

MPX

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# Chapter 1

## Data Structure Index

### 1.1 Data Structures

Here are the data structures with brief descriptions:

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## Chapter 2

# File Index

### 2.1 File List

Here is a list of all files with brief descriptions:

mpx/ <a href="#">mpx.c</a> (MPX Main File ) . . . . .	9
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## Chapter 3

# Data Structure Documentation

### 3.1 context Struct Reference

#### Data Fields

- [word BP](#)
- [word DI](#)
- [word SI](#)
- [word DS](#)
- [word ES](#)
- [word DX](#)
- [word CX](#)
- [word BX](#)
- [word AX](#)
- [word IP](#)
- [word CS](#)
- [word FLAGS](#)

#### 3.1.1 Detailed Description

Definition at line 64 of file trmdrive.c.

#### 3.1.2 Field Documentation

##### 3.1.2.1 word AX

Definition at line 66 of file trmdrive.c.

##### 3.1.2.2 word BP

Definition at line 65 of file trmdrive.c.

**3.1.2.3 word BX**

Definition at line 66 of file trmdrive.c.

**3.1.2.4 word CS**

Definition at line 67 of file trmdrive.c.

**3.1.2.5 word CX**

Definition at line 66 of file trmdrive.c.

**3.1.2.6 word DI**

Definition at line 65 of file trmdrive.c.

**3.1.2.7 word DS**

Definition at line 65 of file trmdrive.c.

**3.1.2.8 word DX**

Definition at line 66 of file trmdrive.c.

**3.1.2.9 word ES**

Definition at line 65 of file trmdrive.c.

**3.1.2.10 word FLAGS**

Definition at line 67 of file trmdrive.c.

**3.1.2.11 word IP**

Definition at line 67 of file trmdrive.c.

**3.1.2.12 word SI**

Definition at line 65 of file trmdrive.c.

The documentation for this struct was generated from the following file:

- [mpx/supt/r6/trmdrive.c](#)

## 3.2 date\_rec Struct Reference

```
#include <mpx_supt.h>
```

### Data Fields

- int [month](#)
- int [day](#)
- int [year](#)

### 3.2.1 Detailed Description

Definition at line 123 of file mpx\_supt.h.

### 3.2.2 Field Documentation

#### 3.2.2.1 int day

Definition at line 125 of file mpx\_supt.h.

#### 3.2.2.2 int month

Definition at line 124 of file mpx\_supt.h.

#### 3.2.2.3 int year

Definition at line 126 of file mpx\_supt.h.

The documentation for this struct was generated from the following file:

- [mpx/supt/mpx\\_supt.h](#)

## 3.3 params Struct Reference

### Data Fields

- int [op\\_code](#)
- int [device\\_id](#)
- char \* [buf\\_p](#)
- int \* [count\\_p](#)

### 3.3.1 Detailed Description

Definition at line 108 of file mpx\_supt.c.

### 3.3.2 Field Documentation

#### 3.3.2.1 `char* buf_p`

Definition at line 111 of file `mpx_supt.c`.

#### 3.3.2.2 `int* count_p`

Definition at line 112 of file `mpx_supt.c`.

#### 3.3.2.3 `int device_id`

Definition at line 110 of file `mpx_supt.c`.

#### 3.3.2.4 `int op_code`

Definition at line 109 of file `mpx_supt.c`.

The documentation for this struct was generated from the following file:

- `mpx/supt/mpx\_supt.c`



## Chapter 4

# File Documentation

### 4.1 mpx/mpx.c File Reference

MPX Main File.

```
#include "supt/mpx_supt.h"
#include "mpx_util.h"
#include "mpx_sh.h"
```

#### Functions

- int [main](#) (int argc, char \*argv[])

#### 4.1.1 Detailed Description

MPX Main File. This file contains the start-of-execution, i.e. function [main\(\)](#), for MPX.

Definition in file [mpx.c](#).

#### 4.1.2 Function Documentation

##### 4.1.2.1 int main ( int *argc*, char \* *argv*[] )

This is the start-of-execution for the MPX executable.

Definition at line 35 of file mpx.c.

## 4.2 mpx/mpx\_sh.c File Reference

MPX Shell, aka Command Handler.

```
#include "supt/mpx_supt.h"
#include "mpx_util.h"
```

### Functions

- void [mpx\\_shell](#) (void)

#### 4.2.1 Detailed Description

MPX Shell, aka Command Handler. This file contains the functions etc. to implement the user interface for MPX.

Definition in file [mpx\\_sh.c](#).

#### 4.2.2 Function Documentation

##### 4.2.2.1 void mpx\_shell ( void )

This function implements the MPX shell (command-line user interface).

[mpx\\_shell\(\)](#) never returns!

A buffer to hold the command line input by the user. We include space for the , and \0 characters, if any.

Buffer size argument for passing to [sys\\_req\(\)](#).

Used to capture the return value of [sys\\_req\(\)](#).

