

8-Bit Microcontrollers--Data

The following section, 8-Bit Microcontroller Data Tables, includes historical microcontroller unit shipments by year, manufacturer, product name, and process technology.

The tables are organized as follows:

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Table 1

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1975-1979
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
AMD	8048	N	0	0	0	0	23
Fairchild	387X	N	0	0	15	23	510
	F8	N	27	181	655	630	650
General Inst.	PIC1650	N	0	0	0	450	4,100
Intel	802X	N	0	0	0	0	160
	8048/35	N	0	0	105	480	1,950
	8049/39	N	0	0	0	10	210
	8748	N	0	0	0	30	300
Mostek	387X	N	0	0	20	350	1,470
	F8	N	5	70	90	160	470
Motorola	387X	N	0	0	0	70	500
	6801/03	N	0	0	0	0	13
	6805	N	0	0	0	0	3
National	8049/39	N	0	0	0	0	10
NEC	8048/35	N	0	0	0	15	735
	8049/39	N	0	0	0	0	250
Rockwell	6500/XX	N	0	0	0	0	8
SGS	387X	N	0	0	0	0	50
Signetics	8048/35	N	0	0	0	0	180
Total 8-Bit MCUs			32	251	885	2,218	11,592

Source: Dataquest
October 1988

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Table 2

**Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1980-1984
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
AMD	8048	N	138	240	320	190	40
	8049	N	0	35	105	110	10
	8051	N	0	0	0	376	2,260
AMI	6801/03	N	0	0	0	220	1,080
	6805	N	0	0	60	120	540
Eurotechnique	8048/35	N	0	0	9	16	0
	8049/39	N	0	0	36	95	0
	8050/40	N	0	0	121	225	0
Fairchild	387X	N	1,795	3,100	1,750	1,370	1,075
	F8	N	620	745	845	680	74
Fujitsu	MBL8048/35	N	150	400	335	350	425
	MBL8049/39	N	300	925	1,080	1,325	1,510
General Instrument	PIC1652/54	N	0	0	0	1,017	1,650
	PIC1655/57	N	0	0	0	2,854	4,305
	PIC165X	N	5,600	4,125	4,200	0	0
	PIC1670/72	N	0	0	0	2,111	2,975
	PIC16C58	C	0	0	0	638	475
	PIC7000/1	N	0	0	0	0	10
	PIC7020/40	N	0	0	0	0	57
	PIC7041	N	0	0	0	0	13
Hitachi	6301	C	0	0	210	722	1,472
	6305	C	0	0	140	540	950
	6801/03	N	0	190	635	1,035	1,902
	6805	N	0	300	825	1,420	2,766
Intel	802X	N	810	1,525	2,050	1,395	1,050
	8048/35	N	3,750	4,800	5,200	5,250	3,825
	8049/39	N	715	1,230	1,870	2,085	2,960
	8050/40	N	0	0	0	300	490
	8051/31	N	0	25	460	3,530	12,900
	8052/32	N	0	0	0	37	213
	80C48/35	C	0	0	0	18	10
	80C49/39	C	0	0	0	140	230
	80C51/31	C	0	0	0	140	265
	8748	N	650	775	1,530	2,065	2,500
	8749	N	0	3	450	960	2,030
	8751	N	0	4	70	320	795
	Intersil	80C48/35	C	0	0	0	0

(Continued)

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Table 2 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1980-1984
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	
Matra-Harris	8048	N	0	0	6	48	130	
	8051	N	0	0	0	0	635	
	80C48	C	0	0	0	0	20	
Matsushita	MN1800	C	0	0	17	28	40	
Mostek	387X	N	2,105	2,485	2,030	1,660	1,425	
	38P7X	N	0	0	0	0	148	
	F8	N	205	110	33	190	195	
Motorola	146805	C	0	95	635	1,886	4,389	
	1468705	C	0	0	0	5	34	
	387X	N	635	700	425	126	60	
	6801/03	N	195	1,655	3,320	7,111	7,920	
	6804	N	0	0	0	0	36	
	6805	N	460	2,335	4,775	6,934	8,332	
	68701	N	0	33	78	364	199	
	68705	N	0	64	262	584	1,904	
	68HC11	C	0	0	0	0	3	
National	8048/35	N	45	460	995	1,450	2,775	
	8049/39	N	175	710	1,125	1,290	2,190	
	8050/40	N	50	405	880	1,270	1,940	
	807X	N	31	70	53	60	35	
	80C48/35	C	0	0	60	245	40	
NCR	6500/1/11	N	0	0	0	215	600	
NEC	8021/22	N	10	140	200	245	470	
	8041	N	0	0	0	0	2,220	
	8048/35	N	1,990	1,900	2,440	3,360	7,750	
	8049/39	N	920	2,125	4,200	5,950	7,210	
	80C48/35	C	0	0	230	940	2,020	
	80C49/39	C	0	0	151	650	1,770	
	8741	N	0	0	0	0	380	
	8748	N	0	195	510	1,090	2,050	
	8749	N	0	0	29	255	1,010	
	uPD78XX	N	0	490	2,050	4,960	11,780	
	Oki	80C48/35	C	0	0	25	203	450
		80C49/39	C	0	0	135	827	1,960
Philips	8021/22	N	0	120	280	360	650	
	8048/35	N	19	250	810	940	3,110	
	8049/39	N	0	0	95	320	2,930	

