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Action: INTRODUCED BY MR. DeCONCINI
By Mr. DeCONCINI:


DIGITAL AUDIO TAPE RECORDER ACT

Mr. DeCONCINI. Mr. President, I rise today to introduce the Digital Audio Tape Recorder Act of 1990. By introducing this legislation, we hope to bring to an end the controversy surrounding introduction of this new technology into the U.S. consumers across the country should have the opportunity to enjoy this technological advancement in sound recording. I am including in the Record today a section-by-section description of the bill. I am including along with it a technical reference document that sets forth certain standards and specifications mandated by the legislation. At this point, I thought it would be helpful to describe this technology and the need for this legislation.

A digital audio tape recorder (DAT) is a tape recorder that records information in digital form, similar to the compact tape disc player except on tape. In a digital recording, music is converted into electronic pulses for coding, in the same way a computer stores information—in contrast, a conventional analog tape recorder records music in the form of the sound waves that constitute music. These digital pulses are then "read" and converted back into music. Proponents of this type of recording claim that it has several advantages over conventional methods of recording. These purported advantages include that the dynamic range of the music—the difference between the loudest and softest portions—and the signal-to-noise ratio are superior to most analog methods; the recording process itself does not add any noise; and "wow" and "flutter"—mechanical errors induced in some analog recordings—are virtually eliminated.

Last Congress, Congressman Robert KASTENMEIER and I chaired joint hearings of our respective subcommittees on the problems presented by the introduction of this new technology. At that hearing, one of the main concerns voiced by recording industry representatives was that, by using a DAT to tape a compact disc, a consumer would be able to obtain a "digital master" or a "digital clone" every bit as good as the record producer's own digital master and that this recording could then be reproduced repeatedly in that form. Representatives of the consumer electronics industry testified that they had voluntarily configured the devices to prevent digital-to-digital cloning.

The focus of the hearing, however, was on a proposed technological addition to the DAT technology that would render the devices incapable of recording encrypted prerecorded software. This technology, called the copy-code scanner, was demonstrated by both the recording industry, who developed it, and the electronics industry. The results of the two demonstrations were markedly different. While the copy-code scanner demonstrated by the recording industry resulted in no discernible degradation in sound quality, the one utilized in the electronics industry presentation, however, obviously did adversely affect the quality. The committees were not able to determine which demonstration was more accurate and subsequently asked the National Bureau of Standards to test the copy-code scanner to determine its affect on DAT recorders. In addition, the two chairmen asked the Recording Industry Association and the Electronics Industry Association to try to resolve the dispute between themselves. The legislation I am introducing today represents the agreement that has been reached by the two long-term adversaries.

In fashioning this legislation, we have not included a surcharge provision to compensate artists and copyright holders for the possibility of loss of compensation that the sale of the machines may promote. The recording industry and others in the worldwide music community have long supported the imposition of a surcharge on blank tapes and recording devices. The consumer electronics industry, retail dealers and consumers have consistently opposed these efforts in the United States. In agreeing to recommend legislation to Congress, the industry representatives have put aside these differences. I applaud both sides for their efforts and for their willingness to compromise.

I am aware that there are groups who oppose the agreement represented by this legislation. These groups continue to believe that the only fair solution to the perceived problem of displaced sales is a distribution of moneys collected through the surcharge system. These parties also believe that the agreement sets a bad precedent by acknowledging for the first time in the copyright law, the existence of home taping. I have never supported the placing of such a surcharge on either software or hardware, but if this legislation is referred to my subcommittee, I will give this idea a fair hearing during consideration of the bill. In addition, language has been included in the legislation to clarify that Congress does not intend in adopting this new technology to address the legality or appropriateness of home taping in general.

In agreeing to recommend SCMS, the industry representatives now seek
March 28, 1990

CONGRESSIONAL RECORD — SENATE

S 3407

I ask unanimous consent that the bill and the accompanying documents be inserted in the Record.

There being no objection, the materials were ordered to be printed in the Record, as follows:

S. 2358

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE. This Act may be referred to as the "Digital Audio Tape Recorder Act of 1990".

(a) FINDINGS.—The Congress finds that—

(1) the Congress has been expressly granted the power under article 1, section 8, of the Constitution to promote the progress of science and the useful arts;

(2) representatives of the consumer electronics industry and others in the consumer electronics industry, and others in the United States Government, with respect to DAT recorders' will be significant for consumers, the recording industry, and others in the United States;

(3) the enactment of this Act shall not prejudice consideration of whether or not royalties should be levied for private home copying of copyrighted works;

(4) under SCMS, the circuitry which controls the functions of a DAT recorder will be programmed to read certain coding information accompanying the source material and, based on the particular combination of codes it reads, will permit unrestricted copying, permit copying but label the copy with a code to restrict further digital-to-digital copying, or disallow such copying. Under this system, a DAT will not be prevented from making first-generation digital-to-digital copies of original prerecorded music and other material from compact discs, prerecorded DAT cassettes, digital broadcasts, and other digital sources entering through a digital input but will be prevented from making second-generation digital-to-digital copies of the copies. In recognition of the fact that a DAT at present is unable to determine whether original prerecorded music or other material entering through an analog input has been coded for copyright protection, a DAT will be able to make a first-generation and a second-generation digital-to-digital copy of the source material, but will not be permitted to make a second-generation digital-to-digital copy of the second-generation copy. In the event that technological developments permit the circuitry of a DAT to identify copyrighted material entering through an analog input, the same limitation on digital copies of copies should apply, but there will be no limitation on serial digital copying of analog material not coded for copyright protection.

The serial copy management system described in any way by the consumer. No additional buttons or controls will complicate the recording process. Implementation of SCMS also will not require any changes to existing compact disc players or compact disc recorders.

Home taping on conventional analog tape recorders will not be subject to SCMS. Thus, home taping on analog tape recorders will remain unaffected by this legislation. Moreover, the code will be embedded in digital sources to allow SCMS to work will not affect in any way the ability of analog tape recorders to record digital sources of music.

