Library Function
For Application Program

Listed By Purpose

1999

When using the function indicated by * symbol in the following list, be sure to INCLUDE following two files.

```
com_lib\h\l_define.h
com_lib\h\l_libc.h
```

■ Display Functions

Function name	Function
LibLine()	Draws a border.
LibMeshLine()	Draws a dotted line.
LibLineClr()	Clears a border.
LibLineCplmnt()	Draws a border by bit inversion.
LibDotOn()	Draws a dot.
LibDotOff()	Clears a dot.
LibPutProFont()	Displays a proportional font.
LibGetProFontSize()	Gets a size of proportional font data.
LibPutProStr()	Displays a proportional font string.
LibGetProStrSize()	Gets a size of proportional font string.
LibPut35Font()	Displays a 3 * 5 font.
LibPut35Str()	Displays a 3 * 5 font character string.
LibReverse()	Reverses a rectangular area display.
LibMesh()	Shades a rectangular area display.
LibBox()	Draws a box.
*LibSKeyRevSub()	Provides various appearances when pressing a software key.
LibGdsBox()	Draws a box by overriding.
LibGdsBoxMesh()	Draws a box with dotted line.
LibGdsBoxClr()	Clears a box.
LibGdsBoxCmp()	Draws a box using XOR operator.
LibGdsClr()	Clears a rectangular area.
LibGdsReverse()	Reverses a box area.
LibGdsMesh()	Shades a box area.
LibGdsDotOn()	Draws a dot.
LibGdsDotOff()	Clears a dot.
LibGdsDotCmp()	Draws a dot using XOR operator.
LibGdsLine()	Draws a line by overriding.
LibGdsLineClr()	Clears a line.
LibGdsLineMesh()	Draws a dotted line.
LibGdsLineCmp()	Draws a line using XOR operator.
*LibPutBoxSub()	Draws a box with a type specified.
*LibCngeBoxSub()	Change the appearance of the rectangular area with a type specified.
*LibPutDotSub()	Draws a dot with a type specified.
*LibPutLineSub()	Draws a line with a type specified.
LibPutGraph()	Displays a graphic data.
LibPutGraphM()	Displays a graphic data with a shading.
LibPutGraphO()	Displays a graphic data with the write-mode specification.
LibPutFarData()	Displays built-in graphic data.
LibGetGraph()	Gets the VRAM contents for a rectangular area.
LibGrpUp()	Scrolls up a rectangular area.
LibGrpDwn()	Scrolls down a rectangular area.
LibPutDisp()	Transfers VRAM data to D/D.(Entire screen)
LibPutDispBox()	Transfers VRAM data to D/D.(Area specification)
LibClrDisp()	Clears the screen contents. (Entire screen)
LibClrBox()	Clears the screen contents. (Area specification)
LibSetDispMode()	Sets the write mode to D/D.
LibInitDisp()	Initializes a screen.(Text)
LibGrphUpSideDown()	Flips a graphic data vertically.
LibStringDsp()	Displays a proportional character string for listing.

■ Window Functions

Function name	Function
LibOpenWindow()	Opens a window.
LibOpenWindowS()	Opens a window.(Coordinates can be changed. With border options.)
LibCloseWindow()	Closes the window opened last.

■ Touch Functions

Function name	Function
LibTchInit()	Initializes the touch information.
LibTchStackClr()	Clears the stack contents of the touch information table.
LibTchStackPop()	Gets the touch information table registered last.
LibTchStackPush()	Registers the touch information table.
*LibTchHardIcon()	Performs the process for the hardware icons.
LibTchWait()	Gets the touch information table. (Waits for touching)
LibIconPrint()	Displays an icon.
LibIconPrintR()	Performs the reverse display of the icon.
LibIconPrintM()	Displays an icon with shading.
LibIconClick()	Controls touching of the icon information.
LibIconClick2()	Controls touching of the icon information. (For no shadow pattern.)
LibScrollPrint()	Displays the scroll bar.
LibScrollArrowPrint()	Displays the up and down arrows on the scroll bar.
LibScrollClick()	Controls touching of the scroll bar.
LibScrPosCheck()	Checks a scroll bar touch position.
LibKeyInit()	Initializes the generic keyboard.
LibDispKey()	Displays the generic keyboard.
LibGetKeyM()	Performs the generic keyboard waiting.
LibGetCale()	Performs the calendar software keyboard process.
LibInputTime()	Performs the time software keyboard process.
LibInputTimeBar()	Performs the time bar term input process.
LibInputTerm()	Performs the term input process.
*LibSKeyRev()	Provides the pressed appearance only to the software keyboard.
*LibSKeyIsCd()	Checks a object code in the software keyboard.
LibIconMoveDown()	Provides the pressed appearance to the icon.
LibIconMoveUp()	Provides the up-transition appearance to the icon.
LibBkSampleInit()	Initializes the break-key sample.(For the main unit process)
LibBkSampleCheck()	Monitors the break-key sample status.
*LibBkSampleInitSub()	Initializes the break-key sample.(Body)
LibBlockIconClick()	Performs the block-type icon click process.
LibRepOff()	Turns off the touch repeat.

