MSP430-LEI

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Chapter 4

Module Documentation

4.1 Personal Errors

Defines

- #define SUCCESS 0

  No Error.
- #define EPERM 1

  Operation not permitted.
- #define ENOENT 2

  No such file or directory.
- #define ESRCH 3

  No such process.
- #define EINTR 4

  Interrupted system call.
- #define EIO 5

  I/O error.
- #define ENXIO 6

  No such device or address.
- #define E2BIG 7

  Argument list too long.
- #define ENOEXEC 8

  Exec format error.
- #define EBADF 9

  Bad file number.
- #define ECHILD 10

  No child processes.
- #define EAGAIN 11

  Try again.
- #define ENOMEM 12

Out of memory.

- #define EACCES 13

  Permission denied.

- #define EFAULT 14

  Bad address.

- #define ENOTBLK 15

  Block device required.

- #define EBUSY 16

  Device or resource busy.

- #define EEXIST 17

  File exists.

- #define EXDEV 18

  Cross-device link.

- #define ENODEV 19

  No such device.

- #define ENOTDIR 20

  Not a directory.

- #define EISDIR 21

  Is a directory.

- #define EINVAL 22

  Invalid argument.

- #define ENFILE 23

  File table overflow.

- #define EMFILE 24

  Too many open files.

- #define ENOTTY 25

  Not a typewriter.

- #define ETXTBSY 26

  Text file busy.

- #define EFBIG 27

  File too large.

- #define ENOSPC 28

  No space left on device.

- #define ESPIPE 29

  Illegal seek.

- #define EROFS 30

  Read-only file system.

- #define EMLINK 31

  Too many links.

- #define EPIPE 32

  Broken pipe.

- #define EDOM 33

  Math argument out of domain of func.

- #define ERANGE 34

  Math result not representable.
- #define EDEADLK 35

  Resource deadlock would occur.
- #define ENAMETOOLONG 36

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- #define ENOLCK 37

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- #define ENOSYS 38

  Function not implemented.
- #define ENOTEMPTY 39

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- #define ELOOP 40

  Too many symbolic links encountered.
- #define EWOULDBLOCK EAGAIN

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- #define ENOMSG 42

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- #define EIDRM 43

  Identifier removed.
- #define ECHRNG 44

  Channel number out of range.
- #define EL2NSYNC 45

  Level 2 not synchronized.
- #define EL3HLT 46

  Level 3 halted.
- #define EL3RST 47

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- #define ELNRNG 48

  Link number out of range.
- #define EUNATCH 49

  Protocol driver not attached.
- #define ENOCSI 50

  No CSI structure available.
- #define EL2HLT 51

  Level 2 halted.
- #define EBADE 52

  Invalid exchange.
- #define EBADR 53

  Invalid request descriptor.
- #define EXFULL 54

  Exchange full.
- #define ENOANO 55

No anode.

- #define EBADRQC 56

  Invalid request code.
- #define EBADSLT 57

  Invalid slot.
- #define EDEADLOCK EDEADLK

  Resource deadlock would occur.
- #define EBFONT 59

  Bad font file format.
- #define ENOSTR 60

  Device not a stream.
- #define ENODATA 61

  No data available.
- #define ETIME 62

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- #define ENOSR 63

  Out of streams resources.
- #define ENONET 64

  Machine is not on the network.
- #define ENOPKG 65

  Package not installed.
- #define EREMOTE 66

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- #define ENOLINK 67

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- #define EADV 68

  Advertise error.
- #define ESRMNT 69

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- #define ECOMM 70

  Communication error on send.
- #define EPROTO 71

  Protocol error.
- #define EMULTIHOP 72

  Multihop attempted.
- #define EDOTDOT 73

  RFS specific error.
- #define EBADMSG 74

  Not a data message.
- #define EOVERFLOW 75

  Value too large for defined data type.
- #define ENOTUNIQ 76

  Name not unique on network.

- #define EBADFD 77

  File descriptor in bad state.
- #define EREMCHG 78

  Remote address changed.
- #define ELIBACC 79

  Can not access a needed shared library.
- #define ELIBBAD 80

  Accessing a corrupted shared library.
- #define ELIBSCN 81

  .lib section in a.out corrupted
- #define ELIBMAX 82

  Attempting to link in too many shared libraries.
- #define ELIBEXEC 83

  Cannot exec a shared library directly.
- #define EILSEQ 84

  Illegal byte sequence.
- #define ERESTART 85

  Interrupted system call should be restarted.
- #define ESTRPIPE 86

  Streams pipe error.
- #define EUSERS 87

  Too many users.
- #define ENOTSOCK 88

  Socket operation on non-socket.
- #define EDESTADDRREQ 89

  Destination address required.
- #define EMSGSIZE 90

  Message too long.
- #define EPROTOTYPE 91

  Protocol wrong type for socket.
- #define ENOPROTOOPT 92

  Protocol not available.
- #define EPROTONOSUPPORT 93

  Protocol not supported.
- #define ESOCKTNOSUPPORT 94

  Socket type not supported.
- #define EOPNOTSUPP 95

  Operation not supported on transport endpoint.
- #define EPFNOSUPPORT 96

  Protocol family not supported.
- #define EAFNOSUPPORT 97

  Address family not supported by protocol.
- #define EADDRINUSE 98

Address already in use.

- #define EADDRNOTAVAIL 99

  Cannot assign requested address.
- #define ENETDOWN 100

  Network is down.
- #define ENETUNREACH 101

  Network is unreachable.
- #define ENETRESET 102

  Network dropped connection because of reset.
- #define ECONNABORTED 103

  Software caused connection abort.
- #define ECONNRESET 104

  Connection reset by peer.
- #define ENOBUFS 105

  No buffer space available.
- #define EISCONN 106

  Transport endpoint is already connected.
- #define ENOTCONN 107

  Transport endpoint is not connected.
- #define ESHUTDOWN 108

  Cannot send after transport endpoint shutdown.
- #define ETOOMANYREFS 109

  Too many references: cannot splice.
- #define ETIMEDOUT 110

  Connection timed out.
- #define ECONNREFUSED 111

  Connection refused.
- #define EHOSTDOWN 112

  Host is down.
- #define EHOSTUNREACH 113

  No route to host.
- #define EALREADY 114

  Operation already in progress.
- #define EINPROGRESS 115

  Operation now in progress.
- #define ESTALE 116

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- #define EUCLEAN 117

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- #define ENOTNAM 118

  Not a XENIX named type file.
- #define ENAVAIL 119

  No XENIX semaphores available.

- #define EISNAM 120

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- #define EREMOTEIO 121

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- #define EDQUOT 122

  Quota exceeded.
- #define ENOMEDIUM 123

  No medium found.
- #define EMEDIUMTYPE 124

  Wrong medium type.
- #define ECANCELED 125

  Operation Canceled.
- #define ENOKEY 126

  Required key not available.
- #define EKEYEXPIRED 127

  Key has expired.
- #define EKEYREVOKED 128

  Key has been revoked.
- #define EKEYREJECTED 129

  Key was rejected by service.
- #define EOWNERDEAD 130

  for robust mutexes
- #define ENOTRECOVERABLE 131

  State not recoverable.
- #define ERFKILL 132

  Operation not possible due to RF-kill.
- #define EHWPOISON 133

  Memory page has hardware error.

4.1.1 Define Documentation

4.1.1.1 #define E2BIG 7

Argument list too long.

Definition at line 26 of file myerrno.h.

4.1.1.2 #define EACCES 13

Permission denied.

Definition at line 38 of file myerrno.h.

4.1.1.3 #define EADDRINUSE 98

Address already in use.

Definition at line 210 of file myerrno.h.

4.1.1.4 #define EADDRNOTAVAIL 99

Cannot assign requested address.

Definition at line 212 of file myerrno.h.

4.1.1.5 #define EADV 68

Advertise error.

Definition at line 150 of file myerrno.h.

4.1.1.6 #define EAFNOSUPPORT 97

Address family not supported by protocol.

Definition at line 208 of file myerrno.h.

4.1.1.7 #define EAGAIN 11

Try again.

Definition at line 34 of file myerrno.h.

4.1.1.8 #define EALREADY 114

Operation already in progress.

Definition at line 242 of file myerrno.h.

4.1.1.9 #define EBADE 52

Invalid exchange.

Definition at line 117 of file myerrno.h.

4.1.1.10 #define EBADF 9

Bad file number.

Definition at line 30 of file myerrno.h.

4.1.1.11 #define EBADFD 77

File descriptor in bad state.

Definition at line 168 of file myerrno.h.

4.1.1.12 #define EBADMSG 74

Not a data message.

Definition at line 162 of file myerrno.h.

4.1.1.13 #define EBADR 53

Invalid request descriptor.

Definition at line 119 of file myerrno.h.

4.1.1.14 #define EBADRQC 56

Invalid request code.

Definition at line 125 of file myerrno.h.

4.1.1.15 #define EBADSLT 57

Invalid slot.

Definition at line 127 of file myerrno.h.

4.1.1.16 #define EBFONT 59

Bad font file format.

Definition at line 132 of file myerrno.h.

4.1.1.17 #define EBUSY 16

Device or resource busy.

Definition at line 44 of file myerrno.h.

4.1.1.18 #define ECANCELED 125

Operation Canceled.

Definition at line 265 of file myerrno.h.

4.1.1.19 #define ECHILD 10

No child processes.

Definition at line 32 of file myerrno.h.

4.1.1.20 #define ECHRNG 44

Channel number out of range.

Definition at line 101 of file myerrno.h.

4.1.1.21 #define ECOMM 70

Communication error on send.

