INTERNATIONAL STANDARD

ISO 8632-2

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AMENDMENT 1
1990-11-01

Information processing systems — Computer graphics — Metafile for the storage and transfer of picture description information —

Part 2 : Character encoding

AMENDMENT 1

Systèmes de traitement de l'information — Infographie — Métafichier de stockage et de transfert des informations de description d'images —

Partie 2: Codage des caractères

AMENDEMENT 1

Reference number
ISO 8632-2 : 1987/Amd. 1 : 1990 (E)

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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Information processing systems — Computer graphics — Metafile for the storage and transfer of picture description information —

Part 2:
Character encoding

AMENDMENT 1

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Add the following to the end of 5.3:

3/8 for Segment Control Elements and Segment Attribute Elements

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Add the following to table 1:

opcode	7 bit coding		8 bit coding	
BEGIN SEGMENT opcode	3/0	2/5	03/0	02/5
END SEGMENT opcode	3/0	2/6	03/0	02/6
BEGIN FIGURE opcode	3/0	2/7	03/0	02/7
END FIGURE opcode	3/0	2/8	03/0	02/8
NAME PRECISION opcode	3/1	3/0	03/1	03/0
MAXIMUM VDC EXTENT opcode	3/1	3/1	03/1	03/1
SEGMENT PRIORITY EXTENT opcode	3/1	3/2	03/1	03/2
DEVICE VIEWPORT opcode	3/2	2/7	03/2	02/7
DEVICE VIEWPORT SPEC. MODE opcode	3/2	2/8	03/2	02/8
DEVICE VIEWPORT MAPPING opcode	3/2	2/9	03/2	02/9
LINE REPRESENTATION opcode	3/2	2/10	03/2	02/10
MARKER REPRESENTATION opcode	3/2	2/11	03/2	02/11
TEXT REPRESENTATION opcode	3/2	2/12	03/2	02/12
FILL REPRESENTATION opcode	3/2	2/13	03/2	02/13
EDGE REPRESENTATION opcode	3/2	2/14	03/2	02/14
LINE CLIPPING MODE opcode	3/3	2/6	03/3	02/6
MARKER CLIPPING MODE opcode	3/3	2/7	03/3	02/7
EDGE CLIPPING MODE opcode	3/3	2/8	03/3	02/8
NEW REGION opcode	3/3	2/9	03/3	02/9
SAVE PRIMITIVE CONTEXT opcode	3/3	2/10	03/3	02/10
RESTORE PRIMITIVE CONTEXT opcode	3/3	2/11	03/3	02/11
CIRCULAR ARC CENTRE REVERSED opcode	3/4	2/8	03/4	02/8
CONNECTING EDGE opcode	3/4	2/9	03/4	02/9
PICK IDENTIFIER opcode	3/6	3/2	03/6	03/2
COPY SEGMENT opcode	3/8	2/0	03/8	02/0
INHERITANCE FILTER opcode	3/8	2/1	03/8	02/1
CLIP INHERITANCE opcode	3/8	2/2	03/8	02/2
SEGMENT TRANSFORMATION opcode	3/8	2/3	03/8	02/3
SEGMENT HIGHLIGHTING opcode	3/8	2/4	03/8	02/4
SEGMENT DISPLAY PRIORITY opcode	3/8	2/5	03/8	02/5
SEGMENT PICK PRIORITY opcode	3/8	2/6	03/8	02/6

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Add the following after 6.12:

6.13 Coding VCs and viewport point parameters

A viewport point (VP) is a pair of VC (Viewport Coordinate) scalars representing the x and y coordinates of a point in viewport specification space. A VC scalar is either an integer or real number according to whether VIEWPORT SPECIFICATION MODE is 'fraction of display surface', 'millimetres with scale factor' or 'physical device coordinates'.

When VIEWPORT SPECIFICATION MODE is 'fraction of display surface', the encoding of the VC and viewport point data type is as described in 6.4, Coding Real Numbers. The size of the viewport point parameters is limited by the current REAL PRECISION value.

