

A D O S - 3

For the Tandy Color Computer 3
Copyright (c) 1987 by Arthur J. Flexser
Distributed by SpectroSystems
11111 N. Kendall Drive, Suite A108
Miami, FL 33176 (305) 274-3899

Since many, if not most, of the purchasers of ADOS-3 will be previous users of the original ADOS for the CoCo 1 and 2, the ADOS-3 documentation has been written in the form of a supplement to the documentation for the original ADOS. A copy of that documentation is included for your reference; it is suggested that you familiarize yourself with that before reading the ADOS-3 supplement, if you are not already familiar with the original ADOS. The rest of the ADOS-3 documentation discusses the ways in which ADOS-3 and the original ADOS differ.

Changes in the Command Set

Two new commands, FAST and SLOW, have been added. FAST sets the processor to the double-speed, 1.8 MHz mode. SLOW sets the single-speed, .9 MHz mode. Both of these commands automatically adjust the printer baud rate constant to take into account processor speed. The selected speed mode is maintained after a warm reset. Note that if you run a Basic program that contains pokes that change the processor speed, your baud rate constant on exiting such a program may no longer be the appropriate one. Giving either a FAST or a SLOW command, or pressing reset, will ensure a match between the processor speed and the baud rate constant. Cassette input/output is not supported in FAST mode.

Three commands in the original ADOS have been eliminated in ADOS-3. The ERROR command was deleted since it duplicates the CoCo-3 UNERR GOTO command. RAM and ROM were eliminated since they are unnecessary on the CoCo-3 because Basic runs out of RAM rather than ROM. The PEEP command, available in the original ADOS as a customizable alternative to ERROR, is also unavailable in ADOS-3, due to limitations on the number of features that could be fit into an BK EPROM. We have, however, included PEEP as a separate, executable, relocatable machine-language routine on your ADOS-3 disk.

ADOS-3 commands are tokenized in a different fashion than the corresponding commands in the original ADOS. This was unavoidable, since the tokens used by the original ADOS commands duplicate those used in the CoCo-3 enhanced command set. Probably, most ADOS users will have few if any Basic programs containing ADOS commands, since most ADOS commands were designed to be used from direct mode rather than from within a program. However, such commands within a program saved under the original ADOS will not list or operate correctly under ADOS-3 unless the program has been saved in ASCII format. (An exception is RUNM, which is based on RUN rather than having its own token, and so causes no difficulties.)

Reliable Disk I/O in the High-Speed Mode

Basic's disk I/O routines have been modified in ADOS-3 to allow reliable operation in the FAST processor speed mode.

Enhanced editing features

Some very powerful editing enhancements are built into ADOS-3. When a Basic program is in memory, you can list it forwards or backwards, a line at a time, by pressing the down- or up-arrow keys, respectively. These keys repeat if held down.

Even more conveniently, you can edit the last line listed simply by pressing the right-arrow key. (Note that the arrow keys work in this fashion only when the cursor is at the beginning of a line.) The right arrow key will put you in edit mode for the last line that has been either listed (either by the LIST command or by using the arrow keys), edited, or inserted. If you should get dumped out of a Basic program by an error, the right-arrow key will put you in edit mode for the line where the error occurred.

The "slash" command (typing a slash on a line by itself to allow you to edit or repeat the previous direct mode) has also been modified in ADOS-3 to enhance its usefulness as an editing tool. If the last direct-mode operation caused a line to be listed (either by a LIST command or by the arrow keys), typing slash <enter> will bring back the last listed line, rather than bringing back the LIST command as in the original ADOS. The advantage of this change is this: it allows editing of line numbers as well as the line text. Thus, you can change a line number just by causing the line to be listed and then typing slash <enter>. Note that changing the line number does not delete the line from its original position; if you wish to move rather than duplicate the line, you will need to delete the original in a separate operation.

Colorburst Control

The typing of CTRL-F2 while in direct mode will cause the colorburst signal to be eliminated, resulting in a monochrome display if you are using composite or TV output. This feature is primarily useful when the CoCo-3 is used with a monochrome composite monitor, as killing the colorburst signal can result in significantly enhanced display quality on such a monitor. Typing CTRL-F2 again will restore the color signal. On an RGB monitor, CTRL-F2 has no effect.

Customizing Options

ADOS-3 offers a number of new customizing options, as described below. Directions for using these options are included in the customizing utility CUST3/BAS, which is used in the same fashion as CUST/BAS in the original ADOS.

1. Default screen display mode. ADOS-3 allows the equivalent of a WIDTH command, a PALETTE RGB command, four PALETTE color-assignment commands, and an ATTR command to be selected for automatic execution on a cold start. The default border colors in 40/80-column mode and in 32-column mode are also configurable. (In 32-column mode, only green and black are possible border colors.) The 32-column screen will display true lowercase, rather than inverse characters. These screen setup characteristics, with the exception of WIDTH, will be re-established on a warm reset.

Here are some tips for setting the text-display colors. There are two different ways to select the foreground and background colors in the 40/80 text mode: by changing the contents of various palette slots, or by using the equivalent of the ATTR command to change which palette slots control foreground and background colors. A general recommendation is that if the color value you want is already present in one of the available palette slots (slots 0-7 for the background color, or slots 8-15 for the foreground color), it is probably preferable to set the foreground and background colors using the equivalent of the ATTR command, to avoid unnecessary duplication of colors in the palette set. (You can tell what colors are in the current palette set by inspecting the contents of the 16 palette locations starting at &HFFB0.) If you do not use ATTR, the 40/80-column foreground color is stored in palette slot 8, and the background color in slot zero. Regardless of the status of ATTR, the 32-column foreground color is controlled by palette slot 12, and the

background by slot 13. Note that the equivalent of a "CLS n" command in 40/80-column mode can be accomplished by the use of "ATTR 0, n-1", coupled with setting the border color to match the background color. For example, the equivalent of CLS 5 is ATTR 0,4 accompanied by setting the 40/80-column border color to a value of 63 (buff), the value contained in palette slot 4 that controls the background color.

