

Command Line Version User's Guide

7z.exe is the command line version of 7-Zip. 7z.exe uses 7z.dll from the 7-Zip package. 7z.dll is used by the 7-Zip File Manager also.

7za.exe (a = alone) is a standalone version of 7-Zip. 7za.exe supports only 7z, lzma, cab, zip, gzip, bzip2, Z and tar formats. 7za.exe doesn't use external modules.

- [Command Line syntax](#)
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Command Line Syntax

```
7z <command> [<switch>...] <base_archive_name> [<arguments>...]
```

```
<arguments> ::= <switch> | <wildcard> | <filename> | <list_file>
<switch> ::= <switch_symbol><switch_characters>[<option>]
<switch_symbol> ::= '/' | '-'
<list_file> ::= @{filename}
```

Expressions in square brackets (between '[' and ']') are optional.

Expressions in curly braces ('{' and '}') mean that instead of that Expression (including braces), the user must substitute some string.

Expression

```
expression1 | expression2 | ... | expressionN
```

means that any (but only one) from these expressions must be specified.

[Commands](#) and [switches](#) can be entered in upper or lower case.

Command is the first non-switch argument.

The "base_archive_name" must be the first filename on the command line after the command.

The switches and other filenames can be in any order.

Wildcards or filenames with spaces must be quoted:

```
"Dir\Program files\*"
Dir\ "Program files" \*
```

Switch options can be combined to save command line length. However, some switch options take optional string arguments and therefore, must be the last option in a combined argument token string because 7-Zip accepts the rest of the argument token as the optional argument.

7-Zip uses wild name matching similar to Windows 95:

- '*' means a sequence of arbitrary characters.
- '?' means any character.

7-Zip doesn't uses the system wildcard parser. 7-Zip doesn't follow the archaic rule by which *.* means any file. 7-Zip treats *.* as matching the name of any file that has an extension. To process all files, you must use a * wildcard.

Examples:

*.txt	means all files with an extension of ".txt"
?a*	means all files with a second character of "a"
1	means all names that contains character "1"

<code>*.*.*</code>	means all names that contain two at least "." characters
--------------------	--

The default wildcard "*" will be used if there is no filename/wildcard in the command line.

Slash ('\') at the end of a path means a directory. Without a Slash ('\') at the end of the path, the path can refer either to a file or a directory.

List file

You can supply one or more filenames or wildcards for special list files (files containing lists of files). The filenames in such list file must be separated by new line symbol(s).

For list files, 7-Zip uses UTF-8 encoding by default. You can change encoding using [-scs](#) switch.

Multiple list files are supported.

For example, if the file "listfile.txt" contains the following:

```
My programs\*.cpp
Src\*.cpp
```

then the command

```
7z a -tzip archive.zip @listfile.txt
```

adds to the archive "archive.zip" all "*.cpp" files from directories "My programs" and "Src".

Short and Long File Names

7-Zip supports short file names (like FILENA~1.TXT) in some cases. However, it's strongly recommended to use only the real (long) file names.

Exit Codes from 7-Zip

7-Zip returns the following exit codes:

Code	Meaning
0	No error
1	Warning (Non fatal error(s)). For example, one or more files were locked by some other application, so they were not compressed.
2	Fatal error
7	Command line error
8	Not enough memory for operation
255	User stopped the process

Command Line Commands

The command is the first non-switch argument on the command line.

Command names are not case sensitive.

See also [Command Line Syntax](#) for more details about using the command line.

Commands quick reference

Command	Description
a	Add
b	Benchmark

d	Delete
e	Extract
l	List
t	Test
u	Update
x	eXtract with full paths

a (Add) command

Adds files to archive.

Examples

```
7z a archive1.zip subdir\
```

adds all files and subfolders from folder **subdir** to archive **archive1.zip**. The filenames in archive will contain **subdir** prefix.

```
7z a archive2.zip .\subdir\*
```

adds all files and subfolders from folder **subdir** to archive **archive2.zip**. The filenames in archive will not contain **subdir** prefix.

```
cd /D c:\dir1\
7z a c:\archive3.zip dir2\dir3\
```

The filenames in archive **c:\archive3.zip** will contain **dir2\dir3** prefix, but they will not contain **c:\dir1** prefix.

```
7z a Files.7z *.txt -r
```

adds all *.txt files from current folder and its subfolders to archive **Files.7z**.

Notes

7-Zip doesn't use the system wildcard parser. 7-Zip doesn't follow the archaic rule by which *.* means any file. 7-Zip treats *.* as matching the name of any file that has an extension. To process all files, you must use a * wildcard.

Switches that can be used with this command

- [-i \(Include\)](#)
- [-m \(Method\)](#)
- [-p \(Set Password\)](#)
- [-r \(Recurse\)](#)
- [-sfx \(create SFX\)](#)
- [-si \(use StdIn\)](#)
- [-so \(use StdOut\)](#)
- [-ssw \(Compress shared files\)](#)
- [-t \(Type of archive\)](#)
- [-u \(Update\)](#)
- [-v \(Volumes\)](#)
- [-w \(Working Dir\)](#)
- [-x \(Exclude\)](#)

See also

Commands: [d \(Delete\)](#), [u \(Update\)](#)

Switches: [-u \(Update\)](#)

b (Benchmark) command

Measures speed of the CPU and checks RAM for errors.

Syntax

```
b [number_of_iterations] [-mmt{N}] [-md{N}] [-mm={Method}]
```

There are two tests:

1. Compressing with LZMA method
2. Decompressing with LZMA method

The benchmark shows a rating in MIPS (million instructions per second). The rating value is calculated from the measured CPU speed and it is normalized with results of Intel Core 2 CPU with multi-threading option switched off. So if you have Intel Core 2 Duo, rating values must be close to real CPU frequency.

You can change the upper dictionary size to increase memory usage by `-md{N}` switch. Also, you can change the number of threads by `-mmt{N}` switch.

The **Dict** column shows dictionary size. For example, 21 means $2^{21} = 2$ MB.

The **Usage** column shows the percentage of time the processor is working. It's normalized for a one-thread load. For example, 180% CPU Usage for 2 threads can mean that average CPU usage is about 90% for each thread.

The **R / U** column shows the rating normalized for 100% of CPU usage. That column shows the performance of one average CPU thread.

Avr shows averages for different dictionary sizes.

Tot shows averages of the compression and decompression ratings.

Compression speed and rating strongly depend on memory (RAM) latency.

Decompression speed and rating strongly depend on the integer performance of the CPU. For example, the Intel Pentium 4 has big branch misprediction penalty (which is an effect of its long pipeline) and pretty slow multiply and shift operations. So, the Pentium 4 has pretty low decompressing ratings.