In my view, it is important that the DAT technology be available for American consumers. Therefore, the benefits of implementing SCMS for DAT's will be significant for consumers, the recording industry, the consumer electronics industry, and others in the United States. In furtherance of our goal of putting past controversy behind us, we introduce this legislation today. We look forward to the support of our Senate colleagues in moving this bill quickly.

I give unanimous consent that the bill and the accompanying documents may be printed in the Record, as follows:

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(3) the enactment of this Act shall not prejudice consideration of whether or not royalties should be levied for private home copying of copyrighted works;

(4) under SCMS, the circuitry which controls the functions of a DAT recorder will be programmed to read certain coding information accompanying the source material and, based on the particular combination of codes it reads, will permit unrestricted copying, permit copying but label the copy with a code to restrict further digital-to-digital copying, or disallow such copying. Under this system, a DAT will not be prevented from making first-generation digital-to-digital copies of original prerecorded music and other material from compact discs, prerecorded DAT cassettes, digital broadcasts, and other digital sources entering through a digital input but will be prevented from making second-generation digital-to-digital copies of the copies. In the event that technological developments permit the circuitry of a DAT to identify copyrighted material entering through an analog input, the same limitation on digital copies of copies should apply, but there will be no limitation on serial digital copying of analog material not coded for copyright protection.

The serial copy management system described in any way by the consumer. No additional buttons or controls will complicate the recording process. Implementation of SCMS also will not require any changes to existing compact disc players or compact disc recorders.

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In my view, it is important that the DAT technology be available for American consumers. Therefore, the benefits of implementing SCMS for DAT's will be significant for consumers, the recording industry, the consumer electronics industry, and others in the United States. In furtherance of our goal of putting past controversy behind us, we introduce this legislation today. We look forward to the support of our Senate colleagues in moving this bill quickly.
provided to persons other than the manufacturer, its employees, or its agents; and
(C) which is designed, manufactured, marketed, and sold for use by recording professionals, in the ordinary course of a lawful business.

(2) The capability in a digital audio tape recorder as required in paragraph (1)(A), or the marking of a digital audio tape recorder described in paragraph (1)(B), shall not create a reason to believe that the recorder is a professional model digital audio tape recorder.

(3) In determining whether a digital audio tape recorder as described in paragraph (1)(C), factors to be considered shall include—
(a) whether it has features used by recording professionals in the course of a lawful business, including features such as—
(i) a data collection and reporting system of error codes during recording and playback;
(ii) a record and reproduce format providing "read after write" and "read after read";
(iii) a time code reader and generator conforming to the standards set by the Society of Motion Picture and Television Engineers for both digital audio and video standards; and
(iv) a professional input/output interface, both digital and analog, conforming to standards by audio engineering organizations for digital audio and video standards, levels, and impedances;

(b) the uses to which the recorder is put;
(c) the distribution channels and retail outlets through which the recorder is disseminated;
(d) the intended audience;
(e) the manufacturer’s price for the recorder as compared with the manufacturer’s price for digital audio tape recorders implementing the serial copying management system;
(f) the relative quantity of manufacture of the recorder as compared to the size of the manufacturer’s market for professional digital audio tape recorders;
(g) the occupations of the purchasers of the recorder; and
(h) the uses to which the recorder is put.

(4) Nothing in this Act requires any person engaged in the manufacture or assembly of phonorecording devices to manufacture any such phonorecord with respect to its copyright status.

(e) INFORMATION TO ACCOMPANY TRANSMISSION OF ARTICLES.—As part of a final judgment in an action brought under subsection (a) or (b) of section 3 in the sum of not more than $10,000 nor more than $100,000 per phonorecord involved in such violation, as the court considers just.

(2) In addition to making an award of damages under paragraph (1), in any case in which the court finds that a violation of section 3 was committed willfully and for purposes of direct or indirect commercial advantage or private financial gain, the court in its discretion may increase the award of damages, whether actual or statutory, by an additional amount of not more than $50,000.

(3) In any case in which the court finds that the violator was not aware and had no reason to believe that his or her acts constituted a violation of section 3, the court in its discretion may reduce the total award of damages to a sum of not less than $250.

(f) REMEDIAL MODIFICATION AND DESTRUCTION OF ARTICLES.—As part of a final judgment of a violation of section 3 in the sum of not more than $10,000 nor more than $100,000 per phonorecord involved in such violation, as the court considers just.

(g) DEFINITION.—For purposes of this Act, the term "device" does not include a phonorecord.
(b) any person who is a copyright owner of any work embodied in a phonorecord; and
(c) any association, representative, or agent of such person described in subparagraph (A) or (B);

(2) the term “commerce” means commerce, between or among any of the States, or between any of the States and any foreign nation;

(3) the term “digital audio interface device” means any machine or device, whether or not developed as of the date of the enactment of this Act, and whether or not included with or as part of some other device, that supplies a digital audio signal through a “non-professional interface.”; as the term “non-professional interface” is used in the Digital Audio Interface Standard in part I of the technical reference document or in an order of the Secretary of Commerce under section 4(b) (1) or (2);

(4) the term “digital audio tape recorder” means any device, whether or not developed as of the date of the enactment of this Act, and whether or not included with or as a part of some other device, that is intended or marketed for the primary purpose of making a sound recording in a digital format or in analog format;

(5) the term “interested party” means any person engaged in the manufacture or assembly of any digital audio tape recorder or any phonorecord, or any association, representative, or agent of such person;

(6) the term “person” includes “anyone” as used in section 501(a)(1) of title 17, United States Code;

(7) the term “serial copy management system” means the system for regulating serial copying by digital audio tape recorders that is set forth in the technical reference document or in an order of the Secretary of Commerce under section 4;

(8) the term “State” means any of the several States, the District of Columbia, and any commonwealth, territory, or possession of the United States;


(10) the terms “analog format,” “copyright status,” “category code,” “generation status,” and “source material” mean those terms as defined or used in the technical reference document.

(b) COPYRIGHT DEFINITIONS.—Except as otherwise provided, all terms used in this Act shall have the same meanings as those terms are given in title 17, United States Code.

SEC. 7. EFFECT ON OTHER LAW.

(a) This Act does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title, United States Code. Nothing in this Act shall have the same meanings as those terms are given in title 17, United States Code.

