



HARMONIZED SYSTEM  
REVIEW SUB-COMMITTEE

-  
28<sup>th</sup> Session  
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NR0435E1  
(+ Annexes I and II)

O. Eng.

Brussels, 25 July 2003.

COMPREHENSIVE REVIEW OF THE EXPLANATORY NOTES

POSSIBLE AMENDMENT OF THE EXPLANATORY NOTES

TO HEADINGS 85.23 TO 85.48

(Item III.C.7 on Agenda)

Reference documents :

NR0307E1 (RSC/26)  
NR0361E1 (RSC/27)

NR0332E2 – Annex E/16 (RSC/26 - Report)  
NR0400E3 – Annex E/7 (RSC/27 - Report)

I. BACKGROUND

1. At its 27<sup>th</sup> Session, the Sub-Committee continued its discussion on the possible amendment of the Explanatory Notes to headings 85.23 to 85.48.
2. Although there was general agreement with many of the proposed amendments, the Sub-Committee felt that certain remaining questions should be resolved before the amendments were approved. In order to identify the remaining questions, the Sub-Committee agreed to place square brackets around those texts for which further discussion was necessary. The Sub-Committee agreed to address these texts at its next session on the basis of additional proposals from administrations, review of additional technical information by administrations, and, where appropriate, redrafted language based on an editorial review by the Secretariat. All the other proposals were agreed upon and will be reviewed, if necessary, when the Sub-Committee considers the specific texts that remain in square brackets.
3. The texts for which there was general agreement and those placed in square brackets are reproduced in the Annex I to this document.

Note : Shaded parts will be removed when documents are placed on the WCO documentation database available to the public.

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## II. SECRETARIAT COMMENTS

4. At the time of preparing this document, the Secretariat had not received additional proposals or additional technical information from administrations. The texts in square brackets in the Annex I call for the following comments.

### **Heading 85.23.**

Page 1665. Second paragraph.

5. The **US** Delegate asked that this text be placed in square brackets for examination by the Sub-Committee after the HS Committee had finished its examination of the scope of Note 6 to Chapter 85, particularly in connection with the classification of the **Palm V** presented with its software.

### **Heading 85.24.**

Page 1666. Second paragraph.

6. The **US** Delegate asked that this text be placed in square brackets for examination at the next session. This text was related to the text of heading 85.23, item (5), second paragraph, which had already been placed in square brackets.

### **Heading 85.25.**

Page 1667. Part (A). Second paragraph. Item (3).

7. The proposed text was modified by the addition of "or base-stations" and the deletion of the first sentence. The **US** Delegate asked that the proposal be placed in square brackets and indicated that the **US** Administration would be submitting a revised text for examination at the next session.

### **Page 1669. Part (D).**

8. The Delegate of **Switzerland** indicated that the **Swiss** Administration would submit a proposal concerning the recording speed of digital camcorders for examination at the next session.

9. The **US** Delegate indicated that his administration would also be submitting a proposal for Part (D) for examination at the next session.

### **Heading 85.27.**

Page 1673. Part (B). First paragraph. New item (5).

10. The **US** Delegate indicated that his administration would be submitting new proposals in respect of the stereo systems (hi-fi systems) referred to in proposed new item (5), in order to assure that the text included a reference to speakers.

**Heading 85.28.**

Page 1673. Second paragraph. Item (1). New second and third sentences

11. The **US** Delegate had doubts about the classification of these products and asked that the proposal be put in square brackets for examination at the next session.

Page 1674. First paragraph. Item (3).

12. The **EC** Delegate pointed out that, while he could accept the proposal to delete this item, the industry has indicated that this would leave a void in the Explanatory Notes with regard to video tuners. Consequently, this text should be re-drafted.
13. The Sub-Committee agreed to put this proposal in square brackets for examination at the next session, pending the submission of comments by the **EC**.

Page 1674. First paragraph. Item (4).

14. The **US** Delegate had doubts about the classification of these products and asked that the proposal be placed in square brackets for examination at the next session.

**Heading 85.36.**

Page 1687. Part III. New item (A)(3).

15. The **US** Delegate had doubts as to the classification of “contact pads” and requested further information on them. Consequently, he requested that the proposal be placed in square brackets for examination at the next session.

**Heading 85.37.**

Page 1689. Second paragraph. New item (4).

16. This proposal was placed in square brackets pending technical information to be provided by the **UK** Administration.

Page 1689. Exclusion paragraph. New exclusion (d).

17. The **United States** could not accept the proposed new exclusion because cordless infrared remote control devices had been the subject of a court ruling in the **United States**, directing them to heading 85.37.
18. The Delegate of **Canada** also had some doubts concerning the classification of cordless infrared remote control devices.
19. Accordingly the text in question was placed in square brackets for re-examination at the next session.