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Table 2 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1980-1984
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1980</u>	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
Philips (Cont.)	8050/40	N	0	0	0	0	10
	8051/31	N	0	0	0	40	1,160
	80C49/39	C	0	0	0	0	3
	84XX	N	0	0	80	1,940	2,500
RCA	1804A	C	0	0	0	4	23
	6805/68HC05	C	0	0	0	0	7
Rockwell	6500/XX	N	108	345	315	930	1,350
SGS	Z8	N	0	0	0	0	123
	387X	N	95	260	700	1,159	1,489
Sharp	Z8	N	0	0	165	980	1,950
Siemens	8021	N	0	40	95	60	28
	802XX	N	20	720	1,780	1,480	1,098
	8048/35	N	0	85	300	270	405
	8051/31	N	0	0	15	1,030	2,382
Signetics	8048/35	N	135	0	141	1,055	4,609
	8049/39	N	0	0	25	545	946
	8050/40	N	0	0	8	400	355
	8051/31	N	0	0	0	126	1,792
Synertek	Z8	N	0	2	90	135	24
TI	TMS7000	N	0	22	255	715	990
Thomson (EFCIS)	6801/03	N	0	0	0	55	150
	6805	N	0	0	0	100	600
Toshiba	8048/35	N	0	130	615	1,440	3,680
	8049/39	N	0	219	555	1,230	3,900
	80C49/39	C	0	0	142	850	2,170
Zilog	Z8	N	<u>14</u>	<u>344</u>	<u>683</u>	<u>851</u>	<u>2,055</u>
Total 8-Bit MCUs			21,740	34,931	54,114	90,615	163,510

Source: Dataquest
October 1988

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Table 3

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1985-1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	
AMD	8051/31	N	1,610	1,700	2,240	
	8053	N	0	0	287	
	80C51/31	C	0	0	134	
	8751	N	71	112	133	
	8753	N	0	0	77	
Fairchild	387X	N	357	10	0	
	F8	N	287	304	*	
Fujitsu	MBL8048/35	N	185	328	528	
	MBL8049/39	N	707	862	1,132	
	MBL8051/31	N	0	403	1,098	
	MBL80C49/39	C	0	105	2,300	
General Instrument	PIC1652/54	N	1,515	1,700	*	
	PIC1655/57	N	3,295	1,400	*	
	PIC1670/72	N	2,135	1,190	*	
	PIC16C58	C	256	77	*	
	PIC16E57	N	66	229	*	
	PIC7000/1	N	26	234	*	
	PIC7020/40	N	140	484	*	
	PIC7041	N	12	22	*	
	Gould/AMI	6801/03	N	576	21	31
		6805	N	402	127	39
Hitachi	6301	C	2,008	5,200	8,100	
	6305	C	1,386	4,242	7,250	
	6801/03	N	1,515	3,557	5,200	
	6805	N	2,902	5,275	7,160	
	68P01	C	0	0	545	
	68P05	C	0	0	620	
	63701	C	0	0	1,599	
	63705	C	0	0	1,299	
	63P01	C	0	0	645	
	63P05	C	0	0	865	
Intel	802X	N	222	93	54	
	8048/35	N	1,365	595	1,067	
	8049/39	N	1,530	2,401	7,475	
	8050/40	N	240	225	542	
	8051/31	N	6,800	6,998	12,700	
	8052/32	N	269	1,600	1,885	

(Continued)