(b) As a group, the findings provide background helpful for interpreting the SCMS standards and specifications mandated for DAT recorders to implement copyright protection, a DAT recorder that is designed and marketed for the primary purpose of copying under copyright law and will not prevent the making of first-generation digital-to-digital copies of the copies. In recognition of the fact that a DAT recorder is presently unable to determine whether original phonorecord material or other material entering through an analog input has been coded for copyright protection, a DAT recorder will not prevent the making of first-generation digital-to-digital copies of the copies. Under this system, a DAT recorder will not prevent copying but label the copy with a code to restrict further digital-to-digital copying, or disallow such copying.

(c) Copyright definitions.—Except as otherwise provided, all terms used in this Act shall have the same meanings as those terms are given in title 17, United States Code.

(d) SEC. 8. AMENDMENT TO TITLE 17, UNITED STATES CODE.

(a) In General.—Chapter 5 of title 17, United States Code, is amended by adding at the end the following:


"The Digital Audio Tape Recorder Act of 1990 does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title. Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under this title."

(b) SEC. 9. EFFECT ON OTHER LAW.

This Act shall have the same meanings as those terms which are used in the technical reference document or in an order of the Secretary of Commerce under section 4(b) (1) or (2).

(c) SEC. 10. AMENDMENT TO TITLE 17, UNITED STATES CODE.

(a) In General.—Chapter 5 of title 17, United States Code, is amended by adding at the end the following:


"The Digital Audio Tape Recorder Act of 1990 does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title. Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under this title."


"The Digital Audio Tape Recorder Act of 1990 does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title. Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under this title."

(c) SEC. 12. EFFECT ON OTHER LAW.

This Act shall have the same meanings as those terms which are used in the technical reference document or in an order of the Secretary of Commerce under section 4(b) (1) or (2).

(d) SEC. 13. AMENDMENT TO TITLE 17, UNITED STATES CODE.

(a) In General.—Chapter 5 of title 17, United States Code, is amended by adding at the end the following:


"The Digital Audio Tape Recorder Act of 1990 does not affect any right or remedy, or any limitation on such right or remedy, held by or available to any person under this title. Nothing in the Digital Audio Tape Recorder Act of 1990 creates or affords any greater or lesser rights with respect to private home copying of a copyrighted work than any rights afforded under this title."

(b) SEC. 14. EFFECT ON OTHER LAW.

This Act shall have the same meanings as those terms which are used in the technical reference document or in an order of the Secretary of Commerce under section 4(b) (1) or (2).
Section 4 sets forth the mechanisms for implementing SCMS in DAT recorders and digital audio interface devices. Subsection (a) provides that within 10 days following enactment of the legislation, the Register of Copyrights must publish the technical reference document in the Federal Register. The proposed text of this document is attached to this section-by-section description. It is a technical reference document that adopts certain of the standards proposed to the International Electrotechnical Commission (IEC) in "IEC 958: Digital Audio Interface" and "IEC XXX Part 6: Serial copy management system for consumer audio use DAT recorders, known as the "Digital Audio Interface System Standard" or the "SCMS Standard." Subsection (b) contains three "safety valve" mechanisms, all triggered upon petition of an interested party, to implement SCMS differently than provided for in the technical reference document. Upon receipt of a petition and before issuing an order under this provision, the Secretary of Commerce must consult with the Register of Copyrights. The first mechanism provides the Secretary with the authority to issue an order permitting in commerce DAT recorders and digital audio interface devices which do not implement SCMS and are compatible with SCMS as prescribed under the technical reference document, but which do not meet all of the standards and specifications set forth in the technical reference document. The intent is to have a mechanism by which the Secretary can remedy any technical problems that develop in implementing SCMS using the technical reference document and to permit other technologies which may be developed which implement SCMS in a different way. The second provision gives the Secretary the authority to issue an order permitting in commerce DAT recorders and digital audio interface devices which meet a new set of standards and specifications to implement SCMS, in the event that the overall standards for DAT recorders and digital audio interface devices are not compatible and are revised in the future. The third provision provides the Secretary with the authority to approve standards and specifications for devices which are not compatible in the material in the analog format in an equivalent manner as source material in the digital format. Section 5 establishes remedies for violations of the legislation. Subsection (a) provides that an aggrieved person or the Attorney General must file an action in the Federal courts to address a violation of section 3. Subsection (b) provides the court with authority to grant injunctions, award damages, direct the recovery of costs, and grant such other equitable relief as it may deem reasonable. This provision is designed to address two major problems for calculating damages, subject to a limit of $1 million per judgment as established under paragraph (1). An aggrieved person has the burden of proving actual statutory damages subject to this limit. Paragraph (2) provides the court with the authority to consider the market value of the infringing copy, the market value of the infringing device, up to a maximum of an additional $5 million, if it determines that a violation of section 3 was committed willfully and for purposes of direct or indirect commercial advantage or private financial gain. Paragraph (3) gives the court the discretion to lower the damage award to $250 if it finds that the violator was not aware and had no reason to believe that his or her acts constituted a violation of section 3.

Section 6 defines terms used in the legislation. Of these definitions, the most important one defines a DAT recorder. The intent is to limit the applicability of this legislation only to devices that are intended or marketed to consumers for the primary purpose of making a sound recording in a digital format on magnetic tape. The "primary purpose" test is intended to ensure that it could not reasonably or in good faith have labeled and distributed a device as a professional model.

Subsection (f) permits the court to order the remedial modification of any device or phonorecord that does not comply with section 3, but only if the court finds that the labeling and distribution of the devices by a manufacturer were without a reasonable basis in fact. The intent is to permit a manufacturer to continue to distribute devices in commerce pending resolution of the case, unless it is clear that it could not reasonably or in good faith have labeled and distributed a device as a professional model.