**Heading 85.40.**

20. The Secretariat informed the Sub-Committee that it would report on the findings of its study to clarify the distinction between cathode-ray tubes for televisions and those used for ADP monitors.
21. The Secretariat, through the assistance of the ICC and the Delegate of the Netherlands, was able to receive information from the industry, which is provided in Annexes I and II to this document. Based on this information, it would appear that fewer pixels are required to make up a picture in a TV CRT as opposed to a monitor CRT of the same size. A differentiation can be made between CRTs used in different applications (television versus monitor) based on pitch size and phosphors. However, as indicated by ViewSonic and confirmed by Philips, CRTs which are aperture grille devices can be used in both applications; consequently this distinction would appear not to be determinative for our purposes. Furthermore, while CRTs for monitors operate at higher frequencies than CRTs used for televisions at the present time, Philips believes that when High Definition technology arrives, the use of this criterion may be problematic.

**Heading 85.42.**

Page 1700. Item (I) (1). New last paragraph.

22. Doubt was expressed by delegates concerning the wording of the proposed text. The view was expressed that not all circuits were classified in heading 85.42, but only monolithic integrated circuits. This should be reflected in the text. It was proposed to insert the expression "certain circuits", but there was some reluctance to use the term "certain" without specifying where the others were classified. The Sub-Committee agreed to place the text in square brackets for examination at its next session.
23. The Secretariat was instructed to study the use of the terms "EEPROM" and "E<sup>2</sup>PROM". In this connection, the Secretariat requested assistance from the ICC. The response from industry was that the two expressions were interchangeable.

**Heading 85.43.**

Page 1703. New items (18) to (20).

24. The Sub-Committee placed these proposals in square brackets pending the submission of technical literature as to the nature of these products.

**III. CONCLUSION**

25. The Review Sub-Committee is invited to examine the draft amendments placed in square brackets in the Annex I to this document, taking into account the Secretariat's comments above, as well as Annexes I and II.

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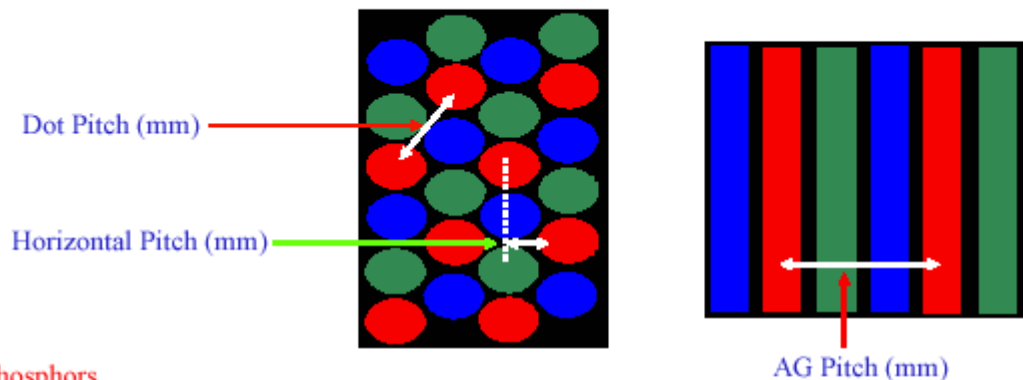
### INFORMATION SUPPLIED BY ICC

Through the assistance of the ICC, the Secretariat has received the following information from **ViewSonic** :

“Here is the list of the main differences between Cathode-ray tubes (CRTs) for display monitors and CRTs used for televisions :

1. CRTs for display monitors are either shadow mask or aperture grille devices. CRTs for TVs are either slot mask or aperture grille.
2. CRTs for display monitors have a much finer pixel pitch than CRTs used for TVs. A typical aperture grille on CRT tubes for display monitors have a pitch of between 0.22mm to 0.25mm (shadow mask: 0.25mm to 0.28mm). CRT tubes for TVs can be as much as four times larger. The finer the pitch, the sharper the focus.
3. CRTs for display monitors operate at higher frequencies than CRTs for TVs due to higher resolutions. NTSC/PAL/SECAM systems typically utilise less than 640 pixels per line with 30 frames per second. Conventional 17-inch CRTs for display monitors at 1K pixels per line and 75 to 85 frames per second.
4. Different phosphors are generally used. Phosphors are slower on the CRTs for TVs due to the lower refresh rate (vertical frequency).

### *CRT Terminology*



#### Phosphors

Compounds that are coated inside the face of a monitor's picture tube. When struck by an electron beams the phosphors glows and created the image.

#### Pixel

Pixel is an arrangement of three small dots each having a unique phosphor color. Each pixel contains one red, one blue and one green phosphors.

