

Autodesk 官方培训教程系列

AutoCAD 2004

新功能与升级 培训教程

Autodesk 公司 编著

Update

影印版

autodesk

Official Training Courseware



2004

清华大学出版社

AutoCAD 2004 新功能 与升级培训教程 (影印版)

Autodesk 公司 编著

清华大学出版社

北 京

内 容 简 介

本书是在 Autodesk 公司的官方培训教材 AutoCAD 2004 Update Official Courseware 的基础上完成的,全面地介绍了用户界面增强、绘图效率提高、外部参照增强、绘图安全性增强、图形的演示和发布、i-Drop 和打印增强、标准和软件管理工具等。另外,附录中还提供了由 PowerPoint 演示文档改编的对软件主要功能的介绍,以及由 Autodesk 公司的培训专家讲解的升级到 AutoCAD 2004 的几个重要原因,还对前后版本功能方面的改进进行了详细的数据对比。

本书内容权威,叙述简练,在理论讲解中融入了大量的实例练习,可以保证读者在学习的过程中同实际相结合。另外,为了配合本书的学习,读者还可以到网上下载相应的图形文件,网址为 www.wqtup.com。

本书的读者对象为对 AutoCAD 2000/2002 内容较为熟悉的工程设计人员以及大中专院校相关专业师生。

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AutoCAD 2004 Update Official Training Courseware

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丛书序

随着中国经济的高速发展，尤其是在中国加入 WTO 之后，世界制造业中心正在向中国转移。国内制造业及相关建筑、工程企业在获得广阔的发展空间的同时，也迫切地感受到提高自身的设计和制造水平，培养更多掌握现代设计技术人员的需求。Autodesk 公司凭借其全球领先的设计软件技术，多年以来，在国内市场已经有效地推广了以 AutoCAD 为代表的产品系列，在机械、建筑和地理信息系统等各个领域拥有广泛的用户群和合作伙伴。

为了给 Autodesk 产品用户提供优质服务，Autodesk 通过**授权培训中心**（Autodesk Training Center，简称 ATC）提供产品的培训服务，ATC 是 Autodesk 公司授权的、能对用户及合作伙伴提供正规化和专业化技术培训的独立培训机构，是 Autodesk 公司和用户之间赖以进行技术传输的重要纽带。ATC 不仅具有一流的教学环境和全部正版的培训软件，而且有完善的、富有竞争意识的教学培训服务体系和经过 Autodesk 公司严格认证的高水平的师资作为后盾。

除了被广大用户深为了解的 AutoCAD 之外，Autodesk 在各专业设计领域均推出了相应的产品，并得到了用户的广泛应用及好评。例如在机械设计领域中推出的二维设计软件 AutoCAD Mechanical，三维设计软件组合 Inventor Series (Mechanical Desktop + Autodesk Inventor)；在建筑设计领域中推出的 Architectural Desktop 和 Revit；在地理信息系统和基础设施建设领域推出的 Map、MapGuide、Civil、Survey 等等。

Autodesk 公司授权清华大学出版社独家出版的这套“**Autodesk 官方培训教程系列**”图书全面反映了 Autodesk 产品系列的多样性。本套丛书是在 Autodesk 公司内部培训教材的基础上，组织国内资深培训教师认真翻译、整理而成的，既反映了 Autodesk 技术培训的统一性和权威性，又满足了国内读者的需求。

本系列图书以功能任务为向导，并配合实际的挑战练习题，使 CAD 工程师能在快速理解和掌握新功能特性的同时，娴熟和准确地完成设计任务。精辟的讲解、言简意赅的论述将给各领域的设计工程师和二次开发工程师带来全新的体验和帮助。我们希望这一图书系列的出版，能够为推进计算机辅助设计的应用尽一份微薄之力。



Autodesk 公司
技术支持与培训资深经理

前 言

AutoCAD 2004是引导计算机辅助设计软件的最新版本,它的新增功能将使用户在所有专业领域获益。本书将提供从AutoCAD 2002升级到现在的AutoCAD 2004的新功能介绍。

1. 课程信息

- (1) 序
- (2) 课程目标
- (3) 前提条件
- (4) 使用手册
- (5) 章节安排
- (6) 新增命令
- (7) 关键约定

2. 序

在这本手册中的材料将令有经验的AutoCAD 2002用户熟悉新功能。该教程包括演示和手动练习。

某些主题可能需要访问网络,或者可能需要对用户不起作用的硬件和软件。

3. 课程目标

在本教程结束时,用户将能够完成以下工作:

- 描述并有效地使用新功能、方法和界面,用于在AutoCAD 2004中的设计工作
- 熟悉新的AutoCAD平台的增强功能
- 进一步理解CAD标准和工具
- 熟悉效率、协作工具的使用方法
- 理解并应用真彩色和渐变来增强演示图形
- 通过手动练习来提高舒适、方便地利用AutoCAD 2004的水平

