MP/M II Command Reference

MP/M II Command Reference

MP/M II (Multi-Programming Monitor) V2.1 - Digital Research, 1982

Disk File Index

File	Type	Size	Description
ABORT.PRL	Command	640	Terminate running program
ASM.PRL	Command	9KB	8080 assembler
CONSOLE.PRL	Command	512	Display console number
DDT.COM	Command	5KB	Dynamic Debugging Tool
DIR.PRL	Command	2KB	Directory listing
DSKRESET.PRL	Command	640	Reset disk drives
DUMP.PRL	Command	768	Hex file dump
ED.PRL	Command	9KB	Line editor
ERA.PRL	Command	2KB	Erase files
ERAQ.PRL	Command	4KB	Erase with query
GENHEX.COM	Utility	768	COM to HEX converter
GENMOD.COM	Utility	1KB	Generate PRL from HEX
GENSYS.COM	Utility	9KB	System generator
LIB.COM	Utility	7KB	Library manager
LINK.COM	Utility	16KB	Object linker
LOAD.COM	Utility	2KB	HEX to COM loader
MPMSTAT.PRL	Command	4KB	System status display
PIP.PRL	Command	10KB	File copy utility
PRINTER.PRL	Command	1KB	Set printer device
PRLCOM.PRL	Utility	3KB	PRL to COM converter
RDT.PRL	Command	6KB	Relocatable debugger
REN.PRL	Command	2KB	Rename files
RMAC.COM	Utility	14KB	Relocatable assembler
SCHED.PRL	Command	3KB	Schedule commands
SDIR.PRL	Command	18KB	Extended directory

File	Type	Size	Description
SET.PRL	Command	8KB	Set file attributes
SHOW.PRL	Command	8KB	Show disk label
SPOOL.PRL	Command	2KB	Print spooler
STAT.PRL	Command	10KB	File/disk statistics
STOPSPLR.PRL	Command	640	Stop spooler
SUBMIT.PRL	Command	5KB	Batch command processor
TOD.PRL	Command	3KB	Time of day
TYPE.PRL	Command	1KB	Display file contents
USER.PRL	Command	1KB	Set user number
XREF.COM	Utility	15KB	Cross-reference

System Files

File	Description
MPM.SYS	MP/M II operating system
MPMLDR.COM	System loader
BNKBDOS.SPR	Banked BDOS
BNKXDOS.SPR	Banked XDOS extension
RESBDOS.SPR	Resident BDOS
XDOS.SPR	Extended DOS
TMP.SPR	Terminal Message Processor

Assembly Source & Libraries

File	Description
BOOT.ASM	Boot loader source
DEBLOCK.ASM	Sector deblocking source
LDRBIOS.ASM	Loader BIOS source
RESXIOS.ASM	Resident XIOS source
TODCNV.ASM	Time conversion source
DISKDEF.LIB	Disk definition macros
Z80.LIB	Z80 instruction macros

Command Reference

File Management

DIR - Directory listing

```
DIR [d:][filespec] [options]
```

Display directory.

Option	Description
[SYS]	Show system files
[Gn]	Display files from user area n (0-15)

Examples:

```
DIR               ; List files in current user area
DIR [SYS]         ; Include system files
DIR *.ASM [G8]    ; List ASM files from user 8
DIR *.ASM, *.LIB  ; Multiple file specifications
```

SDIR - Extended directory

```
SDIR [options] [d:][filespec]
```

Full-featured directory with sizes, dates, attributes, sorting.

Option	Description
[SYS]	Display only system files
[DIR]	Display only non-system files
[RO]	Display only read-only files
[RW]	Display only read-write files
[XFCB]	Display files with extended FCBs
[NONXFCB]	Display files without extended FCBs
[USER=n]	Display files from user n
[USER=ALL]	Display files from all user areas
[USER=(0,1,...)]	Display files from specified users
[DRIVE=d]	Display files from drive d
[DRIVE=ALL]	Display files from all logged drives
[DRIVE=(A,B,...)]	Display files from specified drives
[FULL]	Full format display (default)
[SIZE]	Display file sizes in kilobytes
[SHORT]	Short format, 4 columns, unsorted
[NOSORT]	Display files unsorted
[EXCLUDE]	Display files NOT matching filespec
[MESSAGE]	Show drive/user headers even if empty
[LENGTH=n]	Lines per page (5-65536)
[FF]	Send form-feed for printer output
[HELP]	Display help examples

Examples:

```
SDIR [SIZE] D:                               ; Show file sizes on D:
SDIR [USER=ALL,DRIVE=ALL,SYS] *.PRL          ; Find all system PRL files
SDIR [SHORT] A: B: C:                        ; Quick listing of 3 drives
SDIR [EXCLUDE] *.COM *.PRL                    ; Files except COM and PRL
```

ERA - Erase files

```
ERA filespec [options]
```

Delete files. Supports wildcards.

