

CHART WATCH: YEAR IN REVIEW

This table summarizes the key processors in the general-purpose and embedded markets. The first column shows maximum clock speed; the second gives on-chip cache size (instruction/data/L2). The IC process column shows the drawn transistor length and the number of metal layers. SPEC95 performance is given as integer/FP. All list prices are in 1,000s except embedded prices, which are in 10,000s. N.D. indicates information not disclosed.

PROCESSORS FOR WORKSTATIONS AND SERVERS

	Max Clock Speed	Cache Size	Supply Voltage	Max Power	Transistor Count	IC Process	Die Size	Est Mfg Cost*	SPEC95b int/fp	List Price	Availability
Digital 21164	500 MHz	8K/8K/96K	2.0 V	25 W	9.3 million	0.35μ 4M	209 mm ²	\$150	12.6/18.3	\$1,450	now
Digital 21264	>500 MHz	64K/64K	2.0 V	60 W	15 million	0.35μ 6M	300 mm ²	\$300	30/60	N.D.	4Q97
Fuj. TurboSparc	170 MHz	16K/16K	3.3 V	9 W	3.0 million	0.35μ 4M	132 mm ²	\$50	3.5/3.0	\$499	now
HP PA-7300LC	160 MHz	64K/64K	3.3 V	15 W	9.2 million	0.5μ 4M	259 mm ²	\$95	5.5/7.3	not sold	now
HP PA-8000	180 MHz	none	3.3 V	>40 W	3.9 million	0.5μ 4M	345 mm ²	\$290	10.8/18.3	not sold	now
IBM P2SC	135 MHz	32K/128K	2.5 V	30 W	15 million	0.29μ 4M	335 mm ²	\$375	5.5/14.5	not sold	now
MIPS R5000	180 MHz	32K/32K	3.3 V	10 W	3.6 million	0.35μ 3M	84 mm ²	\$25	4.0/3.7	\$365	now
MIPS R7000	300 MHz	288K ⁽¹⁾	3.3 V	13 W	N.D.	0.25μ 4M	80 mm ²	\$35	10/10	N.D.	2H97
MIPS R10000	200 MHz	32K/32K	3.3 V	30 W	5.9 million	0.35μ 4M	298 mm ²	\$160	8.9/17.2	\$3,000	now
Sun UltraSparc-2	250 MHz	16K/16K	2.5 V	20 W	3.8 million	0.29μ 5M	149 mm ²	\$90	8.5/15	\$1,995	limited

PROCESSORS FOR PCS AND WORKSTATIONS

	Max Clock Speed	Cache Size	Supply Voltage	Max Power	Transistor Count	IC Process	Die Size	Est Mfg Cost*	SPEC95b int/fp	List Price	Availability
Exponential x704	533 MHz	2K/2K/32K	3.6 V	85 W	2.7 million	0.5μ 5M ⁽²⁾	150 mm ²	\$90	12/10	\$1,000*	2Q97
PowerPC 603e	240 MHz	16K/16K	2.5 V	6 W	2.6 million	0.35μ 4M	79 mm ²	\$30	5.5/4*	\$408	now
PowerPC 604e	225 MHz	32K/32K	2.5 V	24 W	5.1 million	0.35μ 4M	148 mm ²	\$60	8/7*	\$533	now
Intel Pentium	200 MHz	8K/8K	3.3 V	17 W	3.3 million	0.35μ 4M ⁽³⁾	90 mm ²	\$40	5.5/2.9	\$509	now
Intel P55C	200 MHz	16K/16K	2.8 V	16 W	4.5 million	0.28μ 4M	140 mm ²	\$50	6/3*	N.D.	1Q97
Intel PPro	200 MHz	8K/8K	3.3 V	35 W†	5.5 million	0.35μ 4M ⁽³⁾	196 mm ²	\$145†	8.2/6.0†	\$525†	now
Intel Klamath	266 MHz*	16K/16K	2.8 V*	N.D.	7.5 million	0.28μ 4M	203 mm ²	\$80	11/7*	N.D.	2Q97*