When VIEWPORT SPECIFICATION MODE is 'millimetres with scale factor' or 'physical device coordinates', the encoding of the viewport point data type is as described in 6.3, Coding Integers. The size of the viewport point parameters is limited by the current INTEGER PRECISION value.

6.14 Name parameters

Name parameters are coded as integers (basic format) at NAME PRECISION.

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Add the following after 8.1.5:

8.1.6 BEGIN SEGMENT

<BEGIN-SEGMENT-opcode: 3/0 2/5>
<name: segment-identifier>

<name: segment-identifier> = <integer>

8.1.7 END SEGMENT

<END-SEGMENT-opcode: 3/0 2/6>

8.1.8 BEGIN FIGURE

<BEGIN-FIGURE-opcode: 3/0 2/7>

8.1.9 END FIGURE

<END-FIGURE-opcode: 3/0 2/8>

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Add the following to the <enumerated: element set> of 8.2.11:

I<integer:2>	{VERSION 2 SET}
I<integer:3>	{EXTENDED PRIMITIVES SET}
I<integer:4>	{VERSION 2 GKSM SET}

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Add the following after 8.2.15:

8.2.16 NAME PRECISION

<NAME-PRECISION-opcode: 3/1 3/0>
<integer: largest-name-code + 1>

The largest-name-code indicates how many bits occur in the largest possible magnitude for a name.

8.2.17 MAXIMUM VDC EXTENT

<MAXIMUM-VDC-EXTENT-opcode: 3/1 3/1>
<point: first-corner>
<point: second-corner>

8.2.18 SEGMENT PRIORITY EXTENT

<SEGMENT-PRIORITY-EXTENT-opcode: 3/1 3/2>
<integer: minimum-segment-priority-value>
<integer: maximum-segment-priority-value>

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Add the following after 8.3.7:

8.3.8 DEVICE VIEWPORT

<DEVICE-VIEWPORT-opcode: 3/2 2/7>
<viewport point: first-corner>
<viewport point: second-corner>

8.3.9 DEVICE VIEWPORT SPECIFICATION MODE

<DEVICE-VIEWPORT-SPECIFICATION-MODE-opcode: 3/2 2/8>
<enumerated:VC-specifier>
<real: metric-scale-factor>

<enumerated: VC-specifier>	=	<integer:0>	{fraction of display surface}
	|	<integer:1>	{mm with scale factor}
	|	<integer:2>	{physical device coordinates}

8.3.10 DEVICE VIEWPORT MAPPING

<DEVICE-VIEWPORT-MAPPING-opcode: 3/2 2/9>
<enumerated: isotropy-flag>
<enumerated: horizontal-alignment-flag>
<enumerated: vertical-alignment-flag>

<enumerated: isotropy-flag>	=	<integer:0>	{not forced}
	|	<integer:1>	{forced}
<enumerated: horizontal-alignment-flag>	=	<integer:0>	{left}
	|	<integer:1>	{centre}
	|	<integer:2>	{right}
<enumerated: vertical-alignment-flag>	=	<integer:0>	{bottom}
	|	<integer:1>	{centre}
	|	<integer:2>	{top}

8.3.11 LINE REPRESENTATION

<LINE-REPRESENTATION-opcode: 3/2 2/10>
<index: line-bundle-index>
<index: line-type>
<line-width-specifier>
<colour-specifier>

<index: line-bundle-index>	=	<positive integer>	
<index: line-type>	=	<integer: 1>	{solid}
	|	<integer: 2>	{dash}
	|	<integer: 3>	{dot}
	|	<integer: 4>	{dash-dot}
	|	<integer: 5>	{dash-dot-dot}
	|	<integer: negative>	{private line type}
<line-width-specifier>	=	<real: line width scale factor> {if LINE WIDTH SPECIFICATION MODE is scaled}	
	|	<VDC: line width> {if LINE WIDTH SPECIFICATION MODE is absolute}	
<colour-specifier>	=	<integer: colour index> {if COLOUR SELECTION MODE is indexed}	
	|	<RGB> {if COLOUR SELECTION MODE is direct}	
<integer: colour-index>	=	<non-negative integer>	

NOTE - Line types with values above 5 are reserved for registration.

