

# COMMISSION OF THE EUROPEAN COMMUNITIES

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Proposal for a  
COUNCIL DECISION

on High Definition Television

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(presented by the Commission)

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A. SUMMARY.

High Definition Television (HDTV) is of strategic importance for the European professional and consumer electronics industry, for the European television and film production industry and for broadcasting. This Decision will make a substantial contribution to the establishment of a comprehensive strategy for the Europe-wide launch of HDTV services in order to avoid that a situation analogous to the PAL/SECAM-case in the past occurs again in Europe and in order to prevent the danger of the fragmentation of the new markets.

The proposed Decision has three aims:

- to declare the main objectives of a comprehensive European HDTV strategy;
- to launch a major promotion campaign in support of the European HDTV system;
- to provide the appropriate framework conditions for European industry (both equipment manufacturers and service providers) through the preparation of a Services Action Plan, so that they can with confidence make the substantial investment that will be required in order to ensure the launch of operational HDTV services Europe-wide by 1992.

By means of the cooperation initiated at Community level as a result of the proposed Decision, European solidarity in the field of New Audiovisual Policy can be strengthened.

## B. INTRODUCTION

In May 1986 Europe united and succeeded in obtaining from the CCIR - which was poised to adopt a Japanese-American standard - a four year period in which to demonstrate the validity of its alternative proposal. This Japanese-American proposal would have greatly diminished Europe's possibilities to develop its audiovisual and electronic industries. Having adopted common satellite broadcast standards (the MAC packet family) for television in July 1986, Europe, through the achievements of its industry cooperating in the framework of Eureka, has now demonstrated its capacity to close an important technological gap in just twenty months.

European industries<sup>(1)</sup>, working together, demonstrated in Brighton on 26th September last, their capacity to generate, record, transmit and display images largely comparable with those offered by their Japanese competitors, but - contrary to the approach of these competitors - capable of being shown in a compatible manner on existing equipment. This significant success is all the more notable since it follows immediately on the announcement of a shift in United States' policy in this field.

The European Community with the driving force of the Commission has ceaselessly contributed to this spectacular comeback through its regulatory, diplomatic, technological and financial actions.

There remains, nevertheless, a lot to be done for Europe to secure the advantage it has gained and to guarantee its competitiveness in this vital domain of the electronic, informatic and audiovisual industries.

It is a true call for mobilisation that we have to issue to the actors concerned: researchers, industrialists, T.V. programme makers, film makers, media etc.

This mobilisation requires a global strategy in the Community and the whole of Europe. That is the aim of the present communication which sets objectives, methods and procedures for such a strategy.

This strategy also provides essential elements of a response to the call made by the Heads of State and Government in the European Council in Hannover in relation to an Audiovisual Eureka project, and to that made by President Mitterand to President Delors in a recent letter on this subject.

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(1) A consortium of about thirty companies led by Philips, Thomson and Bosch.

C. EXPLANATORY MEMORANDUM.

1. INTRODUCTION.

1.1 What is at Stake ?

High Definition Television is a new electronic imaging technology that will introduce into the home cinema quality television pictures on large screens, and that will in time replace the existing 35 mm. film technology of the cinema.

HDTV is also likely to find major applications in existing and new areas in such fields as:

- advertising
- printing and publishing
- education and training
- computing
- medicine, etc...

It is difficult to assess the economic impact of this new technology, precisely because it is new. However it has been estimated that the market for equipment in the U.S. alone will reach a figure of between 26 and 52 billion US \$ in the ten years after the launch of services. Equivalent estimates for Europe, Japan and the rest of the world could multiply these figures by a factor of about three.

It should be emphasized that the market for television production and reception equipment of a conventional kind is very large and is growing in Europe, in the USA and in Japan. The overall position may be summarized as follows:

- Consumer TV reception equipment had a world market of 70 billion US \$ in 1986 and is projected to grow to 103 billion US \$ in 1991.
- The penetration of television receivers in 1995 is projected to be of the order of 1 billion sets.
- Profession TV production equipment had a world market of 1.6. billion US \$ in 1987 and is projected to grow to 2.2 billion in 1990.

The economic impact of HDTV will certainly not be limited to equipment sales however. The technology also offers savings in the production costs of cinema films and television programmes as well as increased functionality and flexibility. This increased functionality will allow substantial improvements over current picture quality and also completely new possibilities for dealing with imagery both for current applications and for the creation of completely new applications.

The scale and potential impact of this new technology make it of strategic importance to the consumer electronics industry. It can be argued that the prospects for future growth in employment and wealth creation in the European consumer electronics industry will be intimately related to its success in HDTV and related product and component areas, such as VLSI electronic components and sub-assemblies.

