

# The Accessory Manager!









By Charles F. Johnson

# The Accessory Manager!





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### Introduction

**Thanks** for purchasing MultiDesk Deluxe! You are about to go where no Atari ST user has gone before -- beyond the six-accessory limit, and into the world of *virtual desk accessories!* With MultiDesk Deluxe, you can have up to 96 desk accessories at your beck and call whenever you need them (*without* using up your precious RAM), run accessories as if they were programs, easily change an entire set of accessories without rebooting, and much more.

MultiDesk Deluxe runs as either a standard ST desk accessory or as a program, just by changing its name from MULT-DESK.ACC to MULTDESK.PRG. When MultiDesk Deluxe is installed as a desk accessory, you can load any other standard ST desk accessory *at any time*, even from within a running program. You can tell MultiDesk how much memory to set aside for loading desk accessories and change this amount when you need more RAM. While you're on the desktop, you can load an entire setup of accessories with a couple of mouse clicks. And when you run MultiDesk as a program, any desk accessories you load will run as if *they* were programs, and be cleared from memory when you're finished with them!

#### • What is a Desk Accessory?

A desk accessory (also referred to as a "DA") is a program much like the programs you run from the GEM desktop. The difference between a "runnable" program and a desk accessory is that desk accessories are supposed to load at bootup time and remain resident in memory - you can't run them like ordinary programs. Instead, their names appear in the "Desk" drop-down menu, which you will find at the far left of an application's menu bar. (Some programs may use the Atari Fuji symbol instead of the word "Desk.") Accessories are "opened" by clicking on their names in the drop-down menu; you can open accessories while other GEM programs are running, giving the ST a simple multitasking/switching capability. There are desk accessories for almost every conceivable purpose; calendars, calculators, clocks, even word processors and databases.

When you turn on your computer, press the reset button, or switch resolutions, the ST looks in the root directory of your boot disk for files with the extension ".ACC" and tries to load them. You are limited to 6 desk accessories at a time; if more than 6 .ACC files are on the boot disk, only the first 6 are loaded. Normally, changing to a different set of desk accessories is a complicated procedure; you have to have a different boot disk for each set of accessories, or go through a maze of file copying and renaming, or use an AUTO folder program (like the shareware program "Desk Manager," from Little Green Footballs Software) to rename your accessories for you. No matter which method you use, you still have to reboot your computer every time. MultiDesk Deluxe removes *all* of these limitations.

# Before You Do Anything Else

**Before** you can use MultiDesk Deluxe you must first register your copy, which will write your name and address (for upgrade purposes) into the MultiDesk program file. This process only needs to be performed once, the first time MultiDesk runs. There are two ways to register your copy, depending on whether you use a hard disk system or a floppy-based system.

1) If you have a hard disk, copy the file named MULT-DESK.ACC from your MultiDesk Deluxe master disk to the root directory of your bootup partition. Make sure the MultiDesk Deluxe master disk is also in drive A, and reset your computer.

2) If you are booting from floppy disk, place the original MultiDesk master disk in drive A and boot your computer.

When the MultiDesk accessory installs, you'll see the following dialog box on your screen:

HultiDe © 19	esk Deluxe <sup>™</sup> Regis 991 CodeHead Sof1	stration tware
Country: _	Sure all information	
is correct be	efore clicking OK!	

The MultiDesk Deluxe Registration Dialog

Type in your name and address on the lines provided. When you're sure everything is correct, click the box labeled OK with the left mouse button. If you're booting from hard disk, at this point you'll see an additional prompt asking you to make sure your MultiDesk Deluxe master disk is in drive A; click the OK button in this alert box when you've confirmed this. The registration data will then be written, and bootup will continue normally from that point. The name you enter on this registration form will appear when you click MultiDesk's 'Info' button.

After registering your copy of MultiDesk Deluxe, you may make a backup copy of the master disk for safekeeping. This can be done either by making a complete disk copy or by copying the files from the MultiDesk master disk to another disk. If you're unsure about how to copy a disk or a group of files, please refer to your Atari owners' manual.

You may find a file called README on your MultiDesk master disk. Be sure to show this file onscreen or print it to your printer, and read it before continuing any further! It may contain important information about MultiDesk Deluxe that couldn't be included in this manual due to publishing deadlines.

#### Installing MultiDesk Deluxe

MultiDesk Deluxe loads and installs just like any other ST/TT desk accessory -- you put the MULTDESK.ACC file in the root directory of your boot drive, and reset the computer. (See "What is a Desk Accessory" above.)

## Nonresident Desk Accessories

The most important new feature in MultiDesk Deluxe is its ability to load and unload DAs "on the fly" - even while running a program - without using up a lot of memory. DAs that are loaded and unloaded in this way will be referred to as "nonresident DAs" or "MDXs".

This new feature is achieved by setting up a special reserved memory area (the "MDX Buffer") that only needs to be big enough to hold the largest possible nonresident DA you might use. Nonresident DAs are loaded into this area when you open them, and removed when you close them -- so the buffer can be reused by the next nonresident DA. Special techniques are used to make sure that any allocated memory is freed, any VDI workstations left open are closed, all resources are deallocated, system vectors are restored, and everything else that can be cleaned up is cleaned up.

The advantage of loading DAs this way is that the MDX buffer only needs to be as large as the largest DA you want to load you don't need to allocate enough memory to hold everything at once! This lets you use a lot more desk accessories, without eating up your RAM. (This is very similar to the way Atari's XCONTROL.ACC loads CPX modules.)

MultiDesk Deluxe still has the capability to load a DA (or group of DAs) as "resident" DAs too, because some desk accessories need to be resident in memory to do whatever it is they do. (See "Resident or Nonresident" below.) Since the MDX concept allows access to many more DAs without using up lots of memory, the maximum number of DAs that MultiDesk can display at once has been increased from 32 to 96. Of these 96 DAs, a maximum of 32 may be resident DAs.

