```
===================================
Davex v1.23      ProDOS command shell

12-Apr-88          David A. Lyons
===================================
```

[See the last page of this document for trademarks and other
notices.]

Davex is ShareWare. It is NOT in the public domain.
Please copy Davex and give copies to everyone you know. If
you decide to use Davex after a ten-day evaluation period,
you must send $25 to DAL Systems at the address below [IA
residents add 4% sales tax]. In exchange, you will receive
the latest version of Davex and a registration number. This
number will entitle you to technical support (on CompuServe,
GEnie, or by mail), and you will be notified when updates
are available.

It will be helpful if you include a brief description of
your hardware when you send in your registration fee. Also,
specify whether you need a 3.5" disk or 5.25" disks, and
REPORT THE SERIAL NUMBER ON YOUR COPY WHEN YOU REGISTER.

                DAL Systems
                P.O. Box 287
                North Liberty, IA 52317

                [CompuServe 72177,3233]
                [GEnie: D.LYONS2]

REDISTRIBUTION PERMITTED

Please distribute Davex widely! Permission is hereby
granted for Davex to be uploaded to electronic bulletin
board systems. It may also included in user group libraries
and other collections of Shareware, PROVIDED THAT NO MORE
THAN $5.OO IS CHARGED FOR ANY DISK CONTAINING DAVEX, unless
special arrangements are made with DAL Systems in advance.
MODIFIED COPIES OF DAVEX SHALL NOT BE REDISTRIBUTED, and
THIS DOCUMENT AND THE ONLINE HELP SHALL BE INCLUDED WHENEVER
DAVEX IS REDISTRIBUTED.

Davex can be licensed for inclusion with your own programs;
contact DAL Systems for details.

DAVEX ON MULTIPLE COMPUTERS: You should pay $25 for every
copy of Davex that could be in use at the same time, up to a
maximum of $200 for all computers owned by one company (or
school district). For example, several people using Davex
on one machine (or one person using Davex on several
machines in different places) should pay only $25; but two
people on two machines should pay $50.

COMMENTS AND SUGGESTIONS ARE WELCOME

DAL Systems will do its best to correct bugs and make

updates available. Davex is a continually evolving package,
and you can help shape its future. (Once you send in $25,
you are entitled to use later versions without sending in
more money. However, updates ordered directly from DAL
Systems will cost $3.)

KICKBACKS TO ENCOURAGE WIDER DISTRIBUTION
Starting with Davex v1.2

As a registered Davex user, you will receive a $5.OO
"kickback" for every new user who registers a copy Davex
containing your serial number.

Your serial number is the same as your registration number.
To put your serial number on your copy of Davex (if it isn't
already there, or if you get an update from a bulletin
board), use the "filetype" command to change the auxiliary
type of Davex:

        filetype %davex sys -x99   [use your serial #, not 99]

Then type "$" to make sure it worked.

INTRODUCTION

Davex is a command shell for ProDOS. ProDOS has no way to accept
commands from you directly, so some sort of command interpreter
is required. Davex includes a large number of "housekeeping"
commands for managing your disks, directories, and files.

Davex is also a starting place for using other ProDOS programs.
When you run another program from Davex (just by typing its
name), you will normally be returned automatically to Davex when
you Quit the other program.

Note: This document is not a ProDOS tutorial. Please refer to
        reference manuals or other introductory ProDOS texts for
        explanations of ProDOS basics like volume, file, pathname,
        directory, prefix, and filetype.

HARDWARE REQUIREMENTS

Any Apple II system that can run ProDOS and display lower case
can run Davex. Davex will be much more convenient for you if you
have at least one of the following: a hard drive, a large RAM
drive, two 5.25 inch drives, or at least one 3.5 inch drive.

Davex has been tested extensively on a variety of hardware. If
you find that your hardware is not supported, contact me to see
what can be done, or whether an updated version is already
available to support your hardware.

