

# **Minutes, Technology Group on Distribution 10 December 2003**

**Advanced Television Systems Committee**  
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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)

10:00 a.m. – 4:00 p.m., NAB, 1771 N Street, N.W., Washington, D.C.  
10 December 2003

### 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 November 21 (**Attachment 2**). He suggested two changes: 1) reordering item 15 (T3/S16 Report) to follow item 11 (T3/S6 Report), and correcting item 18 (next meeting date) to read February 19, 2004. No other modifications were requested and the agenda was accepted with these changes.

### 3. APPROVAL OF THE DRAFT MINUTES OF 10 SEPTEMBER 2003 MEETING

Chairman Justus called member's attention to the draft Minutes of the 10 September 2003 T3 meeting, which were distributed to the T3 reflector on November 14 (**Attachment 3**). No changes were requested and the document was accepted as submitted.

### 4. OPENING REMARKS

Chairman Justus observed that T3 has made considerable progress over the past three months in moving important documents forward; he thanked all participants for their hard work.

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

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

#### 5.1 Status of Ballots

Mr. Richer briefed the committee on the status of current ballots. For ATSC Membership ballots:

- **Recommended Practice A/54A** ("Guide to the Use of the ATSC Digital Television Standard"): this ballot was issued on 6 November 2003 and closed on 4 December 2003. It was approved: 33 yes, 0 no, 0 abs; editorial privilege 31 yes, 1 no, 1 abs.
- **Election of new Directors for the ATSC Board**: this ballot was issued on 4 November 2003 and closed on 2 December 2003. The following Directors were elected: Tom Hankinson (ABC), Phil Livingston (Panasonic), Glenn Reitmeier (NBC), Joe Flaherty (CBS), Ira Goldstone (Tribune), and Robert Rast (LINX Electronics). Phil Livingston was elected to chair the Board for the year 2004.

There were no T3 ballots.

#### 5.2 Other

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

- ATSC and IEEE BTS will jointly present a one-day seminar on PSIP and new coding technologies at the NAB 2004 Broadcast Engineering Conference. The session will be

held on Saturday April 17. Additional information will be posted soon on the NAB and ATSC Web sites.

- Mr. Richer noted that a meeting schedule e-mail address has been set up: [schedule@atsc.org](mailto:schedule@atsc.org). He asked all specialists group chairs to use this address to request additions to the Meetings page of the ATSC Web site and to reserve phone bridge time.
- Mr. Richer called attention to certain changes in reflector and Web site services, which will be rolled out in the coming months. He said new reflectors are being built upon a new platform, and eventually all reflectors will be ported to the new system. He also said a new Members Only area for the ATSC Web site is being developed under the umbrella domain [www.atscmembers.org](http://www.atscmembers.org). Notes will be posted on the appropriate reflectors as the new services are ready for implementation.
- Mr. Richer reminded T3 and specialists group contributors of the ATSC Patent Policy, document B/4. He asked that all participants in ATSC work review this document and its keep the provisions in mind during work on various projects.

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

The following action items resulted from the T3 meeting of September 10:

1. Miller to report to T3/S6 the approval by T3 of the following motion: "...moved to direct T3/S6 to undertake comparison testing of the proposed codec systems now under consideration within the specialists group." *Completed*
2. Miller and T3/S6 to report back to T3 on the ramifications of including multiple audio and video codecs in the consensus recommendation of the specialists group. *On agenda*
3. Eyer and T3/S8 to report back to T3 on the ramifications of including multiple audio and video codecs in the consensus recommendation of the specialists group. *On agenda*
4. Miller to report back to Chairman Justus and Richer with a revised work schedule for audio/video coding evaluation that takes into account the testing of proponent systems. *Completed*
5. Miller and Eyer to discuss how the planned output documents of T3/S6 and T3/S8 would move forward and the schedule for that work, to offer their combined proposal to their respective specialists groups, and to report back to T3 at the next meeting with recommendations for a path forward. *On agenda*
6. Eyer and T3/S8 to study the retransmission control descriptor issued identified by CBS and report back to T3 with recommendations on how to proceed; specifically whether a change is appropriate, and if so what that change might be and what the ramifications of that change might be. *Overtaken by events*
7. Einolf report to T3/S9 a work item to develop a Recommended Practice to address implementation issues relating to distributed transmission systems. *Completed*
8. Adams to coordinate remaining work on T3S17-360r2 during the 2 week comment period approved by T3, and to provide a final document for posting on the ATSC Web site by Whitaker as a Candidate Standard. *Completed*
9. Chairman Justus to transmit to SCTE/CAP T3S17-360 rev. 2 along with an appropriate cover letter. *Completed*
10. Dolan to report to T3/S13 the direction of T3 to bring back a recommendation for moving forward on updating the A/9x series of standards with consideration for the ACAP specification. *Completed*