#### • Resident or Nonresident?

Which DAs can be nonresident and which should be resident? You can usually make a pretty good guess based on what the DA in question actually does. Ramdisks, text accelerators, mouse accelerators, and the like should be kept as resident DAs, as should any DAs that patch into system routines. Since nonresident DAs do not become active until you actually open them, and are wiped from memory when you close them, DAs such as the ones mentioned above will not be able to perform their intended tasks as nonresident DAs. Almost anything else will work!

Also remember that, since nonresident DAs are cleared from memory when closed, you should remember to save settings and any newly entered data (if necessary) before closing a nonresident DA. For example, if you use a text editor as a nonresident DA, any text you enter will be gone when you close it -- so make sure to save. If a DA relies on keeping data resident between successive openings (or if you wish to use a certain DA in this manner), it should be a resident DA.

#### Setting Up The MDX Directory

In the root directory of your bootup disk, create a folder called MULTDESK.MDX and copy all the DAs you wish to install as "nonresident" into it. If any of the DAs need to load resource files, be sure to copy those into the MULTDESK.MDX folder too. Now install MultiDesk Deluxe according to the directions above and reboot.

When you reach the desktop and open MultiDesk Deluxe from the Desk menu, you'll see the filenames of all the DAs you put in the MULTDESK.MDX folder listed in MultiDesk's window. Nonresident DAs have a special "bullet" character at the far left side of their name. Click on the filename to load and run a DA ... that's all there is to it! (See "Linking Titles to Nonresident DAs" later in this manual for a way to give your nonresident DAs descriptive "titles" instead of simple filenames.)

## Using MultiDesk Deluxe

**To open** MultiDesk, move the mouse cursor up to the word "Desk" in the upper left corner of your screen. When the drop-down menu appears, move down to the name "MultiDesk" and click the left mouse button; the main MultiDesk dialog box will appear in the middle of the screen.

By Charles F. By Charles F. Buffer Size: 0276K Ey	<b>ESK-Deluxe-</b> Johnson gres left: 5,187
Default	Load Acc
MaxiFile III PUB Director	Load MDX
Turbo ST Mono • Art Gallery	✤ Load Setup
• BeanCalc • BigTime	Save Setup
• Bill's Calendar • Breakout	Clear All
<ul> <li>Brochu's Calc</li> <li>Calamus Font Edit</li> </ul>	Clear Some
• CardFile • Clock/Calendar	♣ Configure
<ul> <li>CodeKeys Editor</li> <li>CommTool</li> </ul>	Info
• Control Panel	Exit

The Main MultiDesk Deluxe Dialog Box

At the top of the box, under the title, is the status line. Shown first is the "Buffer Size," the total amount of memory in kilobytes (1024 bytes) available for loading resident accessories. This amount is reserved by MultiDesk when it starts up, and may be changed by using the "Configure" option, described below. "Bytes Left" shows the number of bytes left in the buffer; as you load resident accessories into MultiDesk, this number will get smaller. The large empty box on the left side is the selection box; it will display the names of the accessories that you load. The buttons (boxes) along the right side are used to select the various options of MultiDesk Deluxe.

#### Load Acc

You may load a resident accessory at any time -- while at the ST desktop or from within a running program. To do so, point at the "Load Acc" button and press the left mouse button. The File Selector box will appear. The File Selector is a standard GEM object; you will see this box quite often when using MultiDesk and many other ST programs. If you don't know how to use the File Selector, please refer to your Atari ST Owner's Manual.

Locate the name of the accessory that you wish to load and select it (by clicking once on its name and clicking the "OK" button, or by double-clicking on the name). The accessory will be loaded into MultiDesk's resident buffer, and the file selector will reappear so that you can load another accessory immediately if you wish. Click on the file selector's "Cancel" button, and you'll see the name of the accessory you just loaded in MultiDesk's selection box. Now you can open this accessory simply by clicking on its name. The large box at the left of the MultiDesk dialog box has space enough for 16 accessory names. MultiDesk allows a maximum of 96 DAs to be loaded, of which 32 can be resident DAs. If more than 16 DAs are active, the up and down arrows to the right of the selection box will become enabled and you can scroll up and down through the list by clicking on the arrows.

For almost all normal purposes, 96 accessories is probably more than enough. But if for some reason you need more, you can load MultiDesk into one of its own slots, and again inside itself ad infinitum. We've tested this "nesting" up to a depth of 130 levels on our Mega ST4; the only limit is the amount of memory in your computer.

Accessories do not need to be kept on your boot disk for MultiDesk to find them. You're free to put them wherever you like; we keep ours in a folder named \ACCS. Any resource files that go with the desk accessories should be kept in the same directory with the accessories; MultiDesk contains special code to ensure that accessories will always find their associated .RSC files (resource files) in the same directory from which they run.

Another thing to keep in mind is that some accessories may need to locate data or configuration files when they run. Since there is no universal method for accessories to find these types of files, you may have to do a little experimentation to find out where they need to be kept. Try putting them in the root directory of the drive they load from, or in the root of drive C: or A:.

Well behaved accessories display an error message when they fail to locate their data files; however, some less stringently coded DAs may simply crash if they can't find the files they need. (Tsk, tsk.) If you keep any DAs in the root directory of your boot disk (besides MultiDesk) and you don't want them loaded into one of the regular accessory slots, you will need to alter the filename extensions to something other than ".ACC". We recommend you change the extension to ".ACX," since this is used by many bootup selector programs (including Little Green Footballs' Desk Manager) to "turn off" accessories. If you don't use ".ACX," you should at least make sure the first two characters of the extension are "AC," so the files will show up in the File Selector when you select "Load Acc." If you're not sure how to rename a file, please refer to your ST Owner's Manual.

If you try to load a DA but there's no more room in the resident buffer, MultiDesk Deluxe will give you the option of automatically expanding the resident buffer to fit the chosen DA. See Appendix C ("Automatic Buffer Expansion") for more details about this feature.

