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April 28, 1997

Honorable Joel I. Klein,  
Acting Assistant Attorney General,  
Antitrust Division,  
United States Department of Justice,  
10th Street & Constitution Avenue, N.W.,  
Washington, D.C. 20530.

Re: Request for Business Review Letter  
Regarding the Licensing of Essential  
Patents for MPEG-2 Technology

Dear Mr. Klein:

On behalf of the Trustees of Columbia University in the City of New York ("Columbia"), Cable Television Laboratories, Inc. ("CableLabs"), Fujitsu Limited ("Fujitsu"), General Instrument Corporation ("General Instrument"), Lucent Technologies Inc. ("Lucent"), Matsushita Electric Industrial Co., Ltd. ("Matsushita"), Mitsubishi Electric Corporation ("Mitsubishi"), MPEG LA, L.L.C. ("MPEG LA"), Philips Electronics N.V. ("Philips"), Scientific-Atlanta, Inc. ("Scientific-Atlanta"), and Sony Corporation ("Sony") (and their affiliates which are involved in the patent licensing program described below), we submit this request for a Business Review pursuant to 28 C.F.R. § 50.6 regarding the proposed arrangement under which certain patents essential to the MPEG-2 compression technology standard will be licensed in a single portfolio license and royalties distributed (the "proposed licensing program").

MPEG-2 is a standard relating to digital audio video compression and related systems standard adopted jointly by the International Organization for Standards ("ISO"), an entity organized under the auspices of the United Nations, and the International Telecommunications Union-Telecommunications Sector ("ITU-T") as ISO/IEC 13818-1

and 13818-2 (Exhibit A hereto). As described in greater detail below, MPEG-2 is a flexible and open standard which provides a technique for eliminating redundant information from a video signal to conserve transmission resources and storage space on storage media such as optical discs. Certain entities which have been determined by an independent expert to have patents claiming an apparatus or method necessary for compliance with the MPEG-2 standard propose to license their patents in a single non-exclusive and non-discriminatory license under the terms and conditions described in this letter and the Exhibits hereto.<sup>1/</sup>

The single license will provide a number of pro-competitive benefits, including (1) reducing the uncertainty of the availability of patent licenses so that those who require a license to manufacture an MPEG-2 product are aware that such a license can easily be obtained; (2) reducing the royalties that likely would be payable if each essential patent holder licensed its patent(s) on its own; (3) reducing the substantial cost for each prospective licensee of determining on its own the identity of essential patent holders from whom a license must be obtained; (4) reducing the other transaction costs of licensees having to negotiate and execute multiple licenses; (5) reducing for essential patent holders the cost of providing licenses thereby allowing licenses to be offered at a lower price; and (6) offering the same royalty to all interested licensees on non-discriminatory terms so that no entity manufacturing or selling MPEG-2 products will have a price advantage over any other entity as a result of entering into a patent license for MPEG-2 essential patents.

The proposed licensing program has been structured to avoid any countervailing aspects that may be deemed

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<sup>1/</sup> Entities with one or more essential patents are Columbia, Fujitsu, General Instrument, Lucent, Matsushita, Mitsubishi, Philips, Scientific-Atlanta and Sony (collectively "the essential patent holders"). This letter also is submitted on behalf of MPEG LA, the entity which proposes to license the essential patents, and on behalf of CableLabs which initially financed and otherwise organized the efforts to identify essential patent holders and to provide a single patent portfolio license. CableLabs also is an investor in MPEG LA.

anticompetitive. For example, each patent holder retains the right to license its patent(s) outside the licensing program and each prospective licensee is informed in writing of its option to negotiate individual licenses rather than accept the portfolio license, each licensor has signed and filed with the ISO (and/or the ITU-T) an undertaking to make licenses available on fair, reasonable and non-discriminatory terms and conditions, extreme care has been taken to insure that the proposed licensing program includes only blocking or essential patents and a structure has been devised both to remove from the program any patents hereafter shown to be non-essential and to include at a later date any other patents that are deemed essential. No entity holding essential patents which expressed interest has been denied the opportunity to license its patents in the proposed program, no restrictions whatsoever are placed by the proposed license on the method by which licensees may implement the MPEG-2 standard, no royalty is payable by licensees unless a licensed patent would be infringed but for the license, there is no "up-front" payment required of licensees as a condition to obtaining a license, books and records of licensees may be audited (to determine whether appropriate royalties have been paid) only by an independent certified public accountant who is forbidden to disclose to any patent holder any information learned in the audit which may be competitively sensitive, caps are placed on the amount by which royalties may increase upon renewal of the license by the licensee, and while licensees are required to offer to the patent licensors and other portfolio licensees a license on any essential MPEG-2 patents the licensee may hold, that requirement allows the licensee to insist on the payment of reasonable royalties and other fair and reasonable terms and conditions.

