International Standard ISO 4169

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Office machines — Keyboards — Key numbering system and layout charts

Machines de bureau — Claviers — Système de numérotation des touches et grilles de repérage

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Foreword

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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 4169 was developed by Technical Committee ISO/TC 95, *Office machines*, and was circulated to the member bodies in November 1978.

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

Australia	Hungary	Switzerland
Canada	Italy	Turkey
Chile	Japan	United Kingdom
Czechoslovakia	Romania	USA
Finland	South Africa, Rep. of	USSR
France	Spain	Yugoslavia
Germany, F. R.	Sweden	

No member body expressed disapproval of the document.

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0 Introduction

Several different keyboard layout charts have been introduced in the past to accommodate specific requirements of an application or of a manufacturer, thus hindering the immediate comparison between similar layouts. Additionally, some charts differ in the numbering scheme they use and other have no numbering at all.

This International Standard has been developed in order to facilitate visual comparison of the layouts and to simplify references to specific key positions in descriptional texts or during discussions.

1 Scope and field of application

This International Standard specifies a key numbering system and keyboard layout charts for office machines. It applies to all types of alphanumeric, numeric and composite keyboards.

2 Description

2.1 Principle of the grid

The numbering system specified in this International Standard is related to a layout chart based on a grid (intersection of rows and columns).

The purpose of the grid is to show the relative position of the keys in the layout; it has no relationship with the physical characteristics of the implementing keyboard such as the spacing between the keys or the actual dimensions and shape of the keytops.

Depending on the user requirements and to facilitate psychological association with existing keyboards, the grid used could be either sloped (see figure 1) or squared (see figure 2). Combined representation could also be used, provided the resulting chart is unambiguous and the key positions are clearly indicated (see figure 7).

2.2 Position of the keys

Each key position is represented by the intersection of a row and a column, which are indicated as follows (see figure 3) :

2.2.1 Each row is identified by a capital letter of the latin alphabet (A to Z). Since there is no limitation in the depth of the grid in order to cover all the requirements, a starting row is defined by the letter "A". Subsequent rows above it are indicated by letters in ascending order, for example B, C, D etc. and subsequent rows below it are indicated by letters in descending order, for example Z, Y, X etc.

2.2.2 Each column is identified by a two digit number (00 to 99). Since there is no limitation in the width of the grid in order to cover all the requirements, a starting column is defined by the number 00 for the alphanumeric keyboard (figure 3) and 50 for the numeric keyboard (see figure 6). Adjacent columns on the right are indicated by numbers in ascending order, for example 01, 02, 03 etc., for the alphanumeric keyboard and 51, 52, 53 etc. for the numeric keyboard. Adjacent columns on the left are indicated by numbers in descending order, for example 99, 98, 97 etc., for the alphanumeric keyboard and 49, 48, 47 etc., for the numeric keyboard.

2.3 Key positions

2.3.1 Keys filling a single key position shall be referred to by their row column position.

Example :

A01 corresponds to a key which is allocated to a position at the intersection of row A and column 01.

2.3.2 Keys requiring more than one key position, still lying within a single row or column, shall be referred to by combining the two extreme key positions, respectively with the row or column indicator.

Examples :

E-C14 correspond to a key occupying the positions E14, D14 and C14;

D13-15 correspond to a key occupying the positions D13, D14 and D15.

2.3.3 Keys requiring more than one key position and extending over more than one row and column shall be referred to by summing up the areas occupied, row by row.

Examples :

C14-15/B14-15 correspond to a key occupying the positions C14, C15, B14 and B15.

C15/B14-15 correspond to a key occupying the positions C15, B14 and B15.

2.4 Keyboard layout

2.4.1 Keyboard layout for alphanumeric keyboards, of typewriters for example, is shown in figure 4, as follows :

— row A contains all or part of the space bar;

— column 01 contains the digit 1.

2.4.2 Keyboard layout for numeric keyboards of adding machines for example, is shown in figure 6, as follows :

— row A contains the main part of the zero area;

— column 51 contains the digit 1.

2.4.3 Composite keyboards, for example alphanumeric plus numeric, shall be represented on a single chart, as in figure 7 which shows a combination of an alphanumeric keyboard layout together with a numeric layout and some control keys.