Definition at line 154 of file myerrno.h.

4.1.1.22 #define ECONNABORTED 103

Software caused connection abort.

Definition at line 220 of file myerrno.h.

4.1.1.23 #define ECONNREFUSED 111

Connection refused.

Definition at line 236 of file myerrno.h.

4.1.1.24 #define ECONNRESET 104

Connection reset by peer.

Definition at line 222 of file myerrno.h.

4.1.1.25 #define EDEADLK 35

Resource deadlock would occur.

Definition at line 83 of file myerrno.h.

4.1.1.26 #define EDEADLOCK EDEADLK

Resource deadlock would occur.

Definition at line 129 of file myerrno.h.

4.1.1.27 #define EDESTADDRREQ 89

Destination address required.

Definition at line 192 of file myerrno.h.

4.1.1.28 #define EDOM 33

Math argument out of domain of func.

Definition at line 78 of file myerrno.h.

4.1.1.29 #define EDOTDOT 73

RFS specific error.

Definition at line 160 of file myerrno.h.

4.1.1.30 #define EDQUOT 122

Quota exceeded.

Definition at line 258 of file myerrno.h.

4.1.1.31 #define EEXIST 17

File exists.

Definition at line 46 of file myerrno.h.

4.1.1.32 #define EFAULT 14

Bad address.

Definition at line 40 of file myerrno.h.

4.1.1.33 #define EFBIG 27

File too large.

Definition at line 66 of file myerrno.h.

4.1.1.34 #define EHOSTDOWN 112

Host is down.

Definition at line 238 of file myerrno.h.

4.1.1.35 #define EHOSTUNREACH 113

No route to host.

Definition at line 240 of file myerrno.h.

4.1.1.36 #define EHWPOISON 133

Memory page has hardware error.

Definition at line 286 of file myerrno.h.

4.1.1.37 #define EIDRM 43

Identifier removed.

Definition at line 99 of file myerrno.h.

4.1.1.38 #define EILSEQ 84

Illegal byte sequence.

Definition at line 182 of file myerrno.h.

4.1.1.39 #define EINPROGRESS 115

Operation now in progress.

Definition at line 244 of file myerrno.h.

4.1.1.40 #define EINTR 4

Interrupted system call.

Definition at line 20 of file myerrno.h.

4.1.1.41 #define EINVAL 22

Invalid argument.

Definition at line 56 of file myerrno.h.

4.1.1.42 #define EIO 5

I/O error.

Definition at line 22 of file myerrno.h.

4.1.1.43 #define EISCONN 106

Transport endpoint is already connected.

Definition at line 226 of file myerrno.h.

4.1.1.44 #define EISDIR 21

Is a directory.

Definition at line 54 of file myerrno.h.

4.1.1.45 #define EISNAM 120

Is a named type file.

Definition at line 254 of file myerrno.h.

4.1.1.46 #define EKEYEXPIRED 127

Key has expired.

Definition at line 269 of file myerrno.h.

4.1.1.47 #define EKEYREJECTED 129

Key was rejected by service.

Definition at line 273 of file myerrno.h.

4.1.1.48 #define EKEYREVOKED 128

Key has been revoked.

Definition at line 271 of file myerrno.h.

4.1.1.49 #define EL2HLT 51

Level 2 halted.

Definition at line 115 of file myerrno.h.

4.1.1.50 #define EL2NSYNC 45

Level 2 not synchronized.

Definition at line 103 of file myerrno.h.

4.1.1.51 #define EL3HLT 46

Level 3 halted.

Definition at line 105 of file myerrno.h.

4.1.1.52 #define EL3RST 47

Level 3 reset.

Definition at line 107 of file myerrno.h.

4.1.1.53 #define ELIBACC 79

Can not access a needed shared library.

Definition at line 172 of file myerrno.h.

4.1.1.54 #define ELIBBAD 80

Accessing a corrupted shared library.

Definition at line 174 of file myerrno.h.

4.1.1.55 #define ELIBEXEC 83

Cannot exec a shared library directly.

Definition at line 180 of file myerrno.h.

4.1.1.56 #define ELIBMAX 82

Attempting to link in too many shared libraries.

Definition at line 178 of file myerrno.h.

4.1.1.57 #define ELIBSCN 81

.lib section in a.out corrupted

Definition at line 176 of file myerrno.h.

4.1.1.58 #define ELNRNG 48

Link number out of range.

Definition at line 109 of file myerrno.h.

4.1.1.59 #define ELOOP 40

Too many symbolic links encountered.

Definition at line 93 of file myerrno.h.

4.1.1.60 #define EMEDIUMTYPE 124

Wrong medium type.

Definition at line 263 of file myerrno.h.

4.1.1.61 #define EMFILE 24

Too many open files.

Definition at line 60 of file myerrno.h.

4.1.1.62 #define EMLINK 31

Too many links.

Definition at line 74 of file myerrno.h.

4.1.1.63 #define EMSGSIZE 90

Message too long.

Definition at line 194 of file myerrno.h.

4.1.1.64 #define EMULTIHOP 72

Multihop attempted.

Definition at line 158 of file myerrno.h.

4.1.1.65 #define ENAMETOOLONG 36

File name too long.

Definition at line 85 of file myerrno.h.

4.1.1.66 #define ENAVAIL 119

No XENIX semaphores available.

Definition at line 252 of file myerrno.h.

4.1.1.67 #define ENETDOWN 100

Network is down.

Definition at line 214 of file myerrno.h.

4.1.1.68 #define ENETRESET 102

Network dropped connection because of reset.

Definition at line 218 of file myerrno.h.

4.1.1.69 #define ENETUNREACH 101

Network is unreachable.

Definition at line 216 of file myerrno.h.

4.1.1.70 #define ENFILE 23

File table overflow.

Definition at line 58 of file myerrno.h.

4.1.1.71 #define ENOANO 55

No anode.

Definition at line 123 of file myerrno.h.

4.1.1.72 #define ENOBUFS 105

No buffer space available.

Definition at line 224 of file myerrno.h.

4.1.1.73 #define ENOCSI 50

No CSI structure available.

Definition at line 113 of file myerrno.h.

4.1.1.74 #define ENODATA 61

No data available.

Definition at line 136 of file myerrno.h.

4.1.1.75 #define ENODEV 19

No such device.

Definition at line 50 of file myerrno.h.

4.1.1.76 #define ENOENT 2

No such file or directory.

Definition at line 16 of file myerrno.h.

4.1.1.77 #define ENOEXEC 8

Exec format error.

Definition at line 28 of file myerrno.h.

4.1.1.78 #define ENOKEY 126

Required key not available.

Definition at line 267 of file myerrno.h.

4.1.1.79 #define ENOLCK 37

No record locks available.

Definition at line 87 of file myerrno.h.

4.1.1.80 #define ENOLINK 67

Link has been severed.

Definition at line 148 of file myerrno.h.

4.1.1.81 #define ENOMEDIUM 123

No medium found.

Definition at line 261 of file myerrno.h.

4.1.1.82 #define ENOMEM 12

Out of memory.

Definition at line 36 of file myerrno.h.

4.1.1.83 #define ENOMSG 42

No message of desired type.

Definition at line 97 of file myerrno.h.

4.1.1.84 #define ENONET 64

Machine is not on the network.

Definition at line 142 of file myerrno.h.

4.1.1.85 #define ENOPKG 65

Package not installed.

Definition at line 144 of file myerrno.h.

4.1.1.86 #define ENOPROTOOPT 92

Protocol not available.

Definition at line 198 of file myerrno.h.

4.1.1.87 #define ENOSPC 28

No space left on device.

Definition at line 68 of file myerrno.h.

4.1.1.88 #define ENOSR 63

Out of streams resources.

Definition at line 140 of file myerrno.h.

4.1.1.89 #define ENOSTR 60

Device not a stream.

Definition at line 134 of file myerrno.h.

4.1.1.90 #define ENOSYS 38

Function not implemented.

Definition at line 89 of file myerrno.h.

4.1.1.91 #define ENOTBLK 15

Block device required.

Definition at line 42 of file myerrno.h.

4.1.1.92 #define ENOTCONN 107

Transport endpoint is not connected.

Definition at line 228 of file myerrno.h.

4.1.1.93 #define ENOTDIR 20

Not a directory.

Definition at line 52 of file myerrno.h.

4.1.1.94 #define ENOTEMPTY 39

Directory not empty.

Definition at line 91 of file myerrno.h.

4.1.1.95 #define ENOTNAM 118

Not a XENIX named type file.

Definition at line 250 of file myerrno.h.

4.1.1.96 #define ENOTRECOVERABLE 131

State not recoverable.

Definition at line 280 of file myerrno.h.

4.1.1.97 #define ENOTSOCK 88

Socket operation on non-socket.

Definition at line 190 of file myerrno.h.

4.1.1.98 #define ENOTTY 25

Not a typewriter.

Definition at line 62 of file myerrno.h.

4.1.1.99 #define ENOTUNIQ 76

Name not unique on network.

Definition at line 166 of file myerrno.h.

4.1.1.100 #define ENXIO 6

No such device or address.

Definition at line 24 of file myerrno.h.

4.1.1.101 #define EOPNOTSUPP 95

Operation not supported on transport endpoint.

Definition at line 204 of file myerrno.h.

4.1.1.102 #define EOVERFLOW 75

Value too large for defined data type.

Definition at line 164 of file myerrno.h.

4.1.1.103 #define EOWNERDEAD 130

for robust mutexes

Owner died

Definition at line 278 of file myerrno.h.

4.1.1.104 #define EPERM 1

Operation not permitted.

Definition at line 14 of file myerrno.h.

