

Mr. Smithpeters noted concerns of some T3/S2 members relating to IPR issues; specifically, that T3 and the ATSC Board of Directors are asked to take note of:

- The lack of conformance testing plans
- Lack of DVB approval of ACAP as an approved GEM based specification
- Issues regarding GEM patent pool participation

Mr. Richer said these issues are being addressed by the Board, including a planned revision of the ATSC Patent Policy. Regarding conformance, testing he said, this issue is on the agenda for the July 1 Board of Directors meeting.

Mr. Tanner inquired about the ability of ACAP content to run on an OCAP platform, and OCAP content to run on an ACAP platform. Mr. Smithpeters said that, in general, the ACAP specification accommodates this flexibility, although he added that certain issues remain to be resolved. Mr. Allison reported on SCTE work that would provide for further harmonization from the standpoint of content creation.

The meeting broke for lunch at 11:42 a.m.

The meeting resumed at 12:30 p.m.

### 12. REPORT OF THE SPECIALIST GROUP ON VIDEO AND AUDIO CODING, T3/S6 (BILL MILLER)

William Miller (ABC), chair of T3/S6, reported on activities within the specialist group (**Attachment 10**).

#### 12.1 Proposal to Extend the Candidate Standard Period of CS/T3-613 to September 23

Mr. Miller noted that the Candidate Standard status for CS/T3-613 ("Amendment No. 1 to ATSC Digital Audio Compression Standard, Doc. A/52A, Annex E: Enhanced AC-3 Bit Stream

Syntax”) will expire on September 10. He said that T3/S6 is not currently in a position to recommend to T3 that this document be elevated to Proposed Standard and so requests that T3 extend the CS period to coincide with the next meeting of T3.

Mr. Miller **moved** that the Candidate Standard period for CS/T3-613 be extended to 23 September 2004. **Second** by Mr. Allison. The motion was **approved** by a voice vote. There were no objections or abstentions.

## 12.2 Preferred Audio

Mr. Miller reported on a proposed work item from T3/S8 AHG S8-4 to devise a way to designate one audio as the “primary” audio service. He explained that S8-4 felt the most appropriate solution would be found in changes to A/52A. He said it was his intention to form an AHG within T3/S6 to work on this issue and to invite input from S8-4 and T3/S8. Chairman Justus observed the consensus of the committee to proceed in this manner. Mr. Miller asked Mr. Chernock, who chairs S8-4, to lead the T3/S6 AHG; Mr. Chernock accepted the assignment. Mr. Miller asked that persons with an interest in this work contact Mr. Chernock.

## 12.3 Pending T3/S6 Issues

Mr. Miller addressed additional T3/S6 work items, specifically:

- Regarding the proposed use of advanced codecs in the main stream, Mr. Miller reported that none of the work the specialist group has done would prevent the use of advanced codecs in the main stream.
- Regarding the `low_delay=0` issue, Mr. Miller said this has been deferred pending completion of the video codec work.

## 12.4 Preliminary Report on Subjective Assessment of AVC and VC-9 Codecs

Mr. Miller reported that subjective assessment viewings of video sequences were held last month at Dolby Labs (San Francisco), CRC (Ottawa), and Sarnoff Labs (Princeton). He went on to review the status of the subjective testing processes, which focuses on AVC/H.264 and Windows Media 9 (VC-9). Mr. Miller said bit stream verification has been requested and the process for this verification is being worked out. He went on to remind the committee of the overall T3/S6 test objectives:

- For each image format, what is the lowest practical bit rate?
- For each image format and bit rate, which is the better codec?

Mr. Miller said statistical analysis of the test results is expected to be performed by CRC and NIST. He went on to acknowledge the work of T3/S6 members in preparing test materials and handling the logistics of the viewing venues.

Mr. Miller said a teleconference of T3/S6 will be held within the next few weeks to review test results and address various issues relating to the testing process.

## 13. REPORT OF SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, T3/S8 (MARK EYER)

Mark Eyer (Sony), chair of T3/S8, outlined current work of the specialists group (**Attachment 11**).