Definition at line 40 of file mpx\_sh.c.

## 4.3 mpx/mpx\_sh.h File Reference

### Functions

- void [mpx\\_shell](#) (void)

#### 4.3.1 Function Documentation

##### 4.3.1.1 void mpx\_shell ( void )

This function implements the MPX shell (command-line user interface).

[mpx\\_shell\(\)](#) never returns!

A buffer to hold the command line input by the user. We include space for the ,  
, and \0 characters, if any.

Buffer size argument for passing to [sys\\_req\(\)](#).

Used to capture the return value of [sys\\_req\(\)](#).

Definition at line 40 of file mpx\_sh.c.

## 4.4 mpx/mpx\_util.c File Reference

Various utility functions used by all of MPX.

```
#include "supt/mpx_supt.h"
```

### 4.4.1 Detailed Description

Various utility functions used by all of MPX. This file contains the functions etc. to implement the user interface for MPX.

Definition in file [mpx\\_util.c](#).

## 4.5 mpx/mpx\_util.h File Reference

### Defines

- #define [MAX\\_LINE](#) 255

### 4.5.1 Define Documentation

#### 4.5.1.1 #define MAX\_LINE 255

Definition at line 4 of file mpx\_util.h.

## 4.6 mpx/supt/mpx\_supt.c File Reference

```
#include "mpx_supt.h"
```

```
#include <stdlib.h>
```

```
#include <dos.h>
```

```
#include <dir.h>
```

```
#include <errno.h>
```

```
#include <conio.h>
#include <alloc.h>
```

## Data Structures

- struct [params](#)

## Defines

- #define [VEC\\_ADDR](#) (0x60L\*4)
- #define [MAX\\_ALLOC](#) 200
- #define [MAX\\_XPOS](#) 79
- #define [MAX\\_YPOS](#) 24
- #define [MAX\\_PATH\\_SIZE](#) 50
- #define [HEADER\\_SIZE](#) 32

## Typedefs

- typedef unsigned char [byte](#)
- typedef unsigned int [word](#)
- typedef unsigned long [longword](#)
- typedef [byte](#) \* [address](#)
- typedef struct [params](#) [params](#)

## Functions

- int [sys\\_init](#) (int modules)
- void [sys\\_exit](#) (void)
- int [sys\\_set\\_vec](#) (void interrupt(\*handler)())
- int [sys\\_req](#) (int op\_code, int device\_id, char \*buf\_p, int \*count\_p)
- void \* [sys\\_alloc\\_mem](#) (size\_t size)
- int [sys\\_free\\_mem](#) (void \*ptr)
- void [sys\\_get\\_date](#) ([date\\_rec](#) \*date\_p)
- int [sys\\_set\\_date](#) ([date\\_rec](#) \*date\_p)
- int [sys\\_open\\_dir](#) (char path\_name[])
- int [sys\\_get\\_entry](#) (char name\_buf[], int buf\_size, long \*file\_size\_p)
- int [sys\\_close\\_dir](#) (void)
- int [sys\\_check\\_program](#) (char dir\_name[], char prog\_name[], int \*prog\_len\_p, int \*start\_offset\_p)
- int [sys\\_load\\_program](#) (void \*load\_addr, int max\_size, char dir\_name[], char prog\_name[])

### 4.6.1 Define Documentation

#### 4.6.1.1 `#define HEADER_SIZE 32`

Definition at line 853 of file mpx\_supt.c.

#### 4.6.1.2 `#define MAX_ALLOC 200`

Definition at line 92 of file mpx\_supt.c.

#### 4.6.1.3 `#define MAX_PATH_SIZE 50`

Definition at line 97 of file mpx\_supt.c.

#### 4.6.1.4 `#define MAX_XPOS 79`

Definition at line 94 of file mpx\_supt.c.

#### 4.6.1.5 `#define MAX_YPOS 24`

Definition at line 95 of file mpx\_supt.c.

#### 4.6.1.6 `#define VEC_ADDR (0x60L*4)`

Definition at line 90 of file mpx\_supt.c.

### 4.6.2 Typedef Documentation

#### 4.6.2.1 `typedef byte* address`

Definition at line 106 of file mpx\_supt.c.

#### 4.6.2.2 `typedef unsigned char byte`

Definition at line 103 of file mpx\_supt.c.

#### 4.6.2.3 `typedef unsigned long longword`

Definition at line 105 of file mpx\_supt.c.

#### 4.6.2.4 `typedef struct params params`

#### 4.6.2.5 `typedef unsigned int word`

Definition at line 104 of file `mpx_supt.c`.

### 4.6.3 Function Documentation

#### 4.6.3.1 `void* sys_alloc_mem ( size_t size )`

Definition at line 500 of file `mpx_supt.c`.

#### 4.6.3.2 `int sys_check_program ( char dir_name[], char prog_name[], int * prog_len_p, int * start_offset_p )`

Definition at line 855 of file `mpx_supt.c`.

