

## 8-Bit Microcontrollers--Historical Shipment 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:

- Table 1 Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer, 1975-1979
- Table 2 Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer, 1980-1984
- Table 3 Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer, 1985-1988
- Table 4 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1975-1976
- Table 5 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1977
- Table 6 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1978
- Table 7 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1979
- Table 8 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1980
- Table 9 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1981
- Table 10 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1982
- Table 11 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1983
- Table 12 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1984
- Table 13 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1985
- Table 14 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1986
- Table 15 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1987
- Table 16 Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1988

# 8-Bit Microcontrollers--Historical Shipment Data

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 Instrument	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	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>180</u>
Total 8-Bit MCUs			32	251	885	2,218	11,592

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

**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	44

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

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	
National	68HC11	C	0	0	0	0	3	
	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	

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

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	14	344	683	851	2,055
Total 8-Bit MCUs			21,740	34,931	54,114	90,615	163,510

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 3

**Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer  
1985-1988  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
AMD	8051/31	N	1,610	1,700	2,240	2,110
	8053	N	0	0	287	510
	80C51/31	C	0	0	134	1,055
	8751	N	71	112	133	217
	8753	N	0	0	77	145
Fairchild	387X	N	357	10	0	0
	F8	N	287	304	*	*
Fujitsu	MBL8048/35	N	185	328	528	40
	MBL8049/39	N	707	862	1,132	90
	MBL8051/31	N	0	403	1,098	92
	MBL80C49/39	C	0	105	2,300	220
	MB897XX	C	0	0	0	1,471
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	*	*
	6801/03	N	576	21	31	0
	6805	N	402	127	39	0
Harris (GE-SS/ RCA)	68HC05	C	0	0	0	1,430
Hitachi	6301	C	2,008	5,200	8,100	11,600
	6305	C	1,386	4,242	7,250	11,200
	6801/03	N	1,515	3,557	5,200	5,660
	6805	N	2,902	5,275	7,160	8,490
	68P01	C	0	0	545	944
	68P05	C	0	0	620	1,010
	63701	C	0	0	1,599	2,780
	63705	C	0	0	1,299	1,920
	63P01	C	0	0	645	1,040
	63P05	C	0	0	865	1,425
Intel	802X	N	222	93	54	0
	8048/35	N	1,365	595	1,067	1,500
	8049/39	N	1,530	2,401	7,475	13,100
	8050/40	N	240	225	542	1,200

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 3 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer  
1985-1988  
(Thousands of Units)

	Product	Process	1985	1986	1987	1988
Intel (Cont.)	8051/31	N	6,800	6,998	12,700	13,800
	8052/32	N	269	1,600	1,885	5,800
	80C49/39	C	112	20	0	0
	80C51/31	C	785	2,000	3,165	6,200
	8748	N	1,310	800	693	800
	8749	N	1,445	2,247	3,625	3,500
	8751	N	843	692	941	1,000
	8752	C	0	0	30	350
	87C51	C	0	0	100	500
	Intersil	80C48/35	C	30	20	0
80C49/39		C	9	10	0	0
Matra-Harris	8051	N	1,400	1,340	429	98
	8052	N	20	418	1,033	712
	80C51	C	10	387	1,324	2,190
	80C52	C	0	0	83	660
	83C154	C	0	0	0	116
Matsushita	MN1800	C	131	400	1,070	4,620
Microchip Tech.	PIC1652/54	N	0	0	4,063	5,242
	PIC1655/57	N	0	0	1,073	903
	PIC1670/72	N	0	0	460	286
	PIC16C58	C	0	0	0	0
	PIC16E57	N	0	0	32	0
	PIC70XX	N	0	0	0	990
	PIC7000/1	N	0	0	696	0
	PIC7020/40	N	0	0	1,985	0
	PIC7041	N	0	0	33	0
Mitsubishi	M507XX	C	0	0	23,706	25,800
	M509XX	C	0	0	13,082	26,600
	M50XXX	C	15,125	29,906	0	0
	M5L8048/35	N	0	0	515	185
	M5L8049/39	N	0	0	1,691	1,130
	M5M8050/40	N	0	0	208	154
	M5M80C49/39	C	0	0	2,614	690
Mostek	387X	N	867	*	*	*
	38P7X	N	297	*	*	*
	F8	N	195	*	*	*
Motorola	146805	C	4,071	4,705	5,422	6,598
	1468705	C	48	93	0	0

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 3 (Continued)

**Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer  
1985-1988  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Motorola (Cont.)	387X	N	174	199	0	0
	6801/03	N	8,007	8,526	8,918	8,253
	6804	N	501	1,495	4,357	3,900
	6805	N	10,777	13,559	19,716	27,042
	68701	N	278	431	0	0
	68704	N	13	82	0	0
	68705	N	2,641	3,861	0	0
	68HC05	C	0	0	4,678	12,676
	68HC11	C	67	696	3,975	9,389
	National	8048/35	N	2,200	390	425
8049/39		N	1,910	1,650	2,095	1,950
8050/40		N	1,500	1,280	1,838	2,210
COP800		C	0	0	10	1,555
807X		N	5	0	0	0
National (FCI)	F8	N	0	0	138	45
NCR	6500/1	N	640	1,027	397	747
	6500/11	N	0	0	0	371
NEC	8021/22	N	350	100	40	70
	8041	N	2,860	2,550	1,750	1,290
	8048/35	N	2,860	3,940	4,360	2,570
	8049/39	N	5,160	5,350	4,830	3,360
	80C48/35	C	1,800	1,360	970	740
	80C49/39	C	2,060	2,110	2,680	3,430
	8741	N	850	480	330	370
	8748	N	1,660	1,370	590	650
	8749	N	2,060	1,930	3,300	1,820
	uPD78XX	N	11,450	18,390	24,140	32,210
Oki	80C154	C	0	87	894	1,630
	80C48/35	C	537	520	428	385
	80C49/39	C	1,950	2,720	3,133	3,462
	80C51/31	C	0	1,772	2,721	3,100
Philips	8021/22	N	470	138	172	15
	8048/35	N	1,430	289	285	215
	8049/39	N	2,550	2,186	1,810	1,230
	8050/40	N	100	393	1,780	215
	8051/31	N	1,100	700	1,840	1,400
	80C49/39	C	145	240	514	665

(Continued)



# 8-Bit Microcontrollers--Historical Shipment Data

Table 3 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer  
1985-1988  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Philips (Cont.)	80C51/31	C	0	81	620	1,220
	84CXX	C	0	15	1,150	2,520
	84XX	N	6,200	14,325	10,810	9,580
RCA	1804A	C	13	11	8	*
	6805/68HC05	C	120	359	805	*
Rockwell	6500/XX	N	1,310	2,550	3,855	4,230
SGS-Thomson (M)	387X	N	0	0	795	0
	(M) 38P7X	N	0	0	90	110
	(M) F8	N	0	0	136	21
	(S) 387X	N	2,200	4,811	3,922	3,236
	(S) Z8	N	244	601	665	444
	(T) 6801/03	N	337	906	1,131	1,829
	(T) 6805	N	1,129	1,190	2,182	2,797
Sharp	SM-Series	C	0	0	530	425
	Z8	N	426	686	590	425
Siemens	8021	N	138	0	0	0
	802XX	N	1,538	667	51	66
	8048/35	N	194	956	1,733	1,345
	8051/31	N	2,497	2,194	4,055	5,123
	80515/35	N	0	126	768	1,974
	8052/32	N	0	713	1,431	2,642
	8048/35	N	2,563	760	111	18
Signetics	8049/39	N	1,235	1,741	2,000	2,449
	8050/40	N	277	273	723	698
	8051/31	N	2,362	2,687	2,731	4,038
	8052/32	N	5	456	1,541	1,958
	80C51/31	C	0	60	283	1,653
	80C451	C	0	0	0	55
	83C451	C	0	0	27	0
	87C451	C	0	0	10	15
	8400	N	0	30	43	10
	8441	C	0	0	128	18
TI	TMS7000	N	1,396	2,555	6,600	9,200
TCMC (Mostek)	387X	N	0	969	*	*
	38P7X	N	0	145	*	*
	F8	N	0	299	*	*

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 3 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Manufacturer  
1985-1988  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>
Toshiba	8048/35	N	4,504	1,150	1,171	890
	8049/39	N	5,207	2,350	1,760	1,485
	80C48/35	C	0	1,000	2,950	3,200
	80C49/39	C	2,925	2,280	3,600	4,200
	80C50/40	C	0	520	851	820
	TLCS-90	C	0	0	0	850
Zilog	Z8	N	2,099	3,112	3,422	5,025
Others**	Unspecified	C	0	11,070	34,020	74,000
Total 8-Bit MCUs			163,599	224,001	333,490	454,022

**\*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.)
6. Harris acquired GE Solid State and RCA, 1988.

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

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

**Table 4**

**Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1975-1976  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>1975</u>	<u>Q1/76</u>	<u>Q2/76</u>	<u>Q3/76</u>	<u>Q4/76</u>	<u>1976</u>
Fairchild	F8	N	27	8	33	70	70	181
TCMC (Mostek)	F8	N	<u>5</u>	<u>5</u>	<u>15</u>	<u>20</u>	<u>30</u>	<u>70</u>
<b>Total 8-Bit MCUs</b>			<b>32</b>	<b>13</b>	<b>48</b>	<b>90</b>	<b>100</b>	<b>251</b>

Source: Dataquest  
August 1989

**Table 5**

**Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1977  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/77</u>	<u>Q2/77</u>	<u>Q3/77</u>	<u>Q4/77</u>	<u>1977</u>
Fairchild	3870	N	0	0	0	15	15
	F8	N	100	130	180	245	655
Intel	8048	N	0	15	30	60	105
TCMC (Mostek)	F8	N	10	15	25	40	90
	3870	N	<u>0</u>	<u>0</u>	<u>5</u>	<u>15</u>	<u>20</u>
<b>Total 8-Bit MCUs</b>			<b>110</b>	<b>160</b>	<b>240</b>	<b>375</b>	<b>885</b>