Included on the ADOS-3 disk is a utility called COLORADJ/BAS that will enable you to experiment with various combinations of foreground, background, and border colors.

2. Default processor speed. ADOS-3 can be configured to have the equivalent of a FAST command be executed on a cold start, if desired.

3. Repeat rate for the up- and down-arrow keys. Recall that these keys can be used to list a Basic program forwards or backwards. They are also used, with key repeat, in the display generated by the MON command. (A difference between the MON command in ADOS-3 and in the original ADOS is that it is unnecessary to hold down the shift key in order for the arrow keys to repeat.) The key-repeat rate also controls how fast a program is listed by the LIST command.

4. Key redefinitions. The CTRL key, rather than the down arrow, now functions as the ADOS control key. Down arrow will also be recognized as the control key, but is not recommended for this purpose, since the down arrow key in ADOS-3 has the conflicting purpose of scrolling through Basic programs. ADOS-3 uses the F2 key rather than the CLEAR key to clear the screen, since many users accustomed to the CoCo 1 or 2 keyboard find themselves inadvertently clearing the screen when they intended to backspace. F2 is also used instead of the more awkward shift-up arrow for exiting the insert mode when editing a line. Both of these latter key redefinitions are optional and can be configured back to the original if desired.

5. 80-track drives. ADOS-3 allows the number of tracks per drive to be 80 as well as 35 or 40. All 158 grams of an 80-track disk are usable under the 80-track option. The same cautions mentioned in the original ADOS documentation in connection with 40 tracks also apply to 80 tracks. Unlike 40 tracks, the use of 80 tracks requires disk drives especially equipped with this capability. ADOS-3, like the original ADOS, demands that all drives be configured to have the same number of tracks. Owners of 80-track drives may wish to connect a 40-track drive permanently or occasionally to their system to be used primarily for read-only purposes (since software is sold on 40-track disks). ADOS-3, configured for 80 tracks, is suitable for reading from 40-track drives; however, saving to a 40-track drive with ADOS-3 configured for 80-tracks may result in an I/O error if an attempt is made to save a program to a nonexistent track. This should happen only when the 40-track disk is more than about half full, so saving of a moderate amount of data to the 40-track drive is feasible without changing the configuration of ADOS-3.

6. Changes in the default control-key abbreviation set. The following changes were made to the set of control-key abbreviations listed in the original ADOS documentation: 1 = fast<enter>; 2 = slow<enter>; 7 = ?#-2,; B = chr\$(; CLEAR = "to1. (The latter is useful following the filename in typing a command like COPY"XYZ" TO 1.) Q = run"x was eliminated.

A Note about the DISABLE command

The ADOS-3 DISABLE command functions similarly to the corresponding command in the original ADOS. However, in ADOS-3, pressing the reset button after issuing a DISABLE command will restore the computer to a mode that is

even closer to Radio Shack Disk Basic than the normal DISABLE mode.

Using ADOS-3 on a CoCo-1 or CoCo-2

Since some users may wish to use the disk controller containing an ADOS-3 EPROM occasionally in an earlier model CoCo, ADOS-3 has been designed to perform like a modestly-enhanced version of standard Radio Shack Disk Basic when used in EPROM with the earlier machines. The ADOS-3 command set will be unavailable (with the exception of DOS, RUNM, and DIRP). Control-key abbreviated input will function, lowercase commands will be understood, and disk drive and printer configurations will be recognized.

Programs requiring a DISABLE command present a problem when ADOS-3 is used on a CoCo-1 or -2, since the DISABLE command, like other ADOS-3 commands, will not be recognized under these conditions. However, a DISABLE can be accomplished by an EXEC to the address of the DISABLE command. This address is specified in a comment in the last line of CUST3/BAS. You might wish to insert this EXEC into a Basic program instead of inserting a DISABLE, if you wish the program to be usable both on a CoCo-3 and a CoCo-1 or -2 under ADOS-3.

A superior option for those wishing to use the same controller with both a CoCo-3 and an earlier model CoCo is to have both the original ADOS and ADOS-3 burned into the two banks of a 16K EPROM, with a switch installed so that either bank can be selected. SpectroSystems expects to make such a switcher available; see the sheet that lists sources for having ADOS-3 burned into EPROM for pertinent information concerning availability of switchers.

Changes in Contents of the ADOS-3 Disk

The RSV high-resolution text screen driver described in the original ADOS documentation is not included with ADOS-3, since its display capabilities are inferior to those built into the CoCo-3. Nor are the drivers for the FBJ Wordpak necessary for the CoCo-3, which has its own 80-column display. We have included BOOT/BAS, as described in the ADOS documentation; however, this program functions only in the 32-column screen mode. Another program, BOOT3/BAS, contributed by Mike Tolbert, is included for use in the 40- or 80-column mode. By editing the first line of BUOT3/BAS, you can select whether you wish the program to display 40 or 80 columns, and what foreground and background colors to display. As some programs will only work properly if run in the 32-column mode, BUOT3/BAS has the feature that if you press SHIFT-ENTER instead of simply ENTER when selecting a program to run, the program will run in 32-column mode.