

Report on the Meeting of Subcommittee SC 60B of IEC TC 60

Budapest, Hungary, 17-22 April 1978

By C. E. ANDERSON, N. RITTER,
and F. M. REMLEY

IEC Technical Committee 60 — Recording, chaired by Prof. Walter Bruch of the Federal Republic of Germany, met during April 1978 in the Duna Intercontinental Hotel, Budapest. In most respects, this meeting was the most successful and fruitful of the series of TC 60 sessions which began in 1969. Most of the work of TC 60 is accomplished in its subcommittees. SC 60A (chairman, Cecil Henocq, U.K.) is responsible for sound recording specifications. SC 60B (chairman, Joseph Roizen, U.S.A.) deals with video recording. And SC 60C (chairman, Raymond Wyman, U.S.A.) develops specifications for educational systems which use recording components. The work of the subcommittees is reviewed by TC 60 and referred, through IEC Headquarters in Geneva, to the National Committees of IEC member nations for voting. At the conclusion of this process, IEC Standards having worldwide importance are issued.

Albert Conte, SMPTE Television Engineer, serves as Technical Advisor for SC 60B to the U.S. National Committee for IEC. Mr. Conte attended the Budapest meetings; other U.S.A. delegates to SC 60B included C. E. Anderson, N. Ritter, and F. M. Remley. This report will concern itself with the work of SC 60B, Video Recording, and with the work of the subdivisions of SC 60B, the six working groups charged with specific items of work.

The meetings of TC 60, held at the beginning and the end of the meeting period, were very well attended. Approximately 100 delegates from 17 countries were present. The secretariat services were provided by the Hungarian Office for Standardization (MSZH).

All of the meetings took place in the Duna Intercontinental Hotel, a large, modern hotel on the banks of the Duna

(Danube) River. Working conditions and organization left little to be desired, except perhaps additional access to photocopying machines to expedite the large job of duplication of documents resulting from the work of the delegates. Specific tasks accomplished in the working groups are summarized below:

Working Group 3 — Measuring Methods. This group, chaired by Mr. R. Heinz of West Germany, first reviewed comments received to document 60B (Central Office) 22, Measuring Methods for Television Tape Machines. This document was prepared as a result of the work done at the Ottawa meeting and covers various measurement methods for some of the physical and electrical parameters of quadruplex and helical machines. The discussions led to corrections to the document and the revised version will be sent out under the two-month procedure.

Future work in this group will include arriving at methods for measuring chrominance signal-to-noise ratio, head banding, and moiré. At this meeting there were not enough proposals received to warrant thorough discussion on these subjects. Additional comments or proposals are expected from several national committees, and possible progress may be made in this area at the next meeting.

Considerable discussion and work enabled the group to finalize the draft of a document 60B/Budapest/WG 3/6, Audio Frequency Calibration Tape for Transverse Track Recorders, which will be circulated as a Secretariat document, possibly under the Accelerated Procedure.

Working Group 4 — Tape Properties. This group, chaired by O. Arpe of West Germany, discussed the document 60B (Secretariat) 64, Test Procedures for Evaluation of Tape Properties on Magnetic Tapes Used in Helical Scan Video Tape Recording and Reproduction. This rather lengthy document included measurement methods for most of the physical and electromagnetic properties of tape such as width, curvature, residual elongation, stiction, headwear, coercivity, signal-to-noise ratio, dropouts, erasability, and so forth. After much discussion, the document was modified to the point where agreement could be reached by all who had made written comments and by those who participated in the meetings. This revised document will be sent out for ballot under the six-month rule.

One item that remained open for future consideration was a proposed measurement method for chroma noise.

Working Group 5 — Non-Broadcast Helical Scan Recorders. This working group, chaired by F. Remley (U.S.A.), finished its consideration of two important format specifications. Both the EIA-J Type I 1/2-in reel-to-reel and cartridge format and the 3/4-in U-type cassette format were placed in final form and forwarded to SC 60B and TC 60 for circulation worldwide for voting under the six-month rule and expected ultimate approval as IEC International Standards. These formats are defined for both 525/60 and 625/50 television systems and cover mechanical and electronic specifications for equipment designed for the formats. Working Group 5 also agreed to begin work, by correspondence, on new non-broadcast video cassette formats originated in Japan for domestic use and they expected to be able to prepare documents for consideration at the next meeting of SC 60B.

Working Group 6 — Time and Address Code. Working Group 6, chaired by C. E. Anderson (U.S.A.), followed the example of an SMPTE Engineering Committee concerned with the same subject and decided that one document should describe the architecture of the code, but that separate documents should describe where, at what level, and if bias is used for each equipment format. Accordingly, amendments were made to IEC Publication 461, which describes the Code, and to Publication 347, describing the quadruplex VTR format, to reflect this decision. Additional changes to Publication 461 were made to take into account the four-field NTSC and eight-field PAL color sequences, and additions were made to define wave shape and timing of the digital code.

Working Group 7 — Professional Broadcast Recorders. The program of work for WG 7, chaired by C. E. Anderson



Attendees from the U.S.A. included Charles E. Anderson, Norman Ritter, Joseph Roizen, Albert Conte, Herbert Farmer, Brian Boucher, Raymond Wyman and Frederick Remley. (Photos courtesy of J. Roizen.)