#### Load MDX

The button labeled "Load MDX" in MultiDesk's main screen lets you load a "one-shot" nonresident DA, without having to relocate the MDX directory. When you click this button, a file selector lets you choose the DA you wish to load. The DA is loaded and opened immediately, and when you close it, it is wiped from memory. This option is perfectly safe to use even while a program is running.

#### • Load Setup

This option is used to load an entire group of accessories into memory at once. Select "Load Setup," then choose the name of a previously saved setup file. (Saving a setup file is described below). All accessories must be in the same drive and folder they were in when the setup file was saved. If an accessory cannot be found or there isn't enough room in the buffer for it, you will see a warning message and it will not be loaded. You can abort the loading of a setup file after it has started by holding down the "Alternate" key.

When you load a setup, any DAs already installed will be cleared from memory. Since clearing resident DAs from memory involves some rather radical programming measures (see the section titled "Clear All"), you will only be allowed to load a setup file *while a program is running* after first confirming your actions. It's usually best to load setups or single accessories from the GEM desktop or from CodeHead's **HotWire**, rather than while you are inside a running program.

#### • Save Setup

Select "Save Setup" to save the current list of installed accessories. When the file selector appears, type in a name to which the setup file will be saved. MultiDesk uses the extension ".MLT" to denote a MultiDesk setup file. You don't need to add the extension when you type the name; if you type only the first eight characters, MultiDesk will automatically tack ".MLT" to the end of it.

A setup file contains the sizes of the resident buffer and the MDX buffer and the "Reserve Size," as well as the current MDX directory specification. The full drive and pathname of each resident DA (for example, C: $\ACCS\CONTROL.ACC$ ) is also saved in the file.

#### • Clear All

Use this option when you want to clear all the resident DAs from MultiDesk. It's usually not a very good idea to "Clear All" while you're running a program; as mentioned above, this could cause serious problems with the running program. A "Clear All" is automatically done before a group of accessories is loaded by a "Load Setup" operation.

Outwardly, a "Clear All" operation seems to take only a split second. Internally, however, MultiDesk is *very* busy. At boot time when MultiDesk starts up, it takes a "snapshot" of all important memory locations and system variables. When a "Clear All" is executed MultiDesk restores these locations to their default values, so that any alterations made by the accessories will be reversed.

Why does MultiDesk do this? Because there is no provision in the ST operating system for notifying accessories to "shut down and get out," so that they can clean up after themselves and restore any changes they've made to interrupt vectors or system variables. Luckily, the vast majority of ST accessories don't tamper with system variables; the ones that do, we've got covered. (Of course, there's no way to know *all* the possible places that a DA can "leave its remains" without wasting huge amounts of memory, but we've taken care of all of the documented locations. Accessories that alter undocumented memory locations may not work properly with MultiDesk.)

#### Clear Some

The "Clear Some" feature lets you select one or more resident accessories to remove from the current setup. When you click on this button an alert box will appear, asking you to select the resident DAs you wish to remove. When you're finished selecting, exit the "Clear Some" mode by clicking the "Clear Some" button again. If you click this button a second time with no accessories selected, no action will be taken.

While you're in "Clear Some" mode, if you click on an accessory's name in the MultiDesk menu it will remain selected (instead of being "opened" by MultiDesk). If you change your mind about removing a particular accessory, click on its name a second time to deselect it. Nonresident DAs can also be selected, but MultiDesk Deluxe ignores them when performing a "Clear Some" operation. Nonresident DAs can be removed from the list by renaming them and clicking the "Reload MDX" button in the Config screen.

When you have selected the names of the accessories you wish to remove, click the "Clear Some" button (which should still be highlighted), and another alert box will appear asking if you're sure you want to delete the accessories. If you choose to go ahead, MultiDesk will free up all the accessories in its buffer, and reload them -- minus the ones you chose to remove.

Remember that since the current setup is cleared from memory and reloaded during a "Clear Some" operation, you must be careful to save any new data you may have entered into any of the accessories in your setup before doing this.

#### • Configure

When you click on the "Configure" button, another dialog box will appear showing all the configuration options. See the section below titled "The Configuration Editor" for more information.

#### • Info

Selecting "Info" will bring up the information dialog box, which shows the number of desk accessories currently displayed in the MultiDesk selection window, as well as the current version number, copyright notice, and our mailing address. Select "OK" to exit the info box.

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Select "Exit" when you wish to return to what you were doing before you opened MultiDesk.

# The Configuration Editor

Clicking on the button labeled "Config" in MultiDesk Deluxe's main dialog box will display the following screen:

Henese     RETURN     Station if EUPPer       Auto-RUN     PERSIST     3     8332     3       QUERY     DOGT     HOT EUPPER       SNAP     TIMERS     GUIDES     0     0       THUNDER     ALESTS     BFIX     0     0200     0       Reload     MDXs     Shrink     0     0100     0       Name:     MultiDesk     Deluxe     Save     0K	Multi	Desk C Free	onfigura 2 RAM: 20	tion 488K	Editor		
QUERY     JORT       SNAP     TIMERS     GUIDES       THUNDER     ALESTS     BFIX       Reload     MDXs     Shrink       Name:     MultiDesk     Deluxe       C:\\*.AC?						FFER O	
THUNDER     ALESTS     BFIX       Reload MDXs     Shrink     3     0100     3       Name:     MultiDesk     Deluxe     Save     OK       C:\*.AC?		TIMERS		Sectors of	DX EUFFE		
Name: MultiDesk Deluxe C:\*.AC?				RE	SERVE SI	ssearce	
C:\*.AC?						01	
		TIVESK	ne i nxeh	50			
C:\*,MLT			Accessory	Path		ی دلدها ه	-
Setup File Path C:\MULTDESK.MDX\*, AC? MDX Path		Se	\*.AC?		ه ها که ده خور هی در برد د اک کر دو چه جو در		i

The MultiDesk Deluxe Configuration Editor

#### • Names

This setting determines whether or not a box will appear showing the names of the resident DAs during the loading of a setup. If the "Names" button is selected (highlighted) the names will be displayed; otherwise the accessories



The MultiDesk Deluxe Name Display Box

will load without being displayed. This setting also affects whether the accessory names will show when MultiDesk loads a default group of accessories at boot time. If you have MultiDesk set to show names, you can turn off the name display while a setup file is loading by holding down the "Control" key. If "Names" is not selected you can turn on the name display by holding "Control."