Section 7 sets forth the mechanisms for implementing SCMS in DAT recorders and digital audio interface devices. Subsection (a) provides that within 10 days following enactment of the legislation, the Register of Copyrights must publish the technical reference document in the Federal Register. The proposed text of this document is attached to this section-by-section description. It is a technical reference document that adopts certain of the standards proposed to the International Electrotechnical Commission (IEC) in "IEC 958: Digital Audio Interface" and "IEC XXX Part 6: Serial copy management system for consumer audio use DAT recorders, known as the "Digital Audio Interface System Standard" or the "SCMS Standard." The second set governs the recording functions of DAT recorders, known as the "Serial Copy Management System Standard" or the "SCMS Standard." Subsection (b) contains three "safety valve" mechanisms, all triggered upon petition of an interested party, to implement SCMS differently than provided for in the technical reference document. Upon receipt of a petition and before issuing an order under this provision, the Secretary of Commerce must consult with the Register of Copyrights. The first mechanism provides the Secretary with the authority to issue an order permitting in commerce DAT recorders and digital audio interface devices which do not implement SCMS and are compatible with SCMS as prescribed under the technical reference document, but which do not meet all of the standards and specifications set forth in the technical reference document. The intent is to have a mechanism by which the Secretary can remedy any technical problems that develop in implementing SCMS using the technical reference document and to permit other technologies which may be developed which implement SCMS in a different way. The second provision gives the Secretary the authority to issue an order permitting in commerce DAT recorders and digital audio interface devices which meet a new set of standards and specifications to implement SCMS, in the event that the overall standards for DAT recorders and digital audio interface devices are not compatible and are revised in the future. The third provision provides the Secretary with the authority to approve standards and specifications for devices which are not compatible in the material in the analog format in an equivalent manner as source material in the digital format.

Section 5 establishes remedies for violations of the legislation. Subsection (a) provides that an aggrieved person or the Attorney General must file an action in the Federal courts to address a violation of section 3. Subsection (b) provides the court with authority to grant injunctions, award damages, direct the recovery of costs, and grant such other equitable relief as it may deem reasonable. This provision is designed to address two major problems for calculating damages, subject to a limit of $1 million per judgment as established under paragraph (1). An aggrieved person has the burden of proving actual statutory damages subject to this limit. Paragraph (2) provides the court with the authority to consider the market value of the infringing copy, the market value of the infringing device, up to a maximum of an additional $5 million, if it determines that a violation of section 3 was committed willfully and for purposes of direct or indirect commercial advantage or private financial gain. Paragraph (3) gives the court the discretion to lower the damage award to $250 if it finds that the violator was not aware and had no reason to believe that his or her acts constituted a violation of section 3.

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and desirable to establish a common protocol or "interface" that mandates the location and significance of particular bits of information in the digital audio output signal of each device. Such a standard already has been established in the document IEC 958.

Under IEC 958, inaudible information, known as "channel status data" accompanies every digital audio signal being sent to or by a DAT recorder. Like all digital data, channel status data consists of numeric information, series of ones and zeros. Each zero or one constitutes a "bit" of data in which both zero and one may impart information concerning the composition of the digital data sent to or from a DAT recorder. Bits represented in this memorandum as "X", rather than as zero or one, indicate that those bits may be either zero or one without affecting the standards set forth herein.

Channel status data bits are organized into units of information, known as "blocks," relating to both the left and right stereo audio channels. Each block contains 192 bits of information, numbered consecutively from 0 to 191. Most of these bits are currently reserved for future use. Those channel status bits that are significant to the implementation of the Digital Audio Interface Standard and the Secure Copy Management System are indicated within channel status bits 0 through 15, as set forth in the remaining sections of this Part II.

A. Summary of mandatory digital audio interface standard

According to IEC 958, there are two basic types of interfaces for digital audio signals that may be used by a DAT recorder. A "Professional interface" is a digital audio signal that contains particular types of channel status data for such DAT recorders as would be used by recording professionals as contemplated by the Act ("professional model" DAT recorders). A "Non-Professional interface" is a digital audio signal that contains different types of channel status data. The channel status data sent in a non-professional interface are incompatible with the channel status bits in a professional interface. Hence, a non-professional DAT recorder cannot record digital audio signals sent via a professional interface. Whether a digital audio output signal may be sent to or received by a non-professional is indicated by the setting of Bit 0, known as the "Channel Status Block Flag" ("Block Flag") bit.

This Digital Audio Interface Standard applies only to machines having a non-professional interface. To the extent that a professional model DAT machine also may have a non-professional interface, such a professional model DAT machine must send channel status data via its non-professional interface in accordance with the standards set forth herein. However, nothing in this Digital Audio Interface Standard shall be interpreted to represent a professional model DAT recorder having a non-professional interface from permitting such channel status data bits to be set in accordance with the needs of a professional user.

This Digital Audio Interface Standard requires that all devices having a digital audio output capable of supplying a digital audio signal to a DAT recorder through a non-professional interface must implement five types of codes located between Channel Status Bits 0 through 15. Under the Digital Audio Interface Standard, Channel Status Bits 0 through 15 are supplied in a digital audio signal and comprise the digital audio signal for a DAT recorder. Those bits that are mandated under this Digital Audio Interface Standard are as follows:

1. Bit 0—Bit 0 (the "Channel Status Block Flag"), one of the "CONTROL" bits, shall identify whether the channel status data bits are for a professional or non-professional interface. Where Bit 0 is set as "1", the signal contains the channel status data required for a professional interface. Where Bit 0 is set as "0", the signal contains channel status data suitable for a non-professional interface. The remaining bit assignments under this Interface Standard are mandated only with respect to a non-professional interface, i.e., where Bit 0 is set as "0".

2. Bit 1—Bit 1, another of the "CONTROL" bits, shall identify whether the signal being sent to or by the DAT recorder is a digital audio or a digital data signal. Where Bit 1 is set as "0", the signal is a digital audio signal. Where Bit 1 is set as "1", the signal is a digital data signal.

3. Bit 2—Bit 2 (the "C" Bit), another of the "CONTROL" bits, shall identify whether copyright protection is asserted for the work being sent via the digital audio input signal. Where the C Bit is set as "0", copyright protection has been asserted over the material being sent to the digital audio input of the DAT recorder. Where the C Bit is set as "1", copyright protection is not asserted. In this case, the signal may be a digital audio or a digital data signal. Where Bit 1 is set as "0", the signal is a digital audio signal.

