
Hard-copy output of engineering drawings — Specification for the structure of control files

*Sortie papier de dessins d'engineering — Spécifications pour la structure
de fichiers de contrôle*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 14985 was prepared by Technical Committee ISO/TC 171, *Document imaging applications*, Subcommittee SC 2, *Application issues*.

Annexes A to D are for information only.

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Introduction

This International Standard has been prepared to facilitate the production of hard copies of engineering drawings by various types of printers, microfilm plotters, and other output devices. Such a standard is necessary because electronic image files can be stored in a variety of formats, such as TIFF, CALS, and HPGL. (See Annex A for examples of standard image file types.) Also, with the growing use of networks for the connection of hard-copy devices, many vendors are defining proprietary headers or set-up command strings in various ways. This International Standard aims to simplify the addition of new output devices to existing systems.

This International Standard provides information on setting up a plot control file containing (1) a copy of the image data file so that a hard copy can be produced or (2) a pointer to the location of the image data file so that the output device itself may retrieve the image data when the copy is made. In either case, the original image data file remains in the drawing database for future use.

This International Standard also provides information on setting up an optional job control file, which allows multiple plot control files to be grouped together and handled as one job. With a job control file, several sets of drawings may be produced, and they may be headed by banner pages, if desired.

Hard-copy output of engineering drawings — Specification for the structure of control files

1 Scope

This International Standard specifies the structure of a control file that can be used for the output of electronic images of engineering drawings to various forms of hard-copy output devices. This International Standard is not intended to define a minimum standard for the hard-copy device since different devices may support different features according to their complexity and intended use.

2 Normative references

The following normative documents contain provisions that, 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 ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC 646:1991, *Information technology — ISO 7-bit coded character set for information interchange*.

ISO 6196-1:1993, *Micrographics — Vocabulary — Part 1: General terms*.

ISO 6196-2:1993, *Micrographics — Vocabulary — Part 2: Image positions and methods of recording*.

ISO 6196-3:1997, *Micrographics — Vocabulary — Part 3: Film processing*.

ISO 6196-4:1987, *Micrographics — Vocabulary — Part 4: Materials and packaging*.

ISO 6196-5:1987, *Micrographics — Vocabulary — Part 5: Quality of images legibility, inspection*.

ISO 6196-6:1992, *Micrographics — Vocabulary — Part 6: Equipment*.

ISO 6196-7:1992, *Micrographics — Vocabulary — Part 7: Computer micrographics*.

ISO 6196-8:1998, *Micrographics — Vocabulary — Part 8: Use*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 6196 and the following apply.

3.1

X axis

horizontal axis of an image when the image is correctly oriented for viewing

3.2

Y axis

vertical axis of an image when the image is correctly oriented for viewing

3.3

plot control file

file used to control the way in which a drawing will be produced on a hard-copy plotting device

3.4

job control file

file used to control the way in which a sequence of drawings will be produced on a hard-copy plotting device

4 Structure of Plot Control File

4.1 Format

The format of the plot control file is shown in Table 1. The language used for the plot control file structure and text options shall be English, and the file shall be in ASCII text format. Text strings may be in any language.

4.2 General Requirements

The plot control file shall comply with the following general requirements:

- a) The plot control file shall begin with a section key labelled [PLOT CONTROL FILE HEADER] and shall terminate with a section key labelled [END OF PLOT CONTROL FILE HEADER].
- b) Each group of settings between the section keys shall start with a group key, which shall be enclosed in square brackets: [IMAGE FILE], [DRAWING OUTPUT], [PENS], [ANNOTATION], [MEDIA], and [FINISHING].
- c) The header structure shall indicate whether the several settings following each group key are mandatory or optional.
- d) A carriage return or line feed character, or both, shall separate entries in the file header.
- e) The field identifier shall terminate with an equal sign ("=").
- f) Blank lines and spaces shall be ignored except when enclosed within quotation marks.
- g) Treatment of the data shall be case insensitive except for text strings to be used for annotation.
- h) If the first valid character on a line is a semicolon, the line shall be considered a comment line. Comments shall occur only between the start section key and the end section key.
- i) When the data in a plot file produces any type of conflict, the plotter shall produce the best plot it can rather than reporting an error.

4.3 Options

The following are some formatting options:

- a) Upper or lower case characters may be used at will.
- b) Blank lines and spaces may be inserted to improve readability. Spaces between words may be left out.
- c) Additional parameters unique to a particular plotter may be included within any standard group.
- d) Additional groups unique to a particular plotter may be added between the last standard group and the [END OF PLOT CONTROL FILE HEADER] section key.