### 13.1 Status Report

Mr. Eyer reviewed the status of the T3/S8 AHGs, specifically:

- **S8-1** – E-VSB transport: working to clarify “MPEG-2 Still Pictures”
- **S8-3** – Advanced EPG: a new chair has been appointed (Jim Theberge, EAT)
- **S8-4** – Standards Maintenance: 28 items are under consideration for A/53C and A/65B
- **S8-5** – Conditional Access: the five-year review of A/70 has been completed
- **S8-6** – Content Identification: tracking developments in MPEG committees

Mr. Eyer noted that S8-4 has recommended that Annex E of A/53C be considered for revision or removal because it is out of date and inconsistent with other ATSC documents. Chairman Justus asked John Henderson (Hitachi), chair of T3/S10, to accept this work item. Mr. Henderson agreed.

### 13.2 Proposal to Elevate Working Draft A/70A to Proposed Standard

Mr. Eyer reported that T3/S8 has completed a 5-year review and update of A/70, “Conditional Access System for Terrestrial Broadcast.” He said the revision incorporates Amendment 1 and updates several references. In one case, a normative reference had pointed to an unpublished SCTE document called “DVS 042.” SCTE has now published this specification as ANSI/SCTE 52 2003. WD/70A is given in **Attachment 12**.

Mr. Eyer **moved**, on behalf of T3/S8, that WD/70A be advanced to Proposed Standard. Mr. Allison suggested that WD/70A should go forward in a letter ballot, rather than being promoted today. Adam Goldberg (Sharp) pointed out that the changes included in WD/70A are relatively minor and have been available for review for at least two weeks. Chairman Justus called the question. It was **approved** by a voice vote. There were no objections or abstentions.

### 13.3 Proposal to Extend Candidate Standard Status of CS/T3-606 CS/T3-608, and CS/T3-609

Mr. Eyer reported the consensus recommendation of T3/S8 to extend the Candidate Standard status for CS/T3-606 (“Amendment No. 1 to ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable”) to September 30. Furthermore, he reported the consensus recommendation of the specialists group to extend the Candidate Standard status for CS/T3-608 (“Amendment No. 1 to ATSC Digital Television Standard, Doc. A/53C, AVC/H.264 Version”) and CS/T3-609 (“Amendment No. 1 to ATSC Digital Television Standard, Doc. A/53C, VC-9 Version”) to September 30.

Mr. Eyer **moved**, on behalf of T3/S8, that the Candidate Standard period for CS/T3-606, CS/T3-608, and CS/T3-609 be extended to 30 September 2004. The motion was **approved** by a voice vote; there were no objections or abstentions.

### 13.4 Recommendation Regarding Standards for ENG Communications

Mr. Eyer reminded the committee that T3/S8 was directed at the last T3 meeting to review the AS document “Requirements for Remote ENG Communications Standard” and to report back with recommendations for moving forward. He said the specialist group discussed this issue at its May 25 meeting.

Mr. Eyer reported that the technical work for T3/S8 appears to be in the area of communications from the broadcast station to the ENG truck. He said the return path is out of

scope, but that linkage is needed, as is coordination with another SDO. Mr. Eyer stated that for this work to go forward, a volunteer is needed to chair an ad-hoc group focused on this project.

Mr. Allison suggested that T3 should expand the T3/S8 scope to cover the ENG-related work. Mr. Tanner said he doubted that expanding the scope was necessary. Instead, he suggested it could be handled on an ad-hoc basis. Merrill Weiss (Tribune) argued that no change to the T3/S8 scope is necessary.

Chairman Justus asked that advocates of this work brief T3/S8 on the important issues involved and volunteer their time to lead the effort. He asked T3/S8 to report back at the next meeting. Mr. Eyer said he would issue a call for participation in the work.

### 13.5 Report on Possible Use of New Codecs in the Main Stream

Mr. Eyer reminded the committee that T3/S8 was directed at the last T3 meeting to consider the AS liaison statement relating to advanced codecs in the main stream<sup>2</sup> and to report back at this meeting. He said the specialist group discussed this issue at its May 25 meeting in Huntington Beach, CA.

Mr. Eyer reported that T3/S8 has verified that CS/T3-608 and CS/T3-609 do not constrain advanced codec systems only to operate in the robust mode, nor do they enable carriage in the main mode.

