

Minutes
Advanced Television Systems Committee, Inc.
Board of Directors Meeting
NAB, 1771 N Street, NW, Washington, DC
November 19, 2003

1. Call to Order; Determination of Quorum; Approval of Agenda

Chairman Phil Livingston, Panasonic Broadcast, called the meeting to order at 10:03 AM. The Attendance List is **Attachment 1**. A quorum was determined. The agenda was approved and is **Attachment 2**.

2. Opening Comments

Mr. Livingston welcomed the attendees.

3. Consideration of the Draft Minutes of September 9, 2003

The Board approved the draft Minutes of the Board meeting on September 9, 2003.

4. Report of the President

a) Membership Report

Mr. Richer presented the membership report (**Attachment 3**).

b) Status of Letter Ballots

Mr. Richer reported the status of letter ballots (**Attachment 4**). He noted the proposed Recommended Practice that was out to membership ballot, an 18-month effort to update A/54 Guidelines to the DTV Standard. He thanked the members of the specialist groups: Video/Audio Coding (T3/S6), Transport (T3/S8), RF Transmission (T3/S9), Receivers (T3/S10) and Jerry Whitaker who served as the overall document editor.

c) Financial Report

Mr. Richer gave the financial report through October 31, 2003 (**Attachment 5**). He reported that the recent seminar was a financial success. He said that he was hopeful that the higher than budgeted revenue for the year would offset the unexpected costs associated with the First Pay issue. Brian Smith suggested that a non-audited balance sheet be included in the financial report at the January Board meeting.

d) Other

Mr. Richer reported that the sold-out PSIP and Closed Captioning University was successful from both an educational and financial viewpoint. He thanked the speakers, organizers, and the sponsors Decisionmark, LINX Electronics, Thales Broadcast & Multimedia, and NCAM. He said that ATSC has agreed to conduct a one-day PSIP seminar at the NAB convention on Saturday, April 17. Mr. Richer also reported that ATSC had conducted a well-received ACAP session last Friday at the SMPTE conference in New York City.

Mr. Richer reported that the October newsletter had been distributed and he thanked the members that have sponsored it this year: Decisionmark, Harris, Tandberg Television, Turner Engineering, and Zenith. The final 2003 issue will be published in late December.

5. Executive Session

The Board met privately with the President. Mr. Richer recommended that ATSC Technical Director Jerry Whitaker be promoted to Vice President. The Board unanimously agreed and appointed Mr. Whitaker Vice President of Standards Development.

6. Nominating Committee

Wayne Luplow, Zenith, presented the Nominating Committee's report (**Attachment 6**). The Board recognized and thanked Mr. Luplow and the committee for their fine work.

7. Budget and Finance Committee

Mr. Claudy reported on the Budget and Finance Committee efforts. He said that the group unanimously supported the promotion of Jerry Whitaker. He said they also agreed that no dues increase for 2004 was warranted. He added that before the Fall of next year the B & F committee should review the 2005 budget to determine the need to increase dues.

He said there was strong consensus supporting a 2004 budget without a deficit, and that they endorsed the draft budget proposed by ATSC staff (**Attachment 7**). They recommended that the proposed budget be recommended by the Board and sent to membership ballot. Wayne Luplow moved that the budget include an additional expense of \$25,000 to fund the ATSC Forum. It was seconded and discussed. Mr. Claudy explained that there were several reasons why the Budget and Finance Committee did not support Forum funding: they wanted to have a budget without a deficit; they believed that the initial ATSC funding of the Forum was only seed money with no intentions to be made annually or continuously; and, the Forum did not formally solicit funding support from ATSC. He said that he believes that individual ATSC members, not the ATSC organization as a whole, should fund the Forum. He also stated his concern that the relationship between the two organizations should be separate especially since there is now government involvement with matching funds. Others disagreed and stated support for the Forum funding for the reasons of showing support for the Forum's activities especially viewed by those outside of ATSC, and that the government funds are only available as matching those that the Forum raises. Funding of an amount less than \$25,000 was also discussed. Several members strongly voiced against adjusting the proposed budget that would cause there to be a deficit. A vote was called on the motion to include \$25,000 for the Forum. It was defeated, 3 yes, 6 no, 4 abstained. Lynn Claudy moved that the Board accept the Budget and Finance Committee's endorsement of the proposed 2004 budget and forward it to the membership for a vote. The motion was seconded and approved. Brian Smith moved that the ATSC Forum be invited to make a presentation to the Board in January. The motion was seconded and approved.

8. Membership Committee

Jay Adrick, Harris, reported that he had been unable to get a response from the member that he had been contacting over the past several months regarding continuation of membership and payment of dues for 2003. He said that he did have success with two broadcast groups who said they would be requesting funds from their budget to become members.

9. Intellectual Property

Pat Griffis, Microsoft, gave the IPR Ad Hoc Group report (**Attachment 8**). He said that Ralph Justus, Wayne Luplow, Mark Richer, Brian Smith, and Peter Symes are on the ad hoc, and Craig Todd of Dolby just requested to be a member. From the report, the ad hoc group recommended that: ATSC should not become a licensing authority; the ATSC Patent Policy should be revised to reflect "positive" IPR disclosure; and, the ATSC Patent Policy should not require disclosure of licensing terms. Mr. Griffis moved that the Board recommend that the IPR ad hoc group propose revisions to the ATSC Patent Policy and other documents to reflect that participants in ATSC

standards work be required to disclose essential patents and other intellectual property that they may deem essential. The motion was approved unanimously.

Mr. Griffis introduced Ron Moore of Via Licensing who gave a presentation of their services **(Attachment 9)**.

Mr. Richer presented a patent letter submitted by LG Electronics **(Attachment 10)**. Ralph Justus moved that the Board accept the letter. The motion was seconded and unanimously approved.

10. Report of the Technology Group on Distribution

Ralph Justus reported that T3 met on September 10. He noted that a detailed description of the specialist group activities is in the handouts **(Attachment 11)**. Mr. Justus reported that the S2 ACAP work is underway and there needs to be a liaison to SCTE's ACAP group and other organizations as necessary. Craig Smithpeters, Cox Communications and T3/S2 chair is the appropriate person to liaison. Mr. Justus said that CableLabs has been promoting their OCAP standard and it is not clear what they will do with ACAP. Mr. Justus reported that T3/S6 testing of candidate video codecs for proposed enhanced transmission mode is targeted for completion in January. He also noted that T3/S10 is working diligently on developing a recommended practice for voluntary DTV receiver guidelines.