#### Dot Pitch, Aperture Grille Pitch, Slot Pitch (Stripe Pitch)

The distance between a phosphor dot/grille/slot and the next nearest dot/grille/slot of the same color.

## *CRT Terminology*

### Resolution

Resolution is specified as the number of pixels per scan line on the horizontal axis, and the number of scan lines on the vertical axis. An example would be 1024 x 768 = 1024 pixels by 768 lines.

### Shadow Mask

It consists of small holes that are used to filter and focus the light emitted from the electron gun. The shadow mask is comprised of individual round holes placed in a sheet of thin metal.

### Aperture Grille

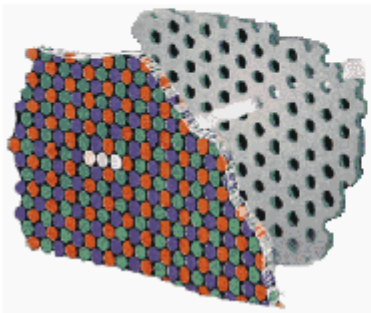
Aperture Grille technology employs a series of thin, closely spaced vertical wires to isolate pixels horizontally. The pixels are separated vertically by the nature of the scan lines (beams) used to compose the image.

### Slot Mask

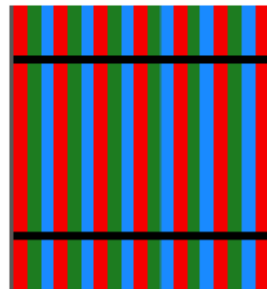
Slot Mask combines the dot trio of Shadow Mask and Aperture Grille technologies into a unique slot mask. The most significant difference between Slot Mask and existing CRT technologies is their viewable phosphor pattern. The red, green and blue (RGB) phosphors of the Slot Mask appear elliptical in shape, compared to round phosphors used in Shadow Mask CRTs and stripes used in Aperture Grille CRTs. The phosphors of the Slot Mask CRT are also grouped into separate bundles of three (RGB) in a vertical alignment.

## *CRT Terminology*

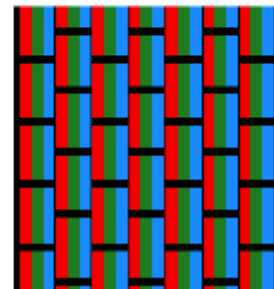
Shadow Mask



Aperture Grille



Slot Mask



INFORMATION SUPPLIED BY PHILIPS

Through the assistance of the Delegate of the Netherlands, the Secretariat has received the following information from Philips :

“ The typical differences between CRTs for televisions and CRTs for computer monitors are to be found in pitch sizes. Computer Display Tubes pitch size is below 0.3 mm (small pitch for short distance viewing) and Colour Picture Tubes above or equal to 0.3 mm (coarser pitch for long distance viewing). According to Philips’ staff, they believe that the smallest pitch size in the industry in Colour Picture Tubes is 0.4 mm (a Sony 28 WSRF). The largest pitch size in Computer Display Tubes is 0.28 mm. This is applied in 15” tubes. 17” tubes typically have pitch size of 0.25 or 0.27 mm, while 19” tubes have pitch sizes of 0.25 and 0.26 mm. The shape of the pitch is a doubtful discriminator because of Sony’s “aperture grill” technology. Including the frequency used will raise problems when High Definition arrives.

Comparison of CRT applications

	CRT-TV	CRT Video Monitor	CRT PC Monitor
Signal Input	Radio Frequency  Component Video Interface  Composite Video Baseband Signal	   Composite Video Baseband Signal	VGA (R-G-B, H-sync and V-sync)
Size	>14”	>14”	14” – 21”
Resolution	525 or 625 horizontal line	525 or 625 horizontal line	640x480 – 1920x1440
Pitch Size	equal to or greater than 0.3 mm	equal to or greater than 0.3 mm	<0.3
Horizontal frequency	15KHz	15 KHz	31 – 110KHz

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INFORMATION SUPPLIED BY ICC

Through the assistance of the ICC, the Secretariat has received the following information from **Thomas Electronics**.

“Physical Differences in Cathode-ray Tubes (CRTs).

The visible area of a 52cm TV will be roughly 420mm horizontal x 310mm vertical. For TV CRTs to fit roughly 800 pixels across the horizontal you would need roughly  $420/800 = 0.525$ mm between the centre of each dot. This is referred to as the CRT Dot pitch. For a 21" CRT for video in a similar fashion the dot pitch would be about 0.24mm or less space between pixels (which means more pixels, i.e. much higher resolution). So physically, there are less pixels to make up a picture in a TV CRT of the same size as a Monitor CRT. This is the most significant difference between CRTs for TVs and Monitors. You can physically see the difference when lit.”

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