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 6

**Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1978  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/78</u>	<u>Q2/78</u>	<u>Q3/78</u>	<u>Q4/78</u>	<u>1978</u>
Fairchild	F8	N	110	130	190	200	630
	3870	N	3	5	5	10	23
General							
Instrument	PIC-1650	N	75	95	105	175	450
Intel	8048	N	60	100	150	170	480
	8748	N	0	0	5	25	30
	8049/39	N	0	0	0	10	10
Motorola	3870	N	5	10	15	40	70
NEC	8048/35	N	0	0	0	15	15
TCMC (Mostek)	3870	N	20	50	75	205	350
	F8	N	<u>50</u>	<u>30</u>	<u>35</u>	<u>45</u>	<u>160</u>
<b>Total 8-Bit MCUs</b>			<b>323</b>	<b>420</b>	<b>580</b>	<b>895</b>	<b>2,218</b>

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

**Table 7**

**Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1979  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/79</u>	<u>Q2/79</u>	<u>Q3/79</u>	<u>Q4/79</u>	<u>1979</u>
AMD	8048	N	0	S	3	20	23
Fairchild	F8	N	150	150	180	170	650
	3870	N	40	50	120	300	510
General							
Instrument	PIC-1650	N	300	950	1,250	1,600	4,100
Intel	8048	N	190	390	570	800	1,950
	8748	N	50	75	75	100	300
	8049/39	N	20	30	60	100	210
	8021/22	N	10	20	50	80	160
Motorola	6801/03	N	0	S	3	10	13
	6805	N	0	0	S	3	3
	3870	N	80	125	125	170	500
National	8049/39	N	0	0	S	10	10
NEC	8048/35	N	25	160	250	300	735
	8049/39	N	0	S	100	150	250
Rockwell	6500/1	N	0	S	3	5	8
SGS-ATES	387X	N	5	10	15	20	50
Signetics	8048/35	N	15	30	60	75	180
TCMC (Mostek)	3870	N	260	300	425	485	1,470
	F8	N	<u>90</u>	<u>125</u>	<u>125</u>	<u>130</u>	<u>470</u>
<b>Total 8-Bit MCUs</b>			<b>1,235</b>	<b>2,415</b>	<b>3,414</b>	<b>4,528</b>	<b>11,592</b>

S = Sampled

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 8

**Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1980  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/80</u>	<u>Q2/80</u>	<u>Q3/80</u>	<u>Q4/80</u>	<u>1980</u>
AMD	8048	N	5	38	40	55	138
Fairchild	F8	N	170	150	150	150	620
	3870	N	345	380	550	520	1,795
Fujitsu	8048	N	0	S	50	100	150
	8049	N	0	S	100	200	300
General							
Instrument	PIC-1650	N	1,700	1,700	1,100	1,100	5,600
Intel	8048	N	1,000	1,000	750	1,000	3,750
	8049/39	N	140	175	175	225	715
	8021/22	N	110	200	200	300	810
	8748	N	125	160	140	225	650
Motorola	6801/03	N	15	35	70	75	195
	6805	N	10	50	250	150	460
	3870	N	150	150	160	175	635
National	807X	N	S	5	10	16	31
	8050/40	N	5	10	15	20	50
	8048/35	N	S	5	15	25	45
	8049/39	N	25	40	50	60	175
NEC	8048/35	N	610	470	450	460	1,990
	8021	N	0	S	S	10	10
	8049/39	N	200	250	170	300	920
Philips	8048/35	N	2	5	5	7	19
Rockwell	6500/1	N	8	15	35	50	108
SGS-ATES	387X	N	20	25	30	20	95
Siemens	802XX	N	0	S	5	15	20
Signetics	8048/35	N	60	60	10	5	135
TCMC (Mostek)	3870	N	530	570	455	550	2,105
	F8	N	55	70	45	35	205
Zilog	Z8	N	S	3	5	6	14
<b>Total 8-Bit MCUs</b>			<b>5,285</b>	<b>5,566</b>	<b>5,035</b>	<b>5,854</b>	<b>21,740</b>