8.3.12 MARKER REPRESENTATION

<MARKER-REPRESENTATION-opcode: 3/2 2/11>
<index: marker-bundle-index>
<index: marker-type>
<marker-size-specifier>
<colour-specifier>

<index: marker-bundle-index>	=	<positive integer>	
<index: marker-type>	=	<integer: 1>	{dot}
	|	<integer: 2>	{plus}
	|	<integer: 3>	{asterisk}
	|	<integer: 4>	{circle}
	|	<integer: 5>	{cross}
	|	<integer: negative>	{private marker type}
<marker-size-specifier>	=	<real: marker size scale factor> {if MARKER SIZE SPECIFICATION MODE is scaled}	
	|	<VDC: marker size> {if MARKER-SIZE SPECIFICATION MODE is absolute}	
<colour-specifier>	=	<integer: colour index> {if COLOUR SELECTION MODE is indexed}	
	|	<RGB> {if COLOUR SELECTION MODE is direct}	
<integer: colour-index>	=	<non-negative integer>	

NOTE - Marker types with values above 5 are reserved for registration.

8.3.13 TEXT REPRESENTATION

<TEXT-REPRESENTATION-opcode: 3/2 2/12>
<index: text-bundle-index>
<integer: text-font-index>
<enumerated: text-precision>
<real: character-spacing>
<real: expansion-factor>
<colour-specifier>

<index: text-bundle-index>	=	<positive integer>	
<integer: text-font-index>	=	<positive integer>	
<enumerated: text-precision>	=	<integer:0>	{string}
	|	<integer:1>	{character}
	|	<integer:2>	{stroke}
<real: character spacing>	=	<real>	
<real: expansion-factor>	=	<non-negative real>	
<colour-specifier>	=	<integer: colour index>	
		{if COLOUR SELECTION MODE is indexed}	
	|	<RGB>	
		{if COLOUR SELECTION MODE is direct}	
<integer: colour-index>	=	<non-negative integer>	

8.3.14 FILL REPRESENTATION

<FILL-REPRESENTATION-opcode: 3/2 2/13>
<index: fill-bundle-index>
<enumerated: interior-style>
<colour-specifier>
<index: hatch-index>
<index: pattern-index>

<index:fill-bundle-index>	=	<positive integer>	
<enumerated: interior-style>	=	<integer:0>	{hollow}
	|	<integer:1>	{solid}
	|	<integer:2>	{pattern}
	|	<integer:3>	{hatch}
	|	<integer:4>	{empty}
	|	<integer:negative>	{private style}
<colour-specifier>	=	<integer:colour index>	
		{if COLOUR SELECTION MODE is indexed}	
	|	<RGB>	
		{if COLOUR SELECTION MODE is direct}	
<index: hatch-index>	=	<integer:1>	{horizontal}
	|	<integer:2>	{vertical}
	|	<integer:3>	{positive slope}
	|	<integer:4>	{negative slope}
	|	<integer:5>	{horizontal/vertical cross}
	|	<integer:6>	{positive/negative cross}
	|	<integer:negative>	{private styles}
<index: pattern-index>	=	<positive integer>	
<integer: colour index>	=	<non-negative integer>	

NOTE - Hatch indices with values above 6 are reserved for registration.

8.3.15 EDGE REPRESENTATION

<EDGE-REPRESENTATION-opcode: 3/2 2/14>
<index: edge-bundle-index>
<index: edge-type>
<edge-width-specifier>
<colour-specifier>

<index: edge-bundle-index>	=	<positive integer>	
<index: edge-type>	=	<integer: 1>	{solid}
	|	<integer: 2>	{dash}
	|	<integer: 3>	{dot}
	|	<integer: 4>	{dash-dot}
	|	<integer: 5>	{dash-dot-dot}
	|	<integer: negative>	{private edge type}
<edge-width-specifier>	=	<real: edge width scale factor> {if EDGE WIDTH SPECIFICATION MODE is scaled}	
	|	<VDC: edge width> {if EDGE WIDTH SPECIFICATION MODE is absolute}	
<colour-specifier>	=	<integer: colour-index> {if COLOUR SELECTION MODE is indexed}	
	|	<RGB> {if COLOUR SELECTION MODE is direct}	
<integer: colour-index>	=	<non-negative integer>	

NOTE - Edge types with values above 5 are reserved for registration.

