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COMMISSION OF THE EUROPEAN COMMUNITIES

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Draft

**COMMISSION REGULATION**

**of [...]**

**implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions**

Draft

## COMMISSION REGULATION

**implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for televisions**

**(Text with EEA relevance)**

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Directive 2005/32/EC of the European Parliament and of the Council of 6 July 2005 establishing a framework for the setting of ecodesign requirements for energy-using products and amending Council Directive 92/42/EEC and Directives 96/57/EC and 2000/55/EC of the European Parliament and of the Council<sup>1</sup> and in particular Article 15(1) thereof,

After consulting the Ecodesign Consultation Forum,

Whereas:

- (1) Under Directive 2005/32/EC ecodesign requirements are to be set by the Commission for energy-using products representing significant volumes of sales and trade, having a significant environmental impact and presenting significant potential for improvement in terms of their environmental impact without entailing excessive costs.
- (2) Article 16(2) first indent of Directive 2005/32/EC provides that in accordance with the procedure referred to in Article 19(3) and the criteria set out in Article 15(2), and after consulting the Ecodesign Consultation Forum, the Commission shall, as appropriate, introduce implementing measures for consumer electronics.
- (3) The Commission has carried out a preparatory study which analysed the technical, environmental and economic aspects of televisions. The study has been developed together with stakeholders and interested parties from the Community and third countries, and the results have been made publicly available on the EUROPA website of the Commission.
- (4) Televisions represent a significant consumer electronic product group in electricity consumption and are therefore a priority in ecodesign policy.
- (5) The environmental aspect of televisions that is identified as significant for the purposes of this Regulation is the electricity consumption in the use phase.

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<sup>1</sup> OJ L 191, 22.7.2005, p. 29.

- (6) Annual electricity consumption related to televisions was estimated to be 60 TWh in 2007 in the Community, corresponding to 24 Mt CO<sub>2</sub> emissions. If no specific measures are taken to limit this consumption, it is predicted that electricity consumption will increase to 132 TWh in 2020. The preparatory study shows that use-phase electricity consumption can be significantly reduced.
- (7) Other environmental aspects of relevance relate to hazardous substances used in the production of televisions and waste from televisions disposed at the end of life. Improvements in the related environmental impact are addressed in Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment<sup>2</sup>, and Directive 2002/96/EC of 27 January 2003 on waste electrical and electronic equipment<sup>3</sup>, respectively, and should not be further addressed by this Regulation.
- (8) The preparatory study shows that requirements regarding other ecodesign parameters referred to in Annex I, Part 1, of Directive 2005/32/EC are not necessary.
- (9) Reduction in the electricity consumption of televisions is possible/viable by applying existing non-proprietary cost effective technologies which lead to a reduction of the combined expenses for purchasing and operating televisions.
- (10) Ecodesign requirements should harmonise electricity consumption requirements for televisions throughout the Community, thus contributing to the functioning of the internal market and to the improvement of the environmental performance of these products.
- (11) The ecodesign requirements should not have a negative impact on the functionality of the product or negatively affect health, safety or the environment. In particular, the benefits of reducing electricity consumption during the use phase should more than offset potential additional environmental impacts during the production phase.
- (12) A progressive introduction of the ecodesign requirements should provide an appropriate timeframe for manufacturers to adapt their products. The timing should be such that negative impacts on the functionalities of equipment already on the market are avoided, and cost impacts for manufacturers, in particular small and medium-sized enterprises, are taken into account, while ensuring timely achievement of the objectives of the Regulation.
- (13) Measurements of the relevant product parameters should be performed through reliable, accurate and reproducible measurement procedures, which take into account the recognised state of the art measurement methods including, where available, harmonised standards adopted by the European standardisation bodies, as listed in Annex I to Directive 98/34/EC of the European Parliament and of the Council of 22 June 1998 laying down a procedure for the provision of information in the field of technical standards and regulations and of rules on Information Society services<sup>4</sup>.

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<sup>2</sup> OJ L 37 of 13.2.2003, p. 19.

<sup>3</sup> OJ L 37 of 13.2.2003, p. 24.

<sup>4</sup> OJ L 204, 21.7.1998, p. 37.