It illustrates the combined use of sloped and squared grids. Furthermore, indications of the location of special keys are given as an example of use of the rules specified in this International Standard.

The following definitions apply :

a) to the grid : sloped grid from column 98 to position C12; squared grid from column 49 to 54;

b) to key numbered 1 : key E-D99;

c) to key numbered 2 : key A02-09;

d) to key numbered 3 : key D-B49;

e) to key numbered 4 : key B50/A50-51;

f) to key numbered 5 : key E52-53;

g) to key numbered 6 : key C-B54.

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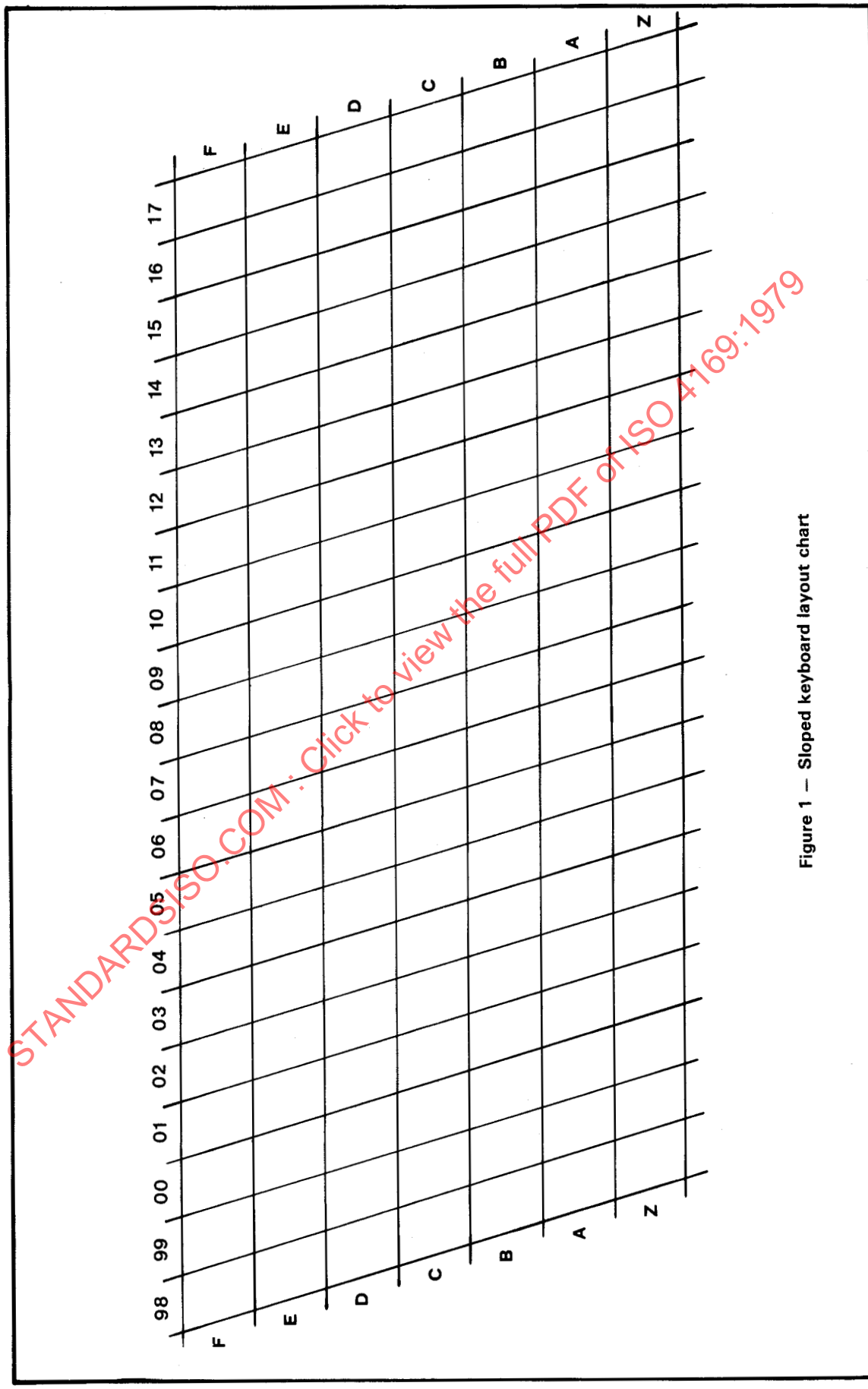