11. Report of the Implementation Subcommittee

Art Allison, NAB, reported on Implementation Subcommittee activities. He said the Systems Working Group is busy, but the other groups are not. Discussion followed on lack of participation, mainly due to member organizations' lacking the personnel resources to participate in all of the standards groups within and outside of ATSC. It was suggested that IS assess their situation and present a proposal to the Board on future work endeavors.

12. Report of the Applications Subcommittee

Sterling Davis, Cox Broadcasting, gave the report of the Applications Subcommittee **(Attachment 12)**. He reported that at the last meeting on November 18 AS agreed to submit the following resolution and request to the Board:

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, the Applications Subcommittee recommends to the Board that it urge T3 to expedite this activity.

Mr. Davis moved that the Board accept the recommendation and it was seconded. Discussion followed regarding the need to make this request. Mr. Justus believed it not necessary. Others believed that formally requesting that this work take a priority in T3/S13 would be beneficial and appreciated by the T3/S13 chair. The motion was approved.

13. ACAP Conformance Tests

Mr. Justus reported that developing an outline for testing is far more complicated than expected. CableLabs, who has developed a test platform for OCAP has not yet responded to whether they will expand it to include ACAP. Craig Tanner, Sharp Labs who is leading the effort on behalf of CEA said that it is a worthwhile effort to certify ACAP and that they will continue to pursue this important issue.

14. ATSC Forum Report

Wayne Luplow reported on the ATSC Forum activities. He said that the Forum expects the government of Mexico to formally announce adoption of the ATSC DTV standard in the near future. He reported that Korean government officials and TV leaders are conducting a fact-finding mission around the world. They will be meeting with representatives from ATSC and then the FCC next Monday, then going to CBS in New York on Tuesday to discuss the ATSC Standard. He said there is interest in mobile and that new government officials are questioning the previous administration's DTV standard choice. Mr. Richer suggested that the Board consider holding a meeting in Seoul next year.

Mr. Luplow said that the Forum would be attending a business development conference in Miami in February.

15. Other Business

Brian Smith suggested that the Board set up an ad hoc group to develop goals for 2004. The group could consider broadening the scope of their effort to include surveying and/or evaluating what is important to the organization. Mr. Smith will chair the group through the end of the year, and next year if he is re-elected to the Board.

Mr. Justus expressed his gratitude to the Board members whose terms expire next month. The group gave a round of applause for: Jay Adrick, Harris; Joseph Flaherty, CBS; Ira Goldstone, Tribune; Thomas Hankinson, ABC; Philip Livingston, Panasonic Broadcast; and, Brian Smith, Philips.

Jay Adrick voiced concern of strong signals of broadband over power lines (BPL) and urged broadcasters and receiver manufacturers to discuss this topic with the FCC.

16. Schedule of Future Board Meetings

The next Board meeting scheduled for January 14 presented a conflict for some Board members. The date was changed to January 15. Pat Griffis offered to host the January 15, 2004 meeting at the Microsoft facilities in Mountainview, CA.

Mr. Livingston, on behalf of the Board, thanked NAB for their hospitality and Zenith for sponsoring the lunch.

17. Adjournment

The meeting was adjourned at 3:15 PM.

Attachments

- Attachment 1: Attendance list
- Attachment 2: Draft agenda
- Attachment 3: Membership Report
- Attachment 4: Letter Ballot Report
- Attachment 5: Financial Report
- Attachment 6: Nominating Committee Report
- Attachment 7: Proposed Budget for 2004
- Attachment 8: IPR Ad Hoc Group Report
- Attachment 9: Via Licensing Presentation
- Attachment 10: LG Patent Statement Letter
- Attachment 11: Activities Report
- Attachment 12: Applications Committee Report

**ATSC Board of Directors Meeting
Attendance List
November 19, 2003
NAB, Washington, DC**

Board Members Present

Jay Adrick, Harris
Lynn Claudy, NAB
Sterling Davis, Cox Broadcasting
Joe Flaherty, CBS
Pat Griffis, Microsoft
Tom Hankinson, ABC
Ralph Justus, CEA
Phil Livingston, Panasonic
Wayne Luplow, Zenith
Brian Smith, Philips
Victor Tawil, MSTV
Yiyang Wu, IEEE

Board Members Absent

Bill Check, NCTA
Ira Goldstone, Tribune
Peter Symes, SMPTE

ATSC Members and Guests

ATSC President	Mark Richer
ATSC Communications Director	Christy Kehlbeck
ATSC Technical Director	Jerry Whitaker*
ATSC IS Chairman	Art Allison
Covington & Burling (Microsoft)	Kurt Wimmer
Dolby Labs	Craig Todd
Echostar	William Beals
LINX Electronics	Robert Rast
Motorola	Sam Narasimhan
MSTV	Tom Gurley
NCTA	Andy Scott
Samsung	C.B. Patel
Sharp Labs	Adam Goldberg, Craig Tanner
Tribune	Andy Bater
VIA Licensing	Ron Moore

**Revised
Draft Agenda
Advanced Television Systems Committee, Inc.
Board of Directors Meeting
November 19, 2003
10:00 AM to 3:30 PM
NAB
1771 N Street, N.W., Washington, DC**

1. Call to Order; Determination of Quorum; Approval of Agenda
2. Opening Comments (P. Livingston)
3. Consideration of Draft Minutes of September 9, 2003 Meeting
4. Report of the President (M. Richer)
 - a. Membership Report
 - b. Status of Letter Ballots
 - c. Financial Report
 - d. Other
5. Executive Session
6. Nominating Committee (W. Luplow)
7. Budget & Finance Committee (L. Claudy)
 - a. Approval to ballot 2004 Budget
 - b. Other issues
8. Membership Committee (J. Adrick)
9. Intellectual Property Committee (P. Griffis)
 - a. Committee Report
 - b. VIA Licensing Presentation (R. Moore, VIA Licensing)
10. T3 Report (R. Justus)
11. IS Report (A. Allison)
12. AS Report (S. Davis)
13. ACAP Conformance Tests (R. Justus)
14. ATSC Forum Report (W. Luplow)
15. Other Business
16. Schedule of Future Board Meetings
 - a. January 14th
17. Adjournment

ATSC Membership Report

November 19, 2003

New Members

MPEG LA (observer)
RF Magic

Total Members & Observers:

September 9, 2003	138
November 19, 2003	140

Letter Ballot Status

Letter Ballot Description	Results	Status
ATSC Ballots:		
Proposed RP: Revision of A/54A Guide to the Use of the ATSC DTV Standard		Closes December 4, 2003
Editorial privileges		
2004 Board of Directors and Chairman		Closes December 2, 2003
Revision to the ATSC Bylaws	27 yes, 0 no, 1 ab	Approved October 23, 2003
Editorial privileges		

ATSC, Inc.
2003 Financial Report as of October 31, 2003

	Budget	Actual	
	<u>2003</u>	<u>Jan - Oct 2003</u>	<u>Projection</u>
REVENUE			
Membership Dues	\$ 855,700	\$ 910,830	\$ 938,085
Seminar Revenue	\$ 68,400	\$ 34,427	\$ 40,677
Interest Income	\$ 6,000	\$ 5,655	\$ 6,055
Meeting Sponsorships	\$ 3,000	\$ 8,500	\$ 8,500
Newsletter Sponsorships	\$ 10,500	\$ 10,000	\$ 10,000
Miscellaneous Income		\$ 5,822	\$ 5,822
TOTAL REVENUE	<u>\$943,600</u>	<u>\$ 975,233</u>	<u>\$ 1,009,138</u>
EXPENSE			
Program Services:			
Seminars	\$ 60,420	\$ 2,603	\$ 23,839
ATTC Dues	\$ -	\$ -	\$ -
ATSC Forum	\$ 25,000	\$ 25,000	\$ 25,000
Total Program Services:	<u>\$ 85,420</u>	<u>\$ 27,603</u>	<u>\$ 48,839</u>
Management & General:			
Salaries & Benefits	\$ 639,760	\$ 570,822	\$ 712,423
Professional Fees	\$ 21,460	\$ 23,536	\$ 32,836
Travel & Business	\$ 48,950	\$ 34,342	\$ 38,342
Rent	\$ 47,765	\$ 36,732	\$ 44,754
Telephone & Internet	\$ 29,470	\$ 29,358	\$ 35,116
Duplication & Printing	\$ 10,200	\$ 8,000	\$ 9,082
Office Supplies & Equipment	\$ 11,100	\$ 11,547	\$ 14,500
Insurance	\$ 16,763	\$ 10,083	\$ 10,083
Postage & Shipping	\$ 2,600	\$ 819	\$ 1,500
Newsletter	\$ 29,200	\$ 13,937	\$ 28,537
Meetings	\$ 19,100	\$ 27,513	\$ 28,513
Other	\$ 5,400	\$ 2,046	\$ 3,500
Total Management & General:	<u>\$ 881,768</u>	<u>\$ 768,735</u>	<u>\$ 959,187</u>
GRAND TOTAL EXPENSES	<u>\$ 967,188</u>	<u>\$ 796,338</u>	<u>\$ 1,008,026</u>
ESTIMATED NET INCOME	<u>(\$23,588)</u>	<u>\$ 1,112</u>	

**ATSC Nominating Committee
Status Report
November 19, 2003**

By the deadline for submission of nominees (September 17), the Nominating Committee had received nominations totaling more than twice the number of vacant seats (6).

Consistent with the ATSC Policy for *Nominating Process for the Board of Directors*, the Nominating Committee selected 12 nominations for Board terms beginning January 1, 2004. Those selected to appear on the ballot were:

Jay Adrick	Tom Hankinson	Glenn Reitmeier
Joseph Flaherty	Phil Livingston	Frank Romeo
Adam Goldberg	Michael McEwen	Brian Smith
Ira Goldstone	Robert Rast	Pat Whittingham

Mr. Livingston was also nominated for Chairman of the ATSC.

All successful and non-successful nominees were accordingly notified by the Nominating Committee Chairman.

The ATSC staff initiated a four-week ballot on November 4, per timetable originally presented to the Board. The ballot closes December 2, 2003. Biographical and Goal statements as provided by the nominees were included with the full-membership e-mail ballot.

An opportunity for write-ins for directors and the chairman positions was provided as part of the ballot.

Remaining Timeline:

11/19	Status Report to ATSC Board
12/4	Ballot deadline
12/10	Lottery to determine 2-year and 3-year terms
12/11	Notification/Announcement of Ballot Results
1/14/04	Final Report of Nominating Committee to the Board

Respectfully Submitted,

Wayne Luplow
Chairman, ATSC Nominating Committee

**ATSC Ballot
DRAFT 2004 Budget
CONFIDENTIAL**

	Proposed 2004	Budget 2003
REVENUE		
Membership Dues	\$869,700	\$855,700
Seminar Revenue	\$ 68,400	\$68,400
Interest Income	\$ 6,000	\$6,000
Meeting Sponsorships	\$ 8,000	\$3,000
Newsletter Sponsorships	\$ 10,000	\$10,500
TOTAL REVENUE	\$962,100	\$943,600
EXPENSE		
Program Services:		
Seminars	\$ 60,420	\$60,420
ATSC Forum	\$ -	\$25,000
Total Program Services:	\$ 60,420	\$85,420
Management & General:		
Salaries & Benefits	\$ 666,513	\$639,760
Professional Fees	\$ 18,460	\$21,460
Travel & Business	\$ 40,700	\$48,950
Rent	\$ 47,122	\$47,765
Telephone & Internet	\$ 30,106	\$29,470
Duplication & Printing	\$ 8,200	\$10,200
Office Supplies & Equipment	\$ 13,100	\$11,100
Insurance	\$ 15,899	\$16,763
Postage & Shipping	\$ 2,000	\$2,600
Newsletter	\$ 29,200	\$29,200
Meetings	\$ 24,100	\$19,100
Other	\$ 5,400	\$5,400
Total Management & General:	\$ 900,799	\$881,768
GRAND TOTAL EXPENSES	\$ 961,219	\$967,188
ESTIMATED NET INCOME	\$881	(\$23,588)

Report of the ATSC IPR Adhoc: November 19, 2003

The IPR Adhoc now includes board members from Zenith, Philips, CEA, SMPTE and Microsoft as well as ATSC member Dolby and counsel for several participants. The Adhoc met with ATSC counsel on 11/18/03 to discuss some of the questions and preliminary conclusions. The original questions (bolded below) have been amended in some cases to more accurately reflect the issues as well as update the current consensus regarding the answers.

1) **Should a licensing authority be established for ATSC Standards?**

There is now consensus that the ATSC itself **should not** be a licensing authority because it would change the nature of the ATSC from a standards generating to a licensing organization. The issue of whether ATSC could/should facilitate licensing arrangements by patent holders to enhance efficiency of implementation of ATSC standards is open. ATSC counsel indicated that ATSC **could** do so but the decision of whether it **should** is primarily a business issue for the patent holders.