OPTIONAL HARDWARE

Davex supports the Echo II and SlotBuster II speech synthesizers, using the TEXTALKER or SCAT software that you should already have if you own one of these boards. To use TEXTALKER, just put a copy of PT.OBJ in the same directory as Davex. PT.OBJ is part of the Textalker software which has been licensed from Street Electronics Corporation, the designers of the Echo, for distribution with Davex.

For the SlotBuster, ProSCAT must already be installed; Davex will recognize it but will not install it.

(Note to SlotBuster users: SCAT support is currently flawed. Use "config -4y" to force a 40-column display, or "review" will be garbled.)

FILES NEEDED FOR DAVEX

When you install Davex on a hard disk or RAM disk, you should create a subdirectory for Davex. The name of the subdirectory doesn't matter, but "DAVEX" is the obvious choice. From within Davex, this directory's name can always be abbreviated as "%". Davex itself is a SYS file in the % directory and is usually called DAVEX, although the name does not matter to Davex. %CONFIG is a BIN file; it stores configuration options like printer slot, your scan list, and a file type table. %HELP is a directory containing help files for individual commands. If you are short on disk space, you may want to leave %HELP off of your work disk. If you do, the "help" command will report "directory not found" when you ask for help on a specific command. (You can also put the help directory on another disk; use the 'config' command to tell Davex the pathname of your help directory.)

No other files are required in the % directory. Typically there will be external commands (BIN files) and SYS files there. If you are using any aliases, there will be a TXT file called "aliases" in your % directory (see "help alias"). If you are using the Echo speech synthesizer, there should also be a copy of PT.OBJ in the % directory.

RECOMMENDED HARD DRIVE SETUP

Copy the entire "%" directory onto your hard drive. Then, if you want your system to to boot up directly into Davex, use the "sysalias" command (try "help sysalias") to create a one-block SYS program, with a name ending in ".SYSTEM", in your top-level directory.

For example:

    copy % /hard1/davex
    sysalias /hard1/davex/davex /hard1/davex.system

(If there are other ".SYSTEM" files earlier in the directory than davex.system, copy the first one to another disk, delete it,

create davex.system using the 'sysalias' command, and finally
copy the ".SYSTEM" file back onto the disk. This way,
davex.system will be the first program ProDOS sees when it looks
for a program to run.)

RAM DISKS

If your RAM disk is backed up by a battery, the instructions for
hard disks apply to you. Just install it once, and you're all
set.

To set up a disk that will copy Davex to the RAM disk and execute
it there, first you need to understand the "copy" and "exec"
commands. If there is a %autoexec file, it will be executed
automatically when you boot Davex. A typical %autoexec file
contains something like this:

        copy %=:sys /ram/davex
        copy %=:bin /ram/davex
        copy %aliases /ram/davex
        copy %help /ram/davex/help
        /ram/davex/davex

The first line copies all SYS files from the % directory to the
RAM disk, and the second line copies BIN files. The third line
copies the help directory (if you have a small RAM disk, you may
not want to copy the help). The last line simply runs the copy
of Davex from the RAM disk.

(Note that it would be simpler to just "copy % /ram/davex". But
this is a problem because the %autoexec file will be in use,
causing the copy to fail.)

Once you are running the copy of Davex from the RAM disk, your
"%" directory is "/ram/davex".

APPLE IIGS USERS

See your dealer for the most recent version of the System Disk.
The most recent version (as of February, 1988) is 3.1. Davex
will work with older versions, but keeping up to date is always a
good idea for maximum compatibility with new software.

If you have an Apple IIgs and wish to have your system boot into
Davex through ProDOS 16 (so you can run S16 and EXE programs
without rebooting), the above instructions still apply to you.

You will also need to delete or rename the START file in your
SYSTEM directory. This will force the ProDOS loader to scan your
root directory for a startup application instead of running START
(which just runs Finder or Launcher). You may want to type

        scan -a /your.boot.disk/system

so that you can run FINDER and LAUNCHER (in the SYSTEM directory)
just by typing their names.