In the sections that follow, we explain the MPEG-2 technology and its applications, other available compression technologies, the process by which MPEG-2 became an ISO/IEC standard, the procedure for selecting essential patents to be included in the proposed licensing program, and describe various features of the documents which establish the proposed licensing program.

#### I. MPEG-2 Technology and its Applications

The transmission of information through digital rather than analog systems has widely been recognized as

vastly superior for a number of reasons including the ability to interact with, manipulate and process a digital transmission, and the fact that digital transmissions can be stored, retrieved, transmitted and received virtually problem-free as compared with analog signals. As the applications for digital transmissions have grown from faxes and pre-recorded music to motion pictures, cable and terrestrial broadcast television, direct broadcast satellite and the like, the need to "compress" digital information or decrease the amount of bits that must be stored or transmitted also has grown. MPEG-2 provides a process which compresses the amount of digital information that must be stored or transmitted by eliminating redundancies in the stream of 0's and 1's which represent the information to be encoded and decoded.

MPEG-2 reduces the amount of information which must be encoded and decoded by eliminating both spatial and temporal redundancies in the encoded bitstream. For example, a motion picture is typically comprised of 24 frames per second; a television camera typically generates 30 frames per second. In either case, a single frame will typically be comprised of identical information (spatial redundancy) such as a frame of a uniformly blue sky with a single white cloud. Identical information also generally appears from frame to frame (temporal redundancy), such as a frame of a person's face in which over several frames the only change is the wink of an eye. MPEG-2 provides a method by which these redundancies -- the blue sky and the face characteristics which do not change -- are not repeated in the encoded bit stream in order to produce the identical effect as if the redundant information had been encoded.

The MPEG-2 video standard applies to both progressive scan video such as that used in computer screens and high definition television and to interlaced video such as that used in conventional television. A major difference between MPEG-1 and MPEG-2 is that the latter provides a method for interlaced scan compression.<sup>2/</sup>

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<sup>2/</sup> MPEG-2 eliminates spatial redundancy within a frame or field by dividing the frames or fields into 8X8 blocks of pixels or pels. A two dimensional discrete cosine transformation ("DCT") is then applied independently to each block which transforms the pels into certain spatial

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While the MPEG-2 standard consists of nine operative parts, the proposed licensing program is limited to essential patents relating to the video and systems sections.<sup>2/</sup>

The MPEG-2 video and systems applications (hereafter "MPEG-2 standard") are exceedingly flexible. It in no way specifies any product parameters whatsoever other than the format necessary to compress digital bit streams in

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<sup>2/</sup> (...continued)

frequency domain coefficients. The DCT is a fast and inexpensive computation which concentrates the information contained in an 8X8 block of pels into a small number of coefficients. Through a procedure called quantization, many of the DCT coefficients are set to zero in the bitstream coding. This is accomplished by "rounding" high precision values to the nearest lower precision value of a set of permissible values. Compression of the data results from transmitting to a decoder only the non-zero quantized DCT coefficients and coding their magnitude and location within the block using a technique called run-level pair encoding. MPEG-2 reduces temporal redundancy between consecutive fields or frames by measuring and then transmitting to the decoder an interframe or interfield difference signal referred to as a prediction error determined by comparing 16X16 or 16X8 blocks of pels. The prediction error is transmitted using the same basic DCT technique referred to above. As an example of the openness of the MPEG-2 standard, it does not prescribe the mathematical algorithm which must be employed at the encoder so long as the algorithm which is chosen produces a video stream that is within the specified syntax. For example, there are numerous algorithms available for performing the DCT; the MPEG-2 standard does not dictate use of one over another. Licensees are therefore offered numerous choices which can affect the cost of implementation and quality of the decoded picture. The MPEG-2 standard obviously is quite complex. A more detailed description is set out in Appendix B hereto.

<sup>3/</sup> Also included are specifications on audio, conformance, software, digital storage media-command and control, non-backward compatible audio, real time interface and digital storage media-command and control conformance. The video and system parts are believed to have far wider significance than any other part.

the encoding process and then to decode the stream. In effect, the MPEG-2 video standard sets no hardware requirements but rather sets out broad functional requirements regarding how the bit stream must "look" (bitstream syntax) and what the contents of the bitstream "mean" (bitstream semantics). Because of the flexibility of the standard, however, certain constrained parameters are set to assure interoperability among the multiple MPEG-2 applications. Thus, profiles and levels are defined in the MPEG-2 specifications which provide for certain characteristics of the encoded picture such as resolution, bit rate, etc.

