

**Institute of Electrical & Electronics Engineers
Broadcast Technology Society**

G-2.1 Audio Video Committee

Draft Meeting Record

G-2.1.4 Subcommittee on Video Distribution Measurements

Embassy Suites, 425 South 7th Street, Minneapolis MN 55415
Tuesday July 27, 1999

- List of attendees:

Doug Lung	Telemundu
David Fibush	Tektronix
Lorence Brown	Ameritech
Aidan Moore	Genum
John Libert	NIST
Michel Poulin	Leitch

Meeting started at 08:43AM. In the absence of the Chair, Rick Redford, the meeting was called in order by Mr. Poulin, co-chairman. In lieu of a secretary for the meeting, Messrs. Fibush and Lung agreed to furnish their meeting notes to the co-chairman which will check with his notes and publish as the draft minutes.

1. Approval of Agenda

Add discussion of PCR jitter issue, if time.

2. Approval of Minutes

Comment from Alan Godber (by e-mail) - what is "non-member of subcommittee"?
Suggested interested industry people not on committee participant list.

3. P205 - Measurement of luminance signal levels.

Last year the IEEE Standards Board disapproved the document because there had been no formal response to SMPTE comments and the appeared to be changes after the ballot. It was agreed that the SMPTE comments were merely suggestions and the changes were simply editorial and a letter was sent to SMPTE. There was no documentation of correspondence with EIA, ATSC or EBU that turns out to be another reason for the disapproval. This needs to be completed in writing to get this moving again.

Aidan Moore (Genum) will contact these organizations, will send PDF file and refer them to the Word document on the web site **this week**. Will encourage fast response but will not pressure them. First deadline for IEEE Standard Board submission in August, next in October. Can get documents sent, but may not be able to get a response that quick. Recommended we don't ask for a response that fast, after this delay.

Lasting liaisons delayed project. Need to keep this in mind when doing future standards.

4. P1521 - Measurement of Wander and Jitter.

No comments on the draft standard were received within the sub-committee. Documented liaison correspondence with SMPTE, EIA, EBU and ATSC is required before this document is ready for ballot. The appropriate SMPTE committees are N26 and I23.

The vectorscope diagram is not added per the suggestion at the previous meeting. Although it certainly gives a jitter indication, it does not specifically match the methods in the draft standard.

Document is on web site for review. Aidan will coordinate distribution of this document and keep record of emails sent. Michel Poulin will send list of members to Aidan.

Aidan sent a copy of the P1521 document to Hans Hoffman at IRT, but did not get any response. David Fibush submitted it to SMPTE committees in Dec. 1998, but got no response back. If mentioned in SMPTE meeting minutes, this is okay. Two attempts are necessary if there is no response. David Fibush suggested posting it on the SMPTE N26 email reflector.

Michel Poulin will gather information about differences in jitter measurement procedure described in this IEEE document and the SMPTE RP184, for distribution at next N26 and perhaps I23 meetings. David Fibush said email reflectors would be faster, and it can still be brought up at the meeting. David Fibush or Michel Poulin will provide Aidan with the email reflector information.

5. P618 - Measurement of Luminance SNR in VTR's.

A gray level test signal is specified based on completely analog VTRs. This is not appropriate for VTRs with digital processing such as for the TBC. Liaison with the SMPTE (V16) and EBU (Jean-Pierre Evain) will propose that this document be withdrawn. If it were to be revised it would be a more general analog system document that would include 625 mode, HDTV and exclude present analog VTR's.

MP - send letter to organizations.

6. P206 - Measurement of Differential Gain and Phase.

Members of the subcommittee will be polled by email to determine if the document should be revised, reaffirmed without changes, or remain as dropped from the IEEE approved list. Those present at the meeting believe it would be useful to reaffirm the standard for use in pure composite analog systems. Concern that it is mis-used in systems that internally process into component domain.

Michel will send email to get comments on this standard.

7. P511 - Measurement of Linear Waveform Distortion (K factor).

Members of the subcommittee will be polled by email to determine if the document should be revised, reaffirmed without changes, or remain as dropped from the IEEE approved list. If changes are to be made a document editor must volunteer.

8. P746 - Measurement of the performance of A/D and D/A.

This is a useful document however some revision may be appropriate. Stability of DC clamping prior to conversion using a bounce signal might be a useful addition. Detailed review by the

subcommittee members is requested. It was agreed by the sub-committee that we should maintain this document. A liaison will be sent to SMPTE I23 and the EBU.

Michel suggested modifying the frequency response section to according to the new proposed measurement procedure Pxxx. He will propose a new section regarding the DC clamping stability for the next meeting.

David Fibush - need to get a copy of the standard to Dan Baker, EBU (Jean-Pierre Evain), SMPTE I23 and participating G2.1.4 sub-committee members for comment. Michel will provide this. Doug Lung asked for a copy of the standard for posting on the G-2.1.4 private web site.

9. Pxxx – Swept frequency measurement

Michel suggested title "Measurement of amplitude/frequency response" instead.

Dan Baker provided a contribution regarding the Tektronix plans for accurate sweep generator modules for the TG2000. NIST traceable specifications for SDTV and HDTV modules (AVG1 and ACG1 respectively). Availability of the ACG1 next year is provided to the committee and not for general distribution. The HDTV sweep only provides good accuracy to 10 MHz. There is still question about the possible availability of peak detector. This area of measurement is particularly important today because SDTV signals are often up-converted to HDTV.

Michel will send email to Dan Baker asking what will be available for HDTV at 30 MHz and the availability of a peak detector.

Michel will start elaborating a procedure for accurate measurement of the amplitude/frequency response of analog video systems and D/A, A/D converters.

10. Means for Electronic Communication

Suggested adding Metatags to documents. Doug Lung requested documents in HTML format, if possible.

11. New Business- PCR jitter measurement

Test equipment manufacturers have been inconsistent in developing PCR jitter measurements based on the lack of information in the MPEG standard. Tektronix is working closely with the DVB to define measurement techniques. When that work is complete it would be appropriate for the IEEE, as an international standards organization, to develop a similar document. Dan Baker is requested to attend the next meeting and make a presentation on the subject.

Participants at the present meeting agreed that this is an important area to investigate.

12. Next meeting

Dallas, date to be determined.

Meeting adjourned 10:13 AM