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## **Ergonomic requirements for office work with visual display terminals (VDTs) —**

### **Part 16:**

### **Direct manipulation dialogues**

*Exigences ergonomiques pour travail de bureau avec terminaux à écrans  
de visualisation (TEV) —*

*Partie 16: Dialogues de type manipulation directe*



Reference number  
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International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland  
Internet iso@iso.ch

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

This part of ISO 9241 was prepared by Technical Committee ISO/TC 159, *Ergonomics*, Subcommittee SC 4, *Ergonomics of human-system interaction*.

ISO 9241 consists of the following parts, under the general title *Ergonomic requirements for office work with visual display terminals (VDTs)*:

- *Part 1: General introduction*
- *Part 2: Guidance on task requirements*
- *Part 3: Visual display requirements*
- *Part 4: Keyboard requirements*
- *Part 5: Workstation layout and postural requirements*
- *Part 6: Guidance on the work environment*
- *Part 7: Requirements for display with reflections*
- *Part 8: Requirements for displayed colours*
- *Part 9: Requirements for non-keyboard input devices*
- *Part 10: Dialogue principles*
- *Part 11: Guidance on usability*
- *Part 12: Presentation of information*
- *Part 13: User guidance*
- *Part 14: Menu dialogues*
- *Part 15: Command dialogues*
- *Part 16: Direct manipulation dialogues*
- *Part 17: Form filling dialogues*

Annex A of this part of ISO 9241 is for information only.

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## Introduction

ISO 9241 deals with several aspects of the use of visual display terminals (VDTs). Currently, the individual parts can be grouped in the following categories:

ISO 9241-1: General introduction

ISO 9241-2: Guidance on task requirements

ISO 9241-5 and ISO 9241-6: Workstation and environment

ISO 9241-3, ISO 9241-4, ISO 9241-7, ISO 9241-8 and ISO 9241-9: Ergonomics pertaining to hardware

ISO 9241-10 through ISO 9241-17: Ergonomics pertaining to software interfaces

This part of ISO 9241 is concerned with the ergonomic design of direct manipulation dialogues where users perform operations by acting on displayed objects in ways analogous to manipulating physical entities.

This part of ISO 9241 serves the following types of user

- a) the user interface designer, who will apply this part of ISO 9241 during the development process;
- b) the buyer, who will reference this part of ISO 9241 during the product procurement process;
- c) evaluators responsible for ensuring that products meet the recommendations in this part of ISO 9241;
- d) designers of user interface development tools to be used by interface designers;
- e) end-users who will gain from the potential benefits provided by this part of ISO 9241.

This part of ISO 9241 consists of a number of recommendations, some of which are conditional, concerning direct manipulation dialogues. Conditional recommendations are recommendations that should be met only within the specific context for which they are relevant (e.g. particular kinds of users, tasks, environments, technology).

It should be noted that ISO 9241-10 describes dialogue principles that are relevant for the design of direct manipulation dialogues. These principles provide the designer and evaluator with additional information concerning the ergonomic rationale for the various recommendations in this part of ISO 9241 and, therefore, assist in making trade-offs. However, it may be necessary to base trade-offs on other considerations as well.