IEC TR 62964

Edition 1.0 2015-05

TECHNICAL REPORT

colour inside

Graphical symbols for use on equipment – Graphical symbols for multimedia equipment – Current practice

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GRAPHICAL SYMBOLS FOR USE ON EQUIPMENT – GRAPHICAL SYMBOLS FOR MULTIMEDIA EQUIPMENT – CURRENT PRACTICE

FOREWORD

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IEC TR 62964, which is a Technical Report, has been prepared by subcommittee 3C: Graphical symbols for use on equipment, of IEC technical committee 3: Information structures and elements, identification and marking principles, documentation and graphical symbols.

The text of this Technical Report is based on the following documents:

Enquiry draft	Report on voting
3C/1953/DTR	3C/2006/RVC

Full information on the voting for the approval of this Technical Report 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 2.

In this Technical Report, the following type is used:

– *tems defined in Clause 3: in italic type*

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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- withdrawn,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

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IMPORTANT – The "colour inside" logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this publication using a colour printer.

INTRODUCTION

The first edition of IEC 60417, *Graphical symbols for use on equipment*, was published in 1973. Since then the publication has been maintained and updated continuously, mainly by adding new graphical symbols in order to meet the requirements of technical committees and subcommittees within the IEC as well as ISO/IEC JTC 1 together with industries.

This Technical Report thus includes classical graphical symbols targeted to specific application areas as well as basic graphical symbols for general application.

In the era of information communication technology (ICT), new graphical symbols for use on such equipment as multimedia equipment have been in strong demand for standardization. These graphical symbols are not only printed, engraved, embossed, or moulded on the equipment, but also used on screens and displays. In the latter case, the appearance of a graphical symbol is dynamically changed to indicate a state of the equipment.

This Technical Report intends to highlight current tendency and practice of using graphical symbols for use on equipment.

GRAPHICAL SYMBOLS FOR USE ON EQUIPMENT – GRAPHICAL SYMBOLS FOR MULTIMEDIA EQUIPMENT – CURRENT PRACTICE

1 Scope

This Technical Report provides the result of a study of some of the *graphical symbols* for use on *equipment* standardized in IEC 60417 being primarily intended to:

– identify the *equipment* or a part of the *equipment* (e.g. a control or display);
– indicate a functional state (e.g. on, off, alarm);
– designate connections (e.g. terminals, filling points for materials);
– provide information on packaging (e.g. identification of contents, instructions for handling);
– provide instruction for the operation of the *equipment* (e.g. limitations of use);

in the focus of contemporary use of *graphical symbols* for use on multimedia *equipment*, and new possible meanings to be envisaged as well as new *graphical symbols* not yet standardized in IEC 60417.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

None.

3 Terms and definitions

For the purposes of this document the following terms and definitions apply.

3.1
equipment
associated assemblies intended to achieve a defined final objective

[SOURCE: IEC 80416-1:2008, 3.3]

3.2
graphical symbol
visually perceptible figure with a particular meaning used to transmit information independently of language

[SOURCE: IEC 80416-1:2008, 3.4]

3.3
glyph
recognizable abstract graphic symbol which is independent of any specific design

[SOURCE: ISO/IEC 9541-1:2012, 3.12]

3.4
glyph image
image of a *glyph*, as obtained from a *glyph* representation displayed on a presentation surface

[SOURCE: ISO/IEC 9541-1:2012, 3.15]

3.5
icon
graphical symbol presented on a screen or display

Note 1 to entry: Icons can be static, interactive and change as the result of user input or dynamic and change as the result of *equipment* status.