The MPEG-2 systems section also proscribes no hardware requirements but sets forth the bitstream syntax and semantics for combining separate video and audio bitstreams into a single bitstream for storage and transmission, and describes a demultiplexing (or unbundling) process for returning the bitstream to its constituent audio and video components for decoding and playing.

Just as the MPEG-2 standard places no limits on product designs or features, it also allows for virtually limitless applications. MPEG-2 is likely to be used worldwide in the next generation of digital television. The United States HDTV specifications accepted by the Federal Communications Commission include MPEG-2, and the technology may also be used in Europe for the next generation system to replace HD-MAC and in Japan in the system that replaces MUSE.

MPEG-2 also is expected to be used by cable television and multichannel multipoint distribution providers to increase the number of program services that can be transmitted over a wire or wireless network. In addition to increasing by a significant factor the number of programming services which can be transmitted per conventional channel, e.g. by a factor of 6, MPEG-2 can be used to improve the quality of both the audio and video signal that is transmitted.

A third expected application of MPEG-2 is use in direct broadcast satellite transmissions. As with its use in CATV, MPEG-2 will allow the transmission of a far greater number of programming services as well as improve the quality of signal transmissions.

In addition to real time broadcast, MPEG-2 is expected to be widely employed in digital storage media. MPEG-2 has been selected for DVD and will most likely be used in DVD movies as well as in DVD-ROM. In addition to the CD-sized DVD discs, MPEG-2 may also be used to conserve storage capacity on larger magnetic disks or other storage media.

MPEG-2 also may be used to significantly improve the quality of video teleconferencing. Teleconferencing in digital rather than analog transmission is capable of improving both the video and audio quality of the process.

Thus, at present, MPEG-2 is expected to have widespread application in a variety of fields. Therefore, potential licensees of the proposed licensing program include, for example, real time broadcast camera manufacturers which may incorporate MPEG-2 encoders, real time broadcasters, television manufacturers which decide to incorporate MPEG-2 decoders within the set, manufacturers of set top boxes for CATV or direct broadcast satellite transmissions, content providers for storage media such as DVD and DVD-ROM, computer manufacturers who decide to provide DVD-ROM drives, DVD player manufacturers, manufacturers of teleconferencing equipment and others.

## II. Other Compression Technologies

While there are numerous other compression technologies, we are unaware of any single technology which provides the broad applications of MPEG-2. MPEG-1, a subset of the MPEG-2 standard, is directed at non-interlaced video such as that used in computer displays. MPEG-1 is not optimal for interlaced scan, and products incorporating only MPEG-1 and not MPEG-2 are not included in the proposed licensing program.

Several proprietary progressive scan digital video compression standards also have been developed. Intel's system is called INDEO® and Apple Computer's is called QUICKTIME®. A digital television system developed by General Instrument, called the DIGICIPHER II® system, is compliant with MPEG-2 at the video and transport layers. Motion JPEG developed by the Joint Photographic Experts Group, can reduce spatial redundancy but not temporal redundancy. ITU standards H-261 and H-263 provide

compression at low bit rates suitable for video phone and video conferencing use.

Thus, while any particular participant in any industry is free to employ any existing available technology or develop its own proprietary compression specifications, MPEG-2 provides a flexible, effective and, as shown below at least with respect to intellectual property, cost effective alternative. In light of the inclusion of MPEG-2 in the HDTV and DVD standards, it is anticipated that MPEG-2 will be the compression standard of choice to insure compatibility within those industries.

Other technologies and techniques are being developed. For example, the Moving Picture Experts Group currently is working on MPEG-4.<sup>4/</sup> It is currently anticipated that a draft of MPEG-4 will be available by November of this year and that the new standard may be published a year or so thereafter.

MPEG-4 seeks, among other things, to improve on coding efficiencies and adding functionalities. MPEG-4 likely will be complementary to MPEG-2. MPEG-4 also seeks to provide interactivity among various industries including wireless communications, interactive computer applications and other audio-visual data.

### III. Selection of the MPEG-2 Standard and Essential Patents

The Moving Picture Expert Group ("MPEG") was organized at an ISO/IEC meeting in January of 1988 and first met in May of that year. The MPEG process of discussing proposed standards and methods of implementation has always been open to all interested parties as evidenced by the August 1991 MPEG meeting in California which included 160 delegates representing 89 entities from 16 countries. At various times, any interested parties were given the opportunity to prepare solutions and methods to meet the MPEG goals. Many entities proposed various technologies,

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<sup>4/</sup> The MPEG-3 project was discontinued when it became evident that MPEG-2 would meet the needs MPEG-3 attempted to address.

and major decisions typically were made by international ballot.