4. Bit 3—Bit 3 ("0" Bit), another of the "CONTROL" bits, shall identify whether the signal being sent is a direct copy or a second-generation copy. For some DAT recorders, Bit 3 is set as "1", indicating that the signal is a second-generation copy. For other DAT recorders, Bit 3 is set as "0", indicating that the signal is a direct copy. The following bit assignments for channel status data bits 0 through 15, as set forth in Part II,

5. Bits 4-15—In order to receive the channel status data sent by a DAT recorder, a receiver shall set the status of the channel status data bits to the same settings used by the DAT recorder. Where Bit 4 is set as "1", the signal is copyright protected. Where Bit 4 is set as "0", the signal is not copyright protected.

B. Mandatory digital audio interface standards

The following bit assignments for channel status data bits, as referenced in the provisions of IEC 958 §4.2.2 "Channel status data format for digital equipment for consumer use", shall be mandatory:

Bits 0-2 of the "CONTROL" Bits:

- Bit 0 = "0"—Non-professional interface.
- Bit 0 = "1"—Professional interface.

Bits 1-2 are set to "0"—Digital audio signals.

B. Mandatory digital audio interface standards

The following bit assignments for channel status data bits, as referenced in the provisions of IEC 958 §4.2.2 "Channel status data format for digital equipment for consumer use", shall be mandatory:

1. Bit 0—Bit 0 (the "Channel Status Block Flag") is set as "0" for works that are not copyrighted or "1" for works that are copyrighted. The copyright owner must assert copyright protection via the C Bit and set the C Bit as "1" for works that are copyrighted or set the C Bit as "0" for works that are not copyrighted.

2. Bit 1—Bit 1 ("0" Bit) is set as "0" for works that are not copyright protected. The copyright owner must assert copyright protection via the C Bit and set the C Bit as "1" for works that are copyright protected.

3. Bit 2—Bit 2 ("C" Bit) is set as "0" for works that are copyright protected. The copyright owner must assert copyright protection via the C Bit and set the C Bit as "1" for works that are not copyright protected.
Exception to Case 1
For Digital Receivers (Category Codes 001XXXXL and 01111XXXL), the C Bit shall indicate: Bit 2 = “0”—Copyright information transmitted and protection asserted, or no copyright information transmitted.

Bit = “0” —Information transmitted and no copyright protection asserted.

ii. Case 2—
Where a single digital audio output signal results from the combination of more than one digital audio input signal:

Bit 2 = “0” —Copyright protection asserted, or information transmitted over at least one of the constituent digital audio input signals,

Bit 2 = “1”—For all of the constituent digital audio input signals, no copyright protection asserted or not under copyright.

2. Bits 3-7—
Specific bit settings for Bits 3-7 are not necessary for the implementation of the SCMS Standard set forth in Part II.

3. Category Code Bits 8-15—

a. Bit 8—
The Category Codes that follow are established for particular product groups. Where Bit 15 is represented by “L” rather than a zero or one, the device is not capable of issuing status information concerning the C Bit and the L Bit (“Future A/D converters”).

b. Bit 15 (the “L” Bit):—

The L Bit shall be used to identify the generation status of the digital audio input signal as originating from an analog input or from a first-generation or higher recording.

i. Case 1—
For all Category Codes (except as explicitly set forth below), the L Bit shall indicate:

Bit = “0”—First-generation or higher recording.

Bit = “1”—“Original” work, such as a commercially released pre-recorded DAT tape.

ii. Exception (a) to Case 1—
The situation is valid for laser optical products (1002XXXXL). For this Category Code the L Bit shall be set as “0”.

iii. Exception (b) to Case 1—
The L Bit shall be set as “0” for non-original material (i.e., where the digital audio input signal is not “original”). In response to ID6, the digital audio input signal transmitted shall be set as “0”, for non-original material (i.e., where the digital audio input signal is not “original”).

iv. Exception (c) to Case 1—
The L Bit shall be set as “0” in the following situations:

1. Where ID6 is set as “00”, copyright protection has been asserted over the material under the SCMS Standard.

2. Where ID6 is set as “10”, copyright protection has been asserted over the material under the SCMS Standard and the recording is “Original”.

3. Where ID6 is set as “11”, copyright protection has been asserted over the material under the SCMS Standard and the recording is “Original”.

b. Bit 15 (the “L” Bit):—

Bit = “0”—First-generation or higher recording.

Bit = “1”—“Original” work, such as a commercially released pre-recorded DAT tape.

The channel status data to be sent in response to the various settings of ID6 are as follows:

1. Where ID6 is set as “00”, copyright protection has been asserted over the material under the SCMS Standard. In response to ID6, the digital audio signal output of the DAT machine shall be set as “0”.

2. Where ID6 is set as “10”, copyright protection has been asserted over the material under the SCMS Standard and the recording is “Original”. In response to ID6, the digital audio output signal of the DAT machine shall be set as “0”.

3. Where ID6 is set as “11”, copyright protection has been asserted over the material under the SCMS Standard and the recording is “Original”. In response to ID6, the digital audio output signal of the DAT machine shall be set as “0”.

II. SERIAL COPY MANAGEMENT SYSTEM FOR NON-PROFESSIONAL MODELS: DAT RECEIVERS

The Serial Copy Management System Standard applies to DAT audio tape recorders that are not professional models DAT recorders as defined under the Act.

The general intent of the SCMS Standard is to prevent non-professional model DAT recorders from making second-generation or higher digital recordings of “original” digital audio input signals over which copyright protection has been asserted via the channel status bits. The SCMS Standard does not prevent the making of a first-generation recording of such “original” digital audio signals. As future technologies permit, the SCMS Standard will limit the digital recording of DAT recorders of analog audio signals over which copyright protection has been asserted to the making of only a first-generation digital copy. However, because present technology does not identify whether analog audio signals are protected by copyright, the SCMS Standard will not prevent the making of a first and second generation recording of digital audio signals. The SCMS Standard will not restrict digital recording of material over which copyright protection has been asserted to the making of a first-generation digital copy. However, the SCMS Standard will not restrict the digital recording of material over which copyright protection has been asserted to the making of a first-generation digital copy. However, the SCMS Standard will not restrict the digital recording of material over which copyright protection has been asserted to the making of a first-generation digital copy.