When the "Names" button is not selected (or when you hold "Control" while loading a setup), groups of accessories will load a bit faster since the screen doesn't need to be redrawn after each accessory loads.

#### Return

When the button labeled "Return" is selected, you will always return to the main MultiDesk dialog box after exiting an accessory. When "Return" is not selected, you return immediately to the desktop when you close an accessory.

You can also hold down the "Alternate" key (or the right Shift key) to reverse the current "Return" setting. In other words, if "Return" is selected and you hold "Alternate" while exiting an accessory, you will return immediately to the desktop instead of to the MultiDesk dialog box. If "Return" is *not* selected and you hold "Alternate" while exiting, you will return to Multi-Desk. If this sounds confusing, just experiment a bit with the "Return" setting; you'll quickly get the hang of it.

If you run MultiDesk as a program and deselect the "Return" button, closing any desk accessory will result in exiting the MultiDesk program as well.

#### • Autorun

This setting determines whether accessories run immediately after loading. When the button labeled "Auto-Run" is selected MultiDesk will immediately "open" each accessory when you use the "Load Acc" function. The "Auto-Run" setting has no effect on the loading of setup files. Also, the "Auto-Run" setting is ignored if you automatically expand MultiDesk's buffer to load an accessory (see "Automatic Buffer Expansion").

#### • Persist

When the button labeled "Persist" is selected, the last accessory used will persist. This means that when you click on "MultiDesk" in the "Desk" drop-down menu, the main Multi-Desk dialog box will not appear; instead, the last accessory that you used will be opened immediately. To return to the MultiDesk dialog box when "Persist" is selected, hold down the Alternate key or the *right* shift key while you click on "MultiDesk." If "Persist" is not selected, you can force the last used accessory to persist anyway by holding down "Alternate" or right Shift while clicking on "MultiDesk."

#### • Query

When the button labeled "Query" is selected, MultiDesk will pause during the loading of a setup file and ask if you want to load each accessory listed in the file. An alert box will appear, showing the name of each accessory and giving you the option to "Load" the accessory, "Skip" it, or "Cancel" the setup load. This lets you load only certain accessories from a setup file, and bypass others.

#### • Sort

When the "Sort" button is selected, the accessory names will be sorted alphabetically to make it easier to find them in the list. When the names are sorted, they will be left-aligned in the menu box. If you turn "Sort" off, the names will appear in the order in which the accessories were loaded and each name will be centered on its line.

#### Snap

When "Snap" is selected, the mouse cursor will instantly snap to the position of the first accessory name when you click on "MultiDesk" in the "Desk" menu. (This feature is included to save you a little bit of mouse motion.)

#### • Timers

If the "Timers" button is selected, desk accessories that need to perform some function on a regular timed basis will be allowed to operate. The most common type of timed accessories are those that perform "alarm clock" tasks; there are several such accessories available, both public domain and commercial. (In the case of multi-function desk accessories, like Timeworks Partner ST or DESKPAC.ACC, their other functions will still work properly whether "Timers" is selected or not.)

A DA that uses GEM timer events should be loaded as a resident DA. Nonresident DAs will not receive timer events.

In the section titled "Troubleshooting" we talk about problems that can occur when desk accessories use GEM's **evnt\_timer** function in versions of TOS earlier than 1.4. We've included the "Timers" button so that you can choose for yourself whether you wish to take the risk of using an accessory that relies on evnt\_timer. See "Troubleshooting" for more details.

#### Guides (to Keyboard Equivalents)

An accessory in MD Deluxe's scrolling window can be selected with the keyboard, by typing the number associated with that DA on the numeric keypad. The button labeled 'Guides' determines whether a column of keyboard guides appears next to the scrolling DA window.

#### • Thunder!

The Thunder! real time spelling checker accessory (originally from Batteries Included, now sold by Electronic Arts) requires special handling by MultiDesk. There is a special button labeled "Thunder" in the Configuration Screen; if you haven't loaded Thunder! into MultiDesk, this button will be disabled (grayed-out). If you do load THUNDER.ACC into MultiDesk, this button will become selectable (and automatically selected) so that MultiDesk can begin its special processing. Since the method that Thunder! uses to detect keypresses results in a very noticeable slowdown in GEM programs, the "Thunder" button can come in very handy, since it lets you essentially turn Thunder! on and off at will, and avoid the slowdown when you don't need its real time spell-checking features active.

NOTE: In order for MultiDesk to recognize the Thunder! desk accessory, it must be named THUNDER.ACC when you load it. Also, Thunder's real time spell-checking functions will not work unless it is loaded as a resident DA.

#### • Alerts

When the button labeled "Alerts" is selected, MultiDesk will warn you before Clearing All accessories, and will give you several prompts when you use the "Clear Some" feature. You can deselect this button to cut the number of warning alerts to a minimum. But be careful; when "Alerts" is off and you click on "Clear All," you will lose all your accessories with no further warning!

#### • BFIX

MultiDesk Deluxe has a special feature that can fix a minor problem associated with the more recent versions of Atari's TOS operating system (versions 1.4 and above). The problem is: if you click on a window's arrows or scroll bars, TOS reads *two* clicks instead of one and you end up with a double scroll. Not all programs exhibit this syndrome, but it can be really annoying.