Figure 1 — Sloped keyboard layout chart

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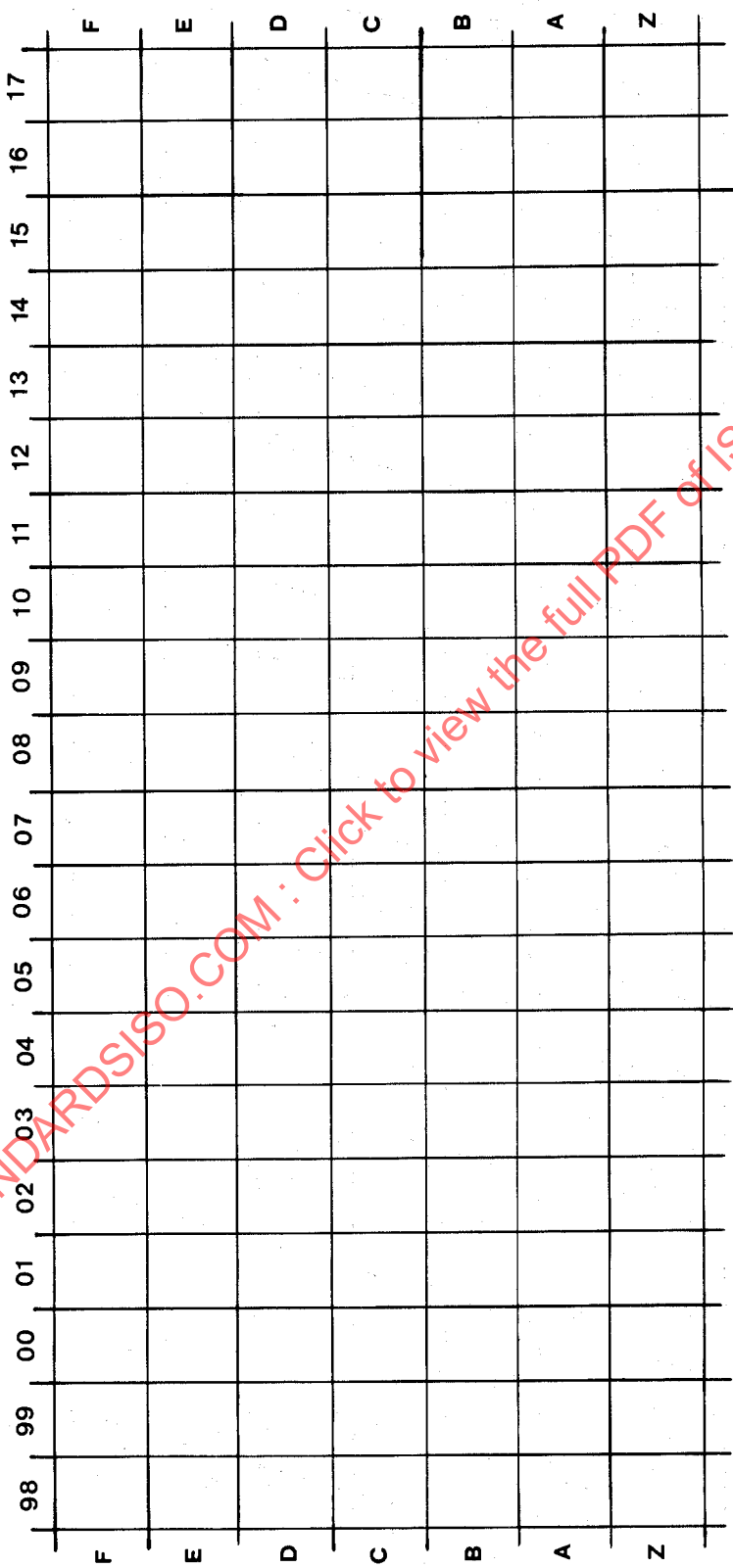

