DOSBox 0.74 Manual.txt
DOSBox v0.74 Manual (always use the latest version from www.dosbox.com)

```
=====
NOTE:
=====
```

While we are hoping that one day
DOSBox will run all programs ever
made for
the PC, we are not there yet.
At present, DOSBox running on a
high-end machine will roughly be the
equivalent
of a Pentium I PC. DOSBox can be
configured to run a wide range of DOS
games,
from CGA/Tandy/PCjr classics up to
games from the Quake era.

```
======
INDEX:
======
```

DOSBox 0.74 Manual.txt

```
==============
```
1. Quickstart:
```
==============
```

Type INTRO in DOSBox for a quick

tour.
It is essential that you get familiar
with the idea of mounting, DOSBox
does not
automatically make any drive (or a
part of it) accessible to the
emulation. See
the FAQ entry "How to start?" as well
as the description of the MOUNT
command
(section 4: "Internal Programs"). If
you have your game on a cdrom you may
try
this guide:
http://vogons.zetafleet.com/viewtopic
.php?t=8933

```
================
```
2. Start (FAQ):
```
================
```

START: How to start?
AUTOMATION: Do I always have to type
these "mount" commands?
FULLSCREEN: How do I change to

fullscreen?
CD-ROM: My CD-ROM doesn't work.
CD-ROM: The game/application
can't find its CD-ROM.
MOUSE: The mouse doesn't work.
SOUND: There is no sound.
SOUND: What sound hardware does
DOSBox presently emulate?
SOUND: The sound stutters or
sounds stretched/weird.
KEYBOARD: I can't type \ or : in
DOSBox.
KEYBOARD: Right Shift and "\"
doesn't work in DOSBox. (Windows
only)
KEYBOARD: The keyboard lags.
CONTROL: The
character/cursor/mouse pointer always
moves into one direction!
SPEED: The game/application runs
much too slow/too fast!
CRASH: The game/application does
not run at all/crashes!
CRASH: DOSBox crashes on
startup!
GAME: My Build
game(Duke3D/Blood/Shadow Warrior) has

problems.
SAFETY: Can DOSBox harm my
computer?
OPTIONS: I would like to change
DOSBox's options.
HELP: Great Manual, but I still
don't get it.

START: How to start?
    At the beginning you've got a
Z:\> instead of a C:\> at the prompt.
    You have to make your directories
available as drives in DOSBox by
using
    the "mount" command. For example,
in Windows "mount C D:\GAMES" will
give
    you a C drive in DOSBox which
points to your Windows D:\GAMES
directory
    (that was created before). In
Linux, "mount c /home/username" will
give you
    a C drive in DOSBox which points
to /home/username in Linux.

    To change to the drive mounted like above, type "C:". If everything went
    fine, DOSBox will display the prompt "C:\>".

AUTOMATION: Do I always have to type these commands?
    In the DOSBox configuration file is an [autoexec] section. The commands
    present there are run when DOSBox starts, so you can use this section
    for the mounting. Look at Section 13: The configuration (options) file

FULLSCREEN: How do I change to fullscreen?
    Press alt-enter. Alternatively: Edit the configuration file of DOSBox and
    change the option fullscreen=false to fullscreen=true. If fullscreen looks
    wrong in your opinion: Play with

the options: fullresolution, output and
     aspect in the configuration file of DOSBox. To get back from fullscreen
     mode: Press alt-enter again.

CD-ROM: My CD-ROM doesn't work.
     To mount your CD-ROM in DOSBox you have to specify some additional options
     when mounting the CD-ROM.
     To enable CD-ROM support (includes MSCDEX) in Windows:
          - mount d f:\ -t cdrom
     in Linux:
          - mount d /media/cdrom -t cdrom

     In some cases you might want to use a different CD-ROM interface,
     for example if CD audio does not work:
          To enable SDL-support (does not include low-level CD access!):
          - mount d f:\ -t cdrom -usecd 0 -noioctl

To enable ioctl access using digital audio extraction for CD audio (windows-only, useful for Vista):

- mount d f:\ -t cdrom -ioctl_dx

To enable ioctl access using MCI for CD audio (windows-only):

- mount d f:\ -t cdrom -ioctl_mci

To force ioctl-only access (windows-only):

- mount d f:\ -t cdrom -ioctl_dio

To enable low-level aspi-support (win98 with aspi-layer installed):

- mount d f:\ -t cdrom -aspi

explanation: - d   driveletter you will get in DOSBox (d is the best,
                              don't change it!)
                         - f:\ location of CD-ROM on your PC. In most cases it will

be d:\ or e:\

- 0   The number of the CD-ROM drive, reported by "mount -cd"

(note that this value is only needed when using SDL

for CD audio, otherwise it is ignored)
    See also the next question: The game/application can't find its CD-ROM.

CD-ROM: The game/application can't find its CD-ROM.
    Be sure to mount the CD-ROM with -t cdrom switch, this will enable the
    MSCDEX interface required by DOS games to interface with CD-ROMs.
    Also try adding the correct label (-label LABEL) to the mount command,
    where LABEL is the CD-label (volume ID) of the CD-ROM.
    Under Windows you can specify -ioctl, -aspi or -noioctl. Look at

the
	description of the mount command
in Section 4: "Internal programs"
	for their meaning and the
	additional audio-CD related
options -ioctl_dx, ioctl_mci,
ioctl_dio.

	Try creating a CD-ROM image
(preferably CUE/BIN pair) and use the
	DOSBox's internal IMGMOUNT tool
to mount the image (the CUE sheet).
	This enables very good low-level
CD-ROM support on any operating
system.

MOUSE: The mouse doesn't work.
	Usually, DOSBox detects when a
game uses mouse control. When you
click on
	the screen it should get locked
(confined to the DOSBox window) and
work.
	With certain games, the DOSBox
mouse detection doesn't work. In that
case

you will have to lock the mouse manually by pressing CTRL-F10.

SOUND: There is no sound.
    Be sure that the sound is correctly configured in the game. This might be
    done during the installation or with a setup/setsound utility that
    accompanies the game. First see if an autodetection option is provided. If
    there is none try selecting Soundblaster or Soundblaster 16 with the default
    settings being "address=220 irq=7 dma=1" (sometimes highdma=5). You might
    also want to select Sound Canvas/SCC/MPU-401/General MIDI/Wave Blaster
    at "address=330 IRQ=2" as music device.
    The parameters of the emulated sound cards can be changed in the DOSBox

configuration file.
If you still don't get any sound
set the core to normal in DOSBox
configuration and use some lower
fixed cycles value (like
cycles=2000). Also
assure that your host operating
sound does provide sound.
In certain cases it might be
useful to use a different emulated
sound device
like a soundblaster pro
(sbtype=sbpro1 in the DOSBox
configuration file) or
the gravis ultrasound (gus=true).

SOUND: What sound hardware does
DOSBox presently emulate?
DOSBox emulates several legacy
sound devices:
- Internal PC speaker/Buzzer
This emulation includes both
the tone generator and several forms
of
digital sound output through
the internal speaker.