■ FLASH Functions

Function name	Function
LibFileFindNext()	Searches the FLASH memory for next data.
LibFileFindPrev()	Searches the FLASH memory for previous data.
LibFileFindNextExt()	Searches the FLASH memory for next data.(Extended version.)
LibNextSearchCld()	Searches the FLASH memory for next data.(Only for Calendar)
LibFileRead()	Reads data from the FLASH memory
LibFileWrite()	Writes data to the FLASH memory.
LibFileCorect()	Corrects the FLASH data without changing the FLASH pointer.
LibFileRemove()	Deletes data from the FLASH memory.(1 record)
LibFileRemoveAll()	Deletes data from the FLASH memory.(All records in specified modes)
LibGetFileInfo()	Gets the FLASH memory data information.
LibGetFileCnt()	Gets the number of records in the specified mode registered in the FLASH memory.
LibGetFlash()	Gets the total capacity of the FLASH memory.
LibGetFreeBlock()	Gets the number of free blocks of the FLASH memory.
LibGetDataCond()	Checks the FLASH data status.
LibFileRemake()	Executes the FLASH memory remaking process.
LibFileExch()	Sorts FLASH data. (Moves)
LibTelPtCnvrt()	Converts the FLASH data file pointer. (For Contacts.)
LibFileWriteCheckInit()	Initializes LibFileWriteChec().
LibFileWriteCheck()	Checks whether data can be written to the FLASH memory.

■ Alarm Functions

Function name	Function
LibAlarm()	Calls an alarm process.
LibNextAlmSet()	Sets the Next Alarm.
LibChkSysAlarm()	Corrects the system alarm data.
*LibInitAlarmFlg()	Clears an alarm match flag.
*LibInitAlarmFlgCheck()	Checks whether the alarm time matched.
*LibNextAlarmSet()	Sets an alarm.
*LibSetDailyAlarm()	Sets a daily alarm time.
*LibInitAlarm()	Clears the alarm settings.
*LibGetAlarmInfo()	Gets the alarm status.
*LibGetAlarmFlg()	Gets the alarm flag.
*LibGetDailyAlarm()	Gets a daily alarm time.
*LibGetNextAlm()	Gets a next alarm pointer.
*LibAlarmBuzzSet()	Performs a buzzer setting during an alarm matches.
*LibGetAlarmObj()	Gets a touch table information as soon as the alarm time matched.

■ Date/Time Functions

Function name	Function
LibGetDateTimeM()	Gets the current date/time. Summer time correction is provided. (BCD 1 buffer)
LibGetDateTime()	Gets the current date/time. Summer time correction is provided. (BCD)
LibGetDateTime2()	Gets the current date/time. Summer time correction is provided. (Numeric number)
*LibGetDate()	Gets the system date. No summer time correction. (BCD)
*LibGetTime()	Gets the system time. No summer time correction. (BCD)
*LibGetDate2()	Gets the system date. No summer time correction. (Numeric number)
*LibGetTime2()	Gets the system time. No summer time correction. (Numeric number)
*LibAdjustTimeDeff2()	Corrects a date and time with the specified time lag.
LibChangeTotalDay()	Converts the specified number of days into year-month-day (in numeric format).
LibGetTotalDay2()	Gets the total number of days from the specified year-month-day (in numeric format).
LibSetDateTime()	Updates a date/time.
*LibSetDateTime2()	Updates a date/time.
*LibSetDate2()	Updates a date.
*LibSetTime2()	Updates a time.
LibGetDow()	Gets the day of the week from date.
LibGetDays()	Gets the number of days of the month from the year and month.
LibChkFuture()	Compares the size of the date/time data.(Old and new comparison.)
LibDateDisp()	Displays date string using the format.
LibWait()	Waits for a specified period of time.
LibCheckDate()	Tests validity of the date string..
LibChkTimeBuf()	Tests validity of the time string
LibClkDispLine()	Displays a time data.
LibClkDispCursor()	Displays a cursor for inputting a time.
LibConvRaw2Lib()	Converts the HHMM format data into data for inputting a time.
LibConvLib2Raw()	Converts a data for inputting a time into HHMM format data.
LibGetCursorPos()	Gets a cursor position on the time board from a touch location.
LibJumpDate()	Displays the date jump screen.

