# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | | | OPTIONS (opt) | Miscellaneous |
|---|---|---|---|---|

## Semaphores (OS_SEM.C)

```
INT16U      OSSemAccept       (OS_EVENT     *pevent);
OS_EVENT    *OSSemCreate      (INT16U        cnt);
OS_EVENT    *OSSemDel         (OS_EVENT     *pevent,
                               INT8U         opt,
                               INT8U        *perr);

void        OSSemPend         (OS_EVENT     *pevent,
                               INT32U        timeout,
                               INT8U        *err);
INT8U       OSSemPendAbort    (OS_EVENT     *pevent,
                               INT8U         opt,
                               INT8U        *perr);

INT8U       OSSemPost         (OS_EVENT     *pevent);
INT8U       OSSemQuery        (OS_EVENT     *pevent,
                               OS_SEM_DATA  *p_sem_data);




void        OSSemSet          (OS_EVENT     *pevent,
                               INT16U        cnt,
                               INT8U        *perr);
```

OPTIONS (opt):
```
OS_DEL_NO_PEND
OS_DEL_ALWAYS




OS_PEND_OPT_NONE
OS_PEND_OPT_BROADCAST
```

Miscellaneous:
```
OS_SEM_DATA:
INT16U  OSCnt
#if OS_LOWEST_PRIO <= 63
INT8U   OSEventGrp
INT8U   OSEventTbl[]
#else
INT16U  OSEventGrp
INT16U  OSEventTbl[]
#endif
```

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| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Mutual Exclusion Semaphores (OS_MUTEX.C)

```
BOOLEAN     OSMutexAccept      (OS_EVENT    *pevent,
                               INT8U       *perr);
OS_EVENT    *OSMutexCreate     (INT8U        prio,
                               INT8U       *perr);
OS_EVENT    *OSMutexDel        (OS_EVENT    *pevent,
                               INT8U        opt,
                               INT8U       *perr);

void        OSMutexPend        (OS_EVENT    *pevent,
                               INT32U       timeout,
                               INT8U       *perr);
INT8U       OSMutexPost        (OS_EVENT    *pevent);
INT8U       OSMutexQuery       (OS_EVENT    *pevent,
                               OS_MUTEX_DATA *p_mutex_data);
```

OPTIONS (opt):
```
OS_DEL_NO_PEND
OS_DEL_ALWAYS
```

Miscellaneous:
```
OS_MUTEX_DATA:
BOOLEAN OSValue
INT8U   OSOwnerPrio
INT8U   OSMutexPIP
#if OS_LOWEST_PRIO <= 63
INT8U   OSEventGrp
INT8U   OSEventTbl[]
#else
INT16U  OSEventGrp
INT16U  OSEventTbl[]
#endif
```

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Event Flags (OS_FLAG.C)

```
OS_FLAGS      OSFlagAccept         (OS_FLAG_GRP   *pgrp,
                                    OS_FLAGS       flags,
                                    INT8U          wait_type,
                                    INT8U          *perr);
OS_FLAG_GRP  *OSFlagCreate         (OS_FLAGS       flags,
                                    INT8U          *perr);
OS_FLAG_GRP  *OSFlagDel            (OS_FLAG_GRP   *pgrp,
                                    INT8U          opt,
                                    INT8U          *perr);

INT8U         OSFlagNameGet        (OS_FLAG_GRP   *pgrp,
                                    INT8U          **pname,
                                    INT8U          *perr);
void          OSFlagNameSet        (OS_FLAG_GRP   *pgrp,
                                    INT8U          *pname,
                                    INT8U          *perr);
OS_FLAGS      OSFlagPend           (OS_FLAG_GRP   *pgrp,
                                    OS_FLAGS       flags,
                                    INT8U          wait_type,
                                    INT16U         timeout,
                                    INT8U          *perr);




OS_FLAGS      OSFlagPendGetFlagsRdy (void);
OS_FLAGS      OSFlagPost           (OS_FLAG_GRP   *pgrp,
                                    OS_FLAGS       flags,
                                    INT8U          opt,
                                    INT8U          *perr);
OS_FLAGS      OSFlagQuery          (OS_FLAG_GRP   *pgrp,
                                    INT8U          *perr);
```