Figure 2 — Squared keyboard layout chart

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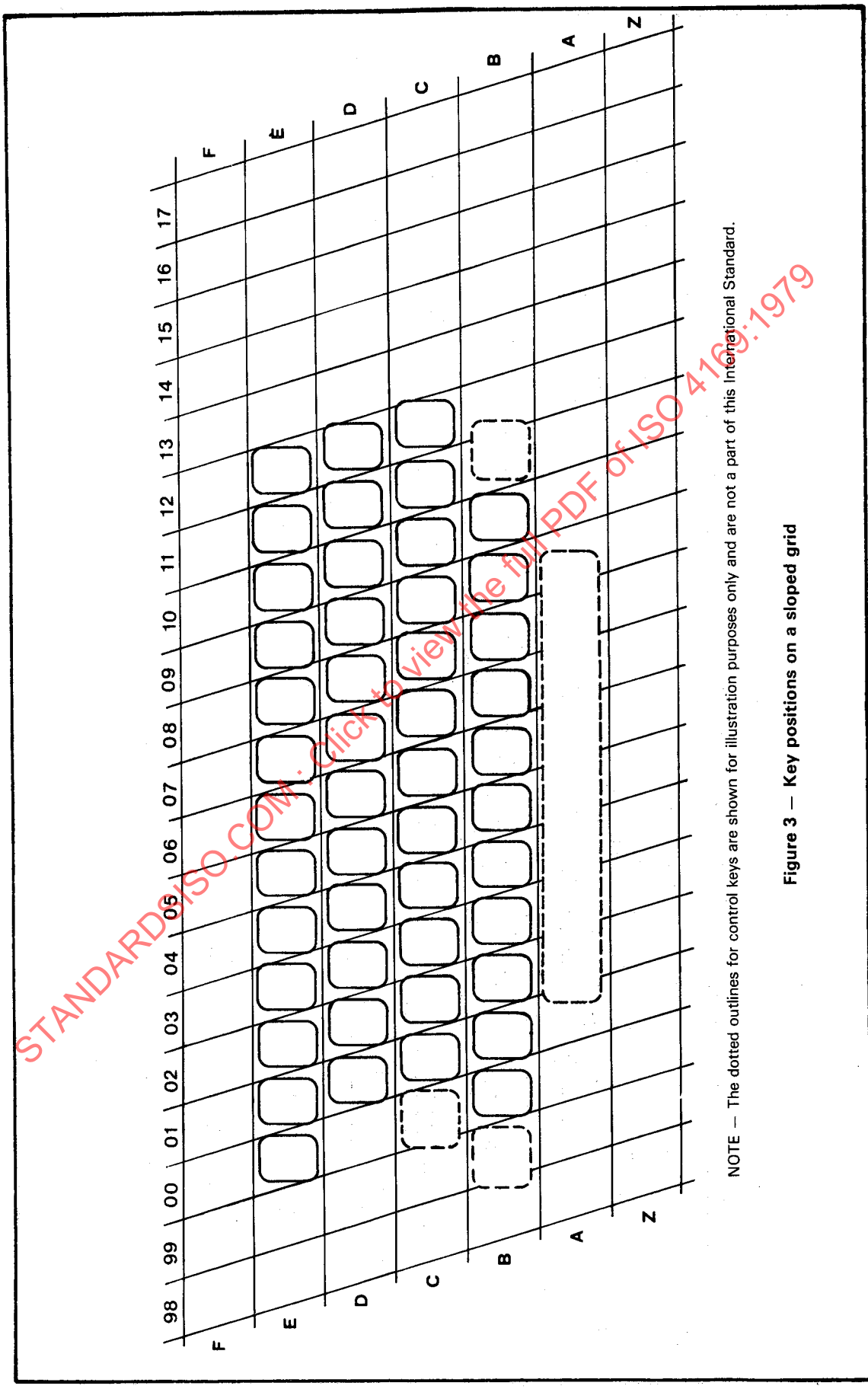

NOTE — The dotted outlines for control keys are shown for illustration purposes only and are not a part of this International Standard.