■ Character Input/Drag Event Functions

Function name	Function
LibTxtInit()	Initializes the general-purpose text input process.
LibTxtTchSet()	Registers a touch area for the general-purpose text input process.
LibTxtInp()	Performs the main processing of the general-purpose text input process.
LibTxtDsp()	Updates the display contents of the general-purpose text input process.
LibTxtKeyWordSet()	Performs the keyword registration of the general-purpose text input process.
LibTxtDspC()	Updates the display contents of the general-purpose data display process
LibTxtDspInit()	Initializes the general-purpose data display process.
LibTxtDspS()	Controls displays for the general-purpose data display process.
LibGetCursor()	Gets the cursor status.
LibCurBlnkOn()	Blinks a cursor.
LibCurBlnkOn2()	Blinks a cursor. (Blank type)
LibCurBlnkOff()	Turns OFF a cursor.
*LibCurErase()	Clears a cursor. (Compulsorily put a cursor in the off state.)

■ Message Functions

Function name	Function
LibPutMessage()	Displays a built-in 5-language message.
LibPutMessageCenter()	Displays a built-in 5-language message. (With center justified.)
LibPutMessageCenter2()	Displays a built-in 5-language message. (With center position specified.)
LibPutMessageRight()	Displays a built-in 5-language message. (With right justified.)
LibReadMessage()	Reads a built-in 5-language message string.
*LibGetMessCnt()	Gets the number of lines for a built-in 5-language message.
*LibDspWinMessage()	Displays for a dialog message.
*LibGetWinMessSize()	Gets the position and size of the window for a dialog message.
LibErrorDisp()	Displays a message that corresponds to the error code related to the FLASH memory.

■ Character String Functions

Function name	Function
LibBCD2Ascii()	Converts BCD code to ASCII, and outputs it to the 2-byte buffer.
LibAscii2BCD()	Converts a 2-byte ASCII code to 1-byte BCD code.
LibNumoStr()	Converts a numeric number to character string.
LibStoNum()	Converts a character string to numeric number.
LibCuttextRtn()	Deletes the CR code attached to the end of a text or an item.
LibKeyWordInit()	Initializes the keyword registration area.
LibKeyWordSet()	Registers a character string to the keyword area.
LibKeyWordFSrch()	Performs the first keyword search..
LibKeyWordNSrch()	Performs the NEXT keyword search.
*LibKeyWordSrchSub()	Performs a search by the character string, and gets an appropriate keyword.
LibChangeBcdVal()	Converts a BCD code to numeric number.
LibChangeValBcd()	Converts a numeric number to BCD code.

■ Handwriting (INK) Functions

Function name	Function
LibDrawInit()	Initializes the drawing BIOS.
LibDrawSetPtn()	Specifies a pen contrast.
LibDrawSetClipArea()	Specifies a drawing area.
LibDrawSetPoint()	Draws a dot.
LibDrawLine()	Draws a line.
LibDrawBox()	Draws a box.
LibDrawCircle()	Draws a circle.
LibDrawFillArea()	Fills a rectangular area.
LibDrawTransDD()	Transfers the specified VRAM area to other VRAM area defined individually.
LibDrawTransAll()	Performs the entire screen data transfer between the specified virtual VRAMs, and between the specified system VRAMs.
LibDrawPutImage()	Writes an image to VRAM.
LibDrawGetImage()	Gets an image from VRAM.
LibDrawReductImage()	Reduces an image.
*LibDrawPrmCall()	Calls a drawing BIOS using the assigned function number.
LibScrShot()	Executes the screen-shot process.