To fix this "double button event" problem, MultiDesk Deluxe has a button in its Config screen labeled BFIX. If this button is selected, special code is enabled to fix this TOS problem. If you use CodeHead's HotWire, MultiDesk Deluxe will communicate with HotWire (3.0 or later) to enable/disable the 'BFIX' feature for individual programs.

#### • Resident Buffer

This box shows the size of the memory available for loading resident DAs in kilobytes or "K," where one "K" equals 1024 bytes. You can change this amount by clicking the left mouse button on the up or down arrows. To quickly adjust the buffer size to the desired amount, click and hold down the button. To type in a new buffer size directly from the keyboard, click on the number itself. Then you can use standard GEM editing keys to change the number including the digits 0-9, the left and right arrow keys, "Backspace," "Delete," and "Esc" (to clear the entry). When you're finished typing in a number, press "Return" or click on one of the arrows. The resident buffer size will not actually be changed until you exit the Configuration Editor box by clicking on the "OK" button (see below).

#### • MDX Buffer Size

If your MDX buffer is not large enough to load a particular DA, MultiDesk will display an alert box telling you how much memory the DA requires. To increase the size of the MDX buffer, click on MultiDesk's 'Config' button. A new option in the configuration screen (labeled 'MDX Buffer') lets you set this size. The default setting is 48 Kilobytes. You can click on the up or down arrows to change this number, or click the number itself to type in a new value directly. Of course, all settings in the Config screen are saved for your next bootup when you click the 'Save' button.

When you change the size of the MDX Buffer, MultiDesk Deluxe must perform a 'Clear All' operation, which clears any resident DAs from memory. Therefore, you will be given the option of reloading your resident DAs whenever you resize the MDX Buffer. (Remember that this will erase any data you may have entered into a resident DA, so be sure to open those DAs and save any new data before doing this!) Changing the size of the MDX Buffer automatically rereads the MDX names.

#### • Reserve Size

Also in MultiDesk Deluxe's Config screen is an adjustable size box labeled 'Reserve Size'. This setting is there to avoid a potential problem with nonresident DAs that need to allocate memory from the system.

Many desk accessories try to allocate memory when they open. At boot time, there is always plenty of memory available, and the memory request will always succeed. However, if you try to open a nonresident DA from MultiDesk while running a program that has *already* grabbed all available memory for

The Configuration Editor 23

itself, the DA's request for memory will fail. An unfortunately large percentage of DAs we've tested do not even check for this error, and therefore they simply crash when they're unable to get their memory.

Therefore, MultiDesk Deluxe lets you specify a "reserve size" which sets aside enough memory to ensure that nonresident DAs will be able to run even in programs that try to grab all available memory.

Here's how the "reserve size" works. Programs find out the amount of available free memory by calling a certain OS function. MultiDesk intercepts this call and subtracts the reserve size before returning the value. Therefore, programs think there's less memory available, and allocate memory based on the smaller size, leaving the amount you've specified free to be used by nonresident DAs.

When a program runs, it "owns" all available memory. When starting up, one of the first things a program is supposed to do is return all the memory it doesn't need for its code and data to the system, using an operating system call. Then, when that program (or a DA) needs to allocate memory it uses the OS calls to do so. Unfortunately, some programs take a shortcut and don't return their memory to the system when starting up; they simply keep all the available memory for themselves. The MultiDesk 'Reserve Size' will not help with these kinds of ill-behaved programs. Thankfully, they are few.

Most programs try to find out the amount of free RAM at startup time. So if you change the reserve size in MultiDesk's config box, it will not take effect until the next program you run.

#### • Reload MDXs

If you add new DAs to the current MDX directory, or delete DAs from it, you should click the button labeled 'Reload MDXs' (in the Config screen) to make MultiDesk register your changes. When you do this, MultiDesk dumps all the nonresident DA names and rereads them from the current MDX directory.

#### • Shrink

This option allows you to make the most efficient use of your available memory. When you click on "Shrink," MultiDesk "shrinks" the resident buffer down to fit only the resident DAs that are loaded, and releases the rest of the memory used by the buffer so it can be used by other programs. For example, if your resident buffer size is 200K and you load three resident DAs into MultiDesk that together use 40K, after shrinking your new buffersize is 40K. The accessories remain installed after a "shrink" operation; but after you shrink the buffer you will not be able to load any more new accessories until you increase the buffer size enough to fit them. (Unless you use the "Automatic Buffer Expansion" feature.)

If you click on "Shrink" with no desk accessories loaded, MultiDesk automatically shrinks the resident buffer down to 1K (1024 bytes, the smallest possible size), and releases the rest of the memory back to the operating system for use by other programs.

#### • Menu Name

You may enter any name (up to 17 characters long) which will appear in the "Desk" drop-down menu when MultiDesk loads at boot time. You may use the same editing keys described above in "Buffer Size." After changing the name here, MultiDesk's name in the "Desk" menu will change immediately to match. If you wish the new name to become permanent, be sure to use the "Save Config" option; otherwise it will be lost when you reboot or turn off your computer.

#### • Save Config

This option allows you to save the configuration settings directly into MultiDesk so that they will be remembered the next time MultiDesk runs. All settings will be saved including the sizes of the resident and MDX buffers and the "Reserve Size," the states of "Names," "Return," "Auto-Run," "Persist," "Snap," "Timers," "Query," "Sort," "Guides," "BFIX," and "Alerts," the "Menu Name," and the "Desk Accessory," "Setup File," and "MDX Directory" paths. Also saved with the configuration will be the names (and drive/pathnames) of all the resident accessories currently installed. This way you can save a list of your favorite accessories to be loaded automatically every time you boot up. Upon rebooting, MultiDesk will expect the accessories to be in the same drive and folder as they were when you used "Save," otherwise they won't be loaded.

When you select "Save Config," an alert box will ask you if you're sure. If you say yes, MultiDesk will write the configuration into itself (MULTDESK.ACC). If it does not find itself (maybe you changed the name for some reason), you will be asked if you want to locate MultiDesk. If you click on the "Locate" button, a File Selector will appear to let you save the configuration to the name you have chosen for MultiDesk.