[SOURCE: IEC 62648:2012, 3.11]

4 Current practice

4.1 General

One of the important expectation and function of the *graphical symbols* in IEC 60417 is to serve as a pool of standardized *graphical symbols* for use on *equipment* to be used, in accordance with the provisions given in IEC 80416-3:2002 and IEC 80416-3:2002/AMD1:2011, 4.4, in IEC publications following the rules given in ISO/IEC Directives, Part 2:2011, 6.6.5.6. The actual applications and use of such *graphical symbols* include some modifications to fit specific purposes, which are allowed in accordance with the provisions given in IEC 80416-3:2002 and IEC 80416-3:2002/AMD1:2011, Clause 6.

To accommodate any difficulties to follow the rules, a set of procedures which consitute a compromise are given in IEC 62648, in agreement with IEC Guide 108.

In addition, as a result of quickly changing demand in industries such as digital cameras, multimedia, ICT and mobile equipment, there are new *graphical symbols* not yet standardized in IEC 60417.

This Technical Report classifies some of these *graphical symbols* including *icons* and *glyph images* into two categories:

a) *Graphical symbols* for control

b) *Graphical symbols* for indication

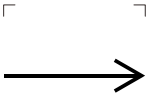
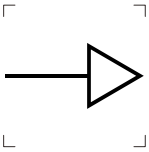
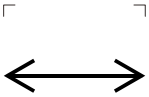
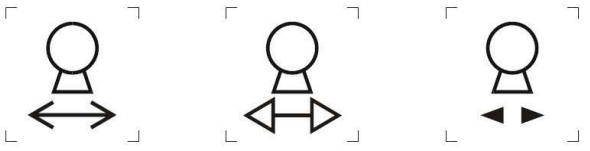
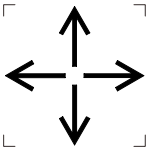
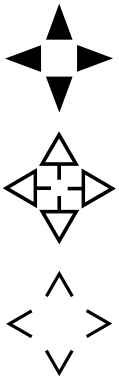
Some of the graphical representations shown on the right-hand columns of Table 1 and Table 2 are state of the art candidates for future standardization in IEC 60417.

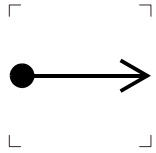
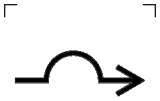
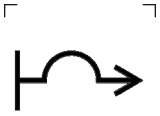
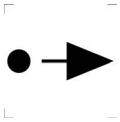
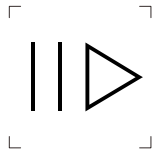
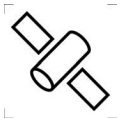
4.2 Current practice for control

Graphical symbols to identify controls of equipment in general are important and many *graphical symbols* have been standardized in IEC 60417 for the purpose of different categories of equipment.

Subclause 4.2 highlights the result of study on current practice of *graphical symbols* to identify the *equipment* or a part of *equipment* in the field of multimedia technology. Table 1 shows such *graphical symbols* for use on multimedia *equipment* to trigger one of the functionalities and to change one function to another, as non-exhaustive examples.

Table 1 – Current practice for controls

<table>
<tr><th colspan="2">Standardized graphical symbols</th><th colspan="2">State of the art (examples)</th></tr>
<tr><td>IEC 60417-5022
  </td><td>Movement in one direction
To indicate that a control, or an object by means of a control, can be moved in the indicated direction.
NOTE Only the linear version is given, since the radius of the arrow of the curved version depends on the diameter of the control concerned. The curved version is shown in ISO 7000-0004.</td><td colspan="2" rowspan="2"></td></tr>
<tr><td>IEC 60417-5107A
 
IEC 60417-5107B
  </td><td>Normal run; normal speed
To identify the switch or switch position by means of which a normal run (e.g. of tape) is started in the indicated direction.
NOTE In the orientation shown, the symbol means "normal run, forward". If shown reversed, the symbol means "normal run, backward".</td></tr>
<tr><td>IEC 60417-5023
  </td><td>Movement in both directions
To indicate that a control or an object, by means of a control, can be moved in both the indicated directions.
NOTE Only the linear version is given, since the radius of the arrow of the curved version depends on the diameter of the control concerned. The curved version is shown in ISO 7000-0005.</td><td colspan="2">IEC 80416-3, Examples of allowable modification
 