- (14) This Regulation should increase the market penetration of technologies that reduce the environmental impact of televisions, leading to estimated electricity savings of 28 TWh by 2020, compared to the situation without taking any measures.
- (15) In conformity with Article 8 of Directive 2005/32/EC, this Regulation should specify the applicable conformity assessment procedures.
- (16) In order to facilitate compliance checks, manufacturers should provide information in the technical documentation referred to in Annexes IV and V of Directive 2005/32/EC insofar as this information relates to the requirements laid down in this Regulation.
- (17) The currently best available on-mode energy efficiency and reduced environmental impacts related to hazardous substances are identified by Commission Decision of 12 March 2009 establishing the revised ecological criteria for the award of the Community ecolabel to televisions<sup>5</sup>. Such reference will help ensure wide availability and easy access to information, in particular for small and medium-sized enterprises and very small firms, which will further facilitate the integration of best design technologies for reducing the environmental impact of televisions. Benchmarks for best available technology should therefore not be identified in this Regulation.
- (18) The ecodesign requirements, applicable from 7 January 2013, pursuant to Regulation (EC) No 1275/2008 of 17 December 2008 implementing Directive 2005/32/EC of the European Parliament and of the Council with regard to ecodesign requirements for standby and off mode power consumption of electrical and electronic household and office equipment<sup>6</sup> should apply to televisions at an earlier point in time than provided for in that regulation because technologies which comply with its provisions can be implemented within a shorter time with regard to televisions and additional energy savings can be achieved. Regulation (EC) No 1275/2008 should therefore not apply to televisions and should be amended accordingly.
- (19) The measures provided for in this Regulation are in accordance with the opinion of the Committee established by Article 19(1) of Directive 2005/32/EC,

HAS ADOPTED THE FOLLOWING REGULATION:

*Article 1*  
***Subject matter and scope***

This Regulation establishes ecodesign requirements for the placing on the market of televisions.

*Article 2*  
***Definitions***

In addition to the definitions set out in Directive 2005/32/EC, the following definitions shall apply:

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<sup>5</sup> OJ L 82, 28.3.2009, p. 3.

<sup>6</sup> OL L 339, 18.12.2008, p. 45.

- (1) "television" means a television set or a television monitor;
- (2) "television set" means a product designed primarily for the display and reception of audiovisual signals which is placed on the market under one model or system designation, and which consists of
  - (a) a display,
  - (b) one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or videocassette recorder (VCR), either in a single unit combined with the display, or in one or more separate units.
- (3) "television monitor" means a product designed to display on an integrated screen a video signal from a variety of sources, including television broadcast signals, which optionally controls and reproduces audio signals from an external source device, which is linked through standardised video signal paths including cinch (component, composite), SCART, HDMI, and future wireless standards (but excluding non-standardised video signal paths like DVI and SDI), but cannot receive and process broadcast signals;
- (4) "on-mode" means the condition where the television is connected to the mains power source and produces sound and picture;
- (5) "home-mode" means the television setting which is recommended by the manufacturer for normal home use;
- (6) "standby-mode(s)" means a condition where the equipment is connected to the mains power source, depends on energy input from the mains power source to function properly and offers the following functions *only*, which may persist for an indefinite time:
  - reactivation function, or reactivation function and only an indication of enabled reactivation function, and/or
  - information or status display.
- (7) "off-mode" means a condition in which the equipment is connected to the mains power source and is not providing any function; it also includes:
  - (a) conditions providing only an indication of off-mode condition,
  - (b) conditions providing only functionalities intended to ensure electromagnetic compatibility pursuant to Directive 2004/108/EC of the European Parliament and of the Council<sup>7</sup>.
- (8) "reactivation function" means a function facilitating the activation of other modes, including on-mode, by remote switch including remote control, internal sensor, timer to a condition providing additional functions, including on-mode;

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<sup>7</sup> OJ L 390 of 31.12.2004, p. 24.

- (9) "information or status display" means a continuous function providing information or indicating the status of the equipment on a display, including clocks;
- (10) "forced menu" means a set of television settings pre-defined by the manufacturer, of which the user of the television must select a particular setting upon initial start-up of the television;
- (11) "full HD resolution" means a screen resolution with physical pixel count of at least 1920 x 1080 pixels.

*Article 3*  
***Ecodesign requirements***

The ecodesign requirements for televisions are set out in Annex I.

Compliance with the ecodesign requirements shall be measured in accordance with the methods set out in Annex II.

*Article 4*  
***Conformity assessment***

The conformity assessment procedure referred to in Article 8 of Directive 2005/32/EC shall be the internal design control system set out in Annex IV of that Directive or the management system for assessing conformity set out in Annex V of that Directive.

The technical documentation to be provided for the conformity assessment is set out in point (1) of Part 5 of Annex I to this Regulation.

*Article 5*  
***Verification procedure for market surveillance purposes***

Surveillance checks shall be carried out in accordance with the verification procedure set out in Annex III.