  - Creative CMS/Gameblaster
     The is the first card released
by Creative Labs(R). The default
     configuration places it on
address 220. It is disabled as
default.
     - Tandy 3 voice
     The emulation of this sound
hardware is complete with the
exception of
     the noise channel. The noise
channel is not very well documented
and as
     such is only a best guess as to
the sound's accuracy. It is disabled
as
     default.
  - Tandy DAC
     Some games may require turning
off sound blaster emulation
(sbtype=none)
     for better tandy DAC sound
support. Don't forget to set the
sbtype back to
     sb16 if you don't use tandy
sound.
  - Adlib

This emulation is almost perfect and includes the Adlib's ability to
almost play digitized sound. Placed at address 220 (also on 388).
    - SoundBlaster 16 / SoundBlaster Pro I & II / SoundBlaster I & II
By default DOSBox provides Soundblaster 16 level 16-bit stereo sound.
You can select a different SoundBlaster version in the configuration of
DOSBox. AWE32 music is not emulated as you can use MPU-401 instead
(see below).
    - Disney Sound Source and Covox Speech Thing
Using the printer port, this sound device outputs digital sound only.
Placed at LPT1
    - Gravis Ultrasound
The emulation of this hardware is nearly complete, though the MIDI
capabilities have been left

out, since an MPU-401 has been emulated
        in other code. For Gravis music you also have to install Gravis drivers
        inside DOSBox. It is disabled as default.
    - MPU-401
        A MIDI passthrough interface is also emulated. This method of sound
        output will only work when used with external device/emulator.
        Every Windows XP/Vista/7 and MAC OS has got a default emulator compatible
        with: Sound Canvas/SCC/General Standard/General MIDI/Wave Blaster.
        A different device/emulator is needed for Roland LAPC/CM-32L/MT-32
        compatibility.

SOUND: The sound stutters or sounds stretched/weird.
    You may be using too much CPU power to keep DOSBox running at the current

     speed. You can lower the cycles,
skip frames, reduce the sampling rate
of
     the respective sound device,
increase the prebuffer. See section
13: "The
     configuration (options) file"
     If you are using cycles=max or
=auto, then make sure that there is
no
     background processes interfering!
(especially if they access the
harddisk)
     Also look at Section 10. "How to
speed up/slow down DOSBox"

KEYBOARD: I can't type \ or : in
DOSBox.
     This can happen in various cases,
like your host keyboard layout does
not
     have a matching DOS layout
representation (or it was not
correctly
     detected), or the key mapping is
wrong.

Some possible fixes:
    1. Use / instead, or ALT-58 for
: and ALT-92 for \.
    2. Change the DOS keyboard
layout (see Section 8: Keyboard
Layout).
    3. Add the commands you want to
execute to the [autoexec] section
        of the DOSBox configuration
file.
    4. Open the DOSBox
configuration file and change the
usescancodes entry.
    5. Switch the keyboard layout
of your operating system.

    Note that if the host layout can
not be identified, or keyboardlayout
is
    set to none in the DOSBox
configuration file, the standard US
layout is
    used. In this configuration try
the keys around "enter" for the key \
    (backslash), and for the key :
(colon) use shift and the keys
between

"enter" and "L".

KEYBOARD: Right Shift and "\" doesn't
work in DOSBox. (Windows only)
    This may happen if windows thinks
that you have more than one keyboard
    connected to your PC when you use
some remote control devices.
    To verity this problem run
cmd.exe, navigate to DOSBox program
folder
    and type:
    set sdl_videodriver=windib
    dosbox.exe
    check whether keyboard started to
work properly. As windib is slower it
is
    best to use one of the two
solutions provided here:

http://vogons.zetafleet.com/viewtopic
.php?t=24072

KEYBOARD: The keyboard lags.
    Lower the priority setting in the

DOSBox 0.74 Manual.txt

DOSBox configuration file, for example
    set "priority=normal,normal". You might also want to try lowering the
    cycles (use a fixed cycle amount to start with, like cycles=10000).

CONTROL: The character/cursor/mouse pointer always moves into one direction!
    See if it still happens if you disable the joystick emulation,
    set joysticktype=none in the [joystick] section of your DOSBox
    configuration file. Maybe also try unplugging any joystick/gamepad.
    If you want to use the joystick in the game, try setting timed=false
    and be sure to calibrate the joystick (both in your OS as well as
    in the game or the game's setup program).

SPEED: The game/application runs much too slow/too fast!

Look at the section 10: "How to speed up/slow down DOSBox" for more information.

CRASH: The game/application does not run at all/crashes!
Look at Section 11: Troubleshooting

CRASH: DOSBox crashes on startup!.
Look at Section 11: Troubleshooting

GAME: My Build game(Duke3D/Blood/Shadow Warrior) has problems.
First of all, try to find a port of the game. Those will offer a better
experience. To fix the graphics problem that occurs in DOSBox on higher
resolutions: Open the configuration file of DOSBox and

search for
    machine=svga_s3. Change svga_s3
to vesa_nolfb
    Change memsize=16 to memsize=63

SAFETY: Can DOSBox harm my computer?
    DOSBox can not harm your computer
more than any other resource
demanding
    program. Increasing the cycles
does not overclock your real CPU.
    Setting the cycles too high has a
negative performance effect on the
    software running inside DOSBox.

OPTIONS: I would like to change
DOSBox's options.
    Look at Section 13. "The
configuration (options) file"

HELP: Great Manual, but I still don't
get it.
    For more questions read the rest
of this Manual. You may also look at:

DOSBox 0.74 Manual.txt
      guides located at
http://vogons.zetafleet.com/viewforum
.php?f=39
      the wiki of DOSBox
http://www.dosbox.com/wiki/
      the site/forum:
http://www.dosbox.com

===============================
3. Command Line Parameters:
===============================

An overview of the command line
options you can give to DOSBox.
Although
in most cases it is easier to use
DOSBox's configuration file instead.
See: Section 13. "The configuration
(options) file"

To be able to use Command Line
Parameters:
(Windows) open cmd.exe or
command.com or edit the shortcut to
dosbox.exe

DOSBox 0.74 Manual.txt
(Linux)   use console
(MAC OS X) start terminal.app and
navigate to:

/applications/dosbox.app/contents/mac
os/dosbox

The options are valid for all
operating systems unless noted in the
option
description:

dosbox [name] [-exit] [-c command]
[-fullscreen] [-userconf]
        [-conf congfigfilelocation]
[-lang languagefilelocation]
        [-machine machine type]
[-noconsole] [-startmapper]
[-noautoexec]
        [-securemode] [-scaler scaler
| -forcescaler scaler] [-version]
        [-socket socket]

dosbox -version
dosbox -editconf program
dosbox -opencaptures program
dosbox -printconf

dosbox -eraseconf
dosbox -erasemapper

   name
         If "name" is a directory it
will mount that as the C: drive.
         If "name" is an executable it
will mount the directory of "name"
         as the C: drive and execute
"name".

   -exit
         DOSBox will close itself when
the DOS application "name" ends.

   -c command
         Runs the specified command
before running "name". Multiple
commands
         can be specified. Each
command should start with "-c"
though.
         A command can be: an Internal
Program, a DOS command or an
executable
         on a mounted drive.

DOSBox 0.74 Manual.txt
-fullscreen
        Starts DOSBox in fullscreen
mode.