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Table 3 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1985-1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Intel (Cont.)	80C49/39	C	112	20	0
	80C51/31	C	785	2,000	3,165
	8748	N	1,310	800	693
	8749	N	1,445	2,247	3,625
	8751	N	843	692	941
	8752	C	0	0	30
	87C51	C	0	0	100
	Intersil	80C48/35	C	30	20
80C49/39		C	9	10	0
Matra-Harris	8051	N	1,400	1,340	429
	8052	N	20	418	1,033
	80C51	C	10	387	1,324
	80C52	C	0	0	83
Matsushita Microchip Tech.	MN1800	C	131	400	1,070
	PIC1652/54	N	0	0	4,063
	PIC1655/57	N	0	0	1,073
	PIC1670/72	N	0	0	460
	PIC16C58	C	0	0	0
	PIC16E57	N	0	0	32
	PIC7000/1	N	0	0	696
	PIC7020/40	N	0	0	1,985
	PIC7041	N	0	0	33
	Mitsubishi	M507XX	C	0	0
M509XX		C	0	0	13,082
M50XXC		C	15,125	29,906	0
M5L8048/35		N	0	0	515
M5L8049/39		N	0	0	1,691
MSM8050/40		N	0	0	208
MSM80C49/39		C	0	0	2,614
Mostek		387X	N	867	*
	38P7X	N	297	*	*
	F8	N	195	*	*
Motorola	146805	C	4,071	4,705	5,422
	1468705	C	48	93	0
	387X	N	174	199	0
	6801/03	N	8,007	8,526	8,918
	6804	N	501	1,495	4,357

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Table 3 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1985-1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	
Motorola (Cont.)	6805	N	10,777	13,559	19,716	
	68701	N	278	431	0	
	68704	N	13	82	0	
	68705	N	2,641	3,861	0	
	68HC05	C	0	0	4,678	
	68HC11	C	67	696	3,975	
National	8048/35	N	2,200	390	425	
	8049/39	N	1,910	1,650	2,095	
	8050/40	N	1,500	1,280	1,838	
	COP800	C	0	0	10	
	807X	N	5	0	0	
National (FCI)	F8	N	0	0	138	
NCR	6500/1	N	640	1,027	397	
NEC	8021/22	N	350	100	40	
	8041	N	2,860	2,550	1,750	
	8048/35	N	2,860	3,940	4,360	
	8049/39	N	5,160	5,350	4,830	
	80C48/35	C	1,800	1,360	970	
	80C49/39	C	2,060	2,110	2,680	
	8741	N	850	480	330	
	8748	N	1,660	1,370	590	
	8749	N	2,060	1,930	3,300	
	uPD78XX	N	11,450	18,390	24,140	
	Oki	80C154	C	0	87	894
		80C48/35	C	537	520	428
80C49/39		C	1,950	2,720	3,133	
80C51		C	0	1,772	2,721	
Philips	8021/22	N	470	138	172	
	8048/35	N	1,430	289	285	
	8049/39	N	2,550	2,186	1,810	
	8050/40	N	100	393	1,780	
	8051/31	N	1,100	700	1,840	
	80C49/39	C	145	240	514	
	80C51/31	C	0	81	620	
	84CXK	C	0	15	1,150	
	84XX	N	6,200	14,325	10,810	

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Table 3 (Continued)

**Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1985-1987
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
RCA	1804A	C	13	11	8
	6805/68HC05	C	120	359	805
Rockwell	6500/XK	N	1,310	2,550	3,855
SGS-Thomson*					
(M)**	387X	N	0	0	795
(M)	38P7X	N	0	0	90
(M)	F8	N	0	0	136
(S)	387X	N	2,200	4,811	3,922
(S)	Z8	N	244	601	665
(T)	6801/03	N	337	906	1,131
(T)	6805	N	1,129	1,190	2,182
Sharp	SM-Series	C	0	0	530
	Z8	N	426	686	590
Siemens	8021	N	138	0	0
	802XX	N	1,538	667	51
	8048/35	N	194	956	1,733
Siemens	8051/31	N	2,497	2,194	4,055
	80515/35	N	0	126	768
	8052/32	N	0	713	1,431
Signetics	8048/35	N	2,563	760	111
	8049/39	N	1,235	1,741	2,000
	8050/40	N	277	273	723
	8051/31	N	2,362	2,687	2,731
	8052/32	N	5	456	1,541
	80C51/31	C	0	60	283
	83C451	C	0	0	27
	8400	N	0	30	43
	87C451	C	0	0	10
TI	TMS7000	N	1,396	2,555	6,600
TCMC (Mostek)	387X	N	0	969	*
	38P7X	N	0	145	*
	F8	N	0	299	*