11. Dolan and T3/S13 to proceed to develop the specification(s) necessary to address the request from a consortium of Korean interests to standardize on a download protocol for firmware upgrades. *On agenda*
12. Whitaker to post T3S16-030R14 on the ATSC Web site as a Candidate Standard for a period of 3 months. *Completed*
13. Smithpeters to convene T3/S2 with the working draft scope as stated in the draft Minutes of the September 10 T3 meeting. Refining the draft scope will be the first task of the specialists group. *Completed*
14. Einolf and T3/S9 to consider the ETRI and Samsung work on enhanced VSB transmission and to report back to T3 as appropriate. *On agenda*

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

### **7.1 Assigned by Board of Directors**

Mr. Richer reported that the following resolution from the Applications Subcommittee was endorsed by the Board through approval of a motion at its November 19 meeting:

“The Applications Subcommittee commends T3 for starting development of a standard to facilitate broadcast delivery of receiver firmware upgrades. While it is understood that implementation of this capability will require consideration of operational, business, and legal issues, AS recommends to the Board that it urge T3 to expedite this activity.”

### **7.2 Implementation Subcommittee**

Art Allison (NAB), chair of the Implementation Subcommittee, said there were no new work items to report to T3.

### **7.3 Other**

No other work items were identified.

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

Graham Jones (NAB), Chair of T3/S1, briefed the committee on the recent work of the specialists group (**Attachment 4**).

### **8.1 Status Report**

Mr. Jones reported that T3/S1 has developed a Working Draft “Programming Metadata Communication Protocol Standard” (**Attachment 5**). This document (revision 8) was posted to the T3 reflector on November 27. He said the document is the culmination of 12 months of concerted effort by the members of T3/S1, following some 7 months of preliminary work in the IS/PSIP Working Group.

Mr. Jones reported that since the initial T3 posting, additional changes have been made to the Working Draft, the latest version of which (revision 9) was posted to the T3 reflector on September 9 (**Attachment 6**). He said changes from the Rev. 8 version are editorial and minor clarifications of text.

Mr. Jones reported that T3/S1 plans to produce a “Guide to the Use of the PMCP Standard” in due course. He said this will be a highly useful document for implementers, however he stressed that the PMCP specification stands alone and added it is important to make the specification available to the industry for review and trial implementation as soon as possible.

Mr. Jones reviewed the architecture of the specification in detail and fielded specific questions from T3 members. He called attention to certain changes made to the document since the last posting (Revision 9) and explained the reasons for them. He also noted that some editorial notes are present in the Working Draft, which are intended to facilitate further refinement of the specification during the expected Candidate Standard phase.

#### 8.2 Recommendation to Approve Working Draft of PMCP Specification as a Candidate Standard

Mr. Jones, on behalf of T3/S1, **moved** that the current version of the Working Draft PMCP specification (T3S1-218rev9b) be elevated to the status of Candidate Standard for a period of 6 months. Discussion followed with comments from Glenn Adams (XFSI), Rich Chernock (Triveni), Merrill Weiss (Tribune), and Wayne Luplow (Zenith). At the request of Chairman Justus, Mr. Richer outlined the procedure for moving a document from Working Draft to Candidate Standard and finally to Proposed Standard. Chairman Justus called the question; it was **approved** on a show of hands. (There were two abstentions.)

### 9. REPORT OF THE SPECIALISTS GROUP ON ACAP DEVELOPMENT, T3/S2 (CRAIG SMITHPETERS)

Craig Smithpeters (Cox), Chair of T3/S2, reported on current work within the specialists group (**Attachment 7**).

#### 9.1 Status Report

Mr. Smithpeters said that T3/S2 has held two meetings so far—one in-place and one teleconference. The vice-chair is Don Messina (CBS) and the document editor is Bill Foote (Sun). He said a corrigenda ad-hoc committee was formed at the first meeting in November, and that group has been holding bi-weekly teleconferences to resolve open corrigenda items.

