

INTERNATIONAL STANDARD

IEC 60139

Second edition
2000-12

Preparation of outline drawings for cathode-ray tubes, their components, connections and gauges

*Préparation des dessins d'encombrement
des tubes à rayons cathodiques, de leurs composants,
de leurs connexions et de leurs calibres*

© IEC 2000 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission 3, rue de Varembé Geneva, Switzerland
Telefax: +41 22 919 0300 e-mail: inmail@iec.ch IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

U

For price, see current catalogue

CONTENTS

	Page
FOREWORD	4
Clause	
1 Scope	5
2 Normative references	5
3 Definitions	5
3.1 Terms and definitions	5
3.2 Units and symbols	8
4 General requirements	8
4.1 Required views	8
4.2 General rules and guidelines for the outline drawings	8
5 Specific requirements	9
5.1 Specific requirements of CRT outline drawings	9
5.1.1 Front view of the CRT	9
5.1.2 Top view of the CRT	9
5.1.3 Side view of the CRT	9
5.1.4 Diagonal view of the CRT	10
5.1.5 Clearance regions for the band junctions	10
5.1.6 Mounting lugs	10
5.1.7 Clearance region for integral neck components	10
5.2 Specific requirements for glass outline drawings	10
5.2.1 CRT panel	10
5.2.2 CRT funnel	11
5.2.3 Reference line gauge	11
5.2.4 Beam clearance gauge	11
5.3 Specific requirements of CRT connection drawings	11
5.3.1 CRT base mechanical outline	12
5.3.2 CRT base connection table	12
5.3.3 CRT anode outline drawings	12

Specimen outline drawings

Figure 1 – Front view of the CRT	13
Figure 2 – Top view of the CRT	14
Figure 3 – Side view of the CRT	15
Figure 4 – Diagonal view of the CRT	16
Figure 5 – Clearance regions for the band junctions	17
Figure 6 – Mounting lug detail	18
Figure 7 – Clearance region for integral neck components	19
Figure 8 – CRT panel contour defined by radii	20
Figure 9 – CRT panel contour defined by equation	21
Figure 10 – CRT funnel	22

	Page
Figure 11 – CRT funnel contour table	23
Figure 12 – Yoke reference line gauge defined by equation.....	24
Figure 13 – Yoke reference line gauge defined by radii	25
Figure 14 – Beam clearance gauge defined by equation.....	26
Figure 15 – Beam clearance gauge defined by radii	27
Figure 16 – CRT base mechanical outline	28
Figure 17 – Example of CRT base connection table	29
Figure 18 – CRT anode button	30

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PREPARATION OF OUTLINE DRAWINGS FOR CATHODE-RAY TUBES, THEIR COMPONENTS, CONNECTIONS AND GAUGES

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60139 has been prepared by IEC technical committee 39: Electronic tubes.

This second edition cancels and replaces the first edition, published in 1962, and constitutes a technical revision.

The text of this standard is based on the following documents:

FDIS	Report on voting
39/254/FDIS	39/256/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

PREPARATION OF OUTLINE DRAWINGS FOR CATHODE-RAY TUBES, THEIR COMPONENTS, CONNECTIONS AND GAUGES

1 Scope

This International Standard gives guidance on the preparation of outline drawings of cathode-ray tubes (CRTs), tube components, tube sub-assemblies and ancillary components with the object of encouraging the same practice when publications are prepared in different countries. These recommendations are contained in the specimen drawings, descriptive text and in the tables of required dimensions.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 60027-1:1995, *Letter symbols to be used in electrical technology – Part 1: General*

IEC 60050 (all parts), *International Electrotechnical Vocabulary (IEV)*

IEC 60617 (all parts), *Graphical symbols for diagrams*

ISO 1000: *SI units and recommendations for the use of their multiples and of certain other units*