Mr. Seidel asked whether T3/S8, or any other group within T3, was working to develop a transition plan for the use of advanced coding systems. Mr. Richer noted that, at its meeting on June 8, the Applications Subcommittee formed an AHG to develop a requirements document dealing with the possible use of advanced codecs in the main stream and then to formally propose it to AS at the next meeting. Gary Paxinos (USD TV) is chairing the group. Mr. Richer suggested that T3 see what AS comes up with and take action as appropriate.

Robert Rast (Linx) stated that T3 is going to have to address the codec issue in the future and added that if T3 does not feel it has the scope to address this issue, the Board will likely expand its scope accordingly.

### 13' Small Screen Device service\_type

Mr. Eyer, speaking on behalf of Sony, briefed the committee on a proposed “Small Screen Device service\_type” (**Attachment 13**). He called attention to a document posted to the T3 reflector on June 2 detailing the issue and the proposed solution (**Attachment 14**).

Mr. Eyer requested that T3 direct T3/S8 to adjust the CS/T3-608 and CS/T3-609 Candidate Standards to specify that unlinked audio/video services in the Robust Stream use a new service\_type (currently service\_type 0x02 is used). He pointed out that an “unlinked” service is standalone, not fallback. He also suggested that T3/S6 consider developing an appropriate “Table 3”-type video format for the proposed service\_type. Mr. Eyer went on to explain the technical reasoning for this proposal.

Chairman Justus invited discussion on this topic:

- Mr. Miller disagreed with Mr. Eyer’s analysis of the problem and proposed solution. He said there are numerous examples of broadcast services receivable on one class of receiver and not on another. He offered FM radio as an example, where some receivers

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<sup>2</sup> “In the documentation of advanced coding systems by T3/S6, the Applications Subcommittee recommends that such systems not be constrained to operate only in the robust mode and should include specific provisions for carriage in the main stream.”

provide RDS displays and some do not. Mr. Miller also addressed the question of expanding the range of formats in A/53C Table A3. He reminded the committee that T3/S6 had already addressed the issue of expanded video formats through reference to SCTE specifications.

- Glenn Reitmeier (NBC) acknowledged the points raised by Mr. Miller, but voiced general support for the Sony concept.
- Jeff Krauss (NCTA) said he did not see any downside to the Sony proposal, unless someone could see a way it might increase consumer confusion.
- Mr. Tanner expressed support for the Sony proposal and added that general support was also voiced by the informal E-VSB discussion group.
- Mr. Allison suggested that this issue, with its focus on marketplace needs, would be more appropriately addressed by the Applications Subcommittee.
- Tom Hankinson (ABC) voiced opposition to the Sony proposal, saying the proposed constraint is unnecessary and could unduly restrict broadcasters wishing to offer new services to consumers.
- Mr. Aitken suggested that the committee should not split hairs about naming and nomenclature, and instead focus on broadening the range of services and receiving devices available to consumers.
- Mr. Richer said the Sony proposal was discussed at some length by the informal E-VSB discussion group and gathered considerable support. Mr. Richer added he felt this was a creative proposal that could help move E-VSB forward. He urged T3 and/or AS to pursue it.
- Mr. Rast suggested that elements of the proposal should be addressed by AS.
- Victor Tawil (MSTV) said that the idea had merit and he suggested that it be studied further by the Applications Subcommittee.
- Additional comments were offered by Sam Narasimhan (Motorola) and Mr. Luplow.

Chairman Justus drew the discussion to a close and asked that T3/S8 address the Sony proposal as part of its normal comment resolution process for CS/T3-608 and CS/T3-609. At the same time, he suggested that AS consider the subject further.

Mr. Eyer next conveyed the suggestion of Sony to remove the option to use MPEG-2 video compression in the robust mode.

Mr. Allison said he saw no value in this suggestion. Mr. Miller said this question was discussed by T3/S6 more than a year ago with the consensus recommendation to allow the use of MPEG-2 in the robust mode, and that this position was endorsed by T3. Mr. Reitmeier observed that the concept of fallback video was based on the use of MPEG-2 video. He suggested that T3/S8 be directed to report back with recommendations for moving forward. Mr. Allison said there is no need for T3 to get involved in the work of the specialist group; he said T3/S8 should consider it as a comment received against CS/T3-608 and CS/T3-609.