The requirements for MPEG-2 were set at the end of 1990 at a meeting in Berlin, Germany, attended by 112 delegates. Work on the proposed standard continued into the summer of 1992 when the International Telecommunications Union joined the ISO effort and collaboration on MPEG-2 began in earnest. As the proposed MPEG-2 standard began to take on added significance for a broader range of applications, additional industries -- such as cable television -- joined the meetings.

The first video MPEG-2 working draft was proposed by an ad hoc group at the November 1992 MPEG meeting. Test models were produced, and substantial progress toward defining the proposed standard was reached in April 1993 in Australia. Subsequent meetings in New York, Brussels and Seoul resulted in completion of a working draft of the MPEG-2 standard toward the end of 1993. An international ballot was then held over the next three months, and resulted in Draft International Standard 13818.

Ultimately, on November 11, 1994, the ISO Moving Picture Expert Group finalized the MPEG-2 recommendations. On January 27, 1995, the International Telecommunications Union-Telecommunications Sector approved a series of specifications which incorporate MPEG-2.

Prior to adoption of the Draft Standard, various participants in the process recognized the likelihood that numerous patents held by various entities would read on the MPEG-2 standard. Some MPEG participants in early 1993 began to consider how to prevent intellectual property from effectively blocking the implementation of the eventual MPEG-2 standard, and later turned to consider methods by which essential patents would be made available in an efficient manner and on reasonable and non-discriminatory terms.

That effort proceeded, and in July of 1993, MPEG recommended that steps be taken to explore methods by which most or all essential MPEG-2 patents would be offered in a single license. To further this goal, CableLabs offered to convene a series of open meetings to discuss the

intellectual property which was implemented by MPEG-2.<sup>5/</sup> Baryn Futa, an executive of CableLabs, agreed to organize the meetings of what was later known as the MPEG-2 Intellectual Property Rights Working Group ("IP Working Group").

A well-publicized meeting of the IP Working Group was convened on September 11, 1993. This meeting was attended by representatives of approximately 40 to 50 entities. Although membership in the group fluctuated, its members included CableLabs, General Instrument, Matsushita, Philips, Scientific-Atlanta, Sony, Thomson Consumer Electronics and 3DO. The September 11 meeting resulted in a consensus on several issues: (1) that licenses for patents owned by several entities would be required by those wishing to produce or sell an MPEG-2 product; (2) that the group should continue to discuss ways of making patent licenses available in an efficient manner and on fair, reasonable and non-discriminatory terms; (3) that Mr. Futa should chair subsequent meetings; and (4) that a patent search originally began on behalf of CableLabs headed by Dr. Kenneth Rubenstein, Esq., should continue.<sup>6/</sup>

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<sup>5/</sup> CableLabs is a research and development organization whose members consist of cable television system operators. It was organized as a non-stock membership corporation under Delaware law on May 11, 1988. CableLabs is qualified as a § 501(c)(6) organization under the Internal Revenue Code, and was registered in 1988 under the National Cooperative Research Act of 1984. The purpose of CableLabs is to gather, assess and disseminate technological information that is significant to the cable television industry, to develop new technologies for the benefit of the industry, and to transfer such new technologies to the industry through a variety of means. The Board of CableLabs is comprised of representatives of various entities in the United States and Canada with interests in cable television. CableLabs' members include more than 60 companies serving more than 85% of cable subscribers in the United States, 75% of the subscribers in Canada and 5-10% of the subscribers in Mexico.

<sup>6/</sup> Kenneth Rubenstein, a member of Meltzer, Lippe, Goldstein, Wolf & Schlissel, P.C. of New York, received his Ph.D in plasma physics from the Massachusetts Institute of  
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At the November 1993 MPEG meeting, Mr. Futa proposed to the wide audience in attendance that essential patent holders form a licensing entity which would be given the authority by essential patent holders to sublicense their respective patents on non-discriminatory and fair and reasonable terms and conditions. Dr. Rubenstein also reported at length on the patent search effort being funded by CableLabs.

The effort to identify essential patents continued. Under Dr. Rubenstein's direction, and with the assistance of Cliff Reader, Ph.D, then an independent engineering consultant, approximately 8,000 United States patent abstracts were reviewed and 800 patents issued to more than 100 assignees were studied. The well-publicized effort invited any patent holder who so desired to submit its patent for review. No submission was refused, and no entity or person who was identified as having an essential patent was in any way excluded from the effort in forming the proposed joint licensing program. Based on Dr. Rubenstein's analysis, the essential patent holders believe that the proposed licensing arrangement includes most, but not all, MPEG-2 essential patents.