2) **ATSC Patent Policy Review**

a) **Should members and other participants be required to disclose essential patents and other intellectual property that they deem to be essential?**

Unanimous agreement that patent policy (Doc B/04) should be revised to require a positive disclosure of known IPR by members. Counsel noted that the basic principle is that everyone should play by the same rules. Mechanisms for dealing with non-members/ consultants/ observers are a major issue in this regard.

i) **Should the ATSC membership application be revised to require agreement to disclose essential IPR?**

The membership application should be reviewed and revisions considered.

ii) **Should language be added to meeting sign-in sheets that remind participants of the Patent Policy?**

No consensus, although counsel noted that while sign-in sheets are not necessarily legally binding along with other measures it will document the intent of the policy requiring disclosure of essential IPR. Further consideration necessary.

iii) **Should organizations with IP in ATSC standards be required to disclose licensing terms?**

While ATSC counsel agrees possible, requiring disclosure of licensing terms increases the potential for increased legal risk.

b) **Should Board review and approve licensing terms as a part of the standardization process?**

No. Although it may be possible, the potential anti-trust risk increases requiring careful monitoring. Licensing and commercial terms are better left to the participants and marketplace to negotiate/decide.

i) **Is the Board in a position to determine whether proposed terms are reasonable, and non-discriminatory?**

No, ultimately the market, and if necessary the courts are the best judge of RAND.

Recommendations:

1. The ATSC should **not** become a licensing authority.
2. The ATSC Patent Policy should be revised to reflect "positive" IPR disclosure.
3. The ATSC Patent Policy should not require disclosure of licensing terms.

Action items:

1. The Adhoc requests Board approval of the above recommendations
2. If approved, the Adhoc will prepare a draft revision of the ATSC Patent Policy in line with recommendations above for approval at the next board meeting.
3. The Adhoc will consider other policy and procedure revisions which may be necessary.

Respectfully submitted to ATSC Board,
Patrick Griffis- Chairman



Patent Licensing Programs

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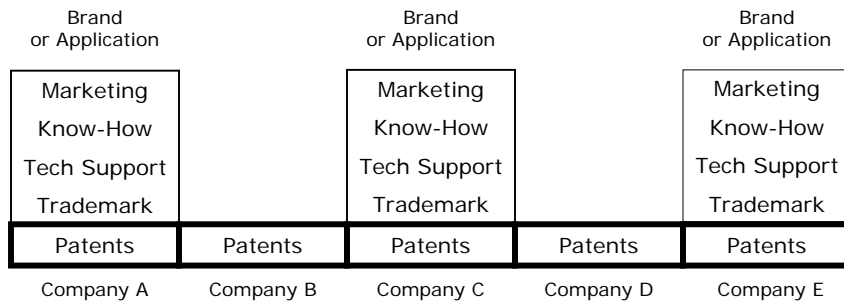


Via Licensing Corporation

- A wholly owned subsidiary of Dolby Laboratories
- Develops and operates one-stop-shop patent licensing programs for the convenience of licensees and licensors
- Via Licensing focuses exclusively on “horizontal” patent-only licensing programs



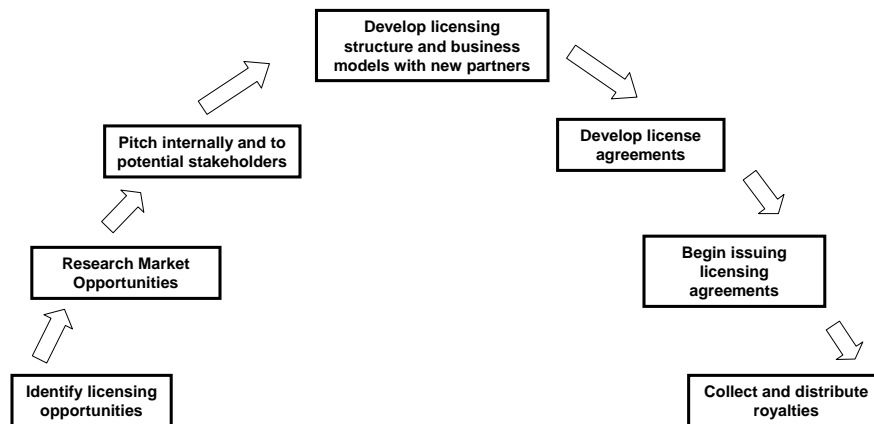
Enabling Widespread Practice of Standardized Technologies



- Patent license is foundation layer
- Multiple vertical solutions are enabled



Typical Pool Formation Process





Reasons to Use Licensing Agents

- Provides cost effective licensing of essential IP
 - Lowers transaction costs for Licensees and Licensors
- Enables markets through independent IP access
 - Licensees don't have to deal with competitors
- More consistent application of IP licensing
 - Can approach all potential licensees
- License offered as an "all in" rate
 - Provides cost stability and reduces uncertainty



Issues with Using Licensing Agents

- Antitrust rules prohibit joint licensing of non-essential IP
 - Many licensees would like access to useful but not essential IP from Licensors
- Not well suited to free licensing or promoter/adopter cross licensing
 - Non-monetary licenses do not create as many difficulties (provided no one wants to monetize IP)
- Licensing Authorities can have conflicts
 - Existing programs may conflict with new programs



Where Licensing Agents Work Well

- Licensing Open Industry Standards
 - Easy access to specification, allows open program and compliance with antitrust rules
- When number of Licensors and Licensees is Large
 - Although not required, this maximizes transaction cost savings
- Where Standard has long life and large barriers to entry
 - Programs take time and benefits are greater to Licensors and Licensees if license horizon is long
- Where Licenses are offered on royalty bearing basis
 - Here the insulation between Licensors and Licensees in terms of individual Licensee reports is important



Where Licensing Agents Don't Work Well

- Opposites of where they do work!!
 - Closed Proprietary Standards/Specifications
 - Small number of Licensors/Licensees
 - Short life span of Standard
 - Licenses granted Royalty Free on Promoter/Adopter basis



Process Should ATSC Designate a Licensing Agent

- Standards work begins, participants agree to use Licensing Agent per ATSC rules
- IPR committee meets during standards process to identify and meet with IP owners
- When Standard is finalized, issue public call for essential patents
- Have patents evaluated by independent evaluator
- Hold meetings with IP owners to establish license terms
- Begin licensing operations



Issues should ATSC Designate a Licensing Agent

- Pick the right Licensing Agent
 - Ensure that the Licensing Agent understands technology, its markets, and has broad acceptance and adoption as their goal
- Mandating Licensing Agent may affect participation in standard
 - More restrictions/requirements in IP licensing may discourage participation in the short term



Costs to ATSC of Designating a Licensing Agent

- Costs of Licensing Programs are normally recovered from Licensees and to a lesser extent Licensors
 - Costs of a joint program are much less than aggregate costs of multiple individual licensing programs



What Should ATSC do?