#### 4.6.3.3 `int sys_close_dir ( void )`

Definition at line 827 of file `mpx_supt.c`.

#### 4.6.3.4 `void sys_exit ( void )`

Definition at line 214 of file `mpx_supt.c`.

#### 4.6.3.5 `int sys_free_mem ( void * ptr )`

Definition at line 572 of file `mpx_supt.c`.

#### 4.6.3.6 `void sys_get_date ( date_rec * date_p )`

Definition at line 626 of file `mpx_supt.c`.

#### 4.6.3.7 `int sys_get_entry ( char name_buf[], int buf_size, long * file_size_p )`

Definition at line 756 of file `mpx_supt.c`.

#### 4.6.3.8 `int sys_init ( int modules )`

Definition at line 163 of file `mpx_supt.c`.

**4.6.3.9** `int sys_load_program ( void * load_addr, int max_size, char dir_name[], char prog_name[] )`

Definition at line 948 of file mpx\_supt.c.

**4.6.3.10** `int sys_open_dir ( char path_name[] )`

Definition at line 687 of file mpx\_supt.c.

**4.6.3.11** `int sys_req ( int op_code, int device_id, char * buf_p, int * count_p )`

Definition at line 304 of file mpx\_supt.c.

**4.6.3.12** `int sys_set_date ( date_rec * date_p )`

Definition at line 656 of file mpx\_supt.c.

**4.6.3.13** `int sys_set_vec ( void interrupt(*)() handler )`

Definition at line 245 of file mpx\_supt.c.

## 4.6.4 Variable Documentation

**4.6.4.1** `void* aligned`

Definition at line 137 of file mpx\_supt.c.

**4.6.4.2** `void* original`

Definition at line 136 of file mpx\_supt.c.

## 4.7 mpx/supt/mpx\_supt.h File Reference

```
#include <stdio.h>
#include <ctype.h>
#include <string.h>
```

### Data Structures

- struct [date\\_rec](#)

## Defines

- #define [TRUE](#) 1
- #define [FALSE](#) 0
- #define [SET](#) 1
- #define [RESET](#) 0
- #define [NULCH](#) ('\0')
- #define [OK](#) 0
- #define [ERR\\_SUP\\_INVDEV](#) (-101)
- #define [ERR\\_SUP\\_INVOPC](#) (-102)
- #define [ERR\\_SUP\\_INVPOS](#) (-103)
- #define [ERR\\_SUP\\_RDFAIL](#) (-104)
- #define [ERR\\_SUP\\_WRFail](#) (-105)
- #define [ERR\\_SUP\\_INVMEM](#) (-106)
- #define [ERR\\_SUP\\_FRFAIL](#) (-107)
- #define [ERR\\_SUP\\_INVDAT](#) (-108)
- #define [ERR\\_SUP\\_DATNCH](#) (-109)
- #define [ERR\\_SUP\\_INVDIR](#) (-110)
- #define [ERR\\_SUP\\_DIROPN](#) (-111)
- #define [ERR\\_SUP\\_DIRNOP](#) (-112)
- #define [ERR\\_SUP\\_NOENTR](#) (-113)
- #define [ERR\\_SUP\\_NAMLNG](#) (-114)
- #define [ERR\\_SUP\\_DIRCLS](#) (-115)
- #define [ERR\\_SUP\\_LDFAIL](#) (-116)
- #define [ERR\\_SUP\\_FILNFD](#) (-117)
- #define [ERR\\_SUP\\_FILINV](#) (-118)
- #define [ERR\\_SUP\\_PROGSZ](#) (-119)
- #define [ERR\\_SUP\\_LDADDR](#) (-120)
- #define [ERR\\_SUP\\_NOMEM](#) (-121)
- #define [ERR\\_SUP\\_MFREE](#) (-122)
- #define [ERR\\_SUP\\_INVHAN](#) (-123)
- #define [IDLE](#) 0
- #define [READ](#) 1
- #define [WRITE](#) 2
- #define [CLEAR](#) 3
- #define [GOTOXY](#) 4
- #define [EXIT](#) 5
- #define [NO\\_DEV](#) 0
- #define [TERMINAL](#) 1
- #define [PRINTER](#) 2
- #define [COM\\_PORT](#) 3
- #define [NUM\\_DEVS](#) 3
- #define [BASE\\_MASK](#) 0x700F
- #define [OPT\\_MASK](#) 0x0FF0
- #define [MODULE\\_R1](#) 0x0001
- #define [MODULE\\_R2](#) 0x0002
- #define [MODULE\\_R3](#) 0x0004



- #define [MODULE\\_R4](#) 0x0008
- #define [MODULE\\_O1](#) 0x0010
- #define [MODULE\\_O2](#) 0x0020
- #define [MODULE\\_O3](#) 0x0040
- #define [MODULE\\_O4](#) 0x0080
- #define [MODULE\\_O5](#) 0x0100
- #define [MODULE\\_O6](#) 0x0200
- #define [MODULE\\_O7](#) 0x0400
- #define [MODULE\\_O8](#) 0x0800
- #define [MODULE\\_F](#) 0x4000