S = Sampled

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 9

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1981  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/81</u>	<u>Q2/81</u>	<u>Q3/81</u>	<u>Q4/81</u>	<u>1981</u>
AMD	8048	N	50	50	65	75	240
	8049	N	0	10	10	15	35
Fairchild	F8	N	175	200	210	160	745
	3870	N	900	850	700	650	3,100
Fujitsu	8048	N	100	100	100	100	400
	8049	N	175	250	250	250	925
General Instrument	PIC-1650	N	1,000	1,100	1,025	1,000	4,125
Hitachi	6801/03	N	20	30	60	80	190
	6805	N	45	45	90	120	300
Intel	8751	N	0	0	3	1	4
	8021/22	N	325	350	400	450	1,525
	8749	N	S	S	1	2	3
	8051	N	S	4	9	12	25
	8748	N	200	200	175	200	775
	8048	N	1,100	1,200	1,300	1,200	4,800
	8049/39	N	250	275	325	380	1,230
Motorola	146805	C	4	6	40	45	95
	68701	N	4	5	12	12	33
	6805	N	210	610	755	760	2,335
	6801/03	N	130	210	555	760	1,655
	68705	N	2	12	20	30	64
	3870	N	190	210	200	100	700
National	8050/40	N	45	70	120	170	405
	807X	N	28	12	15	15	70
	8048/35	N	60	100	140	160	460
	8049/39	N	90	140	210	270	710
NEC	8021	N	20	40	30	50	140
	8048/35	N	450	450	400	600	1,900
	8049/39	N	325	350	600	850	2,125
	uPD-78XX	N	40	90	110	250	490
	8748	N	20	50	65	60	195
Philips	8048/35	N	10	60	80	100	250
	8021/22	N	15	25	30	50	120
Rockwell	6500/1	N	100	100	75	70	345
SGS-ATES	387X	N	40	50	80	90	260

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 9 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1981  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/81</u>	<u>Q2/81</u>	<u>Q3/81</u>	<u>Q4/81</u>	<u>1981</u>
Siemens	8048/35	N	S	10	35	40	85
	8021	N	S	5	20	15	40
	802XX	N	20	50	300	350	720
Synertek	Z8	N	0	0	S	2	2
TI	TMS-7000	N	0	2	5	15	22
TCMC (Mostek)	3870	N	755	550	435	745	2,485
	F8	N	50	30	8	22	110
Toshiba	8048/35	N	25	30	35	40	130
	8049/39	N	39	50	60	70	219
Zilog	Z8	N	<u>15</u>	<u>24</u>	<u>100</u>	<u>205</u>	<u>344</u>
Total 8-Bit MCUs			7,027	8,005	9,258	10,641	34,931

S = Sampled

Source: Dataquest  
August 1989



# 8-Bit Microcontrollers--Historical Shipment Data

Table 10

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1982  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>01/82</u>	<u>02/82</u>	<u>03/82</u>	<u>04/82</u>	<u>1982</u>
AMD	8048	N	75	80	80	85	320
	8049	N	15	25	30	35	105
	6805	N	0	S	S	60	60
Eurotechnique	8048/35	N	S	1	3	5	9
	8049/39	N	S	1	10	25	36
	8050/40	N	S	1	50	70	121
Fairchild	3870	N	600	600	250	300	1,750
	F8	N	175	250	220	200	845
Fujitsu	8048	N	90	80	80	85	335
	8049	N	260	260	270	290	1,080
General Instrument	PIC-1650	N	1,100	1,100	1,000	1,000	4,200
Hitachi	6301	C	21	42	63	84	210
	6305	C	14	28	42	56	140
	6801/03	N	125	150	170	190	635
Intel	6805	N	150	195	225	255	825
	8021/22	N	500	600	500	450	2,050
	8048	N	1,300	1,350	1,300	1,250	5,200
	8049/39	N	450	500	450	470	1,870
	8051	N	30	50	80	300	460
	8748	N	230	400	450	450	1,530
	8749	N	30	100	150	170	450
	8751	N	10	10	20	30	70
Matra-Harris	8048	N	0	S	1	5	6
Matsushita	MM1800	N	S	S	7	10	17
Motorola	146805	C	60	65	160	350	635
	3870	N	75	100	130	120	425
	6801/03	N	875	770	775	900	3,320
	6805	N	875	930	1,450	1,520	4,775
	68701	N	18	20	20	20	78
	68705	N	42	40	95	85	262
National	8048/35	N	170	225	300	300	995
	8049/39	N	300	375	200	250	1,125
	8050/40	N	200	260	200	220	880
	807X	N	15	20	8	10	53
	80C48/49	C	0	0	20	40	60

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 10 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1982  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/82</u>	<u>Q2/82</u>	<u>Q3/82</u>	<u>Q4/82</u>	<u>1982</u>
NEC	8021	N	50	50	50	50	200
	9048/35	N	700	700	590	450	2,400
	8049/39	N	1,000	1,200	1,000	1,000	4,200
	80C48/35	C	0	10	110	110	230
	80C49/39	C	0	5	46	100	151
	8748	N	100	160	50	200	510
	8749	N	1	3	5	20	29
	uPD-78XX	N	350	500	600	600	2,050
Oki	80C48	C	0	0	5	20	25
	80C49	C	0	10	40	85	135
Philips	8021/22	N	60	70	70	80	280
	8048/35	N	150	175	225	260	810
	8049/39	N	10	15	30	40	95
	84XX	N	0	S	10	70	80
Rockwell	6500/1	N	70	80	80	85	315
SGS	387X	N	130	180	170	220	700
Sharp	Z8	N	20	25	50	70	165
Siemens	8021	N	20	25	25	25	95
	802XX	N	410	450	470	450	1,780
	8048/35	N	50	70	90	90	300
	8051/31	N	0	S	S	15	15
Signetics	8048/35	N	0	6	55	80	141
	8049/39	N	0	S	10	15	25
	8050/40	N	0	S	2	6	8
Synertek	Z8	N	5	5	30	50	90
TI	TMS-7000	N	35	50	70	100	255
TCMC (Mostek)	3870	N	600	580	450	400	2,030
	F8	N	15	10	6	2	33
Toshiba	8048/35	N	50	115	220	230	615
	8049/39	N	90	140	160	165	555
	80C49/39	C	5	12	50	75	142
Zilog	Z8	N	220	180	140	143	683
Total 8-Bit MCUs			11,946	13,454	13,718	14,996	54,114

