



MultiTOS™

Quickstart

User's Guide

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MultiTOS Quickstart Guide

Applicability

The MultiTOS™ operating environment is applicable only to the following Atari computers:

- Atari ST Series with 2 MB of RAM or greater (such as Mega ST2 or Mega ST4)
- Atari STe Series with 2 MB of RAM or greater (such as Mega STe2 or Mega STe4)
- Atari TT Series
- Atari Stacy Computers
- Atari Falcon Series

About This Guide

This guide is an introduction to installing and using Atari's latest system software, MultiTOS. It is not a replacement for your owner's manual, and assumes you are familiar with TOS menus, windows, and buttons, and with operations like copying files and running programs.

Introduction to MultiTOS

MultiTOS provides your Atari computer with *multitasking*, the ability to run more than one application at a time. Since your computer spends much of its time waiting for user input, multitasking makes more efficient use of processing

power. When one application, say, your word processor, is waiting for input, the rest of your computer's attention can be turned to other tasks.

MultiTOS includes several important features that make multitasking reliable and efficient. *Adaptive prioritization* gives the most processing power to the most important program running--the word processor you're typing into receives higher priority than the processor-hungry compression program running simultaneously in the background. *Memory protection* prevents one program from interfering with another active program's data in memory. And if one program quits unexpectedly or crashes, MultiTOS protects other applications, which continue to run; only in the most extreme circumstances will you need to restart your computer.

MultiTOS runs existing, correctly-written TOS programs--as many as your computer's memory allows. Some programs are already being upgraded to take advantage of MultiTOS features, and more programs written especially for MultiTOS are on their way, both from Atari and third-party companies.

Installing MultiTOS

If MultiTOS is already installed on your computer, skip this section and continue reading from **MultiTOS Configuration**. An Atari Fuji character and the word DESKTOP in the the Desk menu (at the upper left-hand corner of your screen) means you're already running MultiTOS.

If MultiTOS isn't already on your system, you'll need to install it. Before going any further, copy your MultiTOS Distribution Disk (or Disks), and use only the copy. Store the original(s) in a safe place, away from moisture, dust, and magnetic fields. Now you're ready to proceed.

Double-click on INSTALL.PRG, the MultiTOS installation program, and follow its prompts. You need to have enough disk space for MultiTOS and related files (1.5 megabytes is plenty), and you must choose a directory in which to place them. By default, MultiTOS is installed in C:\MULTITOS; unless you have a good reason to change this, just click OK. The program automatically copies the correct files to the correct places on your hard disk, and configures MultiTOS to run on your system.

MultiTOS Configuration

MultiTOS relies on several important files for features and configuration information. Be careful not to delete or change these files, or MultiTOS may not work correctly. Also, make sure MINT.PRG, the part of MultiTOS that actually controls multitasking, is the last item saved in your AUTO folder. Note that even if MINT.PRG appears to be the last item in your AUTO folder from the Desktop, it may not be; the Desktop sorts the items in a window unless you tell it otherwise, and MINT.PRG may just appear last. INSTALL makes sure MINT is last, but if you subsequently need to add another program to your AUTO folder, move MINT.PRG out, copy in the new program, and move MINT.PRG back.

The Different Types of Programs

MultiTOS runs the three major types of programs: GEM programs, which use graphical windows, menus, and buttons; Desk Accessories, special GEM programs available from within other GEM programs via the Desk menu; and TOS programs, which use only plain text. Most of your programs are probably GEM programs; TOS programs are usually programmer's tools or minor utilities.

The three-letter extender in a program's name indicates what kind of program it is; in the name PROGRAM.APP, .APP is the extender. .APP, .GTP, and, often, .PRG extenders indicate GEM programs, and .TOS, .TTP, and sometimes .PRG extenders indicate TOS programs. Although .PRG usually indicates a GEM program, it is sometimes used by text-only TOS programs; check the program's documentation to be sure.

Before MultiTOS, you could run one application at a time by double-clicking on its icon. Within a GEM application, you could access a Desk Accessory, like the Control Panel, from the Desk menu. To run a second GEM or TOS program, you had to exit the first.

Running Programs with MultiTOS

MultiTOS can run as many programs simultaneously as will fit in memory; GEM programs, Desk Accessories, and TOS programs can all peacefully coexist under MultiTOS. You can move from one to the other, using whichever

you need. When one program is busy, you can set it aside and work on something else until it's done. When you finish with a program and exit it, the memory it occupied is freed for other tasks.

All running programs share the screen, each putting up its own windows; with several programs running, windows may overlap or be hidden altogether by one another. The application that receives input, like keystrokes, from you is called the foreground or topped application, and other programs running simultaneously are background, or untopped applications.

Unlike TOS, MultiTOS allows you to operate any window's gadgets to move, resize, or scroll the window, even if the window is not topped. When you click within a window (but not on its gadgets), that window is topped, and so is the application that owns it. The topped application's menu bar is displayed, unless it doesn't have a menu bar--in that case, the menu bar is unchanged.

GEM Programs and MultiTOS

Running GEM programs under MultiTOS is straightforward: simply double-click the program's icon. The MultiTOS Distribution Kit includes two simple GEM programs, Clock and Lines. Double-click on CLOCK.APP, and an analog clock appears in a window, but the Desktop's icons and menu bar are still visible. Double-click on LINES.APP, and a graphics demonstration appears in a window. Resize the Lines window so that you can see the clock and some of the Desktop. Both programs and the Desktop are running simultaneously! From here, you can run still other programs, or perform Desktop operations like file copies.

