Control Panels NDA 2.0
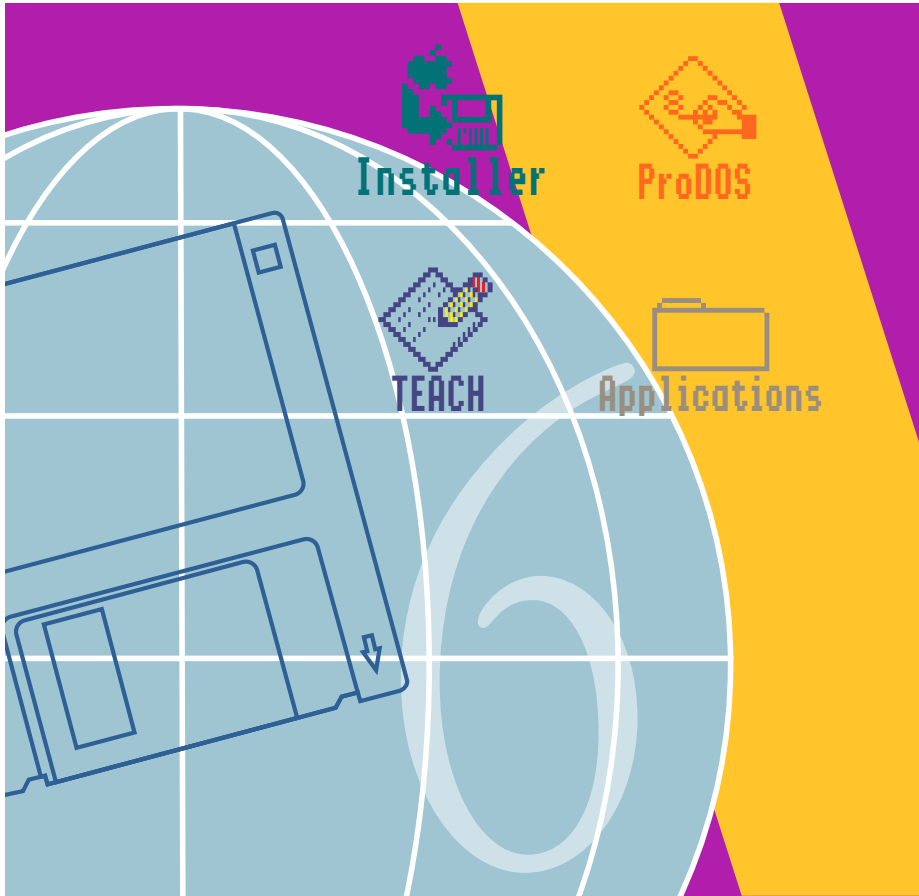
Version 1.00

System 6 IIGS

Apple® IIGS® System Software 6.0 — Release Notes
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Control Panels NDA 2.0 v.1.0

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Introduction

This document describes Control Panels NDA 2.0 for Apple IIGS System 6.0.

Why a new Control Panel?

Advantages of Control Panel 2.0 over 1.x:

- Written completely in assembly language (1.x was written mostly in a high-level language).

- The code is smaller, and the CDev.Data file is a little more compact than before.

- Since Control Panels are opened into their own separate windows, the restrictions on the width of Control Panels are loosened, since they no longer have to share width with the scrolling list of icons.

Since Control Panels should work in both 640 and 320-mode, this forced a lot of Control Panels to be artificially narrow in the past.

- Users can open more than one Control Panel at a time if they want.

- Better keyboard control is possible, since Control Panels do not share the main window.

- Communication with the Finder—you can double-click a Control Panel from a Finder window (or from the desktop) to open it.

Feasibility

Because Control Panels were originally designed in a well-defined modular way, it is practical to make major changes to the way Control Panels are presented to the user, without having to make changes to the Control Panels.

Files related to the Control Panel

CtlPanel.NDA (in *:System:Desk.Accs, or in a network user's setup folder?)
CDev.Data (in *:System:CDevs)
$C7 files (in *:System:CDevs, or elsewhere if they do not need to be notified at boot time)

What goes away?