Mr. Smithpeters, following up on an action item from the September 10 T3 meeting, offered a draft scope statement to T3/S2 for consideration at its first meeting; it was accepted. That scope is as follows:

“The Specialists Group on the Advanced Common Application Platform (T3/S2), under the supervision and direction of the Technology Group on Distribution, shall be responsible for the ongoing development of the ACAP specification. T3/S2 will be seeded from the members of T3/S13, T3/S16, T3/S17, and other interested participants. As necessary, T3/S2 will coordinate the ACAP-related activities of these specialists groups. T3/S2 will establish a working liaison with CableLabs, DVB, SCTE, and other organizations as necessary.”

Mr. Smithpeters reported that detailed reviews of CS/101 are generating primarily small editorial and technical corrigenda items. In addition, he said, some feedback from early implementers in Korea has been received. He added that a small number of items have been identified in GEM and MHP, and have been forwarded to the DVB’s MUG and TAM committees.

#### 9.2 Liaison with SCTE CAP

Mr. Smithpeters reported that T3/S2 has established liaison with the following organizations:

- DVB
- CableLabs
- ISO MPEG



- TV-Anytime

He said that while substantial informal liaison exists now with SCTE CAP, formal liaison is needed. He said a request was sent to Chairman Justus and the ATSC Board of Directors to establish a formal liaison directly between T3/S2 and SCTE CAP. The ATSC Board subsequently approved the request; SCTE is expected to establish a reciprocal liaison soon. The Board named Mr. Smithpeters as the ATSC liaison to CAP.

#### **10. REPORT OF THE SPECIALISTS GROUP ON VIDEO AND AUDIO CODING, T3/S6 (BILL MILLER**

William Miller (ABC), Chair of T3/S6, reported on current activities within the specialist group (**Attachment 8**). He pointed out that considerable work has been completed since the last T3 meeting, conducted during 5 teleconference calls.

##### 10.1 Advanced Codecs for E-VSB

Mr. Miller said that of the five candidate video systems proposed to T3/S6, two remain:

- **AVC/H.264**
- **Windows Media 9 (VC-9)**

Of the six candidate audio systems proposed to T3/S6, two remain:

- **HE AAC (High-Efficiency AAC)**
- **Enhanced AC-3**

Mr. Miller went on to outline the current status of the coding specification/preference spreadsheet and summarized where the selection process is at this point. He urged members express their opinions or preferences on codec selection to T3/S6; he said it is imperative that the specialists group have input from a broad range of interests.

##### 10.2 Subjective Testing of Video Codecs

Mr. Miller reported on the current status of subjective testing of video codecs, which was directed by T3 at the September 10 meeting. He said that test materials have been selected and all but two sequences have been distributed to coding team leaders; the remaining sequences are expected before the end of the year. Mr. Miller said that coding has been deferred until after CES and the current target date for viewing/evaluation is mid-February.

##### 10.3 Evaluation Criteria for Audio Codecs

Mr. Miller said that a testing program for audio codecs, which was directed by T3 at the September 10 meeting, has not yet been put into place.

###### **10.3.1 Compatibility Issues**

Mr. Miller reported that an important audio issue identified by T3/S6 is the need to keep the SPDIF connector active in a fallback mode. He explained that normally the 5.1 channel surround signal is output only via the SPDIF connector, which could presumably go dark during a fallback condition. He said that unless some account is taken of this issue, operational problems in the field could result.

Mr. Miller observed it is relatively straightforward to derive a standard AC-3 signal from the enhanced AC-3 codec to drive the SPDIF output. The other codec under consideration (HE-AAC), he explained, is an entirely different design. As such, T3/S6 believes it may not be possible to convert the HE-AAC to AC-3 unless the stream is decoded down to baseband and then re-encoded as AC-3 for output on the SPDIF connector. This scenario would, thus, imply having an AC-3 encoder in the E-VSB receiver and some way of bridging the metadata—particularly the dialog normalization and dynamic range information from the HE-AAC into the

AC-3 to allow the AC-3 decoder in the external audio system to function as the user would expect.

Mr. Miller said that with the widespread use of 5.1 channel surround sound among consumers today, the SPDIF connector issue is a critical one. He went on to observe that as T3/S6 evaluates the proposed audio codecs, it may become apparent that compatibility will need to be considered as much as coding efficiency.