*Article 6*  
***Revision***

The Commission shall review this Regulation no later than 3 years after its entry into force in the light of technological progress and present the result of this review to the Ecodesign Consultation Forum.

*Article 7*  
***Amendment to Regulation (EC) No 1275/2008***

Annex I, point (3) to Regulation (EC) No 1275/2008 is replaced by the text set out in Annex IV to this Regulation.

*Article 8*  
*Entry into force*

1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.
2. The ecodesign requirements set out in point (1) of Part 1, Part 3, Part 4, and point (2) of Part 5 of Annex I shall apply from 20 August 2010.

The ecodesign requirements set out in point (2), Part 1 of Annex I shall apply from 1 April 2012.

The ecodesign requirements set out in points (1)(a) to (1)(d) of Part 2 of Annex I shall apply from 7 January 2010.

The ecodesign requirements set out in points (2)(a) to (2)(e) of Part 2 of Annex I shall apply from 20 August 2011.

3. This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

*For the Commission*

*Member of the Commission*



**ANNEX I**  
**Ecodesign requirements**

1. ON-MODE POWER CONSUMPTION

(1) [insert fixed date: One year after entry into force of this regulation]:

The on-mode power consumption of a television with visible screen area  $A$  expressed in  $\text{dm}^2$  shall not exceed the following limits:

	Full HD resolution	All other resolutions
Television sets	$20 \text{ Watts} + A \cdot 1.12 \cdot 4.3224 \text{ Watts/dm}^2$	$20 \text{ Watts} + A \cdot 4.3224 \text{ Watts/dm}^2$
Television monitors	$15 \text{ Watts} + A \cdot 1.12 \cdot 4.3224 \text{ Watts/dm}^2$	$15 \text{ Watts} + A \cdot 4.3224 \text{ Watts/dm}^2$

(2) From 1 April 2012:

The on-mode power consumption of a television with visible screen area  $A$  expressed in  $\text{dm}^2$  shall not exceed the following limits:

	All resolutions
Television sets	$16 \text{ Watts} + A \cdot 3.4579 \text{ Watts/dm}^2$
Television monitors	$12 \text{ Watts} + A \cdot 3.4579 \text{ Watts/dm}^2$

2. STANDBY/OFF MODE POWER CONSUMPTION

(1) From 7 January 2010:

(a) Power consumption in "off-mode":

Power consumption of televisions in any off-mode condition shall not exceed 1.00 Watt.

(b) Power consumption in "standby-mode(s)":

The power consumption of televisions in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 1.00 Watt.

The power consumption of televisions in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 2.00 Watts.

(c) Availability of off-mode and/or standby-mode

Televisions shall have an off-mode and/or standby-mode, and/or another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode when the television is connected to the mains power source.

- (d) For television sets which consist of a display, and one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or videocassette recorder (VCR) in one or more separate units, points (a)-(c) apply for the display and the separate unit(s) individually.

(2) From [insert fixed date: two years after this regulation has come into force]:

- (a) Power consumption in "off-mode":

Power consumption of televisions in any off-mode condition shall not exceed 0.30 Watts, unless the condition in the next paragraph is fulfilled.

For televisions with an easily visible switch, which puts the television in a condition with power consumption not exceeding 0.01 Watts when operated to the off position, the power consumption of any other off-mode condition of the television shall not exceed 0.50 Watts.

- (b) Power consumption in "standby-mode(s)":

The power consumption of televisions in any condition providing only a reactivation function, or providing only a reactivation function and a mere indication of enabled reactivation function, shall not exceed 0.50 Watts.

The power consumption of televisions in any condition providing only information or status display, or providing only a combination of reactivation function and information or status display, shall not exceed 1.00 Watt.

- (c) Availability of off-mode and/or standby-mode

Televisions shall have an off-mode and/or standby-mode, and/or another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode when the television is connected to the mains power source.

- (d) Automatic power-down

Televisions shall provide a function with the following characteristics:

- (i) After no more than 4 hours in on mode following the last user interaction and/or a channel change, the television shall be automatically switched from on mode to:
  - standby-mode; or
  - off-mode; or
  - another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode.

- (ii) Televisions shall display an alert message before the automatic switch from on mode to the applicable condition/modes.

This function shall be set as default.

- (e) For television sets which consist of a display, and one or more tuner(s)/receiver(s) and optional additional functions for data storage and/or display such as digital versatile disc (DVD), hard disk drive (HDD) or videocassette recorder (VCR) in a separate unit, points (a)-(d) apply for the display and the separate unit individually.