   -userconf
        Start DOSBox with the users
specific configuration file. Can be
used
        together with multiple -conf
parameters, but -userconf will always
be
        loaded before them.

   -conf configfilelocation
        Start DOSBox with the options
specified in "configfilelocation".
        Multiple -conf options may be
present.
        See Section 13 for more
details.

   -lang languagefilelocation
        Start DOSBox using the
language specified in
"languagefilelocation".
        See Section 14 for more
details.

-machine machinetype
        Setup DOSBox to emulate a
specific type of machine. Valid
choices are:
        hercules, cga, ega, pcjr,
tandy, svga_s3 (default) as well as
        the additional svga chipsets
listed in the DOSBox configuration
file.
        svga_s3 enables vesa
emulation as well.
        For some special vga effects
the machinetype vgaonly can be used,
        note that this disables svga
capabilities and might be slower due
to the
        higher emulation precision.
        The machinetype affects the
video card and the available sound
cards.

-noconsole (Windows Only)
        Start DOSBox without showing
DOSBox Status Window (console).
        Output will be redirected to
stdout.txt and stderr.txt

   -startmapper
         Enter the keymapper directly
on startup. Useful for people with
         keyboard problems.

   -noautoexec
         Skips the [autoexec] section
of the loaded configuration file.

   -securemode
         Same as -noautoexec, but adds
config.com -securemode at the
         bottom of AUTOEXEC.BAT (which
in turn disables any changes to how
         the drives are mounted inside
DOSBox).

   -scaler scaler
         Uses the scaler specified by
"scaler". See the DOSBox
configuration file
         for the available scalers.

   -forcescaler scaler
         Similar to the -scaler
parameter, but tries to force usage

of
the specified scaler even if
it might not fit.

  -version
output version information
and exit. Useful for frontends.

  -editconf program
calls program with as first
parameter the configuration file.
You can specify this command
more than once. In this case it will
move to second program if the
first one fails to start.

  -opencaptures program
calls program with as first
parameter the location of the
captures
folder.

  -printconf
prints the location of the
default configuration file.

  -resetconf

removes the default configuration file.

  -resetmapper
        removes the mapperfile used by the default clean configuration file.

  -socket
        passes the socket number to the nullmodem emulation. See Section 9:
        "Serial Multiplayer feature."

Note: If a name/command/configfilelocation/languagefilelocation contains
        a space, put the whole name/command/configfilelocation/languagefilelocation
        between quotes ("command or file name"). If you need to use quotes within
        quotes (most likely with -c and mount):
        Windows and OS/2 users can use single quotes inside the double

quotes.
        Other people should be able to
use escaped double quotes inside the
        double quotes.
        Windows: -c "mount c 'c:\My
folder with DOS games\'"
        Linux: -c "mount c \"/tmp/name
with space\""

A rather unusual example, just to
demonstrate what you can do
(Windows):
dosbox D:\folder\file.exe -c "MOUNT Y
H:\MyFolder"
  This mounts D:\folder as C:\ and
runs file.exe.
  Before it does that, it will first
mount H:\MyFolder as the Y drive.

In Windows, you can also drag
directories/files onto the DOSBox
executable.

========================
4. Internal Programs:

DOSBox 0.74 Manual.txt
========================

DOSBox supports most of the DOS
commands found in command.com.
To get a list of the internal
commands type "HELP" at the prompt.

In addition, the following commands
are available:

MOUNT "Emulated Drive letter" "Real
Drive or Directory"
        [-t type] [-aspi] [-ioctl]
[-noioctl] [-usecd number] [-size
drivesize]
        [-label drivelabel] [-freesize
size_in_mb]
        [-freesize size_in_kb
(floppies)]
MOUNT -cd
MOUNT -u "Emulated Drive letter"

   Program to mount local directories
as drives inside DOSBox.

   "Emulated Drive letter"
        The driveletter inside DOSBox

DOSBox 0.74 Manual.txt
(for example C).

   "Real Drive letter (usually for
CD-ROMs in Windows) or Directory"
        The local directory you want
accessible inside DOSBox.

   -t type
        Type of the mounted
directory.
        Supported are: dir (default),
floppy, cdrom.

   -size drivesize
        (experts only)
        Sets the size of the drive,
where drivesize is of the form
        "bps,spc,tcl,fcl":
             bps: bytes per sector, by
default 512 for regular drives and
                  2048 for CD-ROM
drives
             spc: sectors per cluster,
usually between 1 and 127
             tcl: total clusters,
between 1 and 65534
             fcl: total free clusters,

between 1 and tcl

   -freesize size_in_mb | size_in_kb
          Sets the amount of free space
available on a drive
          in megabytes (regular drives)
or kilobytes (floppy drives).
          This is a simpler version of
-size.

   -label drivelabel
          Sets the name of the drive to
"drivelabel". Needed on some systems
          if the CD-ROM label isn't
read correctly (useful when a program
          can't find its CD-ROM). If
you don't specify a label
          and no lowlevel support is
selected (that is omitting the -usecd
#
          and/or -aspi parameters, or
specifying -noioctl):
          For Windows: label is
extracted from "Real Drive".
          For Linux: label is set to
NO_LABEL.

If you do specify a label, this label will be kept as long as the drive
is mounted. It will not be updated !!

-aspi
Forces use of the aspi layer. Only valid if mounting a CD-ROM under Windows systems with an ASPI-Layer.

-ioctl (automatic selection of the CD audio interface)
-ioctl_dx (digital audio extraction used for CD audio)
-ioctl_dio (ioctl calls used for CD audio)
-ioctl_mci (MCI used for CD audio)
Forces use of ioctl commands. Only valid if mounting a CD-ROM under a Windows OS which support them (Win2000/XP/NT).
The various choices only differ in the way CD audio is handled,
preferably -ioctl_dio is used

DOSBox 0.74 Manual.txt
(lowest workload), but this might not
        work on all systems, so
-ioctl_dx (or -ioctl_mci) can be
used.

  -noioctl
        Forces use of the SDL CD-ROM
layer. Valid on all systems.

  -usecd number
        Valid on all systems, under
windows the -noioctl switch has to be
        present to make use of the
-usecd switch.
        Enables to select the drive
that should be used by SDL. Use this
if
        the wrong or no CD-ROM drive
is mounted while using the SDL CD-ROM
        interface. "number" can be
found by "MOUNT -cd".

  -cd
        Displays all CD-ROM drives
detected by SDL, and their numbers.
        See the information at the
-usecd entry above.

-u
        Removes the mount. Doesn't
work for Z:\.

    Note: It's possible to mount a
local directory as CD-ROM drive,
        but hardware support is then
missing.

    Basically MOUNT allows you to
connect real hardware to DOSBox's
emulated PC.
    So MOUNT C C:\GAMES tells DOSBox to
use your C:\GAMES directory as drive
C:
    in DOSBox. MOUNT C E:\SomeFolder
tells DOSBox to use your
E:\SomeFolder
    directory as drive C: in DOSBox.

    Mounting your entire C drive with
MOUNT C C:\ is NOT recommended! The
same
    is true for mounting the root of
any other drive, except for CD-ROMs
(due to

their read-only nature).
Otherwise if you or DOSBox make a
mistake you may lose all your files.
Also never mount a "Windows" or
"Program Files" folders or their
subfolders
in Windows Vista/7 as DOSBox may
not work correctly, or will stop
working
correctly later. It is recommended
to keep all your dos
applications/games
in a simple folder (for example
c:\dosgames) and mount that.