#### • OK

Select "OK" to exit the configuration dialog box. Remember that you must "Save Config" if you want your settings to be changed permanently. Otherwise they will be lost when you reboot. If you have changed either the "Resident Buffer" or the "MDX Buffer" before you click on "OK," one of the following will happen.

If you are inside a program, an alert box will warn you that it's probably not a good idea to do this. You may proceed anyway, but at your own risk.

If you are on the desktop, an alert box will ask if you want to set the new buffer size immediately. If you answer "Yes," all of the current accessories loaded into MultiDesk will be cleared from memory and the new buffer size will be allocated.

#### Desk Accessory Path

This line shows the full pathname that was last used to load a resident accessory. It will be saved with the rest of the Configuration data when you use "Save Config." This way you can keep your accessories in a separate folder and the File Selector will look there first, whenever MultiDesk is started up. If you click the mouse anywhere on this line, a File Selector will appear to let you choose a new pathname in which to find the desk accessories.

#### • Setup File Path

This line shows the full pathname that was last used to load or save a setup file. It will be saved with the rest of the Configuration data when you use "Save". Just as with the "Desk Accessory Path" box, you can click anywhere on this line and use a File Selector to choose a new path in which to find setup files.

#### MDX Directory

This line shows the current MDX Directory, the location for all your nonresident DAs. As above, you can click anywhere on this line to bring up the File Selector to choose a new MDX Directory. If you do select a new directory, it is immediately scanned for desk accessories.
# $\sim$ Appendix A

## Linking Titles To Nonresident DAs

Since MultiDesk has no way of knowing a nonresident DA's title (the text that appears in the Desk menu) until it has actually loaded, we provide a way to independently title any DA in your MDX folder. Create a text file called TITLES.MDX and place it in the directory with your MDX accessories. Each line of this text file should contain the filename of a DA, followed by any number of tabs or spaces, followed by the title (up to 17 characters) you wish to assign to it. Here's an example of how a TITLES.MDX file should look:

ARTGALRY.ACC	Art Gallery
XCONTROL.ACC	Control Panel
KALKLOCK . ACC	Clock/Calendar
CODEKEYS.ACC	CodeKeys Editor
<b>REVERSI.ACC</b>	Reversi
SHOWMEM4.ACC	ShowMem!
THES.ACC	Thesaurus
TI59.ACC	TI59 Calculator
PROCALC.ACC	ProCalc
FORTUNE.ACC	Fortune Cookie
FONTED.ACC	Calamus Font Edit
WRDCOUNT.ACC	Word Counter
MELT.ACC	Melt!
STRTCALC.ACC	STart Calculator
PARTNER.ACC	Timeworks Partner

This method of titling your nonresident DAs has a beneficial side effect; you can give a DA any title you like, not just the one the author used.

#### Init DAs When the MDX Directory is Read

If you like, you can have MultiDesk initialize any of the DAs in your MDX directory when it reads the MDX directory. (By "initialize," we mean loading the accessory and actually running it up to the point where it enters its event loop, waiting to be called from the Desk menu.) To do this, put a "-I" following the filename of that DA in your TITLES.MDX file (between the filename and the DA title). Example:

XCONTROL.ACC - I Control Panel

This lets you use the Control Panel (for example) to set your system colors and other parameters at bootup, without actually keeping it in memory or manually opening it.

#### **MDXTITLE.PRG**

To make things a bit easier, we've included a program on your MultiDesk Deluxe master disk called MDXTITLE. This program lets you create and edit TITLES.MDX files quickly and easily. Directions for using it are contained within the program itself; just run it and follow instructions.

# Output Description (Content of the second second

## **Resolution-Dependent Setup Files**

When MultiDesk Deluxe is loaded into memory at bootup time, it searches the directory where it resides for a default setup file called MULTDSK0.MLT. The '0' in this filename will be replaced by the TOS number for the current resolution; the current resolutions supported by TOS are:

0	ST low resolution	320x200, 16 colors
1	ST medium resolution	640x200, 4 colors
2	ST high resolution	640x400, monochrome
3	not used	
4	TT medium resolution	640x480, 16 colors
5	not used	
6	TT high resolution	1280x960, monochrome
7	TT low resolution	320x480, 256 colors

This feature lets you boot up in different resolutions and have MultiDesk load the correct setup of DAs for each resolution. Just save each setup file to the same directory with MultiDesk, and name it as described above.

There is also a special feature for people with "large screen" monitors. When MultiDesk installs, if the screen resolution is larger than 640x480 and the resolution is not 6 (TT high res), MultiDesk searches for a setup file named MULTIBIG.MLT.

MultiDesk Deluxe saves setup files in ASCII format so they can be modified with a text editor if you wish.

# Appendix C

### Automatic Buffer Expansion

If you try to load a resident accessory that won't fit into the current resident buffer (see "Configure"), MultiDesk allows you to automatically expand the buffer to the proper size to accommodate the new accessory.

An alert box will appear, telling you how much memory the accessory needs (in kilobytes), and how big the buffer needs to be in order to load it. At this point, you may choose to automatically expand the MultiDesk buffer to the necessary size, or forget about it and cancel.

If you choose to proceed with the buffer expansion, the following things will take place: the current setup of accessories will be cleared from memory, the buffer will be resized, the current group will be reloaded, and then the new accessory will be loaded. Because automatic expansion requires that MultiDesk first clear all of its accessories from memory, we recommend that you do not use this option while you're inside a running program (see "Clear All" for details).

Since MultiDesk reloads both the resident and nonresident DAs when the automatic expansion feature is invoked, you should make sure that MultiDesk will be able to find them in the same paths from which they were originally loaded. If you're using a floppy-based system, be sure that the disk containing your setup of accessories is in the proper drive. And one more caveat about the automatic expansion feature: because it clears and reloads the accessories, you should make sure that you've saved any new data you may have entered into any accessory before telling MultiDesk to automatically expand its buffer to load a new one.