4.1.1.105 #define EPFNOSUPPORT 96

Protocol family not supported.

Definition at line 206 of file myerrno.h.

4.1.1.106 #define EPIPE 32

Broken pipe.

Definition at line 76 of file myerrno.h.

4.1.1.107 #define EPROTO 71

Protocol error.

Definition at line 156 of file myerrno.h.

4.1.1.108 #define EPROTONOSUPPORT 93

Protocol not supported.

Definition at line 200 of file myerrno.h.

4.1.1.109 #define EPROTOTYPE 91

Protocol wrong type for socket.

Definition at line 196 of file myerrno.h.

4.1.1.110 #define ERANGE 34

Math result not representable.

Definition at line 80 of file myerrno.h.

4.1.1.111 #define EREMCHG 78

Remote address changed.

Definition at line 170 of file myerrno.h.

4.1.1.112 #define EREMOTE 66

Object is remote.

Definition at line 146 of file myerrno.h.

4.1.1.113 #define EREMOTEIO 121

Remote I/O error.

Definition at line 256 of file myerrno.h.

4.1.1.114 #define ERESTART 85

Interrupted system call should be restarted.

Definition at line 184 of file myerrno.h.

4.1.1.115 #define ERFKILL 132

Operation not possible due to RF-kill.

Definition at line 283 of file myerrno.h.

4.1.1.116 #define EROFS 30

Read-only file system.

Definition at line 72 of file myerrno.h.

4.1.1.117 #define ESHUTDOWN 108

Cannot send after transport endpoint shutdown.

Definition at line 230 of file myerrno.h.

4.1.1.118 #define ESOCKTNOSUPPORT 94

Socket type not supported.

Definition at line 202 of file myerrno.h.

4.1.1.119 #define ESPIPE 29

Illegal seek.

Definition at line 70 of file myerrno.h.

4.1.1.120 #define ESRCH 3

No such process.

Definition at line 18 of file myerrno.h.

4.1.1.121 #define ESRMNT 69

Srmount error.

Definition at line 152 of file myerrno.h.

4.1.1.122 #define ESTALE 116

Stale NFS file handle.

Definition at line 246 of file myerrno.h.

4.1.1.123 #define ESTRPIPE 86

Streams pipe error.

Definition at line 186 of file myerrno.h.

4.1.1.124 #define ETIME 62

Timer expired.

Definition at line 138 of file myerrno.h.

4.1.1.125 #define ETIMEDOUT 110

Connection timed out.

Definition at line 234 of file myerrno.h.

4.1.1.126 #define ETOOMANYREFS 109

Too many references: cannot splice.

Definition at line 232 of file myerrno.h.

4.1.1.127 #define ETXTBSY 26

Text file busy.

Definition at line 64 of file myerrno.h.

4.1.1.128 #define EUCLEAN 117

Structure needs cleaning.

Definition at line 248 of file myerrno.h.

4.1.1.129 #define EUNATCH 49

Protocol driver not attached.

Definition at line 111 of file myerrno.h.

4.1.1.130 #define EUSERS 87

Too many users.

Definition at line 188 of file myerrno.h.

4.1.1.131 #define EWOULDBLOCK EAGAIN

Operation would block.

Definition at line 95 of file myerrno.h.

4.1.1.132 #define EXDEV 18

Cross-device link.

Definition at line 48 of file myerrno.h.

4.1.1.133 #define EXFULL 54

Exchange full.

Definition at line 121 of file myerrno.h.

4.1.1.134 #define SUCCESS 0

No Error.

Definition at line 11 of file myerrno.h.

Chapter 5

Data Structure Documentation

5.1 DIR Struct Reference

`#include <pff.h>`

Data Fields

- WORD index
- BYTE * fn
- CLUST sclust
- CLUST clust
- DWORD sect

5.1.1 Detailed Description

Definition at line 97 of file pff.h.

5.1.2 Field Documentation

5.1.2.1 CLUST DIR::clust

Definition at line 101 of file pff.h.

5.1.2.2 BYTE* DIR::fn

Definition at line 99 of file pff.h.

5.1.2.3 WORD DIR::index

Definition at line 98 of file pff.h.

5.1.2.4 CLUST DIR::sclust

Definition at line 100 of file pff.h.

5.1.2.5 DWORD DIR::sect

Definition at line 102 of file pff.h.

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

- mmc/pff.h

5.2 FATFS Struct Reference

```
#include <pff.h>
```

Data Fields

- BYTE fs_type
- BYTE flag
- BYTE csize
- BYTE pad1
- WORD n_rootdir
- CLUST n_fatent
- DWORD fatbase
- DWORD dirbase
- DWORD database
- DWORD fptr
- DWORD fsize
- CLUST org_clust
- CLUST curr_clust
- DWORD dsect

5.2.1 Detailed Description

Definition at line 76 of file pff.h.

5.2.2 Field Documentation

5.2.2.1 BYTE FATFS::csize

Definition at line 79 of file pff.h.

5.2.2.2 CLUST FATFS::curr_clust

Definition at line 89 of file pff.h.

5.2.2.3 DWORD FATFS::database

Definition at line 85 of file pff.h.

5.2.2.4 DWORD FATFS::dirbase

Definition at line 84 of file pff.h.

5.2.2.5 DWORD FATFS::dsect

Definition at line 90 of file pff.h.

5.2.2.6 DWORD FATFS::fatbase

Definition at line 83 of file pff.h.

5.2.2.7 BYTE FATFS::flag

Definition at line 78 of file pff.h.

5.2.2.8 DWORD FATFS::fptr

Definition at line 86 of file pff.h.

5.2.2.9 BYTE FATFS::fs_type

Definition at line 77 of file pff.h.

5.2.2.10 DWORD FATFS::fsize

Definition at line 87 of file pff.h.

5.2.2.11 CLUST FATFS::n_fatent

Definition at line 82 of file pff.h.

5.2.2.12 WORD FATFS::n_rootdir

Definition at line 81 of file pff.h.

5.2.2.13 CLUST FATFS::org_clust

Definition at line 88 of file pff.h.

5.2.2.14 BYTE FATFS::pad1

Definition at line 80 of file pff.h.

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

- mmc/pff.h

5.3 FILINFO Struct Reference

```
#include <pff.h>
```

Data Fields

- DWORD fsize
- WORD fdate
- WORD ftime
- BYTE fattrib
- char fname [13]

5.3.1 Detailed Description

Definition at line 109 of file pff.h.

5.3.2 Field Documentation

5.3.2.1 BYTE FILINFO::fattrib

Definition at line 113 of file pff.h.

5.3.2.2 WORD FILINFO::fdate

Definition at line 111 of file pff.h.

5.3.2.3 char FILINFO::fname[13]

Definition at line 114 of file pff.h.

5.3.2.4 DWORD FILINFO::fsize

Definition at line 110 of file pff.h.

5.3.2.5 WORD FILINFO::ftime

Definition at line 112 of file pff.h.

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

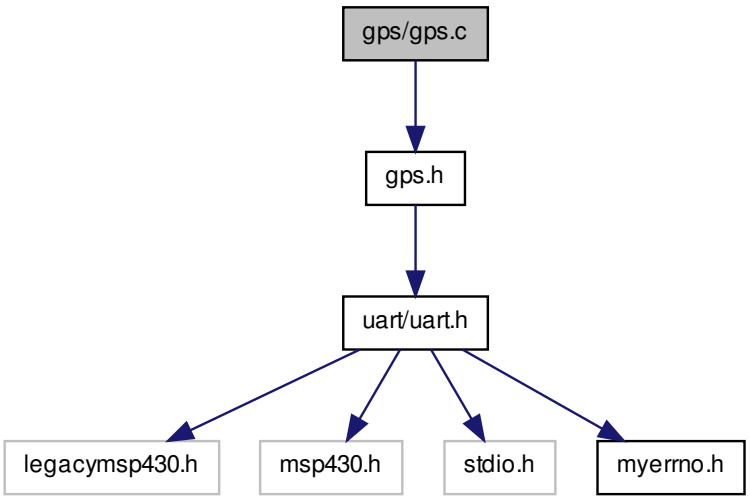
- mmc/pff.h

Chapter 6

File Documentation

6.1 gps/gps.c File Reference

`#include <gps.h>` Include dependency graph for gps.c:



Functions

- int gps_initialize (void)

  Initialize the GPS and if necessery, the UART.

- const char * gps_read (void)

  Read a data from the GPS.

6.1.1 Function Documentation

6.1.1.1 int gps_initialize (void)

Initialize the GPS and if necessery, the UART.

Definition at line 3 of file gps.c.

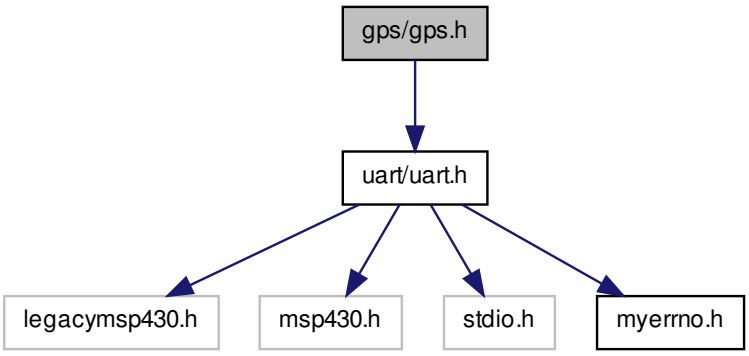
6.1.1.2 const char* gps_read (void)

Read a data from the GPS.