You can run a CRC calculation benchmark by specifying `-mm=crc`. That test shows the speed of CRC calculation in MB/s. The first column shows the size of the block. The next column shows the speed of CRC calculation for one thread. The other columns are results for multi-threaded CRC calculation.

Examples

```
7z b
```

runs benchmarking.

```
7z b -mmt1 -md26
```

runs benchmarking with one thread and 64 MB dictionary.

```
7z b 30
```

runs benchmarking with default settings for 30 iterations.

d (Delete) command

Deletes files from archive.

Example

```
7z d archive.zip *.bak -r
```

deletes *.bak files from archive archive.zip.

Notes

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Switches that can be used with this command

[-i \(Include\)](#)
[-m \(Method\)](#)
[-p \(Set Password\)](#)
[-r \(Recurse\)](#)
[-u \(Update\)](#)
[-w \(Working Dir\)](#)
[-x \(Exclude\)](#)

See also

Commands: [a \(Add\)](#), [u \(Update\)](#)

Switches: [-u \(Update\)](#)

e (Extract) command

Extracts files from an archive to the current directory or to the output directory. The output directory can be specified by [-o \(Set Output Directory\)](#) switch.

This command copies all extracted files to one directory. If you want extract files with full paths, you must use [x \(Extract with full paths\)](#) command.

7-Zip will prompt the user before overwriting existing files unless the user specifies the [-y \(Assume Yes on all queries\)](#) switch. If the user gives a **no** answer, 7-Zip will prompt for the file to be extracted to a new filename. Then a **no** answer skips that file; or, **yes** prompts for new filename.

7-Zip accepts the following responses:

Answer	Abbr.	Action
Yes	y	
No	n	
Always	a	Assume YES for ALL subsequent queries of the same class
Skip	s	Assume NO for ALL subsequent queries of the same class
Quit	q	Quit the program

Abbreviated responses are allowed.

Examples

```
7z e archive.zip
```

extracts all files from archive archive.zip to the current directory.

```
7z e archive.zip -oc:\soft *.cpp -r
```

extracts all *.cpp files from archive archive.zip to c:\soft folder.

Notes

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Switches that can be used with this command

[-ai \(Include archives\)](#)
[-an \(Disable parsing of archive name\)](#)
[-ao \(Overwrite mode\)](#)
[-ax \(Exclude archives\)](#)
[-i \(Include\)](#)
[-o \(Set Output Directory\)](#)
[-p \(Set Password\)](#)
[-r \(Recurse\)](#)
[-so \(use StdOut\)](#)
[-t \(Type of archive\)](#)
[-x \(Exclude\)](#)
[-y \(Assume Yes on all queries\)](#)

See also

Commands: [x \(Extract with full paths\)](#)

l (List contents of archive) command

Lists contents of archive.

Examples

```
7z l archive.zip
```

lists all files from archive **archive.zip**.

Notes

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Switches that can be used with this command

[-ai \(Include archives\)](#)
[-an \(Disable parsing of archive name\)](#)
[-ax \(Exclude archives\)](#)
[-i \(Include\)](#)
[-slt \(Show technical information\)](#)
[-p \(Set Password\)](#)
[-r \(Recurse\)](#)
[-t \(Type of archive\)](#)
[-x \(Exclude\)](#)

t (Test integrity of archive) command

Tests archive files.

Example

```
7z t archive.zip *.doc -r
```

tests ***.doc** files in archive **archive.zip**.

Notes

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Switches that can be used with this command

- [-ai \(Include archives\)](#)
- [-an \(Disable parsing of archive_name\)](#)
- [-ax \(Exclude archives\)](#)
- [-i \(Include\)](#)
- [-p \(Set Password\)](#)
- [-r \(Recurse\)](#)
- [-x \(Exclude\)](#)

u (Update) command

Update older files in the archive and add files that are not already in the archive.

Note: the updating of solid .7z archives can be slow, since it can require some recompression.

Example

```
7z u archive.zip *.doc
```

updates *.doc files to archive archive.zip.

Notes

7-Zip doesn't use the system wildcard parser. 7-Zip doesn't follow the archaic rule by which *.* means any file. 7-Zip treats *.* as matching the name of any file that has an extension. To process all files, you must use a * wildcard.

Switches that can be used with this command

- [-i \(Include\)](#)
- [-m \(Method\)](#)
- [-p \(Set Password\)](#)
- [-r \(Recurse\)](#)
- [-sfx \(create SFX\)](#)
- [-si \(use StdIn\)](#)
- [-so \(use StdOut\)](#)
- [-ssw \(Compress shared files\)](#)
- [-t \(Type of archive\)](#)
- [-u \(Update\)](#)
- [-w \(Working Dir\)](#)
- [-x \(Exclude\)](#)

See also

Commands: [a \(Add\)](#), [d \(Delete\)](#),

Switches: [-u \(Update\)](#)

x (Extract with full paths) command

Extracts files from an archive with their full paths in the current directory, or in an output directory if specified.

See the [e \(Extract\)](#) command description for more details.

Examples

```
7z x archive.zip
```

extracts all files from the archive archive.zip to the current directory.

```
7z x archive.zip -oc:\soft *.cpp -r
```

extracts all *.cpp files from the archive archive.zip to c:\soft folder.

Notes

7-Zip doesn't use the system wildcard parser. 7-Zip doesn't follow the archaic rule by which *.* means any file. 7-Zip treats *.* as matching the name of any file that has an extension. To process all files, you must use a * wildcard.

Switches that can be used with this command

[-ai \(Include archives\)](#)
[-an \(Disable parsing of archive name\)](#)
[-ao \(Overwrite mode\)](#)
[-ax \(Exclude archives\)](#)
[-i \(Include\)](#)
[-o \(Set Output Directory\)](#)
[-p \(Set Password\)](#)
[-r \(Recurse\)](#)
[-so \(use StdOut\)](#)
[-t \(Type of archive\)](#)
[-x \(Exclude\)](#)
[-y \(Assume Yes on all queries\)](#)

See also

Commands: [e \(Extract\)](#)

Command Line Switches

Syntax

```
<switch> ::= <switch_symbol><switch_characters>[<option>]
<switch_symbol> ::= '/' | '-'
```

On the command line, a switch consists of a switch specifier, either a dash (-) or a forward slash (/), followed by the name of the switch. Switch names cannot be abbreviated.

Some switches take an argument after the switch name. No spaces or tabs are allowed within a switch specification. Switch names are not case sensitive, but arguments can be case sensitive.

Switch can be used in any place in command line.

See also [Command Line Syntax](#) for more details about using the command line.