**Please Note:** When you ask MultiDesk to automatically expand its buffer to load an accessory, that accessory will not be automatically opened regardless of the setting of the AUTORUN button (see the section titled "The Configuration Editor" for more information about the AUTORUN button). Also, keep in mind that the automatic expansion feature is not active during the loading of a setup file.

# Appendix D

### Running MultiDesk As a Program

Another unique ability of MultiDesk is that the same disk file will run perfectly well as either a desk accessory or a program. If you want to use MultiDesk as a program, simply change the name from MULTDESK.ACC to MULTDESK.PRG, and then double-click it from the desktop to run it. We suggest making a permanent copy of MultiDesk called MULTDESK.PRG and keeping it with your other programs, as well as keeping the accessory version active on your boot disk.

When MultiDesk is run as a program, you can load and run standard ST desk accessories as if they were programs too. The advantage of this is that you don't have to set aside any permanent memory for accessories; you just use the accessory features that you need, then "Exit" MultiDesk to use another program! For example, suppose you only need the Atari Control Panel to set your desired screen colors and the system clock. Just run MultiDesk as a program, load the Control Panel (which will set your colors), use it to set the time and date, and "Exit."

Running MultiDesk as a program gives you all the benefits of using desk accessories without taking any memory away from other programs, and without taking up a permanent slot in the "Desk" drop-down menu.

**Please Note:** If you deselect the "Return" button when MultiDesk is run as a program, closing any desk accessory will also exit the MultiDesk program.

#### **Using "Install Application"**

Vou may use the desktop's "Install Application" feature to install MULTDESK.PRG as an application for "ACC" document types. If you do this, you can run a desk accessory the same way you run an ordinary program...simply by doubleclicking on it!

To do this, click once on the filename (or icon for) MULT-DESK.PRG. Then move the mouse cursor to the desktop's "Options" menu, and select the entry titled "Install Application." In the dialog box that appears, type in the letters "ACC," but *do not press Return*. Instead, use the mouse to click on the button labeled "Install." (If you press Return, you will "Cancel" the operation.) Now use the "Options" menu again to "Save Desktop," and the ST will write a file called DESKTOP.INF to your boot disk. Whenever you boot up with this disk, MULTDESK.PRG will automatically be installed for ACC files.

Now, when you double-click on any file with an extension of "ACC," the program version of MultiDesk will run, load the selected accessory, and immediately start it up.

MULTDESK.PRG can also be installed as an application for "MLT" document types (MultiDesk setup files), by following the same procedure outlined above. If you do this, when you double-click an MLT file the program version of MultiDesk will run and immediately load the selected setup file.

# Appendix E

## Using MultiDesk with HotWire

There is a special communication "protocol" between Multi-Desk and CodeHead's HotWire (our alternate desktop system). Version 2.0 of HotWire lets you click on (or type the "hot key" for) any MultiDesk setup file and automatically load it into MultiDesk in one easy step. HotWire also allows you to "chain" from an .MLT file directly into a program; in this way you can load a group of accessories for a specific program, and then run that program...with a single mouse-click or keypress.

See the documentation included with HotWire for more details.

# $\smile$ Appendix F

#### **Memory Considerations**

It's important to realize that when you run a program or accessory that reports the amount of free RAM in your computer, it will report *not* the total amount of free memory, but the size of the *largest* block of free memory. (This is the case with the "Free RAM" display in MultiDesk's Configuration box too.) There may be other blocks of free RAM scattered throughout your computer's memory, but only the largest one will show up.

The reason we're bringing this up is that there may be times when you use MultiDesk that you notice what seems to be a loss of free RAM, particularly if you load certain accessories into MultiDesk while a program is running. Here's a possible scenario:

You run your favorite word processor, which uses quite a bit of memory. (Say, 200K or so.) While using the word processor, you realize that you need a RAMdisk for some temporary file storage -- so you load a RAMdisk accessory into MultiDesk and continue on with your work. When the RAMdisk allocated memory for itself, however, the allocated memory was put ABOVE the 200K used by the word processor, possibly leaving another free block above that. Now when you quit the word processor, its memory is released, but the memory used by the RAMdisk accessory remains allocated.

Essentially, this leaves you with two large free blocks of RAM (the 200K that was used by the running program, and the

RAM that was left above the memory that the accessory allocated), separated by the accessory's allocated block. A "free RAM" program will report only the largest of these two blocks. But if you run a program that needs to allocate some memory, TOS will find both free blocks and allocate memory wherever possible. In other words, the memory is not lost to you...it will be used by a program if necessary. However, if a program needs to allocate a contiguous block of RAM that's larger than either of the blocks in our example, it will not be able to do so.

This condition is called "memory fragmentation." It just means that your available RAM is split up into several blocks of varying sizes; TOS is smart enough to use whatever free blocks it can find, but if memory becomes too fragmented things will start acting strange. Memory fragmentation is the reason why we recommend that you do not resize the accessory buffer (or load a setup file) while you're running a program.

If you're technically inclined, you can use SHOWMEM4.ACC to show the exact state of all free and allocated blocks of memory. SHOWMEM4.ACC is included on the MultiDesk master disk in the folder called "ACCS," along with full documentation in a file called SHOWMEM4.TXT.

# O Appendix G

### Troubleshooting

We've tested MultiDesk with every accessory we could find. (At last count, almost two hundred of them.) And so far, MultiDesk has been compatible with 95-97% of them. However, we can't guarantee that every other accessory that comes along will work with MultiDesk just as we can't guarantee that every accessory will work without MultiDesk.