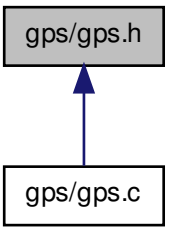
Definition at line 14 of file gps.c.

6.2 gps/gps.h File Reference

`#include <uart/uart.h>` Include dependency graph for gps.h:



This graph shows which files directly or indirectly include this file:



Functions

- int gps_initialize (void)

  Initialize the GPS and if necessery, the UART.

- const char * gps_read (void)

  Read a data from the GPS.

6.2.1 Function Documentation

6.2.1.1 int gps_initialize (void)

Initialize the GPS and if necessery, the UART.

Definition at line 3 of file gps.c.

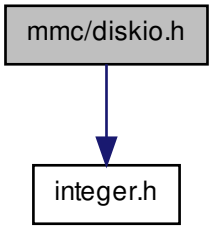
6.2.1.2 const char* gps_read (void)

Read a data from the GPS.

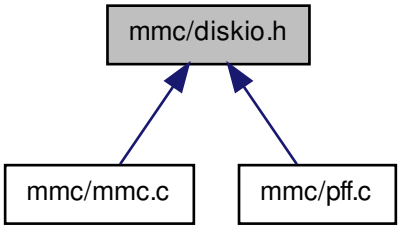
Definition at line 14 of file gps.c.

6.3 mmc/diskio.h File Reference

`#include "integer.h"` Include dependency graph for diskio.h:



This graph shows which files directly or indirectly include this file:



Defines

- #define STA_NOINIT 0x01
- #define STA_NODISK 0x02
- #define CT_MMC 0x01
- #define CT_SD1 0x02
- #define CT_SD2 0x04
- #define CT_SDC (CT_SD1|CT_SD2)
- #define CT_BLOCK 0x08
- #define _DISKIO

Typedefs

- typedef BYTE DSTATUS

Enumerations

- enum DRESULT { RES_OK = 0, RES_ERROR, RES_NOTRDY, RES_PARERR }

Functions

- DRESULT disk_initialize (void)
- DRESULT disk_readp (BYTE *, DWORD, WORD, WORD)
- DRESULT disk_writep (const BYTE *, DWORD)

6.3.1 Define Documentation

6.3.1.1 #define _DISKIO

Definition at line 37 of file diskio.h.

6.3.1.2 #define CT_BLOCK 0x08

Block addressing

Definition at line 35 of file diskio.h.

6.3.1.3 #define CT_MMC 0x01

Card type flags (CardType) MMC ver 3

Definition at line 31 of file diskio.h.

6.3.1.4 #define CT_SD1 0x02

SD ver 1

Definition at line 32 of file diskio.h.

6.3.1.5 #define CT_SD2 0x04

SD ver 2

Definition at line 33 of file diskio.h.

6.3.1.6 #define CT_SDC (CT_SD1|CT_SD2)

SD

Definition at line 34 of file diskio.h.

6.3.1.7 #define STA_NODISK 0x02

No medium in the drive

Definition at line 28 of file diskio.h.

6.3.1.8 #define STA_NOINIT 0x01

Drive not initialized

Definition at line 27 of file diskio.h.

6.3.2 Typedef Documentation

6.3.2.1 typedef BYTE DSTATUS

Status of Disk Functions

Definition at line 10 of file diskio.h.

6.3.3 Enumeration Type Documentation

6.3.3.1 enum DRESULT

Results of Disk Functions

Enumerator:

RES_OK 0: Function succeeded
RES_ERROR 1: Disk error
RES_NOTRDY 2: Not ready
RES_PARERR 3: Invalid parameter

Definition at line 13 of file diskio.h.

6.3.4 Function Documentation

6.3.4.1 DRESULT disk_initialize (void)

Definition at line 88 of file mmc.c.

6.3.4.2 DRESULT disk_readp (BYTE *, DWORD, WORD, WORD)

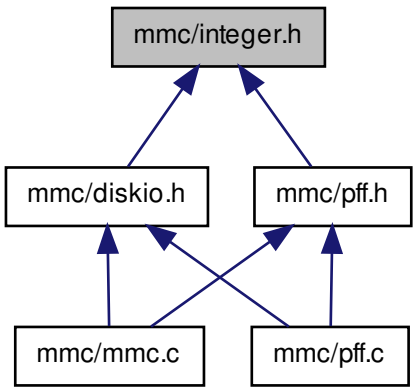
Definition at line 142 of file mmc.c.

6.3.4.3 DRESULT disk_writep (const BYTE *, DWORD)

Definition at line 203 of file mmc.c.

6.4 mmc/integer.h File Reference

This graph shows which files directly or indirectly include this file:



Typedefs

- typedef int INT
- typedef unsigned int UINT
- typedef char CHAR
- typedef unsigned char UCHAR
- typedef unsigned char BYTE
- typedef short SHORT
- typedef unsigned short USHORT
- typedef unsigned short WORD
- typedef unsigned short WCHAR
- typedef long LONG
- typedef unsigned long ULONG
- typedef unsigned long DWORD

6.4.1 Typedef Documentation

6.4.1.1 typedef unsigned char BYTE

Definition at line 22 of file integer.h.

6.4.1.2 typedef char CHAR

These types must be 8-bit integer

Definition at line 20 of file integer.h.

6.4.1.3 typedef unsigned long DWORD

Definition at line 33 of file integer.h.

6.4.1.4 typedef int INT

< FatFs development platform These types must be 16-bit, 32-bit or larger integer

Definition at line 16 of file integer.h.

6.4.1.5 typedef long LONG

These types must be 32-bit integer

Definition at line 31 of file integer.h.

6.4.1.6 typedef short SHORT

These types must be 16-bit integer

Definition at line 25 of file integer.h.

6.4.1.7 typedef unsigned char UCHAR

Definition at line 21 of file integer.h.

6.4.1.8 typedef unsigned int UINT

Definition at line 17 of file integer.h.

6.4.1.9 typedef unsigned long ULONG

Definition at line 32 of file integer.h.

6.4.1.10 typedef unsigned short USHORT

Definition at line 26 of file integer.h.

6.4.1.11 typedef unsigned short WCHAR

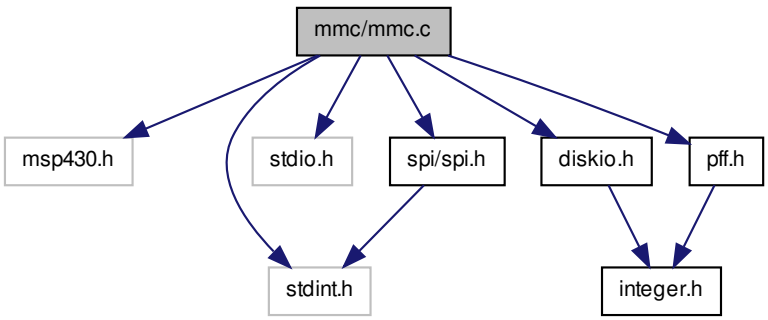
Definition at line 28 of file integer.h.

6.4.1.12 typedef unsigned short WORD

Definition at line 27 of file integer.h.

6.5 mmc/mmc.c File Reference

`#include <msp430.h> #include <stdint.h> #include <stdio.h> #include "diskio.h" #include "pff.h" #include "spi/spi.h"` Include dependency graph for mmc.c:



Defines

- #define DELAY_100US() __delay_cycles(1600)
- #define SELECT() P2OUT &= ~BIT0
- #define DESELECT() P2OUT |= BIT0
- #define MMC_SEL !(P2OUT & BIT0)
- #define FORWARD(d) putchar(d)
- #define CMD0 (0x40+0)
- #define CMD1 (0x40+1)
- #define ACMD41 (0xC0+41)

- #define CMD8 (0x40+8)
- #define CMD16 (0x40+16)
- #define CMD17 (0x40+17)
- #define CMD24 (0x40+24)
- #define CMD55 (0x40+55)
- #define CMD58 (0x40+58)
- #define CT_MMC 0x01
- #define CT_SD1 0x02
- #define CT_SD2 0x04
- #define CT_BLOCK 0x08

Functions

- DRESULT disk_initialize (void)
- DRESULT disk_readp (BYTE *buff, DWORD lba, WORD ofs, WORD cnt)
- DRESULT disk_writep (const BYTE *buff, DWORD sa)

6.5.1 Define Documentation

6.5.1.1 #define ACMD41 (0xC0+41)

SEND_OP_COND (SDC)

Definition at line 25 of file mmc.c.

6.5.1.2 #define CMD0 (0x40+0)

GO_IDLE_STATE

Definition at line 23 of file mmc.c.

6.5.1.3 #define CMD1 (0x40+1)

SEND_OP_COND (MMC)

Definition at line 24 of file mmc.c.

6.5.1.4 #define CMD16 (0x40+16)

SET_BLOCKLEN

Definition at line 27 of file mmc.c.

6.5.1.5 #define CMD17 (0x40+17)

READ_SINGLE_BLOCK

Definition at line 28 of file mmc.c.

6.5.1.6 #define CMD24 (0x40+24)

WRITE_BLOCK

Definition at line 29 of file mmc.c.

6.5.1.7 #define CMD55 (0x40+55)

APP_CMD

Definition at line 30 of file mmc.c.

6.5.1.8 #define CMD58 (0x40+58)

READ_OCR

Definition at line 31 of file mmc.c.

6.5.1.9 #define CMD8 (0x40+8)

SEND_IF_COND

Definition at line 26 of file mmc.c.

6.5.1.10 #define CT_BLOCK 0x08

Block addressing

Definition at line 37 of file mmc.c.

6.5.1.11 #define CT_MMC 0x01

MMC ver 3

Definition at line 34 of file mmc.c.