■ Mode Functions

Function name	Function
LibJumpMenu()	Calls the MENU mode.
LibGetMode()	Gets various mode information.
LibDualWin()	Starts up the dual-window, and gets the data pointer for the dual side.
LibDualWinExit()	Quits the dual-window processing, and returns to the mode where the process was started up.
LibModeJump()	Jumps to the specified mode.
LibScrtJmp()	Jumps to the intermediate state for transiting to the secret mode.
LibSecretCall()	Calls the secret mode by the function specification.
LibScrtModeJmp()	Jumps from the intermediate state of the Secret mode transition to other mode.
LibCrdlOpnJmp()	Changes the mode to Open mode, and performs a forcible mode jump to PC link process.
LibMenuJump()	Jumps from MENU to other mode.
LibGetLastMode()	Gets the previous mode information.
LibDataCom()	Transits to the Data Communication process.
*LibCallListMenu()	Calls the list type menu.
LibPassWordCheck()	Checks the system password.
LibPassWordEdit()	Corrects the system password.
LibMoveArea()	Moves between Open area and Secret area.
LibModeRestart()	Restarts the current mode.

■ Menu Functions

Function name	Function
LibSelWindow()	Displays the selection menu list.
LibSelWindow2()	Displays the selection menu list. (For Delete menu)
LibSelWindowExt()	Displays the selection menu list. Extended version.
LibSelWinExt2A()	Displays the selection menu list. (Only display.)
LibSelWinExt2B()	Displays the selection menu list. (Only wait for touching.)
LibWinIcnMsg()	Displays a general-purpose message dialog box.
LibPullDown()	Displays a general-purpose pull-down menu.
LibPullDownInit()	Makes the initial setting of the general-purpose pull-down menu.
LibPullDownAtrSet()	Makes the attribute setting of the general-purpose pull-down menu.
LibEditPullDown()	Performs the pull-down menu process during inputting data.
LibSelWinLckA()	Performs a window display process for the fixed message.
LibSelWinLckB()	Performs a list selection process for the fixed message.
LibSelectFont()	Performs a font selection window display process.

■ System Functions

Function name	Function
LibSaveSysRam()	Saves all system area data for application to the FLASH memory.
LibSaveSysRamB()	Saves all system area data for BIOS to the FLASH memory.
LibGetBLD()	Checks the battery status.
LibGetVersion()	Gets the ROM creation version.
*LibELHandle()	Performs various EL-panel operations.
*LibGetEL()	Gets the EL-panel status.
*LibGetLang()	Gets the current language information.
*LibSetLang()	Sets/changes the system language information.
*LibSoundGet()	Gets the sound information.
*LibSoundSet()	Sets/changes the system sound information.
*LibContrastInit()	Initializes the contrast setting.
*LibContrastUp()	Adjusts the contrast setting one level darker.
*LibContrastDown()	Adjusts the contrast setting one level lighter.
*LibDigitizer()	Adjusts the touch-panel.
*LibPassClr()	Clears the system password.
*LibPassSet()	Sets/changes the system password.
*LibPassGet()	Gets the system password.
*LibPassChk()	Checks the system password.
*LibGetAPOTime()	Gets the APO time.
*LibSetAPOTime()	Sets the APO time.
*LibSetKeyKind()	Sets the keyboard layout type.
*LibGetKeyKind()	Gets the keyboard layout type.
*LibBuzzerOff()	Turn off a buzzer.
*LibBuzzerOn()	Turn on a buzzer.
*LibGetLangInf()	Gets the information whether the current ROM model is the single language version or the 5-language version.

■ Function Functions

Function name	Function
LibFuncDateTime()	Sets the date/time.
LibFuncSound()	Sets the sound information.
LibFuncFormat()	Sets various system formats.
LibFuncLang()	Sets the language.
LibFuncCapa()	Performs the check display of the FLASH capacity.
LibFuncContrast()	Sets the contrast.
LibFuncDigitizer()	Adjusts the touch-panel.
LibFuncMemoryManagement()	Calls the memory remaking process.
LibFuncPtool()	Calls the POP-UP-TOOL.
LibCalWin()	Calls the calculator mode.

