

## 4-Bit Microcontrollers--Historical Shipment Data

The following section, 4-Bit Microcontroller Data Tables, includes historical microcontroller unit shipments by year, manufacturer, product name, and process technology.

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# 4-Bit Microcontrollers--Historical Shipment Data

**Table 1**

**Estimated 4-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>
Gould/AMI	S2000	N	0	0	0	29	1,425
Hitachi	HMCS-40	P/N/C	0	0	0	410	655
Matsushita	MN1400	P/N/C	0	0	0	0	4,400
Motorola	141000	C	0	0	0	20	285
National	COPS	N/C	0	0	0	2,325	5,600
NEC	uCOM-4	P/C	0	0	0	1,500	7,800
Rockwell	PPS-4	P/N	450	450	575	2,275	3,900
Sharp	SM-3	P	0	0	0	0	360
TI	TMS1000	P/C	<u>50</u>	<u>310</u>	<u>2,825</u>	<u>9,400</u>	<u>26,100</u>
<b>Total 4-Bit MCUs</b>			<b>500</b>	<b>760</b>	<b>3,400</b>	<b>15,959</b>	<b>50,525</b>

Source: Dataquest  
July 1989

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Table 2

**Estimated 4-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>
Eurotechnique	COPS	N/C	0	0	190	840	0
Fujitsu	MB884X	N	0	9,200	9,900	7,500	6,100
	MB885X	C	185	2,050	3,150	3,110	2,720
Gould/AMI	S2000	N	1,120	390	566	115	0
Hitachi	HMCS-40	P/N/C	1,425	19,000	20,600	20,600	22,400
Matsushita	MN1400	P/N/C	10,300	11,250	14,580	18,420	20,400
	MN1500	N	20	1,250	1,620	6,360	8,600
Motorola	141000	C	240	149	112	130	80
National	COPS	N/C	11,500	11,500	16,200	21,000	26,700
NEC	uCOM-4	P/C	14,800	19,800	25,700	21,000	16,930
	uPD75XX	C	0	3,200	8,000	15,100	31,500
Oki	Series-40	C	90	550	2,450	5,480	6,400
Rockwell	PPS-4	P/N	5,800	2,500	1,675	1,800	2,135
SGS-Thomson	COPS	N	0	0	0	0	2,790
Sharp	SM-3	P	600	920	990	840	800
	SM-4	C	1,200	1,600	1,950	1,750	1,840
	SM-5	C	4,800	10,690	9,400	10,350	12,190
TI	TMS1000	P/C	44,000	39,500	26,000	11,900	8,300
Toshiba	T-Series	C	0	0	8,300	9,800	6,000
	TLCS-43	N	0	0	3,300	9,200	8,000
	TLCS-46	C	0	0	2,900	3,580	3,250
	TLCS-47	N	0	0	600	3,070	6,300
<b>Total 4-Bit MCUs</b>			<b>96,080</b>	<b>133,549</b>	<b>158,183</b>	<b>171,945</b>	<b>193,435</b>

Source: Dataquest  
July 1989

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**Table 3**  
**Estimated 4-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>
Fujitsu	MB882XX	C	0	0	760	1,400
	MB8840X	N	0	0	1,843	1,910
	MB884X	N	5,634	6,580	7,160	6,840
	MB8850X	C	0	0	485	3,500
	MB885X	C	2,156	3,425	3,742	3,990
Hitachi	HMCS-40	P/N/C	22,352	21,919	25,900	21,500
	HMCS-400	C	N/A	N/A	32,100	26,500
Matsushita	MN1400	P/N/C	20,600	17,420	11,875	8,400
	MN1500	N	11,300	27,680	42,090	49,580
	MN1700	C	0	0	2,085	4,700
Mitsubishi	M5043X/44X	C	0	0	13,995	13,200
	M5046X/56X	C	0	0	13,105	19,800
	M5072/76	C	0	0	15,054	14,100
	M509X	C	0	0	2,056	6,430
	M50XXX	C	0	27,844	0	N/A
Motorola	141000	C	4	0	0	0
National	COPS	N/C	23,500	31,273	31,970	30,450
NEC	uCOM-4	P/C	9,920	5,700	3,680	6,450
	uCOM75X	N/C	0	3,900	16,810	17,850
	uPD75XX	C	31,590	41,920	47,670	63,600
Oki	Series-40	C	6,614	7,217	6,689	7,580
Rockwell	PPS-4	P/N	1,400	1,160	790	325
SGS-Thomson	COPS	N	5,242	6,330	7,515	8,850
Sharp	SM-Series*	C	10,370	9,140	9,510	21,750
TI	TMS1000	P/C	3,900	16,025	13,400	7,800
Toshiba	T-Series	C	5,580	4,600	6,265	14,050
	TLCS-42	N/C	1,250	3,850	4,060	4,650
	TLCS-43	N	5,672	2,600	2,209	4,650
	TLCS-46	C	2,198	400	202	480
	TLCS-47	N	7,756	7,200	5,935	9,890
	TLCS-47	C	0	15,300	17,497	32,250
	TLCS-470	C	0	400	1,360	100
	Others**	Unspecified	C	0	10,000	44,520
<b>Total 4-Bit MCUs</b>			<b>177,038</b>	<b>271,883</b>	<b>392,332</b>	<b>501,075</b>

\*Sharp SM-Series totaled in 1985.