USING DAVEX

When you enter Davex, you see (in 80 columns if your system supports it):

        Davex vX.XX (Serial #xxx)
        Type ? for help, $ for ShareWare notice.
        current_date_and_time

        prefix:

Your current ProDOS prefix (the directory you're "in"), followed by a colon (:), is your prompt. Davex expects you to type a command and press RETURN. (If you press RETURN without typing anything, you just get the current date and time and another prompt.) [You can use the 'setdate' command to set the date and time if your machine doesn't have a clock.]

Some commands can be executed just by typing their names. For example:

        help
        online
        quit

Other commands require additional information (called "parameters") after the command name. You must type at least one blank space between a command name and the parameters that follow it. Examples:

        delete that.file
        lock /disk3/standard.ltr

For some commands, parameters are optional.

        help
        help copy
        info
        info /my.disk/my.file

You may put more than one command on a line if you separate the commands with semicolons (;). If an error occurs during one command, the remaining commands will not be executed.

WHAT IS A COMMAND?

There are three kinds of commands:

1. built-in commands

        Built-in commands are part of Davex and are always
        available. When you type a command, Davex always checks
        first to see if it's an internal command. (The '?' or

'help' command displays a list of all internal commands.)

If the command you typed is not internal, it looks on your disks, trying to find a file with the same name. You can tell Davex what directories to look in by using the 'scan' command. (See "help scan".)

2. external commands

If the non-internal command is found to be a BIN file, Davex attempts to execute the file's contents as an external command. These files are usually found in the same directory as Davex, although they can be in any directory on your scan list.

Davex features such as wildcards and shorthand pathnames are available with external commands.

A few external commands are supplied with Davex; an appendix describes how assembly language programmers can write more external commands.

3. SYS, S16, and EXE programs

If a non-internal command is found to be a SYS or S16 program, Davex runs the program. When you quit the other program, you will be automatically returned to Davex.

[You need the file BRIDGE.S16 in the same directory as Davex to run S16 and EXE programs directly from Davex. These work only on the Apple IIgs, and you need to boot through ProDOS#16 to run them.]

SHORTHAND FOR PATHNAMES

'%' is shorthand for the name of the directory Davex is in. A '/' after the '%' is optional. Examples:

    cat %
    cat %help
    cat %/help
    info %davex

You can specify a volume by slot and drive number like this:

    info .61/prodos   <==> info /xxx/prodos, where /xxx is the
                            name of the ProDOS volume in slot 6,
                            drive 1

    prefix .32   <==> prefix /xxx, where /xxx is the name of
                            the ProDOS volume in slot 3, drive 2
                            (usually /RAM)

WILDCARDS

It is often convenient to execute one command (for example,
delete, lock, or copy) on a group of files all at once, rather
than on one file at a time. Davex provides wildcards as a
convenient way to work with groups of files.

'=' and '?' are wildcard characters; they "match" any number of
characters in a file's name. You can use wildcards in the last
segment of pathnames for many commands. Only one wildcard per
pathname is permitted.

Examples:

    lock =   Locks all files in the current directory

    delete =.old Deletes all files ending in ".old" from the
                  current directory

'?' is like '=', but Davex asks you whether or not to operate on
each matching file. Examples:

    lock ?   For each file in the current directory, asks you
                  "lock xxxxx? (Y/N)". Type Y to lock the file,
                  or N to skip to the next one.

    delete ?.old For each file in the current directory whose
                  name ends in ".old", asks whether or not to
                  delete it.

You can restrict a wildcard to match files only if they are of a
particular type. Examples:

    pg part?:txt   For each "txt" file in the current directory
                    beginning with "part", ask whether or not to
                    "pg" the file ("pg" displays a file one
                    screenful at a time)

ALIASES (ABBREVIATIONS)

Starting with Davex 1.2, there is a primitive "alias" mechanism
available. Before Davex tries to find your commands (in the
built-in list, or on disk), it first checks your aliases. If
there is an alias for a command word you typed, Davex replaces
the word with what it stands for, and continues process the
command line.

Type "alias" to see what aliases are defined.

The aliases are stored in the TXT file %aliases. See Appendix C
for an explanation of the aliases that come on the disk as
shipped from DAL Systems. (Of course, you can change the
supplied aliases and add your own--just edit the %aliases file
with a text editor.)