PROCESSORS FOR PCS

	Max Clock Speed	Cache Size	Supply Voltage	Max Power	Transistor Count	IC Process	Die Size	Est Mfg Cost*	Perf vs. Intel	List Price	Availability
AMD K5	100 MHz	16K/8K	3.5 V	14 W	4.3 million	0.35μ 3M	177 mm ²	\$70	Pent 133	\$101	now
AMD K6	233 MHz	32K/32K	2.9 V	N.D.	8.8 million	0.35μ 5M	162 mm ²	\$80	Klam 233*	N.D.	1Q97
Cyrix 6x86	150 MHz	16K	3.3 V	25 W	3.0 million	0.44μ 5M	169 mm ²	\$70	Pent 200	\$299	now
Cyrix M2	225 MHz	64K	2.5 V	N.D.	6.0 million	0.35μ 5M	197 mm ²	\$90	Klam 200*	N.D.	2Q97

PROCESSORS FOR LOW-COST (EMBEDDED) APPLICATIONS

	Max Clock Speed	Cache Size	Supply Voltage	Typical Power	Transistor Count	IC Process	Die Size	Est Mfg Cost*	MIPS (Dhry 2.1)	List Price	Availability
AMD 29040	50 MHz	8K/4K	3.3 V	1.7 W	1.2 million	0.7μ 3M	119 mm ²	\$20	67 MIPS	\$86	now
VLSI ARM710	40 MHz	8K	5.0 V	0.4 W	570,000	0.6μ 2M	34 mm ²	\$9	36 MIPS	\$28	now
StrongArm-110	233 MHz	16K/16K	2.0 V	0.9 W	2.1 million	0.35μ 3M	50 mm ²	\$18	265 MIPS	\$49	now
Hitachi SH7604	20 MHz	4K	3.3 V	0.2 W	450,000	0.8μ 2M	82 mm ²	\$7	20 MIPS	\$27	now
Intel 486 SXSF	33 MHz	8K	2.7 V	0.5 W	N.D.	0.8μ 2M	N.D.	\$15	16 MIPS*	\$72	now
Nat'l 486 SXL	25 MHz	1K	5.0 V	0.6 W	350,000*	0.65μ 3M	N.D.	\$8	12 MIPS	\$15	now
Intel 960SA	20 MHz	512/0	5.0 V	1.1 W	350,000	1.0μ 2M	51 mm ²	\$4	9 MIPS	\$13	now
Intel 960JA	33 MHz	2K/1K	3.3 V	0.5 W	750,000	0.8μ 3M	64 mm ²	\$8	28 MIPS	\$37	now
Intel 960HT	60 MHz	16K/8K	3.3 V	4.5 W	2.3 million	0.6μ 4M	100 mm ²	\$34	100 MIPS*	\$126	now
NEC R4100	40 MHz	2K/1K	3.3 V	0.1 W	450,000	0.5μ 3M	25 mm ²	\$8	40 MIPS*	\$25 ⁽⁴⁾	now
NEC R4300	133 MHz	16K/8K	3.3 V	2.2 W	1.7 million	0.35μ 3M	45 mm ²	\$11	160 MIPS*	\$32	now
IDT R4640	133 MHz	8K/8K	3.3 V	2.1 W	1.1 million	0.6μ 3M	56 mm ²	\$15	175 MIPS	\$42	now
Moto 68EC040	40 MHz	4K/4K	5.0 V	4.5 W	1.2 million	0.65μ 3M	163 mm ²	\$30	44 MIPS	\$75	now
Moto 68EC060	66 MHz	8K/8K	3.3 V	N.D.	2.5 million	0.5μ 3M	217 mm ²	\$75	102 MIPS	\$180	now
Coldfire 5102	33 MHz	2K/1K	3.3 V	0.8 W	N.D.	0.6μ 3M	N.D.	\$9	27 MIPS*	\$25	now
IBM PPC 401GF	50 MHz	2K/1K	3.3 V	0.1 W	300,000*	0.5μ 3M	22 mm ²	\$4	52 MIPS	\$13	now
Moto PPC 860DC	40 MHz	4K/4K	3.3 V	0.9 W	1.8 million	0.5μ 3M	25 mm ²	\$20	52 MIPS	\$42	now

†includes 256K L2 cache ⁽¹⁾16K/16K/256K ⁽²⁾bipolar + CMOS ⁽³⁾BiCMOS ⁽⁴⁾100,000-unit price (Source: vendors except *MDR estimate)