Figure 3 — Key positions on a sloped grid

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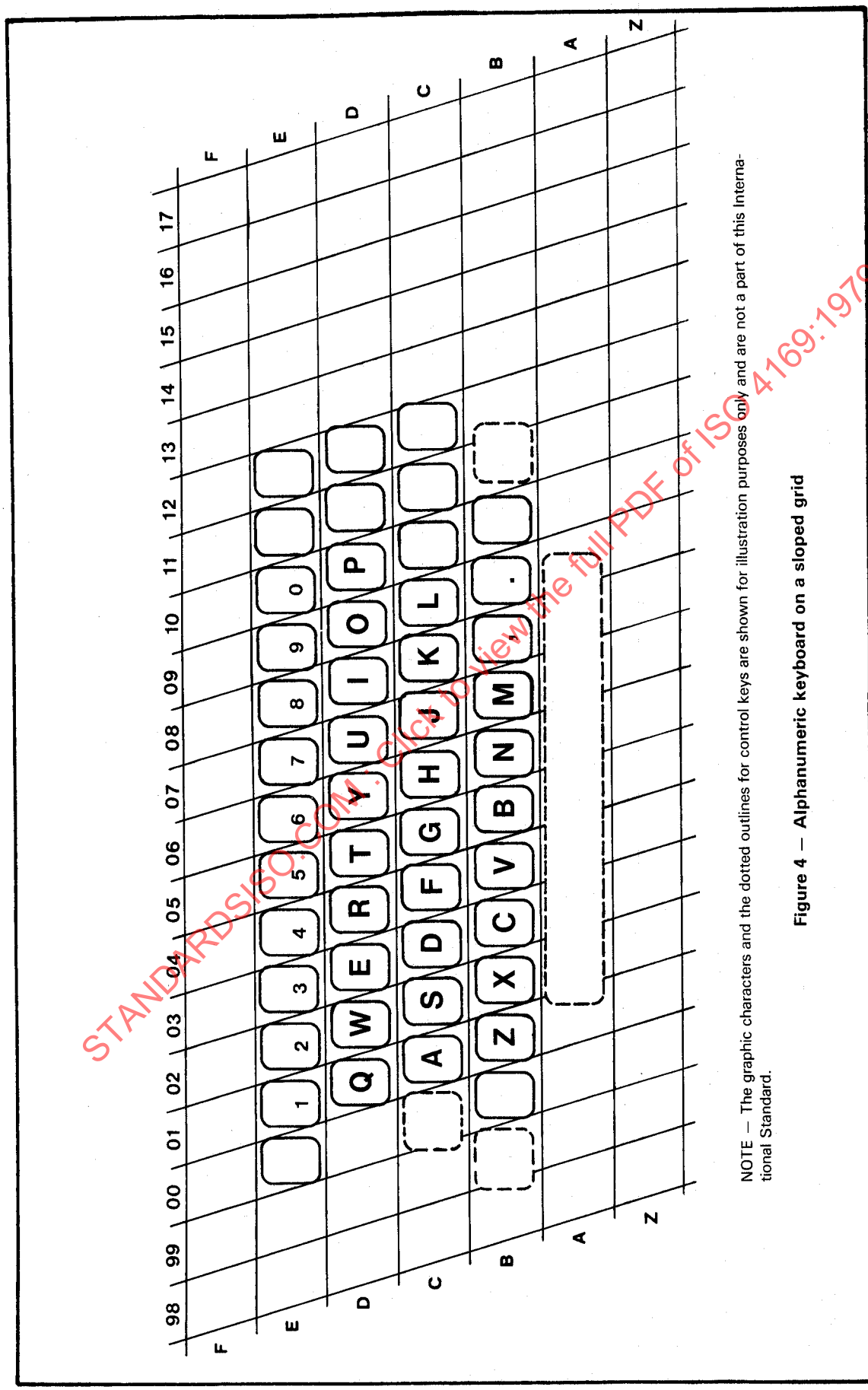

NOTE — The graphic characters and the dotted outlines for control keys are shown for illustration purposes only and are not a part of this International Standard.