- Joint Licensing Programs if created under the right conditions are market enabling
- Standards bodies are under more pressure to not only create standards but ensure access
- Pre arranging Licensing Agent can greatly shorten time between completion of standard and access to IP rights
- Be proactive, get involved



Via Licensing's Current Programs

- **MPEG-2 AAC**
 - Over 100 licensees worldwide
- **MPEG-4 Audio** (including MPEG-4 AAC)
 - Licensing in progress with multiple MPEG-4 Audio Object Types and Profiles
- **Digital Radio Mondiale** – Audio
 - Open call for essential patents
 - Convening patent holder meetings
- **MPEG-7**
 - Issued call for essential patents
- **H.264 – AVC**
 - Convening patent holder meetings, issued preliminary license terms
- **802.11**
 - Soliciting key licensor interest, call for patents issued



Contact information for follow-up

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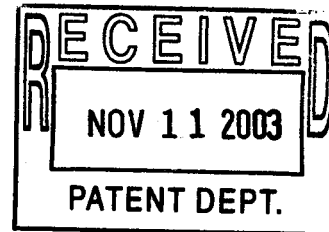


LG Electronics Inc.

San 4-1, Bongcheon7dong, Kwanak-gu, Seoul, 151-818, Korea
Phone : 82-2-2102-0114 Fax : 82-2-2102-0200

November 6, 2003

Advanced Television Systems Committee
1750 K Street, NW
Suite 1200
Washington, DC 20006



Gentlemen,

LG Electronics Inc. has made certain inventions which it believes are required (i.e. essential) for compliance with ATSC Document T3-596, "Working Draft Annex D of A/53B" dated March 5, 2003.

LG Electronics has granted the exclusive rights to license such inventions to Zenith Electronics Corporation and understands that, pursuant to the ATSC Patent Policy, to the extent any such inventions are approved as a part of an ATSC Standard, Zenith will, on behalf of LG Electronics, in accordance with a patent statement filed with the ATSC, make available to applicants a license to practice such inventions under reasonable terms and conditions that are demonstrably free of any unfair discrimination. Should any of such licensing rights revert back to LG Electronics, LG Electronics will make available to applicants a license to practice such inventions under reasonable terms and conditions that are demonstrably free of any unfair discrimination.

LG Electronics has engaged in licensing its patent properties on such a basis for many years.

Very Truly yours,

Jong Seok Park, Vice President,
Director of Digital TV Research Laboratory
LG Electronics Inc.

ATSC Specialists and Working Group Activities

19 November 2003

Technology Group on Distribution

The ATSC Technology Group on Distribution, with due regard for existing standards organizations and activities, develops and recommends voluntary, international technical standards for the distribution of television programs to the public using advanced television technology. Technologies considered may be improvements to current systems or entirely new systems that are compatible or incompatible with current systems. All forms of distribution systems may be considered, such as terrestrial broadcasting, cable systems, direct satellite broadcasting, and pre-recorded media. With respect to distribution systems, sound, vision, display, conditional access, and data sub-systems may be considered.

Ralph Justus, CEA, chairs the Technology Group on Distribution. The secretary of T3 is Jerry Whitaker of ATSC. To join T3, please fill out the Subcommittee Signup Form. Policies relating to the ATSC, in general, and T3, in particular, can be found on the ATSC Policies page (<http://www.atsc.org/policies.html>).

Overall Goals (as approved by the Board on 29 January 2003):

- Standards and Recommended Practices—complete T3/S9 technical work on VSB enhancements (advance specifications to Candidate or Proposed Standard by May 1, 2003), support FCC action as required, and complete associated transport, video and audio coding, and data specifications by September 30, 2003.
- Harmonize DASE and OCAP--complete “DCAP” by July 1 2003.
- Revise A/54 (Guidelines to ATSC DTV Standard A/53) by July 1, 2003.
- Complete DTH Satellite Standard by April 15, 2003.
- Complete “Programming Metadata Communications Protocol Standard” by September 30, 2003.
- Revise A/90 by July 1, 2003.
- Conduct 5-year review of A/63 (Coding for 25/50 Hz Video) by the end of 2003.

T3 Specialists Group	Document Responsibility	Current Work	Active Reflectors
<p>T3/S1: PSIP Metadata Communications, Graham Jones, NAB, chair</p> <p>The Specialist Group on PSIP Metadata Communication, T3/S1, under the supervision and direction of the Technology Group on Distribution, will develop a standard for exchange of PSIP-related metadata (including duplicate data that needs to be entered in other locations in the transport stream) between DTV systems and equipment that affect production of the transport stream and PSIP tables.</p> <p>The expected output is a standard that lists all the functions and processes that take place along any expected operational timeline, in a clear and coherent manner. It should utilize an industry standard communications protocol, and should describe every transaction and the appropriate messages to be used by each of the expected participants. The standard should be capable of future revisions to incorporate additional metadata and transactions as may be required.</p>		<p>Developing a standard for exchange of PSIP-related metadata between systems, to be known as “Programming Metadata Communications Protocol”</p>	<p>s1@list.atsc.org</p> <p>Glossary/Systems s-1-@list.atsc.org</p> <p>Content ID s-2-@list.atsc.org</p> <p>Timing s-3-@list.atsc.org</p> <p>XML Schema s-4-@list.atsc.org</p> <p>XML Transport s-5-@list.atsc.org</p>