(Continued)

8-Bit Microcontrollers--Data

Table 3 (Continued)

**Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer
1985-1987
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
Toshiba	8048/35	N	4,504	1,150	1,171
	8049/39	N	5,207	2,350	1,760
	80C48/35	C	0	1,000	2,950
	80C49/39	C	2,925	2,280	3,600
	80C50/40	C	0	520	851
Zilog	Z8	N	2,099	3,112	3,422
Others#	Unspecified	C	<u>0</u>	<u>11,070</u>	<u>34,020</u>
Total 8-Bit MCUs			163,599	224,001	333,362

***Mergers/Acquisitions:**

1. Gould Semiconductor acquired AMI, 1985.
2. Thomson Components acquired Mostek, forming Thomson Components--Mostek Corporation (TCMC), 1985.
3. National acquired Fairchild, 1987.
4. General Instrument's Microelectronics Division spun off as a new company under the name Microchip Technology, 1987.
5. SGS and Thomson merged, forming SGS-Thomson, 1987. (TCMC lost independent identity with the merger.)

** (M) = Mostek

(S) = SGS

(T) = Thompson

#Dataquest estimate for companies not sampled (i.e., Rohm, Sanyo, Sony)

Source: Dataquest
October 1988

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Table 4

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1985
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/85</u>	<u>Q2/85</u>	<u>Q3/85</u>	<u>Q4/85</u>	<u>1985</u>
AMD	8051/31	N	250	400	360	600	1,610
	8751	N	2	15	14	40	71
Fairchild	387X	N	148	90	52	67	357
	F8	N	33	60	80	114	287
Fujitsu	MBL8048/35	N	60	40	40	45	185
	MBL8049/39	N	200	180	162	165	707
General Instrument	PIC1652/54	N	350	400	425	340	1,515
	PIC1655/57	N	975	840	790	690	3,295
	PIC1670/72	N	650	550	510	425	2,135
	PIC16C58	C	85	77	69	25	256
	PIC16E57	N	5	8	8	45	66
	PIC7000/1	N	6	5	5	10	26
	PIC7020/40	N	25	40	45	30	140
	PIC7041	N	3	3	3	3	12
	Gould/AMI*	6801/03	N	290	250	16	20
6805		N	175	158	32	37	402
Hitachi	6301	C	420	425	383	780	2,008
	6305	C	280	290	261	555	1,386
	6801/03	N	385	400	360	370	1,515
Intel	6805	N	552	560	625	1,165	2,902
	802X	N	125	35	32	30	222
	8048/35	N	400	350	315	300	1,365
	8049/39	N	420	400	360	350	1,530
	8050/40	N	100	50	45	45	240
	8051/31	N	2,500	1,500	1,500	1,300	6,800
	8052/32	N	80	68	61	60	269
	80C49/39	C	40	30	27	15	112
	80C51/31	C	100	150	275	260	785
	8748	N	525	250	275	260	1,310
	8749	N	410	300	275	460	1,445
Intersil	8751	N	275	200	248	120	843
	80C48/35	C	8	8	7	7	30
	80C49/39	C	3	2	2	2	9

(Continued)