### 3. "HOME-MODE" FOR TELEVISIONS WHICH ARE DELIVERED WITH A FORCED MENU

From [insert fixed date: one year after entry into force of this regulation]:

Televisions with forced menu on initial activation of the television shall provide a "home-mode" in the forced menu, which shall be the default choice on initial activation of the television. If the user selects a mode other than "home-mode" on initial activation of the television, a second selection process shall be prompted to confirm this choice.

### 4. PEAK LUMINANCE RATIO

From [insert fixed date: one year after entry force of this regulation]:

- Televisions without forced menu: the peak luminance of the on-mode condition of the television as delivered by the manufacturer shall not be less than 65% of the peak luminance of the brightest on-mode condition provided by the television.
- Televisions with forced menu: The peak luminance of the home-mode condition shall not be less than 65% of the peak luminance of the brightest on-mode condition provided by the television.

### 5. INFORMATION TO BE PROVIDED BY MANUFACTURERS

- (1) For the purposes of conformity assessment pursuant to Article 5, the technical documentation shall contain the following elements:

- (a) test parameters for measurements

- Ambient temperature
- Test voltage in V and frequency in Hz
- Total harmonic distortion of the electricity supply system
- the input terminal for the audio and video test signals
- information and documentation on the instrumentation, set-up and circuits used for electrical testing

- (b) on-mode
- the power consumption data in Watts rounded to the first decimal place for power measurements up to 100 Watts, and to the first integer for power measurements above 100 Watts
  - the characteristics of the dynamic broadcast-content video signal representing typical broadcast TV content
  - the sequence of steps for achieving a stable condition with respect to power consumption
  - in addition for televisions with a forced menu, the ratio of the peak luminance of the home-mode and the peak luminance of the brightest on-mode condition provided by the television, expressed in percent
  - in addition for television monitors, a description of the relevant characteristics of the tuner used for measurements.
- (c) for each standby and/or off-mode
- the power consumption data in Watts rounded to the second decimal place
  - the measurement method used
  - description of how the mode was selected or programmed
  - sequence of events to reach the mode where the television automatically changes modes
- (d) automatic power down
- the duration of the on-mode condition before the television reaches automatically standby, or off-mode, or another condition which does not exceed the applicable power consumption requirements for off-mode and/or standby-mode
- (e) hazardous substances
- if the television contains mercury or lead: the content of mercury as X.X mg, and the presence of lead
- (2) From [insert fixed date: one year after entry force of this regulation]:

The following information shall be made publicly available on free-access websites:

- the on-mode power consumption data in Watts rounded to the first decimal place for power measurements up to 100 Watts, and to the first integer for power measurements above 100 Watts;
- for each standby and/or off-mode, the power consumption data in Watts rounded to the second decimal place;

- for televisions without forced menu: the ratio of the peak luminance of the on-mode condition of the television as delivered by the manufacturer and the peak luminance of the brightest on-mode condition provided by the television, expressed in percentage, rounded to the nearest integer;
- for televisions with a forced menu: the ratio of the peak luminance of the home-mode condition and the peak luminance of the brightest on-mode condition provided by the television, expressed in percentage, rounded to the nearest integer;
- if the television contains mercury or lead: the content as X.X mg and the presence of lead.

## ANNEX II Measurements

### (1) Measurements of on-mode power consumption

Measurements of the power consumption referred to in Annex I, Part 1 shall fulfil all of the following conditions.

- a) Measurements shall be made using a reliable, accurate and reproducible measurement procedure, which takes into account the generally recognised state of the art measurement methods.
- b) Conditions of televisions for measuring the on-mode power consumption
  - Television sets without forced menu: The power consumption referred to in points 1 and 2 shall be measured in the on-mode condition of the television as delivered by the manufacturer, that is, the brightness controls of the television shall be in the position adjusted by the manufacturer for the end user.
  - Television sets with forced menu: the power consumption referred to in points 1 and 2 shall be measured in the "home-mode" condition.
  - Television monitors without forced menu: The television monitor shall be connected to an appropriate tuner. The power consumption referred to in points 1 and 2 shall be measured in the on-mode condition of the television as delivered by the manufacturer, that is, the brightness controls of the television monitor shall be in the position adjusted by the manufacturer for the end user. The power consumption of the tuner is not relevant for the measurements of on-mode power consumption of the television monitor.
  - Television monitors with forced menu: The television monitor shall be connected to an appropriate tuner. The power consumption referred to in points 1 and 2 shall be established in the "home mode" condition.
- (c) General conditions
  - Measurements shall be made at an ambient temperature of 23° C +/- 5° C.
  - Measurements shall be made using a dynamic broadcast-content video signal representing typical broadcast TV content. The measurement shall be the average power consumed over 10 consecutive minutes.
  - Measurements shall be made after the television has been in the off-mode for a minimum of one hour immediately followed by a minimum of one hour in the on-mode and shall be completed before a maximum of three hours in on-mode. The relevant video signal shall be displayed during the entire on-mode duration. For televisions that are known to stabilize within one hour, these durations may be reduced if the resulting measurement can be shown to be within 2 % of the results that would otherwise be achieved using the durations described here.