## Typedefs

- typedef int [flag](#)

## Functions

- int [sys\\_init](#) (int modules)
- void [sys\\_exit](#) (void)
- int [sys\\_set\\_vec](#) (void interrupt(\*handler)())
- int [sys\\_req](#) (int op\_code, int device\_id, char \*buf\_p, int \*count\_p)
- void \* [sys\\_alloc\\_mem](#) (size\_t size)
- int [sys\\_free\\_mem](#) (void \*ptr)
- void [sys\\_get\\_date](#) ([date\\_rec](#) \*date\_p)
- int [sys\\_set\\_date](#) ([date\\_rec](#) \*date\_p)
- int [sys\\_open\\_dir](#) (char dir\_name[ ])
- int [sys\\_get\\_entry](#) (char name\_buf[ ], int buf\_size, long \*file\_size\_p)
- int [sys\\_close\\_dir](#) (void)
- int [sys\\_check\\_program](#) (char dir\_name[ ], char prog\_name[ ], int \*prog\_len, int \*start\_offset)
- int [sys\\_load\\_program](#) (void \*load\_addr, int max\_size, char dir\_name[ ], char prog\_name[ ])

### 4.7.1 Define Documentation

#### 4.7.1.1 #define [BASE\\_MASK](#) 0x700F

Definition at line 99 of file mpx\_supt.h.

#### 4.7.1.2 #define [CLEAR](#) 3

Definition at line 86 of file mpx\_supt.h.

**4.7.1.3 #define COM\_PORT 3**

Definition at line 94 of file mpx\_supt.h.

**4.7.1.4 #define ERR\_SUP\_DATNCH (-109)**

Definition at line 66 of file mpx\_supt.h.

**4.7.1.5 #define ERR\_SUP\_DIRCLS (-115)**

Definition at line 72 of file mpx\_supt.h.

**4.7.1.6 #define ERR\_SUP\_DIRNOP (-112)**

Definition at line 69 of file mpx\_supt.h.

**4.7.1.7 #define ERR\_SUP\_DIROPN (-111)**

Definition at line 68 of file mpx\_supt.h.

**4.7.1.8 #define ERR\_SUP\_FILINV (-118)**

Definition at line 75 of file mpx\_supt.h.

**4.7.1.9 #define ERR\_SUP\_FILNFD (-117)**

Definition at line 74 of file mpx\_supt.h.

**4.7.1.10 #define ERR\_SUP\_FRFAIL (-107)**

Definition at line 64 of file mpx\_supt.h.

**4.7.1.11 #define ERR\_SUP\_INVDAT (-108)**

Definition at line 65 of file mpx\_supt.h.

**4.7.1.12 #define ERR\_SUP\_INVDEV (-101)**

Definition at line 58 of file mpx\_supt.h.

**4.7.1.13 #define ERR\_SUP\_INVDIR (-110)**

Definition at line 67 of file mpx\_supt.h.

**4.7.1.14 #define ERR\_SUP\_INVHAN (-123)**

Definition at line 80 of file mpx\_supt.h.

**4.7.1.15 #define ERR\_SUP\_INVMEM (-106)**

Definition at line 63 of file mpx\_supt.h.

**4.7.1.16 #define ERR\_SUP\_INVOPC (-102)**

Definition at line 59 of file mpx\_supt.h.

**4.7.1.17 #define ERR\_SUP\_INVPOS (-103)**

Definition at line 60 of file mpx\_supt.h.

**4.7.1.18 #define ERR\_SUP\_LDADDR (-120)**

Definition at line 77 of file mpx\_supt.h.

**4.7.1.19 #define ERR\_SUP\_LDFAIL (-116)**

Definition at line 73 of file mpx\_supt.h.

**4.7.1.20 #define ERR\_SUP\_MFREE (-122)**

Definition at line 79 of file mpx\_supt.h.

**4.7.1.21 #define ERR\_SUP\_NAMLNG (-114)**

Definition at line 71 of file mpx\_supt.h.

**4.7.1.22 #define ERR\_SUP\_NOENTR (-113)**

Definition at line 70 of file mpx\_supt.h.

**4.7.1.23 #define ERR\_SUP\_NOMEM (-121)**

Definition at line 78 of file mpx\_supt.h.

**4.7.1.24 #define ERR\_SUP\_PROGSZ (-119)**

Definition at line 76 of file mpx\_supt.h.

**4.7.1.25 #define ERR\_SUP\_RDFAIL (-104)**

Definition at line 61 of file mpx\_supt.h.

**4.7.1.26 #define ERR\_SUP\_WRFail (-105)**

Definition at line 62 of file mpx\_supt.h.