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Table 4 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1985
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/85</u>	<u>Q2/85</u>	<u>Q3/85</u>	<u>Q4/85</u>	<u>1985</u>	
Matra-Harris	8051	N	450	300	300	350	1,400	
	8052	N	0	0	0	20	20	
	80C51	C	0	0	0	10	10	
Matsushita	MN1800	C	10	24	32	65	131	
Mitsubishi	M50XXX	C	3,200	4,050	3,900	3,975	15,125	
Motorola	146805	C	1,052	915	1,008	1,096	4,071	
	1468705	C	8	7	7	26	48	
	387X	N	14	63	65	32	174	
	6801/03	N	1,840	2,246	2,265	1,656	8,007	
	6804	N	33	116	158	194	501	
	6805	N	2,284	2,258	2,779	3,456	10,777	
	68701	N	37	80	80	81	278	
	68704	N	0	0	4	9	13	
	68705	N	613	532	745	751	2,641	
	68HC11	C	5	8	10	44	67	
	National	8048/35	N	800	690	480	230	2,200
		8049/39	N	700	500	370	340	1,910
8050/40		N	500	380	320	300	1,500	
807X		N	5	0	0	0	5	
NCR	6500/1	N	160	110	180	190	640	
NEC	8021/22	N	130	120	60	40	350	
	8041	N	1,130	450	600	680	2,860	
	8048/35	N	1,090	570	600	600	2,860	
	8049/39	N	1,820	1,030	1,120	1,190	5,160	
	80C48/35	C	710	470	340	280	1,800	
	80C49/39	C	690	550	360	460	2,060	
	8741	N	270	270	170	140	850	
	8748	N	480	550	340	290	1,660	
	8749	N	460	640	550	410	2,060	
	uPD78XX	N	2,680	2,740	2,510	3,520	11,450	
	Oki	80C48/35	C	150	135	124	128	537
		80C49/39	C	560	440	440	510	1,950
Philips	8021/22	N	170	150	110	40	470	
	8048/35	N	700	400	200	130	1,430	
	8049/39	N	1,000	700	500	350	2,550	
	8050/40	N	20	20	20	40	100	
	8051/31	N	350	300	250	200	1,100	
	80C49/39	C	15	50	50	30	145	
	84XX	N	1,100	1,300	1,800	2,000	6,200	

(Continued)

8-Bit Microcontrollers--Data

Table 4 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1985
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>01/85</u>	<u>02/85</u>	<u>03/85</u>	<u>04/85</u>	<u>1985</u>
RCA	1804A	C	5	3	3	2	13
	6805/68HC05	C	20	10	25	65	120
Rockwell	6500/XX	N	150	400	360	400	1,310
SGS	387X	N	530	550	495	625	2,200
	Z8	N	55	47	42	100	244
Sharp	Z8	N	23	23	190	190	426
Siemens	8021	N	24	54	30	30	138
	802XX	N	295	427	468	348	1,538
	8048/35	N	40	57	57	40	194
	8051/31	N	700	630	567	600	2,497
Signetics	8048/35	N	1,400	400	463	300	2,563
	8049/39	N	400	200	250	385	1,235
	8050/40	N	92	50	60	75	277
	8051/31	N	870	400	417	675	2,362
	8052/32	N	0	0	0	5	5
TI	TMS7000	N	400	350	316	330	1,396
Thomson	6801/03	N	65	59	53	160	337
	6805	N	350	315	284	180	1,129
TCMC (Mostek)*	387X	N	273	159	211	224	867
	38P7X	N	112	80	61	44	297
	F8	N	62	51	42	40	195
Toshiba	8048/35	N	1,600	1,404	1,000	500	4,504
	8049/39	N	1,700	1,530	1,377	600	5,207
	80C49/39	C	900	675	650	700	2,925
Zilog	Z8	N	564	550	495	490	2,099
Total 8-Bit MCUs			45,746	39,722	38,425	39,706	163,599

***Mergers/Acquisitions:**

1. AMI was acquired by Gould Semiconductor.
2. Thomson Components acquired Mostek Corporation from United Technologies, forming Thomson Components--Mostek Corporation (TCMC).

Source: Dataquest
October 1988

8-Bit Microcontrollers--Data

Table 5

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1986
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/86</u>	<u>Q2/86</u>	<u>Q3/86</u>	<u>Q4/86</u>	<u>1986</u>
AMD	8051/31	N	350	350	450	550	1,700
	8751	N	30	35	22	25	112
Fairchild	387X	N	9	1	0	0	10
	F8	N	27	89	98	90	304
Fujitsu	MBL8048/35	N	55	73	92	108	328
	MBL8049/39	N	192	208	224	238	862
	MBL8051/31	N	65	88	116	134	403
	MBL80C49/39	C	15	20	34	36	105
General Instrument	PIC1652/54	N	400	500	400	400	1,700
	PIC1655/57	N	300	300	400	400	1,400
	PIC1670/72	N	200	490	250	250	1,190
	PIC16C58	C	32	45	0	0	77
	PIC16E57	N	57	60	52	60	229
	PIC7000/1	N	14	20	100	100	234
	PIC7020/40	N	134	150	100	100	484
	PIC7041	N	3	5	6	8	22
Gould Semi.	6801/03	N	16	4	0	1	21
	6805	N	42	48	10	27	127
Hitachi	6301	C	950	1,265	1,175	1,810	5,200
	6305	C	760	955	1,152	1,375	4,242
	6801/03	N	520	840	1,062	1,135	3,557
Intel	6805	N	1,180	1,360	1,425	1,310	5,275
	802X	N	30	25	20	18	93
	8048/35	N	130	140	160	165	595
	8049/39	N	415	450	746	790	2,401
	8050/40	N	50	52	65	58	225
	8051/31	N	1,422	1,626	1,965	1,985	6,998
	8052/32	N	150	170	548	732	1,600
	80C49/39	C	0	5	5	10	20
	80C51/31	C	300	310	588	802	2,000
	8748	N	200	200	200	200	800
	8749	N	500	512	535	700	2,247
	8751	N	150	155	175	212	692
Intersil	80C48/35	C	2	3	5	10	20
	80C49/39	C	2	3	4	1	10
Matra-Harris	8051	N	358	362	280	340	1,340
	8052	N	20	105	123	170	418
	80C51	C	10	70	107	200	387