Chairman Justus observed the consensus of T3 that T3/S8 should examine the comments received on CS/T3-608 and CS/T3-609 and report back to T3 as necessary.

#### **14. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, T3/S9 (CHARLES EINOLF)**

Charles Einolf (UPN), chair of T3/S9, reported on current activities within the specialist group (**Attachment 15**).

#### 14.1 Recommendation from T3/S9 that T3S9-222 be sent to a Letter Ballot of T3

Mr. Einolf reported that T3/S9 had arrived at a consensus to recommend to T3 that document T3S9-222r11, "Working Draft Recommended Practice: Design of Synchronized Multiple Transmitter Networks," be sent to a letter ballot of T3 for consideration as a Proposed Recommended Practice (**Attachment 16**). T3S9-222r11 was posted to the T3 reflector on May 27; an earlier version (Revision 10) was posted to the T3 reflector and the ATSC membership reflector on May 12.

Mr. Einolf **moved**, on behalf of T3/S9, that T3/S9-222r11 be sent to a letter ballot of T3 for consideration as a Proposed Recommended Practice. Mr. Hankinson noted that ABC has concerns about how the document addresses spectrum issues. He said more work needs to be done to emphasize that these are secondary services. Mr. Weiss said he felt this issue was outside the scope of the document. Chairman Justus called the question; it was **approved**. There was one no vote and no abstentions.

#### 14.2 Recommendation from T3/S9 that CS/110C be elevated to Proposed Standard

Mr. Einolf reported that T3/S9 had arrived at a consensus to recommend to T3 that CS/110C, "Candidate Standard: Synchronization Standard for Distributed Transmission," be elevated to Proposed Standard. CS/110C is the latest version of the Candidate Standard first posted on the public area of the ATSC Web site on 21 November 2002.

Mr. Einolf noted that a reference issue was found in CS/110C after the last meeting of T3/S9, and that he wanted to correct this oversight today. Specifically, ISO-13818-1 (2000) in Section 2 "References," should be designated as *normative*.

Mr. Einolf **moved**, on behalf of T3/S9, that CS/110C be elevated to Proposed Standard by a voice vote with the normative reference correction noted above. **Second** by Mr. Weiss. Mr. Seidel said he was not prepared to vote in favor of the motion at this time because he felt the specification needed to be better vetted in the field with a comprehensive testing regime. He said CBS is willing to put up resources to accomplish this work.

Chairman Justus called the question; it was **approved** on a voice vote. There were two no votes and no abstentions.

#### 14.3 Other Issues

Mr. Einolf reported that the ad-hoc group working to develop a Recommended Practice on E-VSB continues to make progress, with Mr. Bretl as the chair. Separately, T3/S9 continues to monitor work aimed at improving VSB system performance, specifically:

- ETRI Equalization Digital On-Channel Repeater. ETRI lab and field tests by CRC are planned for July.
- Philips/ETRI Enhanced-xVSB. A formal proposal and test plan is expected to be submitted to T3/S9 within the next few weeks. Laboratory tests are planned at CRC in July.
- Samsung Transversal R-S Coding. Simulation results and other data have been provided to T3/S9 for review.

### 15. REPORT OF THE SPECIALIST GROUP ON RECEIVERS, T3/S10 (JOHN HENDERSON)

John Henderson (Hitachi), chair of T3/S10, briefed the committee on the work of the specialist group.

### 15.1 Status Report

Mr. Henderson reminded the committee that at the April 2 meeting, Chairman Justus asked him to lead a comment resolution group that included Mr. Einolf, Andy Bater (Tribune), and Azzedine Touzni (ATI) to address comments received during the T3 ballot of PRP/T3-611. Mr. Henderson reported that the AHG met and, with the cooperation of the commenters, resolved all comments submitted. The changes to PRP/T3-611 were determined to be editorial in nature by the President of the ATSC and the Chair of the Technology Group on Distribution<sup>3</sup>. The revised document, therefore, was distributed on May 21 to the membership for final balloting. The membership ballot closes on June 18.