S = Sampled

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 11

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1983  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/83</u>	<u>Q2/83</u>	<u>Q3/83</u>	<u>Q4/83</u>	<u>1983</u>
AMD	8048	N	60	50	25	55	190
	8049	N	30	25	25	30	110
	8051	N	1	70	125	180	376
EFCIS	6801/03	N	S	10	20	25	55
	6805	N	S	20	35	45	100
Eurotechnique	8048/35	N	7	9	*	*	16
	8049/39	N	40	55	*	*	95
	8050/40	N	100	125	*	*	225
Fairchild	3870	N	300	350	340	380	1,370
	F8	N	210	220	150	100	680
Fujitsu	8048	N	90	90	85	85	350
	8049	N	320	325	340	340	1,325
General Instrument	PIC-1652/54	N	170	217	220	410	1,017
	PIC-1655/57	N	670	603	766	815	2,854
	PIC-1670-72	N	530	390	466	725	2,111
	PIC-16C58	N	130	290	58	160	638
Gould	6801	N	S	S	S	220	220
	6805	N	40	10	5	65	120
Hitachi	6301	C	150	162	190	220	722
	6305	C	100	120	150	170	540
	6801/03	N	210	235	275	315	1,035
	6805	N	300	335	375	410	1,420
Intel	8021/22	N	425	370	320	280	1,395
	8048	N	1,300	1,300	1,300	1,350	5,250
	8049/39	N	500	510	525	550	2,085
	8050/40	N	S	70	110	120	300
	8051	N	320	610	800	1,800	3,530
	8052/32	N	S	10	12	15	37
	80C48/35	C	3	5	5	5	18
	80C49/39	C	S	40	50	50	140
	80C51/31	C	S	40	50	50	140
	8748	N	470	445	550	600	2,065
	8749	N	180	180	250	350	960
8751	N	35	60	75	150	320	

\*Taken over by Thomson

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 11 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1983  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/83</u>	<u>Q2/83</u>	<u>Q3/83</u>	<u>Q4/83</u>	<u>1983</u>
Matra-Harris	8048	N	7	9	12	20	48
Matsushita	MN1800	N	7	7	7	7	28
Motorola	146805	C	465	440	387	594	1,886
	1468705	C	1	1	1	2	5
	3870	N	75	20	16	15	126
	6801/03	N	910	1,100	2,296	2,805	7,111
	6804	N	0	0	S	S	S
	6805	N	1,520	1,600	2,024	1,790	6,934
	68701	N	65	100	141	58	364
	68705	N	90	150	176	168	584
National	8048/35	N	320	340	375	415	1,450
	8049/39	N	300	320	320	350	1,290
	8050/40	N	275	305	330	360	1,270
	807X	N	15	15	15	15	60
	80C48/49	C	55	50	65	75	245
NCR	6500/1	N	S	25	80	110	215
NEC	8021	N	30	50	85	80	245
	8048/35	N	550	550	700	1,560	3,360
	8049/39	N	1,450	1,600	1,600	1,300	5,950
	80C48/35	C	125	125	210	480	940
	80C49/39	C	100	100	160	290	650
	8748	N	200	400	250	240	1,090
	8749	N	35	100	60	60	255
	uPD-78XX	N	650	1,150	1,300	1,860	4,960
Oki	80C48	C	30	43	50	80	203
	80C49	C	100	137	200	390	827
Philips	8021/22	N	70	90	90	110	360
	8048/35	N	280	200	230	230	940
	8049/39	N	60	60	100	100	320
	8051/31	N	0	5	10	25	40
	84XX	N	190	530	620	600	1,940
RCA	1804A	C	S	S	2	2	4
Rockwell	6500/1	N	150	300	250	230	930
SGS-ATES	387X	N	254	245	300	360	1,159
Sharp	Z8	N	80	150	300	450	980

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 11 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1983  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/83</u>	<u>Q2/83</u>	<u>Q3/83</u>	<u>Q4/83</u>	<u>1983</u>
Siemens	8021	N	25	5	25	5	60
	802XX	N	380	300	300	500	1,480
	8048/35	N	90	50	40	90	270
Signetics	8051/31	N	60	250	300	420	1,030
	8048/35	N	220	265	280	290	1,055
	8049/39	N	110	135	150	150	545
	8050/40	N	90	110	100	100	400
Synertek	8051/31	N	3	3	40	80	126
	Z8	N	60	25	30	20	135
TI	TMS-7000	N	130	175	190	220	715
TCMC (Mostek)	3870	N	430	430	400	400	1,660
	F8	N	50	45	25	70	190
Toshiba	8048/35	N	280	340	400	420	1,440
	8049/39	N	250	270	300	410	1,230
	80C49/39	C	120	190	300	240	850
Zilog	Z8	N	<u>150</u>	<u>190</u>	<u>211</u>	<u>300</u>	<u>851</u>
Total 8-Bit MCUs			17,598	20,451	23,550	29,016	90,615