Mr. Miller reported that that T3/S6 sought—and received—guidance on this point from the Applications Subcommittee, since it would likely have an impact on codec selection by the specialists group. He said that the AS, at its November 18 meeting, approved the following motion:

“The Applications Subcommittee finds it is critical that any E-VSB DTV receiver with a SPDIF connector be able to output AC-3 elementary streams per IEC-61937 for all audio services.”

Mr. Miller said he would like guidance from T3 on how this AS finding might impact the audio codec selection process of T3/S6. Discussion followed, with comments offered by Jeff Krauss (NCTA), Pat Waddell (Harmonic), Adam Goldberg (Sharp), Ren McMann (CBS), Glenn Reitmeier (NBC), and Robert Blanchard (Sony). Chairman Justus asked T3 members to offer their views on this subject as part of the ongoing work of T3/S6.

Mr. Miller called upon Craig Todd (Dolby) to brief the committee on a test DVD that has been prepared by Dolby which demonstrates how the fallback audio mode might work in a receiver with a SPDIF output, and what the consumer would hear in a variety of operating modes. He said these demo DVDs are available to T3 members by request.

#### 10.4 Codec Documentation

Mr. Miller reported on the status of documentation issues for the candidate codecs. Specifically,

- A working draft of Windows Media 9 (VC-9) has been balloted by SMPTE C24. In response to a question from Mr. Todd, Mr. Miller said that SMPTE has been fully informed of the T3/S6 work relating to VC-9. Mr. Weiss added that in the discussion of VC-9, members of the specialists group indicated that standardization of the codec as an open standard would be important for further consideration. He said the request for SMPTE standardization of VC-9 came from Microsoft, not ATSC. Edward Heredia (Microsoft) said his company decided to request SMPTE to standardize Windows Media 9 following expressions of interest from a number of parties.
- For video, draft A/53 “Annex F” documents have been submitted by both proponents, specifying applicable coding constraints.
- For audio, draft A/53 “Annex G” documents have been submitted by both proponents, specifying applicable constraints.
- Amendments to A/53 Annexes A and B have been developed relating to the use of MPEG-2 video and AC-3 audio in the enhanced mode; discussion is still underway relating to a still mode.

The meeting broke for lunch at 11:47 a.m.

The meeting resumed at 12:30 p.m.

#### **11. REPORT OF SPECIALISTS GROUP ON DATA MULTIPLEX/TRANSPORT, T3/S8 (MARK EYER)**

Mark Eyer (Sony), Chair of T3/S8, reported on current activities in the specialist group (**Attachment 9**).

### 11.1 Report on Status of E-VSB Transport Amendments (S8-1 ad-hoc)

Mr. Eyer reported that a Working Draft amendment to A/65B describing PSIP for E-VSB has been completed. The document, T3S8-527 Rev. 3 (**Attachment 10**) was distributed to T3 for review two weeks ago. He reported the consensus recommendation of T3/S6 that this document should be elevated to Candidate Standard status for a period of time ending 2 August 2004. Mr. Eyer pointed out the normative reference to A/53C Amendment 1, final approval of which would be a pre-requisite for publication of this amendment.

Mr. Eyer went on to outline the technical principles of the proposed PSIP amendment, including:

- PSIP tables are defined for use in the enhanced portion of E-VSB transmission
- The syntax/semantics are nearly identical to corresponding regular PSIP tables
- Descriptor usage rules are unchanged (except for the Service Location Descriptor)
- A different (new) SI-base PID value is assigned for PSIP-E
- The STT-E is transported in a separate (new) PID

Mr. Eyer pointed out that T3/S8 527r3 includes several “TBD” values for code points. He said that actual values are needed for prototype implementations and, on behalf of T3/S8, asked T3 to authorize “provisional assignment” by the ATSC Code Point Registrar. No objections were raised to this proposal. Mr. Whitaker said he would work with Mr. Eyer to make the appropriate assignments.

Mr. Eyer, on behalf of T3/S8, **moved** that T3/S8 Doc. 527 Rev. 3 (with provisional code point values added) be advanced to Candidate Standard status for an implementation period ending 2 August 2004. Mr. Richer observed that the process surrounding this document is complicated in that it is an amendment to a published standard, and it includes a normative reference to an unapproved (and unpublished) document (A/53C). Mr. Richer said there should be introductory text explaining the purpose of the amendment and how it relates to other work underway within ATSC. Mr. Allison agreed that explanatory text would be useful, but he suggested that the note be included on the Standards page of the Web site (where the link would be found), rather than within the document itself. Mr. Eyer took an action item to work with ATSC staff to develop the appropriate wording.