**4.7.1.27 #define EXIT 5**

Definition at line 88 of file mpx\_supt.h.

**4.7.1.28 #define FALSE 0**

Definition at line 50 of file mpx\_supt.h.

**4.7.1.29 #define GOTOXY 4**

Definition at line 87 of file mpx\_supt.h.

**4.7.1.30 #define IDLE 0**

Definition at line 83 of file mpx\_supt.h.

**4.7.1.31 #define MODULE\_F 0x4000**

Definition at line 114 of file mpx\_supt.h.

**4.7.1.32 #define MODULE\_O1 0x0010**

Definition at line 106 of file mpx\_supt.h.

**4.7.1.33 #define MODULE\_O2 0x0020**

Definition at line 107 of file mpx\_supt.h.

**4.7.1.34 #define MODULE\_O3 0x0040**

Definition at line 108 of file mpx\_supt.h.

**4.7.1.35 #define MODULE\_O4 0x0080**

Definition at line 109 of file mpx\_supt.h.

**4.7.1.36 #define MODULE\_O5 0x0100**

Definition at line 110 of file mpx\_supt.h.

**4.7.1.37 #define MODULE\_O6 0x0200**

Definition at line 111 of file mpx\_supt.h.

**4.7.1.38 #define MODULE\_O7 0x0400**

Definition at line 112 of file mpx\_supt.h.

**4.7.1.39 #define MODULE\_O8 0x0800**

Definition at line 113 of file mpx\_supt.h.

**4.7.1.40 #define MODULE\_R1 0x0001**

Definition at line 102 of file mpx\_supt.h.

**4.7.1.41 #define MODULE\_R2 0x0002**

Definition at line 103 of file mpx\_supt.h.

**4.7.1.42 #define MODULE\_R3 0x0004**

Definition at line 104 of file mpx\_supt.h.

**4.7.1.43 #define MODULE\_R4 0x0008**

Definition at line 105 of file mpx\_supt.h.

**4.7.1.44 #define NO\_DEV 0**

Definition at line 91 of file mpx\_supt.h.

**4.7.1.45 #define NULCH ('\0')**

Definition at line 54 of file mpx\_supt.h.

**4.7.1.46 #define NUM\_DEVS 3**

Definition at line 96 of file mpx\_supt.h.

**4.7.1.47 #define OK 0**

Definition at line 57 of file mpx\_supt.h.

**4.7.1.48 #define OPT\_MASK 0xFF0**

Definition at line 100 of file mpx\_supt.h.

**4.7.1.49 #define PRINTER 2**

Definition at line 93 of file mpx\_supt.h.

**4.7.1.50 #define READ 1**

Definition at line 84 of file mpx\_supt.h.

**4.7.1.51 #define RESET 0**

Definition at line 52 of file mpx\_supt.h.

**4.7.1.52 #define SET 1**

Definition at line 51 of file mpx\_supt.h.

**4.7.1.53 #define TERMINAL 1**

Definition at line 92 of file mpx\_supt.h.

**4.7.1.54 #define TRUE 1**

Definition at line 49 of file mpx\_supt.h.

**4.7.1.55 #define WRITE 2**

Definition at line 85 of file mpx\_supt.h.

**4.7.2 Typedef Documentation****4.7.2.1 typedef int flag**

Definition at line 120 of file mpx\_supt.h.

### 4.7.3 Function Documentation

#### 4.7.3.1 void\* sys\_alloc\_mem ( size\_t size )

Definition at line 500 of file mpx\_supt.c.

#### 4.7.3.2 int sys\_check\_program ( char dir\_name[], char prog\_name[], int \* prog\_len, int \* start\_offset )

Definition at line 855 of file mpx\_supt.c.

#### 4.7.3.3 int sys\_close\_dir ( void )

Definition at line 827 of file mpx\_supt.c.

#### 4.7.3.4 void sys\_exit ( void )

Definition at line 214 of file mpx\_supt.c.

#### 4.7.3.5 int sys\_free\_mem ( void \* ptr )

Definition at line 572 of file mpx\_supt.c.

#### 4.7.3.6 void sys\_get\_date ( date\_rec \* date\_p )

Definition at line 626 of file mpx\_supt.c.

#### 4.7.3.7 int sys\_get\_entry ( char name\_buf[], int buf\_size, long \* file\_size\_p )

Definition at line 756 of file mpx\_supt.c.

#### 4.7.3.8 int sys\_init ( int modules )

Definition at line 163 of file mpx\_supt.c.

#### 4.7.3.9 int sys\_load\_program ( void \* load\_addr, int max\_size, char dir\_name[], char prog\_name[] )

Definition at line 948 of file mpx\_supt.c.

#### 4.7.3.10 int sys\_open\_dir ( char dir\_name[] )

Definition at line 687 of file mpx\_supt.c.

**4.7.3.11** `int sys_req ( int op_code, int device_id, char * buf_p, int * count_p )`

Definition at line 304 of file `mpx_supt.c`.

