

# Control Manager

---

## Contents

Introduction to Controls	5-4
Buttons	5-5
Checkboxes	5-5
Radio Buttons	5-6
Pop-Up Menus	5-6
Scroll Bars	5-7
Other Controls	5-11
Active and Inactive Controls	5-11
The Control Definition Function	5-14
About the Control Manager	5-14
Using the Control Manager	5-15
Creating and Displaying a Control	5-15
Creating a Button, Checkbox, or Radio Button	5-17
Creating Scroll Bars	5-21
Creating a Pop-Up Menu	5-25
Updating a Control	5-29
Responding to Mouse Events in a Control	5-30
Determining a Mouse-Down Event in a Control	5-31
Tracking the Cursor in a Control	5-35
Determining and Changing Control Settings	5-37
Scrolling Through a Document	5-43
Scrolling in Response to Events in the Scroll Box	5-53
Scrolling in Response to Events in Scroll Arrows and Gray Areas	5-57
Drawing a Scrolled Document Inside a Window	5-62
Moving and Resizing Scroll Bars	5-65
Defining Your Own Control Definition Function	5-71
Control Manager Reference	5-72
Data Structures	5-72
The Control Record	5-73
The Auxiliary Control Record	5-76

The Pop-Up Menu Private Data Record	5-77
The Control Color Table Record	5-77
Control Manager Routines	5-80
Creating Controls	5-81
Drawing Controls	5-85
Handling Mouse Events in Controls	5-88
Changing Control Settings and Display	5-93
Determining Control Values	5-102
Removing Controls	5-108
Application-Defined Routines	5-109
Defining Your Own Control Definition Function	5-109
Defining Your Own Action Procedures	5-115
Resources	5-117
The Control Resource	5-118
The Control Color Table Resource	5-121
The Control Definition Function	5-123
Summary of the Control Manager	5-124
Pascal Summary	5-124
Constants	5-124
Data Types	5-126
Control Manager Routines	5-127
Application-Defined Routines	5-129
C Summary	5-129
Constants	5-129
Data Types	5-131
Control Manager Routines	5-132
Application-Defined Routines	5-134
Assembly-Language Summary	5-134
Data Structures	5-134
Global Variables	5-135