Ultimately, the IP Working Group identified those entities believed to hold essential patents and, under Mr. Futa's leadership, the Group suggested in March 1995 that a licensing entity be formed to provide efficient access to intellectual property rights necessary to implement MPEG-2 technology. The Group also outlined a tentative royalty model, and invited all essential patent holders to participate. The licensing entity -- MPEG LA -- was formed as a Delaware limited liability company in May of 1996, and a series of agreements, described *infra* and made exhibits hereto, were drafted to specify the terms of the proposed licensing program.

It is hard to imagine the adoption of an international standard and the identification of essential patents which it implicates in a more open and inclusive procedure. The MPEG-2 standard was adopted prior to

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6/ (...continued)

Technology in 1979 and his J.D. *cum laude* from New York Law School in 1982.

or decoder pay a royalty rate of \$4.00 per product (Art. 2.2, 2.3, 3.1.1, 3.1.2). Consumer products which incorporate both an encoder and decoder such as a camcorder are licensed for a total royalty of \$6.00 (Art. 3.1.4).

The royalty for packaged media such as DVD or other optical disks or magnetic tapes depend on whether the product is sold for consumer use (\$.04 per disk or medium per "MPEG-2 Video Event") or commercial use (\$.40 per disk or medium per "MPEG-2 Video Event"). Thus, for example, the royalty due on a DVD disk sold to consumers employing an essential MPEG-2 patent and containing a single full length motion picture (which qualifies as a single "MPEG-2 Video Event") is \$.04.

The rationale between the different rates for packaged media is that greater economic value is derived from commercial than from consumer use. A commercial product is likely to be played more frequently and thereby employ the licensed patent more often than a consumer product. The royalty rate structure also reflects that a seller of a consumer medium has a single sale opportunity in which to recover the royalty while the renter of the commercial medium is likely to have many transactions in which to recover royalties paid.

Finally, royalty rates for "Distribution Encoding Products" -- generally those used in real time broadcasts and cable transmissions -- are \$4.00 per device per channel which is incorporated in the device. (Art. 2.5, 3.1.3). Royalty rates for "Transport or Program Stream Products" such as multiplexers are \$4.00 times the greater number of inputs or outputs.

Thus, for example, the royalty due from a film studio on a DVD disc sold to consumers incorporating a single "MPEG-2 Video Event" would be \$.04, or .16% of the retail price, assuming a price of \$25.00. If the disc incorporates a patent of each essential patent holder where the disc is manufactured or sold, the gross pro rata royalty for each essential patent holder would be \$.0044, not considering any applicable taxes and licensing costs. The royalty due from a camcorder manufacturer which incorporates both an encoder and decoder would be \$6, or .15% of the retail price, assuming a price of \$400. If the camcorder incorporates a patent of each essential patent holder where the unit is manufactured or sold, the gross pro rata royalty

identifying those entities with essential patents, and the standard reflects choices based on providing the best and most cost effective technological solutions for the various industries impacted by the standard. Essential patents were identified by independent experts unrelated to any patent holders. In addition, the essential patent holders have signed and submitted to the ISO Information Technology Task Force an undertaking which requires that they license their patents under fair, reasonable and non-discriminatory terms.<sup>1/</sup>

#### IV. The Terms of the Proposed Licensing Program

The proposed Licensing program is defined by five agreements: the MPEG-2 Patent Portfolio License (Exhibit D hereto); the License from Licensor to Licensing Administrator (Exhibit E hereto); the Licensing Administrator Agreement (Exhibit F hereto); the Agreement Among Licensors (Exhibit G hereto), and the Amended and Restated Limited Liability Company Agreement of MPEG LA, LLC (Exhibit H hereto). The Agreements and certain provisions thereof are described briefly below.

##### A. The MPEG-2 Patent Portfolio License

The MPEG-2 Patent Portfolio License ("Portfolio License") provides the terms under which a minimum of 27 essential patents and their foreign counterparts held by nine entities will be licensed to all interested parties. Initially, the Portfolio License recites that each licensor has signed an ISO undertaking, and that each licensor is willing to license its patents on fair, reasonable and non-discriminatory terms outside of the Portfolio License (at 2).

Licensees pay royalties only upon the sale of products that would infringe one or more of the licensed patents but for the license (Article 3). Royalty rates differ based on the nature of the product sold, its use of the MPEG-2 standard, and the economic value of the product. Sellers of consumer products such as TV set top boxes, computers and the like which incorporate an MPEG-2 encoder

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<sup>1/</sup> An example of an ISO undertaking is attached hereto as Exhibit C.

for each essential patent holder would be \$.67, not including any applicable taxes and licensing costs.