A. Summary of mandatory serial copy management system

To implement the Serial Copy Management System, the SCMS Standard requires that a DAT machine must play-back and/or record specific inaudible data in a particular location on a digital audio tape. According to the TEC documents “TEC XXX part 1: Dimensions and Characteristics” and “Part 6: Serial Copy Management System for Consumer Audio Use DAT Tape” the particular information on the digital audio tape consists of two bits known as “subcode ID6” in the main ID in the main data area (“MDA”).

1. SCMS Operation When Playing a DAT Tape—

With respect to the play-back function, a DAT recorder that is capable of playing a DAT record must provide channel status data conforming to the Digital Audio Interface Standard set forth above in Part I. The SCMS Standard requires that when a digital audio tape is played back, the DAT play-back machine reads the information from ID6 on the tape and sends the corresponding channel status data (Concerning Bit 2 “the C Bit” and Bit 15 “the L Bit”), along with the Category Code for a DAT tape, to the DAT interface device that must provide channel status data conforming to the Digital Audio Interface Standard set forth above in Part I. The SCMS Standard requires that when a digital audio tape is played back, the DAT play-back machine reads the information from ID6 on the tape and sends the corresponding channel status data (Concerning Bit 2 “the C Bit” and Bit 15 “the L Bit”), along with the Category Code for a DAT tape, to the DAT interface device that must provide channel status data conforming to the Digital Audio Interface Standard set forth above in Part I.

2. SCMS Operation When Recording on DAT Tape—

With respect to the recording function, the SCMS Standard governs the circumstances and manner in which a DAT recorder may record a digital audio input signal. A DAT recorder implementing the SCMS Standard must be capable of acknowledging the presence or absence of specific channel status information being sent to the DAT recorder via its digital audio input. The DAT recorder then responds to that channel status information by either preventing or permitting the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

1. Where the C Bit of the digital audio input signal is set as “0” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

2. Where the C Bit of the digital audio input signal is set as “1” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

3. Where the C Bit of the digital audio input signal is set as “0” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

4. Where the C Bit of the digital audio input signal is set as “1” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

5. Where the C Bit of the digital audio input signal is set as “0” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

6. Where the C Bit of the digital audio input signal is set as “1” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

7. Where the C Bit of the digital audio input signal is set as “0” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

8. Where the C Bit of the digital audio input signal is set as “1” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:

9. Where the C Bit of the digital audio input signal is set as “0” (copyright protection asserted), the DAT recorder shall not permit the recording of that digital audio input signal. If recording is permitted, the DAT machine records specific codes in ID6 on the tape, so that when the tape is played back, the DAT player can read the corresponding channel status data in its digital audio output signal. The settings of ID6 to be recorded in response to particular channel status bit information are as follows:
from a product with a defined Category Code but the product currently is not capable of transmitting information regarding copyright protection (in which case, two generations of copying are possible). In circumstances (a) and (b) above, the DAT recorder will record "10" in ID6 to prevent further copying. In circumstance (c) above, the DAT recorder will record "11" in ID6 for the first-generation copy.

2. Where the C Bit of the digital audio input signal is set as "0" (copyright protection has been asserted or not copyrighted), the DAT recorder will record "00" in ID6, and unlimited generations on copying will be permitted.

3. Where the C Bit of the digital audio input signal fluctuates between "0" and "1" at a rate of between 4-10 Hz, the signal is coming from a recordable or erasable compact disc that is not an "original" and that contains material over which copyright protection has been asserted. The DAT recorder shall not record "01" in ID6 on the tape.

4. The condition "01" in ID6 has been assigned meaning within the SCMS Standard. Therefore, to prevent circumvention of the SCMS Standard, the DAT recorder shall not record "01" in ID6 on the tape.

B. Mandatory standards for the serial copy management system

1. Mandatory Standards for Digital Audio Output Signals
   a. Category Code Bit 15 (the "L" Bit)
      - All non-professional model DAT recorders shall provide the Category Code "11000001." in the channel status bits of the digital audio output signal. The status of the L Bit of the Category Code shall be provided in the digital audio output signal of the DAT recorder as follows, in accordance with the status of ID6:
        * When ID6 is "00," the digital audio output signal shall indicate in the L Bit of the Category Code that the output source is one of a first-generation or higher DAT tape recorded from an "original" source, or an "original" commercially released prerecorded DAT tape of masterial over which copyright protection is not being asserted under the SCMS Standard, the DAT recorder shall not record "01" in ID6 on the tape.
        * The condition "01" in ID6 in has been assigned meaning within the SCMS Standard. Therefore, to prevent circumvention of the SCMS Standard, the DAT recorder shall not record "01" in ID6 on the tape.

2. Where the C Bit of the digital audio input signal is set as "0" (copyright protection has been asserted or not copyrighted), the DAT recorder will record "00" in ID6, and unlimited generations on copying will be permitted.

3. Where the C Bit of the digital audio input signal fluctuates between "0" and "1" at a rate of between 4-10 Hz, the signal is coming from a recordable or erasable compact disc that is not an "original" and that contains material over which copyright protection has been asserted. The DAT recorder shall not record "01" in ID6 on the tape.

4. The condition "01" in ID6 has been assigned meaning within the SCMS Standard. Therefore, to prevent circumvention of the SCMS Standard, the DAT recorder shall not record "01" in ID6 on the tape.

5. Where the C Bit of the digital audio output signal is set as "0" (copyright protection has been asserted or not copyrighted), the DAT recorder will record "00" in ID6, and unlimited generations on copying will be permitted.

6. The condition "01" in ID6 has been assigned meaning within the SCMS Standard. Therefore, to prevent circumvention of the SCMS Standard, the DAT recorder shall not record "01" in ID6 on the tape.

7. A digital audio tape of "original" generation status over which copyright protection has been asserted shall contain "11" in ID6. A digital audio tape of "original" generation status over which copyright protection has been asserted shall contain "00" in ID6.