(a) IEC 60417-5964 (2005-06): X-ray source, longitudinal movement
(b) IEC 60417-5964 applied with closed arrow heads
(c) IEC 60417-5964 applied with filled arrows and no arrow shafts
Figure 11 – Examples of arrows</td></tr>
<tr><td>ISO 7000-0493
  </td><td>Co-ordinate tracing
To identify the action of tracing in a co-ordinate plane during welding or thermal cutting, or to indicate a reference to movements in four directions (all directions in a plane).</td><td>ISO/IEC DIS 17549-2
  </td><td>Menu navigation
To identify the control for navigation in four directions; left, right, up and down.
NOTE Graphical appearances are the combination of 5107B (top), the combination of IEC 60417-5107A with the tail shortened (middle) and the combination of the arrow head only of IEC 60417-5022 (bottom).</td></tr>
</table>

Standardized graphical symbols	State of the art (examples)
IEC 60417-5025 **Effect or action away from a reference point**  To indicate the direction of a certain effect or action away from a real or imaginary reference point or mark, which is realized by means of the control marked with this symbol. **ISO 7000-0936** **Movement in arrow direction with skip of a stop**  To identify the control for a movement in the arrow direction and to skip a stop where there would normally be one. **ISO 7000-0933** **Movement from a limit in arrow direction with skip of a stop**  To identify the control for a movement from a determined point in the arrow direction and to skip a stop where there would normally be one.	 **Skip; skip, short** To identify the control for or the indicator of the function to skip a part of data, e.g. video data, corresponding to a specific time duration. NOTE See also IEC 60417-5125B.
IEC 60417-5815 **Next image series**  To identify the control or the indicator to select the next series of images to be displayed on the screen. NOTE If the first image of the series is to be displayed, then this may be emphasized by hatching the representation of this image in the graphical symbol. **IEC 60417-5471** **Frame by frame, general**  To identify the control to operate in a frame by frame mode, i.e. for still pictures which are viewed individually. NOTE 1 The triangle may be filled in. NOTE 2 On video equipment, symbol 5471-1 may be used.	 **Slide show** To identify the control for or the indicator of automatic visualization of the data, e.g. video and slide data, as a slide show.
ISO 7000-1123 **Cine radiographic exposure**  To indicate a reference to the operating mode for cine radiographic exposure.	 **Movie; cinema** To identify the control to start moving pictures and to indicate the link to them.
IEC 60417-5464 **Satellite reception mode, general**  On telecommunications receivers. To identify the control which allows the equipment to receive satellite broadcasting transmissions.	**ISO/IEC 10646 (3)**  **SATELLITE ANTENNA** UCS: 1F4E1 = position indicator, news  **Global positioning system; GPS** To identify the indicator of global positioning system (GPS) function.

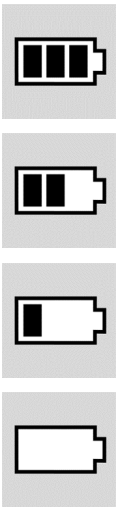
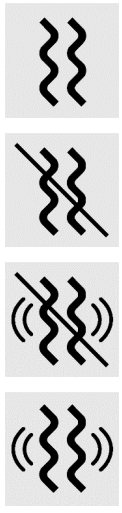
Standardized graphical symbols		State of the art (examples)	
IEC 60417-5792	**Enlargement of region of interest** To identify the control or the indicator to enlarge the region of interest of the displayed image (zoom). NOTE 1 The curved line representing a light reflection may be omitted. NOTE 2 To indicate "increase enlargement" or "reduce enlargement," the curved line inside the symbol may be replaced with a plus or minus letter symbol.	**ISO/IEC 10646 (3)**	**LEFT-POINTING MAGNIFYING GLASS** UCS: 1F50D = search **RIGHT-POINTING MAGNIFYING GLASS** UCS: 1F50E = get more details
		ISO/IEC 11581-5	**Zoom** To enlarge or reduce the magnification of a selected area.
		ISO/IEC 10646 (1)	**WHITE STAR** UCS: 2606 → 2729 ☆ stress outlined white star **My favourites** To identify the function for personal favourite bookmarks.