6.5.1.12 #define CT_SD1 0x02

SD ver 1

Definition at line 35 of file mmc.c.

6.5.1.13 #define CT_SD2 0x04

SD ver 2

Definition at line 36 of file mmc.c.

6.5.1.14 #define DELAY_100US( ) __delay_cycles(1600)

---------- ---------- ---------- (100us/(1/16Mhz)) = 1600 ticks

Definition at line 16 of file mmc.c.

6.5.1.15 #define DESELECT( ) P2OUT |= BIT0

CS = H

Definition at line 18 of file mmc.c.

6.5.1.16 #define FORWARD(*d*) putchar(d)

Data forwarding function (Console out in this example)

Definition at line 20 of file mmc.c.

6.5.1.17 #define MMC_SEL !(P2OUT & BIT0)

CS status (true:CS == L)

Definition at line 19 of file mmc.c.

6.5.1.18 #define SELECT( ) P2OUT &= ~BIT0

CS = L

Definition at line 17 of file mmc.c.

6.5.2 Function Documentation

6.5.2.1 DRESULT disk_initialize (void)

Definition at line 88 of file mmc.c.

6.5.2.2 DRESULT disk_readp (BYTE * *buff,* DWORD *lba,* WORD *ofs,* WORD *cnt*)

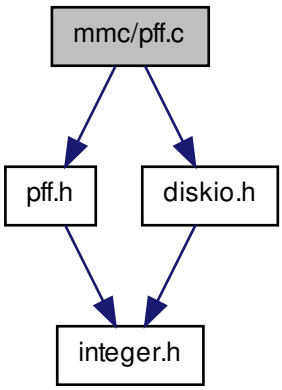
Definition at line 142 of file mmc.c.

6.5.2.3 DRESULT disk_writep (const BYTE * *buff,* DWORD *sa*)

Definition at line 203 of file mmc.c.

6.6 mmc/pff.c File Reference

`#include "pff.h" #include "diskio.h"` Include dependency graph for pff.c:



Defines

- #define LD_CLUST(dir) (((DWORD)LD_WORD(dir+DIR_FstClusHI)<<16) | LD_WORD(dir+DIR_FstClusLO))
- #define _DF1S 0
- #define IsUpper(c) (((c)>='A')&&((c)<='Z'))
- #define IsLower(c) (((c)>='a')&&((c)<='z'))
- #define IsDBCS1(c) 0
- #define IsDBCS2(c) 0
- #define BS_jmpBoot 0
- #define BS_OEMName 3
- #define BPB_BytsPerSec 11
- #define BPB_SecPerClus 13
- #define BPB_RsvdSecCnt 14
- #define BPB_NumFATs 16
- #define BPB_RootEntCnt 17
- #define BPB_TotSec16 19
- #define BPB_Media 21
- #define BPB_FATSz16 22
- #define BPB_SecPerTrk 24
- #define BPB_NumHeads 26

- #define BPB_HiddSec 28
- #define BPB_TotSec32 32
- #define BS_55AA 510
- #define BS_DrvNum 36
- #define BS_BootSig 38
- #define BS_VolID 39
- #define BS_VolLab 43
- #define BS_FilSysType 54
- #define BPB_FATSz32 36
- #define BPB_ExtFlags 40
- #define BPB_FSVer 42
- #define BPB_RootClus 44
- #define BPB_FSInfo 48
- #define BPB_BkBootSec 50
- #define BS_DrvNum32 64
- #define BS_BootSig32 66
- #define BS_VolID32 67
- #define BS_VolLab32 71
- #define BS_FilSysType32 82
- #define MBR_Table 446
- #define DIR_Name 0
- #define DIR_Attr 11
- #define DIR_NTres 12
- #define DIR_CrtTime 14
- #define DIR_CrtDate 16
- #define DIR_FstClusHI 20
- #define DIR_WrtTime 22
- #define DIR_WrtDate 24
- #define DIR_FstClusLO 26
- #define DIR_FileSize 28

Functions

- FRESULT pf_mount (FATFS *fs)
- FRESULT pf_open (const char *path)
- FRESULT pf_read (void *buff, WORD btr, WORD *br)
- FRESULT pf_write (const void *buff, WORD btw, WORD *bw)
- FRESULT pf_lseek (DWORD ofs)
- FRESULT pf_opendir (DIR *dj, const char *path)
- FRESULT pf_readdir (DIR *dj, FILINFO *fno)

6.6.1 Define Documentation

6.6.1.1 #define _DF1S 0

Definition at line 231 of file pff.c.

6.6.1.2 #define BPB_BkBootSec 50

Definition at line 298 of file pff.c.

6.6.1.3 #define BPB_BytsPerSec 11

Definition at line 273 of file pff.c.

6.6.1.4 #define BPB_ExtFlags 40

Definition at line 294 of file pff.c.

6.6.1.5 #define BPB_FATSz16 22

Definition at line 280 of file pff.c.

6.6.1.6 #define BPB_FATSz32 36

Definition at line 293 of file pff.c.

6.6.1.7 #define BPB_FSInfo 48

Definition at line 297 of file pff.c.

6.6.1.8 #define BPB_FSVer 42

Definition at line 295 of file pff.c.

6.6.1.9 #define BPB_HiddSec 28

Definition at line 283 of file pff.c.

6.6.1.10 #define BPB_Media 21

Definition at line 279 of file pff.c.

6.6.1.11 #define BPB_NumFATs 16

Definition at line 276 of file pff.c.

6.6.1.12 #define BPB_NumHeads 26

Definition at line 282 of file pff.c.

6.6.1.13 #define BPB_RootClus 44

Definition at line 296 of file pff.c.

6.6.1.14 #define BPB_RootEntCnt 17

Definition at line 277 of file pff.c.

6.6.1.15 #define BPB_RsvdSecCnt 14

Definition at line 275 of file pff.c.

6.6.1.16 #define BPB_SecPerClus 13

Definition at line 274 of file pff.c.

6.6.1.17 #define BPB_SecPerTrk 24

Definition at line 281 of file pff.c.

6.6.1.18 #define BPB_TotSec16 19

Definition at line 278 of file pff.c.

6.6.1.19 #define BPB_TotSec32 32

Definition at line 284 of file pff.c.

6.6.1.20 #define BS_55AA 510

Definition at line 285 of file pff.c.

6.6.1.21 #define BS_BootSig 38

Definition at line 288 of file pff.c.

6.6.1.22 #define BS_BootSig32 66

Definition at line 300 of file pff.c.

6.6.1.23 #define BS_DrvNum 36

Definition at line 287 of file pff.c.

6.6.1.24 #define BS_DrvNum32 64

Definition at line 299 of file pff.c.

6.6.1.25 #define BS_FilSysType 54

Definition at line 291 of file pff.c.

6.6.1.26 #define BS_FilSysType32 82

Definition at line 303 of file pff.c.

6.6.1.27 #define BS_jmpBoot 0

Definition at line 271 of file pff.c.

6.6.1.28 #define BS_OEMName 3

Definition at line 272 of file pff.c.

6.6.1.29 #define BS_VolID 39

Definition at line 289 of file pff.c.

6.6.1.30 #define BS_VolID32 67

Definition at line 301 of file pff.c.

6.6.1.31 #define BS_VolLab 43

Definition at line 290 of file pff.c.

6.6.1.32 #define BS_VolLab32 71

Definition at line 302 of file pff.c.

6.6.1.33 #define DIR_Attr 11

Definition at line 308 of file pff.c.

6.6.1.34 #define DIR_CrtDate 16

Definition at line 311 of file pff.c.

6.6.1.35 #define DIR_CrtTime 14

Definition at line 310 of file pff.c.

6.6.1.36 #define DIR_FileSize 28

Definition at line 316 of file pff.c.

6.6.1.37 #define DIR_FstClusHI 20

Definition at line 312 of file pff.c.

6.6.1.38 #define DIR_FstClusLO 26

Definition at line 315 of file pff.c.

6.6.1.39 #define DIR_Name 0

Definition at line 307 of file pff.c.

6.6.1.40 #define DIR_NTres 12

Definition at line 309 of file pff.c.

6.6.1.41 #define DIR_WrtDate 24

Definition at line 314 of file pff.c.

6.6.1.42 #define DIR_WrtTime 22

Definition at line 313 of file pff.c.

6.6.1.43 #define IsDBCS1(*c*) 0

Definition at line 261 of file pff.c.

6.6.1.44 #define IsDBCS2(*c*) 0

Definition at line 262 of file pff.c.

6.6.1.45 #define IsLower(*c*) (((c)>='a')&&((c)<='z'))

Definition at line 243 of file pff.c.

6.6.1.46 #define IsUpper(*c*) (((c)>='A')&&((c)<='Z'))

Definition at line 242 of file pff.c.

6.6.1.47 #define LD_CLUST(*dir*) (((DWORD)LD_WORD(dir+DIR_FstClusHI)<<16) | LD_WORD(dir+DIR_FstClusLO))

Definition at line 38 of file pff.c.

6.6.1.48 #define MBR_Table 446

Definition at line 305 of file pff.c.

6.6.2 Function Documentation

6.6.2.1 FRESULT pf_lseek (DWORD *ofs*)

Definition at line 985 of file pff.c.

6.6.2.2 FRESULT pf_mount (FATFS * *fs*)

Definition at line 738 of file pff.c.

6.6.2.3 FRESULT pf_open (const char * *path*)

Definition at line 820 of file pff.c.

6.6.2.4 FRESULT pf_opendir (DIR * *dj,* const char * *path*)

Definition at line 1040 of file pff.c.