Chairman Justus called the question. It was **approved** on a show of hands. (There were two abstentions.)

### 11.2 A/53C Amendment Status

Mr. Eyer reported that work continues on developing an amendment to A/53C Annex C to describe the E-VSB transport system. He said the consensus of T3/S8 is that there should not be multiple audio/video codecs for E-VSB. As such, he said four documents, representing all combinations of one new audio and one new video codec are being developed by the E-VSB Transport AHG.

He said current works focuses on buffer modeling and analysis of induced jitter. Among the issues identified are that certain high E-VSB mix ratios require more intelligent audio packet scheduling in the main 8-VSB stream in order to properly manage the main audio buffer. Comments were offered by several committee members on the induced jitter problem, including Mr. Goldberg, Mr. Allison, Mr. Reitmeier, and Mr. McMann. One of greatest challenges in this regard is the behavior of legacy equipment, particularly under high robust-to-main mix ratios. Mr. Eyer said that work continues within the E-VSB Transport AHG to solve these problems.

Mr. Eyer reported that T3/S8 expects to deliver the draft A/53C E-VSB amendment(s) to T3 for consideration prior to the February 19 T3 meeting.

### 11.3 Content ID Work in MPEG

Mr. Eyer reported that ISO MPEG has defined a way to carry ISAN and V-ISAN in MPEG-2 transports using the existing MPEG-2 content ID descriptor. He said the ad-hoc group S8-6 (Content ID ad-hoc) is being reactivated to review this development and make recommendations on what actions—if any—are appropriate. In the meantime, the specialists group believes that notice of this work should be made available to users of A/57A through a posting on the ATSC Web site.

Mr. Eyer suggested the addition of the following informative note to the Web site listing of Approved Proposed Standard A/57A:

“Those interested in content identification should be aware that ISO MPEG has a draft work in process to define a standard means of carrying ISAN and V-ISAN, and ATSC is investigating this work. The outcome may result in a revision to A/57A.”

Discussion followed, with clarification on the MPEG work offered by Mr. Chernock. Mr. Chernock took an action item to work with Mr. Eyer and Mr. Whitaker to refine the wording and place the note on the Web site.

### 11.4 Standards Activity Update

Mr. Eyer reported that the T3/S8 ad-hoc group on general updates has been reactivated to address various issues relating to A/65B. Changes being considered include:

- Update references
- Extensibility of descriptors and tables
- User private table PID ranges
- Mechanisms for announcement of multiple language/audio type pairs in the EIT
- Other editorial issues

### 11.5 Other Issues

Chairman Justus called attention to a remaining action item from the previous meeting relating to T3/S6 and T3/S8, specifically:

Miller and Eyer to discuss how the planned output documents of T3/S6 and T3/S8 would move forward and the schedule for that work, to offer their combined proposal to their respective specialists groups, and to report back to T3 at the next meeting with recommendations for a path forward.

Mr. Miller and Mr. Eyer explained the issues involved from the standpoint of T3/S6 and T3/S8, respectively. Mr. Miller said it was highly unlikely that T3/S6 would complete its specified work prior to the February T3 meeting.

## **12. REPORT OF SPECIALISTS GROUP ON TRANSACTIONAL SERVICES, T3/S16 (EDWIN HEREDIA)**

Edwin Heredia (Microsoft), Chair of T3/S16, provided an update on activities within the specialist group (**Attachment 12**).

### 12.1 Status Report

Mr. Heredia provided an overview of the Interaction Channel Protocol defined in CS/96. He noted that on September 10, T3 elevated the T3/S16 draft specification for Interaction Channel Protocols (ICP) to Candidate Standard for a period of three months. He said this period expires

today, and having received no comments for modifications or requests for additions, T3 should consider moving this document to the next stage (Proposed Standard).

Accordingly, Mr. Heredia **moved** that T3 elevate CS/96 to Proposed Standard. **Second** by Mr. Adams. Mr. Weiss questioned the relatively short (3 month) period for Candidate Standard status. Mr. Heredia explained that CS/96 is built upon established, well-known protocols. Mr. Smithpeters, speaking in favor of the motion, agreed saying that CS/96 documents widely-used technologies and as such is ready to go forward. Chairman Justus called the question. It was **approved** on a show of hands. (There were two abstentions.)