- Measurements shall be made with an uncertainty of less than or equal to 2% at the 95% confidence level.
- Measurements shall be made with the Automatic Brightness Control function, if such a function exists, made inactive. If the Automatic Brightness Control function exists and cannot be made inactive, then the measurements shall be performed with the light entering directly into the ambient light sensor at a level of 300 lux, or more.

(2) Measurements of standby/off-mode power consumption

Measurements of the power consumption referred to in Annex I, Part 2 shall fulfil all of the following conditions.

- (a) The power consumption referred to in points 1 (a), 1 (b), 2 (a) and 2 (b) shall be measured by a reliable, accurate and reproducible measurement procedure, which takes into account the generally recognised state of the art measurement methods.
- (b) Measurements of power of 0.50 Watt or greater shall be made with an uncertainty of less than or equal to 2% at the 95% confidence level. Measurements of power of less than 0.50 Watt shall be made with an uncertainty of less than or equal to 0.01 Watt at the 95% confidence level.

(3) Measurements of peak luminance

Measurements of the peak luminance referred to in Annex I, Part 4 shall fulfil all of the following conditions.

- (a) Measurements shall be made using a reliable, accurate and reproducible measurement procedure, which takes into account the generally recognised state of the art measurement methods.
- (b) Measurements of peak luminance shall be made with a luminance meter, detecting that portion of the screen exhibiting a full (100%) white image, which is part of a "full screen test" test pattern that does not exceed the average picture level (APL) point where any power limiting occurs in the display luminance drive system.
- (c) Measurements of luminance ratio shall be made without disturbing the luminance meter's detection point on the display whilst switching between the conditions referred to in Annex I, Part 4.

**ANNEX III**  
**Verification procedure**

When performing the market surveillance checks referred to in Article 3 (2) of Directive 2005/32/EC, the authorities of the Member States shall apply the following verification procedure for the requirements set out in Annex I.

- (1) Authorities of the Member State shall test one single television unit.
- (2) The model shall be considered to comply with the provisions set out in Annex I, if:
  - (a) the result for on-mode power consumption does not exceed the applicable limit value set out in Annex I, point 1 and 2 of Part 1 by more than 7 %; and
  - (b) the results for off-mode/standby conditions, as applicable, do not exceed the applicable limit values set out in Annex I, point (1) (a), 1 (b), 2 (a) and 2 (b) of Part 2 by more than 0.10 Watt; and
  - (c) the result for the peak luminance ratio set out in Annex I, Part 3 does not fall below 60%.
- (3) If the results referred to in point (2) (a) or (b) or (c) are not achieved, three additional units of the same model shall be tested.
- (4) After three additional units of the same model have been tested, the model shall be considered to comply with the requirements set out in Annex I, if:
  - (a) the average of the results for the latter three units for on-mode power consumption does not exceed the applicable limit value set out in Annex I, point 1 and 2 of Part 1 by more than 7 %; and
  - (b) the average of the results for the latter three units for off-mode/standby conditions, as applicable, do not exceed the applicable limit values set out in Annex I, point 1 (a), 1 (b), 2 (a) and 2 (b) of Part 2 by more than 0.10 Watt; and
  - (c) the average of the results for the latter three units for the peak luminance ratio set out in Annex I, Part 3 does not fall below 60%.
- (5) If the results referred to in point (4) (a) and (b) and (c) are not achieved, the model shall be considered not to comply with the requirements.
- (6) For the purposes of checking conformity with the requirements, the authorities of the Member States shall use the procedure set out in Annex II and reliable, accurate and reproducible measurement procedures, which take into account the generally recognised state of the art measurement methods, including methods set in documents the reference numbers of which have been published for that purpose in the Official Journal of the European Union.



**ANNEX IV**

**List of energy-using products covered by Annex I, point (3) to Regulation (EC) No 1275/2008**

Radio sets

Videocameras

Video recorders

Hi-fi recorders

Audio amplifiers

Home theatre systems

Musical instruments

And other equipment for the purpose of recording or reproducing sound or images, including signals or other technologies for the distribution of sound and image other than by telecommunications, but excluding televisions as defined in Commission Regulation (EC) No .../....