Switch quick reference

Switch	Description
--	Stop switches parsing
-ai	Include archive filenames
-an	Disable parsing of archive name
-ao	Overwrite mode
-ax	Exclude archive filenames
-i	Include filenames
-m	Set Compression Method
-o	Set Output directory
-p	Set Password
-r	Recurse subdirectories
-scc	Set charset for console input/output
-scs	Set charset for list files

-seml	Send archive by email
-slp	Set Large Pages mode
-slt	Show technical information
-sfx	Create SFX archive
-si	Read data from StdIn
-so	Write data to StdOut
-ssc	Set Sensitive Case mode
-ssw	Compress files open for writing
-t	Type of archive
-u	Update options
-v	Create Volumes
-w	Set Working directory
-x	Exclude filenames
-y	Assume Yes on all queries

-- (Stop switches parsing) switch

Disables switch parsing after "--" on the command line. This is to allow 7-Zip to use file names that start with "-".

Syntax

```
--
```

Examples

```
7z t -- -ArchiveName.7z
```

tests **-ArchiveName.7z** archive.

-ai (Include archive filenames) switch

Specifies additional include archive filenames and wildcards.

Multiple include switches are supported.

Syntax

```
-ai[<recurse_type>]<file_ref>

<recurse_type> ::= r[- | 0]
<file_ref> ::= @{listfile} | !{wildcard}
```

Parameters

<recurse_type>

Specifies how wildcards and file names in this switch must be used. If this option is not given, recursion will be not used. For more details see specification of the [-r \(Recurse\)](#) switch.

```
<recurse_type> ::= r[- | 0]
```

<file_ref>

Specifies filenames and wildcards or list file that specify processed files.

```
<file_ref> ::= @{listfile} | !{wildcard}
```

Option	Description
{listfile}	Specifies name of list file. See List file description.
{wildcard}	Specifies wildcard or filename.

Examples

```
7z t -an -air!*.7z
```

tests *.7z archives in current directory and all it's subdirectories.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-ax \(Exclude archives\)](#) [-an \(Disable parsing of archive_name\)](#)

-an (Disable parsing of archive_name) switch

Disables parsing of the archive_name field on the command line. This switch must be used with the [-ai \(Include archives\) switch](#). If you use a file list for your archives, you specify it with the -ai switch, so you need to disable parsing of archive_name field from command line.

Syntax

```
-an
```

Examples

```
7z t -an -ai!*.7z -ax!a*.7z
```

tests all *.7z archives, except a*.7z archives.

Commands that can be used with this switch

[e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-ai \(Include archives\)](#) [-ax \(Exclude archives\)](#)

-ao (Overwrite mode) switch

Specifies the overwrite mode during extraction, to overwrite files already present on disk.

Syntax

```
-ao[a | s | t | u ]
```

Switch	Description
-aoa	Overwrite All existing files without prompt.
-aos	Skip extracting of existing files.

-aou	aUto rename extracting file (for example, name.txt will be renamed to name_1.txt).
-aot	auto rename existing file (for example, name.txt will be renamed to name_1.txt).

Examples

```
7z x test.zip -aoa
```

extracts all files from **test.zip** archive and overwrites existing files without any prompt.

Commands that can be used with this switch

[e \(Extract\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-y \(assume Yes on all queries\)](#),

-ax (Exclude archive filenames) switch

Specifies archives to be excluded from the operation.

Multiple exclude archive switches are supported.

Syntax

```
-ax[<recurse_type>]<file_ref>

<recurse_type> ::= r[- | 0]
<file_ref> ::= @{listfile} | !{wildcard}
```

See [-xi \(Include archive filenames\)](#) switch description for information about option parameters.

Examples

```
7z t -an -ai!*.7z -ax!a*.7z
```

tests all ***.7z** archives, except **a*.7z** archives.

Commands that can be used with this switch

[e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-ai \(Include archives\)](#) [-an \(Disable parsing of archive name\)](#)

-i (Include filenames) switch

Specifies additional include filenames and wildcards.

Multiple include switches are supported.

Syntax

```
-i[<recurse_type>]<file_ref>

<recurse_type> ::= r[- | 0]
<file_ref> ::= @{listfile} | !{wildcard}
```

Parameters

<recurse_type>

Specifies how wildcards and file names in this switch must be used. If this option is not given, then the global value, assigned by the [-r \(Recurse\)](#) switch will be used. For more details see specification of the [-r \(Recurse\)](#) switch.

```
<recurse_type> ::= r[- | 0]
```

<file_ref>

Specifies filenames and wildcards, or a list file, for files to be processed.

```
<file_ref> ::= @{listfile} | !{wildcard}
```

Option	Description
{listfile}	Specifies name of list file. See List file description.
{wildcard}	Specifies wildcard or filename.

Examples

```
7z a -tzip src.zip *.txt -ir!DIR1\*.cpp
```

adds to **src.zip** archive all ***.txt** files from current directory and all ***.cpp** files from directory **DIR1** and from all it's subdirectories.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-r \(Recurse\)](#), [-x \(Exclude\)](#)

-m (Set compression Method) switch

Specifies the compression method.

Syntax

```
-m<method_parameters>
```

The format for this switch depends on the archive type.

- [Zip](#)
- [GZip](#)
- [BZip2](#)
- [7z](#)
- [XZ](#)

Zip

Parameter	Default	Description
x=[0 1 3 5 7 9]	5	Sets level of compression.
m={MethodID}	Deflate	Sets a method: Copy, Deflate, Deflate64, BZip2, LZMA, PPMd.

fb={NumFastBytes}	32	Sets number of Fast Bytes for Deflate encoder.
pass={NumPasses}	1	Sets number of Passes for Deflate encoder.
d={Size}[b k m]	900000	Sets Dictionary size for BZip2
mem={Size}[b k m]	24	Sets size of used memory for PPMd.
o={Size}	8	Sets model order for PPMd.
mt=[off on {N}]	on	Sets multithreading mode.
em={EncryptionMethodID}	ZipCrypto	Sets a encryption method: ZipCrypto, AES128, AES192, AES256
tc=[off on]	on	Stores NTFS timestamps for files: Modification time, Creation time, Last access time.
cl=[off on]	off	7-Zip always uses local code page for file names.
cu=[off on]	off	7-Zip uses UTF-8 for file names that contain non-ASCII symbols.

By default (if **cl** and **cu** switches are not specified), 7-Zip uses UTF-8 encoding only for file names that contain symbols unsupported by local code page.

x=[0 | 1 | 3 | 5 | 7 | 9]

Sets level of compression. x=0 means Copy mode (no compression).

Deflate / Deflate64 settings:

Level	NumFastBytes	NumPasses	Description
1	32	1	Fastest
3			Fast
5			Normal
7	64	3	Maximum
9	128	10	Ultra

x=1 and x=3 with Deflate method set fast mode for compression.