<p>This activity will include liaison with other ATSC Specialists Groups, specifically with T3/S8 and T3/S13. T3/S1 will also liaise with other standards development organizations working on standards that include metadata, specifically with appropriate SMPTE Technology Committees.</p> <p>Goals:</p> <p>Develop a standard for exchange of PSIP-related metadata between systems and equipment that affect production of the transport stream and PSIP tables. The target for completion of a draft "Programming Metadata Communications Protocol Standard" is November 2003, leading to T3 approval for elevation to Candidate standard before the end of 2003. Following completion of the PMCP Standard, review and report on what other metadata-related to production of the ATSC transport stream (if any) could usefully be added as an extension to the standard. As a minimum, it is intended to develop extensions to the PMCP standard to cover PSIP metadata for data broadcasting and for E-VSB. A further goal is to produce a Guide to the Use of PMCP.</p>			
<p>T3/S2: Advanced Common Application Platform, Craig Smithpeters, Cox Communications, chair</p> <p>The Specialist 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 standard. T3/S2 will be seeded with the members of T3/S13, T3/S16, T3/S17, and other interested participants. As necessary, T3/S2 will coordinate ACAP related activities of these Specialist Groups. T3/S2 will establish a working liaison with CableLabs, DVB, SCTE, and other organizations as necessary. (draft)</p>	CS/101	ACAP document development	S2@list.atsc.org S2-1@atsc.org
<p>T3/S6: Video and Audio Coding, William Miller, ABC, chair</p> <p>The Specialists' Group on Audio and Video Coding, under the supervision and direction of the Technology Group on Distribution, develops recommendations for audio and video coding for use in the ATSC television system. T3/S6, as directed by T3 and the ATSC Board of Directors, has the following work items:</p> <ul style="list-style-type: none"> • Audio and video coding for advanced transmission mode (investigate more efficient coding methods) • Update Sections 5 and 6 of A/54 (reconcile with changes to A/52 and A/53) • Maintain other ATSC audio and video coding documents <p>Goals:</p> <p>Complete audio/video coding work relating to robust mode by Q1 2004. Also, conduct 5-year review of A/63 (Coding for 25/50 Hz Video) by the end of 2004.</p>	A/52, A/53, A/54, A/63	<p>Studying and documenting video/audio coding for proposed enhanced transmission mode.</p> <p>Conducting subjective evaluation of two candidate video codecs for above</p> <p>Revised Section 5 and 6 of A/54.</p> <p>A/63 review on hold pending completion of advanced coding work.</p>	s6@list.atsc.org

<p>T3/S8: Data Multiplex/Transport, Mark Eyer, Sony, chair</p> <p>The ATSC T3/S8 Specialist Group on Service Multiplex and Transport Systems Characteristics supports the T3 Technology Group on Distribution to describe, specify, and document all aspects of the transport subsystem of the ATSC DTV system except data broadcasting. This work includes:</p> <ul style="list-style-type: none"> • Documenting constraints against and extensions to the MPEG-2 Transport Stream specification • Developing standards for delivery of system and service information, including caption service signaling • Developing standard methods for conditional access • Considering standard methods for transport of program metadata such as television parental guidelines, digital rights management data and copy protection data, including support for program metadata applicable to future as well as current programming • Developing methods for unambiguous identification of content • Preparing guidelines for effective use of transport-related standards • Maintaining resulting documents <p>Goals:</p> <p>Complete transport specification for robust mode(s); expect by September 30, 2003.</p>	<p>A/53, A/54, A/57, A/65, A/68, A/69, A/70</p>	<p>Considering transport stream issues relating to proposed robust transmission mode.</p>	<p>s8@list.atsc.org</p> <p>Robust Mode Transport Issues s8-1@list.atsc.org</p> <p>Generalized Transport of Metadata s8-2@list.atsc.org</p> <p>Advanced EPG Functionality s8-3@list.atsc.org</p> <p>Transport Stream Updates s8-4@list.atsc.org</p> <p>Conditional Access s8-5@list.atsc.org</p>
<p>T3/S9: RF Transmission, Charles Einolf, chair</p> <p>T3/S9 analyzes issues and develops technical documents related to terrestrial RF transmission and reception. Current activities include consideration and development of both compatible and non-compatible enhancements to VSB modulation (as standardized in ATSC A/53) that address existing and emerging requirements for DTV. As a basis for this work, T3/S9 considers broadcaster requirements as defined by the Task Force on RF System Performance, and market and technical input from the CEA and other industry sources. The goal of this effort is to develop specifications for consideration as a new standard or as a revision of existing STSC standards. T3/S9 coordinates with other ATSC specialist groups as required.</p> <p>Goals:</p> <p>T3/S9 will continue to refine the CS/110A document as necessary during the extended CS period. T3/S9 will also develop a draft Recommended Practice on distributed transmission systems that addresses various implementation issues.</p>	<p>A/49, A/53, A/54, A/64, A/75</p>	<p>Considering and resolving issues relating to CS/110A, the Distributed Transmission Synchronization system.</p> <p>Developing a draft Recommended Practice on Distributed Transmission Systems.</p> <p>Considering the development of a draft Recommended Practice on Enhanced 8-VSB.</p> <p>Considering additional enhancements to VSB modulation.</p>	<p>s9@list.atsc.org</p> <p>s9-1@list.atsc.org</p> <p>s9-2@atsc.org</p>
<p>T3/S10: Receivers, John Henderson, Hitachi, chair</p> <p>T3/S10 (Receivers) will examine elements of DTV receiver designs, assessing the</p>		<p>Determining performance parameters for sensitivity, selectivity, and multipath.</p>	<p>s10@list.atsc.org</p>

<p>degree to which performance tradeoffs and complexity are impacted and their relation to FCC DTV planning factors. T3/S10 may also consider whether voluntary performance targets and/or design guidelines might be useful.</p> <p>Goals:</p> <p>T3/S10 intends to prepare, by year-end, a voluntary Recommended Practice entitled "Recommended Receiver Performance Guidelines" that will describe signal conditions under which DTV receivers are expected to function.</p>		<p>Drafting document text.</p>	
<p>T3/S11: Compliance, John Henderson, Hitachi, chair (scope pending)</p>		<p>No current activities.</p>	
<p>T3/S13: Data Broadcasting, Michael Dolan, TBT, chair</p> <p>This specialist group is defining the mechanisms for serving the needs of data broadcast applications utilizing the ATSC digital broadcast as a delivery medium. This includes television program-related data services as well as stand-alone data services. Specifically, T3/S13 is working to describe a scheme for using ATSC broadcast to transport IP packets, data files (including executable code), and streams. The group also addresses other generic requirements imposed by these applications, for example, low-latency needs of some interactive applications.</p> <p>Goals:</p> <p>S13 has the following open tasks:</p> <ol style="list-style-type: none"> 1. Draft a revision to A/90 (A/90A) to address the collected errata documented in S13-105R9 and to roll-up the existing amendments and corrigenda. [Status: on hold pending overall ACAP-A/9x plan.] 2. Work with T3/S8 on robust mode signaling. [Status: on-going.] 3. Develop proposal about how to harmonize A/9x with ACAP. [Status: on-going.] 4. Develop firmware download standard. [Status: on-going.] 	<p>A/90, A/91, A/92, A/93, A/94, A/95</p>	<p>Update A/90 Data Broadcast Standard.</p> <p>Data-related signaling for robust mode.</p>	<p>s13@list.atsc.org</p>
<p>T3/S14A: Satellite Broadcast, Dipak Shah, DirecTV, chair</p> <p>This specialist group is defining specifications and standards for transmitter and receiver subsystems for direct-to-home (DTH) service via satellite, including but not be limited to specifications for: modulation/demodulation, transport/demultiplexing, conditional access, and source coding and decoding of video, audio, and data program, services, and system information. DTH implies direct-to-home (DTH), end user, and service provider.</p> <p>Goals:</p> <p>Work has been completed on the DTH Satellite Broadcast Standard, now published on the ATSC Web site as A/81.</p>	<p>A/80, A/81</p>	<p>All assigned work has been completed.</p>	<p>s14@list.atsc.org</p>