8. A DAT recorder shall not record digital audio input signals where the C Bit alternates between "0" and "1" at a frequency of between 4 and 10 Hz and the Category Code is for a Compact disc digital audio signal ("10000008"), as in the case of digital audio input signals from recordable or erasable compact discs that are not "original" and that contain material over which copyright protection has been asserted.

9. A non-professional model DAT recorder shall not record digital audio input signals from a product with a defined Category Code that the output source is an "original" source, such as a commercially released DAT tape of material over which copyright protection has been asserted.

10. The condition "01" in ID6 is not to be used.

C. "Category code white list"

7. A digital audio tape of "original" generation status over which copyright protection has been asserted shall contain "11" in ID6. A digital audio tape of "original" generation status over which copyright protection has been asserted shall contain "00" in ID6.

8. A DAT recorder shall not record digital audio input signals where the C Bit alternates between "0" and "1" at a frequency of between 4 and 10 Hz and the Category Code is for a Compact disc digital audio signal ("10000008"), as in the case of digital audio input signals from recordable or erasable compact discs that are not "original" and that contain material over which copyright protection has been asserted.

9. A non-professional model DAT recorder shall not record digital audio input signals from a product with a defined Category Code that the output source is an "original" source, such as a commercially released DAT tape of material over which copyright protection has been asserted.

10. The condition "01" in ID6 is not to be used.

C. Category codes and the C Bit included in the channel status information of digital audio input signals being sent to or by a DAT recorder shall not be deleted or modified and shall be transmitted continuously and acted upon accordingly.

C. "Category code white list"

100XXX0—Laser optical product.
010XXX1—Digital-to-digital converter and signal processing device.
110XXX1—Magnetic tape and disc-based product.
001XXX0 and 0111XXX0—Digital recorders of digitally encoded audio signals with or without video signals, such as Digital Cable and Digital Broadcast Receivers.
010XXX1—Musical instruments.
0110XX1—Future A/D converter (with status information concerning the C Bit and L Bit).
0001XXXX—Solid state memory based product.
00000011—Experimental products not for commercial sale.

PART III. APPLICATION OF THE DIGITAL AUDIO INTERFACE AND SCMS STANDARDS

The following charts apply and correlate those codes that are mandated by the Digital Audio Interface Standard and SCMS standards. The columns and rows in these charts identify the following information:

The "Signal Source" column describes the type of product sending the digital audio signal to a DAT recorder.

The three columns under the heading "Digital Audio Input Signal" identify the correct channel status information in the C Bit and L Bit, respectively which correspond to each product. The "Digital Audio Input Signal" described below is the signal being sent to the DAT recorder.

The next three columns under the heading "DAT Recorder Response" identify the response of the DAT recorder to the corresponding digital audio input signal. The column "ID6" specifies the code that the DAT recorder will record on the tape in ID6 in response to the digital audio input signal.

The last two columns set forth the correct channel status information in the C Bit and L Bit that are sent in the digital audio output signal of a DAT recorder in response to the setting of ID6.

Each of the appropriate codes is set forth in the cases described below:

CASE 1.—WHERE COPYRIGHT PROTECTION HAS BEEN ASSERTED OVER THE DIGITAL AUDIO INPUT, AND THE SOURCE OF THE INPUT IS "ORIGINAL" MATERIAL

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital Audio Input Signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C Bit (Bit 1)</td>
<td>Category code</td>
</tr>
<tr>
<td>Laser optical</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Digital output</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Digital input</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
### CASE 2.—WHERE COPYRIGHT PROTECTION HAS NOT BEEN ASSERTED OVER THE DIGITAL AUDIO INPUT, AND THE SOURCE OF THE INPUT IS “ORIGINAL” MATERIAL

(First-generation and above recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser optical</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>D/A converter</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Magnetic prod.</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Musical instrum.</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Future A/D conv.</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Digital receiver</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Digital receiver</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
<tr>
<td>Experimental</td>
<td>1 000000X</td>
<td>0 00 1 0</td>
</tr>
</tbody>
</table>

### CASE 3.—WHERE COPYRIGHT PROTECTION HAS BEEN ASSERTED OVER THE DIGITAL AUDIO INPUT, AND THE SOURCE OF THE INPUT TO THE DAT RECORDER IS NOT “ORIGINAL” MATERIAL

(No recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser optical</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>D/A converter</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Magnetic prod.</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Musical instrum.</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Future A/D conv.</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Experimental</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Solid state dev.</td>
<td>0 100000X</td>
<td>1 00 1 0</td>
</tr>
</tbody>
</table>

### CASE 4.—WHERE COPYRIGHT PROTECTION HAS NOT BEEN ASSERTED OVER THE DIGITAL AUDIO INPUT, AND THE SOURCE OF THE INPUT TO THE DAT RECORDER IS NOT “ORIGINAL” MATERIAL

(Second-generation and above recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser optical</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>D/A converter</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Magnetic prod.</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Musical instrum.</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Future A/D conv.</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Experimental</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
<tr>
<td>Solid state dev.</td>
<td>1 000000X</td>
<td>1 00 1 0</td>
</tr>
</tbody>
</table>

### CASE 5.—WHERE THE DIGITAL AUDIO INPUT SIGNAL INCLUDES CATEGORY CODE INFORMATION, BUT CANNOT PROVIDE INFORMATION CONCERNING COPYRIGHT PROTECTION OF THE SOURCE

(First- and second-generation recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>X 000000D</td>
<td>0 11 0 1</td>
</tr>
<tr>
<td>Present A/D Conv</td>
<td>X 011000X</td>
<td>0 11 0 1</td>
</tr>
</tbody>
</table>

### CASE 6.—WHERE THE DIGITAL INPUT SIGNAL DOES NOT INCLUDE A DEFINED CATEGORY CODE

(First-generation recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undefined</td>
<td>X 10</td>
<td>0 1 0 0</td>
</tr>
</tbody>
</table>