Desk Accessories and MultiTOS

As with TOS, you can access your Desk Accessories from the Desk menu. Unlike TOS, MultiTOS can load Desk Accessories as you need them. Double-click on a .ACC file to run it, just as you would another GEM application. You may want to keep only the essential Accessories loaded at all times, and load others when needed. You can do this by putting your .ACC files in a directory other than the root of drive C:\.

TOS Programs and MultiTOS

TOS programs present a special problem for multitasking, because they usually assume they are the only programs running, and that they have the whole screen to themselves. Since TOS programs don't know how to share the screen, MultiTOS does it for them, by giving them their own screen, within a window. When you double-click a .TOS or .TTP program, MultiTOS runs another program, MINIWIN, which sets up a window in which the TOS program runs. MINIWIN lets you select the size of the window TOS programs are given, and the font they use. You can change this information by choosing Configure... in the leftmost menu when running a TOS program. **Note:** TOS programs assume they're using a monospaced font, where all characters are the same width. MINIWIN allows you to choose proportionally spaced fonts, where a *w* is wider than an *i*, for example. If you choose a proportionally spaced font, the program may look strange, but is otherwise fine.

Managing Multiple Applications

When several applications are running, the topped application presents its menu bar and receives your keystrokes. The others are in the background, where you can still move and resize their windows, but you can't click on their menus or give them keyboard commands. MultiTOS provides several ways to manage all the applications you may have running, and to choose which of them is topped.

The leftmost menu in the menu bar is called the Desk menu, because that's what it's called when the Desktop is topped. When another MultiTOS-friendly application is run, and the application has its own menu bar, the application's name replaces Desk in the menu bar--this is one way to tell which program is topped. Some older applications will not do this, but will otherwise work fine.

The Desk menu contains the names of all installed Desk Accessories and, below, the names of all applications currently running, with the topped application indicated by a checkmark. You can top another program by clicking on its name in this menu; its windows (if it has any) spring to the front, and its menu bar (if it has one) appears.

How Many Programs Can I Run?

You can run as many programs as your available memory allows, but there are reasons why you may not want to. Often, there is very little difference in system performance with several programs running, since many of these programs are just waiting for input. When programs are actively processing, or reading and writing data on a disk, they consume more of your computer's processing power. You may be tempted to leave things running in the background because it's so easy, but if they make too many demands on the system, performance will suffer. It's best to shut down any programs you're not planning to use, just as you would exit them in TOS. This makes the most memory and computing horsepower available for the programs you really need. Experiment, and see what combinations of programs work well together.

Exiting Programs

Shut programs down with MultiTOS the same way you would with TOS: save whatever you're working on, then select Quit, click the close gadget on a window, type exit, or whatever. This gives the program a chance to save and close any files it has open and exit cleanly, returning your computer to its normal state. As always, it's best to save your work and exit from all running applications before restarting or turning your computer off.

Occasionally, a program may hang in a state where it is no longer running correctly, but does not exit. When this happens, you can shut the program down from the Desktop. Select Install Devices under the Options menu, then open drive U:\, and then the PROC folder. This folder contains files that represent all the programs currently running under MultiTOS, along with parts of MultiTOS itself. To stop or kill a program, simply drag it to the trash. Be very careful with this technique. Kill only programs which have not responded otherwise, or are otherwise behaving incorrectly. Be careful what you throw away, because it is possible to shut down a part of MultiTOS itself, after which it can be difficult to recover without restarting. *If you aren't sure what something is, don't kill it.*

Poorly-Behaved Programs and MultiTOS

Although Atari has made every effort to accommodate even ill-behaved TOS programs, you may occasionally encounter programs that are not compatible

with MultiTOS. These programs may crash, (exit unexpectedly) or hang, (keep running without accepting input, refusing to exit). Usually when this happens, MultiTOS continues unharmed, along with any other programs running at the time of the crash. Sometimes, if a program crashes in an especially spectacular way, it can interfere with other parts of MultiTOS operation, or other programs. If you see error messages on your screen, or if you notice peculiar behavior from other programs, save your work and reboot your computer. Try to isolate the problem to the particular program and action that caused the crash, and report the problem to the program's authors or publisher.

Disabling MultiTOS

When you encounter a program which doesn't run under MultiTOS under any circumstances but you need to run nevertheless, you can temporarily disable MultiTOS, and restart your computer with TOS. To do this, save any work in progress, shut down any running applications, and restart your computer. You can use the Reset button, or hold down <Control> and <Alternate> and press <Delete>. Immediately after restarting, hold down the left <Shift> key. You will be asked, Load MultiTOS? (y)es (n)o. Press the <n> key, and your computer will start up without MultiTOS.

Subtle Caveats

With the power of MultiTOS comes responsibility. Since some older programs expect to be the only thing running, they may not guard against some things which can happen when their backs are turned. You can avoid these problems by not using one program or the Desktop to interfere with another active program. For example, don't move configuration or open document files for your word processor while it's running; the program may assume the files are in their original place, and behave unpredictably. Similarly, be careful with programs that manipulate disk data directly; don't run a hard disk defragmentation program in the background and save a file to the same disk, or the results could be unpleasant. As more MultiTOS-aware programs become available, these problems will be minimized.

MultiTOS Updates

Future, improved MultiTOS versions will be available as upgrades. Since most of MultiTOS is loaded from disk, you will be able to upgrade these parts just as you installed the originals, without opening your computer.



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