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Add the following after 8.4.6:

8.4.7 LINE CLIPPING MODE

<LINE-CLIPPING-MODE-opcode: 3/3 2/6>
<enumerated: clipping-mode>

<enumerated: clipping-mode>	=	<integer:0>	{locus}
	|	<integer:1>	{shape}
	|	<integer:2>	{locus then shape}

8.4.8 MARKER CLIPPING MODE

<MARKER-CLIPPING-MODE-opcode: 3/3 2/7>
<enumerated: clipping-mode>

<enumerated: clipping-mode>	=	<integer:0>	{locus}
	|	<integer:1>	{shape}
	|	<integer:2>	{locus then shape}

8.4.9 EDGE CLIPPING MODE

<EDGE-CLIPPING-MODE-opcode: 3/3 2/8>
<enumerated: clipping mode>

<enumerated: clipping mode>	=	<integer:0>	{locus}
	|	<integer:1>	{shape}
	|	<integer:2>	{locus then shape}

8.4.10 NEW REGION

<NEW-REGION-opcode: 3/3 2/9>

8.4.11 SAVE PRIMITIVE CONTEXT

<SAVE-PRIMITIVE-CONTEXT-opcode: 3/3 2/10>
<name: context>

<name: context> = <integer>

8.4.12 RESTORE PRIMITIVE CONTEXT

<RESTORE-PRIMITIVE-CONTEXT-opcode: 3/3 2/11>
<name: context>

<name: context> = <integer>

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Add the following after 8.5.19:

8.5.20 CIRCULAR ARC CENTRE REVERSED

<CIRCULAR-ARC-CENTRE-REVERSED-opcode: 3/4 2/8>
<point: centrepoint>
<VDC: DX_start>
<VDC: DY_start>
<VDC: DX_end>
<VDC: DY_end>
<VDC: radius>

8.5.21 CONNECTING EDGE

<CONNECTING-EDGE-opcode: 3/4 2/9>

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Sub-clause 8.6.2: Add the following note at the end:

NOTE - Line types with values above 5 are reserved for registration.

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Sub-clause 8.6.6: Add the following note at the end:

NOTE - Marker types with values above 5 are reserved for registration.

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Sub-clause 8.6.24: Add the following note at the end:

NOTE - Hatch indices with values above 6 are reserved for registration.

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Sub-clause 8.6.27: Add the following note at the end:

NOTE - Edge types with values above 5 are reserved for registration.

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Add the following after 8.6.35:

8.6.36 PICK IDENTIFIER

<PICK-ID-opcode: 3/6 3/2>
<name: pick-identifier>

<name: pick-identifier> = <integer>

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Add the following after 8.8:

8.9 Segment elements

8.9.1 COPY SEGMENT

<COPY-SEGMENT-opcode: 3/8 2/0>
<name: segment-identifier>
<transformation-matrix>
<enumerated: segment-transformation-application>

<name: segment-identifier> = <integer>

<transformation-matrix> = <real: a11 >
<real: a12 >
<real: a21 >
<real: a22 >
<vdc : a13 >
<vdc : a23 >

<enumerated:segment-transformation-application> = <integer:0> {no}
| <integer:1> {yes}

8.9.2 INHERITANCE FILTER

<INHERITANCE-FILTER-opcode: 3/8 2/1>
<enumerated: filter-selection-list>+
<enumerated: selection-setting>