You should always install your game
inside DOSBox.
So if you have the game on CD you
always (even after installation!)
have to mount both: folder as a
harddisk drive and a CD-ROM.
HardDisk should always be mounted
as c
CD-ROM should always be mounted
as d
Floppy should always be mounted
as a (or b)

DOSBox 0.74 Manual.txt

Basic MOUNT Examples for normal usage (Windows):

   1. To mount a folder as a harddisk drive:
            mount c d:\dosgames

   3. To mount your CD-ROM drive E as CD-ROM drive D in DOSBox:
            mount d e:\ -t cdrom

   2. To mount your drive a: as a floppy:
            mount a a:\ -t floppy

   Advanced MOUNT examples (Windows):

   4. To mount a hard disk drive with ~870 mb free diskspace (simple version):
            mount c d:\dosgames -freesize 870

   5. To mount a drive with ~870 mb free diskspace (experts only, full control):

        mount c d:\dosgames -size
512,127,16513,13500

   1. To mount c:\dosgames\floppy as
a floppy:
        mount a c:\dosgames\floppy
-t floppy

   Other MOUNT examples:

   3. To mount system CD-ROM drive at
mountpoint /media/cdrom as CD-ROM
drive D
      in DOSBox:
        mount d /media/cdrom -t
cdrom -usecd 0

   6. To mount /home/user/dosgames as
drive C in DOSBox:
        mount c /home/user/dosgames

   7. To mount the directory where
DOSBox was started as C in DOSBox:
        mount c .
        (note the . which
represents the directory where DOSBox

was started,
            on Windows Vista/7 don't
use this if you installed DOSBox
            to your "Program Files"
folder)

  If you want to mount a CD image or
floppy image, check IMGMOUNT.
  MOUNT also works with images but
only if you use external program,
  for example (both are free):
  - Daemon Tools Lite (for CD
images),
  - Virtual Floppy Drive (for floppy
images).
  Although IMGMOUNT can give better
compatibility.

MEM
  Program to display the amount and
type of free memory.

VER
VER set major_version [minor_version]
  Display the current DOSBox version

and reported DOS version
  (parameterless usage).
  Change the reported DOS version
with the "set" parameter,
  for example: "VER set 6 22" to have
DOSBox report DOS 6.22 as version
number.

CONFIG -writeconf filelocation
CONFIG -writelang filelocation
CONFIG -securemode
CONFIG -set "section property=value"
CONFIG -get "section property"

  CONFIG can be used to change or
query various settings of DOSBox
  during runtime. It can save the
current settings and language strings
to
  disk. Information about all
possible sections and properties can
  be found in Section 13: "The
configuration (options) file".

  -writeconf filelocation
    Write the current configuration

settings to a file in a specified
location.
        "filelocation" is located on the
local drive, not a mounted drive in
DOSBox.
        The configuration file controls
various settings of DOSBox:
        the amount of emulated memory,
the emulated sound cards and many
more
        things. It allows access to
AUTOEXEC.BAT as well.
        See Section 13: "The
configuration (options) file" for
more information.

    -writelang filelocation
        Write the current language
settings to a file in a specified
location.
        "filelocation" is located on the
local drive, not a mounted drive
        in DOSBox. The language file
controls all visible output of the
internal
        commands and the internal DOS.
        See Section 14: "The Language

DOSBox 0.74 Manual.txt
File" for more information.

   -securemode
      Switches DOSBox to a more secure
mode. In this mode the internal
      commands MOUNT, IMGMOUNT and
BOOT won't work. It's not possible
either
      to create a new configfile or
languagefile in this mode.
      (Warning: you can only undo this
mode by restarting DOSBox.)

   -set "section property=value"
      CONFIG will attempt to set the
property to new value.
      Currently CONFIG can not report
whether the command succeeded or not.

   -get "section property"
      The current value of the
property is reported and stored in
the
      environment variable %CONFIG%.
This can be used to store the value
      when using batch files.

  Both "-set" and "-get" work from
batch files and can be used to set up
your
  own preferences for each game.
Although it may be easier to use
separate
  DOSBox's configuration files for
each game instead.

  Examples:
    1. To create a configuration file
in your c:\dosgames directory:
        config -writeconf
c:\dosgames\dosbox.conf
    2. To set the cpu cycles to
10000:
        config -set "cpu
cycles=10000"
    3. To turn ems memory emulation
off:
        config -set "dos ems=off"
    4. To check which cpu core is
being used.
        config -get "cpu core"

LOADFIX [-size] [program]

[program-parameters]
LOADFIX -f
   Program to reduce the amount of available conventional memory.
   Useful for old programs which don't expect much memory to be free.

   -size
         number of kilobytes to "eat up", default = 64kb

   -f
         frees all previously allocated memory

   Examples:
   1. To start mm2.exe and allocate 64kb memory
         (mm2 will have 64 kb less available):
         loadfix mm2
   2. To start mm2.exe and allocate 32kb memory:
         loadfix -32 mm2
   3. To free previous allocated memory:
         loadfix -f

RESCAN
  Make DOSBox reread the directory
structure. Useful if you changed
something
  on a mounted drive outside of
DOSBox. (CTRL - F4 does this as
well!)

MIXER
  Makes DOSBox display its current
volume settings.
  Here's how you can change them:

  mixer channel left:right [/NOSHOW]
[/LISTMIDI]

  channel
    Can be one of the following:
MASTER, DISNEY, SPKR, GUS, SB, FM [,
CDAUDIO].
    CDAUDIO is only available if a
CD-ROM interface with volume control
is
    enabled (CD image, ioctl_dx).

left:right
        The volume levels in
percentages. If you put a D in front
it will be
        in decibel (Example: mixer gus
d-10).

    /NOSHOW
        Prevents DOSBox from showing the
result if you set one
        of the volume levels.

    /LISTMIDI
        In Windows lists the available
midi devices on your PC. To select a
device
        other than the Windows default
midi-mapper, change the line
'midiconfig='
        in the [midi] section of the
configuration file to
'midiconfig=id', where
        'id' is the number for the
device as listed by LISTMIDI. eg.
midiconfig=2

DOSBox 0.74 Manual.txt
      In Linux this option doesn't
work, but you get similar results by
using
      'pmidi -l' in console. Then
change the line 'midiconfig=' to
      'midiconfig=port', where 'port'
is the port for the device as listed
by
      'pmidi -l'. eg. midiconfig=128:0

IMGMOUNT
   A utility to mount disk images and
CD-ROM images in DOSBox.