BZip2 settings:

Level	Dictionary	NumPasses	Description
1	100000	1	Fastest
3	500000		Fast
5	900000		Normal
7		2	Maximum
9		7	Ultra

fb={NumFastBytes}

Sets the number of fast bytes for the Deflate/Deflate64 encoder. It can be in the range from 3 to 258 (257 for Deflate64). Usually, a big number gives a little bit better compression ratio and a slower compression process. A large fast bytes parameter can significantly increase the compression ratio for files which contain long identical sequences of bytes.

pass={NumPasses}

Sets number of passes for Deflate encoder. It can be in the range from 1 to 15 for Deflate and from 1 to 10 for BZip2. Usually, a big number gives a little bit better compression ratio and a slower compression process.

d={Size}[b|k|m]

Sets the Dictionary size for BZip2. You must specify the size in bytes, kilobytes, or megabytes. The maximum value for the Dictionary size is 900000b. If you do not specify any symbol from set [b|k|m], dictionary size will be calculated as DictionarySize = 2^{Size} bytes.

mem={Size}[b|k|m]

Sets the size of memory used for PPMd. You must specify the size in bytes, kilobytes, or megabytes. The maximum value is 256 MB = 2²⁸ bytes. The default value is 24 (16MB). If you do not specify any symbol from the set [b|k|m], the memory size will be calculated as (2^{Size}) bytes. PPMd uses the same amount of memory for compression and decompression.

o={Size}

Sets the model order for PPMd. The size must be in the range [2,16]. The default value is 8.

mt=[off | on | {N}]

Sets multithread mode. If you have a multiprocessor or multicore system, you can get a speed increase with this switch. This option affects only compression (with any method) and decompression of BZip2 streams. Each thread in the multithread mode uses 32 MB of RAM for buffering. If you specify {N}, 7-Zip tries to use N threads.

GZip

GZip uses the same parameters as Zip, but GZip compresses only with Deflate method. So GZip supports only the following parameters: x, fb, pass.

BZip2

Parameter	Default	Description
x=[1 3 5 7 9]	5	Sets level of compression.
pass={NumPasses}	1	Sets number of Passes for Bzip2 encoder.
d={Size}[b k m]	900000	Sets Dictionary size for BZip2
mt=[off on {N}]	on	Sets multithreading mode.

x=[1 | 3 | 5 | 7 | 9]

Sets level of compression

Level	Dictionary	NumPasses	Description
1	100000	1	Fastest
3	500000		Fast
5	900000		Normal
7		2	Maximum
9		7	Ultra

d={Size}[b|k|m]

Sets the Dictionary size for BZip2. You must specify the size in bytes, kilobytes, or megabytes. The maximum value for the Dictionary size is 900000b. If you do not specify any symbol from set [b|k|m], dictionary size will be calculated as DictionarySize = 2^{Size} bytes.

pass={NumPasses}

Sets the number of passes. It can be in the range from 1 to 10. The default value is 1 for normal mode, 2 for maximum mode and 7 for ultra mode. A bigger number can give a little bit better compression ratio and a slower compression process.

mt=[off | on | {N}]

Sets multithread mode. If you have a multiprocessor or multicore system, you can get a speed increase with this switch. If you specify {N}, for example mt=4, 7-Zip tries to use 4 threads.

7z

Parameter	Default	Description
<code>x=[0 1 3 5 7 9]</code>	5	Sets level of compression.
<code>s=[off on [e] [{N}f] [{N}b {N}k {N}m {N}g]</code>	on	Sets solid mode.
<code>f=[off on]</code>	on	Enables or disables compression filters for executable files.
<code>hc=[off on]</code>	on	Enables or disables archive header compressing.
<code>he=[off on]</code>	off	Enables or disables archive header encryption.
<code>b{C1}[s{S1}]:{C2}[s{S2}]</code>		Sets binding beetwen coders.
<code>{N}={MethodID}[:param1] [:param2][..]</code>	LZMA	Sets a method: LZMA, LZMA2, PPMd, BZip2, Deflate, Delta, BCJ, BCJ2, Copy.
<code>mt=[off on {N}]</code>	on	Sets multithreading mode.
<code>tc=[off on]</code>	off	Stores file creation timestamps.

x=[0 | 1 | 3 | 5 | 7 | 9]

Sets level of compression

Level	Method	Dictionary	FastBytes	MatchFinder	Filter	Description
0	Copy					No compression.
1	LZMA	64 KB	32	HC4	BCJ	Fastest compressing
3	LZMA	1 MB	32	HC4	BCJ	Fast compressing
5	LZMA	16 MB	32	BT4	BCJ	Normal compressing
7	LZMA	32 MB	64	BT4	BCJ	Maximum compressing
9	LZMA	64 MB	64	BT4	BCJ2	Ultra compressing

Note: "x" works as "x=9".

s=[off | on | [e] [{N}f] [{N}b | {N}k | {N}m | {N}g]]

Enables or disables solid mode. The default mode is s=on. In solid mode, files are grouped together. Usually, compressing in solid mode improves the compression ratio.

e	Use a separate solid block for each new file extension
{N}f	Set the limit for number of files in one solid block
{N}b {N}k {N}m {N}g	Set a limit for the total size of a solid block in bytes

These are the default limits for the solid block size:

Compression Level	Solid block size
Store	0 B
Fastest	16 MB
Fast	128 MB
Normal	2 GB
Maximum	4 GB
Ultra	4 GB

Limitation of the solid block size usually decreases compression ratio but gives the following advantages:

- Decreases losses in case of future archive damage.
- Decreases extraction time of a group of files (or just one file), so long as the group doesn't contain the entire archive.

The updating of solid .7z archives can be slow, since it can require some recompression.

Example:

```
s=100f10m
```

set solid mode with 100 files & 10 MB limits per one solid block.

f=[off | on]

Enables or disables compression filters for executable files: dll, exe, ocx, sfx, sys. It uses BCJ2 filter in Ultra mode and BCJ filter in other modes. The default mode is f=on.

hc=[off | on]

Enables or disables archive header compressing. The default mode is hc=on. If archive header compressing is enabled, some parts of archive header will be compressed with LZMA method.

he=[off | on]

Enables or disables archive header encryption. The default mode is he=off.

{N}

Sets order of methods. It is used also to associate parameters with methods. Numbers must begin from 0. Methods that have smaller numbers will be used before others.

b{C1}[s{S1}]:{C2}[s{S2}]

Binds output stream S1 in coder C1 with input stream S2 in coder C2. If stream number is not specified, stream with number 0 will be used.

Usually coder has one input stream and one output stream. In 7z some coders can have multiple input and output streams.

For example, [BCJ2](#) encoder has one input stream and four output streams.

mt=[off | on | {N}]

Sets multithread mode. If you have a multiprocessor or multicore system, you can get a increase with this switch. 7-Zip supports multithread mode only for LZMA / LZMA2 compression and BZip2 compression / decompression. If you specify {N}, for example mt=4, 7-Zip tries to use 4 threads. LZMA compression uses only 2 threads.