OPTIONS:
```
OS_DEL_NO_PEND
OS_DEL_ALWAYS




OS_FLAG_CLR
OS_FLAG_SET
```

Miscellaneous:
```
wait_type:
OS_FLAG_WAIT_CLR_ALL
OS_FLAG_WAIT_CLR_AND
OS_FLAG_WAIT_CLR_ANY
OS_FLAG_WAIT_CLR_OR
OS_FLAG_WAIT_SET_ALL
OS_FLAG_WAIT_SET_AND
OS_FLAG_WAIT_SET_ANY
OS_FLAG_WAIT_SET_OR
+
OS_FLAG_CONSUME
```

# µC/OS-II, The Real-Time Kernel

## V2.92.11 Quick Reference Chart

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

### Message Mailboxes (OS_MBOX.C)

```
void      *OSMboxAccept      (OS_EVENT     *pevent);
OS_EVENT  *OSMboxCreate      (void         *msg);
OS_EVENT  *OSMboxDel         (OS_EVENT     *pevent,
                              INT8U         opt,
                              INT8U        *perr);
void      *OSMboxPend        (OS_EVENT     *pevent,
                              INT32U        timeout,
                              INT8U        *perr);
INT8U      OSMboxPendAbort   (OS_EVENT     *pevent,
                              INT8U         opt,
                              INT8U        *perr);
INT8U      OSMboxPost        (OS_EVENT     *pevent,
                              void         *pmsg);
INT8U      OSMboxPostOpt     (OS_EVENT     *pevent,
                              void         *pmsg,
                              INT8U         opt);
INT8U      OSMboxQuery       (OS_EVENT     *pevent,
                              OS_MBOX_DATA *p_mbox_data);
```

OPTIONS (opt):
```
OS_DEL_NO_PEND
OS_DEL_ALWAYS


OS_PEND_OPT_NONE
OS_PEND_OPT_BROADCAST



OS_POST_OPT_NONE
OS_POST_OPT_BROADCAST
OS_POST_OPT_NO_SCHED
```

Miscellaneous:
```
OS_MBOX_DATA:
void   *msg
#if OS_LOWEST_PRIO <= 63
INT8U   OSEventGrp
INT8U   OSEventTbl[]
#else
INT16U  OSEventGrp
INT16U  OSEventTbl[]
#endif
```

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | | | OPTIONS (opt) | Miscellaneous |
|---|---|---|---|---|
| **Message Queues (OS_Q.C)** | | | | |
| void | *OSQAccept | (OS_EVENT    *pevent,<br>INT8U        *perr); | | |
| OS_EVENT | *OSQCreate | (void        **start,<br>INT16U        size); | | |
| OS_EVENT | *OSQDel | (OS_EVENT     *pevent,<br>INT8U          opt,<br>INT8U         *perr); | OS_DEL_NO_PEND<br>OS_DEL_ALWAYS | |
| INT8U | OSQFlush | (OS_EVENT     *pevent); | | |
| void | *OSQPend | (OS_EVENT     *pevent,<br>INT32U         timeout,<br>INT8U         *perr); | | |
| INT8U | OSQPendAbort | (OS_EVENT     *pevent,<br>INT8U          opt,<br>INT8U         *perr); | OS_PEND_OPT_NONE<br>OS_PEND_OPT_BROADCAST | |
| INT8U | OSQPost | (OS_EVENT     *pevent,<br>void          *pmsg); | | |
| INT8U | OSQPostFront | (OS_EVENT     *pevent,<br>void          *pmsg); | | |
| INT8U | OSQPostOpt | (OS_EVENT     *pevent,<br>void          *pmsg,<br>INT8U          opt); | OS_POST_OPT_NONE<br>OS_POST_OPT_BROADCAST<br>OS_POST_OPT_FRONT<br>OS_POST_OPT_NO_SCHED | |
| INT8U | OSQQuery | (OS_EVENT     *pevent,<br>OS_Q_DATA     *p_q_data); | | **OS_Q_DATA:**<br>void   *OSMsg<br>INT16U  OSNMsgs<br>INT16U  OSQSize<br>#if OS_LOWEST_PRIO <= 63<br>INT8U   OSEventGrp<br>INT8U   OSEventTbl[]<br>#else<br>INT16U  OSEventGrp<br>INT16U  OSEventTbl[]<br>#endif |