Option	Description
[XFCB]	Erase only extended FCBs (passwords/timestamps), not file

Examples:

```
ERA OLDFILE.TXT            ; Delete single file
ERA *.BAK                  ; Delete all BAK files
ERA B:*.*                  ; Delete all files on B: (prompts for
confirmation)
ERA MYFILE.TXT [XFCB]      ; Remove password/timestamps only
```

ERAQ - Erase with confirmation

```
ERAQ filespec [options]
```

Delete files with Y/N prompt for each file.

Option	Description
[XFCB]	Erase only extended FCBs

REN - Rename file

```
REN newname.typ = oldname.typ
REN newname.typ = d:oldname.typ;password
```

Rename a file. Supports wildcards if patterns match.

TYPE - Display file

```
TYPE filespec [options]
```

Display ASCII file contents.

Option	Description
[PAGE]	Pause every 24 lines
[Pn]	Pause every n lines

Examples:

```
TYPE README.TXT            ; Display file
TYPE README.TXT [PAGE]     ; Paginated display
TYPE README.TXT [P60]      ; Pause every 60 lines
```

SET - Set file/disk attributes

```
SET [options]
SET d:[options]
SET filespec [options]
```

Set file attributes, passwords, and time stamping.

Drive Options:

Option	Description
[RO]	Set drive to read-only
[RW]	Set drive to read-write
[PASSWORD=pwd]	Set directory label password
[PROTECT=ON/OFF]	Enable/disable password protection
[NAME=name.typ]	Set disk label name
[CREATE=ON/OFF]	Enable creation timestamps
[ACCESS=ON/OFF]	Enable access timestamps
[UPDATE=ON/OFF]	Enable update timestamps
[MAKE=ON/OFF]	Auto-create XFCBs for new files

File Options:

Option	Description
[RO]	Set file read-only
[RW]	Set file read-write
[SYS]	Set system attribute (accessible from any user)
[DIR]	Set directory attribute (normal file)
[PASSWORD=pwd]	Assign password to file
[PROTECT=READ]	Password required for all access
[PROTECT=WRITE]	Password required to modify
[PROTECT=DELETE]	Password required to delete/rename
[PROTECT=NONE]	Remove password protection
[TIME]	Create XFCB for timestamps
[ARCHIVE=ON/OFF]	Set/clear archive attribute
[F1=ON/OFF]	User-definable attribute 1
[F2=ON/OFF]	User-definable attribute 2
[F3=ON/OFF]	User-definable attribute 3

Option	Description
[F4=ON/OFF]	User-definable attribute 4
[DEFAULT=pwd]	Set default password for console
[HELP]	Display help

Examples:

```
SET [PASSWORD=SECRET]                    ; Set label password
SET [PROTECT=ON]                         ; Enable password protection
SET [CREATE=ON,UPDATE=ON]                ; Enable timestamps
SET *.PRL [SYS,RO]                       ; Make PRL files
system/read-only
SET MYFILE.TXT [PASSWORD=ABC,PROTECT=READ] ; Password protect file
SET [DEFAULT=MYPASS]                     ; Set default password
```

STAT - Statistics

```
STAT [d:][filespec] [options]
STAT d:=RO
STAT DSK:
STAT USR:
STAT VAL:
```

Show disk space, file sizes, drive characteristics.

Option/Command	Description
[SIZE]	Show computed file size
[RO]	Set file read-only
[RW]	Set file read-write
[SYS]	Set file system attribute
[DIR]	Set file directory attribute
d:=RO	Set drive to read-only
DSK:	Show disk characteristics
d:DSK:	Show specific drive characteristics
USR:	Show active user areas
VAL:	Display valid STAT commands

Examples:

```
STAT                ; Show space on logged drives
STAT B:             ; Show space on drive B
STAT *.PRL          ; Show PRL file statistics
STAT *.PRL [SIZE]   ; Include computed file sizes
STAT B:DSK:         ; Show drive B characteristics
STAT USR:           ; Show which user areas have files
```

SHOW - Disk information

```
SHOW [option]
SHOW d:[option]
```

Display disk and label information.