This is the reason why the Heads of State and Government in the European Council in Hannover, and the representatives of the Governments and of the Commission in the Eureka technology initiative, and the European Community itself, have voiced their strong interest in these issues and why different types of initiatives have already been made at European level.

## 1.2 The Standards Issue.

At the Plenary meeting of the International Radio Consultative Committee (CCIR) held in Dubrovnik in May 1986, a proposal by Japan, with US support for a world standard for the production of HDTV material was opposed by Europe. This European opposition was based on the fact that the proposed Japanese standard was incompatible with all existing standards, whether for the cinema or TV. An additional Study Period of four years was agreed at that meeting in order to continue the search for a production standard which would be acceptable on a world basis.

It is widely recognised that the Community played a significant role in creating a European consensus on this issue for the Dubrovnik meeting. This coordination role continues as the standardization procedure progresses through the CCIR.

The additional study period has allowed European industry in a Eureka Project (EU 95), to define an alternative HDTV system based on a philosophy of compatibility and evolution. This system is based on the existing MAC/packet family of standards developed in Europe for use with Direct Broadcasting Satellites (DBS) and which is the subject of a Council Directive. <sup>(2)</sup>

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(2) OJ N° L 311, 6.11.86, P.28

The European HDTV system as now defined consists of an ultimate origination standard for production of HDTV material and interchange between film and digital video tape (this is what Europe is offering as the single world standard for production); a broadcast studio standard suitable for use in production at local level and an emission standard - HD-MAC - suitable for compatible transmission in a European environment and those parts of the world which currently use PAL or SECAM 50 Hz television systems. The ultimate production standard as defined has furthermore sufficient headroom to allow conversion, with acceptable quality, into any regional broadcast studio standard and transmission standard.

The CCIR timetable requires that Europe demonstrates the practical realization of the HDTV concepts before the May 1989 Extraordinary Meeting of the CCIR Study Group 11. The technology to be demonstrated is the so-called full TV chain which covers the broadcasters studio equipment (cameras, recorders, mixers, film to tape transfer, etc.), through the transmission path (satellites) to the home environment (satellite reception, TV display and video cassette recorders).

To achieve this goal a dedicated research and development project was established within the framework of Eureka. A consortium of more than twenty European companies led by the leading consumer electronics companies Philips, Thomson and Bosch has been committed to the effort for the past two years.

Progress is such that the required full TV chain and associated equipment has already been successfully demonstrated at the International Broadcasting Convention in Brighton, U.K., in September 1988. Further major demonstrations are planned for Montreux and for the Internationale Funkausstellung in Berlin in Summer 1989.

The CCIR will attempt to adopt a single world standard for high definition production at its Plenary Session scheduled for Summer 1990.

## 2. THE REQUIREMENTS NOW.

Europe has made strong progress in the two years since the Dubrovnik meeting. The present position may be summarized as follows:

- the threat of an HDTV standard of Japanese origin being imposed on the world against the interests of Europe, has receded;
- the European conceptual work on systems and research and development efforts on hardware are progressing satisfactorily; and
- pan-European solidarity on compatibility and evolution has been consolidated.

It should however be emphasized that the success of the research and development efforts of industry and of the diplomatic efforts of the Community will advance the European cause only so far. The next stage - the translation of R & D into commercial products and particularly HDTV services will require efforts much greater than those employed to date.

It is now possible to put a target date of 1992 for the availability of commercial equipment and the beginnings of operational HDTV services in Europe. Four years is, however, a short time in which to launch such a radically new technology on the market. Substantial efforts will have to be made in preparation for such a launch, both at the level of the consumer (the viewing public) - to prepare for viewer acceptance - and at the level of the service providers (terrestrial broadcasters, cable operators, satellite TV stations, film makers etc..) - to ensure the adequate familiarity of professional programme makers with the new technology on the one hand and to ensure the timely availability of the distribution infrastructure on the other.

The broad lines of this European HDTV Strategy should therefore be:

- i) to consolidate the gains already made; and
- ii) to concentrate future major Community efforts on the creation of appropriate framework conditions for the coordinated Europe-wide introduction of the new system.

This strategy may be elaborated as four objectives, two of which relate to the consolidation of gains (dealing with technology and standards) and the other two to the creation of appropriate framework conditions for the coordinated Europe-wide introduction of the new system (equipment, programmes and services).

In relation to the consolidation of gains, objectives with respect to technology and standards are proposed.

In the field of Technology it is proposed:

#### Objective 1

to ensure that the European industry develops in time all the necessary technology, components and equipment required for the progressive launching of HDTV services throughout the 1990s.