{N}={MethodID}[:param1][:param2] ... [:paramN]

Sets compression method. You can use any number of methods. The default method is LZMA.

Parameters must be in one of the following forms:

- {ParamName}={ParamValue}.
- {ParamName}{ParamValue}, if {ParamValue} is number and {ParamName} doesn't contain numbers.

Supported methods:

MethodID	Description
LZMA	LZ-based algorithm
LZMA2	LZMA-based algorithm
PPMd	Dmitry Shkarin's PPMdH with small changes
BZip2	BWT algorithm
Deflate	LZ+Huffman

Copy	No compression
------	----------------

Supported filters:

MethodID	Description
Delta	Delta filter
BCJ	converter for x86 executables
BCJ2	converter for x86 executables (version 2)
ARM	converter for ARM (little endian) executables
ARMT	converter for ARM Thumb (little endian) executables
IA64	converter for IA-64 executables
PPC	converter for PowerPC (big endian) executables
SPARC	converter for SPARC executables

Filters increase the compression ratio for some types of files. Filters must be used with one of the compression method (for example, BCJ + LZMA).

LZMA

LZMA is an algorithm based on Lempel-Ziv algorithm. It provides very fast decompression (about 10-20 times faster than compression). Memory requirements for compression and decompression also are different (see [d={Size}\[b|k|m\]](#) switch for details).

Parameter	Default	Description
a=[0 1]	1	Sets compressing mode
d={Size}[b k m]	24	Sets Dictionary size
mf={MF_ID}	bt4	Sets Match Finder
fb={N}	32	Sets number of Fast Bytes
mc={N}	32	Sets Number of Cycles for Match Finder
lc={N}	3	Sets number of Literal Context bits - [0, 8]
lp={N}	0	Sets number of Literal Pos bits - [0, 4]
pb={N}	2	Set number of Pos Bits - [0, 4]

a=[0|1]

Sets compression mode: 0 = fast, 1 = normal. Default value is 1.

d={Size}[b|k|m]

Sets Dictionary size for LZMA. You must specify the size in bytes, kilobytes, or megabytes. The maximum value for dictionary size is 1 GB = 2³⁰ bytes. Default values for LZMA are 24 (16 MB) in normal mode, 25 (32 MB) in maximum mode (-mx=7) and 26 (64 MB) in ultra mode (-mx=9). If you do not specify any symbol from the set [b|k|m], the dictionary size will be calculated as DictionarySize = 2^{Size} bytes. For decompressing a file compressed by LZMA method with dictionary size N, you need about N bytes of memory (RAM) available.

mf={MF_ID}

Sets Match Finder for LZMA. Default method is bt4. Algorithms from hc* group don't provide a good compression ratio, but they often work pretty fast in combination with fast mode (a=0). Memory requirements depend on dictionary size (parameter "d" in table below).

MF_ID	Dictionary	Memory Usage	Description
bt2		9.5 * d	2 bytes hashing

bt3		11.5 * d	+ 4 MB	Binary Tree	3 bytes hashing
bt4	64 KB ... 48 MB	11.5 * d			4 bytes hashing
	64 MB ... 1024 MB	10.5 * d			
hc4	64 KB ... 48 MB	7.5 * d		Hash Chain	
	64 MB ... 1024 MB	6.5 * d			

Note: Your operation system also needs some amount of physical memory for internal purposes. So keep at least 32MB of physical memory unused.

fb={N}

Sets number of fast bytes for LZMA. It can be in the range from 5 to 273. The default value is 32 for normal mode and 64 for maximum and ultra modes. Usually, a big number gives a little bit better compression ratio and slower compression process.

mc={N}

Sets number of cycles (passes) for match finder. It can be in range from 0 to 1000000000. Default value is $(16 + \text{number_of_fast_bytes} / 2)$ for BT* match finders and $(8 + \text{number_of_fast_bytes} / 4)$ for HC4 match finder. If you specify mc=0, LZMA will use default value. Usually, a big number gives a little bit better compression ratio and slower compression process. For example, mf=HC4 and mc=10000 can provide almost the same compression ratio as mf=BT4.

lc={N}

Sets the number of literal context bits (high bits of previous literal). It can be in range from 0 to 8. Default value is 3. Sometimes lc=4 gives gain for big files.

lp={N}

Sets the number of literal pos bits (low bits of current position for literals). It can be in the range from 0 to 4. The default value is 0. The lp switch is intended for periodical data when the period is equal to 2^{value} (where lp=value). For example, for 32-bit (4 bytes) periodical data you can use lp=2. Often it's better to set lc=0, if you change lp switch.

pb={N}

Sets the number of pos bits (low bits of current position). It can be in the range from 0 to 4. The default value is 2. The pb switch is intended for periodical data when the period is equal 2^{value} (where lp=value).

LZMA2

LZMA2 is modified version of LZMA. it provides the following advantages over LZMA:

- Better compression ratio for data than can't be compressed. LZMA2 can store such blocks of data in uncompressed form. Also it decompresses such data faster.
- Better multithreading support. If you compress big file, LZMA2 can split that file to chunks and compress these chunks in multiple threads.

Parameter	Default	Description
c={Size}[b k m]	dictSize * 4	Sets Chunk size

If you don't specify ChunkSize, LZMA2 sets it to DictionarySize * 4.

LZMA2 also supports all LZMA parameters, but lp+lc cannot be larger than 4.

LZMA2 uses: 1 thread for each chunk in x1 and x3 modes; and 2 threads for each chunk in x5, x7 and x9 modes. If LZMA2 is set to use only such number of threads required for one chunk, it doesn't split stream to chunks. So you can get different compression ratio for different number of threads. You can get the best compression ratio, when you use 1 or 2 threads.

PPMd

PPMd is a PPM-based algorithm. This algorithm is mostly based on Dmitry Shkarin's PPMdH source code. PPMd provides very good compression ratio for plain text files. There is no

difference between compression speed and decompression speed. Memory requirements for compression and decompression also are the same.

Parameter	Default	Description
<code>mem={Size}[b k m]</code>	24	Sets size of used memory for PPMd.
<code>o={Size}</code>	6	Sets model order for PPMd.

mem={Size}[b|k|m]

Sets the size of memory used for PPMd. You must specify the size in bytes, kilobytes, or megabytes. The maximum value is $2\text{GB} = 2^{31}$ bytes. The default value is 24 (16MB). If you do not specify any symbol from the set [b|k|m], the memory size will be calculated as (2^{Size}) bytes. PPMd uses the same amount of memory for compression and decompression.

o={Size}

Sets the model order for PPMd. The size must be in the range [2,32]. The default value is 6.

BCJ2

BCJ2 is a Branch converter for 32-bit x86 executables (version 2). It converts some branch instructions for increasing further compression.