6.6.2.5 FRESULT pf_read (void * *buff,* WORD *btr,* WORD * *br*)

Definition at line 856 of file pff.c.

6.6.2.6 FRESULT pf_readdir (DIR * *dj,* FILINFO * *fno*)

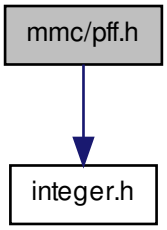
Definition at line 1078 of file pff.c.

6.6.2.7 FRESULT pf_write (const void * *buff,* WORD *btw,* WORD * *bw*)

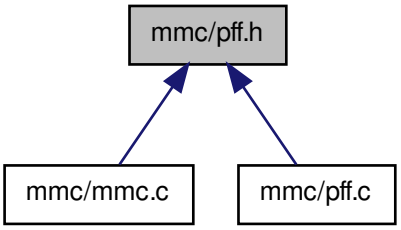
Definition at line 914 of file pff.c.

6.7 mmc/pff.h File Reference

`#include "integer.h"` Include dependency graph for pff.h:



This graph shows which files directly or indirectly include this file:



Data Structures

- struct FATFS
- struct DIR
- struct FILINFO

Defines

- #define _USE_READ 1 /* 1:Enable pf_read() */
- #define _USE_DIR 1 /* 1:Enable pf_opendir() and pf_readdir() */
- #define _USE_LSEEK 1 /* 1:Enable pf_lseek() */
- #define _USE_WRITE 1 /* 1:Enable pf_write() */
- #define _FS_FAT12 0 /* 1:Enable FAT12 support */
- #define _FS_FAT32 1 /* 1:Enable FAT32 support */
- #define _CODE_PAGE 1
- #define _WORD_ACCESS 0
- #define CLUST DWORD
- #define FA_OPENED 0x01
- #define FA_WPRT 0x02
- #define FA__WIP 0x40
- #define FS_FAT12 1
- #define FS_FAT16 2
- #define FS_FAT32 3
- #define AM_RDO 0x01 /* Read only */
- #define AM_HID 0x02 /* Hidden */
- #define AM_SYS 0x04 /* System */
- #define AM_VOL 0x08 /* Volume label */
- #define AM_LFN 0x0F /* LFN entry */
- #define AM_DIR 0x10 /* Directory */

- #define AM_ARC 0x20 /* Archive */
- #define AM_MASK 0x3F /* Mask of defined bits */
- #define LD_WORD(ptr) (WORD)(((WORD)*((BYTE*)(ptr)+1)<<8)|(WORD)*(BYTE*)(ptr))
- #define LD_DWORD(ptr) (DWORD)(((DWORD)*((BYTE*)(ptr)+3)<<24)|((DWORD)*((BYTE*)(ptr)+2)<<16)|((WORD)*((BYTE*)(ptr)+1)<<8)|*(BYTE*)(ptr))
- #define ST_WORD(ptr, val) *(BYTE*)(ptr)=(BYTE)(val); *((BYTE*)(ptr)+1)=(BYTE)((WORD)(val)>>8)
- #define ST_DWORD(ptr, val) *(BYTE*)(ptr)=(BYTE)(val); *((BYTE*)(ptr)+1)=(BYTE)((WORD)(val)>>8); *((BYTE*)(ptr)+2)=(BYTE)((DWORD)(val)>>16); *((BYTE*)(ptr)+3)=(BYTE)((DWORD)(val)>>24)

Enumerations

- enum FRESULT { FR_OK = 0, FR_DISK_ERR, FR_NOT_READY, FR_NO_FILE, FR_NO_PATH, FR_NOT_OPENED, FR_NOT_ENABLED, FR_NO_FILESYSTEM }

Functions

- FRESULT pf_mount (FATFS *)
- FRESULT pf_open (const char *)
- FRESULT pf_read (void *, WORD, WORD *)
- FRESULT pf_write (const void *, WORD, WORD *)
- FRESULT pf_lseek (DWORD)
- FRESULT pf_opendir (DIR *, const char *)
- FRESULT pf_readdir (DIR *, FILINFO *)

6.7.1 Define Documentation

6.7.1.1 #define _CODE_PAGE 1

Definition at line 41 of file pff.h.

6.7.1.2 #define _FS_FAT12 0 /* 1:Enable FAT12 support */

Definition at line 37 of file pff.h.

6.7.1.3 #define _FS_FAT32 1 /* 1:Enable FAT32 support */

Definition at line 38 of file pff.h.

6.7.1.4 #define _USE_DIR 1 /* 1:Enable pf_opendir() and pf_readdir() */

Definition at line 31 of file pff.h.

6.7.1.5 #define _USE_LSEEK 1 /* 1:Enable pf_lseek() */

Definition at line 33 of file pff.h.

6.7.1.6 #define _USE_READ 1 /* 1:Enable pf_read() */

Definition at line 29 of file pff.h.

6.7.1.7 #define _USE_WRITE 1 /* 1:Enable pf_write() */

Definition at line 35 of file pff.h.

6.7.1.8 #define _WORD_ACCESS 0

Definition at line 49 of file pff.h.

6.7.1.9 #define AM_ARC 0x20 /* Archive */

Definition at line 172 of file pff.h.

6.7.1.10 #define AM_DIR 0x10 /* Directory */

Definition at line 171 of file pff.h.

6.7.1.11 #define AM_HID 0x02 /* Hidden */

Definition at line 167 of file pff.h.

6.7.1.12 #define AM_LFN 0x0F /* LFN entry */

Definition at line 170 of file pff.h.

6.7.1.13 #define AM_MASK 0x3F /* Mask of defined bits */

Definition at line 173 of file pff.h.

6.7.1.14 #define AM_RDO 0x01 /* Read only */

Definition at line 166 of file pff.h.

6.7.1.15 #define AM_SYS 0x04 /* System */

Definition at line 168 of file pff.h.

6.7.1.16 #define AM_VOL 0x08 /* Volume label */

Definition at line 169 of file pff.h.

6.7.1.17 #define CLUST DWORD

Definition at line 68 of file pff.h.

6.7.1.18 #define FA__WIP 0x40

Definition at line 154 of file pff.h.

6.7.1.19 #define FA_OPENED 0x01

Definition at line 152 of file pff.h.

6.7.1.20 #define FA_WPRT 0x02

Definition at line 153 of file pff.h.

6.7.1.21 #define FS_FAT12 1

Definition at line 159 of file pff.h.

6.7.1.22 #define FS_FAT16 2

Definition at line 160 of file pff.h.

6.7.1.23 #define FS_FAT32 3

Definition at line 161 of file pff.h.

6.7.1.24 #define LD_DWORD(*ptr*) (DWORD)(((DWORD)*((BYTE*)(ptr)+3)<<24)|((DWORD)*((BYTE*)(ptr)+2)<<16)|((WORD)*((BYTE*)(ptr)+1)<<8)|*(BYTE*)(ptr))

Definition at line 186 of file pff.h.

6.7.1.25 #define LD_WORD(*ptr*) (WORD)(((WORD)*((BYTE*)(ptr)+1)<<8)|(WORD)*(BYTE*)(ptr))

Definition at line 185 of file pff.h.

6.7.1.26 #define ST_DWORD(*ptr, val*) *(BYTE*)(ptr)=(BYTE)(val); *((BYTE*)(ptr)+1)=(BYTE)((WORD)(val)>>8); *((BYTE*)(ptr)+2)=(BYTE)((DWORD)(val)>>16); *((BYTE*)(ptr)+3)=(BYTE)((DWORD)(val)>>24)

Definition at line 188 of file pff.h.

6.7.1.27 #define ST_WORD(*ptr, val*) *(BYTE*)(ptr)=(BYTE)(val); *((BYTE*)(ptr)+1)=(BYTE)((WORD)(val)>>8)

Definition at line 187 of file pff.h.

6.7.2 Enumeration Type Documentation

6.7.2.1 enum FRESULT

Enumerator:

FR_OK

FR_DISK_ERR

FR_NOT_READY

FR_NO_FILE

FR_NO_PATH

FR_NOT_OPENED

FR_NOT_ENABLED

FR_NO_FILESYSTEM

Definition at line 121 of file pff.h.

6.7.3 Function Documentation

6.7.3.1 FRESULT pf_lseek (DWORD)

Definition at line 985 of file pff.c.

6.7.3.2 FRESULT pf_mount (FATFS *)

Definition at line 738 of file pff.c.

6.7.3.3 FRESULT pf_open (const char *)

Definition at line 820 of file pff.c.

6.7.3.4 FRESULT pf_opendir (DIR *, const char *)

Definition at line 1040 of file pff.c.

6.7.3.5 FRESULT pf_read (void *, WORD, WORD *)

Definition at line 856 of file pff.c.

6.7.3.6 FRESULT pf_readdir (DIR *, FILINFO *)

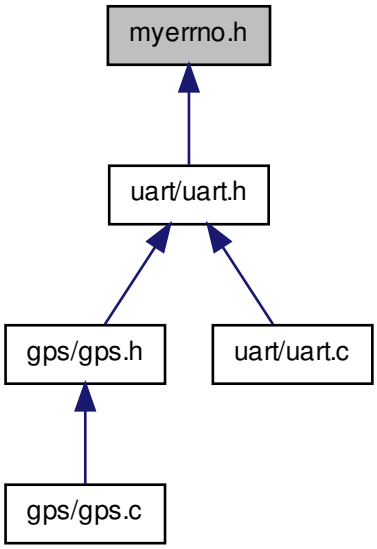
Definition at line 1078 of file pff.c.

6.7.3.7 FRESULT pf_write (const void *, WORD, WORD *)

Definition at line 914 of file pff.c.