CDev.Init goes away, because Control Panels 2.0 does that work at `DeskShutDown` time (the system calls `DeskShutDown` at boot time, before launching the first application).

The old and CDev.Data file goes away, and it's replaced by a smaller version.
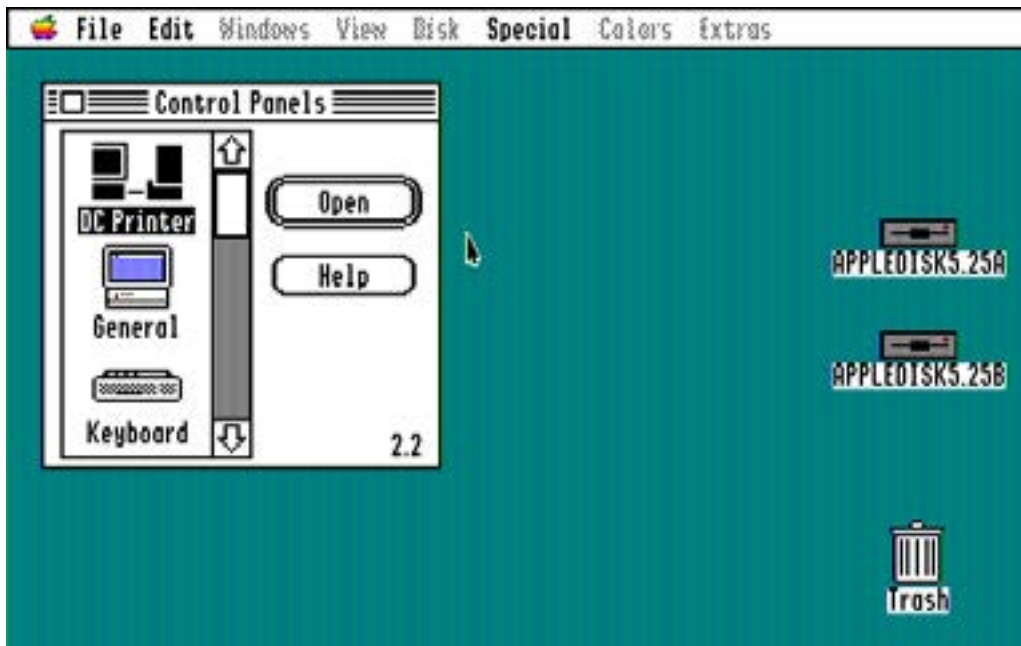
Human Interface Details

Figure 1.   The "main control panels" window

The window is called "Control Panels"; the idea is to refer to each "CDev" as a Control Panel. The user should not have to see the term "CDev" if we can help it (although we are stuck with the System:CDevs folder name for compatibility with any Control Panels that hard-coded it in a pathname).

To open the main window, choose "Control Panels" from the Apple menu, or type Command-Shift-Esc.

Command-H is equivalent to the Help button. Clicking on the version number displays an About box.

If you double-click on an icon, or single click on it and then click Open (or hit Return), the Control Panel "whooshes" open into its own window, like this:

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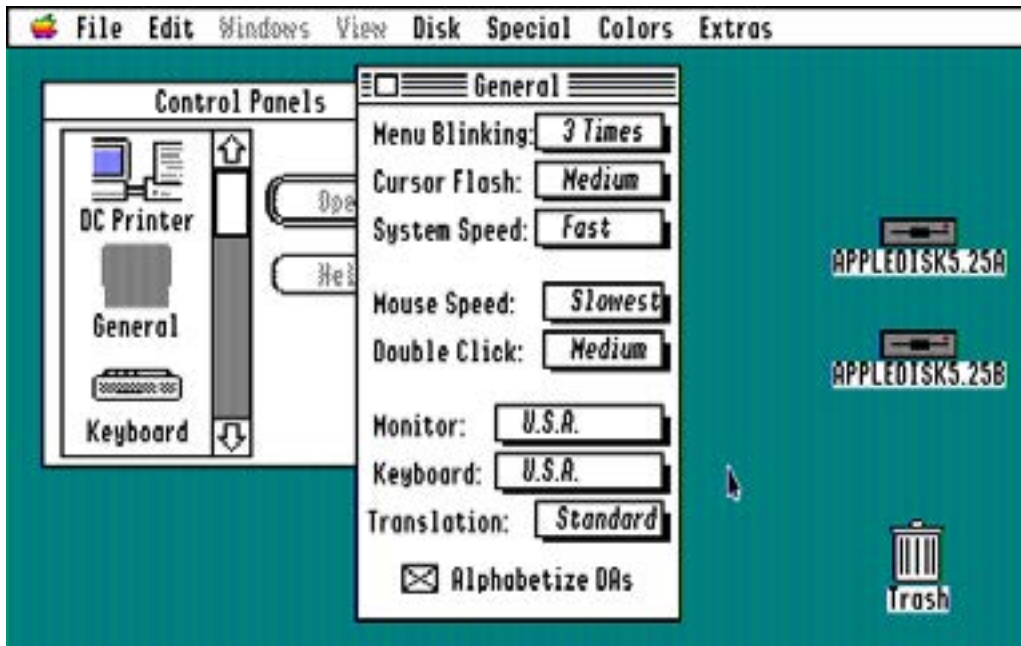
Figure 2.   A "control panel" Window

If you double-click on an icon, or single click on it and then click Open (or hit Return), the Control Panel opens into its own window as seen in Figure 2.

Figure 3.   Several "control panel" Windows
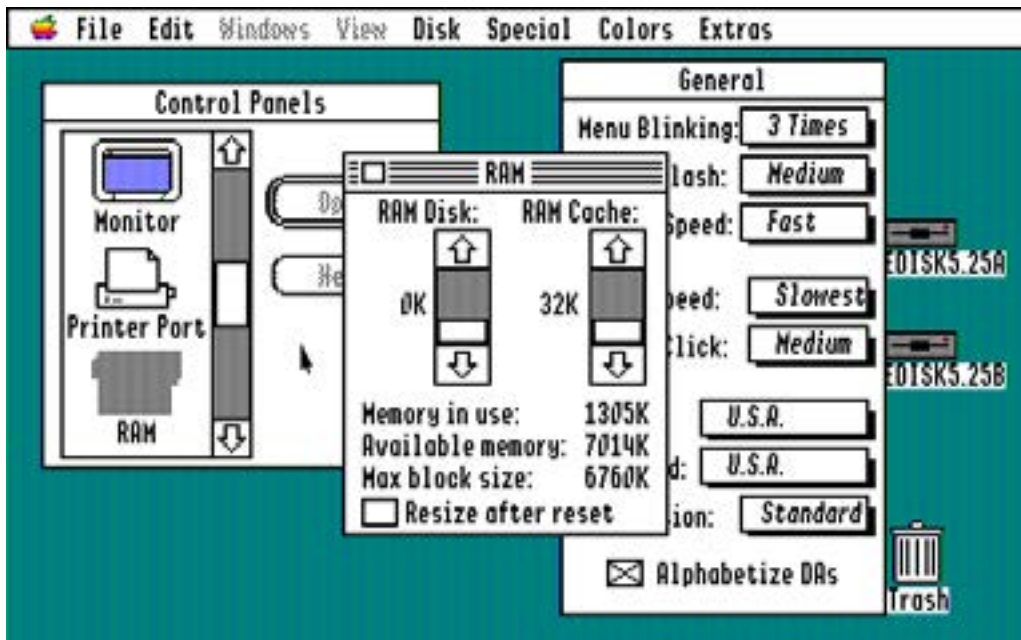
Control Panels NDA 2.0

