

Note: This library for DOS/Win16 personality only. Use Family API for portability.

Note: osFree Macro Library provides macros for most of functions

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osFree Macro Library

Introduction

ALP/MASM compatible macro library for BIOS and DOS. Original MASM provides macros for BIOS and DOS interrupts as well as OS/2 and Windows macros. osFree Macro Library is a open source replacement of MASM macros. osFree macro library is for Microsoft MASM, IBM MASM, IBM ALP, JWASM and other MASM compatible assemblers. It has more type check and some BIOS bugs workaround. At the present time BIOS and DOS APIs are supported.

This library based on IBM 5150 Technical Reference #6322507 of Apr 1984, MACRO.DOC from MASM 5.x, Ralf Brown Interrupt list.

Functions, found in later BIOSes mostly not covered, but can be added in future. Main goal of osFree Macro Library is to provide support for Family API development. Macro names mostly constructed from MASM 5.x, MASM 6.x and ALP documentation.

Using macros

osFree Macro Library consist of BIOS.INC, MOUSE.INC, DPMI.INC and DOS.INC. To use macros just include BIOS.INC, DOS.INC, MOUSE.INC, DPMI.INC or all. For example:

```
INCLUDE BIOS.INC

@SetPage        ; Set default video page (zero page)
```

Files

osFree Macro Library provides four include files:

- BIOS.INC
- DOS.INC
- MOUSE.INC
- DPMI.INC
- MACROS.INC

MACROS.INC contains generic macros. BIOS.INC contains macros for BIOS interrupts. DOS.INC contains macros for DOS interrupts. MOUSE.INC contains macros for MOUSE interrupts. DPMI.INC contains macros for DPMI interrupts.

MACROS.INC

Macro	Description
@ArgCount	
@ArgI	
@ArgRev	
@PopAll	
@PushAll	
@RestoreRegs	
@SaveRegs	
echof	
pushc	

BIOS.INC

Macro	Description
@SetMode	Set current video mode
@SetCurSz/@SetCsrSize	Set cursor size
@SetCurPos/@SetCsrPos	Set cursor position
@GetCur/@GetCsr	Get cursor shape and position
@SetPage	Set active video page
@ScrollUp	Scroll screen area up
@ScrollDn	Scroll screen area down
@Scroll	Scroll sreen area up or down
@GetChAtr	Get char and attribute from screen
@PutChAtr	Put char and attribute to screen
@PutCh	Put char to screen
@SetPalet	Set pallete
@SetColor	Set border color
@SetDot	Set pixel dot on screen
@GetDot	Get pixel dot from screen
@WrtTTY	Write char in TTY mode
@VideoState	Get video state
@GetMode	Get video mode
@GetDisplay	Get display info
@GetVideoState	Get extended video state
@GetEGAInfo	Get EGA information
@Cls	Clear screen
@AuxInit	Initialize serial port
@AuxSendChar	Send char to serial port
@AuxRecieveChar	Recieve char from serial port
@AuxStatus	Get serial port status
@PrnPrint	Print char to printer

Macro	Description
@PrnInit	Initialize printer
@PrnStatus	Get printer status
@KbdStatus	Get keyboard status
@CharIn	Input char from keyboard
@CharPeek	Peek char from keyboard buffer
@SetTime	Set time tick
@GetTime	Get time tick
@TapeOn	Turn tape motor on
@TapeOff	Turn tape motor off
@TapeRead	Read block from tape
@TapeWrite	Write block to tape
@Equipment	Get equipment list
@MemSize	Get memory size
@DskReset	Reset disk system
@DskStatus	Get last disk operation status
@DskRead	Read sector
@DskWrite	Write sector
@DskVerify	Verify sector
@DskFormat	Format track

DOS.INC

Macro	Description
TERMINATE	
FLUSH	
FILE_UNLOCK	
ABS_DISK_READ	
ABS_DISK_WRITE	
STAY_RESIDENT	
TERMINATE_PROGRAM	
READ_KBD_AND_ECHO	
DISPLAY_CHAR	
@DispCh	
AUX_INPUT	
AUX_OUTPUT	
PRINT_CHAR	
@PrtCh	
DIR_CONSOLE_IO	
DIR_CONSOLE_INPUT	
READ_KBD	
DISPLAY	
@DispStr	
GET_STRING	
@GetStr	
CHECK_KBD_STATUS	
FLUSH_AND_READ_KBD	

Macro	Description
RESET_DISK	
LFN_RESET_DISK	
SELECT_DISK	
@SetDrv	
OPEN	
CLOSE	
SEARCH_FIRST	
SEARCH_NEXT	
DELETE	
READ_SEQ	
WRITE_SEQ	
CREATE	
RENAME	
CURRENT_DISK	
@GetDrv	
SET_DTA	
@SetDTA	
DEF_DRIVE_DATA	
DRIVE_DATA	
READ_RAN	
WRITE_RAN	
FILE_SIZE	
SET_RELATIVE_RECORD	
SET_VECTOR	
@SetInt	
CREATE_PSP	
RAN_BLOCK_READ	
RAN_BLOCK_WRITE	
PARSE	
GET_DATE	
@GetDate	
SET_DATE	
@SetDate	
GET_TIME	
@GetTime	
SET_TIME	
@SetTime	
VERIFY	
GET_DTA	
@GetDTA	
GET_VERSION	
@GetVer	
KEEP_PROCESS	
@TSR	
CTRL_C_CK	