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Memory Management (OS_MEM.C)

```
OS_MEM      *OSMemCreate      (void            *addr,
                               INT32U           nblks,
                               INT32U           blksize,
                               INT8U           *perr);
void        *OSMemGet         (OS_MEM          *pmem,
                               INT8U           *perr);
INT8U        OSMemNameGet     (OS_MEM          *pmem,
                               INT8U          **pname,
                               INT8U           *perr);
void         OSMemNameSet     (OS_MEM          *pmem,
                               INT8U           *pname,
                               INT8U           *perr);
INT8U        OSMemPut         (OS_MEM          *pmem,
                               void            *pblk);
INT8U        OSMemQuery       (OS_MEM          *pmem,
                               OS_MEM_DATA     *p_mem_data);
```

**OS_MEM_DATA:**
```
void   *OSAddr
void   *OSFreeList
INT32U  OSBlkSize
INT32U  OSNBlks
INT32U  OSNFree
INT32U  OSNUsed
```

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Task Management (OS_TASK.C)

```
INT8U      OSTaskChangePrio   (INT8U        oldprio,
                               INT8U        newprio);
INT8U      OSTaskCreate       (void         (*task)(void *p_arg),
                               void         *p_arg,
                               OS_STK       *ptos,
                               INT8U         prio);
INT8U      OSTaskCreateExt    (void         (*task)(void *p_arg),
                               void         *p_arg,
                               OS_STK       *ptos,
                               INT8U         prio,
                               INT16U        id,
                               OS_STK       *pbos,
                               INT32U        stk_size,
                               void         *pext,
                               INT16U        opt);
```

OPTIONS (opt):
```
OS_TASK_OPT_NONE
OS_TASK_OPT_STK_CHK
OS_TASK_OPT_STK_CLR
OS_TASK_OPT_SAVE_FP
```

```
INT8U      OSTaskDel          (INT8U         prio);
INT8U      OSTaskDelReq       (INT8U         prio);
INT8U      OSTaskNameGet      (INT8U         prio,
                               INT8U        **pname,
                               INT8U        *perr);
void       OSTaskNameSet      (INT8U         prio,
                               INT8U        *pname,
                               INT8U        *perr);
INT32U     OSTaskRegGet       (INT8U         prio,
                               INT8U         id,
                               INT8U        *perr);
INT8U      OSTaskRegGetID     (INT8U        *perr);
void       OSTaskRegSet       (INT8U         prio,
                               INT8U         id,
                               INT32U        value,
                               INT8U        *perr);
INT8U      OSTaskResume       (INT8U         prio);
INT8U      OSTaskSuspend      (INT8U         prio);
INT8U      OSTaskStkChk       (INT8U         prio,
                               OS_STK_DATA  *p_stk_data);
INT8U      OSTaskQuery        (INT8U         prio,
                               OS_TCB       *p_task_data);
```

Miscellaneous:
```
OS_STK_DATA:
INT32U .OSFree
INT32U .OSUsed
```

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

Legend:
**Black** is for seldom used functions
**Orange** is for CREATE functions
**Red** is for DELETE functions
**Blue** is for commonly used functions
**Green** is for comments

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Time Management (OS_TIME.C)

```
void      OSTimeDly         (INT32U      ticks);
INT8U     OSTimeDlyHMSM     (INT8U       hours,
                            INT8U        minutes,
                            INT8U        seconds,
                            INT16U       milli);
INT8U     OSTimeDlyResume   (INT8U       prio);
INT32U    OSTimeGet         (void);
void      OSTimeSet         (INT32U      ticks);
void      OSTimeTick        (void);
```