S = Sampled

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 12

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1984  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/84</u>	<u>Q2/84</u>	<u>Q3/84</u>	<u>Q4/84</u>	<u>1984</u>
AMD	8048	N	35	5	0	0	40
	8049	N	5	5	0	0	10
	8051	N	385	575	900	400	2,260
AMI	6801	N	240	260	280	300	1,080
	6805	N	105	105	150	180	540
Fairchild	387X	N	346	282	285	162	1,075
	F8	N	26	19	20	9	74
Fujitsu	8048	N	90	95	120	120	425
	8049	N	350	360	400	400	1,510
General	7000/1	N	0	1	5	4	10
Instrument	7020/40	N	0	15	20	22	57
	7041	N	0	5	5	3	13
	PIC-1652/54	N	425	435	435	355	1,650
	PIC-1655/57	N	975	1,150	1,200	980	4,305
	PIC-1670-72	N	775	780	780	640	2,975
Hitachi	PIC-16C58	N	165	110	110	90	475
	6301V	C	300	325	367	480	1,472
	6305	C	200	215	215	320	950
	6801/03	N	360	400	572	570	1,902
	6805	N	490	570	856	850	2,766
Intel	802X	N	250	250	300	250	1,050
	8048/35	N	1325	1,000	800	700	3,825
	8049/39	N	560	900	800	700	2,960
	8050/40	N	130	130	130	100	490
	8051/31	N	2300	3,800	3,600	3,200	12,900
	8052/32	N	18	50	65	80	213
	80C48/35	C	5	5	0	0	10
	80C49/39	C	55	55	60	60	230
	80C51/31	C	50	50	80	85	265
	8748	N	625	625	625	625	2,500
	8749	N	390	390	600	650	2,030
	8751	N	200	200	200	195	795
Intersil	80C48/35	C	0	0	12	32	44

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 12 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1984  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/84</u>	<u>Q2/84</u>	<u>Q3/84</u>	<u>Q4/84</u>	<u>1984</u>
Matra-Harris	8048	N	30	40	40	20	130
	8051	N	20	15	250	350	635
	80C48	C	0	0	10	10	20
Matsushita	MN1800	N	10	10	10	10	40
Motorola	146805	C	790	1,109	1,238	1,252	4,389
	1468705	C	4	4	19	7	34
	387X	N	10	11	16	23	60
	6801/03	N	2,151	2,055	1,849	1,865	7,920
	6804	N	0	0	7	29	36
	6805	N	1,993	1,772	2,379	2,188	8,332
	68701	N	50	56	56	37	199
	68705	N	358	493	535	518	1,904
	68HC11	C	0	0	0	3	3
	National	8048/35	N	575	600	800	800
8049/39		N	390	400	700	700	2,190
8050/40		N	465	475	500	500	1,940
807X		N	10	10	10	5	35
80C48/35		C	30	10	0	0	40
NCR	6500/1	N	150	150	150	150	600
NEC	8021/22	N	100	110	130	130	470
	8041	C	0	0	1,110	1,110	2,220
	8741	C	0	0	190	190	380
	8048/35	N	1,970	2,190	2,350	1,240	7,750
	8049/39	N	2,050	1,360	1,900	1,900	7,210
	80C48/35	C	570	610	420	420	2,020
	80C49/39	C	410	360	500	500	1,770
	8748	N	520	620	550	360	2,050
	8749	N	230	200	290	290	1,010
	uPD-78XX	N	2,360	2,880	3,270	3,270	11,780
Oki	80C48/35	C	100	120	140	90	450
	80C49/39	C	450	500	560	450	1,960
Philips	8021/22	N	160	150	170	170	650
	8048/35	N	460	650	1,000	1,000	3,110
	8049/39	N	380	650	900	1,000	2,930
	8050/40	N	0	0	0	10	10

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 12 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments by Quarter for 1984  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/84</u>	<u>Q2/84</u>	<u>Q3/84</u>	<u>Q4/84</u>	<u>1984</u>
Philips	.80C49	C	0	0	0	3	3
(Continued)	8051/31	N	60	300	400	400	1,160
	84XX	N	500	400	700	900	2,500
RCA	1804A	C	2	5	6	10	23
	6805	N	0	1	1	5	7
Rockwell	6500/1	N	325	475	350	200	1,350
SGS	387X	N	375	344	420	350	1,489
	Z8	N	0	110	0	13	123
Sharp	Z8	N	475	475	500	500	1,950
Siemens	8021	N	5	6	9	8	28
	802XX	N	306	221	306	265	1,098
	8048/35	N	91	141	108	65	405
	8051/31	N	522	533	662	665	2,382
Signetics	8048/35	N	540	1,263	1,386	1,420	4,609
	8049/39	N	150	162	244	390	946
	8050/40	N	100	90	85	80	355
	8051/31	N	85	125	692	890	1,792
Synertek	Z8	N	9	9	4	2	24
TI	TMS-7000	N	240	250	250	250	990
Thomson	6801/03	N	30	30	15	75	150
	6805	N	50	120	130	300	600
TCMC (Mostek)	387X	N	375	400	300	350	1,425
	38P7X	N	0	0	58	90	148
	F8	N	40	40	40	75	195
Toshiba	8048/35	N	400	480	1,300	1,500	3,680
	8049/39	N	500	500	1,300	1,600	3,900
	80C49/39	C	280	290	750	850	2,170
Zilog	Z8	N	435	675	450	495	2,055
Total 8-Bit MCUs			33,871	38,222	46,507	44,910	163,510