Macro	Description
GET_VECTOR	
@GetInt	
GET_DISK_SPACE	
@ChkDrv	
GET_COUNTRY	
GET_UPPERCASE_TABLE	
SET_COUNTRY	
MAKE_DIR	
@MkDir	
LFN_MAKE_DIR	
REM_DIR	
@RmDir	
LFN_REM_DIR	
CHANGE_DIR	
@ChDir	
LFN_CHANGE_DIR	
CREATE_HANDLE	
@MakFil	
OPEN_HANDLE	
@OpenFil	
CLOSE_HANDLE	
@ClosFil	
READ_HANDLE	
@Read	
WRITE_HANDLE	
@Write	
DELETE_ENTRY	
@DelFil	
LFN_DELETE_ENTRY	
MOVE_PTR	
@MovePtrAbs	
@MovePtrRel	
@GetFilSz	
CHANGE_MODE	
LFN_CHANGE_MODE	
IOCTL_DATA	
IOCTL_CHAR	
IOCTL_STATUS	
IOCTL_STATUS	
IOCTL_CHANGE	
IOCTL_RBLOCK	
IOCTL_RHANDLE	
IOCTL_RETRY	
GENERIC_IOCTL_HANDLES	
GENERIC_IOCTL_BLOCK	

Macro	Description
IOCTL_GET_DRIVE_MAP	
IOCTL_SET_DRIVE_MAP	
XDUP	
XDUP2	
GET_DIR	
@GetDir	
ALLOCATE_MEMORY	
@GetBlok	
FREE_MEMORY	
@FreeBlok	
SET_BLOCK	Set memory block size
@ModBlok	Modify memory block
EXEC	
EXEC_OVL	
@Exec	
@Exit	
END_PROCESS	
RET_CODE	
@GetRet	
FIND_FIRST_FILE	
@GetFirst	
FIND_NEXT_FILE	
@GetNext	
GET_VERIFY	
RENAME_FILE	
@MoveFil	
LFN_RENAME_FILE	
GET_SET_DATE_TIME	
ALLOC_STRAT	
GET_ERROR	
CREATE_TEMP	
CREATE_NEW	
LOCK_FILE	
UNLOCK	
GET_MACHINE_NAME	
PRINTER_SETUP	
GET_LIST	
REDIR	
CANCEL_REDIR	
GET_PSP	
DISPLAY_ASCIZ	
MOVE_STRING	
CONVERT	
CONVERT_TO_BINARY	
CONVERT_DATE	

Macro	Description
PACK_DATE	
@GetKey	

MOUSE.INC

Macro	Description
@MouInit	Init driver
@MouShowPointer	Show Mouse Cursor
@MouStatus	Mouse Cursor Status
@MouSetPos	Set Mouse Cursor Position
@MouSetMickey	Set Mouse Mickey/Pixel ratio
@MouRegion	Mouse Cursor Region

DPMI.INC

Macro	Description
@DPMI_AllocDesc	
@DPMI_FreeDesc	
@DPMI_Seg2Desc	
@DPMI_GetIncValue	
@DPMI_LockSel	
@DPMI_UnlockSel	
@DPMI_GetBase	
@DPMI_SetBase	
@DPMI_SetLimit	
@DPMI_SetAccRights	
@DPMI_CreateCSAlias	
@DPMI_GetDescriptor	
@DPMI_SetDescriptor	
@DPMI_DOSALLOC	
@DPMI_DOSFREE	
@DPMI_GetRMIntVec	
@DPMI_SetRMIntVec	
@DPMI_GetExcVec	
@DPMI_SetExcVec	
@DPMI_GetPMIntVec	
@DPMI_SetPMIntVec	
@DPMI_SimRMInt	
@DPMI_CallRMFarProc	
@DPMI_CallRMIRProc	
@DPMI_AllocRMCallback	
@DPMI_FreeRMCallback	
@DPMI_GETRMSA	
@DPMI_GETVERSION	
@DPMI_GETFREEMEMINFO	
@DPMI_ALLOCMEM	

Macro	Description
@DPMI_FREEMEM	
@DPMI_GETPAGESIZE	
@DPMI_MAPPHYS	

IBM PC BIOS API	
Video I/O	**INT 10H**: 00H, 01H, 02H, 03H, 05H, 06H, 07H, 08H, 09H, 0AH, 0BH, 0CH, 0DH, 0EH, 0FH
Hardware info	INT 11H, INT 12H
Serial I/O	**INT 14H**: 00H, 01H, 02H, 03H
Tape I/O	**INT 15H**: 00H, 01H, 02H, 03H
Keyboard I/O	**INT 16H**: 00H, 01H, 02H
Printer I/O	**INT 17H**: 00H, 01H, 02H
Disk I/O	**INT 13H**: 00H, 01H, 02H, 03H, 04H, 05H
Date and Time	**INT 1AH**: 00H, 01H

osFree Macro Library	
Video I/O	@SetMode @SetCurSz @SetCurPos @GetCur @SetPage @ScrollUp @ScrollDn @Scroll @GetChAtr @PutChAtr @PutCh @SetPalet @SetColor @SetDot @GetDot @WrtTTY @VideoState @GetMode @GetDisplay @GetVideoState @GetEGAInfo @Cls
Hardware info	@Equipment @MemSize
Serial I/O	@AuxInit @AuxSendChar @AuxRecieveChar @AuxStatus
Tape I/O	@TapeOn @TapeOff @TapeRead @TapeWrite
Keyboard I/O	@KbdStatus @CharIn @CharPeek
Printer I/O	@PrnPrint @PrnInit @PrnStatus
Disk I/O	@DskReset @DskStatus @DskRead @DskWrite @DskVerify @DskFormat
Date and Time	@SetTime @GetTime
Mouse	@MouInit @MouShowPointer @MouStatus @MouSetPos @MouSetMickey @MouRegion
Memory manager	@ModBlok SET_BLOCK

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