Note: If you use wildcards with an alias, you may be surprised
to see Davex refer to the command by its real name. For example:

```
  /my.disk: kill a?
  delete /my.disk/apple? (y/n)
  delete /my.disk/apricot? (y/n)
```

(Davex's alias mechanism does not currently support parameters.
If it did, the 'move' command would simply have been implemented
as the alias "move copy #1 #2 -d", for example.)

PAUSING AND ABORTING

If you press SPACE while the screen is scrolling, it will freeze.
Each SPACE press will generally advance the display by one line.
Press RETURN to continue scrolling.

Ctrl-C or Apple-period will print "***#aborted" and will always
return you to the command line prompt.

ESC aborts the current operation, but does not necessarily return
you to command level. For example, if you are executing "pg =",
ESC will abort paging the current file, but pg will begin
executing on the next file matching the wildcard.

CONTROL CHARACTERS AVAILABLE WHILE TYPING A COMMAND LINE

(from "help cmdline")

     Ctrl-B = move to beginning of line
     Ctrl-D = delete character at cursor
     Ctrl-E/Ctrl-N = move to end of line
     Ctrl-F = find forward; press ESC to exit
     Ctrl-H (left arrow) = move left
     Ctrl-I = insert (cancelled by arrows or Ctrl-D)
     Ctrl-J (down arrow) = move down on the list of previous
             commands
     Ctrl-K (up arrow) = move up on the list of previous commands
     Ctrl-L = toggle Caps-lock on/off for Apple II+
     Ctrl-M = return (accept whole line, even the part after the
             cursor)
     Ctrl-O = if the following character is a control character,
             inserts it (control characters can't normally be
             entered). If the following character is "K" to "O"
             or "k" to "o", a special character is inserted
             (useful only on the II+ keyboard):

                K L M N O k l m n o
                [\ ] ^ _ { | } ~ DEL

     Ctrl-Q = accept portion of line before cursor
     Ctrl-R = re-edit previous input
     Ctrl-U (right arrow) = move cursor right
     Ctrl-X = cancel input
     Ctrl-Y = erase from cursor to end of line
     DELETE = erase character to left of cursor

     Apple-Y = same as Ctrl-Y
     Apple-H = Hardcopy of screen (set printer slot with config)
```

(beeps twice if priner is busy) [doesn't work on
the Apple II+]


MUCH MORE INFORMATION ONLINE

This document is intentionally short.  Information on each
command and on other topics can be found using the 'help'
command.  Type 'help help' (or '??') to get started.

The first line of each help file shows alternative names for the
command, if there are any.  Then the command's syntax is given,
using square brackets around the parts you can leave out.

DON'T IGNORE THE ONLINE HELP!  Even if a command's purpose and
use seem obvious, take a quick look at the help.  Most of the
commands have handy options that you won't know about if you skip
the help.


"DASH" PARAMETERS

Many commands take optional parameters following a "-".  A letter
identifying the parameter follows the "-".  In some cases, a
value (a number, or string, for example) is expected after the
letter, and in other cases nothing more is required.

Examples

        cat /xyz -t       The "-t" stands for "tree"; when a DIR
                          appears in the listing, "-t" tells the
                          catalog command to indent two spaces and
                          list the contents of the directory.  No
                          value is expected after the "-t".

        cat /x -fsys      The "-f" stands for "filetype"; a filetype
                          must be specified after the "f".  (In this
                          example, files not of type SYS will not
                          appear in the listing.)