<enumerated: filter-selection-list> = <integer:0> {line bundle index}
| <integer:1> {line type}
| <integer:2> {line width}
| <integer:3> {line colour}
| <integer:4> {line clipping mode}
| <integer:5> {marker bundle index}
| <integer:6> {marker type}
| <integer:7> {marker size}
| <integer:8> {marker colour}
| <integer:9> {marker clipping mode}
| <integer:10> {text bundle index}
| <integer:11> {text font index}
| <integer:12> {text precision}
| <integer:13> {character expansion factor}
| <integer:14> {character spacing}
| <integer:15> {text colour}
| <integer:16> {character height}

|	<integer:17>	{character orientation}
|	<integer:18>	{text path}
|	<integer:19>	{text alignment}
|	<integer:20>	{fill bundle index}
|	<integer:21>	{interior style}
|	<integer:22>	{fill colour}
|	<integer:23>	{hatch index}
|	<integer:24>	{pattern index}
|	<integer:25>	{edge bundle index}
|	<integer:26>	{edge type}
|	<integer:27>	{edge width}
|	<integer:28>	{edge colour}
|	<integer:29>	{edge visibility}
|	<integer:30>	{edge clipping mode}
|	<integer:31>	{fill reference point}
|	<integer:32>	{pattern size}
|	<integer:33>	{auxiliary colour}
|	<integer:34>	{transparency}
|	<integer:35>	{line attributes}
|	<integer:36>	{marker attributes}
|	<integer:37>	{text presentation and placement attributes}
|	<integer:38>	{text placement and orientation attributes}
|	<integer:39>	{fill attributes}
|	<integer:40>	{edge attributes}
|	<integer:41>	{pattern attributes}
|	<integer:42>	{output control}
|	<integer:43>	{pick identifier}
|	<integer:44>	{all attributes and control}
|	<integer:45>	{all}
|	<integer:46>	{line type ASF}
|	<integer:47>	{line width ASF}
|	<integer:48>	{line colour ASF}
|	<integer:49>	{marker type ASF}
|	<integer:50>	{marker size ASF}
|	<integer:51>	{marker colour ASF}
|	<integer:52>	{text font index ASF}
|	<integer:53>	{text precision ASF}
|	<integer:54>	{character expansion factor ASF}
|	<integer:55>	{character spacing ASF}
|	<integer:56>	{text colour ASF}
|	<integer:57>	{interior style ASF}
|	<integer:58>	{fill colour ASF}
|	<integer:59>	{hatch index ASF}
|	<integer:60>	{pattern index ASF}
|	<integer:61>	{edge type ASF}
|	<integer:62>	{edge width ASF}
|	<integer:63>	{edge colour ASF}
|	<integer:64>	{line ASFs}
|	<integer:65>	{marker ASFs}
|	<integer:66>	{text ASFs}
|	<integer:67>	{fill ASFs}
|	<integer:68>	{edge ASFs}
|	<integer:69>	{all ASFs}

<enumerated: selection-setting>	=	<integer:0>	{state list}
	|	<integer:1>	{segment}

8.9.3 CLIP INHERITANCE

<CLIP-INHERITANCE-opcode: 3/8 2/2>
<enumerated: clip-inheritance>

<enumerated: clip inheritance>	=	<integer:0>	{state list}
	|	<integer:1>	{intersection}

8.9.4 SEGMENT TRANSFORMATION

<SEGMENT-TRANSFORMATION-opcode: 3/8 2/3>
<name: segment-identifier>
<transformation-matrix>

<name: segment-identifier>	=	<integer>
<transformation-matrix>	=	<real: a11 > <real: a12 > <real: a21 > <real: a22 > <vdc : a13 > <vdc : a23 >

8.9.5 SEGMENT HIGHLIGHTING

<SEGMENT-HIGHLIGHTING-opcode: 3/8 2/4>
<name: segment-identifier>
<enumerated: segment-highlighting>

<name:segment-identifier>	=	<integer>	
<enumerated: segment-highlighting>	=	<integer: 0>	{normal}
	|	<integer: 1>	{highlighted}

8.9.6 SEGMENT DISPLAY PRIORITY

<SEGMENT-DISPLAY-PRIORITY-opcode: 3/8 2/5>
<name: segment-identifier>
<integer: segment-display-priority>

<name:segment-identifier>	=	<integer>
<integer: segment-display-priority>	=	<positive integer>

8.9.7 SEGMENT PICK PRIORITY

<SEGMENT-PICK-PRIORITY-opcode: 3/8 2/6>
<name: segment-identifier>
<integer: pick-priority>

<name:segment-identifier>	=	<integer>
<integer: pick-priority>	=	<positive integer>

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Add the following at the end of clause 9

NAME PRECISION : 10