   IMGMOUNT DRIVE [imagefile] -t
[image_type] -fs [image_format]
            -size [sectorsbytesize,
sectorsperhead, heads, cylinders]
   IMGMOUNT DRIVE [imagefile1
imagefile2 .. imagefileN] -t cdrom
-fs iso

   imagefile
      Location of the image file to
mount in DOSBox. The location can be
      on a mounted drive inside

DOSBox, or on your real disk. It is possible
        to mount CD-ROM images (ISOs or CUE/BIN or CUE/IMG) too.
        If you need CD swapping capabilities, specify all images in succession
        (see the next entry).
        CUE/BIN pairs and cue/img are the preferred CD-ROM image types as they can
        store audio tracks compared to ISOs (which are data-only). For
        the CUE/BIN mounting always specify the CUE sheet.

   imagefile1 imagefile2 .. imagefileN
        Location of the image files to mount in DOSBox. Specifying a number
        of image files is only allowed for CD-ROM images.
        The CD's can be swapped with CTRL-F4 at any time.
        This is required for games which use multiple CD-ROMs and require the CD
        to be switched during the

gameplay at some point.

   -t
       The following are valid image
types:
          floppy: Specifies a floppy
image. DOSBox will automatically
identify
                the disk geometry
(360K, 1.2MB, 720K, 1.44MB, etc).
          cdrom: Specifies a CD-ROM
image. The geometry is automatic and
                set for this size.
This can be an iso or a cue/bin pair
or
                a cue/img pair.
          hdd: Specifies a harddrive
image. The proper CHS geometry must
be set
                for this to work.

   -fs
       The following are valid file
system formats:
          iso: Specifies the ISO 9660
CD-ROM format.
          fat: Specifies that the

image uses the FAT file system. DOSBox will

attempt to mount this image as a drive in DOSBox and make the files available from inside DOSBox.

none: DOSBox will make no attempt to read the file system on the disk.

This is useful if you need to format it or if you want to boot

the disk using the BOOT command. When using the "none" filesystem, you must specify the drive number (2 or 3,

where 2 = master, 3 = slave) rather than a drive letter.

For example, to mount a 70MB image as the slave drive device,

you would type (without the quotes):

"imgmount 3 d:\test.img -size 512,63,16,142 -fs none"

Compare this with a mount to be able to access the drive

within DOSBox, which would read as:
"imgmount e: d:\test.img -size 512,63,16,142"

  -size
    The Cylinders, Heads and Sectors of the drive.
    Required to mount hard drive images.

  An example how to mount CD-ROM images (in Linux):
    1. imgmount d /tmp/cdimage1.cue /tmp/cdimage2.cue -t cdrom
  or (which also works):
    2a. mount c /tmp
    2b. imgmount d c:\cdimage1.cue c:\cdimage2.cue -t cdrom
  (in Windows):
    imgmount d f:\img\CD1.cue f:\img\CD2.cue f:\img\CD3.cue -t cdrom
    imgmount d "g:\img\7th Guest CD1.cue" "g:\img\7th Guest CD2.cue" -t cdrom
  Don't forget that you can also use

MOUNT with images, but only if you use
  external program, for example (both are free):
  - Daemon Tools Lite (for CD images),
  - Virtual Floppy Drive (for floppy images).
  Although IMGMOUNT can give better compatibility.

BOOT
  Boot will start floppy images or hard disk images independent of
  the operating system emulation offered by DOSBox. This will allow you to
  play booter floppies or boot other operating systems inside DOSBox.
  If the target emulated system is PCjr (machine=pcjr) the boot command
  can be used to load PCjr cartridges (.jrc).

  BOOT [diskimg1.img diskimg2.img .. diskimgN.img] [-l driveletter]

BOOT [cart.jrc] (PCjr only)

  diskimg1.img diskimg2.img ..
diskimgN.img
     This can be any number of floppy
disk images one wants mounted after
     DOSBox boots the specified drive
letter.
     To swap between images, hit
CTRL-F4 to change from the current
disk
     to the next disk in the list.
The list will loop back from the last
     disk image to the beginning.

  [-l driveletter]
     This parameter allows you to
specify the drive to boot from.
     The default is the A drive, the
floppy drive. You can also boot
     a hard drive image mounted as
master by specifying "-l C"
     without the quotes, or the drive
as slave by specifying "-l D"

  cart.jrc (PCjr only)
     When emulation of a PCjr is

DOSBox 0.74 Manual.txt
enabled, cartridges can be loaded with
    the BOOT command. Support is still limited.

IPX

  You need to enable IPX networking in the configuration file of DOSBox.

  All of the IPX networking is managed through the internal DOSBox program
  IPXNET. For help on the IPX networking from inside DOSBox, type
  "IPXNET HELP" (without quotes) and the program will list the commands
  and relevant documentation.

  With regard to actually setting up a network, one system needs to be
  the server. To set this up, type "IPXNET STARTSERVER" (without the quotes)
  in a DOSBox session. The server DOSBox session will automatically add

itself to the virtual IPX network. For every additional computer that should be part of the virtual IPX network, you'll need to type "IPXNET CONNECT <computer host name or IP>".
For example, if your server is at bob.dosbox.com, you would type "IPXNET CONNECT bob.dosbox.com" on every non-server system.

To play games that need Netbios a file named NETBIOS.EXE from Novell is needed. Establish the IPX connection as explained above, then run "netbios.exe".

The following is an IPXNET command reference:

IPXNET CONNECT

IPXNET CONNECT opens a connection to an IPX tunneling server running on another DOSBox session. The "address" parameter

specifies
      the IP address or host name of
the server computer. You can also
      specify the UDP port to use. By
default IPXNET uses port 213 - the
      assigned IANA port for IPX
tunneling - for its connection.

      The syntax for IPXNET CONNECT
is:
      IPXNET CONNECT address <port>

  IPXNET DISCONNECT

      IPXNET DISCONNECT closes the
connection to the IPX tunneling
server.

      The syntax for IPXNET DISCONNECT
is:
      IPXNET DISCONNECT

  IPXNET STARTSERVER

      IPXNET STARTSERVER starts an IPX
tunneling server on this DOSBox
      session. By default, the server

will accept connections on UDP port
213, though this can be changed.
Once the server is started, DOSBox
will automatically start a
client connection to the IPX
tunneling server.

The syntax for IPXNET
STARTSERVER is:
IPXNET STARTSERVER <port>

If the server is behind a
router, UDP port <port> needs to be
forwarded
to that computer.

On Linux/Unix-based systems port
numbers smaller than 1023 can only be
used with root privileges. Use
ports greater than 1023 on those
systems.

IPXNET STOPSERVER

IPXNET STOPSERVER stops the IPX
tunneling server running on this
DOSBox

session. Care should be taken to ensure that all other connections have
terminated as well, since stopping the server may cause lockups on other
machines that are still using the IPX tunneling server.

The syntax for IPXNET STOPSERVER is:
IPXNET STOPSERVER

IPXNET PING

IPXNET PING broadcasts a ping request through the IPX tunneled network.
In response, all other connected computers will respond to the ping
and report the time it took to receive and send the ping message.

The syntax for IPXNET PING is:
IPXNET PING

IPXNET STATUS

IPXNET STATUS reports the current state of this DOSBox session's
IPX tunneling network. For a list of all computers connected to the
network use the IPXNET PING command.