### CASE 7.—WHERE COPYRIGHT PROTECTION HAS BEEN ASSERTED OVER THE DIGITAL AUDIO INPUT FROM A RECORDABLE OR ERASABLE COMPACT DISC THAT IS NOT AN “ORIGINAL” BY FLUCTUATING THE C BIT AT A RATE BETWEEN 4–10 HZ

(No recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recorder response</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD Player</td>
<td>0 1 100000</td>
<td>0 1 0 0</td>
</tr>
</tbody>
</table>
CONGRESSIONAL RECORD — SENATE

CASE 8.—WHERE THE DIGITAL SIGNAL TRANSMITTED TO A DIGITAL RECEIVER DOES NOT INCLUDE INFORMATION CONCERNING COPYRIGHT PROTECTION

(Only first-generation recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recordiresponse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital receiver</td>
<td>C bit (Bit 2)</td>
<td>Category code (Bits 8-14)</td>
</tr>
<tr>
<td>Digital receiver</td>
<td>0 0111XXX</td>
<td>0</td>
</tr>
</tbody>
</table>

CASE 9.—WHERE THE DIGITAL SIGNAL TRANSMITTED TO A RECEIVER FOR ELECTRONIC AUDIO SOFTWARE DELIVERY PROVIDES GENERATION STATUS INFORMATION AS IF THE STATUS WERE FIRST-GENERATION OR HIGHER

(No recording permitted)

<table>
<thead>
<tr>
<th>Signal source</th>
<th>Digital audio input signal</th>
<th>DAT recordiresponse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digital receiver</td>
<td>C bit (Bit 2)</td>
<td>Category code (Bits 8-14)</td>
</tr>
<tr>
<td>Digital receiver</td>
<td>0 0111XXX</td>
<td>0</td>
</tr>
</tbody>
</table>

Mr. WILSON. Mr. President, the development of technology brings with it great opportunities. To produce more with less effort, to solve complex problems as diverse as mapping distant planets and mapping our own genetic makeup, and to even enjoy with startling reality the artistic endeavors of musicians.

As these opportunities present themselves, they often are accompanied by challenges, especially to those of us with the responsibility to amend our laws to keep pace—to ensure that as technology serves to benefit some it does not endanger the rights of others.

This is the very situation we face with the advent of a new technology that allows perfect reproduction of prerecorded music.

For all of us all who marvel at the creativity of musicians and those whose music they perform, digital technology—in the form of compact discs—has provided an opportunity to appreciate recorded music almost as though it is being performed in front of us.

Unfortunately, this same digital technology—now is the form of digital audio tape—is very much endangering the legitimate interests of those same composers and performers.

Ultimately, if these interests are not protected, we will all lose the opportunity to enjoy the rich diversity of America's music community.

Mr. President, the law must keep pace with technology, and it is our responsibility to see that it does.

Today, the Senator from Arizona, Senator DeCONCINI, is introducing a bill that proposes a solution to the DAT problem. The Senator has shown great leadership on many intellectual property issues—such as bringing to the floor legislation implementing the Berne Convention, revising our trademark laws, and promoting protecting of our biotechnology industry—so it is not surprising that he is sponsoring this remedial copyright legislation.

Mr. President, I commend Senator DeConcini for his efforts, for he brings to the attention of the Senate a thoughtful proposal to protect the interests of all of those who create music for us to enjoy. Just as clearly, they are entitled to be compensated for their artistic endeavors.

Music is art, but it is also a business, and Congress must not, through inaction, allow technology to run rampant over composers, musicians, and all of the others in the music industry.

That is why we need legislation.

Those in the music industry who support the DeConcini bill feel it is needed as a stopgap measure to slow the hemorrhaging that this currently draining the support that a vital music industry requires. Yet, there are others in the music industry who fear that an endorsement of the DeConcini proposal would indicate an abandonment of a justly deserved royalty system.

Mr. President, there is an absolute consensus in the music industry that Congress must act to respond to the threat posed by digital recording technology. Today, it is from digital audio tape, tomorrow it will be from recordable compact discs. Similarly, there is a full consensus that a royalty system should exist to compensate composers, artists, and the others who bring us recorded music for the harm they suffer from the copying of their works.

So, there is an overall consensus on what needs to be achieved. Unfortunately, there is not yet a similar consensus on the tactics to be used to reach this goal.

Mr. President, we need a royalty system. When negotiators for the music and electronics industries reached an agreement last year in Athens, they explicitly acknowledged the legitimacy of a royalty system—but only in Europe.

Mr. President, American consumers are certainly as willing as Europeans to support the arts. A royalty system is certainly as important for us to adopt in the United States as it is for the Europeans.

Indeed, with the long-overdue emphasis in the GATT on the need to protect intellectual property rights, once the Uruguay round ends one can only wonder how long it will be before Europeans file a trade complaint over our unwillingness to fairly compensate their creators of music with a royalty system.

Mr. President, Congress should have been ahead of the curve, or at least on it, by passing a royalty system for copyright holders whose works are regularly reproduced. The sad truth is that Congress is very much behind the curve.

We are all who are rightfully willing to come to the floor of the Senate and the House to chastise other countries for failing to protect the interests of U.S. intellectual property right holders. Yet, when we are devoting our own, the Congress is unable or unwilling to act.

Mr. President, we should demand of ourselves the same respect for intellectual property rights that we demand from others.

Mr. President, time is certainly of the essence. Already, DAT machines are being sold in this country—even in my own State, in Santa Monica. Therefore, action must be taken this year.

Mr. President, it is my understanding that the bill being introduced by the Senator from Arizona will be referred to the Commerce Committee. I urge that committee to begin hearings on this issue at the earliest possible time. It should take testimony from all interested parties—both from interested industries and from the public.

What is most important is that all parties should come forward, in good faith, to reach a consensus. To this end, the DeConcini bill, as well as alternative proposals, should be given fair and thorough consideration.

I urge the Commerce Committee to bring DAT legislation to the Senate this session. In this way the threat of technology can be dissipated while the opportunities it presents can be made available to the American public.

The bottom line is that we should find the best solution and put it in place this year. Every day that a workable solution is not in place is another day that America's composers and musical performers, and America's entire
The music industry, are at risk. This serves no one's interests—not the music industry's and not the public's.