```
Internal commands

This is just a list of commands.  It tells you what commands are built
into Davex, but it does not explain them.  Consult the online help to
find out how to use a specific command.

     help | ?    display command information

     cat         display directory
     prefix      change prefix

     top         set prefix to parent volume
     up          change prefix to parent directory
     over        move to another directory
     online      print names of online volumes

     copy        copy files or trees of files
     update      replace outdated files
     pg          display files a screenful at a time
     type        display files

     rename      change name
     delete      destroy files
     create      create a directory or other file
     filetype    change file's type (and auxiliary type)

     alias       show or change aliases (abbreviations)
     config      show or set various Davex options
     ftype       display or update filetype table
     dev         list, add, or remove ProDOS devices
     scan        examine or change the scan list

     exec        get keyboard input from a TXT file
     como        redirect command output to file or printer
     size        show size of file or directory
     info        print info on file
     lock        make a file read-only
     unlock      allow read, write, rename, delete
     prot        protect file
     spool       spool files for later printing
     eject       eject a volume or all volumes from SmartPort
     touch       touch a file, updating its modification date/time
                 (or set/clear backup bit)

     bye         quit Davex
     cls         clear screen (or send Ctrl-L to file/printer)
     rep         repeat:  execute a command several times
     err         print ProDOS error message from code
     num         convert numbers between decimal and hex
     dt          print date and time
     boot        boot the system
     mon         enter the Monitor
     echo        echo string
     =           print pathnames
     wait        wait for spooled files to finish printing
```

External commands

These commands are supplied with Davex. Other external commands can
be written by an assembly language programmer.