The Portfolio License, as do many patent licenses, provides the Licensing Administrator with the right to audit books and records of the licensee to determine whether appropriate royalties are being paid (Art. 3.9). The Portfolio License insures that potentially sensitive competitive information is not disclosed to essential patent holders by permitting the audit to be conducted only by certified public accountants who are prohibited from disclosing any information other than the appropriate royalties due (Art. 3.9.2.1).

The Portfolio License expires in 2000, but each licensee is given the option to renew the license for an additional period of five years (Art. 6.1). Licensees are assured that royalties will increase, if at all, by no more than 25% for the five year renewal period.

Article 6.3 of the Portfolio License gives each licensor-essential patent holder the right to withdraw its own patent(s) from the Portfolio License with respect to any licensee which (1) refuses to grant a license on fair and reasonable terms and conditions to the patent holder-licensor for a patent which is essential to or may be used to exploit the MPEG-2 standard and (2) brings a lawsuit against the patent holder-licensor alleging infringement of such a patent. This provision of the Portfolio License states an assumption that the Portfolio License royalty rate is fair and reasonable.

This provision is critical to prevent Portfolio licensees from taking unreasonable and unfair advantage of the fact that each Portfolio licensor already has agreed to license its patents on open, non-discriminatory terms at what would likely be a fraction of the royalties that would be payable if patents were licensed individually outside the Portfolio License. Without this provision, a Portfolio licensee could -- while enjoying the considerable benefits of the Portfolio License -- attempt to extract unreasonable terms for licensing its patent as a result of already being licensed under the Portfolio. Article 6.3 merely "evens the playing field", puts the parties back into the bargaining position each would have been in but for the Portfolio License, and creates no competition issues. The individual licensor's patents are only withdrawn from the Portfolio

License when and if the licensee refuses to grant a license to the Portfolio licensor on fair and reasonable terms. Moreover, the ISO undertaking signed by each essential patent holder-licensor insures that the licensee will be able to obtain a license under the essential patent at issue, just not necessarily on the terms offered in the Portfolio License. Any potential licensee which objects to this provision remains free to negotiate individual licenses from essential patent holders.

Article 6.4 of the Portfolio License permits any licensee to terminate the license for any reason on thirty days notice and, as noted above, royalties are payable under the license only if the licensee would infringe an essential licensed patent but for the License (Art. 3).

The Portfolio License requires licensees to grant licensors and other Portfolio licensees a license under any essential MPEG-2 patent(s) it has the right to license or sublicense, but specifies that this "grant back" only requires that a license be offered by the licensee on fair and reasonable terms and conditions. Thus, the scope of licensee's obligation is no greater than the scope of the Portfolio License, the license which is "granted-back" is non-exclusive, and there is no disincentive to innovate because the licensee's obligation to license is on terms and conditions which include a reasonable royalty such as that payable under the Portfolio License (Art. 7.3).

If a licensee prefers not to license its essential patent(s) on its own but to have them licensed by MPEG LA with all other essential patents in the Portfolio License, the licensee has the right to join the proposed licensing program on the same terms and conditions as the original licensors (Art. 7.4). The licensee which decides to join the Portfolio License is assured of having its patent(s) evaluated by the same process under which the original licensors' essential patents were evaluated.

Various provisions of the Portfolio License insure that only essential patents are included in the License. Patents originally included in the License which later are determined not to be essential are deleted from the License (Art. 7.6.2). In order to protect licensees, however, licensees are given the option of including the non-essential patent in the license for the term thereof (Art. 7.6.3). Alternatively, licensees are free to

negotiate with individual patent holders for a license on the non-essential patents outside the Portfolio License.

Article 7.7 of the Portfolio License assures each licensee that it will receive royalty rates as favorable as any other licensee of the Portfolio License. Certain limitations are set out in Article 7.7.1, such as the settlement of litigation or the unauthorized issuance of portfolio licenses.

The Portfolio License specifically provides that the License does not in any way prohibit or restrict licensees from developing competitive products which do not comply with MPEG-2 (Art. 7.8).

B. License from Licensor to Licensing Administrator

Each essential patent holder also grants a license to MPEG LA, the licensing administrator, in the License from Licensor to Licensing Administrator. This License facilitates the ability of MPEG LA to grant sublicenses under the Portfolio License, and sets forth many of the terms discussed above which are included in the Portfolio License.