**4.7.3.12** `int sys_set_date ( date_rec * date_p )`

Definition at line 656 of file `mpx_supt.c`.

**4.7.3.13** `int sys_set_vec ( void interrupt(*)() handler )`

Definition at line 245 of file `mpx_supt.c`.

## 4.8 mpx/supt/r3/procs-r3.c File Reference

```
#include "mpx_supt.h"
```

### Defines

- `#define RC_1 1`
- `#define RC_2 2`
- `#define RC_3 3`
- `#define RC_4 4`
- `#define RC_5 5`

### Functions

- `void test1_R3 ()`
- `void test2_R3 ()`
- `void test3_R3 ()`
- `void test4_R3 ()`
- `void test5_R3 ()`

### 4.8.1 Define Documentation

**4.8.1.1** `#define RC_1 1`

Definition at line 43 of file `procs-r3.c`.

**4.8.1.2** `#define RC_2 2`

Definition at line 44 of file `procs-r3.c`.



#### 4.8.1.3 `#define RC_3 3`

Definition at line 45 of file procs-r3.c.

#### 4.8.1.4 `#define RC_4 4`

Definition at line 46 of file procs-r3.c.

#### 4.8.1.5 `#define RC_5 5`

Definition at line 47 of file procs-r3.c.

### 4.8.2 Function Documentation

#### 4.8.2.1 `void test1_R3 ( )`

Definition at line 83 of file procs-r3.c.

#### 4.8.2.2 `void test2_R3 ( )`

Definition at line 106 of file procs-r3.c.

#### 4.8.2.3 `void test3_R3 ( )`

Definition at line 129 of file procs-r3.c.

#### 4.8.2.4 `void test4_R3 ( )`

Definition at line 152 of file procs-r3.c.

#### 4.8.2.5 `void test5_R3 ( )`

Definition at line 175 of file procs-r3.c.

## 4.9 mpx/supt/r6/trmdrive.c File Reference

```
#include <dos.h>
#include "mpx_supt.h"
#include "trmdrive.h"
```

## Data Structures

- struct [context](#)

## Defines

- #define [PIC\\_CMD](#) 0x20
- #define [PIC\\_MASK](#) 0x21
- #define [KBD\\_LEVEL](#) 1
- #define [SET](#) 1
- #define [RESET](#) 0
- #define [CR](#) 0x0D
- #define [LF](#) 0x0A
- #define [BS](#) 0x08
- #define [ESC](#) 0x1B
- #define [DEV\\_IDLE](#) 0
- #define [DEV\\_READ](#) 1
- #define [DEV\\_WRITE](#) 2
- #define [KBD\\_INTNUM](#) (0x08 + [KBD\\_LEVEL](#))
- #define [OPEN\\_FILE](#) 0x3D
- #define [CLOSE\\_FILE](#) 0x3E
- #define [WRITE\\_FILE](#) 0x40
- #define [GET\\_CHAR](#) 0x06
- #define [WRITE\\_ONLY](#) 0x01
- #define [MAX\\_XPOS](#) 79
- #define [MAX\\_YPOS](#) 23

## Typedefs

- typedef unsigned short [word](#)
- typedef unsigned char [byte](#)
- typedef struct [context](#) [context](#)

## Functions

- void interrupt [kbd\\_ihand](#) (void)
- void [clear\\_scr](#) (void)
- int [goto\\_xy](#) (int xval, int yval)
- void [out\\_char](#) (char ch)
- int [trm\\_open](#) (int \*ef\_p)
- [trm\\_close](#) (void)
- int [trm\\_read](#) (char \*buf\_p, int \*count\_p)
- int [trm\\_write](#) (char \*buf\_p, int \*count\_p)
- int [trm\\_clear](#) (void)
- int [trm\\_gotoxy](#) (int xval, int yval)
- void [trm\\_getc](#) (void)

## Variables

- union REGS [regs](#)
- struct SREGS [segs](#)
- struct {
  - [flag open](#)
  - int [status](#)
  - int \* [eflag\\_p](#)
  - char \* [out\\_buf\\_p](#)
  - int \* [out\\_count\\_p](#)
  - int [out\\_max](#)
  - int [out\\_ctr](#)
  - char \* [in\\_buf\\_p](#)
  - int \* [in\\_count\\_p](#)
  - int [in\\_max](#)
  - int [in\\_ctr](#)
- } [dcb\\_trm](#)
- void interrupt(\* [old\\_kbhand\\_p](#))(void) = NULL
- int [con\\_handle](#)
- int [pendc](#) = 0

### 4.9.1 Define Documentation

#### 4.9.1.1 #define BS 0x08

Definition at line 86 of file trmdrive.c.

#### 4.9.1.2 #define CLOSE\_FILE 0x3E

Definition at line 99 of file trmdrive.c.