Option	Description
SPACE	Show free space (default)
DRIVES	Show drive characteristics
USERS	Show active user areas
LABEL	Show directory label info
HELP	Display options

Examples:

```
SHOW                    ; Show space on all logged drives
SHOW B:                 ; Show space on drive B
SHOW DRIVES             ; Show drive characteristics
SHOW B:LABEL            ; Show label for drive B
```

File Transfer

PIP - Peripheral Interchange Program

```
PIP dest=source[options]
PIP dest=source1,source2[options]
```

Copy files between drives, users, devices.

Option	Description
[A]	Archive - copy only modified files, set archive bit
[Dn]	Delete characters past column n
[E]	Echo transfer to console
[F]	Filter (remove) form-feeds
[Gn]	Get from/go to user area n
[H]	Hex file transfer with validation
[I]	Ignore :00 records in HEX files
[K]	Kill filename display during copy
[L]	Translate to lowercase
[N]	Add line numbers
[N2]	Add line numbers with leading zeros and tab
[O]	Object file transfer (ignore EOF)
[Pn]	Insert page breaks every n lines (default 60)
[Qs^Z]	Quit copying after string s
[R]	Read system files
[Ss^Z]	Start copying from string s

Option	Description
[Tn]	Expand tabs to n columns
[U]	Translate to uppercase
[V]	Verify copy
[W]	Write over read-only files
[Z]	Zero parity bit

Examples:

```
PIP B:=A:*.PRL                    ; Copy all PRL files
PIP B:=A:FILE.TXT[V]             ; Copy with verify
PIP B:=A:*.* [G3,R]              ; Copy from user 3, include SYS
files
PIP B:FILE.TXT=A:FILE.TXT[G5]    ; Copy to user 5
PIP LST:=B:FILE.TXT[T8,U]        ; Print with tabs expanded,
uppercase
PIP CON:=A:FILE.ASM[D80]         ; Display truncated to 80 columns
PIP B:=A:*.TXT[A,V]              ; Backup modified files with verify
PIP OUT.TXT=IN.TXT[SDear^Z,QEnd^Z] ; Extract text between markers
PIP LST:=FILE.ASM[N2,T8,P65]     ; Print with line numbers, tabs,
pagination
```

Process Control

ABORT - Terminate program

```
ABORT programname
ABORT programname n
```

Stop a running program.

Argument	Description
programname	Name of program to abort
n	Console number (for remote abort)

Examples:

```
ABORT TYPE        ; Abort TYPE on current console (must detach
first)
ABORT TYPE 1      ; Abort TYPE running on console 1
```

ATTACH - Reattach process

```
ATTACH programname
```

Reconnect a detached process to current console.

CONSOLE - Show console

```
CONSOLE
```

Display current console number.

USER - User area

```
USER [n]
```

Display or set user number (0-15).

MPMSTAT - System status

```
MPMSTAT
```

Display processes, queues, memory allocation, device assignments.

Scheduling & Printing

SCHED - Schedule command

```
SCHED mm/dd/yy hh:mm command
```

Execute command at specified date/time.

Example:

```
SCHED 12/25/82 00:01 SUBMIT BACKUP    ; Run backup at midnight on
Christmas
```

SPOOL - Print spooler

```
SPOOL filespec [options]
SPOOL filespec, filespec, ...
```

Queue file(s) for printing.

Option	Description
[DELETE]	Delete file after printing

Examples:

```
SPOOL REPORT.TXT                  ; Queue for printing
SPOOL REPORT.TXT [DELETE]         ; Print then delete
SPOOL *.PRN                       ; Queue multiple files
```

STOPSPLR - Stop spooler

```
STOPSPLR
```

Cancel current print job and clear queue.

PRINTER - Set printer

```
PRINTER [n]
```

Display or set printer device number.

System Utilities

TOD - Time of day

```
TOD
TOD PERPETUAL
TOD mm/dd/yy hh:mm:ss
```

Display or set system clock.

Form	Description
TOD	Display current date/time
TOD PERPETUAL	Continuous time display
TOD mm/dd/yy hh:mm:ss	Set date and time

DSKRESET - Reset drives

```
DSKRESET
DSKRESET d:
DSKRESET d:,d:,d:
```

Reset disk drives for disk change.