Although technically having the right to do so as a result of the License, it is not anticipated that MPEG LA will produce or sell any MPEG-2 products. Indeed, the Licensing Administrator Agreement, discussed *infra*, would require MPEG LA to resign as the licensing administrator before selling or producing MPEG-2 products (*id.* at Art. 11.3(c)), and the Amended and Restated Limited Liability Company Agreement of MPEG LA, L.L.C., discussed *infra*, also would prevent MPEG LA from producing and selling MPEG-2 products unless such activities were authorized by the patent holders (*id.* at Art. 7.03(d)).

C. Licensing Administrator Agreement

The Licensing Administrator Agreement ("Agreement") provides the basic terms under which MPEG LA is retained by the patent holders to license essential patents through the Portfolio License. The Agreement reflects that essential patent holders have granted MPEG LA the non-exclusive right to sublicense all their essential patents, that each essential patent holder retains the right

to license its patents outside the Portfolio License, and that essential patent holders and MPEG LA have discussed matters necessary to the proposed licensing program, but have not discussed any matters such as marketing or selling MPEG-2 products or potential terms and conditions under which each essential patent holder might individually license its patents (at 2).

Article III of the Agreement sets forth the basic duties of MPEG LA to identify potential licensees and to grant sublicenses to interested parties in the form of the Portfolio License. While MPEG LA is instructed not to "discriminate against potential licensees" (Art. 3.2(b)), MPEG LA is given the right to make independent decisions about the creditworthiness of licensees and to require additional security for royalty payments from those licensees deemed to be a credit risk.

Article 3.4 of the Agreement reflects that MPEG LA has no authority to institute any claim for infringement of any patent licensed in the Portfolio License. MPEG LA may, however, institute enforcement actions against Licensees who fail to abide by the terms of the Portfolio License (Art. 3.14).

The Agreement reflects that an Administrative Committee of licensors will be established pursuant to the Agreement Among Licensors discussed *infra*. The Administrative Committee has certain limited rights to supervise the activities of MPEG LA or its successor, such as reviewing a business plan (3.11), vetoing MPEG LA's decision to terminate a licensee (Art. 3.14) conducting periodic meetings (Art. 5.1), and replacing MPEG LA as the licensing administrator (Article X).

The Agreement also sets forth the compensation of MPEG LA (Article VI) and provides for the distribution of royalties to licensors (*id.*). Licensors are given the right to withdraw from the proposed licensing arrangement, but the patents of any withdrawing licensor continue to be licensed under any license entered into by MPEG LA prior to the withdrawal (Art. 11.2).

D. Agreement Among Licensors

Like other documents, the Agreement Among Licensors recites that each licensor has one or more essential patents, that each retains the right to license these patents outside the Portfolio License "under terms and conditions agreeable to the [licensor] and its licensee" (Art. 2.7) that each patent holder has signed an ISO undertaking to license their patent(s) on fair and reasonable and non-discriminatory terms, and that the licensors have not discussed matters relating to the marketing or selling of MPEG-2 products (at 2).

The Agreement establishes an Administrative Committee (Article 3) consisting of a representative of each licensor. The Administrative Committee has responsibility for selecting the Licensing Administrator, and reviewing certain activities of the Licensing Administrator. The Licensing Administrator, however, and not the Administrative Committee or individual licensors, has exclusive responsibility to identify and solicit potential portfolio licensees, audit sublicensees, determine back royalties which potential licensees may owe, bring actions to enforce a Portfolio License and other licensing administration matters (Article 3.5.4).

The Agreement Among Licensors also provides the formula for apportioning royalty income among licensors (Article 5.1) as well as a basis for dividing any joint expenses or liability which may arise (Article 5.2, 5.3). The licensors agree to reimburse certain of the expenses which were incurred by CableLabs in connection with the patent search and other efforts to organize the proposed licensing program (Art. 5.3.2).

The Agreement also provides the procedures for removing existing or adding new essential patents to the Portfolio License -- whether such new patents are held by the original licensors or other entities -- and provides that any new licensor will reimburse the original licensors \$25,000 for certain start-up expenses which the original licensors incurred (Articles 2, 6).

E. Amended and Restated Limited Liability Company Agreement of MPEG LA, L.L.C.

MPEG LA was established as a Delaware limited liability company as of May 31, 1996. It subsequently existed pursuant to a Limited Liability Company Agreement initially executed by three members. MPEG LA has yet to engage in any licensing activities. All current members of MPEG LA have agreed to enter into the Amended and Restated Limited Liability Company Agreement of MPEG LA, L.L.C. ("Company Agreement") (Exhibit H hereto) which sets forth the basic terms of ownership in MPEG LA and its powers and purposes.