Source: Dataquest  
August 1989



# 8-Bit Microcontrollers--Historical Shipment Data

Table 13

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	PIC1652/54	N	350	400	425	340	1,515
Instrument	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	576
	6805	N	175	158	32	37	402
Hitachi	6301V	C	420	425	383	780	2,008
	6305	C	280	290	261	555	1,386
	6801/03	N	385	400	360	370	1,515
	6805	N	552	560	625	1,165	2,902
Intel	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
	8751	N	275	200	248	120	843
Intersil	80C48/35	C	8	8	7	7	30
	80C49/39	C	3	2	2	2	9

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 13 (Continued)

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

	Product	Process	Q1/85	Q2/85	Q3/85	Q4/85	1985
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
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
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--Historical Shipment Data

Table 13 (Continued)

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

	Product	Process	Q1/85	Q2/85	Q3/85	Q4/85	1985
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  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 14

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--Historical Shipment Data

Table 14 (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--Historical Shipment Data

Table 14 (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  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 15

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
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--Historical Shipment Data

Table 15 (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--Historical Shipment Data

Table 15 (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
	8441	C	0	36	44	48	128
	87C451	C	0	2	3	5	10

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 15 (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	79,124	89,312	91,173	333,490

**\*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.

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

Source: Dataquest  
August 1989

# 8-Bit Microcontrollers--Historical Shipment Data

Table 16

**Estimated 8-Bit Microcontroller Unit Shipments  
by Quarter for 1988  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/88</u>	<u>Q2/88</u>	<u>Q3/88</u>	<u>Q4/88</u>	<u>1988</u>
AMD	8051/31	N	600	570	540	400	2,110
	8053	N	120	110	140	140	510
	80C51/31	C	180	220	230	425	1,055
	8751	N	45	52	55	65	217
	8753	N	30	33	35	47	145
Fujitsu	8048/35	N	10	10	10	10	40
	8049/39	N	20	22	24	24	90
	8051/31	N	20	23	23	26	92
	80C49/39	C	55	55	55	55	220
	MB897XX	C	320	350	380	421	1,471
Harris(GE- SS/RCA)	68HC05	C	225	350	275	580	1,430
Hitachi	6301	C	2,700	2,900	3,000	3,000	11,600
	6305	C	2,500	2,800	2,950	2,950	11,200
	63701	C	685	695	700	700	2,780
	63705	C	470	480	485	485	1,920
	63P01	C	240	260	270	270	1,040
	63P05	C	325	360	370	370	1,425
	6801/03	N	1,350	1,410	1,450	1,450	5,660
	6805	N	2,100	2,110	2,140	2,140	8,490
	68P01	N	225	235	242	242	944
	68P05	N	230	250	265	265	1,010
Intel	8048/35	N	300	400	500	300	1,500
	8049/39	N	3,300	3,400	3,100	3,300	13,100
	8050/40	N	400	200	300	300	1,200
	8051/31	N	3,800	3,700	3,400	2,900	13,800
	8052/32	N	1,000	1,300	1,500	2,000	5,800
	80C51/31	C	1,200	1,400	1,600	2,000	6,200
	8748	N	200	200	200	200	800
	8749	N	800	900	1,000	800	3,500
	8751	N	200	300	300	200	1,000
	8752	C	50	100	100	100	350
	87C51	C	100	100	100	200	500

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 16 (Continued)