Mr. Henderson said some possible new work items for T3/S10 were suggested by the comments, including:

- Identification of “interesting sites” where receivers might be taken for evaluation
- Means by which additions to the set of captured vectors can be selected, vetted, and added to the list

Mr. Henderson said he may call a future meeting of T3/S10 to decide whether it is appropriate to devote energy in these areas. Chairman Justus encouraged T3/S10 to pursue both activities.

## 16. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, T3/S13 (MIKE DOLAN)

Mike Dolan (TBT), chair of T3/S13, reported on activities in the specialist group (**Attachment 17**).

### 16.1 Status Report

Mr. Dolan reported that the software download specification is ready for T3 consideration. He said an example bitstream is available and that several implementations are currently underway. He explained that the system uses an A/90 “two layer” data carousel that is compatible with the DVB “system software update” standard (ETSI TS 102 006). Mr. Dolan added that the current design is usable by SCTE through mapping of SCTE 28 metadata. Signaling is accomplished with a new VCT `service_type` value. Announcement is done with a custom descriptor using EIT-like `start_time` and `duration` fields.

### 16.2 Recommendation to Advance S13-229, “WD: Software Download Data Service,” to Candidate Standard Status

Mr. Dolan reported the consensus of T3/S13 to advance S13-229r8, “Working Draft: Software Download Data Service,” to Candidate Standard for a period of time ending 30 September 2004 (**Attachment 18**). Accordingly, Mr. Dolan **moved** that S13-229r8 be elevated to Candidate Standard for a period of time ending September 30. The **motion** was approved on a voice vote without objection..

### 16.3 Pending T3/S13 Work

Mr. Dolan reviewed the T3/S13 work items planned for the future, including revision of A/90 and A/95. He asked for comments from T3 members on what level of resources to put against these projects. Mr. Allison suggested that after T3/S2 has finished with ACAP, T3/S13 should look at revising A/95, and then work on the A/90 revision. Mr. Allison also pointed out that

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<sup>3</sup> A complete list of the comments and the resolutions adopted can be found on the Ballot Status Page of [atscmembers.org](http://www.atscmembers.org/sg/Ballot/ballot_status.html): [http://www.atscmembers.org/sg/Ballot/ballot\\_status.html](http://www.atscmembers.org/sg/Ballot/ballot_status.html).



some changes appropriate for A/90 do not involve ACAP. The sense of the group was that T3/S13 should wait until after T3/S2 completes its ACAP transport-related work before undertaking any work on revising any A/9x documents. Mr. Dolan thanked the committee for the feedback.

## 17. OTHER BUSINESS

### 17.1 CDTV Statement

Guy Bouchard (CDTV) read a statement from CDTV President Michael McEwen regarding E-VSB. See **Attachment 19**.

### 17.2 Liaison Reports

#### 17.2.1 Applications Subcommittee

Sterling Davis (Cox Broadcasting) reported on actions taken at the June 8 meeting of AS. His briefing included the following items:

- **Roadmap to DTV Summit.** An AHG is working to develop a meeting of non-technical industry leaders to address the future use of ATSC standards in the marketplace. AS agreed that the meeting should be open to all related industries and strongly encourage the participation of broadcasters and consumer receiver manufacturers' representatives involved in planning new services and products. Goals of the program include: 1) educate attendees about the potential use of existing ATSC standards and those under development, 2) solicit input about the likely market roll-out of related products and services, and 3) recruit new non-technical participants in the ongoing work of the Applications Subcommittee.
- **Data Exchange Requirements.** A proposal regarding the need for standardization work in the area of data exchange among traffic, automation, and content delivery systems has been accepted. A formal needs statement is being refined, with the goal of putting the issue before the Board of Directors on July 1.
- **Streaming Text Data.** An AHG has been formed to draft a requirements document focused on possible applications of streaming text data and possible solutions. The requirements document is planned to include a discussion of how streaming text capability could utilize the existing 708 captioning engine and seamlessly integrate with ACAP.
- **Very Low Bitrate Channels.** A revised requirements document on low bit rate audio/video is being drafted, with the goal of final approval at the next AS meeting.
- **Advanced Codecs in the Main Stream.** An AHG has been formed to develop a requirements document dealing with the possible use of advanced codecs in the main stream and then to formally propose it to AS at the next meeting. Members of the AHG include Brian Smith (Philips), Mark Eyer (Sony), Wayne Bretl (Zenith), Steve Smith (Liberty), Art Allison (NAB), C.B. Patel (Samsung), Gary Paxinos (USDTV), James Fang (Mitsubishi Electric), and a representative to be named from Tribune. Mr. Paxinos is chairing the group.