The stack of icons is a List. You can shift-click to select a range, Command-click to select and deselect individual icons, use the up and down arrows to select different icons, and type the first part of any icon's name to select that icon.
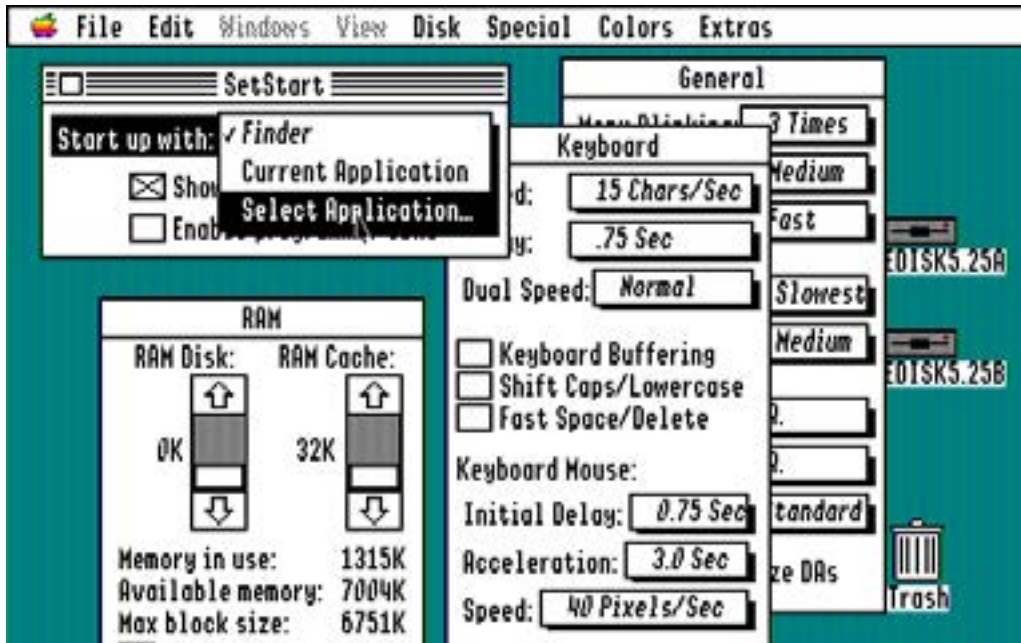

Figure 4. Several "control panel" Windows

Figure 5. The "help & credits" Window

If you want, you can open up several Control Panels at once. There is no fixed limit on the number—you should be able to keep opening until you run out of memory or until you get really bored, whichever comes first. But you can only have one copy of each Control Panel open at a time.

You can close and re-open the Control Panels window any time you want; this does not close any other windows. (This is a good thing—the user is in control of what windows are open.) Figure 4 shows a screen with several Control Panel windows open, but with the main window closed.

When you click the Help button, you get the credits/help window for the selected Control Panel. (Help is dimmed if multiple icons are selected, or if no icon is selected.)

Notes

If the main window or a Control Panel window is in front, Command-W always closes it (the only exception is if you have GSBug installed and the CapsLock key is down; this is a GSBug feature which causes the current application to handle the keypress—if the application supports Command-W for Close, it will still work).

You can double-click on Control Panel files (even inactive ones) from the Finder to open them directly into windows—the "Control Panels" window will not appear.

There is a shortcut for opening the CDevs folder on your boot disk: hold down the Option key while choosing Control Panels from the Apple menu. (But if the main window is already open, it simply comes to the front and the option key is ignored.)

The main window's Open button is dimmed when no CDev icons are selected. If you hold down the Option key while clicking Open, while pressing Return, or while double-clicking an icon, the main Control Panels window automatically closes after the new window opens. This is similar to "tunneling" in the Finder.

The Help button is enabled only when exactly one Control Panel icon is selected.

If you try to use the Control Panels NDA under pre-6.0, it just beeps at you twice and does not open.

Help Text

The help text for many Apple-supplied Control Panels used to say "CDev". These have been changed to say "Control Panel" instead.

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Implementation Details

See File Type Note $C7, for general information about writing a Control Panel.

