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**INTERNATIONAL STANDARD**



**4343**

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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**Numerical control of machines — NC processor output —  
Minor elements of 2000-type records (post-processor  
commands)**

*Commande numérique des machines — Informations de sortie des processeurs CN — Éléments mineurs  
des enregistrements de type 2000 (instruction post-processeur)*

First edition — 1978-04-01

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UDC 681.3 : 621.9-52

Ref. No. ISO 4343-1978 (E)

**Descriptors** : data processing, numerical control, language processors, vocabulary.

Price based on 92 pages

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up 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.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 4343 was developed by Technical Committee ISO/TC 97, *Computers and information processing*, and was circulated to the member bodies in April 1976.

It has been approved by the member bodies of the following countries :

Australia	Japan	South Africa, Rep. of
Belgium	Korea, Rep. of	Turkey
Brazil	Mexico	United Kingdom
Czechoslovakia	Netherlands	U.S.A.
France	New Zealand	U.S.S.R.
Germany	Poland	
Hungary	Romania	

No member body expressed disapproval of the document.

# Numerical control of machines — NC processor output — Minor elements of 2000-type records (post-processor commands)

## 0 INTRODUCTION

0.1 The output of a general purpose numerical control processor is information used as input to a post-processor. This information is called CLDATA, which is derived from the term "centre line data".

0.2 The logical structure of CLDATA records and the listing and definition of major words are given in ISO 3592.

0.3 This International Standard defines, in the context of major word, the minor elements that can be associated in a post-processor statement with each of these major words (for an example of major and minor portions of a processor input statement, see the footnote to clause 1).

0.4 Although this International Standard defines the CLDATA processor output of post-processor statements, there is usually a one-to-one correspondence between the minor elements of a post-processor statement in the input language and the words of the corresponding 2000-type record in CLDATA. In consequence, the symbolic input language has been chosen to describe the representation of the CLDATA records in this International Standard.

0.5 Therefore, unless otherwise stated, the syntax and semantic definitions contained in this International Standard apply to both the input language statements and the corresponding CLDATA output.

0.6 This International Standard is intended to define, in general terms, the elements of the set of post-processor statements that are commonly used. The writer of a post-processor is expected to use this International Standard for the selection of post-processor statements. The user of the input language (i.e. the part programmer) is expected to use the documentation of the appropriate post-processor that he intends to execute.

0.7 The existing numerical control processors allow minor elements of post-processor statements in any order without restriction. Post-processors usually check the validity of particular element strings. The syntax definitions given in this International Standard are examples of common usage.

0.8 The syntax, semantics and minor elements given under the heading of each major word are the result of several years' study of documents representing existing practice.

0.9 The integer code numbers (IC)<sup>1)</sup> given in this International Standard are the code numbers that are used to represent the input language vocabulary key words in CLDATA.

## 1 SCOPE

1.1 This International Standard defines the elements of a set of post-processor statements that are commonly used in numerical control software.

It utilizes

- a) the syntax and semantics of the major and minor elements<sup>2)</sup> of the input language of this set, and specifies
- b) the syntax and semantics of the corresponding CLDATA processor output of type 2000, W4 to W245,
- c) the rules governing the interpretation of the syntax of CLDATA.

1.2 This International Standard does not prescribe

- a) the mechanism by which the statements are processed and the CLDATA developed;
- b) the medium on which the input language statements or the CLDATA are recorded;
- c) the order of statements within a part program.

1.3 The rules used for the syntax definitions are shown in annex A.

1) A register of keywords and their associated integer codes is maintained by the Secretariat of TC 97/SC 9 (as at June 1977, AFNOR, Paris). The TC 97/SC 9 Secretariat should be consulted for the possible assignment of codes for vocabulary not included in this International Standard.

2) The following example indicates the major and minor portions of a processor input statement and of the corresponding CLDATA record :

SPINDL/RPM, 5000, RANGE, 2

The major word is SPINDL

The minor element list is "RPM, 5000, RANGE, 2"

The minor elements are "RPM, 5000" and "RANGE, 2"