The syntax for IPXNET STATUS is: IPXNET STATUS

KEYB [keyboardlayoutcode [codepage [codepagefile]]]

Change the keyboard layout. For detailed information about keyboard layouts
please see Section 8: "Keyboard Layout"

[keyboardlayoutcode] is a string consisting of five or less characters,
examples are PL214 (Polish

typists) or PL457 (Polish
programmers).
        It specifies the keyboard layout
to be used.
        The list of all layouts built
into DOSBox is here:

http://vogons.zetafleet.com/viewtopic
.php?t=21824

    [codepage] is the number of the
codepage to be used. The keyboard
layout
        has to provide support for the
specified codepage, otherwise the
layout
        loading will fail.
        If no codepage is specified, an
appropriate codepage for the
requested
        layout is chosen automatically.

    [codepagefile] can be used to load
codepages that are yet not compiled
        into DOSBox. This is only needed
when DOSBox does not find the
codepage.

If no codepagefile is specified, but you place all ten ega.cpx files (from FreeDOS) in the DOSBox program folder, an appropriate codepagefile for the requested layout/codepage is chosen automatically.

Examples:
1. To load the polish typist keys layout (automatically uses codepage 852):
        keyb pl214
2. To load one of russian keyboard layouts with codepage 866:
        keyb ru441 866
        In order to type russian characters press ALT+RIGHT-SHIFT.
3. To load one of french keyboard layouts with codepage 850 (where the codepage is defined in EGACPI.DAT):
        keyb fr189 850 EGACPI.DAT
4. To load codepage 858 (without a keyboard layout):
        keyb none 858

     This can be used to change the codepage for the FreeDOS keyb2 utility.
     5. To display the current codepage and, if loaded, the keyboard layout:
          keyb

For more information use the /? command line switch with the programs.

==================
5. Special Keys:
==================

ALT-ENTER   Switch to full screen and back.
ALT-PAUSE   Pause emulation (hit ALT-PAUSE again to continue).
CTRL-F1   Start the keymapper.
CTRL-F4   Change between mounted floppy/CD images. Update directory

cache
                for all drives.
CTRL-ALT-F5   Start/Stop creating a
movie of the screen. (avi video
capturing)
CTRL-F5   Save a screenshot. (PNG
format)
CTRL-F6   Start/Stop recording
sound output to a wave file.
CTRL-ALT-F7   Start/Stop recording of
OPL commands. (DRO format)
CTRL-ALT-F8   Start/Stop the
recording of raw MIDI commands.
CTRL-F7   Decrease frameskip.
CTRL-F8   Increase frameskip.
CTRL-F9   Kill DOSBox.
CTRL-F10   Capture/Release the
mouse.
CTRL-F11   Slow down emulation
(Decrease DOSBox Cycles).
CTRL-F12   Speed up emulation
(Increase DOSBox Cycles)*.
ALT-F12   Unlock speed (turbo
button/fast forward)**.
F11, ALT-F11 (machine=cga) change
tint in NTSC output modes***
F11   (machine=hercules)

cycle through amber, green, white colouring***

*NOTE: Once you increase your DOSBox cycles beyond your computer CPU resources,
        it will produce the same effect as slowing down the emulation.
        This maximum will vary from computer to computer.

**NOTE: You need free CPU resources for this (the more you have, the faster
        it goes), so it won't work at all with cycles=max or a too high amount
        of fixed cycles. You have to keep the keys pressed for it to work!

***NOTE: These keys won't work if you saved a mapper file earlier with
        a different machine type. So either reassign them or reset the mapper.

These are the default keybindings.

They can be changed in the keymapper
(see Section 7: KeyMapper).

In MAC OS you can try using
cmd(applekey) together with Ctrl if
the key doesn't
work eg. cmd-ctrl-F1, but some keys
may still need remapping (in Linux
too).

Saved/recorded files can be found in:
    (Windows)   "Start/WinLogo
Menu"->"All
Programs"->DOSBox-0.74->Extras
    (Linux)   ~/.dosbox/capture
    (MAC OS X)
"~/Library/Preferences/capture"
This can be changed in the DOSBox
configuration file.

======================
6. Joystick/Gamepad:
======================

The standard joystick port in DOS

supports a maximum of 4 axes and 4 buttons.
For more, different modifications of that configuration were used.

To force DOSBox to use a different type of emulated joystick/gamepad, the entry
"joysticktype" in the [joystick] section of the DOSBox configuration file can
be used.

none - disables controller support.
auto - (default) autodetects whether you have one or two controllers connected:
        if you have one - '4axis' setting is used,
        if you have two - '2axis' setting is used.
2axis - If you have two controllers connected, each will emulate a joystick
        with 2 axes and 2 buttons. If you have only one controller connected,

it will emulate a joystick with only 2 axis and 2 buttons.
4axis - supports only first controller, emulates a joystick
with 4 axis and 4 buttons or a gamepad with 2axis and 6 buttons.
4axis_2 - supports only second controller.
fcs   - supports only first controller, emulates ThrustMaster
Flight Control System, with 3-axes, 4 buttons and 1 hat.
ch   - supports only first controller, emulates CH Flightstick,
with 4-axes, 6 buttons and 1 hat, but you cannot press more
than one button at the same time.

You also have to configure controller properly inside the game.

It is important to remember that if you saved the mapperfile without joystick

connected, or with a different

joystick setting, your new setting
will
not work
properly,
or not work at all, until you reset
DOSBox's mapperfile.

If controller is working properly
outside DOSBox, but doesn't calibrate
properly
inside DOSBox, try different 'timed'
setting in DOSBox's configuration
file.

==============
7. KeyMapper:
==============

You start the DOSBox mapper either
with CTRL-F1 (see section 5. Special
Keys)
or -startmapper (see Section 3.
Command Line Parameters).
You are presented with a virtual

keyboard and a virtual joystick.

These virtual devices correspond to the keys and events DOSBox will report to the DOS applications. If you click on a button with your mouse,
you can see in the lower left corner with which event it is associated (EVENT) and to what events it is currently bound.

Event: EVENT
BIND: BIND (the real key/button/axis you push with your finger/hand)

Add   Del
mod1 hold
    Next
mod2
mod3

EVENT
    The key or joystick axis/button/hat DOSBox will report to

DOS applications.

    (the event that will happen during the game, (eg. shooting/jumping/walking)
BIND

    The key on your real keyboard or the axis/button/hat on your real
    joystick(s) (as reported by SDL), which is connected to the EVENT.
mod1,2,3

    Modifiers. These are keys you need to have to be pressed while pressing
    BIND. mod1 = CTRL and mod2 = ALT. These are generally only used when you
    want to change the special keys of DOSBox.
Add

    Add a new BIND to this EVENT. Basically add a key from your keyboard or an
    event from the joystick (button press, axis/hat movement) which will
    produce the EVENT in DOSBox.
Del

    Delete the BIND to this EVENT. If

an EVENT has no BINDS, then it is not
    possible to trigger this event in
DOSBox (that is there's no way to
type
    the key or use the respective
action of the joystick).
Next
    Go through the list of bindings
which map to this EVENT.

Example:
Q1. You want to have the X on your
keyboard to type a Z in DOSBox.
    A. Click on the Z on the keyboard
mapper. Click "Add".
        Now press the X key on your
keyboard.

Q2. If you click "Next" a couple of
times, you will notice that the Z on
your
    keyboard also produces an Z in
DOSBox.
    A. Therefore select the Z again,
and click "Next" until you have the Z
on

your keyboard. Now click
"Del".