Most significantly, the Company Agreement provides for three classes of ownership (denominated A, B and C) -- each with considerably different voting rights -- to reflect the appropriate role of the Licensing Administrator, the patent holder-owners and the non-patent holder-owners.<sup>2/</sup> Class A interests of MPEG LA will be held exclusively by MPEG-2 essential patent holders who have granted MPEG LA a non-exclusive right to license their patents in the Portfolio License (Art. 7.01(a)(v)). Class A interests are non-voting except that patent holder-owners are entitled to vote on the requirement of additional capital contributions or advances to MPEG LA, and certain major decisions regarding MPEG LA financial matters, changes in business, dissolution and other matters referred to in Article 7.02 (Art. 7.01(a)(i)). There is no right provided in the Company Agreement for any patent holder to make any decision on day-to-day licensing issues which may arise in the course of licensing the Portfolio License.

Class B interests have been issued to Baryn S. Futa as consideration for his agreement to act as MPEG LA manager and to allow Futa to attract and reward competent staff by providing to them limited ownership interest in

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<sup>2/</sup> Current essential patent holders who are members of MPEG LA (either by themselves or through related entities) are Columbia, Fujitsu, General Instrument, Matsushita, Mitsubishi, Philips, Scientific-Atlanta and Sony.

MPEG LA.<sup>2/</sup> Class B interests are voting interests as long as Futa remains manager of MPEG LA. Once Futa's duties as manager of the Licensing Administrator cease, Futa's interest in MPEG LA becomes essentially non-voting (Art. 7.02(j)).

In recognition of the substantial role played by CableLabs in organizing the proposed licensing program CableLabs -- which along with Sony provided the original capital in return for its membership interest in MPEG LA -- initially will be issued the only Class C interests in MPEG LA. CableLabs' interest is non-voting except as to a disproportionate redemption of Class C interests or a change in the economic characteristic of Class C interests as compared with Class A interests (Art. 7.01(a)(i)). Class C interests also have limited votes in matters affecting tax elections or accounting policies. The intent and effect of the Company Agreement is to give Class C interests the same economic value as that represented in Class A interests while insuring that Class C interests shall have no voice whatsoever in licensing matters.

Voting rights of each respective class may change if interests are sold or transferred to another entity having different characteristics with regard to the proposed licensing program. For example, if CableLabs acquires Class A interests from a patent-licensor, then the acquired Class A interests become Class C interests with the attendant limited voting rights (Art. 7.01(a)(iv)). Similarly, the Class A interests of a patent holder who withdraws from the proposed licensing program automatically convert to Class C interests (Art. 9.04(b)). Each member, with the exception of Futa, has made a capital contribution for its respective ownership interest to MPEG LA which, after certain oversubscription amounts are refunded, will amount to \$333,333.

Any "profit" earned by MPEG LA is distributed to the members based on the formula set forth in

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<sup>2/</sup> Prior to serving as manager of MPEG LA beginning in May of 1996, Baryn S. Futa was executive vice president and chief operating officer of CableLabs. He received his B.A. *cum laude* in government from the University of San Francisco in 1976 and his J.D. from the University of California, Hastings College of Law, in 1979.

Article 6.02(d). The compensation paid to MPEG LA by the patent holders is determined under Article VI of the Licensing Administrator Agreement. That amount, less expenses and cash needed to conduct business, may be available for distribution to owners of MPEG LA under the formula provided in the Company Agreement.

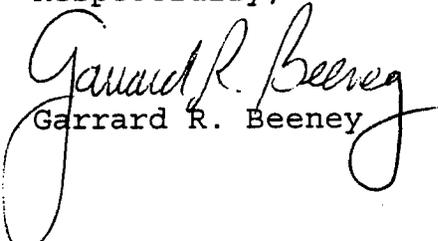
V. Conclusion

MPEG-2 technology is expected to have widespread application in several next generation products which will be significant to American consumers and various American industries. The ability to compress digital information, encode it, transmit it or store it, and decode it will be essential to the ability to compete in various global markets.

Intellectual property rights granted by the United States and other nations to numerous unrelated entities threatened to create a serious damper on the introduction of this essential technology. The proposed licensing program described above, however, will all but eliminate this potential bottleneck, and will provide for an efficient and cost effective means by which virtually all patents essential to the MPEG-2 standard can be licensed in a single license. The proposed licensing program has been carefully crafted in an effort to avoid any competition concerns which may arise from the joining of the patents belonging to various entities in a single license, the terms under which those patents are licensed, the distribution of royalties, and the ownership of the licensing administrator. We respectfully submit that the proposed licensing program has successfully addressed any competition concerns, and that the procompetitive aspects of the program far outweigh any potential competition issues which may remain.

We will be available at your convenience to provide any further information you may require. We very much appreciate the Division's attention to this matter.

Respectfully,

  
Garrard R. Beeney