4. 前提条件

本教程是为直接升级到2004版本的有经验的AutoCAD 2002用户设计的。

5. 使用手册

本手册中的教程涉及从AutoCAD 2002以来的新的或完善的功能。

它并不能代替AutoCAD 2004 Command Reference和User's Guide，而是补充在线版本。

参考“帮助”来进一步研究新命令和新功能。目标是提供新命令和新功能的概览以便用户可以决定对自己的设计环境什么最可选用。

6. 章节安排

(1) **简介和对象。**提供本章中心内容的介绍并声明本章的特定学习目标。

(2) **主题。**每章都是一起构成该章中心的主题集合，每个主题包括简介、概念、目标、前提条件和小结。

(3) **小结。**总结本章。

7. 新增命令

在需要的地方，每个主题都包含一节来介绍新命令。这包括如何利用下拉菜单、命令行和工具栏来启动命令。

8. 提示和技巧

贯穿本教程始终，包括需要特别注意的提示和技巧。

(1) **技巧。**

技巧提供增强主题内的效率的特定信息。

(2) **提示。**

提示提供有关主题的引导、限制或警告的信息。

9. 关键约定

文字元素	约定	示例
命令和系统变量	大写文本	使用 MOVE 命令
在命令提示或编辑框中输入的文本	粗体	输入 100, 100 作为插入点，在 Minutes Between Saves 输入 20
文件、文件夹和目录名称	斜体	打开 <i>up-ex2-5.dwg</i>

Preface

AutoCAD 2004 is the latest version of the leading computer aided design software. Its new enhanced features will benefit users in all professional areas. This material will provide new features introduced to AutoCAD from AutoCAD 2002 to the present AutoCAD 2004.

Course Information

- Foreword
- Course Objectives
- Prerequisites
- Using this Guide
- Chapter Flow
- New Commands
- Key to Conventions

Foreword

Material in this manual will familiarize the experienced AutoCAD 2002 user with the new features and improvements introduced in AutoCAD 2004. The courseware includes demonstrations and hands-on exercises.

Certain topics may require access to networks, or may require hardware and software that are not available to you.

Course Objectives

At the end of this course, you will be able to

- Describe and effectively use new features, approaches and interface for designing in AutoCAD 2004
- Become familiar with the new AutoCAD platform enhancements
- Develop an understanding of CAD Standards and tools
- Become familiar with the productivity and collaborative tools and usage
- Understand and apply true color and gradients to enhance presentation drawings

- Develop a level of comfort and confidence with AutoCAD 2004 through hands-on experiences

Prerequisites

This course is designed for the experienced AutoCAD 2002 user who is directly upgrading to release 2004.

Using this Guide

The courseware in this guide covers features that are new or improved since AutoCAD 2002.

This does not replace the AutoCAD 2004 Command Reference and User's Guide. It complements online versions.

Refer to Help to explore new commands and features in greater depth. The goal is to provide an overview of new commands and features so you can decide what will be most applicable to your design situation.

Chapter Flow

Introduction and Objectives. Provides an introduction to the chapter theme and states specific learning objectives for the chapter.

Topics. Each chapter is a collection of topics that together form the theme of the chapter. Each topic contains an Introduction, Concepts, Objectives, Prerequisite and Summary.

Summary. Summarizes the chapter.

New Commands

Where applicable, each topic contains a section that introduces new commands. This includes how to navigate to commands using the pull-down menus, command line, and toolbars.

Notes and Tips

Throughout this courseware, there are Notes and Tips included for special attention.

Tip: Tips provide special information that will enhance your productivity within the topic.

Note: Notes can contain information that provides guidelines, constraints, or warnings about the topic.

Key to Conventions

Text Elements	Conventions	Examples
Commands and system variables	Capitalized text	Use the MOVE command.
Text entered at the command prompt or edit box	Bold font	Enter 100, 100 as the insertion point. In Minutes Between Saves enter 20.
File, folder, and directory names	<i>Italic font</i>	Open <i>up-ex2-5.dwg</i> .

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Chapter 1

User Interface Enhancements

Chapter Introduction

In this chapter you learn about the palette user interface, and command line, icon notification, and the Communication Center user interface enhancements.

- Palettes are a new user interface concept in AutoCAD 2004. They can be moved anywhere on the screen, hidden into a single heading bar, viewed transparently, and customized with your own blocks, hatches, and symbols. AutoCAD provides DesignCenter, Property, and customizable Tool Palettes.
- The user interface improves usability and productivity for all levels of AutoCAD users. Enhancements to the user interface simplify the viewing of status information and improve your understanding of various settings.