In order to ensure that Objective 1 can be achieved, the Commission will initiate in the immediate future, detailed discussions with the European Consumer Electronics Industry to ascertain plans and identify bottlenecks. As a result of these discussions, new initiatives are likely to be identified which could in certain cases lead to the broadening and reinforcement of relevant aspects of the ESPRIT and RACE programmes.

Elements to be investigated here include :

- dual standard D + D2MAC chip sets and HD.MAC chip sets
- display technologies
- encryption technologies
- technologies for terrestrial broadcasting of HDTV
- etc.

In the field of Standards it is proposed:

### Objective 2

- i) **to ensure that the European proposal based on the parameters: 1250 lines, 50 frames per second progressive scanning, is adopted as the single world standard for the origination and exchange of HDTV programme material;**
- ii) **to ensure that broadcast standards (which will be different in 50 Hz and 60 Hz countries) obey the rules already laid down in CCIR Recommendation 601 and are thus easily convertible into each other.**

The achievement of this objective will require the maintenance of a strong and tightly controlled European position in the CCIR, and reinforced diplomatic activity by the Member States and by the Community as a whole (in association with EFTA) in support of the European position in important (in this connection) regions of the world, such as the USA, Japan, the Soviet Union and Eastern Europe.

In relation to appropriate framework conditions for equipment and programmes:

### Objective 3

**to ensure the widest use of the European HDTV system throughout the world and the most favourable environment for the sale of European HDTV equipment and programmes throughout the world.**

The introduction of any new technology - particularly one as far reaching as HDTV - will require that the promotional efforts to prepare for professional and consumer acceptance are substantial. There is a major need therefore to prepare a comprehensive programme of actions to promote the European HDTV system both in Europe and in the rest of the world and to ensure that adequate resources are made available to carry out such a programme.

The preparation and execution of a programme of this nature is a major task and could ultimately involve the creation of a dedicated mechanism for that purpose. This mechanism which could take the form of a "Groupement d'Intérêts Economiques Européen" involving industry, some Governments and the Community represented by the Commission, would have the task of planning and managing such a promotion programme. As the G.I.E. will only come into effect as of 1 July 1989 an appropriate interim mechanism will have to be put in place.

In this respect the proposal from the Eureka 95 Directorate, for the Community co-funding of fixed and mobile HDTV studios, will have to be considered (see section 4 below).

In relation to appropriate framework conditions for services :

Objective 4

**to ensure the development of a Strategy and Action Plan for the progressive launch of HDTV Services in Europe throughout the 1990s.**

Such an Action Plan will involve the commitment of terrestrial broadcasters, satellite TV stations, and cable operators together with the regulatory authorities to provide the necessary infrastructure to transmit HDTV programmes throughout Europe as well as the commitment of the programme providers to present their offerings in this new format.

Satellites will be important for HDTV distribution. The French TDF-1 DBS satellite was recently successfully launched. The next three years will see the launch of about a dozen satellites capable of delivering of the order of one hundred channels of TV direct to the home.

3. THE AIM OF THE PROPOSED DECISION AND THE APPROACH CHOSEN.

To date HDTV activity in Europe has concentrated on R + D and standards setting. As the focus moves more towards the commercialization phase, there is an increasing need to articulate a clear and comprehensive strategy leading to the launch of HDTV services. For this reason the Council is first asked to approve the four objectives elaborated above as the expression of this strategy.

As was emphasized above, the creation of appropriate framework conditions for the introduction of the new system in Europe and the rest of the world will be crucial to ultimate success.

One of the pre-conditions for the success of Europe wide HDTV will be the creation of a legal framework aimed at the removal of the barriers to free circulation of broadcasts in Europe. In order to do so the Commission has proposed a directive concerning broadcasting activities. <sup>(3)</sup>

A major bottleneck on the way to Europe wide HDTV services is the limited experience of European film makers and TV programme makers in using this new equipment and the limited range of programmes made with European HDTV equipment. The introduction of this new medium will as a matter of fact offer a remarkable new opportunity to present subjects related to the European identity in an attractive form.

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(3) OJC 179 of 17.7.1986, p. 4 as amended OJC 110 of 27.4.1988 p. 3.

The MEDIA programme can play an important role in this connection. Its aims are wider than the development of HDTV production however, as it also covers such sectors as : distribution, production, training and financing of the A.V. industry in the Community. The MEDIA programme is coordinating, as from autumn 88, some ten pilot-projects in these sectors. Nevertheless, this programme has not sufficient resources to fund the equipment requirements of fully equipped HDTV studios.

To redress this situation, European industry has submitted a proposal to the Commission for Community part-funding.