## 18. SCHEDULE OF NEXT T3 MEETINGS

The next meeting of the Technology Group on Distribution will be held on 23 September 2004. The final meeting of the year will be held on 16 November 2004.

Mr. Allison suggested that at the September 23 T3 meeting, the committee begin to develop goals for 2005. Chairman Justus agreed that this item should appear on the agenda.

**19. ADJOURNMENT**

There being no further business before the committee, the meeting was adjourned at 3:00 p.m. EDT.

## Action Items Developed at this Meeting

The following action items were developed at today's meeting:

- 1) ATSC staff to accept the changes detailed in PS/T3-596r1, with the wording change agreed to at today's meeting, and to issue a letter ballot to the membership.
- 2) Charles Einolf to report to T3/S9 that the specialist group is directed by T3 to provide a recommendation on how to facilitate extensibility in VSB enhancements.
- 3) Jerry Whitaker to modify the Candidate Standard posting of CS/75 on the ATSC Web site to reflect a new CS period ending 30 September 2004.
- 4) Jerry Whitaker to modify the Candidate Standard posting of CS/T3-613 on the ATSC Web site to reflect a new CS period ending 23 September 2004.
- 5) Richard Chernock to lead an AHG within T3/S6 to work on ways to designate one audio service as the "primary" audio service. Persons interested in contributing to this work are asked for contact Mr. Chernock.
- 6) John Henderson and T3/S10 to consider the recommendation from S8-4 that Annex E of A/53C be revised or deleted because it is out of date and inconsistent with other ATSC documents.
- 7) Mark Eyer to forward WD/70A to Jerry Whitaker for issuance of a letter ballot to the membership on the update of A/70, "Conditional Access System for Terrestrial Broadcast."
- 8) Jerry Whitaker to modify the Candidate Standard posting of CS/T3-606 to reflect a new CS period ending 30 September 2004.
- 9) Jerry Whitaker to modify the Candidate Standard posting of CS/T3-608 to reflect a new CS period ending 30 September 2004.
- 10) Jerry Whitaker to modify the Candidate Standard posting of CS/T3/609 to reflect a new CS period ending 30 September 2004.
- 11) Mark Eyer to issue a call for participation in suggested T3/S8 work relating to ENG communications, and to report back to T3 at the September 30 meeting.
- 12) Mark Eyer and T3/S8 to consider the Sony "small screen device service\_type" and "MPEG-2 use in the robust mode" proposals as part of its normal comment resolution process for CS/T3-608 and CS/T3-609.
- 13) Charles Einolf to forward to Jerry Whitaker T3S9-222r11, "Working Draft Recommended Practice: Design of Synchronized Multiple Transmitter Networks," for the issuance of a letter ballot to T3 for consideration as a Proposed Recommended Practice.
- 14) ATSC staff to issue a letter ballot to the membership on PS/110C following integration of the normative reference issue identified and accepted at today's meeting.
- 15) Mike Dolan to forward S13-229r8, "Software Download Data Service," to Jerry Whitaker for posting as a Candidate Standard for a period of time ending 30 September 2004.
- 16) Jerry Whitaker to add to the T3 agenda for the September 23 meeting the following item: "T3 goals for 2005."
- 17) Craig Todd to lead an AHG on Audio Program Elements to look at the issues identified in IS-308 and to begin the development of a Working Draft Recommended Practice. Mr. Todd to post a note to the T3 reflector announcing the formation of the AHG and asking interested persons to participate. [Carried forward from the 2 April 2004 meeting.]