Potential problems can arise with desk accessories that use the GEM evnt\_timer call. There are documented problems with using this call in a desk accessory; sometimes the system gets lost in the middle of the timer call, and sometimes it will just lock up. At the very least, it will probably cause a noticeable degradation in system speed. The upshot of this is that it's not a good idea to use evnt\_timer in a desk accessory. (Hey, we hate it as much as you do when programmers use the "bugs in GEM" excuse...but this one really *is* a documented bug in GEM.)

(NOTE: This evnt\_timer bug has been fixed in version 1.4 of the TOS operating system.)

Since there are a few desk accessories that use the **evnt\_timer** call anyway (alarm clocks are the most common type) we've decided to allow you to choose for yourself whether you wish to enable an accessory's timer functions, by selecting or deselecting the "Timers" button in the Configuration Editor box. By default, the "Timers" button is turned off; you'll have to turn it on before any timer-related functions will work. Be

aware, however, that when "Timers" is selected you may experience occasional weird symptoms such as those mentioned above (unless you have TOS 1.4 or higher installed in your ST).

If you have a problem with MultiDesk that results in a system crash (bombs on screen, or a sudden reset), the chances are very good that some other AUTO program or desk accessory is interfering with MultiDesk. The course of action in this case should be to remove all AUTO programs and accessories *except* MULTDESK.ACC, and see if MultiDesk will run when it's the only thing installed. If you're using a hard drive, try booting from a copy of the MultiDesk master floppy disk with your hard drive turned off (or bypassed). Always make sure that you have the latest versions of hard disk auto-booting software, or Atari-supplied AUTO programs (like the Diablo Emulator for the SLM804 laser printer).

If you're able to boot MultiDesk when it's the only thing installed, you can then try adding AUTO programs and desk accessories one at a time to try to find the one that causes the problem. (Public domain utility programs are usually good suspects when problems crop up.) This process can be a pain in the nether extremities, especially if you've got a large list of AUTO programs and accessories. But it's the only sure way for you to trouble-shoot, if you should happen to encounter any problems.

#### Accessories That Don't Register

Desk accessories are supposed to follow certain programming rules, one of which is to "register" themselves in the drop-down menu. If a desk accessory breaks this rule, it will not work properly when loaded into MultiDesk. MultiDesk will load it and put its *filename* in the menu, but when you click on it you'll see a dialog box telling you that the accessory is disabled. Please note that any accessory that fails to register itself will still work fine when installed in a regular accessory slot.

#### **Accessories That Talk To Applications**

There are several accessories on the market that are designed to communicate and exchange data with specific applications. Examples are Cyber Smash and Cyber Control (which work with CAD 3D 2.0), Easy Tools (which adds new capabilities to Easy Draw), and the accessories which are supplied with Neodesk 2.0. In most cases, these accessories will work better if they are loaded into MultiDesk *before* running the application.

The reason for this: most applications attempt to detect the presence of their associated desk accessories only when they are first run. If you load the accessory into MultiDesk after the program is already up and running, it's too late...the program has already tried to find the accessory, and failed. If you encounter such a problem, just quit the application to the desktop and run it again.

#### **Accessories That Talk To Other Accessories**

Recently, some software packages have appeared on the market which consist of two (or more) desk accessories that communicate with each other. (One such package is STalker/STeno from Strata Software.) There are a few things to keep in mind when using these types of desk accessories in MultiDesk:

If two desk accessories need to communicate with each other, one of those desk accessories must be *outside* of MultiDesk. If both accessories are loaded into MultiDesk they will probably be unable to communicate, because MultiDesk cannot pass GEM messages between more than one loaded accessory. A limitation in GEM is responsible for this; GEM does not allow more than a certain number of "applications" to be active at the same time (an accessory is treated the same way as an "application" in this case).

If you have one accessory outside MultiDesk and the other loaded into MultiDesk, they will still be unable to communicate if you have some other MultiDesk accessory open, or while the MultiDesk box itself is on the screen. To restore the communication, just close the other accessory or exit the MultiDesk dialog box.

Similarly, if you open one of MultiDesk's accessories, and an outside program tries to communicate with ANOTHER accessory that is loaded into MultiDesk, the outside program will be unable to find the accessory.

As far as GEM knows, when one of MultiDesk's accessories is open that accessory *is* MultiDesk - and GEM never knows about the other accessories loaded into MultiDesk. MultiDesk does not allow you to open more than one of its accessories at a time, again because of the GEM application limit mentioned above.

# Appendix H

## **Keyboard Equivalents**

When the main MultiDesk Deluxe dialog box is open, many of the objects on screen can be selected with the keyboard as well as with the mouse. Here's a list of all the keyboard equivalents:

A	Load Acc	
<b>M</b>	Load MDX	
L	Load Setup	
<b>S</b>	Save Setup	
Clr Home	Clear All	
Delete	Clear Some	
C	Configure	
I	Info	
Return	Exit	
Numeric KeypadOpen Desk Accessories		
	(See "Guides")	
Up/Down Arrows	Scroll one line up/down	
Shift Up/Down	Page up/down	

## Notes

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#### MultiDesk Deluxe – the Accessory Manager!



MultiDesk Deluxe can load up to 96 desk accessories at once. DAs can be "resident" in memory, or you can load them as needed and clear them from memory when finished! MultiDesk communicates with CodeHead's HotWire to let you load specific DAs for individual programs. You can even run desk accessories as if they programs! Lots of flexible were configuration options let you customize MultiDesk for your needs. And best of all, MultiDesk Deluxe is compatible with almost all Atari desk accessories.

MultiDesk Deluxe runs on all models of Atari ST, STe, and TT030 computers.

Desk accessories are wonderful tools. However, the ST's operating system only allows six DAs to be loaded at once, and to install new ones you have to go through a complicated process of renaming and rebooting. These limits make DAs much less powerful than they could (or should) be. Enter MultiDesk Deluxe!

MultiDesk Deluxe is a true breakthrough in DA management. With this innovative utility, you can load and unload ordinary ST/TT DAs at any time, even while a program is running. And the new "nonresident" DA feature now lets you do this without using up precious memory!



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