**Estimated 8-Bit Microcontroller Unit Shipments  
by Quarter for 1988  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/88</u>	<u>Q2/88</u>	<u>Q3/88</u>	<u>Q4/88</u>	<u>1988</u>
Matra-Harris	8051/31	N	48	24	16	10	98
	8052/32	N	246	200	105	161	712
	80C51/31	C	419	540	620	611	2,190
	80C52/32	C	80	150	208	222	660
	83C154	C	0	20	41	55	116
Matsushita	MN1800	C	460	730	1,030	2,400	4,620
Microchip Technology	PIC1652/54	N	1,000	1,285	1,472	1,485	5,242
	PIC1655/57	N	250	202	221	230	903
	PIC1670/72	N	100	76	60	50	286
Mitsubishi	PIC70XX	N	410	276	304	0	990
	8048/35	N	30	70	50	35	185
	8049/39	N	430	370	230	100	1,130
	8050/40	N	25	49	50	30	154
	80C49/39	C	200	140	100	250	690
Motorola	M507XX	C	5,800	6,600	6,700	6,700	25,800
	M509XX	C	5,800	5,800	7,500	7,500	26,600
	146805	C	1,587	1,694	1,942	1,375	6,598
	6801/03	N	2,045	1,960	2,134	2,114	8,253
	6804	N	1,012	828	1,040	1,020	3,900
	6805	N	5,859	7,032	7,226	6,925	27,042
	68HC05	C	2,004	2,900	4,009	3,763	12,676
	68HC11	C	1,870	2,077	2,513	2,929	9,389
National	8048/35	N	80	100	50	85	315
	8049/39	N	430	500	550	470	1,950
	8050/40	N	650	725	625	210	2,210
	COP800	C	300	300	650	305	1,555
	F8	N	20	10	10	5	45
NCR	6500/1	N	150	250	285	62	747
	6500/11	N	2	200	136	33	371
NEC	8021/22	N	10	10	25	25	70
	8041	N	420	350	260	260	1,290
	8048/35	N	880	400	790	500	2,570
	8049/39	N	730	850	950	830	3,360
	80C48/35	C	210	210	160	160	740
	80C49/39	C	750	950	930	800	3,430

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 16 (Continued)

**Estimated 8-Bit Microcontroller Unit Shipments  
by Quarter for 1988  
(Thousands of Units)**

	<u>Product</u>	<u>Process</u>	<u>Q1/88</u>	<u>Q2/88</u>	<u>Q3/88</u>	<u>Q4/88</u>	<u>1988</u>
NEC (Cont.)	8741	N	120	90	80	80	370
	8748	N	120	170	180	180	650
	8749	N	320	510	500	490	1,820
	uPD78XX	N	7,050	8,300	8,430	8,430	32,210
Oki	80C154	C	350	360	420	500	1,630
	80C48/35	C	90	95	90	110	385
	80C49/39	C	800	812	890	960	3,462
	80C51/31	C	650	670	950	830	3,100
Philips	8021/22	N	10	5	0	0	15
	8048/35	N	60	60	45	50	215
	8049/39	N	420	370	220	220	1,230
	8050/40	N	95	60	30	30	215
	8051/31	N	450	350	300	300	1,400
	80C49/39	C	170	170	160	165	665
	80C51/31	C	270	250	350	350	1,220
	84CXX	C	350	550	800	820	2,520
Rockwell	84XX	N	2,150	2,400	2,500	2,530	9,580
	6500/XX	N	1,800	1,930	200	300	4,230
SGS-Thomson	387X	N	1,097	848	760	531	3,236
	38P7X	N	18	26	33	33	110
	6801/03	N	362	494	408	565	1,829
	6805	N	754	739	644	660	2,797
	F8	N	11	10	0	0	21
	Z8	N	136	148	89	71	444
	SM (8-Bit)	C	125	100	100	100	425
Sharp	Z8	N	125	100	100	100	425
	802XX	N	24	11	12	19	66
Siemens	8048/35	N	325	387	308	325	1,345
	8051/31	N	1,176	1,477	1,231	1,239	5,123
	8051S/35	N	304	411	536	723	1,974
	8052/32	N	643	722	565	712	2,642

(Continued)

# 8-Bit Microcontrollers--Historical Shipment Data

Table 16 (Continued)

Estimated 8-Bit Microcontroller Unit Shipments  
by Quarter for 1988  
(Thousands of Units)

	<u>Product</u>	<u>Process</u>	<u>Q1/88</u>	<u>Q2/88</u>	<u>Q3/88</u>	<u>Q4/88</u>	<u>1988</u>
Signetics	8048/35	N	8	0	0	10	18
	8049/39	N	497	634	718	600	2,449
	8050/40	N	273	126	149	150	698
	8051/31	N	950	1,057	1,081	950	4,038
	8052/32	N	220	468	790	480	1,958
	80C451	C	26	6	13	10	55
	80C51/31	C	299	415	499	440	1,653
	8400	N	10	0	0	0	10
	8441	C	16	2	0	0	18
	87C451	C	4	0	5	6	15
TI	TMS7000	N	1,600	2,200	2,600	2,800	9,200
Toshiba	8048/35	N	220	220	225	225	890
	8049/39	N	370	370	375	370	1,485
	80C48/35	C	800	800	800	800	3,200
	80C49/39	C	1,000	1,050	1,050	1,100	4,200
	80C50/40	C	200	200	205	215	820
	TLCS-90	C	50	150	250	400	850
Zilog	Z8	N	925	1,300	1,500	1,300	5,025
Others**	Unspecified	C	<u>18,500</u>	<u>18,500</u>	<u>18,500</u>	<u>18,500</u>	<u>74,000</u>
Total 8-Bit MCUs			104,450	113,296	118,422	117,854	454,022

**\*Mergers/Acquisitions:**

1. Harris acquired GE Solid State and RCA, 1988.

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

Source: Dataquest  
August 1989