This proposal, in summary, is to provide HDTV production facilities which would consist mainly of a demonstration studio equipped for post-production and fully-equipped Outside Broadcast (OB) vans. These facilities will be made available for experimental use by the staff of audio-visual production companies (broadcasting organizations, cinema production companies, etc..) and to provide compatible TV coverage of major ceremonial and international sports events. The OB vans will also be used to provide live demonstrations of the system, from the camera to the home receiver, at exhibitions and conferences (the SMPTE and NAB Conventions in the United States, the Montreux Symposium etc.)

This experimental use will contribute to the preparation of both the professional programme maker and the viewing public for the launch of operational HDTV services in 1992. The Barcelona Olympic Games and the Seville World Exhibition could provide an exciting opportunity for such a launch.

The cost of these initiatives would be of the order of 45 MECU. This proposal is now under analysis within the RACE programme. The estimated amount of Community participation would be of the order of 15 MECUs.

The provision of operational HDTV services in Europe will require the availability of the necessary broadcasting infrastructure (satellite, cable, terrestrial) and the necessary programme production facilities. It is now urgently required to prepare, on a Community wide basis, an Action Plan for the provision of these facilities.

The Council is therefore invited to request the Commission to take responsibility for the preparation of such a Plan in consultation with the European :

- terrestrial broadcasters;
- satellite TV stations;
- cable operators;
- regulatory authorities;
- consumer and professional equipment manufacturers;
- film and TV programme makers;

throughout the Community, and in Europe as a whole, in close association with the Eureka HDTV Project actors and coordinators.

4. CONCLUSION.

The attached Decision aims to prepare the way for the coordinated Europe-wide introduction of operational HDTV services by 1992. The proposals are based on extensive dialogue with all the relevant actors in this field. The Council is invited to adopt the attached Proposal for a Decision.

PROPOSAL FOR A COUNCIL DECISION  
ON HIGH DEFINITION TELEVISION

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Proposal for a  
COUNCIL DECISION  
on High Definition Television.

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THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 235 thereof;

Having regard to the proposal from the Commission;

Having regard to the Opinion of the European Parliament <sup>(1)</sup>;

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(1) ref

Whereas High Definition Television (HDTV) is of strategic importance for the European consumer electronics industry and for the European television and film industries;

Whereas a single world standard for the origination and exchange of High Definition Television programmes and films is urgently required;

Whereas European industry has developed, within the Eureka framework, a suitable proposal for such a single world production standard;

Whereas prototype equipment built to this standard has been successfully demonstrated at the September 1988 Brighton International Broadcasting Convention;

Whereas 1992 may be set as a target date for the launch of commercial equipment on the market and the beginnings of operational HDTV services;

Whereas a substantial promotion campaign needs to be launched immediately to prepare professional users and the general TV viewing public for such a launch;

Whereas there is an urgent requirement to prepare a Strategy and Action Plan for the launch of European-wide HDTV services;

Whereas it is of great importance that all Member States of the Community participate in these activities;

Whereas these initiatives should lead to closer cooperation at Community level between industry (the consumer and professional electronics industry and the TV and film production industry) and service providers (terrestrial broadcasters, satellite TV stations, cable operators, cinema distributors);

Whereas the Treaty has not provided the necessary specific powers,

HAS DECIDED AS FOLLOWS :

Article 1

The following objectives are hereby adopted as the basis of a comprehensive Community Strategy for the introduction of High Definition Television Services in Europe :

Objective 1.

to ensure that the European industry develops in time all the necessary technology, components and equipment required for the progressive launching of HDTV services throughout the 1990s;

Objective 2.

- i) to ensure that the European proposal based on the parameters 1250 lines, 50 frames per second progressive scanning, is adopted as the single world standard for the origination and exchange of HDTV programme material; and
- ii) to ensure that broadcast standards (which will be different in 50Hz and 60Hz countries) obey the rules already laid down in CCIR Recommendation 601 and are thus easily convertible into each other;

Objective 3.

to ensure the widest use of the European HDTV system throughout the world and the most favourable environment for the sale of European HDTV equipment and programmes throughout the world;

Objective 4.

to ensure the development of a Strategy and Action Plan for the progressive launch of HDTV Services in Europe throughout the 1990s.

Article 2

In order to attain the objectives referred to in Article 1 an Action Plan for the introduction of HDTV will be prepared, under the responsibility of the Commission in consultation with the :

- Member States' authorities,
- terrestrial broadcasters,
- satellite TV stations,
- cable operators,
- professional and consumer electronics equipment manufacturers,
- television and film production industry,

throughout the Community, and throughout Europe as a whole, in close cooperation with the Eureka HDTV project actors and coordinators.

Article 3

On the basis of the results of the consultations, and on a proposal from the Commission the Council shall decide an Action Plan for the introduction of HDTV services. This Action Plan will also include mechanisms allowing European third countries to participate.

Done at Brussels,

for the Council,

The President