<p>T3/S15: Terrestrial Microwave Point to Multipoint, Andy Butler, PBS, chair (scope pending)</p>		No current activities.	
<p>T3/S16: Transactional Services, Edwin Heredia, Microsoft, chair</p> <p>This specialist group is working to standardize the parameters necessary to provide digital broadcast interactive services. Emphasis of initial work is 1) to define protocols and minimum performance of transport facilities and lower layers for the return channel, and 2) to define downstream protocols needed to support interactive services. The specialist group will employ system profiles with varying degrees of latency and scaleable data return rates. These protocols will be scaleable and media-independent, and whenever possible, use industry standards which drive interoperable services. The scope of work includes review of DAVIC, DVB, and other standards efforts, as appropriate, for developing protocols suitable for ATSC.</p> <p>Goals:</p> <p>Address any required changes to CS/96, with the goal of asking T3 to elevate the Candidate Standard to Proposed Standard status at the December 10 meeting of T3.</p>	CS/96	Updates and maintenance as necessary on CS/96.	s16@list.atsc.org
<p>T3/S17: DTV Application Software Environment "DASE", Glenn Adams, XFSI, chair</p> <p>The objective of the T3/S17 (DASE) Specialist Group is to design and specify functionality which permits the creation and deployment of DASE Applications (application content) for processing and presentation upon ATSC compliant receivers which implement a DASE System (application environment). The specification of such functionality includes:</p> <ul style="list-style-type: none"> • An application content format consisting of one or more content types which represent multimedia, monomedia, and metadata content (media) types • An application environment to be embodied by a receiver • An application delivery system binding by means of which applications are delivered through an ATSC compliant data service • A conformance model which applies to a DASE Application and Application Systems <p>It is expected that the functionality defined by this group will be specified as a series of multiple-part standards. T3/S17 will take into account the needs for harmonizing the specification of application functionality so as to engender mutual interoperability with other similar work, such as CableLabs OCAP (OpenCable Application Platform) and DVB MHP (Multimedia Home Platform).</p> <p>Goals:</p>	A/100-x	Perform maintenance on DASE-1 as required. Prepare DCAP for progression to ATSC Standard.	s17@list.atsc.org Available: S17-1@list.atsc.org S17-2@list.atsc.org S17-3@list.atsc.org

<p>Harmonization of DASE with CableLabs OCAP specification. Provide T3 with draft "DCAP" specification for consideration as Candidate Standard by the September 10, 2003, T3 meeting.</p>			
<p>A-Team:T3 Architectural Team, Mike Dolan, TBT, chair</p> <p>The Architecture Team is a permanent group that reports to T3. Membership is composed of the T3 chair and vice chairs, specialist group chairs, and the chair of the Implementation Subcommittee. The team is advisory in nature, writing reports if necessary but not developing standards. The purpose and scope of the Architecture Team is:</p> <ul style="list-style-type: none"> • Oversee ATSC technical document structure and architecture • Facilitate communication between specialist groups • Provide a forum for addressing inter-specialist group issues • Provide a forum to which ATSC staff and T3 can pose technical questions of a general nature and get a formal response • Work with ATSC Code Points Registrar in an advisory capacity 		<p>Code Point Registry support activities.</p>	<p>a-team@list.atsc.org</p>

Implementation Subcommittee

The ATSC ATV Implementation Subcommittee, with due regard for existing standards organizations and activities, investigates and reports on the requirements for implementation of advanced television. The Subcommittee evaluates technical requirements, operational impacts, preferred operating methods, time frames, and cost impacts of implementation issues. Based upon this analysis, the Subcommittee identifies potential requirements for standards, recommended practices, or rules and refer such to the ATSC Board of Directors. Art Allison of NAB chairs the IS.

Overall Goals (as approved by the Board on 29 January 2003)

- Identify system issues and recommend appropriate action.
- Identify PSIP implementation issues and potential solutions.
- Identify RF implementation issues and potential solutions.
- Identify captioning implementation issues and potential solutions.
- Identify data broadcast implementation issues and potential solutions.
- Identify field interoperability (transmitted bit stream-receiver) issues and recommend appropriate action.
- Promote and facilitate DTV education and training through development of materials.
- Maintain Guide to DTV Standards.
- Maintain Web Site FAQs.

IS Working Groups	Current Work	Active Reflectors
<p>Closed Captioning Working Group, Gerry Field, NCAM/WGBH, Chair</p> <p>The ATSC Implementation Subcommittee Closed Captioning Working Group (CCWG) was formed to identify and address issues and questions concerning implementation of closed captioning systems within digital television environments, including:</p> <ul style="list-style-type: none"> • Clarification of EIA/CEA-608-B and EIA/CEA-708-B implementation • Generation points for caption data (including related data for PSIP) • Modification points for caption data (including related data for PSIP) • Monitoring points for caption data (including related data for PSIP) • Generic interfaces to related equipment • Standardization of file formats for authoring and encoding • Methods for local insertion (bridging, real-time) • Timing issues • Coordination of related end-to-end system support <p>The CCWG will engage in the following activities:</p> <ul style="list-style-type: none"> • Creation and dissemination of informational material and tutorials for a wide engineering and management audience, with specific focus on ATSC A/53B (Digital Television), ATSC A/65B (PSIP), and EIA/CEA-708-B (DTV Closed Captioning) • Identify the need for additional engineering guidelines or standards, and provide draft language 	<p>Produce a Finding for the industry that outlines the steps that must be taken with respect to the DTV captioning services requirement.</p>	<p>is-cc@list.atsc.org</p>