(Continued)

8-Bit Microcontrollers--Data

Table 5 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1986
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/86</u>	<u>Q2/86</u>	<u>Q3/86</u>	<u>Q4/86</u>	<u>1986</u>
Matsushita	MN1800	C	70	100	110	120	400
Mitsubishi	M50XXX	C	6,860	7,250	7,606	8,190	29,906
Motorola	146805	C	1,002	1,050	1,030	1,623	4,705
	1468705	C	23	25	22	23	93
	387X	N	98	40	20	41	199
	6801/03	N	2,116	2,053	2,101	2,256	8,526
	6804	N	184	254	541	516	1,495
	6805	N	3,131	3,399	3,290	3,739	13,559
	68701	N	92	152	125	62	431
	68704	N	10	10	33	29	82
	68705	N	779	961	1,004	1,117	3,861
	68HC11	C	120	142	180	254	696
National	8048/35	N	100	50	130	110	390
	8049/39	N	350	250	550	500	1,650
	8050/40	N	330	320	330	300	1,280
NCR	6500/1	N	255	230	265	277	1,027
NEC	8021/22	N	40	10	20	30	100
	8041	N	730	730	580	510	2,550
	8048/35	N	900	950	990	1,100	3,940
	8049/39	N	1,150	1,530	1,450	1,220	5,350
	80C48/35	C	330	580	230	220	1,360
	80C49/39	C	410	540	470	690	2,110
	8741	N	280	60	50	90	480
	8748	N	410	300	460	200	1,370
	8749	N	530	430	520	450	1,930
	uPD78XX	N	3,850	4,580	5,200	4,760	18,390
Oki	80C154	C	0	0	12	75	87
	80C48/35	C	130	135	130	125	520
	80C49/39	C	590	650	790	690	2,720
	80C51	C	150	282	520	820	1,772
Philips	8021/22	N	35	38	40	25	138
	8048/35	N	75	69	70	75	289
	8049/39	N	550	550	550	536	2,186
	8050/40	N	90	95	100	108	393
	8051/31	N	150	160	180	210	700
	80C49/39	C	50	55	65	70	240
	80C51/31	C	5	15	26	35	81
	84CXX	C	0	0	0	15	15
	84XX	N	3,200	3,400	4,000	3,725	14,325

(Continued)

8-Bit Microcontrollers--Data

Table 5 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1986
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/86</u>	<u>Q2/86</u>	<u>Q3/86</u>	<u>Q4/86</u>	<u>1986</u>
RCA	1804A	C	4	2	2	3	11
	6805/68HC05	C	55	65	88	151	359
Rockwell	6500/XX	N	450	640	510	950	2,550
SGS	387X	N	852	1,301	1,030	1,628	4,811
	Z8	N	194	153	147	107	601
Sharp	Z8	N	230	160	142	154	686
Siemens	802XX	N	340	304	15	8	667
	8048/35	N	26	68	431	431	956
	8051/31	N	321	573	733	567	2,194
	80515/35	N	0	0	13	113	126
	8052/32	N	81	117	219	296	713
Signetics	8048/35	N	225	215	230	90	760
	8049/39	N	440	450	465	386	1,741
	8050/40	N	68	70	73	62	273
	8051/31	N	650	665	712	660	2,687
	8052/32	N	87	102	126	141	456
	80C51/31	C	3	7	10	40	60
	8400	N	1	6	13	10	30
TI	TMS7000	N	450	470	785	850	2,555
Thomson	6801/03	N	200	235	225	246	906
	6805	N	260	290	310	330	1,190
TCMC (Mostek)	387X	N	255	239	225	250	969
	38P7X	N	56	38	28	23	145
	F8	N	23	151	70	55	299
Toshiba	8048/35	N	250	250	350	300	1,150
	8049/39	N	550	550	650	600	2,350
	80C48/35	C	200	200	300	300	1,000
	80C49/39	C	400	480	800	600	2,280
	80C50/40	C	100	120	200	100	520
Zilog	Z8	N	710	835	770	797	3,112
Others*	Unspecified	C	<u>2,767</u>	<u>2,767</u>	<u>2,768</u>	<u>2,768</u>	<u>11,070</u>
Total 8-Bit MCUs			48,513	54,062	58,924	62,502	224,001

