System Low Memory Layout

Mon, Jun 3, 2002

System memory is allocated similarly for both the 68K and PowerPC system versions. The following table shows much of this allocation for the low megabyte of memory. In the 68K systems, this low megabyte starts at address `0x000000`, as shown. In PowerPC systems, it is located at a higher base, currently at `0xE00000`, since the vxWorks kernel has its own plans for the actual low megabytes of memory. Beyond the low megabyte, the 68K systems have 3 more megabytes of memory available, also shown here.

Address	Size	Use
0x000000	1024	Exception vectors (68K)
0x000400	512	Screen image for "Page G"
0x000600	96	Abort diagnostics (68K)
0x000660	32	Generally interesting data
0x000680	20	GMT time variables
0x000694	12	spare
0x0006A0	4	EVTLOG data stream ptr
0x0006A4	6	CYCOLD, CYCNEW, CYCOFF
0x0006AA	22	spare
0x0006C0	8	SERTABL serial port LA connections (68K)
0x0006C8	56	spare
0x000700	128	Task Table
0x000780	4	TTDPTR task timing diagnostics table
0x000784	4	System globals ptr (A5)
0x000788	8	BCD time-of-day
0x000790	4	Interrupt LEDs ptr
0x000794	4	Task LEDs ptr
0x000798	1	2000 Hz decrementing counter (68K)
0x000799	1	spare
0x00079A	2	Enable Bit# saved during LA
0x00079C	4	System version date in form yyyymmdd
0x0007A0	64	Motor Table
0x0007E0	32	spare
0x000800	512	Sbug variables (historic)
0x000A00	512	Supervisor stack (68K)(also source of zeros)
0x000C00	122	Digital Control table
0x000C7A	6	spare
0x000C80	128	spare
0x000D00	256	Online system table directory
0x000E00	72	'OK' bus errors (68K)
0x000E48	184	System globals referenced from 0xF80
0x000F80	128	More system globals
0x001000	98	pSOS configuration table (68K)
0x001062	14	spare
0x001070	16	pSOS system data area (68K)
0x001080	64	pSOS system configuration table (68K)
0x0010C0	64	spare
0x001100	192	spare
0x0011C0	64	SRM status table
0x001200	512	SRM diagnostics
0x001400	1024	Scratch buffer for tallying ext nodes
0x001800	2048	spare
0x002000	2048	spare
0x002800	256	PROTO table

0x002900	1536	spare
0x002F00	128	spare used for BSUM results
0x002F80	32	Clock event bit map dynamic
0x002FA0	32	Clock event bit map static
0x002FC0	16	A/D scan diagnostics for slot c
0x002FD0	16	A/D scan diagnostics for slot d
0x002FE0	32	Clock event diagnostics for slot b
0x003000	2048	Clock event table of (time, deltas)
0x003800	2048	SETLOG data stream
0x004000	2048	SWFTCMND data stream
0x004800	1024	Data Access Table timing
0x004C00	1024	Ethernet interrupt times (68K)
0x005000	1024	Broadcast diagnostics (68K) (BC/AR/11/MC)
0x005400	1024	spare
0x005800	2048	TFTPLOG data stream
0x006000	1024	Ethernet receive diagnostics (68K)
0x006400	1024	Ethernet receive timing (68K)
0x006800	2048	Foreign node capture diagnostics
0x007000	4096	TASKLOG data stream
0x008000	4096	AERSLOG data stream
0x009000	4096	RETDLOG data stream
0x00A000	4096	EVTLOG data stream
0x00B000	4096	Cycle interrupt diagnostics
0x00C000	4096	ACNETERR data stream
0x00D000	4096	IPNODLOG data stream
0x00E000	4096	MB01DATA data stream (MiniBooNE)
0x00F000	4096	spare
0x010000	65536	spare
0x020000	262144	pSOS dynamic region 1 (68K)
0x060000	65536	Token ring receive circular buffer
0x070000	65536	Arcnet receive circular buffer
0x080000	65536	Token ring transmit circular buffer
0x090000	65536	Arcnet transmit circular buffer
0x0A0000	131072	pSOS dynamic region 2 (68K)
0x0C0000	65536	spare
0x0D0000	65536	Device name table
0x0E0000	262144	System code execution copy (68K)
0x120000	262144	System code download copy (68K)
0x160000	512	Ethernet variables, SCB, SCP, etc (68K)
0x1600C0	384	Ethernet DUMP diagnostics area (68K)
0x160200	130560	Ethernet receive circular buffer (68K)
0x180000	98304	Ethernet transmit circular buffer (68K)
0x198000	16384	Ethernet command block area (68K)
0x19C000	8192	Ethernet transmit parameter list (68K)
0x19E000	8192	Ethernet OUTPQ (68K)
0x1A0000	16384	spare
0x1A4000	8192	Token ring OUTPQ (68K)
0x1A6000	8192	PRNTQ serial output queue (68K)
0x1A8000	1024	SERIQ serial input queue (68K)
0x1A8400	7168	spare
0x1AA000	24576	spare
0x1B0000	65536	spare
0x1C0000	65536	spare
0x1D0000	65536	spare
0x1E0000	65536	162bug ethernet recv-xmit buffers (68K)

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0x1F0000   65536     spare
0x200000  131072     Buffer for writing to flash memory (68K)
0x220000  262144     spare
0x260000  131072     IPADD lookup table (68K)
0x280000  524288     IPNOD lookup table (68K)
0x300000 1048576     spare for FMON buffers, etc (68K)
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