- 18) Sam Narasimhan to post to the T3 reflector for comment details of an MPEG liaison issue relating to a Philips proposal to build a layered coding architecture. [Carried forward from the 2 April 2004 meeting.]

## Attachments

**Attachment 1.** Attendance List

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_1\\_T3\\_6-10-04\\_attendance.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_1_T3_6-10-04_attendance.doc)

**Attachment 2.** Draft Agenda

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_2\\_draft\\_t3\\_agenda\\_2004\\_06\\_10\\_rev\\_5.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_2_draft_t3_agenda_2004_06_10_rev_5.doc)

**Attachment 3.** Draft Minutes from T3 Meeting of 2 April 2004

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_3\\_T3-612r7\\_draft\\_t3\\_minutes\\_2004-04-02.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_3_T3-612r7_draft_t3_minutes_2004-04-02.doc)

**Attachment 4.** Chairman Justus Letter regarding E-VSB

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_4\\_Justus\\_Membership\\_Letter.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_4_Justus_Membership_Letter.doc)

See also

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_4a\\_PS\\_T3-596.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_4a_PS_T3-596.pdf)

**Attachment 5.** Proposed Revision 1 of PS/T3-596

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_5\\_PS\\_T3-596r1.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_5_PS_T3-596r1.doc)

**Attachment 6.** Philips Proposed Changes to PS/T3-596r1

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_6\\_PS\\_T3-596r1\\_Philips.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_6_PS_T3-596r1_Philips.ppt)

See also:

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_6a\\_PS\\_T3-596r1\\_Philips\\_.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_6a_PS_T3-596r1_Philips_.pdf)

**Attachment 7.** T3 Vote Tally on PS/T3-596r1

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_7\\_vote\\_tally\\_596r1.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_7_vote_tally_596r1.doc)

**Attachment 8.** T3/S1 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_8\\_T3-S1\\_report\\_6-10-04.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_8_T3-S1_report_6-10-04.doc)

**Attachment 9.** T3/S2 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_9\\_T3S2-035.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_9_T3S2-035.ppt)

**Attachment 10.** T3/S6 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_10\\_T3S6\\_status\\_2004-06-10.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_10_T3S6_status_2004-06-10.ppt)

**Attachment 11.** T3/S8 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_11\\_S8\\_Status\\_Report\\_r2\\_6-04.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_11_S8_Status_Report_r2_6-04.ppt)

**Attachment 12.** WD/70A, Conditional Access System for Terrestrial Broadcast, Rev. A

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_12\\_WD\\_70A%20clean.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_12_WD_70A%20clean.pdf)

See also

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_12a\\_WD\\_70A%20with%20changes.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_12a_WD_70A%20with%20changes.pdf)

**Attachment 13.** Small Screen Service Proposal Presentation

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_13\\_Small\\_Screen\\_Services.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_13_Small_Screen_Services.ppt)

**Attachment 14.** Small Screen Service Type Proposal

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_14\\_Small\\_Screen\\_Services%20Proposal.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_14_Small_Screen_Services%20Proposal.doc)

**Attachment 15.** T3/S9 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_15\\_S9\\_Status\\_Report\\_June\\_2004\\_Rev%201.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_15_S9_Status_Report_June_2004_Rev%201.ppt)

**Attachment 16.** T3S9-222r11, Working Draft RP on Synchronized Multiple Transmitter Networks

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_16\\_T3S9-222r11.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_16_T3S9-222r11.pdf)

For the record, Revision 10 is available at:

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_16a\\_T3S9-222r10.pdf](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_16a_T3S9-222r10.pdf)

**Attachment 17.** T3/S13 Status Report

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_17\\_S13-251R0-Status.ppt](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_17_S13-251R0-Status.ppt)

**Attachment 18.** S13-229r8, Software Download Data Service

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_18\\_S13-229R8-Download.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_18_S13-229R8-Download.doc)

**Attachment 19.** CDTV Statement on E-VSB

[http://www.atscmembers.org/sg/T3/2004\\_06\\_10/documents/Attachment\\_19\\_CDTV\\_Statement.doc](http://www.atscmembers.org/sg/T3/2004_06_10/documents/Attachment_19_CDTV_Statement.doc)