#### 4.9.1.3 #define CR 0x0D

Definition at line 84 of file trmdrive.c.

#### 4.9.1.4 #define DEV\_IDLE 0

Definition at line 90 of file trmdrive.c.

#### 4.9.1.5 #define DEV\_READ 1

Definition at line 91 of file trmdrive.c.

**4.9.1.6 #define DEV\_WRITE 2**

Definition at line 92 of file trmdrive.c.

**4.9.1.7 #define ESC 0x1B**

Definition at line 87 of file trmdrive.c.

**4.9.1.8 #define GET\_CHAR 0x06**

Definition at line 101 of file trmdrive.c.

**4.9.1.9 #define KBD\_INTNUM (0x08 + KBD\_LEVEL)**

Definition at line 95 of file trmdrive.c.

**4.9.1.10 #define KBD\_LEVEL 1**

Definition at line 78 of file trmdrive.c.

**4.9.1.11 #define LF 0x0A**

Definition at line 85 of file trmdrive.c.

**4.9.1.12 #define MAX\_XPOS 79**

Definition at line 105 of file trmdrive.c.

**4.9.1.13 #define MAX\_YPOS 23**

Definition at line 106 of file trmdrive.c.

**4.9.1.14 #define OPEN\_FILE 0x3D**

Definition at line 98 of file trmdrive.c.

**4.9.1.15 #define PIC\_CMD 0x20**

Definition at line 74 of file trmdrive.c.

**4.9.1.16 #define PIC\_MASK 0x21**

Definition at line 75 of file trmdrive.c.

**4.9.1.17 #define RESET 0**

Definition at line 83 of file trmdrive.c.

**4.9.1.18 #define SET 1**

Definition at line 82 of file trmdrive.c.

**4.9.1.19 #define WRITE\_FILE 0x40**

Definition at line 100 of file trmdrive.c.

**4.9.1.20 #define WRITE\_ONLY 0x01**

Definition at line 103 of file trmdrive.c.

**4.9.2 Typedef Documentation****4.9.2.1 typedef unsigned char byte**

Definition at line 62 of file trmdrive.c.

**4.9.2.2 typedef struct context context****4.9.2.3 typedef unsigned short word**

Definition at line 61 of file trmdrive.c.

**4.9.3 Function Documentation****4.9.3.1 void clear\_scr ( void )**

Definition at line 585 of file trmdrive.c.

**4.9.3.2 int goto\_xy ( int xval, int yval )**

Definition at line 609 of file trmdrive.c.

**4.9.3.3 void interrupt kbd\_ihand ( void )**

Definition at line 447 of file trmdrive.c.

**4.9.3.4 void out\_char ( char *ch* )**

Definition at line 652 of file trmdrive.c.

**4.9.3.5 int trm\_clear ( void )**

Definition at line 393 of file trmdrive.c.

**4.9.3.6 trm\_close ( void )**

Definition at line 235 of file trmdrive.c.

**4.9.3.7 void trm\_getc ( void )**

Definition at line 480 of file trmdrive.c.

**4.9.3.8 int trm\_gotoxy ( int *xval*, int *yval* )**

Definition at line 422 of file trmdrive.c.

**4.9.3.9 int trm\_open ( int \* *ef\_p* )**

Definition at line 176 of file trmdrive.c.

**4.9.3.10 int trm\_read ( char \* *buf\_p*, int \* *count\_p* )**

Definition at line 282 of file trmdrive.c.

**4.9.3.11 int trm\_write ( char \* *buf\_p*, int \* *count\_p* )**

Definition at line 331 of file trmdrive.c.

**4.9.4 Variable Documentation****4.9.4.1 int con\_handle**

Definition at line 131 of file trmdrive.c.

**4.9.4.2 struct { ... } dcb\_trm****4.9.4.3 int\* eflag\_p**

Definition at line 116 of file trmdrive.c.

**4.9.4.4 char\* in\_buf\_p**

Definition at line 121 of file trmdrive.c.

**4.9.4.5 int\* in\_count\_p**

Definition at line 122 of file trmdrive.c.

**4.9.4.6 int in\_ctr**

Definition at line 124 of file trmdrive.c.

**4.9.4.7 int in\_max**

Definition at line 123 of file trmdrive.c.

**4.9.4.8 void interrupt(\* old\_kbhand\_p)(void) = NULL**

Definition at line 128 of file trmdrive.c.

**4.9.4.9 flag open**

Definition at line 114 of file trmdrive.c.

**4.9.4.10 char\* out\_buf\_p**

Definition at line 117 of file trmdrive.c.

**4.9.4.11 int\* out\_count\_p**

Definition at line 118 of file trmdrive.c.

**4.9.4.12 int out\_ctr**

Definition at line 120 of file trmdrive.c.

**4.9.4.13 int out\_max**

Definition at line 119 of file trmdrive.c.

**4.9.4.14 int pendc = 0**

Definition at line 134 of file trmdrive.c.

