

Two years ago Stanley N. Baron, announced that SMPTE was stipulated as the Registration Authority for the ATSC standard as referenced by David George.

I have excerpted parts of Baron's September 1996 Message from the President to provide an historical perspective for David George's comments.

— Frederick C. Motts



Frederick C. Motts

80 Years of Service and Still Growing

We are told that digital advanced television (ATV) service means 150 channels to the home. There is even one technology under development that promises 1500 channels to the home via fiber. (How we will navigate our way through a 1500-channel service is another question.) The business of providing these services requires that each program or commercial work be uniquely identified. Unique identification of a work in the ATV world allows for automatic verification of delivery of the work and could be used to support audience testing, automated program selection and recording, and protection of intellectual property rights.

A Problem Identified

The Advanced Television Systems Committee (ATSC) and digital video broadcasting (DVB) ATV standards are based on the MPEG-2 standard. The Moving Pictures Experts Group (MPEG) standard provides a 13-bit packet identification (PID) field, which can be used to identify a program and the component parts (videodata, audio data, and information data) of the program.

A 13-bit number limits us to 8192 unique values. Further, there is no restriction on how numbers may be assigned and reassigned by original producers and/or the end service providers. In fact proper system operation requires that a single video broadcast service assign the same PID number to all segments (programs, commercials, and promos) provided as part of a single program service stream to assure undisturbed continuity of display at the receiver. This results in a strong probability that different program content provided by different producers and service providers (broadcasters, cablecasters, etc.) will be distributed having the same value. So the MPEG PID doesn't solve the problem for us.

A Solution Found

The MPEG standard provides a program map table (PMT) to be assigned to each program bit stream. The table provides additional descriptive information of each component contained in the program bit stream or to pointers to data packets that contain additional information.

The ATSC T3 committee, in its meeting of July 11, 1996, adopted a standard that inserts a unique program or commercial identification number (one of literally bil-

ions) in a specific data packet having a constant PID value. In this way the data packet PID remains constant for each program stream but the data packet's contents can be changed to identify the different component works (programs and commercials) that constitute the program stream.

SMPTE to the Rescue

To make this process work, there needs to be a registration authority that assigns the identification numbers or assigns blocks of numbers to entities that need immediate ID assignment (such as providers of news services). The ATSC standard stipulated SMPTE as the registration authority.

SMPTE was selected as the registration authority for the unique identifier numbers, since it is an international organization comprised of individual members in 72 countries. SMPTE has been serving the international community since 1916 and has an established presence. SMPTE members represent a broad range of disciplines from the film, terrestrial broadcasting, cablecasting, direct broadcast, and common carrier industries. SMPTE was seen, therefore, as being both industry and politically neutral and possessing the necessary expertise.

SMPTE's Mission

SMPTE's role is to help its individual and corporate members cope with the ever-changing world of technology. SMPTE continues to assess how it can best serve those members. The Society's Standards and Recommended Practices ensure interchange, which in turn provides the opportunity to reach a mass audience. The Society's educational activities help its individual and corporate members to stay current with changes in the technologies that impact their lives. A new role has been added, as a registration authority, and the Society has shown that it can grow to provide new services to the industries it serves. Eighty years of service and still growing...

—Stanley N. Baron, *SMPTE Journal*, Sept. 1996