A BCJ2 encoder has one input stream and four output streams:

- s0: main stream. It requires further compression.
- s1: stream for converted CALL values. It requires further compression.
- s2: stream for converted JUMP values. It requires further compression.
- s3: service stream. It is already compressed.

If LZMA is used, the size of the dictionary for streams s1 and s2 can be much smaller (512 KB is enough for most cases) than the dictionary size for stream s0.

Delta

It's possible to set delta offset in bytes. For example, to compress 16-bit stereo WAV files, you can set "0=Delta:4". Default delta offset is 1.

XZ

XZ supports only LZMA2 codec now. The switches are similar to switches for 7z format.

Examples

```
7z a -tzip archive.zip *.jpg -mx0
```

adds *.jpg files to archive.zip archive without compression.

```
7z a -t7z archive.7z *.exe *.dll -m0=BCJ -m1=LZMA:d=2l -ms -mmt
```

adds *.exe and *.dll files to solid archive archive.7z using LZMA method with 2 MB dictionary and BCJ converter. Compression will use multithreading optimization.

```
7z a -t7z archive.7z *.exe *.dll -m0=BCJ2 -m1=LZMA:d23 -m2=LZMA:d19 -m3=LZMA:d19
-mb0:1 -mb0s1:2 -mb0s2:3
```

adds *.exe and *.dll files to archive archive.7z using BCJ2 converter, LZMA with 8 MB dictionary for main output stream (s0), and LZMA with 512 KB dictionary for s1 and s2 output streams of BCJ2.

```
7z a -t7z archive.7z *.txt -m0=PPMd
```

adds *.txt files to archive archive.7z using PPMd method.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#),

See also

Switches: [-t \(set Type of archive\)](#),

-o (set Output directory) switch

Specifies a destination directory where files are to be extracted.

This switch can be used only with extraction commands.

Syntax

```
-o{dir_path}
```

{dir_path}

This is the destination directory path. It's not required to end with a backslash. If you specify * in {dir_path}, 7-Zip substitutes that * character to archive name.

Example

```
7z x archive.zip -oc:\Doc
```

extracts all files from the **archive.zip** archive to the **c:\Doc** directory.

```
7z x *.zip -o*
```

extracts all ***.zip** archives to subfolders with names of these archives.

Commands that can be used with this switch

[e \(Extract\)](#), [x \(Extract with full paths\)](#)

-p (set Password) switch

Specifies password.

Syntax

```
-p{password}
```

{password}

Specifies password.

Examples

```
7z a archive.7z -psecret -mhe *.txt
```

compresses *.txt files to **archive.7z** using password "secret". Also it encrypts archive headers (-mhe switch), so filenames will be encrypted.

```
7z x archive.zip -psecret
```

extracts all files from **archive.zip** using password "secret".

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

-r (Recurse subdirectories) switch

Specifies the method of treating wildcards and filenames on the command line.

Syntax

```
-r[- | 0]
```

Switch	Description
-r	Enable recurse subdirectories.
-r-	Disable recurse subdirectories. This option is default for all commands.
-r0	Enable recurse subdirectories only for wildcard names.

Examples

```
7z l archive.zip *.doc -r-
```

lists all ***.doc** files that belong to the archived root directory in the **archive.zip** archive.

```
7z a -tzip archive.zip -r src\*.cpp src\*.h
```

adds all ***.cpp** and ***.h** files from directory **src** and all it's subdirectories to the **archive.zip** archive.

```
7z a archive.7z folder1\
```

adds all files from directory **folder1** and all it's subdirectories to the **archive.7z** archive.

```
7z a archive.7z -r folder2\
```

searches all **folder2** directories in all subdirectories, and adds them (including all subdirectories) to the **archive.7z** archive.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-i \(Include\)](#), [-x \(Exclude\)](#)

-scc (Set charset for console input/output) switch

Sets charset for for console input/output.

Syntax

```
-scc{UTF-8 | WIN | DOS}
```

Default charset is DOS.

UTF-8

Unicode UTF-8 character set.

WIN

Default character set of Windows.

DOS

DOS (OEM) character set of Windows.

Example

```
7z l archive.7z -scUTF-8
```

lists files from **archive.7z** in UTF-8 encoding.

-scs (Set charset for list files) switch

Sets charset for list files.

Syntax

```
-scs{UTF-8 | WIN | DOS}
```

Default charset is UTF-8.

UTF-8

Unicode UTF-8 character set.

WIN

Default character set of Windows.

DOS

Default DOS (OEM) character set of Windows.

Example

```
7z a archive.7z @listfile.txt -scsWIN
```

compresses files from **listfile.txt** list, that contains list of files in default character set of Windows.

Commands that can be used with this switch

[a \(Add\)](#), [u \(Update\)](#)

-seml (Send archive by email) switch

Sends an archive by e-mail.

Syntax

```
-seml[. ]
```

[.]

Causes the archive to be deleted after attaching a copy of it to the email message.

Example

```
7z a archive.7z -seml a.txt
```

compresses the **a.txt** file and sends it in **archive.7z** by email.

Commands that can be used with this switch

[a \(Add\)](#), [u \(Update\)](#)

-sfx (Create SFX archive) switch

Creates self extracting archive.

Syntax

```
-sfx[ {SFX_Module} ]
```

{SFX_Module}

Specifies the SFX module that will be combined with the archive. This module must be placed in the same directory as the 7z.exe. If {SFX_Module} is not assigned, 7-Zip will use standard console SFX module 7zCon.sfx.

SFX_Module	Description
7z.sfx	Windows version.
7zCon.sfx	Console version.
7zS.sfx	Windows version for installers.
7zSD.sfx	Windows version for installers (uses MSVCRT.dll).

All SFX modules are uncompressed. You can use UPX program (<http://upx.sourceforge.net>) to compress such modules. After compressing by the UPX program, the size of the sfx module will be reduced to 40-50% of its original size.

SFX modules for installers

SFX modules for installers are included in an external package (7z_extra). You can download these modules from www.7-zip.org. SFX modules for installers (7zS.sfx and 7zSD.sfx) allow you to create your own installation program. Such a module extracts the archive to the user's temp folder, and runs a specified program, and removes the temp files after the program finishes. A self-extracting archive for installers must be created as joining 3 files: SFX_Module, Installer_Config, 7z_Archive. In addition, an optional file, Installer_Config, is allowed. You can use the following command to create an installer self-extracting archive:

```
copy /b 7zS.sfx + config.txt + archive.7z archive.exe
```

An optimally small installation package size can be achieved, if the installation files are uncompressed before including them in the 7z archive.

-y switch for installer module specifies quiet mode extraction.