```
        blist           list a BAS file in ASCII
        brun            run a BIN file ['brun' is actually a small SYS
                            file, not an external command]
        chkmod          compare modification dates on pairs of files
        conp            set IIgs control panel options
        deschw          describe system hardware
        du              summarize disk usage
        ffind           search directories or volumes for files (find by
                            name, type, auxiliary type, need-backup)
        find            search files for lines containing a given string
        gsbuff          set Apple IIgs printer/modem buffer sizes
        hdr             print lines from the beginning of a file
        init            initialize (format) any ProDOS block device (or
                            just write Boot blocks to a volume)
        iw2             set up print options for ImageWriter II
        mx80            set up print options for Epson MX80
        pset            set up print options for NEC8023 / ProWriter /
                            Imagewriter
        setdate         sets date and time (only if no clock available)
        setstart        examine or set the startup path of a SYS
                            application
        sysalias        create an alias for a SYS file
        what            determine what a file is (this can be really
                            handy!)
```

TRICKINESS

     If a non-internal command is found to be of type DIR
(subdirectory or volume), Davex simply sets your prefix to that
directory. This is similar to using the 'prefix' command, except that
the scan list is used.

     After an optional parameter that accepts no parameter value,
additional parameters can follow without another "-". For example,

                    copy this that -fb
is the same as
                    copy this that -f -b

and
                    cat .61 -ta
is the same as
                    cat .61 -t -a

HOWEVER,
                    cat .61 -at
is NOT the same as
                    cat .61 -a -t

because the "-a" parameter takes a string value (in "cat .61 -ta" the
string value following "-a" consists of 0 characters).

Some SYS files can take a pathname parameter; BASIC.SYSTEM, for example, will run whatever BAS file you specify as its parameter (actually it does a '-' command, so you can also BRUN a BIN file, EXEC a TXT file, or launch a SYS file). If BASIC.SYSTEM is available in one of your scan directories, you can type

        BASIC.SYSTEM MYPROGRAM

to run MYPROGRAM under BASIC.SYSTEM. To Davex, the parameter following the name of a SYS file is a STRING, not a pathname. This means you can't use the "%" or ".xx" shorthand notations in the parameter.

(Note that BASIC.SYSTEM does not always preserve your prefix. If your prefix refers to a subdirectory, BASIC.SYSTEM will preserve it; otherwise it sets the prefix to be EMPTY and behaves like DOS 3.3--it goes by slot and drive numbers and defaults to the slot/drive that BASIC.SYSTEM was loaded from.)

The 'info' command will tell you whether a particular SYS file has a startup buffer.

                Appendix A: Hardware Compatibility

Davex has been tested with the following Apple IIs: Apple II+ (SmarTerm 80-column, shift-key mod), Apple //e (original and enhanced), Apple //c (original and UniDisk 3.5 ROM), and Apple IIgs.

IIgs Support

Davex is compatible with the IIgs but does not behave much differently than on an eariler Apple. Since Davex does not disable interrupts, you can use Classic Desk Accessories (including the Control Panel) with no problem. If you launch Davex from a ProDOS 16 controlling program (like the Launcher, APW, or ECP16), you will be returned to it when you quit Davex. You can launch a ProDOS 16 application (a file with type S16) by typing its name (assuming the directory it's in is in your scan list), and you be automatically returned to Davex when you quit. (The file %BRIDGE.S16 is a tiny ProDOS 16 application that makes this possible.)

                Appendix B: AppleWorks Compatibility

The pg and type commands recognize AWP files. In future Davex versions, 'spool' and 'exec' will probably recognize AWP files.

The 'cat' command displays AWP, ADB, and ASP filenames using the capitalization you used when naming the files in AppleWorks. (This information is stored in the files' auxiliary type fields.)

                Appendix C: Standard Aliases

This appendix lists and explains the aliases provided in the

"%aliases" file. You can use a text editor to remove or change these
aliases, and you can add your own. The maximum size of the %aliases
file is currently 512 bytes (one block); if your %aliases file is
longer than 512 bytes, Davex simply ignores the excess.

q bye
quit q
  Explanation: "q" and "quit" stand for "bye" (leave Davex).

> como
< exec
  Explanation: ">" stands for "como" (send output to a file or slot)
  and "<" stands for "exec" (get command input from a file)

cd prefix
pfx cd
down cd
  Explanation: "cd" (change directory), "pfx", and "down" all stand
  for "prefix". "down" is appropriate because the 'prefix' command
  takes you down to a subdirectory if you use a partial pathname
  (example: "down mydir" or "down firstdir/xyz/abc").

\ up
  Explanation: "\" stands for "up", which takes you to the directory
  above.

over up;down
  Explanation: "over" stands for "up" followed by the directory name
  you type. Example: If your prefix is "/mydisk/dir1" and you type
  "over dir2", your prefix will then be "/mydisk/dir2". Wildcards are
  allowed, because they are not expanded until the "prefix" ("down")
  command is executed.

or %;top
origin or
  Explanation: "origin" or "or" takes you to the top level directory
  of the disk Davex is running from. "%" takes you to the Davex
  directory, and then "top" takes you to the top level directory.

o online
  Explanation: "o" stands for "online", which shows a list of all
  disks in your drives.

home cls
  Explanation: "home" stands for "cls", which clears the screen (or
  starts a new page on the printer).

slist type
tlist type
  Explanation: "slist" and "tlist" stand for "type", which displays
  the contents of a file.

more pg
  Explanation: "more" stands for "pg", which displays the contents of
  a file one screenful at a time.

mv rename
cname mv
  Explanation: "mv" (move) and "cname" (change name) stand for

"rename", which changes the name of a file, directory, or volume.

ctype filetype
  Explanation: "ctype" stands for "filetype", which is used for
  changing the type or auxiliary type of a file.

mkdir create
md create
  Explanation: "mkdir" and "md" (make directory) stand for "create",
  which can be used to create subdirectories (as well as other files).

rm delete
del rm
kill rm
  Explanation: "rm", "del", and "kill" all stand for "delete", which
  erases files and directories.

catalog cat
dir cat
ld cat
ls cat
  Explanation: "catalog", "dir" (directory), "ld" (list directory),
  and "ls" (list) all stand for "cat", which displays catalog
  listings.

cp copy
  Explanation: "cp" stands for "copy", which copies files and
  directories.

e echo
  Explanation: "e" stands for "echo", which prints the strings you
  feed it (useful from "exec" files).

ej eject
  Explanation: "ej" stands for "eject", which ejects 3.5" disks from
  their drives.

print > &;
  Explanation: "print" stands for redirecting output to the printer,
  and the semicolon between commands is included in the alias, so you
  don't need to type one when you use it. Example: "print help
  rename", or "print cat -t", but NOT "print filename".

page > &;cls
  Explanation: "page" does a clear-screen after sending output to the
  printer. Result: the printer advances to the top of the page.

The Conspicuous Last Page

Mike Lutz suggested the name "Davex." If you don't like it, blame
him.