`BootCDEV` Message

`BootCDEV` messages are now sent a little later in the boot process than before. They are sent the first time `DeskShutDown` is called (before the system launches the first application).

If the Control Panel NDA is unable to load a Control Panel's rCDevCode resource to send the BootCDEV message, it draws an "X" icon on top of the Control Panel's icon and calls SysBeep2 with code $000C, sbOperationFailed.

The data1 parameter to the BootCDEV message is now defined. It points to a data word that is initially zero. If you set bit 0 of this word while handling the BootCDEV message, the Control Panel NDA will draw an "X" over your icon (but it will not call SysBeep2 for you; do that yourself if appropriate).

`HitCDEV` Message

Generally, all controls in a Control Panel window must be extended controls. The exception is the scroll bars on List controls—these scroll bars are nonextended controls. When the HitCDEV message occurs because of a hit in a list scroll bar, data2 is always $FFFFFFFF. (Control Panel 1.x passed a large but unpredictable value for data2 in this case.)

`AboutCDEV` Message

When a Control Panel receives the AboutCDEV message, the Font Manager and Text Edit are always started. Control Panel 2.0 can display a Control Panel's About box without ever opening the Control Panel.

Making Text Edit available avoids a potential incompatibility with some Control Panels (such as General) that start up Text Edit on receiving AboutCDEV, assuming they will have a chance to shut it back down later, on receiving CloseCDEV.

Edit Menu events

Control Panel 2.0 defines one new message:

`EditCDEV`, message 12. `data1` = edit code in low word, `data2` = window pointer. Called if the `wantEdit` bit is set ($0800, bit 11) in the `rCDevFlags` resource.

Edit codes are the same as what `SystemEdit` passes to NDAs (Toolbox Reference 1, page 5-7):

- $0005 Undo
- $0006 Cut
- $0007 Copy
- $0008 Paste
- $0009 Clear

All other codes are reserved for future use.

`EditCDEV` is used when the user chooses Undo, Cut, Copy, Paste, or Clear from the Edit menu (if the items have the proper item numbers), and when the user types Command-Z, -X, -C, or -V.

Resource Manager

The Control Panel keeps the Resource Manager started up with the Control Panel NDA's memory ID whenever the main window *or* any Control Panel windows are open.

There is only one resource search path shared among the Control Panel NDA and all open Control Panels. Do *not* assume that your Control Panel, the Control Panel NDA, and Sys.Resources are the only resource files in the search path!

Control Panel Windows

The Control Panel windows are system windows, but they aren't NDA windows. (See the Desk Manager section of the System 6.0 Toolbox documentation.)

Window Positions

The main Control Panels window and all Control Panel windows are re-opened to the positions they had when last closed (in the same screen mode).

The window positions are stored in `rTwoRects` resources in the Control Panel NDA's resource fork. The main window is ID 1, and the resources for individual Control Panels are named with the Control Panels' names.

The first rectangle of each `rTwoRects` is for 320 mode, and the second is for 640 mode.

Color Table Swapping

Since Control Panels generally assume the sixteen standard 640-mode dithered colors are available, Control Panel 2.0 automatically provides a standard color table whenever the Control Panels window or any individual Control Panel window is in front. (It ought to do the same thing for the Help and credits windows, but it does not.)

The color table provided in 640-mode is identical to the default 640-mode color table.

The color table provided in 320 mode provides colors almost identical to the default 640 colors. This is *not* the same as the default 320-mode color table. (See Apple IIGs Technical Note #63, Table 3.)

Programmatic Interface to the Control Panels NDA

You can use `SendRequest` in the Tool Locator to ask the Control Panels NDA to do two things for you: Open the main window, or open a Control Panel from a pathname.

You must send the requests by name to "`Apple~Control Panel~`".

Request code $9001 is `cpOpenControlPanels`. `dataIn` is reserved and must be zero.

Request code $9000 is `cpOpenCDev`. `dataIn` and dataOut are as defined for `finderSaysOpenFailed` (see the Finder 6.0 documentation).