Installer Config file format

This config file contains commands for the Installer. The file begins with the string **;!@Install@!** **UTF-8!** and ends with **;!@InstallEnd@!**. The file must be written in UTF-8 encoding. The file contains any or all these string pairs:

ID_String="Value"

ID_String	Description
Title	Title for messages
BeginPrompt	Begin Prompt message
Progress	Value can be "yes" or "no". Default value is "yes".
RunProgram	Command for executing. Default value is "setup.exe". Substring %%T will be replaced with path to temporary folder, where files were extracted
Directory	Directory prefix for "RunProgram". Default value is ".\\"
ExecuteFile	Name of file for executing
ExecuteParameters	Parameters for "ExecuteFile"

You may omit any pair.

There are two ways to run a installation program: **RunProgram** and **ExecuteFile**. Use **RunProgram**, if you want to run a program from the .7z archive. Use **ExecuteFile**, if you want to open a document from the .7z archive, or if you want to execute a command from Windows.

If you use **RunProgram**, and if you specify empty directory prefix: **Directory=""**, the system searches for the executable file in the following sequence:

1. The directory from which the application (installer) loaded.
2. The temporary folder, where files were extracted.
3. The Windows system directory.

Config file Examples

```
;!@Install@!UTF-8!
Title="7-Zip 4.00"
BeginPrompt="Do you want to install the 7-Zip 4.00?"
RunProgram="setup.exe"
;!@InstallEnd@!
```

```
;!@Install@!UTF-8!
Title="7-Zip 4.00"
BeginPrompt="Do you want to install the 7-Zip 4.00?"
ExecuteFile="7zip.msi"
;!@InstallEnd@!
```

```
;!@Install@!UTF-8!
Title="7-Zip 4.01 Update"
BeginPrompt="Do you want to install the 7-Zip 4.01 Update?"
ExecuteFile="msiexec.exe"
ExecuteParameters="/i 7zip.msi REINSTALL=ALL REINSTALLMODE=vomus"
;!@InstallEnd@!
```

Examples

```
7z a -sfx a.exe *.txt
```

adds *.txt files to self extracting archive a.exe using the default console SFX module.

```
7z a -sfx7z.sfx a.exe *
```

adds all files to self extracting archive a.exe with module 7z.sfx using windows version of SFX module.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#),

-si (read data from stdin) switch

Causes 7-Zip to read data from stdin (standard input) instead of from disc files.

Syntax

```
-si{file_name}
```

{file_name}

Specifies a name that will be stored in the archive for the compressed data. If file_name is not specified, data will be stored without a name.

Note: The current version of 7-Zip support reading of archives from stdin only for xz, lzma, tar, gzip

and bzip2 archives.

Examples

```
7z a archive.gz -tgzip -siDoc2.txt < Doc.txt
```

compresses input stream from file Doc.txt to **archive.gz** archive using **Doc2.txt** file name.

```
7z x 7z905.tar.gz -so | 7z x -si -ttar
```

decompresses **tar.gz** archive.

Commands that can be used with this switch

[a \(Add\)](#), [e \(Extract\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

-so (write data to stdout) switch

Causes 7-Zip to write output data to stdout (standard output stream).

Syntax

```
-so
```

Examples

```
7z x archive.gz -so > Doc.txt
```

decompresses **archive.gz** archive to output stream and then redirects that stream to **Doc.txt** file.

```
7z a dummy -tgzip -so Doc.txt > archive.gz
```

compresses the **Doc.txt** file to the 7-Zip standard output stream and writes that stream to **archive.gz** file.

Commands that can be used with this switch

[a \(Add\)](#), [e \(Extract\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

-slp (Set Large Pages mode) switch

Sets Large Pages mode.

Syntax

```
-slp[-]
```

Switch	Description
-slp	Enables Large Pages mode.
-slp-	Disables Large Pages mode. This option is default for all commands.

Large Pages mode increases the speed of compression. However, there is a pause at the start of compression while 7-Zip allocates the large pages in memory. If 7-Zip can't allocate large pages, it allocates usual small pages. Also, the Windows Task Manager doesn't show the real memory usage of the program, if 7-Zip uses large pages. This feature works only on Windows 2003 / XP x64. Also, it requires administrator's rights for your system. The recommended size of RAM for this feature is 1 GB or more. To install this feature, you must run the 7-Zip File Manager at least once, close it, and then reboot the system.

Your system can hang for several seconds at compressing starting, if you use -slp mode. So it's not recommended to use -slp mode to compress small data sets (less than 100 MB).

Example

```
7z a archive.7z -slp a.iso
```

compresses **a.iso** file with Large Pages mode switched on.

-slt (Show technical information) switch

Sets technical mode for [l \(List\)](#) command.

Syntax

```
-slt
```

Example

```
7z l -slt archive.7z
```

shows detailed technical information for the files in **archive.7z**.

Commands that can be used with this switch

[l \(List\)](#)

-ssc (Set Sensitive Case mode) switch

Sets sensitive case mode for file names.

Syntax

```
-scs[-]
```

Switch	Description
-ssc	Set case-sensitive mode. It's default for Posix/Linux systems.
-ssc-	Set case-insensitive mode. It's default for Windows systems.

Example

```
7z a archive.7z A*.txt -ssc -r
```

compresses all **A*.txt** files from current directory and all it's subdirectories. That command doesn't compress **a*.txt** files.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

-ssw (Compress files open for writing) switch

Compresses files open for writing by another applications. If this switch is not set, 7-zip doesn't include such files to archive.

Syntax

```
-ssw
```

Example

```
7z a archive.7z -ssw *.txt
```

compresses all ***.txt** files in current folder including files open for writing by another applications.

Commands that can be used with this switch

[a \(Add\)](#), [u \(Update\)](#)

-t (set Type of archive) switch

Specifies the type of archive.

Syntax

```
-t{archive_type}
```

{archive_type}

Specifies the type of archive. It can be: *, 7z, split, zip, gzip, bzip2, tar, ... , or combination of them, like: mbr.vhd

If -t{archive_type} switch is not specified, 7-Zip uses extension of archive filename to detect the type of archive. If you create new archive, -t{archive_type} switch is not specified and there is no extension of archive, 7-Zip will create .7z archive.

When you extract archive of some types that contains another archive without compression (for example, MBR in VHD), 7-Zip can open both levels in one step. If you want to open/extract just top level archive, use -t* switch.

Note: gzip or bzip2 formats support only one file per archive. If you want to compress more than one file to these formats, create a tar archive first, and then compress it with your selected format.

Example

```
7z a -tzip archive.zip *.txt
```

adds all ***.txt** files from current directory to zip archive **archive.zip**.

```
7z t -t7z.split archive.7z.001
```

tests all files in **archive.7z.001**. It also checks that archive is multivolume .7z archive.

```
7z x -tiso archive.iso
```

extracts files from **archive.iso** open as ISO archive.

```
7z x -tudf archive.iso
```

extracts files from **archive.iso** open as UDF archive.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

-u (Update options) switch

Specifies how to update files in an archive and (or) how to create new archives.