■ Calculator Functions

Function name	Function
LibCalBase()	Processes the four basic arithmetical calculation.
LibCalRoot()	Processes the root calculation.
LibCalKeyInit()	Initializes the calculator keyboard.
LibCalKeyDsp()	Displays the calculator keyboard.
LibCalKeyTchWait()	Waits for touching of the calculator keyboard.

■ Debug Functions

Function name	Function
LibPutMsgDlg()	Displays a string formatted in conformity with printf(). (Wait for touching.)
LibPutMsgDlg2()	Displays a string formatted in conformity with printf(). (Wait for 0.5 seconds.)
LibPutMsgDlg3()	Displays a string formatted in conformity with printf(). (Wait for 0.125 seconds.)
LibPutMsgDlg4()	Displays a string formatted in conformity with printf(). (No wait for touching.)

■ ADD IN Functions

Function name	Function
LibFileFindNext()	Searches the FLASH memory for next data.
*LibExeAddin()	Executes the addin synchronization.
*LibGetDLAllNum()	Gets the total number of the Downloaded program or data.
*LibGetUserMode()	Searches and Gets the ModeCode and Status.
*LibGetProgramName()	Gets the Program name indicated the mode.
*LibGetModeVer()	Gets the Program version of the mode.
*LibGetLibVer()	Gets the Library version of the mode.
*LibGetMenuIcon()	Gets the Icon graphic for IconMenu.
*LibGetListIcon()	Gets the Icon graphic for ListMenu.
*LibCheckPMode()	Checks the existence of program.
LibSubEntrySave()	Saves the program file name(sub entry).
LibSubEntryDel()	Deletes the program file name(sub entry).
LibSubEntryRename()	Renames the program file name.
LibSubEntrySearch()	Searches the program file name.
LibGetSubEntrySt()	Gets the SubEntry status.
LibGetSubEntNum()	Gets the total number of SubEntry.
LibGetAllEntry()	Gets the MainEntry and SubEntry.

■ FLASH Functions (Call far pointer of the file buffer)

Function name	Function
LibLFileFindNext()	Searches the FLASH memory for next data.
LibLFileFindPrev()	Searches the FLASH memory for previous data.
LibLFileFindNextExt()	Searches the FLASH memory for next data.(Extended version.)
LibLNextSearchCld()	Searches the FLASH memory for next data.(Only for Calendar)
LibLFileRead()	Reads data from the FLASH memory
LibLFileWrite()	Writes data to the FLASH memory.
LibLFileCorect()	Corrects the FLASH data without changing the FLASH pointer.
LibLFileRemove()	Deletes data from the FLASH memory.(1 record)
LibLFileRemoveAll()	Deletes data from the FLASH memory.(All records in specified modes)
LibLGetFileInfo()	Gets the FLASH memory data information.
LibLGetFileCnt()	Gets the number of records in the specified mode registered in the FLASH memory.
LibLTodoFileRemove()	Deletes the TODO data.
LibLFileExch()	Sorts FLASH data. (Moves)
LibLFileWriteCheck()	Checks whether data can be written to the FLASH memory.
LibLFileReadEx()	Reads data form the FLASH memory.

■ Serial Communication Functions

Function name	Function
LibSrlPortOpen()	Opens the serial communications port.
LibSrlPortClose()	Closes the serial communications port.
LibSrlPortFClose()	Compulsion closing of the serial communications port.
LibSrlRxBufClr()	Clears the receiving buffer.
LibSrlTxBufClr()	Clears the sending buffer.
LibSrlGetDteStat()	Gets DTE status.
LibSrl232CStat()	Gets status of RS232C signal line.
LibSrlRateSet()	Changes the DTE communication speed.
LibSrlGetRBufChar()	Gets number of data in the receiving buffer.
LibSrlGetTBufSpace()	Gets number of empty data in the sending buffer.
LibSrlSendByte()	Sends one byte.
LibSrlRecvByte()	Receives one byte.
LibSrlPreRead()	Previously reads the receiving buffer.
LibSrlSendBreak()	Sends a break signal.
LibSrlSendBlock()	Sends a block data.
LibSrlRecvBlock()	Receives a block data.
LibSrlGetOpenStat()	Gets the open status.