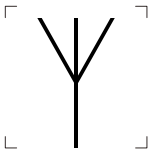
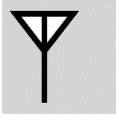
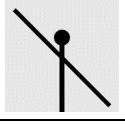
4.3 Current practice for indication

Graphical symbols to indicate a functional state of *equipment* or a part of *equipment* in general are also important and many *graphical symbols* have been standardized in IEC 60417 for the purpose of different categories of *equipment*.

Subclause 4.3 highlights the result of study on current practice of *graphical symbols* to indicate functional states of *equipment* in the field of multimedia technology. Table 2 shows such *graphical symbols* for use on multimedia equipment to show the states as non-exhaustive examples.

Table 2 – Current practice for indication

Standardized graphical symbols		State of the art (examples)	
IEC 60417-5546	**Battery check**  To identify a control to check the condition of a primary or secondary battery or to identify the battery condition indicator. NOTE 1 According to the condition of the battery, the size of the darkened area may vary. NOTE 2 In combination with an indicator such as an LED, this symbol may be used to indicate the battery is being charged.	**ISO/IEC 24755**	**Battery status indicator**  On personal mobile communication devices. To show the amount of the charge of an internal battery. There are four states: fully charged, charged, weak or empty.
IEC 60417-5639	**Rechargeable battery**  To identify equipment which shall only be used with rechargeable (secondary) cells or batteries, or to identify rechargeable cells or batteries. When shown on a battery holder, the symbol also indicates the positioning of the cells.		
IEC 60417-6019	**Vibration**  To identify the control or the indicator for vibration.	**ISO/IEC 10646 (3)**	**VIBRATION MODE** UCS: 1F4F3 
		ISO/IEC 24755	**Vibration**  On personal mobile communication devices To show that the setting of vibration is on. The vibration will activate to notify the user that an e-mail or telephone call has been received.

Standardized graphical symbols		State of the art (examples)	
IEC 60417-5039 	**Aerial; antenna** On radio receiving and transmitting equipment. To identify the aerial (antenna) terminals. This symbol should be used unless it is essential to specify the type of aerial (antenna).	**ISO/IEC 10646 (3)** 	**ANTENNA WITH BARS** UCS: 1F4F6 =cellular reception To indicate the strength of wireless signal.
		ISO/IEC 24755     	**Wireless carrier connection** On personal mobile communication devices. To show the strength of the wireless signal when it connects to the carrier connection. There are five states: very strong, strong, weak, very weak or not detected.
IEC 60417-5140 	**Non-ionizing electromagnetic radiation** To indicate generally elevated, potentially hazardous, levels of non-ionizing radiation, or to indicate equipment or systems e.g. in the medical electrical area that include RF transmitters or that intentionally apply RF electromagnetic energy for diagnosis or treatment. NOTE In case of application in a warning sign the rules according to ISO 3864 shall be adhered to.	**ISO/IEC 24755**     	**Wireless network connection** On personal mobile communication devices To show strength of the wireless signal when it connects to the network. There are five states: very strong, strong, weak, very weak or not detected. NOTE The icon can change dynamically to represent the current signal strengths.

Standardized graphical symbols		State of the art (examples)	
IEC 60417-5913	**Handheld microphone** To identify the control and terminal for a handheld microphone. NOTE See also IEC 60417-5082.	**ISO/IEC 10646 (3)**	**MICROPHONE** UCS: 1F3A4 = karaoke
		ISO/IEC 24755	**Microphone** On personal mobile communication devices. To show the microphone's state.

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