Syntax

```
-u[-]<action_set>[!{new_archive_name}]  
  
<action_set> ::= <state_action>...
```

```

<state_action> ::= <state><action>

<state> ::= p | q | r | x | y | z | w

<action> ::= 0 | 1 | 2 | 3

```

Parameters

dash (-)

Disables any updates in the base archive.

The term **base archive** means the archive assigned by "base_archive_name" on the command line. See [Command line syntax](#) for more details.

{new_archive_name}

Specifies the path name of the new archive to be created. All options in this switch will refer to this new archive.

If not assigned, then all options in this switch will refer to the base archive of the command.

<state>

Specifies the state of a particular file to be processed.

```

<state> ::= p | q | r | x | y | z | w

```

For each unique filename there are 6 variants of state:

<state>	State condition	File on Disk	File in Archive
p	File exists in archive, but is not matched with wildcard.		Exists, but is not matched
q	File exists in archive, but doesn't exist on disk.	Doesn't exist	Exists
r	File doesn't exist in archive, but exists on disk.	Exists	Doesn't exist
x	File in archive is newer than the file on disk.	Older	Newer
y	File in archive is older than the file on disk.	Newer	Older
z	File in archive is same as the file on disk	Same	Same
w	Can not be detected what file is newer (times are the same, sizes are different)	?	?

<action>

Specifies the action for a given <state>.

```

<action> ::= 0 | 1 | 2 | 3

```

For each state you can specify one of the three variants of actions:

<action>	Description
0	Ignore file (don't create item in new archive for this file)
1	Copy file (copy from old archive to new)
2	Compress (compress file from disk to new archive)
3	Create Anti-item (item that will delete file or directory during extracting). This feature is supported only in 7z format.

Remarks

Any update command (such as [a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#)) can be assigned in these terms.

The following table shows action sets for update commands.

command \ <state>	p	q	r	x	y	z	w
d (Delete)	1	0	0	0	0	0	0
a (Add)	1	1	2	2	2	2	2
u (Update)	1	1	2	1	2	1	2
Freshen	1	1	0	1	2	1	2
Synchronize	1	0	2	1	2	1	2

If you don't specify a [!{new_archive_name}](#) option, then all options will refer to the main archive (the archive assigned on the command line after the 7z command). If you specify [!{new_archive_name}](#) option, then 7-Zip also will create a new archive with the specified name and all options will refer to that new archive.

Multiple update switches are supported. 7-Zip can create any number of new archives during one operation.

By default, the action set for each new archive is assigned as the action set of the main command. There are 3 different action sets for commands: [a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#). You can overload any <state_action> pair.

Time zone notes

If you change time zone (when you move your computer to another time zone or if there are clock changes for daylight saving in your zone), you can have some problems with update commands that depend from file's modification time. It's strongly recommended to use only file system that uses Coordinated Universal Time (UTC) and archive format that also uses UTC. In that case you will have no problems with time zone changes. Also it's recommended to use only UTC formats in other cases, for example, if you send files to someone in another time zone.

Also in some cases there are no problems, if both file system and archive format use local time, for example, FAT file system and ZIP format.

- UTC file systems: NTFS
- UTC archive formats: .zip with -mtc switch, 7z, tar, gzip2, iso, wim
- Local time file systems : FAT, FAT32
- Local time archive formats : rar, zip, cab

Examples

```
7z u c:\1\exist.7z -u- -up0q3x2z0!c:\1\update.7z *
```

creates a new archive **update.7z** and writes to this archive all files from current directory which differ from files in **exist.7z** archive. **exist.7z** archive will not be changed.

```
7z u c:\1\exist.7z -up0q3x2z0!c:\1\update.7z * -ms=off
```

creates a new archive **update.7z** and writes to this archive all files from the current directory which differ from files in **exist.7z** archive.

Note: the updating of solid .7z archives can be slow, since it can require some recompression.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#),

-v (Create Volumes) switch

Specifies volume sizes.

Syntax

```
-v{Size}[b | k | m | g]
```

{Size}[b | k | m | g]

Specifies volume size in Bytes, Kilobytes (1 Kilobyte = 1024 bytes), Megabytes (1 Megabyte = 1024 Kilobytes) or Gigabytes (1 Gigabyte = 1024 Megabytes). if you specify only {Size}, 7-zip will treat it as bytes.

It's possible to specify several -v switches.

NOTE: Please don't use volumes (and don't copy volumes) before finishing archiving. 7-Zip can change any volume (including first volume) at the end of archiving operation.

Examples

```
7z a a.7z *.txt -v10k -v15k -v2m
```

creates multivolume **a.7z** archive. First volume will be 10 KB, second will be 15 KB, and all others will be 2 MB.

Commands that can be used with this switch

[a \(Add\)](#),

-w (set Working directory) switch

Sets the working directory for the temporary base archive. By default, 7-Zip builds a new base archive file in the same directory as the old base archive file. By specifying this switch, you can set the working directory where the temporary base archive file will be built. After the temporary base archive file is built, it is copied over the original archive; then, the temporary file is deleted.

Syntax

```
-w[ {dir_path} ]
```

{dir_path}

Specifies the destination directory path. It's not required that a path end with a backslash.

If <dir_path> is not assigned, then 7-Zip will use the Windows temporary directory.

Example

```
7z a -tzip archive.zip *.cpp -wc:\temp
```

adds ***.cpp** files to the **archive.zip** archive, creating a temporary archive in **c:\temp** folder.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [u \(Update\)](#),

-x (Exclude filenames) switch

Specifies which filenames or wildcarded names must be excluded from the operation.

Multiple exclude switches are supported.

Syntax

```
-x[<recurse_type>]<file_ref>

<recurse_type> ::= r[- | 0]
<file_ref> ::= @{listfile} | !{wildcard}
```

See [-i \(Include\)](#) switch description for information about option parameters.

Examples

```
7z a -tzip archive.zip *.txt -x!temp.*
```

adds to the archive **archive.zip** all ***.txt** files, except **temp.*** files.

Commands that can be used with this switch

[a \(Add\)](#), [d \(Delete\)](#), [e \(Extract\)](#), [l \(List\)](#), [t \(Test\)](#), [u \(Update\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-r \(Recurse\)](#), [-i \(Include\)](#)

-y (assume Yes on all queries) switch

Disables most of the normal user queries during 7-Zip execution. You can use this switch to suppress overwrite queries in the [e \(Extract\)](#) and [x \(Extract with full paths\)](#) commands.

Syntax

```
-y
```

Examples

```
7z x src.zip -y
```

extracts all files from **src.zip** archive. All overwrite queries will be suppressed and files on disk with same filenames as in archive will be overwritten.

Commands that can be used with this switch

[e \(Extract\)](#), [x \(Extract with full paths\)](#)

See also

Switches: [-ao \(Overwrite mode\)](#),