6.8 myerrno.h File Reference

This graph shows which files directly or indirectly include this file:



Defines

- #define SUCCESS 0

  No Error.
- #define EPERM 1

  Operation not permitted.
- #define ENOENT 2

  No such file or directory.
- #define ESRCH 3

  No such process.
- #define EINTR 4

  Interrupted system call.
- #define EIO 5

  I/O error.
- #define ENXIO 6

  No such device or address.
- #define E2BIG 7

Argument list too long.

- #define ENOEXEC 8

  Exec format error.

- #define EBADF 9

  Bad file number.

- #define ECHILD 10

  No child processes.

- #define EAGAIN 11

  Try again.

- #define ENOMEM 12

  Out of memory.

- #define EACCES 13

  Permission denied.

- #define EFAULT 14

  Bad address.

- #define ENOTBLK 15

  Block device required.

- #define EBUSY 16

  Device or resource busy.

- #define EEXIST 17

  File exists.

- #define EXDEV 18

  Cross-device link.

- #define ENODEV 19

  No such device.

- #define ENOTDIR 20

  Not a directory.

- #define EISDIR 21

  Is a directory.

- #define EINVAL 22

  Invalid argument.

- #define ENFILE 23

  File table overflow.

- #define EMFILE 24

  Too many open files.

- #define ENOTTY 25

  Not a typewriter.

- #define ETXTBSY 26

  Text file busy.

- #define EFBIG 27

  File too large.

- #define ENOSPC 28

  No space left on device.

- #define ESPIPE 29

  Illegal seek.
- #define EROFS 30

  Read-only file system.
- #define EMLINK 31

  Too many links.
- #define EPIPE 32

  Broken pipe.
- #define EDOM 33

  Math argument out of domain of func.
- #define ERANGE 34

  Math result not representable.
- #define EDEADLK 35

  Resource deadlock would occur.
- #define ENAMETOOLONG 36

  File name too long.
- #define ENOLCK 37

  No record locks available.
- #define ENOSYS 38

  Function not implemented.
- #define ENOTEMPTY 39

  Directory not empty.
- #define ELOOP 40

  Too many symbolic links encountered.
- #define EWOULDBLOCK EAGAIN

  Operation would block.
- #define ENOMSG 42

  No message of desired type.
- #define EIDRM 43

  Identifier removed.
- #define ECHRNG 44

  Channel number out of range.
- #define EL2NSYNC 45

  Level 2 not synchronized.
- #define EL3HLT 46

  Level 3 halted.
- #define EL3RST 47

  Level 3 reset.
- #define ELNRNG 48

  Link number out of range.
- #define EUNATCH 49

  Protocol driver not attached.
- #define ENOCSI 50

No CSI structure available.

- #define EL2HLT 51

  Level 2 halted.

- #define EBADE 52

  Invalid exchange.

- #define EBADR 53

  Invalid request descriptor.

- #define EXFULL 54

  Exchange full.

- #define ENOANO 55

  No anode.

- #define EBADRQC 56

  Invalid request code.

- #define EBADSLT 57

  Invalid slot.

- #define EDEADLOCK EDEADLK

  Resource deadlock would occur.

- #define EBFONT 59

  Bad font file format.

- #define ENOSTR 60

  Device not a stream.

- #define ENODATA 61

  No data available.

- #define ETIME 62

  Timer expired.

- #define ENOSR 63

  Out of streams resources.

- #define ENONET 64

  Machine is not on the network.

- #define ENOPKG 65

  Package not installed.

- #define EREMOTE 66

  Object is remote.

- #define ENOLINK 67

  Link has been severed.

- #define EADV 68

  Advertise error.

- #define ESRMNT 69

  Srmount error.

- #define ECOMM 70

  Communication error on send.

- #define EPROTO 71

  Protocol error.

- #define EMULTIHOP 72

  Multihop attempted.
- #define EDOTDOT 73

  RFS specific error.
- #define EBADMSG 74

  Not a data message.
- #define EOVERFLOW 75

  Value too large for defined data type.
- #define ENOTUNIQ 76

  Name not unique on network.
- #define EBADFD 77

  File descriptor in bad state.
- #define EREMCHG 78

  Remote address changed.
- #define ELIBACC 79

  Can not access a needed shared library.
- #define ELIBBAD 80

  Accessing a corrupted shared library.
- #define ELIBSCN 81

  .lib section in a.out corrupted
- #define ELIBMAX 82

  Attempting to link in too many shared libraries.
- #define ELIBEXEC 83

  Cannot exec a shared library directly.
- #define EILSEQ 84

  Illegal byte sequence.
- #define ERESTART 85

  Interrupted system call should be restarted.
- #define ESTRPIPE 86

  Streams pipe error.
- #define EUSERS 87

  Too many users.
- #define ENOTSOCK 88

  Socket operation on non-socket.
- #define EDESTADDRREQ 89

  Destination address required.
- #define EMSGSIZE 90

  Message too long.
- #define EPROTOTYPE 91

  Protocol wrong type for socket.
- #define ENOPROTOOPT 92

  Protocol not available.
- #define EPROTONOSUPPORT 93

Protocol not supported.

- #define ESOCKTNOSUPPORT 94

  Socket type not supported.
- #define EOPNOTSUPP 95

  Operation not supported on transport endpoint.
- #define EPFNOSUPPORT 96

  Protocol family not supported.
- #define EAFNOSUPPORT 97

  Address family not supported by protocol.
- #define EADDRINUSE 98

  Address already in use.
- #define EADDRNOTAVAIL 99

  Cannot assign requested address.
- #define ENETDOWN 100

  Network is down.
- #define ENETUNREACH 101

  Network is unreachable.
- #define ENETRESET 102

  Network dropped connection because of reset.
- #define ECONNABORTED 103

  Software caused connection abort.
- #define ECONNRESET 104

  Connection reset by peer.
- #define ENOBUFS 105

  No buffer space available.
- #define EISCONN 106

  Transport endpoint is already connected.
- #define ENOTCONN 107

  Transport endpoint is not connected.
- #define ESHUTDOWN 108

  Cannot send after transport endpoint shutdown.
- #define ETOOMANYREFS 109

  Too many references: cannot splice.
- #define ETIMEDOUT 110

  Connection timed out.
- #define ECONNREFUSED 111

  Connection refused.
- #define EHOSTDOWN 112

  Host is down.
- #define EHOSTUNREACH 113

  No route to host.
- #define EALREADY 114

  Operation already in progress.

- #define EINPROGRESS 115

  Operation now in progress.
- #define ESTALE 116

  Stale NFS file handle.
- #define EUCLEAN 117

  Structure needs cleaning.
- #define ENOTNAM 118

  Not a XENIX named type file.
- #define ENAVAIL 119

  No XENIX semaphores available.
- #define EISNAM 120

  Is a named type file.
- #define EREMOTEIO 121

  Remote I/O error.
- #define EDQUOT 122

  Quota exceeded.
- #define ENOMEDIUM 123

  No medium found.
- #define EMEDIUMTYPE 124

  Wrong medium type.
- #define ECANCELED 125

  Operation Canceled.
- #define ENOKEY 126

  Required key not available.
- #define EKEYEXPIRED 127

  Key has expired.
- #define EKEYREVOKED 128

  Key has been revoked.
- #define EKEYREJECTED 129

  Key was rejected by service.
- #define EOWNERDEAD 130

  for robust mutexes
- #define ENOTRECOVERABLE 131

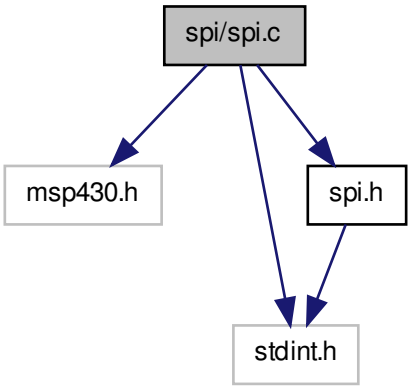
  State not recoverable.
- #define ERFKILL 132

  Operation not possible due to RF-kill.
- #define EHWPOISON 133

  Memory page has hardware error.

6.9 spi/spi.c File Reference

`#include <msp430.h> #include <stdint.h> #include "spi.h"` ×
Include dependency graph for spi.c:



Defines

- #define SPI_MODE_0 (UCMSB | UCMST | UCSYNC | UCCKPH) /* CPOL=0 CPHA=0 */
- #define SPI_MODE_1 (UCMSB | UCMST | UCSYNC) /* CPOL=0 CPHA=1 */
- #define SPI_MODE_2 (UCMSB | UCMST | UCSYNC | UCCKPL | UCCKPH) /* CPOL=1 CPHA=0 */
- #define SPI_MODE_3 (UCMSB | UCMST | UCSYNC | UCCKPL) /* CPOL=1 CPHA=1 */
- #define LOBYTE(w) ((w)&0xFF)
- #define HIBYTE(w) ((w)>>8)

Functions

- void spi_initialize (void)
- uint8_t spi_send (const uint8_t c)
- uint8_t spi_receive (void)
- uint16_t spi_set_divisor (const uint16_t clkdiv)

6.9.1 Define Documentation

6.9.1.1 #define HIBYTE(w) ((w)>>8)

Definition at line 31 of file spi.c.

6.9.1.2 #define LOBYTE(w) ((w)&0xFF)

utility macros for extracting hi/lo byte data from a word value

Definition at line 30 of file spi.c.

6.9.1.3 #define SPI_MODE_0 (UCMSB | UCMST | UCSYNC | UCCKPH) /* CPOL=0 CPHA=0 */

File: usci_spi.c - msp430 USCI SPI implementation USCI flags for various the SPI MODEs

Note: The msp430 UCCKPL tracks the CPOL value. However, the UCCKPH flag is inverted when compared to the CPHA value described in Motorola documentation.

