

NEWS RELEASE

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DVB-T Joint Patent Licensing Program to Begin

(Denver, CO US-July 3, 2001) MPEG LA[®] today announced the commencement of a new licensing program, DVB LASM, for the joint licensing of patents essential to the terrestrial digital television standard known as DVB-T (see <http://www.dvbla.com>). DVB-T is employed as the digital over-the-air television transmission standard in Europe, India, Singapore, Australia, New Zealand and elsewhere. Owners of essential patents in DVB LA's DVB-T Patent Portfolio License are France Télécom, Matsushita Electric Industrial Co., Ltd. (Panasonic), Royal Philips Electronics, US Philips and Victor Company of Japan, Limited (JVC).

"DVB LASM is proud to play a supporting role in assuring the worldwide implementation and utility of this revolutionary advance in television technology by providing users with easy, fair, reasonable, nondiscriminatory access to essential patent rights under one license," said MPEG LA[®] Chief Executive Officer Baryn Futa. "We salute the hard, leading-edge work of the DVB Project in developing a superior, resilient terrestrial digital television standard that will bring innovative new television services into homes throughout Europe and the world for years to come."

DVB LASM is a new licensing program of MPEG LA[®], which successfully pioneered one-stop technology standards licensing with the core international digital video MPEG-2 compression standard used in DVB-T. "Just as wide acceptance of our MPEG-2 Patent Portfolio License is responsible for the worldwide utility of MPEG-2, so, too, do we expect the DVB-T Patent Portfolio License to enable DVB-T manufacturers to focus their time and energy on changing television as we know it," said Futa. "We pledge to everyone the same openness and fair, reasonable, nondiscriminatory treatment that is the signature of our other licensing programs."

Implementation of this licensing program follows an examination of patents submitted to an independent, third party patent expert for a determination of their essentiality to the DVB-T standard. Patent owners are obligated to include all of their essential DVB-T patents worldwide, and DVB LA's goal is to include as many essential patents as possible. New patent owners and essential patents will continue to be added following a determination of their essentiality.

By significantly reducing the expense, uncertainty and time that would be required to negotiate licenses for many patents with many patent holders, the DVB-T Patent Portfolio License is the easiest, most cost-effective way to obtain essential DVB-T patent rights. There are no upfront fees, no minimums and no certifications. Upon the sale or manufacture of each DVB-T receiver, meaning a device with the ability to decode DVB-T compliant signals, Licensees pay a royalty of EUR 0.75. A license for DVB-T transmitters is under study.

MPEG LA[®] recently opened an office in London, UK to better serve its licensing customers.

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MPEG LA, LLC

MPEG LA[®] successfully pioneered one-stop technology standards licensing, starting with a portfolio of essential patents for the international digital video compression standard known as MPEG-2, which it began licensing in 1997. One-stop technology standards licensing enables widespread technological implementation, interoperability and use of fundamental broad-based technologies covered by many patents owned by many different patent holders. MPEG LA[®]

provides users with fair, reasonable, nondiscriminatory access to these essential patents on a worldwide basis under a single license. The MPEG-2 Patent Portfolio License now has more than 290 licensees and includes more than 300 MPEG-2 essential patents in 29 countries owned by 17 patent holders. As the legal and business template for one-stop technology standards licensing, MPEG LA[®] also provides an innovative way to achieve fair, reasonable, nondiscriminatory access to patent rights for other technology standards - the high-speed transfer digital interconnect standard known as IEEE 1394 and now the terrestrial digital television standard used in Europe and Asia known as DVB-T. In addition, MPEG LA[®] has been asked to facilitate the development of joint licenses for MPEG-4 and other emerging technologies. The company is based in Denver, CO and has offices in Chevy Chase, MD (Washington DC metropolitan area), the greater San Francisco area and London, England. For more information, please refer to <http://www.dvbla.com>, <http://www.mpegla.com> and <http://www.1394la.com>.

France Télécom

France Télécom is one of the world's leading telecommunications carriers, with 2000 consolidated operating revenues of EUR 33,674 million and operations in more than 50 countries. France Télécom provides businesses, consumers and other carriers with a complete portfolio of solutions that spans local, long-distance and international telephony, data, wireless, multimedia, Internet, cable TV, broadcast and value-added services. France Télécom held an initial public offering in October 1997 and is listed on the Paris and New York (NYSE: FTE) stock exchanges. Visit <http://www.francetelecom.com> for more information.

Matsushita Electric Industrial Co., Ltd.