Q3. If you try it out in DOSBox, you
will notice that pressing X makes ZX
   appear.
      A. The X on your keyboard is
still mapped to the X as well! Click
on
         the X in the keyboard mapper
and search with "Next" until you find
the
         mapped key X. Click "Del".

Examples about remapping the
joystick:
   You have a joystick attached, it is
working fine under DOSBox and you
   want to play some keyboard-only
game with the joystick (it is assumed
   that the game is controlled by the
arrows on the keyboard):
      1. Start the mapper, then click
on one of the left keyboard arrow.
         EVENT should be key_left. Now
click on Add and move your joystick

in the respective direction,
this should add an event to the BIND.
    2. Repeat the above for the
missing three directions,
additionally
        the buttons of the joystick
can be remapped as well (fire/jump).
    3. Click on Save, then on Exit
and test it with some game.

    You want to swap the y-axis of the
joystick because some flightsim uses
    the up/down joystick movement in a
way you don't like, and it is not
    configurable in the game itself:
    1. Start the mapper and click on
Y- in the first joystick field.
        EVENT should be jaxis_0_1-.
    2. Click on Del to remove the
current binding, then click Add and
move
        your joystick downwards. A new
bind should be created.
    3. Repeat this for Y+, save the
layout and finally test it with some
game.

   If you want to remap anything to
your d-pad/hat you will have to
change
   'joysticktype=auto' to
'joysticktype=fcs' in configuration
file. Maybe this
   will be improved in the next dosbox
version.

If you change the default mapping,
you can save your changes by clicking
on
"Save". DOSBox will save the mapping
to a location specified in
the configuration file (the
mapperfile= entry). At startup,
DOSBox will load
your mapperfile, if it is present in
the DOSBox configuration file.

======================
8. Keyboard Layout:
======================

To switch to a different keyboard layout, either the entry "keyboardlayout"
in the [dos] section of the DOSBox configuration file can be used, or the
internal DOSBox program keyb.com (Section 4: Internal Programs)
Both accept DOS conforming language codes (see below),
but only by using keyb.com a custom codepage can be specified.

The default keyboardlayout=auto currently works under windows only. The language
is chosen according to the OS language, but the keyboard layout is not detected.

Layout switching
  DOSBox supports a number of keyboard layouts and codepages by default,
  in this case just the layout identifier needs to be specified (like

DOSBox 0.74 Manual.txt
  keyboardlayout=PL214 in the DOSBox
configuration file, or using "keyb
PL214"
  at the DOSBox command prompt). The
list of all layouts built into DOSBox
is
  here:
http://vogons.zetafleet.com/viewtopic
.php?t=21824

  Some keyboard layouts (for example
layout GK319 codepage 869 and layout
RU441
  codepage 808) have support for dual
layouts that can be accessed by
pressing
  LeftALT+RrightSHIFT for one layout
and LeftALT+LeftSHIFT for the other.
  Some keyboard layouts (for example
layout LT456 codepage 771) have
support
  for three layouts, third can be
accessed by pressing LeftALT+LeftCTRL

Supported external files
  The FreeDOS .kl files are supported
(FreeDOS keyb2 keyboard layoutfiles)

as
   well as the FreeDOS
keyboard.sys/keybrd2.sys/keybrd3.sys
libraries which
   consist of all available .kl files.
   See http://www.freedos.org/ for
precompiled keyboard layouts if
   the DOSBox-integrated layouts don't
work for some reason, or if updated
or
   new layouts become available.

   Both .CPI (MS-DOS and compatible
codepage files) and .CPX (FreeDOS
   UPX-compressed codepage files) can
be used. Some codepages are compiled
   into DOSBox, so it is mostly not
needed to care about external
codepage
   files. If you need a different (or
custom) codepage file, copy it into
   the directory of the DOSBox so it
is accessible for DOSBox.
   If you place all ten ega.cpx files
(from FreeDOS) in DOSBox folder,
   an appropriate codepagefile for the
requested layout/codepage is

  chosen automatically.

   Additional layouts can be added by
copying the corresponding .kl file
into
   the directory of the DOSBox
configuration file and using the
first part of
   the filename as language code.
   Example: For the file UZ.KL
(keyboard layout for Uzbekistan)
specify
            "keyboardlayout=uz" in the
DOSBox configuration file.
   The integration of keyboard layout
packages (like keybrd2.sys) works
similar.

Note that the keyboard layout allows
foreign characters to be entered, but
there is NO support for them in
filenames. Try to avoid them both
inside
DOSBox as well as in files on your
host operating system that are
accessible
by DOSBox.

==================================
9. Serial Multiplayer feature:
==================================

DOSBox can emulate a serial nullmodem
cable over network and internet.
It can be configured through the
[serialports] section in the DOSBox
configuration file.

To create a nullmodem connection, one
side needs to act as the server and
one as the client.

The server needs to be set up in the
DOSBox configuration file like this:
    serial1=nullmodem

The client:
    serial1=nullmodem server:<IP or
name of the server>

Now start your game and choose
nullmodem / serial cable / already

connected
as multiplayer method on COM1. Set
the same baudrate on both computers.

Furthermore, additional parameters
can be specified to control the
behavior
of the nullmodem connection. These
are all parameters:

 * port: - TCP port number.
Default: 23
 * rxdelay: - how long
(milliseconds) to delay received data
if the

                        interface is not
ready. Increase this value if you
encounter

                        overrun errors in
the DOSBox Status Window. Default:
100
 * txdelay: - how long to gather
data before sending a packet.
Default: 12

                        (reduces Network
overhead)
 * server: - This nullmodem

DOSBox 0.74 Manual.txt
will be a client connecting to the specified

                          server. (No server argument: be a server.)
 * transparent:1 – Only send the serial data, no RTS/DTR handshake. Use this

                          when connecting to anything other than a nullmodem.
 * telnet:1   – Interpret Telnet data from the remote site. Automatically

                          sets transparent.
 * usedtr:1   – The connection will not be established until DTR is switched

                          on by the DOS program. Useful for modem terminals.
                          Automatically sets transparent.
 * inhsocket:1   – Use a socket passed to DOSBox by command line. Automatically

                          sets transparent.
(Socket Inheritance: It is used for
                          playing old DOS door games on new BBS software.)

Example: Be a server listening on TCP port 5000.
    serial1=nullmodem server:<IP or name of the server> port:5000 rxdelay:1000

===
10. How to speed up/slow down DOSBox:
===

DOSBox emulates the CPU, the sound and graphic cards, and other peripherals
of a PC, all at the same time. The speed of an emulated DOS application depends on how many instructions can be emulated, which is adjustable (number of cycles).

CPU Cycles (speed up/slow down)
   By default (cycles=auto) DOSBox tries to detect whether a game needs to
   be run with as many instructions

emulated per time interval as
possible
  (cycles=max, sometimes this results
in game working too fast or
unstable),
  or whether to use fixed amount of
cycles (cycles=3000, sometimes this
results
  in game working too slow or too
fast). But you can always manually
force
  a different setting in the DOSBox's
configuration file.