Definition at line 21 of file spi.c.

6.9.1.4 #define SPI_MODE_1 (UCMSB | UCMST | UCSYNC) /* CPOL=0 CPHA=1 */

Definition at line 22 of file spi.c.

6.9.1.5 #define SPI_MODE_2 (UCMSB | UCMST | UCSYNC | UCCKPL | UCCKPH) /* CPOL=1 CPHA=0 */

Definition at line 23 of file spi.c.

6.9.1.6 #define SPI_MODE_3 (UCMSB | UCMST | UCSYNC | UCCKPL) /* CPOL=1 CPHA=1 */

Definition at line 24 of file spi.c.

6.9.2 Function Documentation

6.9.2.1 void spi_initialize (void)

spi_initialize() - Configure USCI UCB0 for SPI mode

P2.0 - CS (active low) P1.5 - SCLK P1.6 - SIMO/MOSI P1.7 - SOMI/MISO

Definition at line 42 of file spi.c.

6.9.2.2 uint8_t spi_receive (void)

spi_receive() - send dummy btye then recv response

Definition at line 80 of file spi.c.

6.9.2.3 uint8_t spi_send (const uint8_t *c*)

spi_send() - send a byte and recv response

Definition at line 64 of file spi.c.

6.9.2.4 uint16_t spi_set_divisor (const uint16_t *clkdiv*)

spi_set_divisor() - set new clock divider for USCI

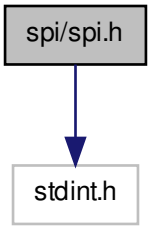
USCI speed is based on the SMCLK divided by BR0 and BR1 initially we start slow (400kHz) to conform to SDCard specifications then we speed up once initialized (SPI_-DEFAULT_SPEED)

returns the previous setting

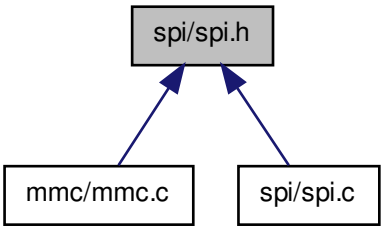
Definition at line 103 of file spi.c.

6.10 spi/spi.h File Reference

`#include <stdint.h>` Include dependency graph for spi.h:



This graph shows which files directly or indirectly include this file:



Defines

- #define SPI_250kHz 64 /* 16MHz/250000 */
- #define SPI_400kHz 40 /* 16MHz/400000 */
- #define SPI_1MHz 16 /* 16MHz/1MHz */
- #define SPI_2MHz 8 /* 16MHz/2MHz */
- #define SPI_4MHz 4 /* 16MHz/4MHz */
- #define SPI_8MHz 2 /* 16MHz/8MHz */
- #define SPI_16MHz 1 /* 16MHz/16Mhz */
- #define SPI_DEFAULT_SPEED SPI_8MHz

Functions

- void spi_initialize (void)
- uint8_t spi_send (const uint8_t)
- uint8_t spi_receive (void)
- uint16_t spi_set_divisor (const uint16_t clkdivider)

6.10.1 Define Documentation

6.10.1.1 #define SPI_16MHz 1 /* 16MHz/16Mhz */

Definition at line 20 of file spi.h.

6.10.1.2 #define SPI_1MHz 16 /* 16MHz/1MHz */

Definition at line 16 of file spi.h.

6.10.1.3 #define SPI_250kHz 64 /∗ 16MHz/250000 ∗/

SMCLK divider arguments for spi_set_divisor assumes 16MHz SMCLK. You need to change if you use a different frequency

Definition at line 14 of file spi.h.

6.10.1.4 #define SPI_2MHz 8 /∗ 16MHz/2MHz ∗/

Definition at line 17 of file spi.h.

6.10.1.5 #define SPI_400kHz 40 /∗ 16MHz/400000 ∗/

Definition at line 15 of file spi.h.

6.10.1.6 #define SPI_4MHz 4 /∗ 16MHz/4MHz ∗/

Definition at line 18 of file spi.h.

6.10.1.7 #define SPI_8MHz 2 /∗ 16MHz/8MHz ∗/

Definition at line 19 of file spi.h.

6.10.1.8 #define SPI_DEFAULT_SPEED SPI_8MHz

Definition at line 22 of file spi.h.

6.10.2 Function Documentation

6.10.2.1 void spi_initialize (void)

spi_initialize() - Configure USCI UCB0 for SPI mode

P2.0 - CS (active low) P1.5 - SCLK P1.6 - SIMO/MOSI P1.7 - SOMI/MISO

Definition at line 42 of file spi.c.

6.10.2.2 uint8_t spi_receive (void)

spi_receive() - send dummy btye then recv response

Definition at line 80 of file spi.c.

6.10.2.3 uint8_t spi_send (const uint8_t *c*)

spi_send() - send a byte and recv response

Definition at line 64 of file spi.c.

6.10.2.4 uint16_t spi_set_divisor (const uint16_t *clkdiv*)

spi_set_divisor() - set new clock divider for USCI

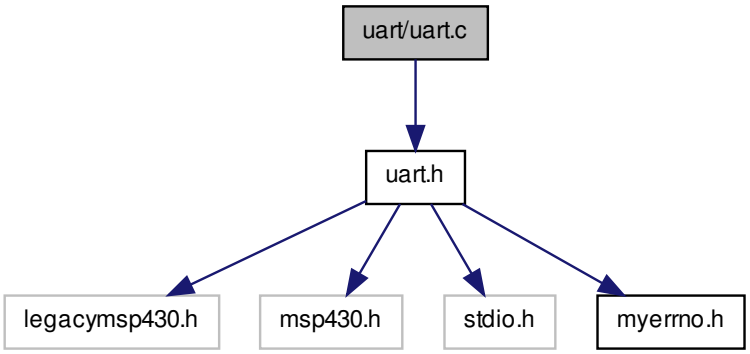
USCI speed is based on the SMCLK divided by BR0 and BR1 initially we start slow (400kHz) to conform to SDCard specifications then we speed up once initialized (SPI_-DEFAULT_SPEED)

returns the previous setting

Definition at line 103 of file spi.c.

6.11 uart/uart.c File Reference

`#include <uart.h>` Include dependency graph for uart.c:



Functions

- int uart_initialize ()
- int uart_set_bitrate (unsigned int rate)
- int uart_close ()
- int getchar ()
- int putchar (volatile int c)

- interrupt (USCIAB0TX_VECTOR)

6.11.1 Function Documentation

6.11.1.1 int getchar ( )

Default function that capture a char from the standard input

Returns

Character captured

Definition at line 48 of file uart.c.

6.11.1.2 interrupt (USCIAB0TX_VECTOR)

Interrupr function from TX of USCI 0 It's just commute P1.0 (OUTPUT LED)

Definition at line 73 of file uart.c.

6.11.1.3 int putchar (int *ch*)

Default function that print a char on the standard output

Returns

Return the character written as an unsigned char cast to an int or EOF on error.

Definition at line 55 of file uart.c.

6.11.1.4 int uart_close ( )

Close the module of the uart

Returns

Return if the module was full disabled or not 0: Even the specific interrupt as the global interrupt was disabled 1: The global interrupt still enabled

Definition at line 41 of file uart.c.

6.11.1.5 int uart_initialize ( )

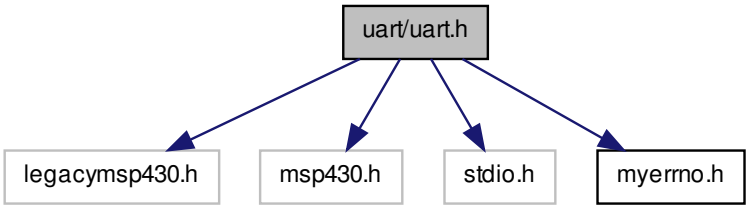
Definition at line 7 of file uart.c.

6.11.1.6 int uart_set_bitrate (unsigned int *rate*)

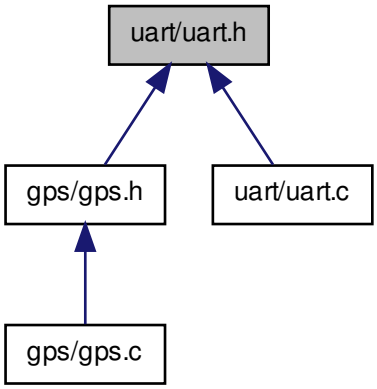
Definition at line 30 of file uart.c.

6.12 uart/uart.h File Reference

`#include <legacymsp430.h>  #include <msp430.h>  #include <stdio.h> #include <myerrno.h>` Include dependency graph for uart.h:



This graph shows which files directly or indirectly include this file:



Functions

- int uart_initialize ()
- int uart_close ()
- int getchar ()
- int putchar (int ch)

6.12.1 Function Documentation

6.12.1.1 int getchar ( )

Default function that capture a char from the standard input

Returns

Character captured

Definition at line 48 of file uart.c.

6.12.1.2 int putchar (int *ch*)

Default function that print a char on the standard output

Returns

Return the character written as an unsigned char cast to an int or EOF on error.

Definition at line 55 of file uart.c.

6.12.1.3 int uart_close ( )

Close the module of the uart

Returns

Return if the module was full disabled or not 0: Even the specific interrupt as the global interrupt was disabled 1: The global interrupt still enabled

Definition at line 41 of file uart.c.

6.12.1.4 int uart_initialize ( )

Definition at line 7 of file uart.c.