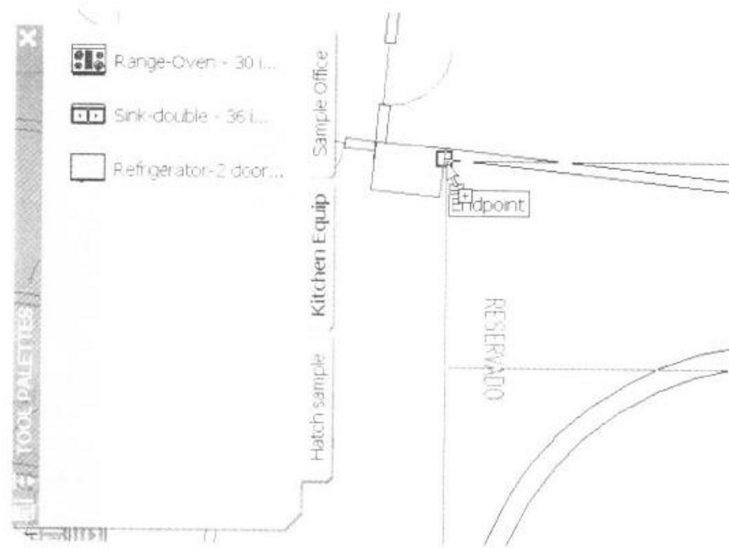
In this chapter

After completing this chapter, you will be able to

- Understand and use the palette functionality of the Properties, DesignCenter, and Tool Palettes
- Understand and use the command line, Communication Center, and Icon Notification user interface enhancements

Palettes

In this lesson you learn about the palette user interface, how it works, and how to use it. You also try it by using the new Property Palette, creating a Tool Palettes palette, and working with DesignCenter™.



Custom tool palette with 50% transparency

Palettes are a new user interface concept in AutoCAD 2004. They can be moved anywhere on the screen, hidden into a single heading bar, viewed transparently, and customized with your own blocks, hatches, and symbols. Three palettes are provided in AutoCAD:

- Tool palette
- Properties palette
- DesignCenter

Objectives

Upon completion of this lesson, you will learn about

- Palette functionality
- Property palette
- DesignCenter
- How to work with palettes

Prerequisites

For this lesson, you should have a good working knowledge of AutoCAD, blocks, entity properties, and symbols libraries.

Scenario

You are an architect in London working on the retrofit of a kitchen into an existing restaurant in Portugal. The Portuguese architects send you an XTP file of their Tool Palettes so that you can quickly drag the specialized equipment into the room.

Outline

This lesson includes the following topics:

- Palettes
- What are Palettes?
- Accessing Palettes
- Try it: Working with Palettes
- Summary

What are Palettes?

Palettes are a format of enhanced secondary windows that contain lists for functional input. You can move and resize palettes, scroll the list of functions to change the data, roll up or pin open the palettes, and adjust their transparency. AutoCAD has several new palettes, including the Properties palette, Tool Palettes for Blocks, Hatches and other content. The DesignCenter has been redesigned to take advantage of some of the new functionality found in palettes.

Properties Palette

The Properties palette has the same capabilities as previous Properties dialog boxes, combined with many of the added features of palettes.

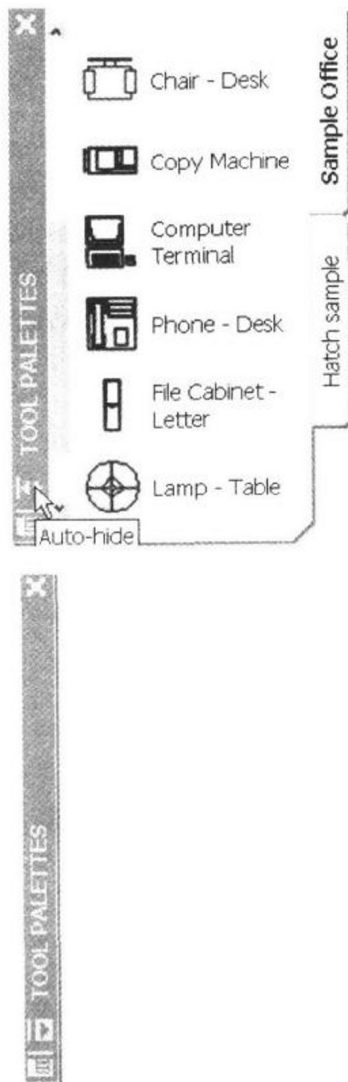


Properties palette

Tool Palettes

Tool Palettes are provided as an additional means for accessing AutoCAD functions such as blocks or hatch. You can view Tool Palettes as icons, as icons with text, or as a list view. The icon view provides maximum density display. The icon with text display provides space for the name, and horizontal spacing is automatic.

Palette views



Tool Palettes with text view and Auto-hide view.

You can view the Tool Palettes with various degrees of transparency, so that you can see your drawing while you work with the palette.