  You can force the slow or fast
behavior by setting a fixed amount of
cycles
  in the DOSBox's configuration file.
If you for example set cycles=10000,
then
  DOSBox window will display a line
"Cpu Speed: fixed 10000 cycles" at
the top.
  In this mode you can reduce the
amount of cycles even more by hitting
CTRL-F11
  (you can go as low as you want) or

raise it by hitting CTRL-F12 as much as you
   want, but you will be limited by the power of one core of your computer's CPU.
   You can see how much free time your real CPU's cores have by looking at
   the Task Manager in Windows 2000/XP/Vista/7 and the System Monitor
   in Windows 95/98/ME. Once 100% of the power of your computer's real CPU's one
   core is used, there is no further way to speed up DOSBox (it will actually
   start to slow down), unless you reduce the load generated by the non-CPU parts
   of DOSBox. DOSBox can use only one core of your CPU, so If you have
   for example a CPU with 4 cores, DOSBox will not be able to use the power
   of three other cores.

   You can also force the fast

DOSBox 0.74 Manual.txt

behavior by setting cycles=max in the DOSBox
   configuration file. The DOSBox window will display a line
   "Cpu Speed: max 100% cycles" at the top then. This time you won't have to care
   how much free time your real CPU's cores have, because DOSBox will always use
   100% of your real CPU's one core. In this mode you can reduce the amount
   of your real CPU's core usage by CTRL-F11 or raise it with CTRL-F12.

CPU Core (speed up)
   On x86 architectures you can try to force the usage of a dynamically
   recompiling core (set core=dynamic in the DOSBox configuration file).
   This usually gives better results if the auto detection (core=auto) fails.
   It is best accompanied by cycles=max. But you may also try using it with

high amounts of cycles (for example 20000 or more). Note that there might be
  games that work worse/crash with the dynamic core (so save your game often),
  or do not work at all!

Graphics emulation (speed up)
  VGA emulation is a demanding part of DOSBox in terms of actual CPU usage.
  Increase the number of frames skipped (in increments of one) by pressing
  CTRL-F8. Your CPU usage should decrease when using a fixed cycle setting,
  and you will be able to increase cycles with CTRL-F12.
  You can repeat this until the game runs fast enough for you.
  Please note that this is a trade-off: you lose in fluidity of video what
  you gain in speed.

Sound emulation (speed up)
   You can also try to disable the
sound through the setup utility of
the game
   to reduce load on your CPU further.
Setting nosound=true in DOSBox's
   configuration does NOT disable the
emulation of sound devices, just
   the output of sound will be
disabled.

Also try to close every program but
DOSBox to reserve as much resources
as possible for DOSBox.

Advanced cycles configuration:
The cycles=auto and cycles=max
settings can be parameterized to have
different startup defaults. The
syntax is
   cycles=auto ["realmode default"]
["protected mode default"%]
                  [limit "cycle limit"]
   cycles=max ["protected mode
default"%] [limit "cycle limit"]
Example:

   cycles=auto 5000 80% limit 20000
   will use cycles=5000 for real mode
games, 80% CPU throttling for
   protected mode games along with a
hard cycle limit of 20000

======================
11. Troubleshooting:
======================

General tip:
   Check messages in DOSBox Status
Window. See section 12. "DOSBox
Status Window"

DOSBox crashes right after starting
it:
   - use different values for the
output= entry in your DOSBox
     configuration file
   - try to update your graphics card
driver and DirectX
   - (Linux) set the environment
variable SDL_AUDIODRIVER to alsa or
oss.

Running a certain game closes DOSBox, crashes with some message or hangs:
   - see if it works with a default DOSBox installation
      (unmodified configuration file)
   - try it with sound disabled (use the sound configuration
      program that comes with the game, additionally you can
      set sbtype=none and gus=false in the DOSBox configuration file)
   - change some entries of the DOSBox configuration file, especially try:
         core=normal
         fixed cycles (for example cycles=10000)
         ems=false
         xms=false
      or combinations of the above settings,
      similar the machine settings that control the emulated chipset and
      functionality:
         machine=vesa_nolfb
      or
         machine=vgaonly

 - use loadfix before starting the game

The game exits to the DOSBox prompt with some error message:
 - read the error message closely and try to locate the error
 - try the hints at the above sections
 - mount differently as some games are picky about the locations,
    for example if you used "mount d d:\oldgames\game" try
    "mount c d:\oldgames\game" and "mount c d:\oldgames"
 - if the game requires a CD-ROM be sure you used "-t cdrom" when
    mounting and try different additional parameters (the ioctl,
    usecd and label switches, see the appropriate section)
 - check the file permissions of the game files (remove read-only
    attributes, add write permissions etc.)
 - try reinstalling the game within DOSBox

```
=============================
```
12. DOSBox Status Window:
```
=============================
```

DOSBox's Staus window contains many
useful information about your currant
configuration, your actions in
DOSBox, errors that happened and
more.
Whenever you have any problem with
DOSBox check these messages.

To start DOSBox Status Window:
   (Windows) Status Window is being
started together with main DOSBox
window.
   (Linux)   You may have to start
DOSBox from a console to see Status
Window.
   (MAC OS X) Right click on
DOSBox.app, choose "Show Package
Contents"->
              ->enter
"Contents"->enter "MacOS"->run

```
===========================================
```
13. The configuration (options) file:
```
===========================================
```

The configuration file is
automatically created the first time
you run DOSBox.
The file can be found in:
    (Windows) "Start/WinLogo
Menu"->"All
Programs"->DOSBox-0.74->Options
    (Linux)
~/.dosbox/dosbox-0.74.conf
    (MAC OS X)
"~/Library/Preferences/DOSBox 0.74
Preferences"
The file is divided into several
sections. Each section starts with a
[section name] line. The settings are
the property=value lines where value
can
be altered to customize DOSBox.
and % indicate comment-lines.

An extra configuration file can be
generated by CONFIG.COM, which can be
found
on the internal DOSBox Z: drive when
you start up DOSBox. Look in the
Section 4:
"Internal programs" for usage of
CONFIG.COM. You can start DOSBox with
the -conf switch to load the
generated file and use its settings.

DOSBox will load configuration files
that are specified with -conf. If
none were
specified, it will try to load
"dosbox.conf" from the local
directory.
If there is none, DOSBox will load
the user configuration file.
This file will be created if it
doesn't exist.

Important!: In Windows Vista/7 the
configuration file won't work
correctly

if it is located in "Windows" or
"Program Files" folder or their
subfolders,
or directly on c:\, so the best place
for storing extra configuration files
is
for example: C:\oldgames

=========================
14. The Language File:
=========================

A language file can be generated by
CONFIG.COM, which can be found on the
internal DOSBox Z: drive when you
start up DOSBox. Look in the Section
4:
"Internal programs" for usage of
CONFIG.COM.
Read the language file, and you will
hopefully understand how to change
it.
Start DOSBox with the -lang switch to
use your new language file.
Alternatively, you can setup the

filename in the configuration file
in the [dosbox] section. There's a
language= entry that can be changed
with
the filelocation.

```
===============================================
===
```

15. Building your own version of
DOSBox:

```
===============================================
===
```

Download the source.
Check the INSTALL in the source
distribution.

```
=======================
```

16. Special thanks:

```
=======================
```

See the THANKS file.

```
=============
17. Contact:
=============
```

See the site:
http://www.dosbox.com
for an email address (The Crew-page).