Release Notes
V3.09

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Revision History

Version	Date	Description
V3.09	2010 Nov	New features, bug fixes & improvements
V3.08	2010 Apr	New features, bug fixes & improvements
V3.07	2009 Aug	Bug fixes
V3.06	2009 Jun	Improvements First version with release history

Required Modules

Version 3.09

µC/CPU version 1.25
µC/LIB version 1.29

Version 3.08

µC/CPU version 1.21
µC/LIB version 1.28

Version 3.07

µC/CPU version 1.21
µC/LIB version 1.28

Version 3.06

µC/CPU version 1.21
µC/LIB version 1.28

New Features

Version 3.09

V3.09-001a

Added `CLK_CFG_EXT_EN` into `clk_cfg.h` to configure Clock to be maintained via an external timestamp/clock.

V3.09-001b

Added new External timestamp application/BSP functions:

`Clk_ExtTS_Init()`	Called by `Clk_Init()` to initialize the External timestamp clock
`Clk_ExtTS_Get()`	Called by `Clk_GetTS()` to get Clock module timestamp from the External timestamp
`Clk_ExtTS_Set()`	Called by `Clk_SetTS()` to set the External timestamp

V3.09-002

Added configuration into `clk_cfg.h` to include NTP and Unix conversion functions:

`CLK_CFG_NTP_EN`	Include NTP timestamp conversion utilities
`CLK_CFG_UNIX_EN`	Include Unix timestamp conversion utilities

V3.09-003

Added `CLK_CFG_TZ_DFLT_SEC` into `clk_cfg.h` to configure default time zone used by Clock.

V3.09-004

Added new API functions:

`Clk_IsDateTimeValid()`	Determine if a date/time structure is valid in Clock epoch
`Clk_TS_NTP_ToDateTime()`	Convert a NTP timestamp to a date/time structure
`Clk_DateTimeToTS_NTP()`	Convert a date/time structure to a NTP timestamp
`Clk_NTP_DateTimeMake()`	Build a date/time structure valid in NTP epoch
`Clk_IsNTP_DateTimeValid()`	Determine if a date/time structure is valid in NTP epoch
`Clk_TS_UnixToDateTime()`	Convert a Unix timestamp to a date/time structure
`Clk_DateTimeToTS_Unix()`	Convert a date/time structure to a Unix timestamp
`Clk_UnixDateTimeMake()`	Build a date/time structure valid in Unix epoch
`Clk_IsUnixDateTimeValid()`	Determine if a date/time structure is valid in Unix epoch
`Clk_GetDayOfWk()`	Determine the day of week of a date

Version 3.08

V3.08-001

Added `clk_os.c` (µC/OS-III port) to support µC/OS-III V3.01.0 (& later versions). See also 'Improvements V3.08-001'.

Version 3.07

N/A

Version 3.06

N/A

Improvements

Version 3.09

V3.09-001

Added return errors for `Clk_Init()` & `Clk_SignalClk()` [see also 'Changes V3.09-002b'].

V3.09-002

Created new Clock data types:

`CLK_ERR`	Clock error data type (see 'Improvements V3.09-001')
`CLK_TICK_CTR`	Tick data type for tick counter
`CLK_YR`	Year data type
`CLK_MONTH`	Month data type
`CLK_DAY`	Day data type
`CLK_HR`	Hour data type
`CLK_MIN`	Minute data type
`CLK_SEC`	Second data type
`CLK_STR_FMT`	String format [for `Clk_DateTimeToStr()`]
`CLK_TS_SEC`	Timestamp data type (for Clock, NTP, or Unix)
`CLK_TZ_SEC`	Time zone data type

See also 'Changes V3.09-005'.