#### 4.9.4.15 union REGS regs

Definition at line 109 of file trmdrive.c.

#### 4.9.4.16 struct SREGS segs

Definition at line 110 of file trmdrive.c.

#### 4.9.4.17 int status

Definition at line 115 of file trmdrive.c.

## 4.10 mpx/supt/r6/trmdrive.h File Reference

### Defines

- #define [ERR\\_TRM\\_OP\\_INVEFP](#) (-101)
- #define [ERR\\_TRM\\_OP\\_ALROPN](#) (-102)
- #define [ERR\\_TRM\\_OP\\_OPFAIL](#) (-103)
- #define [ERR\\_TRM\\_CL\\_NOTOPN](#) (-201)
- #define [ERR\\_TRM\\_CL\\_CLFAIL](#) (-202)
- #define [ERR\\_TRM\\_RD\\_NOTOPN](#) (-301)
- #define [ERR\\_TRM\\_RD\\_INVBUF](#) (-302)
- #define [ERR\\_TRM\\_RD\\_INVCNT](#) (-303)
- #define [ERR\\_TRM\\_RD\\_DVBUSY](#) (-304)
- #define [ERR\\_TRM\\_WR\\_NOTOPN](#) (-401)
- #define [ERR\\_TRM\\_WR\\_INVBUF](#) (-402)
- #define [ERR\\_TRM\\_WR\\_INVCNT](#) (-403)
- #define [ERR\\_TRM\\_WR\\_DVBUSY](#) (-404)
- #define [ERR\\_TRM\\_XY\\_INVPOS](#) (-601)

### Functions

- int [trm\\_open](#) (int \*ef\_p)
- int [trm\\_close](#) (void)
- int [trm\\_read](#) (char \*buf\_p, int \*count\_p)
- void [trm\\_getc](#) (void)
- int [trm\\_write](#) (char \*buf\_p, int \*count\_p)
- int [trm\\_clear](#) (void)
- int [trm\\_gotoxy](#) (int xpos, int ypos)



### 4.10.1 Define Documentation

#### 4.10.1.1 `#define ERR_TRM_CL_CLFAIL (-202)`

Definition at line 39 of file trmdrive.h.

#### 4.10.1.2 `#define ERR_TRM_CL_NOTOPN (-201)`

Definition at line 38 of file trmdrive.h.

#### 4.10.1.3 `#define ERR_TRM_OP_ALROPN (-102)`

Definition at line 35 of file trmdrive.h.

#### 4.10.1.4 `#define ERR_TRM_OP_INVEFP (-101)`

Definition at line 34 of file trmdrive.h.

#### 4.10.1.5 `#define ERR_TRM_OP_OPFAIL (-103)`

Definition at line 36 of file trmdrive.h.

#### 4.10.1.6 `#define ERR_TRM_RD_DVBUSY (-304)`

Definition at line 44 of file trmdrive.h.

#### 4.10.1.7 `#define ERR_TRM_RD_INVBUF (-302)`

Definition at line 42 of file trmdrive.h.

#### 4.10.1.8 `#define ERR_TRM_RD_INVCNT (-303)`

Definition at line 43 of file trmdrive.h.

#### 4.10.1.9 `#define ERR_TRM_RD_NOTOPN (-301)`

Definition at line 41 of file trmdrive.h.

#### 4.10.1.10 `#define ERR_TRM_WR_DVBUSY (-404)`

Definition at line 49 of file trmdrive.h.

**4.10.1.11 #define ERR\_TRM\_WR\_INVBUF (-402)**

Definition at line 47 of file trmdrive.h.

**4.10.1.12 #define ERR\_TRM\_WR\_INVCNT (-403)**

Definition at line 48 of file trmdrive.h.

**4.10.1.13 #define ERR\_TRM\_WR\_NOTOPN (-401)**

Definition at line 46 of file trmdrive.h.

**4.10.1.14 #define ERR\_TRM\_XY\_INVPOS (-601)**

Definition at line 51 of file trmdrive.h.

**4.10.2 Function Documentation****4.10.2.1 int trm\_clear ( void )**

Definition at line 393 of file trmdrive.c.

**4.10.2.2 int trm\_close ( void )**

Definition at line 235 of file trmdrive.c.

**4.10.2.3 void trm\_getc ( void )**

Definition at line 480 of file trmdrive.c.

**4.10.2.4 int trm\_gotoxy ( int *xpos*, int *ypos* )**

Definition at line 422 of file trmdrive.c.

**4.10.2.5 int trm\_open ( int \* *ef\_p* )**

Definition at line 176 of file trmdrive.c.

**4.10.2.6 int trm\_read ( char \* *buf\_p*, int \* *count\_p* )**

Definition at line 282 of file trmdrive.c.

**4.10.2.7 int trm\_write ( char \* *buf\_p*, int \* *count\_p* )**

Definition at line 331 of file trmdrive.c.

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