*Dataquest estimate for companies not surveyed (i.e., Ricoh, Sanyo, Sony)

Source: Dataquest
October 1988

8-Bit Microcontrollers--Data

Table 6

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/87</u>	<u>Q2/87</u>	<u>Q3/87</u>	<u>Q4/87</u>	<u>1987</u>	
AMD	8051/31	N	436	538	626	640	2,240	
	8053	N	0	22	115	150	287	
	80C51/31	C	15	5	24	90	134	
	8751	N	26	30	35	42	133	
	8753	N	10	20	22	25	77	
Fujitsu	MBL8048/35	N	112	126	135	155	528	
	MBL8049/39	N	252	285	280	315	1,132	
	MBL8051/31	N	252	265	276	305	1,098	
	MBL80C49/39	C	350	500	650	800	2,300	
Gould Semi	6801/03	N	8	2	6	15	31	
	6805	N	8	22	3	6	39	
Hitachi	6301	C	1,800	1,800	2,000	2,500	8,100	
	6305	C	1,600	1,700	1,850	2,100	7,250	
	63701	C	150	320	449	680	1,599	
	63705	C	180	276	385	458	1,299	
	63P01	C	100	145	175	225	645	
	63P05	C	125	190	250	300	865	
	6801/03	N	1,250	1,300	1,300	1,350	5,200	
	6805	N	1,565	1,685	1,790	2,120	7,160	
	68P01	C	85	115	165	180	545	
	68P05	C	100	145	175	200	620	
	Intel	802X	N	18	16	11	9	54
		8048/35	N	285	265	255	262	1,067
		8049/39	N	1,315	1,360	2,700	2,100	7,475
8050/40		N	70	72	200	200	542	
8051/31		N	2,000	2,500	3,800	4,400	12,700	
8052/32		N	400	435	500	550	1,885	
80C51/31		C	700	665	1,000	800	3,165	
8748		N	200	192	155	146	693	
8749		N	900	920	880	925	3,625	
8751		N	220	225	266	230	941	
8752		C	0	0	0	30	30	
87C51		C	0	0	0	100	100	
Matra-Harris		8051	N	120	126	73	110	429
	8052	N	199	245	310	279	1,033	
	80C51	C	250	310	360	404	1,324	
	80C52	C	2	12	23	46	83	

(Continued)

8-Bit Microcontrollers--Data

Table 6 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/87</u>	<u>Q2/87</u>	<u>Q3/87</u>	<u>Q4/87</u>	<u>1987</u>
Matsushita	MN1800	C	100	320	330	320	1,070
Microchip	PIC1652/54	N	758	960	1,300	1,045	4,063
Technology*	PIC1655/57	N	350	347	126	250	1,073
	PIC1670/72	N	80	120	135	125	460
	PIC16E57	N	15	10	7	0	32
	PIC7000/1	N	145	160	175	216	696
	PIC7020/40	N	475	525	505	480	1,985
	PIC7041	N	6	6	15	6	33
Mitsubishi	M507XX	C	5,773	5,783	6,174	5,976	23,706
	M509XX	C	1,076	2,295	4,978	4,733	13,082
	M5L8048/35	N	140	61	28	286	515
	M5L8049/39	N	448	344	375	524	1,691
	M5M8050/40	N	52	35	83	38	208
	M5M80C49/39	C	1,859	221	310	224	2,614
Motorola	146805	C	1,163	1,381	1,428	1,450	5,422
	6801/03	N	2,256	2,267	2,232	2,163	8,918
	6804	N	853	1,149	970	1,385	4,357
	6805	N	4,918	4,785	4,923	5,090	19,716
	68HC05	C	714	974	1,316	1,674	4,678
	68HC11	C	402	696	1,290	1,587	3,975
National	8048/35	N	102	103	120	100	425
	8049/39	N	465	480	650	500	2,095
	8050/40	N	350	368	550	570	1,838
	COP800	C	0	0	0	10	10
National (FCI)*	F8	N	48	40	20	30	138
NCR	6500/1	N	165	170	60	2	397
NEC	8021/22	N	0	20	10	10	40
	8041	N	380	540	480	350	1,750
	8048/35	N	1,020	1,070	1,170	1,100	4,360
	8049/39	N	1,000	1,350	1,430	1,050	4,830
	80C48/35	C	220	320	230	200	970
	80C49/39	C	710	450	690	830	2,680
	8741	N	80	90	70	90	330
	8748	N	130	180	200	80	590
	8749	N	840	680	730	1,050	3,300
	uPD78XX	N	5,980	5,420	6,140	6,600	24,140