The Duna Intercontinental Hotel on the banks of the Danube served as headquarters for the TC 60 meeting. Meeting rooms were convenient to the majority of delegates who stayed at this modern hotel.

(U.S.A.), was very heavy so two additional days of meetings were scheduled before the main TC 60 meeting. Draft documents corresponding to SMPTE type B and C formats for 1-in helical tape were prepared based upon submissions of documents from the Federal Republic of Germany and the U.S.A. In addition, a type D format was drafted (it was decided to retain the now popular B and C designations) based upon a Japanese submission. Only a few recorders conforming to this format are to be found in the U.S.A. Type B and D documents will now be circulated for approval by National Committees, but the C document will be delayed by several months until several relatively minor points con-

cerned with 625/60 application are resolved.

Additionally, several changes were made to IEC Publication 347 covering quadruplex recorders to bring it into line with present technology and practice and to make its section on reels conform more closely with ISO R1860 which covers the same subject.

Working Group 8 — Video Disk Systems for Non-Broadcast Use. C. Tinet (France) chairs this working group. Because no input documents had been received since the 1976 Ottawa meeting of SC 60B (at which preliminary specifications for the TELDEC disk system had

been submitted), it was impossible for WG 8 to make significant progress in Budapest. New proposals are expected before the next SC 60B meeting.

It is hoped that this abbreviated report will indicate the scope of the work undertaken by IEC SC 60B. In addition, it was decided that a questionnaire will be circulated to the National Committees to determine the present situation regarding digital video recording and to decide at the next meeting of SC 60B, probably in late 1979 or early 1980, as to the need to establish a new working group to discuss this subject. Questions on any of the items noted above may be directed to A. Conte at SMPTE Headquarters.

Report on the Meeting of Subcommittee SC 60C of IEC TC 60

Budapest, Hungary, 17–22 April 1978

By HERBERT E. FARMER and
RAYMOND WYMAN

Subcommittee 60C: Applications of Educational and Training Equipment and Systems and its various working groups met during the same week as Subcommittee 60B. H. E. Farmer (University of Southern California), U.S. Technical Advisor to SC 60C, and the following delegates represented the United States: Brian Boucher (Lockheed Training Systems), William Kessler (TV consultant), F. Lee Morris (Mississippi Educational Television Authority), John Wilshusen (Purdue University). Raymond Wyman (University of Massachusetts) chaired the meeting with the able assistance of Win Koeter and Jacques Oostdam of the Netherlands as Secretariat. Twenty delegates from seven countries participated and there were observers from ISO TC 36, ISO TC 42 and the Central Office in Geneva.

At the plenary session Dr. Wyman reviewed the tasks which had been completed since the previous international meeting in Ottawa. Three IEC Standards publications have been issued including the very comprehensive document on the use of audio cassettes for education and training which is completely compatible with PH7.4, the ANSI standard on the same subject. The Steering Committee met and continued to deal with the complex task of defining areas needing attention, establishing priorities, and providing guidance as to the various other existing committees and organizations having an interest in, or a responsibility for at least a part of, the needs of education and training.

The tasks and titles for several working groups were discussed and adjusted to re-

flect current needs. No working groups were terminated or started, but WG 7 for Standard Methods of Measuring Performance of Audiovisual Equipment, which was organized in Ottawa, started work in Budapest.

All seven working groups met during the week and their reports were considered and accepted:

Working Group 1 — Symbols and Identifications. Under the able leadership of A. A. Crocker (U.K.), the editorial changes suggested to the six-month rule document formalizing approximately 100 selected international symbols for use in audiovisual equipment were discussed. Work also continued on the more difficult task of preparing and gaining approval of approximately 30 new symbols for use where no suitable symbols presently exist.

Working Group 2 — Electrical and Mechanical Matching. This group dealt with the problem of standardization in the interconnection of separate pieces of audiovisual equipment and the monumental task of considering the various national standards which exist and the local practices which have developed over the years. As the needs of international commerce and exchange are compared, reported, and discussed, some applications lend themselves to international acceptance. As an example, while the DIN-type connector seems to be the most universally used as far as different countries are concerned, it has little use in the United States. The 1/4-in phone jack has achieved almost international acceptance. The priorities of

ruggedness and simplicity are high in the needs of education and a number of projects are under way to determine the areas where agreement can be expected utilizing existing standardized connectors and agreeing on preferred electrical matching values. Future work will include video connectors and remote control for audio recorders and related equipment.

Working Group 3 — Electronic Learning Systems. The specifications for the audio cassettes control of one projector were completed and will be submitted for international consideration in the six-month rule document. Work has started on the specifications for the control of two projectors.

Consideration of more than two (multiple) projectors is being held as future work since each system in use today is quite specialized. Systems of digital control and microprocessing of control information are still very flexible, and it is too early to expect significant agreement and interchangeability even on a national level.

Proposals for the automatic control of recording of broadcast video as a requirement of education has been received and work is under discussion with SC 60B as to the feasibility and possible methods.

Working Group 4 — Equipment and Systems Safety. Of major concern to education are the safety factors related to equipment for educational use including grounding, mechanical hazards, physical stability, fire and explosion (xenon lamp) considerations and markings. A major concern to everyone is that while most factors are the same from one type of