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

Charles Einolf (representing UPN and MSTV), Chair of T3/S9, reported on current activities within the specialists group (**Attachment 12**).

#### **13.1 Status Report**

Mr. Einolf said the specialists group last met on October 8 and discussed the following issues:

- Distributed transmission
- On-channel repeaters (K-Tech proposal and ETRI proposal)
- VSB enhancements (Samsung Transverse Reed-Solomon simulation, Philips-ETRI Enhanced-xVSB simulation, and E-VSB Recommended Practice)

He said the next meeting of T3/S9 is scheduled for 21 January 2004.

#### **13.1.1 Distributed Transmission**

Mr. Einolf reported that work continues on preparing a draft Recommended Practice on Distributed Transmission, which is being led by Mr. Weiss. He said an outline of the document has been complete, which includes sections that examine On-Channel Repeater and Translators.

Chairman Justus reminded the committee that action will be required on CS/110A at the next T3 meeting, since the Candidate Standard status for that document will expire on 10 March 2004.

#### **13.1.2 Enhanced VSB**

Mr. Einolf reported that the ad-hoc group working to develop a Recommended Practice on E-VSB continues to make progress, with Wayne Bretl (Zenith) as the chair. The scope of the document is to include transmission-related, transport-related, and video/audio coding-related issues. Participation in this work by members of other specialists groups—specifically T3/S6, T3/S8, and T3/S10—is invited.

### **14. REPORT OF THE SPECIALISTS GROUP ON RECEIVERS, T3/S10 (JOHN HENDERSON)**

John Henderson (Hitachi), Chair of T3/S10, reported on current work of the specialists group.

#### **14.1 Status Report**

Mr. Henderson reported that good progress continues to be made on the Recommended Practice on Receiver Performance Guidelines. He said agreement has been reached on a number of key areas, but emphasized that important work remains to be completed. He said two subgroups have been meeting on a regular basis—the Sensitivity and Selectivity AHG led by Kelly Williams (NAB), and the Multipath Issues AHG led by Samir Hulylukar and Azzedine Touzni (ATI). One of the tasks requiring significant additional work is bit stream capture analysis.

Mr. Henderson said the additional work currently underway will mean that T3/S10 will not be able to complete a working draft document by the end of this year. He said the draft RP may be available prior to the February 19 meeting of T3. Mr. Henderson encouraged additional participation from interested parties.

Chairman Justus urged Mr. Henderson and T3/S10 to complete its work prior to the next T3 meeting if at all possible.

#### **15. REPORT OF THE SPECIALISTS GROUP ON DATA BROADCAST, T3/S13 (MIKE DOLAN)**

Mike Dolan (TBT), Chair of T3/S13, briefed the committee on the recent work of the specialist group (**Attachment 13**).

##### 15.1 E-VSB Update

Mr. Dolan reported on robust mode signaling considerations that might impact data broadcasting issues. He said joint T3/S8 and T3/S13 teleconferences continue to be held, chaired by Mr. Allison. He said the group has decided to defer data-specific signaling, in particular PSIP service\_type 4.

Mr. Dolan reported that T3/S13 recommends deferring further work on this activity until such time as E-VSB data-specific scenarios are identified in detail. This plan was accepted by T3.

##### 15.2 ACAP Transport Harmonization Proposal

Mr. Dolan reminded the committee of the direction from T3 to T3/S13 to report back with recommendations on harmonizing the A/9x series of standards with ACAP (**Attachment 14**). He said this issue was discussed in some detail at the last meeting of the specialists group. Among the recommendations:

- Complete the A/90 revision in a draft A/90-A for T3 ballot.
- Investigate whether changes to A/65 and/or A/90 may be needed to more clearly signal ACAP services.
- Resolve the inconsistency between A/95 and the ACAP object carousel.
- Evaluate the ramifications of modifying A/90 to not require the DST in all data service applications.

Chairman Justus observed the consensus of T3 to accept these recommendations and directed T3/S13 to proceed accordingly.

##### 15.3 Firmware Upload Status

Mr. Dolan, following up on a request from T3 on September 10 to investigate defining firmware software upload functionality, reported that T3/S13 is working on requirements now—with technical proposals received from Samsung and ETRI. He said work on this project is being conducted largely by teleconferences, and added that it has the highest priority within the specialists group.