Figure 4 — Alphanumeric keyboard on a sloped grid

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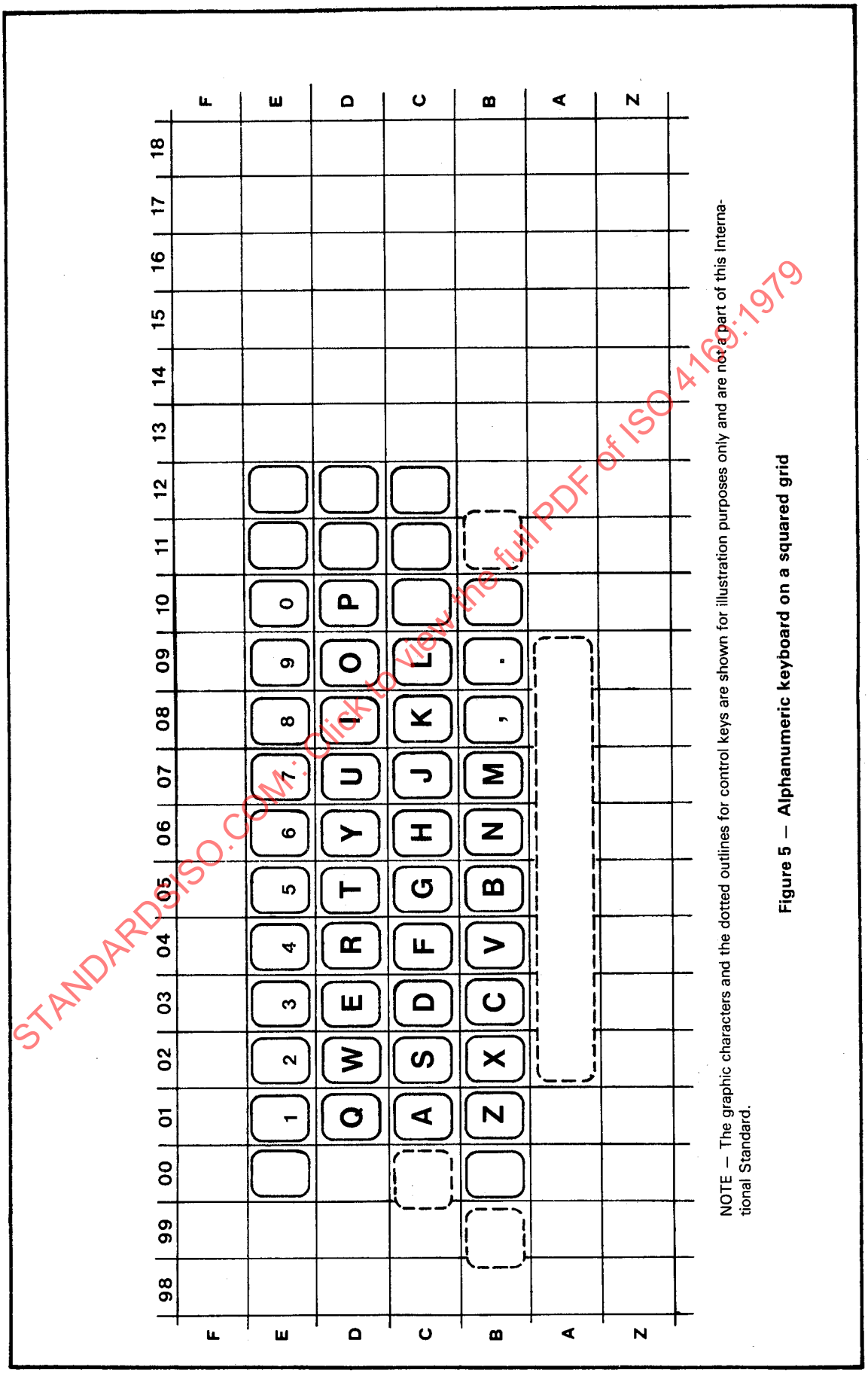

NOTE — The graphic characters and the dotted outlines for control keys are shown for illustration purposes only and are not a part of this international Standard.

Figure 5 — Alphanumeric keyboard on a squared grid

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