<p>where appropriate</p> <ul style="list-style-type: none"> • Coordination with related efforts within the ATSC including (but not limited to) the System Evaluation Working Group (SEWG), and the Field Evaluation Working Group (FEWG) • Coordination with other standards organizations including SMPTE, CEA, and SCTE • Coordination with other related efforts such as those of NCAM 		
<p>Data Implementation Working Group, Rich Chernock, Triveni Digital/LG, chair The aim of this Working Group is to create a list of requirements and recommended practices that will allow for data sources to be connected to ATSC broadcast systems in a known and implementable way. The intended participants include: multiplexor manufacturers, data server manufacturers, data service suppliers, and members of T3/S13 T3/S16 and the appropriate IS groups (note these are not mutually exclusive.</p> <p>The issues were assessed, and a report was produced and adopted by IS as IS/151, resulting in SMPTE 325M, RP203, and RP206.</p>	<p>Initial work completed; final report issued: IS/151 "DIWG-1 Final Report"</p> <p>There are currently no tasks assigned to the DIWG.</p>	<p>is-diwg@list.atsc.org</p>
<p>Systems Evaluation Working Group, Paul Berger, CBS, chair</p> <p>The Systems Evaluation Working Group will assess the technical and operational issues of systems for Digital Television, with regard to end-to-end functionality. The Group will address integration and design requirements of these systems and evaluate the need for additional design and/or development of equipment and standards to enable the proper functionality of digital television services. The group will report on its findings of needs to the Implementation Subcommittee of the ATSC and to appropriate working groups and Standards-writing bodies for development of technical solutions. Separate sub-working groups may be formed upon approval of the IS to focus on specific issues determined by the group to be particularly complex or time-sensitive.</p>	<p>Development of an audio/video synchronization reference, established at the capture of audio/video signals to facilitate system-wide synchronization functions.</p>	<p>is-sys@list.atsc.org</p>
<p>RF Issues Working Group (examine DTV/RF propagation factors - scope pending)</p>	<p>IS/261 is an interim analysis tool for internal ATSC expert use.</p>	<p>is-rf@list.atsc.org</p>
<p>Field Evaluation Working Group, Ralph Justus, CEA, and Tom Gurley, MSTV, chairs</p> <p>The scope of the Field Evaluation Working Group (FEWG) shall encompass the distribution chain from the formation of a broadcaster's transport stream to consumer receivers, including cable and satellite delivery. Tasks shall include (copy to be completed by FEWG). In addressing interface and interoperability issues that arise earlier in the chain, the FEWG shall coordinate with the Systems Evaluation, Closed Captioning, and PSIP Implementation Working Groups, and other groups as appropriate. (draft)</p>	<p>Planning upcoming plug-fest.</p>	<p>fewg@list.atsc.org</p>
<p>PSIP Implementation Working Group, Graham Jones, NAB, chair</p> <p>This group is currently inactive, since the work begun by the PSIP Implementation Working Group has been taken on by T3/S1. If and when new PSIP implementation issues are identified, they may be considered by the PSIPWG.</p>	<p>Completed initial assessment, issued one report, Doc. IS/275 "Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation."</p>	<p>is-psip@list.atsc.org</p>

	<p>Modified Findings have been adopted by IS, Doc IS/277 “ATSC Implementation Subcommittee Finding: Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation.”</p> <p>Reassessing protocol recommendation.</p>	
IS Findings	IS/095, IS/161, IS/190r5, IS/191, IS/225, IS/232, IS/266, IS/277	
IS Reports	IS/065r4, IS/151, IS/161, IS/214r2, IS/233	

Applications Subcommittee

The ATSC Applications Subcommittee, with due regard for existing standards organizations and activities, considers business opportunities that may be enabled by digital television standards. Based upon this analysis, the Applications Subcommittee makes recommendations to the Board of Directors regarding development of voluntary standards for digital television. These recommendations are supported by a list of user requirements. The AS also responds to inquiries about market requirements from Technology Groups, from other ATSC subcommittees, and from other standards organizations. Sterling Davis of Cox Broadcasting chairs the AS. The AS currently has one active reflector, as@list.atsc.org.

Overall Goals (approved by the Board on 29 January 2003)

- Document at least two new applications of DTV with initial requirements, define requirements for a DTV Emergency Alert Standard, and further define applications of “robust” mode.
- Increase broadcaster involvement
- Development of a roadmap for new DTV System functionality
- Consider requirements for DTV rating services (relationship to PSIP)

Work currently underway includes:

- Identifying the ideal ATSC receiver, its capabilities, specs, and features. The AS is working to get a handle on what the “Broadcaster Gateway” should be. The Subcommittee needs to determine the proper set of capabilities should be in the base system and at what cost that should be. From that the Subcommittee needs to finish prioritizing options, and whether adding those options would be economically viable.
- Addressing possible additional requirements for the “robust” mode of transmission including additional forms of compression and audio.

Other work areas include (listed in prioritized order):

- In-home repeaters
- ENG return paths
- Low Bitrate Requirements
- Amber Alerts
- E-VSB still images

Communication of applications (listed in prioritized order)

- E-VSB
- ACAP
- DCC
- CA

Future Work Areas, Communication of Applications:

- Data broadcasting (carriage of IP & Web services)
- Gold Rack
- Distributed Transmission (DT)

Applications Subcommittee Report to the Board of Directors November 19, 2003

The Committee met yesterday, November 18 for a lively session dealing with guidance requested by T3S6 on definitions for E-VSB fallback modes, finalization of the E-VSB White Paper and a T3S13 Firmware Download priority need. In addition, we have identified a need for the Applications Subcommittee to spend time during each meeting brainstorming for new applications.

After much discussion, the AS agreed on three definitions requested by the chairman of S6 to assist them with pointing them in a direction that will be focused directly on broadcaster applications for the E-VSB fallback mode transition.

We have a few minor editorial changes to the E-VSB White Paper and then that project will be ready for review of the board.

The urgent need for standardization of firmware downloads to consumer receivers has been going on in T3S13 and the AS is seeking to encourage the board to convey the AS need for priority treatment of this work in S13. To that end the Applications Subcommittee submits the following resolution to the board.

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, the Applications Subcommittee recommends to the Board that it urge T3 to expedite this activity.

The AS is developing a new brainstorming process by which we can more readily get to new, additional applications. We began this process yesterday with various topics and at our next meeting will select a topic for significant brainstorming and discussion. We have also identified a need for additional broadcaster attendance and participation in this process. We will be seeking additional outside participation, first with the Engineering Committee of MSTV.

In addition to the above, our proposed EAS Requirements document is pending board action.

Sterling Davis