#### **16. REPORT OF THE SPECIALISTS GROUP ON DASE, T3/S17 (GLENN ADAMS)**

Glenn Adams (XFSI), chair of T3/S17, reported that no meetings have been held since the last T3 meeting. He said that with all ACAP work now being conducted within T3/S2, it may be time for the specialists group to be deactivated or retired. Following some discussion, Chairman Justus observed the consensus of T3 that T3/S17 will become dormant pending new work items. He went on to thank Mr. Adams for his work as the chair of T3/S17.

#### **17. SCHEDULE OF NEXT T3 MEETINGS**

The next meeting of the Technology Group on Distribution will be held on 19 February 2004. Other meetings scheduled for 2004 are:

- 2 April 2004
- 10 June 2004

- 23 September 2004
- 18 November 2004

**18. ADJOURNMENT**

There being not further business before T3, 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. Graham Jones to forward to Jerry Whitaker the current version of the Working Draft PMCP specification (T3S1-218rev9b) for posting on the ATSC Web site as a Candidate Standard for a period of 6 months.
2. Mark Eyer to work with ATSC Code Points Registrar Jerry Whitaker to provisionally assign the necessary values for T3/S8-527r3 prior to posting of said document as a Candidate Standard.
3. Mark Eyer to forward to Jerry Whitaker T3/S8 Doc. 527 Rev. 3 (with provisional code point values added per above) for posting as a Candidate Standard for period of time ending 2 August 2004. Eyer and Whitaker to draft appropriate text explaining the purpose of the amendment and how it relates to other work underway within ATSC for inclusion on the Web site posting.
4. Rich Chernock, Mark Eyer, and Jerry Whitaker to draft an informative note to the Web site listing of Approved Proposed Standard A/57A taking into account ISO-MPEG work in this area.
5. Edwin Heredia to forward to Jerry Whitaker CS/96 for issuance of a letter ballot as a Proposed Standard.



## Attachments

**Attachment 1** Attendance List

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_1\\_attendance.doc](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_1_attendance.doc)

**Attachment 2** Draft Agenda

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_2\\_draft\\_t3\\_agenda\\_2003\\_11\\_10.doc](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_2_draft_t3_agenda_2003_11_10.doc)

**Attachment 3** Draft Minutes from T3 Meeting of 10 September 2003

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_3\\_T3605r1.doc](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_3_T3605r1.doc)

**Attachment 4** T3/S1 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_4\\_S1\\_T3\\_report\\_12-10-03.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_4_S1_T3_report_12-10-03.ppt)

**Attachment 5** T3/S1 PMCP Working Draft, Rev. 8

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_5\\_PMCP\\_working\\_draft-r8.zip](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_5_PMCP_working_draft-r8.zip)

**Attachment 6** T3/S1 PMCP Working Draft, Rev. 9

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_6\\_PMCP\\_working\\_draft-r9.zip](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_6_PMCP_working_draft-r9.zip)

**Attachment 7** T3/S2 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_7\\_S2\\_Status\\_Report.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_7_S2_Status_Report.ppt)

**Attachment 8** T3/S6 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_8\\_T3S6\\_status.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_8_T3S6_status.ppt)

**Attachment 9** T3/S8 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_9\\_S8\\_Status\\_Report\\_12-03.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_9_S8_Status_Report_12-03.ppt)

**Attachment 10** T3S8-527 Rev. 3, PSIP for E-VSB

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_10\\_T3S8-527r3\\_A65B\\_Amendment.doc](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_10_T3S8-527r3_A65B_Amendment.doc)

**Attachment 11** T3/S16 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_11\\_s16-dec-03.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_11_s16-dec-03.ppt)

**Attachment 12** T3/S9 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_12\\_S9\\_Status\\_Report.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_12_S9_Status_Report.ppt)

**Attachment 13** T3/S13 Status Report

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_13\\_S13-222R0-Status.ppt](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_13_S13-222R0-Status.ppt)

**Attachment 14** T3S13-219r4, Harmonization Recommendations

[http://www.atscmembers.org/sg/T3/2003\\_12\\_10/documents/Attachment\\_14\\_S13-219R4-Harmonization-Rec.doc](http://www.atscmembers.org/sg/T3/2003_12_10/documents/Attachment_14_S13-219R4-Harmonization-Rec.doc)