

INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS
Broadcast Technology Society
G-2.1 Audio/Video Techniques Committee
G-2.1.4 VIDEO DISTRIBUTION MEASUREMENTS SUBCOMMITTEE

MEETING MINUTES

Ramada Inn - Silicon Valley
1217 Wildwood Avenue
Sunnyvale, CA. 94089-2701

Sunday, January 23, 2000, 8:30 AM - 11:00 AM, PST

ATTENDEES

<u>Name</u>	<u>Affiliation</u>	<u>Location</u>
Dan Baker	Tektronix	Beaverton, OR.
Dave Fibush	Tektronix	Beaverton, OR.
Alan Godber	Consultant	Milltown, NJ.
Doug Lung	Telemundo	Hialeah, FL.
Aidan Moore	Genum	Burlington, ON
Michel Poulin	Leitch	North York, ON.
Rick Redford	ABC	New York, NY.

The meeting was called to order by the Interim Chair, Rick Redford, at 8:30 AM. In lieu of a secretary for the meeting, the Chair took notes, and made an audio transcript, which will be published as the draft minutes. The draft agenda, submitted by Mr. Poulin, was reviewed and approved. To expedite matters, the Chair elected to introduce items in the order which sustained the flow of discussion. Reading of the minutes of the November 1st meeting in Ft. Lauderdale were deferred until the next meeting. Agenda items were discussed as follows:

15. Electronic Communication (also pertains to Subcommittee G-2.1.6) - For several years, MS Word 6 has been our standard for sending and distributing electronic documentation. The Subcommittee agreed that Word 97, HTML, or PDF files may now also be used for this purpose, as well as "zip files." Mr. Fibush noted that Word 2000 will save directly in HTML.

6. Project 205, Complete Revision of Standard on Measurement of Luminance Signal Levels - Mr. Moore reported that final letters and E-mails have been sent requesting comments from the required liaison organizations. The approved draft (already balloted by this Subcommittee) will have to be resubmitted to the IEEE Standards Board with better proof of attempted coordination.

As to the title, Mr. Poulin suggested that all future work should clearly specify analog, digital, or hybrid working. Mr. Redford suggested analog should be further specified as component or composite to avoid any confusion of appropriate use. Mr. Moore indicated that he needed to locate a copy of the original project authorization request (PAR) form for the package to be submitted, and that it all should be available to the Standards Board for review in their next cycle.

7. Project 1521, Proposed Measurement Standard on Video Jitter and Wander - Mr. Moore reported that Walt Husak of ATTC and David Wood of EBU have requested copies of the proposed standard, but no response has been received to date. Also, Hans Hoffman (IRT), representing ITU has been sent a copy. This standard should be finalized and ready for balloting of Subcommittee members by the next meeting. Mr. Redford will compile the list of eligible members to vote. Mr. Godber will investigate recent changes in balloting requirements concerning IEEE Standards Association membership, etc.
8. Std. 618, Measurement of Luminance Signal-to-Noise Ratio in Video Magnetic Recording Systems (transferred from the inactive G-2.1.5 to consider broadening the scope to include video systems in general) - Mr. Poulin related that the technology described in this standard is 40 years old, and it was written for analog systems only. Although it was published in 1984, significant errors are encountered when it is employed in digital or hybrid analog/digital systems. It's authority has lapsed, by virtue of not having been formally renewed, however, it is still regarded by many in the industry as valid for all recording applications.

At the previous meeting on 01 November in Ft. Lauderdale, this Subcommittee voted to formally withdraw Std. 618. That would change its status from merely lapsed, and signal that it is no longer appropriate for general use. However, at its November 22nd meeting in New York, the parent G-2.1 Audio/Video Techniques Committee directed G-2.1.4 to reconsider this decision by June, 2000, since it is likely still used in the maintenance of analog recording systems, and may impact other standards.

Mr. Poulin cited ITU-R BT.1204. "Measuring Methods for Digital Video Equipment with Analogue Input/Output," as specifying the use of a shallow or dithered ramp test signal, one of the new requirements. He will send a proposed statement of intent to withdraw IEEE Std. 618 in deference to ITU-1204 to the usual liaison organizations (SMPTE, EBU, EIA, and ATSC), and additionally to the Society of Cable Television Engineers (SCTE), Association of Radio Industries and Businesses (ARIB in Japan), and ATIS Working Group T1A1.1

9. Std. 206, Measurement of Differential Gain and Phase - This document needs a new scope and some revision to refer to IEEE Std. 746, "Performance Measurements of A/D and D/A Converters for PCM Television Video Circuits." A Project Authorization Request (PAR) needs to be submitted. Messrs. Moore and Godber will send Messrs. Poulin and Baker information on initiating the revision of a standard. Coordination: SMPTE, EBU, ARIB, T1A1.1, SCTE, EIA.
10. Std. 511, Measurement of Linear Waveform Distortion - Mr. Baker reported that this standard needs a revised scope to cover more modern systems and narrow applications. A "chirp" test using the GCR signal has never materialized. Mr. Poulin suggests changing the definition of "T" from 125 ns to 100 ns, to match to 625-line standards [since we are dealing primarily with baseband applications where the video bandwidth is not strictly limited to around 4 MHz]. Additional issues arise when dealing with 4:1:1 digital signals.

A PAR should be initiated. An OCR version of the existing document should be sent to Mr. Lung for posting on the Subcommittee's web site; the present version is bit mapped. Mr. Lilly's (G-2.1 member) comments on defining the phase of the Modulated 12.5 T signal should be reviewed to enhance its application in component signaling. These comments should be placed on the web site.

11. Std. 746, Performance Measurements of A/D and D/A Converter
13. Proposed Standard for Swept Frequency Measurement - Mr. Baker noted that the existing Std. 746 refers heavily to Stds. 206 and 511. Mr. Lung suggested that frequency response measurement should be a separate document. Mr. Redford asked if parts of ITU-1204 could be duplicated in the revision of Std. 746. Mr. Poulin would rather have it cover only measurements not already in ITU-1204. He will review the standard, add references, and develop whatever additional procedures are needed. A PAR is needed, as this work has progressed beyond feasibility discussions.
12. Project 948, "Proposed Standard for Measurement of Chrominance Signal-to-Noise Ratio in Video Magnetic Tape Recording Systems" (transferred from the inactive G-2.1.5) - It is the de facto standard, adopted by all the instrument manufacturers, but was never brought to final approval and publication. To make this valuable information available to the industry at large, it is to be reviewed for further action in this Subcommittee. Mr. Poulin will obtain a copy from Mr. Godber and scan it for posting on the web site. A new PAR should be initiated with the same project number. Coordination: SMPTE, EBU, ARIB.
14. Proposed Standard for MPEG-2 Primary Clock Reference Measurement Procedure - Mr. Baker reported that the IEC TM2279 performance requirements (DVB Std. ETR 290, Rev. 1) covers frequency offset, drift rate, and PCR jitter, but not PCR accuracy. Snell & Wilcox, Hewlett-Packard, Wavetek, Adherent, and Tektronix all get different measurements. A means is necessary to measure the extracted transport stream clock (with multiple programs embedded) for DVB ASI 270 MB/s signals. As the meeting was running overtime, more discussion on this subject is to be taken up at the next meeting.
16. There was no new business.
17. The next meeting was tentatively scheduled for Monday, April 24, in Boulder, CO.

The meeting was adjourned at approximately 11:00 AM.

Documents Distributed:

Std. 206 Proposed Revision of Scope
Std. 618 Request for Comments
Std. 948 Proposed Revision of Scope