(Continued)

8-Bit Microcontrollers--Data

Table 6 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/87</u>	<u>Q2/87</u>	<u>Q3/87</u>	<u>Q4/87</u>	<u>1987</u>
Oki	80C154	C	75	95	350	374	894
	80C48/35	C	125	110	100	93	428
	80C49/39	C	699	734	890	810	3,133
	80C51	C	790	591	660	680	2,721
Philips	8021/22	N	35	60	45	32	172
	8048/35	N	75	70	95	45	285
	8049/39	N	430	450	500	430	1,810
	8050/40	N	90	754	856	80	1,780
	8051/31	N	320	460	550	510	1,840
	80C49/39	C	74	120	160	160	514
	80C51/31	C	60	110	210	240	620
	84CXX	C	110	350	380	310	1,150
	84XX	N	2,880	3,190	2,540	2,200	10,810
	RCA	1804A	C	5	2	1	0
6805/68HC05		C	190	170	155	290	805
Rockwell	6500/XX	N	980	925	900	1,050	3,855
SGS-Thomson*							
(M)**	387X	N	230	175	200	190	795
(M)	38P7X	N	30	20	20	20	90
(M)	F8	N	56	50	20	10	136
(S)	387X	N	1,254	1,222	958	488	3,922
(S)	Z8	N	131	163	233	138	665
(T)	6801/03	N	295	280	276	280	1,131
(T)	6805	N	530	585	502	565	2,182
Sharp	SM-Series	C	110	185	110	125	530
	Z8	N	120	225	120	125	590
Siemens	802XX	N	17	12	9	13	51
	8048/35	N	507	541	372	313	1,733
	8051/31	N	812	987	1,147	1,109	4,055
	80515/35	N	164	164	202	238	768
	8052/32	N	316	362	406	347	1,431
Signetics	8048/35	N	48	25	22	16	111
	8049/39	N	488	502	514	496	2,000
	8050/40	N	80	220	218	205	723
	8051/31	N	680	685	700	666	2,731
	8052/32	N	155	450	464	472	1,541
	80C51/31	C	65	69	73	76	283
	83C451	C	1	5	9	12	27
	8400	N	10	11	10	12	43
87C451	C	0	2	3	5	10	

(Continued)

8-Bit Microcontrollers--Data

Table 6 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1987
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/87</u>	<u>Q2/87</u>	<u>Q3/87</u>	<u>Q4/87</u>	<u>1987</u>
TI	TMS7000	N	1,100	1,600	1,800	2,100	6,600
Toshiba	8048/35	N	300	310	286	275	1,171
	8049/39	N	500	400	435	425	1,760
	80C48/35	C	400	650	800	1,100	2,950
	80C49/39	C	800	850	900	1,050	3,600
	80C50/40	C	200	225	210	216	851
Zilog	Z8	N	863	863	858	838	3,422
Others [#]	Unspecified	C	<u>8,505</u>	<u>8,505</u>	<u>8,505</u>	<u>8,505</u>	<u>34,020</u>
Total 8-Bit MCUs			73,881	79,088	89,268	91,125	333,362

***Mergers/Acquisitions:**

1. General Instrument's Microelectronics Division spun off as a separate company under the name Microchip Technology.
2. National acquired Fairchild.
3. SGS and Thomson Components merged, forming SGS-Thomson. TCMC (Mostek) was folded into the newly established company.

****(M)** = Mostek

(S) = SGS

(T) = Thompson

[#]Dataquest estimate for companies not sampled (i.e., Ricoh, Sanyo, Sony)

Source: Dataquest
October 1988