Matsushita Electric Industrial Co., Ltd. is one of the world's leading developers and producers of digital electronic products for the home, the office, and in between. Based in Osaka, Japan, it recorded annual sales of US \$68.9 billion in the fiscal year ended March 31, 2000. Best known for the Panasonic brand name, the company also sells products under the Technics, Quasar, and National brands around the world. For information on Panasonic and Matsushita visit www.panasonic.com.

Royal Philips Electronics

Royal Philips Electronics of the Netherlands is one of the world's biggest electronics companies and Europe's largest, with sales of EUR 37.9 billion in 2000. It is a global leader in color television sets, lighting, electric shavers, color picture tubes for televisions and monitors, and one-chip TV products. Its 219,400 employees in more than 60 countries are active in the areas of lighting, consumer electronics, domestic appliances, components, semiconductors, and medical systems. Philips is quoted on the NYSE (symbol: PHG), London, Frankfurt, Amsterdam and other stock exchanges. News from Philips is located at www.news.philips.com.

Victor Company of Japan, Limited (JVC)

JVC, well known for its invention of VHS format of VCR, is a leading international electronics company that has achieved success by combining its excellence in audio and video hardware with its global-scale software business, and also has a growing reputation for its professional equipment. JVC operates several business lines through which it offers a wide variety of devices and solutions. JVC business lines are Video, Audio, TV, Entertainment, Information-related Equipment and Component Devices. Every endeavor continues to focus actively on discovering a new digital and network society of the 21st century. Headquartered in Yokohama, Japan, JVC was founded in 1927. For more information, visit the JVC Web site at www.jvc-victor.co.jp.

DVB Project

The Digital Video Broadcasting Project (DVB) includes over 300 member companies and organizations from over 35 countries worldwide. Members include broadcasters, manufacturers, network operators and regulatory bodies, committed to designing a global family of standards for the delivery of digital television.

DVB-compliant digital broadcasting and reception equipment for professional, commercial and consumer applications is widely available on the market, distinguished by the now instantly recognizable DVB Logo.

Numerous broadcast services using DVB standards are now operational, in Europe on satellite, cable and terrestrial systems, and also in North and South America, Africa, Asia, and Australasia.

The DVB-T Standard

The DVB-T system specification for terrestrial digital television was approved by ETSI [European Telecommunications Standards Institute (document EN 300744) <http://www.etsi.org/broadcast/dvb.html>] in February 1997. DVB-T services in Europe have been launched in 1998 and are planned; actual deployments are already going in Australia, Singapore and India. As with the other DVB standards, MPEG-2 sound and vision coding forms the basis of DVB-T. Other elements of the DVB-T specification include:

- A transmission scheme based on Coded Orthogonal Frequency Division Multiplexing (COFDM), which allows for the use of either 1705 carriers (usually known as '2k'), or 6817 carriers ('8k'). Concatenated error correcting is used. The '2k' mode is suitable for single transmitter operation and for relatively small single frequency networks with limited transmitter power. The '8k' mode can be used both for single transmitter operation and for large area single frequency networks. The guard interval is selectable. The '8k' system is compatible with the '2k' system.
- Reed-Solomon outer coding and outer convolutional interleaving are used, in common with the other DVB standards.
- The inner coding (punctured Convolutional Code) is the same as that used for DVB-S.
- The data carriers in the COFDM frame can use QPSK and different levels of QAM modulation and code rates, in order to trade bit rate against ruggedness.
- Two-level hierarchical channel coding and modulation can be used, but hierarchical source coding is not used, since its benefits do not justify the extra receiver complexity involved.
- The modulation system uses OFDM (Orthogonal Frequency Division Multiplexing). OFDM uses a large number of carriers that spread the information content of the signal. Used very successfully in DAB (Digital Audio Broadcasting), OFDM's major advantage is that it thrives in a very strong multipath environment.

Intellectual Property Rights Policy of the DVB Project

The intellectual property rights policy (IPR) of the DVB Project ensures that licenses to DVB essential patents are available on terms which are fair, reasonable and non-discriminatory. The DVB IPR policy also fosters the creation of patent pools for various DVB specifications. It has three principal elements:

- Members of the DVB Project have agreed that they will license to third parties their patents essential to DVB specifications on terms that are fair, reasonable and non-discriminatory;
- The IPRs associated with the DVB Common Scrambling Algorithm are managed under a licensing scheme undertaken by ETSI acting as custodian, and for a nominal royalty; and
- The DVB Project is fostering the creation of a voluntary agreed-upon joint licensing program to include a critical mass of patents essential to DVB specifications. <http://www.dvb.org/>