# µC/OS-II, The Real-Time Kernel

## V2.92.11 Quick Reference Chart

| | | | OPTIONS (opt) | Miscellaneous |
|---|---|---|---|---|

### Timer Management (OS_TMR.C)

```
OS_TMR     *OSTmrCreate       (INT32U          dly,
                               INT32U          period,
                               INT8U           opt,
                               OS_TMR_CALLBACK callback,
                               void            *callback_arg,
                               INT8U           *pname,
                               INT8U           *perr);
BOOLEAN     OSTmrDel          (OS_TMR          *ptmr,
                               INT8U           *perr);
INT8U       OSTmrNameGet      (OS_TMR          *ptmr,
                               INT8U           **pdest,
                               INT8U           *perr);
INT32U      OSTmrRemainGet    (OS_TMR          *ptmr,
                               INT8U           *perr);
INT8U       OSTmrStateGet     (OS_TMR          *ptmr,
                               INT8U           *perr);
BOOLEAN     OSTmrStart        (OS_TMR          *ptmr,
                               INT8U           *perr);
void        OSTmrStop         (OS_TMR          *ptmr,
                               INT8U           opt,
                               void            *callback_arg,
                               INT8U           *perr);
void        OSTmrSignal       (void);
```

OPTIONS (opt):
```
OS_TMR_OPT_PERIODIC
OS_TMR_OPT_ONE_SHOT
OS_TMR_OPT_NONE
OS_TMR_OPT_CALLBACK
OS_TMR_OPT_CALLBACK_ARG
```

# µC/OS-II, The Real-Time Kernel

V2.92.11 Quick Reference Chart

| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Miscellaneous (OS_CORE.C)

```
INT8U       OSEventNameGet     (OS_EVENT      *pevent,
                                INT8U         **pname,
                                INT8U         *perr);
void        OSEventNameSet     (OS_EVENT      *pevent,
                                INT8U         *pname,
                                INT8U         *perr);
void        OSEventPendMulti   (OS_EVENT      **pevents_pend,
                                OS_EVENT      **pevents_rdy,
                                void          **pmsgs_rdy,
                                INT16U        timeout,
                                INT8U         *perr);
void        OSInit             (void);
void        OSIntEnter         (void);
void        OSIntExit          (void);
void        OSSafetyCriticalStart (void);
void        OSSchedLock        (void);
void        OSSchedUnlock      (void);
void        OSStart            (void);
void        OSStatInit         (void);
OS_TLS_ID   OS_TLS_GetID       (INT8U         *perr);
OS_TLS      OS_TLS_GetValue    (OS_TCB        *ptcb
                                OS_TLS_ID     id,
                                INT8U         *perr);
void        OS_TLS_SetDestruct (OS_TLS_ID     id,
                                OS_TLS_DESTRUCT pdestruct
                                INT8U         *perr);
void        OS_TLS_SetValue    (OS_TCB        *ptcb
                                OS_TLS_ID     id,
                                OS_TLS        value,
                                INT8U         *perr);
INT16U      OSVersion          (void);
```

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| | OPTIONS (opt) | Miscellaneous |
|---|---|---|

## Port Functions (OS_CPU_A.ASM)

```
void         OSCtxSw            (void);
void         OSIntCtxSw         (void);
void         OSStartHighRdy     (void);
```

## Port Functions (OS_CPU_C.C)

```
void         OSInitHookBegin    (void);
void         OSInitHookEnd      (void);
void         OSTaskCreateHook   (OS_TCB      *ptcb);
void         OSTaskDelHook      (OS_TCB      *ptcb);
void         OSTaskIdleHook     (void);
void         OSTaskReturnHook   (OS_TCB      *ptcb);
void         OSTaskStatHook     (void);
OS_STK    *OSTaskStkInit      (void         (*task)(void *p_arg),
                               void         *p_arg,
                               OS_STK       *ptos,
                               INT16U       opt);
void         OSTaskSwHook       (void);
void         OSTCBInitHook      (OS_TCB      *ptcb);
void         OSTimeTickHook     (void);
```