V3.09-003

Added Clock string format constants for `Clk_DateTimeToStr()`:

`CLK_FMT_YYYY_MM_DD_HH_MM_SS_UTC`	`"YYYY-MM-DD HH:MM:SS UTC+TZ"`	format
`CLK_FMT_YYYY_MM_DD_HH_MM_SS`	`"YYYY-MM-DD HH:MM:SS"`	format
`CLK_FMT_MM_DD_YY_HH_MM_SS`	`"MM-DD-YY HH:MM:SS"`	format
`CLK_FMT_YYYY_MM_DD`	`"YYYY-MM-DD"`	format
`CLK_FMT_MM_DD_YY`	`"MM-DD-YY"`	format
`CLK_FMT_DAY_MONTH_DD_YYYY`	`"Day Month DD, YYYY"`	format
`CLK_FMT_DAY_MONTH_DD_HH_MM_SS_YYYY`	`"Day Mon DD HH:MM:SS YYYY"`	format
`CLK_FMT_HH_MM_SS`	`"HH:MM:SS"`	format
`CLK_FMT_HH_MM_SS_AM_PM`	`"HH:MM:SS AM|PM"`	format

`CLK_STR_YYYY_MM_DD_HH_MM_SS_UTC_LEN`	`CLK_FMT_YYYY_MM_DD_HH_MM_SS_UTC`	string length
`CLK_STR_YYYY_MM_DD_HH_MM_SS_LEN`	`CLK_FMT_YYYY_MM_DD_HH_MM_SS`	string length
`CLK_STR_MM_DD_YY_HH_MM_SS_LEN`	`CLK_FMT_MM_DD_YY_HH_MM_SS`	string length
`CLK_STR_YYYY_MM_DD_LEN`	`CLK_FMT_YYYY_MM_DD`	string length
`CLK_STR_MM_DD_YY_LEN`	`CLK_FMT_MM_DD_YY`	string length
`CLK_STR_DAY_MONTH_DD_YYYY_MAX_LEN`	`CLK_FMT_DAY_MONTH_DD_YYYY`	string length
`CLK_STR_DAY_MONTH_DD_HH_MM_SS_YYYY_LEN`	`CLK_FMT_DAY_MONTH_DD_HH_MM_SS_YYYY`	string length
`CLK_STR_HH_MM_SS_LEN`	`CLK_FMT_HH_MM_SS`	string length
`CLK_STR_HH_MM_SS_AM_PM_LEN`	`CLK_FMT_HH_MM_SS_AM_PM`	string length

`CLK_STR_FMT_MAX_LEN`	Maximum string length for all Clock string formats

V3.09-004

Added 'DayOfYr' field into CLK_DATE_TIME structure (see also 'Changes V3.09-004a').

V3.09-005

Refactored OS port layer to be clean, clear, & easy to port.

Version 3.08

V3.08-001

Added clk_os.c (µC/OS-III port) to support µC/OS-III V3.01.0 (& later versions). See also 'New Features V3.08-001'.

Version 3.07

N/A

Version 3.06

V3.06-001

Added appropriate type casting, where necessary.

V3.06-002

Replaced all 'cpu_sr' local variable declarations with µC/CPU's new CPU_SR_ALLOC() macro.

Changes

Version 3.09

V3.09-001a

Modified configuration file clk_cfg.h to reqiure configuration for Clock module only.

V3.09-001b

Configuration for OS port layer must be copied into application configuration file, app_cfg.h.

V3.09-002a

Renamed the following Clock module functions:

Clk_Task()	renamed to Clk_TaskHandler()
Clk_TS_Unix_ToTS()	renamed to Clk_TS_UnixToTS()
Clk_DateTime_ToTS()	renamed to Clk_DateTimeToTS()
Clk_DateTime_Make()	renamed to Clk_DateTimeMake()
Clk_DateTime_ToStr()	renamed to Clk_DateTimeToStr()
Clk_GetTZ_Offset()	renamed to Clk_GetTZ()
Clk_SetTZ_Offset()	renamed to Clk_SetTZ()

V3.09-002b

Modified the argument &/or return API of the following Clock module functions:

Clk_Init()	Added 'p_err' argument
Clk_SignalClk()	Added 'p_err' argument
Clk_GetTS()	Replaced return pointer 'ts' & return Boolean with returned timestamp
Clk_SetTS()	Replaced 'ts' pointer with 'ts_sec' argument
Clk_GetTZ()	Replaced return pointer 'tz_offset' & return Boolean with returned time zone
Clk_SetTZ()	Replaced 'tz_offset' pointer with 'tz_sec' argument
Clk_TS_ToDateTime()	Replaced 'ts' pointer with 'ts_sec' argument & added with 'tz_sec' argument
Clk_DateTimeToStr()	Added 'str_len' argument
Clk_SetTS_NTP()	Replaced 'ts_ntp' pointer with 'ts_ntp_sec' argument
Clk_TS_ToTS_NTP()	Replaced 'ts_ntp' pointer with 'ts_sec' argument
Clk_TS_NTP_ToTS()	Replaced 'ts_ntp' pointer with 'ts_ntp_sec' argument
Clk_SetTS_Unix()	Replaced 'ts_unix' pointer with 'ts_unix_sec' argument
Clk_TS_ToTS_Unix()	Replaced 'ts_unix' pointer with 'ts_sec' argument
Clk_TS_UnixToTS()	Replaced 'ts_unix' pointer with 'ts_unix_sec' argument

V3.09-002c

Moved Clk_SignalClk() into clk.c from OS port layer clk_os.c.

V3.09-003

Renamed the following Clock module global variables:

`Clk_TimeStamp`	renamed to `Clk_TS_UTC_sec`
`Clk_TimeZoneOffset`	renamed to `Clk_TZ_sec`

V3.09-004a

Renamed `CLK_DATE_TIME` structure data type fields:

`Year`	replaced by `Yr`
`DayOfWeek`	replaced by `DayOfWk`
`Hour`	replaced by `Hr`
`Minute`	replaced by `Min`
`Second`	replaced by `Sec`
`TZ_Offset`	replaced by `TZ_sec`

V3.09-004b

Modified `CLK_DATE_TIME` structure's `Month`, `Day`, and `DayOfWk` fields' reference base to start at 1 instead of 0:

`Month`	values range from 1 to 12
day	values range from 1 to 31
`DayOfWk`	values range from 1 to 7

See also 'Corrections V3.09-003'.

V3.09-005a

Renamed the following Clock module data types:

`CLK_TS`	renamed to `CLK_TS_SEC`
`CLK_TZ_OFFSET`	renamed to `CLK_TZ_SEC`

V3.09-005b

Removed the following Clock module data types:

`CLK_TS_NTP`
`CLK_TS_UNIX`

Version 3.08

V3.08-001

Renamed configuration define from `CLK_CFG_SIGNAL_RATE` to `CLK_CFG_SIGNAL_FREQ_HZ`.

Version 3.07

V3.07-001

Renamed operating system layer function `ClkSignalClk()` to `Clk_SignalClk()`.

Version 3.06

V3.06-001

Deprecated & removed unnecessary `clk_fmt.*` files.

Corrections

Version 3.09

V3.09-001

Clock global variables `Clk_TS_UTC_sec`, `Clk_TZ_sec` and `Clk_TickCtr` always accessed exclusively in critical sections.

V3.09-002

Clock global variable timestamp (`Clk_TS_UTC_sec`) is maintained at UTC+0 and time zone is never applied to the timestamp.

V3.09-003

Modifed Clock date calculations to start `Month`, `Day`, `DayOfWk` and `DayOfYr` fields at 1 instead of 0 to be more consistent with real date format (see also 'Changes V3.09-004b').

Version 3.08

N/A

Version 3.07

N/A

Version 3.06

N/A

Known Problems

Version 3.09

N/A

Version 3.08

N/A

Version 3.07

N/A

Version 3.06

N/A

Limitations

001

Does not support Daylight Time; if desired, set Time Zone offset accordingly.

Contacts

Micriμm
1290 Weston Road, Suite 306
Weston, FL 33326
USA

Phone: +1 954 217 2036
Fax: +1 954 217 2037
E-mail: Licensing@Micrium.com
Web: www.Micrium.com