Form	Description
DSKRESET	Reset all drives
DSKRESET d:	Reset specific drive
DSKRESET A:,B:	Reset multiple drives

SUBMIT - Batch processing

```
SUBMIT filename
SUBMIT filename $1 $2 $3 ...
```

Execute commands from .SUB file with parameter substitution.

Parameter	Description
$1–$9	Substitution parameters
$$	Literal dollar sign

Example SUB file (BACKUP.SUB):

```
ERA $1:*.BAK
PIP $1:=A:*.* [V]
DIR $1:
```

Usage: `SUBMIT BACKUP B` substitutes B for $1.

Development Tools

ED - Text editor

```
ED filespec
ED filespec d:
```

Line-oriented editor. Creates .BAK backup.

ED Commands (single letter commands, n = optional count):

Command	Description
nA	Append n lines from file to buffer
B	Move to beginning of buffer
−B	Move to end of buffer (same as Z)
nC	Move n characters forward
−nC	Move n characters backward
nD	Delete n characters forward
−nD	Delete n characters backward
E	End edit, save file
Fstring^Z	Find string
H	End edit with backup, re-edit
I	Enter insert mode
Itext^Z	Insert text
nK	Kill (delete) n lines
nL	Move n lines forward
−nL	Move n lines backward
nMcommand	Execute command n times (macro)
Nstring^Z	Find string, extending to disk
O	Return to original file
nP	Display n pages (23 lines)
Q	Quit, abandon changes

Command	Description
R	Read library file
Sold^Znew^Z	Substitute new for old
nT	Type n lines
U	Uppercase mode toggle
V	Line number display toggle
nW	Write n lines to output
nX	Transfer n lines to/from X buffer
Z	Move to end of buffer
n	Move to line n
n:	Move to character position n

ASM - Assembler

```
ASM filename
ASM filename.ppp
```

8080 assembler producing .HEX and .PRN files.

Parameter	Description
.ppp	Override source/hex/print drives (e.g., ASM FILE.ABZ)

RMAC - Relocatable assembler

```
RMAC filename
RMAC filename $options
```

Produces relocatable .REL object files.

Option	Description
$PL	Print listing
$PP	Print to printer
$SZ	Symbol table to file

LINK - Linker

```
LINK filename
LINK filename,filename,...
LINK filename [options]
```

Link .REL files into executables or .SPR files.

LOAD - Loader

```
LOAD filename
```

Convert .HEX to .COM executable.

DDT - Debugger

```
DDT
DDT filespec
```

Debug .COM files. CP/M compatible.

RDT - Relocatable debugger

```
RDT
RDT filespec
```

Debug both .COM and .PRL files.

DUMP - Hex dump

```
DUMP filename.typ
```

Display file in hexadecimal format.

GENHEX - Generate HEX

```
GENHEX filename offset
```

Convert .COM to Intel .HEX format at specified offset.

GENMOD - Generate PRL

```
GENMOD file1.hex file2.hex outfile.prl
```

Create relocatable .PRL from two .HEX files (offset 0 and 100H).

PRLCOM - Convert PRL

```
PRLCOM file.prl file.com
```

Convert .PRL to non-relocatable .COM.

LIB - Library manager

```
LIB
```

Create and manage .LIB library files (interactive).

XREF - Cross-reference

XREF

Generate cross-reference listing from assembly (interactive).

Console Control Keys

Key	Function
^C	Abort program (prompts Y/N)
^D	Detach/attach process
^S	Pause output
^Q	Resume output
^P	Toggle printer echo
^H	Backspace
^X	Delete line
^R	Retype line
^U	Delete line (alternate)

File Types

Extension	Description
.COM	Executable (absolute)
.PRL	Page Relocatable (MP/M)
.SPR	System Page Relocatable
.RSP	Resident System Process
.BRS	Banked RSP
.REL	Relocatable object
.HEX	Intel hex format
.SUB	Submit batch file
.SUP	Startup file
.BAK	Backup file
.PRN	Print/listing file
.SYM	Symbol file
.LIB	Library file

Password Protection Modes

Mode	Protection Level
READ	Password required for all access
WRITE	Password required for write/delete/rename
DELETE	Password required for delete/rename only
NONE	No password protection

User Areas

MP/M II supports 16 user areas (0-15). Each console starts in a different user area: - Console 0 -> User 0 - Console 1 -> User 1 - etc.

Files with SYS attribute in user 0 are accessible from all user areas.

Generated from MP/M II V2.1 distribution and documentation