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

N/A = Not Available

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

**Table 4**

**Estimated 4-Bit Microcontroller Unit Shipments by Quarter  
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>
Rockwell	PPS-4	P	450	100	110	120	120	450
TI	TMS-1000	P/C	<u>50</u>	<u>60</u>	<u>75</u>	<u>75</u>	<u>100</u>	<u>310</u>
<b>Total 4-Bit MCUs</b>			<b>500</b>	<b>160</b>	<b>185</b>	<b>195</b>	<b>220</b>	<b>760</b>

Source: Dataquest  
July 1989

**Table 5**

**Estimated 4-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>
Rockwell	PPS-4	P	145	145	140	145	575
TI	TMS-1000	P/C	<u>225</u>	<u>400</u>	<u>1,000</u>	<u>1,200</u>	<u>2,825</u>
<b>Total 4-Bit MCUs</b>			<b>370</b>	<b>545</b>	<b>1,140</b>	<b>1,345</b>	<b>3,400</b>

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

**Table 6**

**Estimated 4-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>
Gould	S2000	N	0	9	8	12	29
Hitachi	HMCS-40	P/N/C	85	95	110	120	410
Motorola	141000	C	0	0	5	15	20
National	COPS	C/N	300	500	675	850	2,325
NEC	UCOM-4	P/C	150	225	525	600	1,500
Rockwell	PPS-4	P	400	550	675	650	2,275
TI	TMS-1000	P/C	<u>1,400</u>	<u>1,800</u>	<u>3,000</u>	<u>3,200</u>	<u>9,400</u>
<b>Total 4-Bit MCUs</b>			<b>2,335</b>	<b>3,179</b>	<b>4,998</b>	<b>5,447</b>	<b>15,959</b>

Source: Dataquest  
July 1989

**Table 7**

**Estimated 4-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>
Gould	S2000	N	50	300	675	400	1,425
Hitachi	HMCS-40	P/N/C	130	150	175	200	655
Matsushita	MN1400	P/N/C	500	800	1,400	1,700	4,400
Motorola	141000	C	30	75	90	90	285
National	COPS	C/N	900	1,100	1,500	2,100	5,600
NEC	UCOM-4	P/C	1,100	1,300	2,300	3,100	7,800
Rockwell	PPS-4	P	600	1,100	1,100	1,100	3,900
Sharp	SM-3	P	*	*	*	*	360
TI	TMS-1000	P/C	<u>4,200</u>	<u>5,400</u>	<u>7,500</u>	<u>9,000</u>	<u>26,100</u>
<b>Total 4-Bit MCUs</b>			<b>7,510</b>	<b>10,225</b>	<b>14,740</b>	<b>17,690</b>	<b>50,525</b>

\*No quarterly data available for Sharp SM-3.

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

**Table 8**

**Estimated 4-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>
Fujitsu	8850	C	10	25	50	100	185
Gould	S2000	N	180	340	490	110	1,120
Hitachi	HMCS-40	P/N/C	225	300	400	500	1,425
Matsushita	MN1400	P/N/C	2,200	3,000	3,000	2,100	10,300
	MN1500	N	0	0	S	20	20
Motorola	141000	C	70	50	60	60	240
National	COPS	C/N	2,700	3,200	2,800	2,800	11,500
NEC	UCOM-4	P/C	3,300	4,200	4,000	3,300	14,800
Oki	Series-40	C	10	15	25	40	90
Rockwell	PPS-4	P	1,400	1,700	1,700	1,000	5,800
Sharp	SM-3	P	120	140	160	180	600
	SM-4	C	250	280	320	350	1,200
	SM-5	C	490	800	1,550	1,960	4,800
TI	TMS-1000	P/C	<u>11,000</u>	<u>12,500</u>	<u>10,000</u>	<u>10,500</u>	<u>44,000</u>
<b>Total 4-Bit MCUs</b>			<b>21,955</b>	<b>26,550</b>	<b>24,555</b>	<b>23,020</b>	<b>96,080</b>

S = Sampled

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

**Table 9**

**Estimated 4-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>
Eurotech.	COP	C/N	0	0	0	S	S
Fujitsu	884X	N	1,600	2,300	2,500	2,800	9,200
	8850	C	200	500	600	750	2,050
Gould	S2000	N	100	100	100	90	390
Hitachi	HMCS-40	P/N/C	3,000	4,400	6,000	5,600	19,000
Matsushita	MN1400	P/N/C	2,340	2,610	3,240	3,060	11,250
	MN1500	N	260	290	360	340	1,250
Motorola	141000	C	40	80	10	19	149
National	COPS	C/N	2,500	2,600	3,000	3,400	11,500
NEC	UCOM-4	P/C	4,000	5,100	4,900	5,800	19,800
	uPD-75XX	C	0	0	1,500	1,700	3,200
Oki	Series-40	C	75	120	155	200	550
Rockwell	PPS-4	P	900	700	500	400	2,500
Sharp	SM-3	P	200	230	250	240	920
	SM-4	C	380	400	420	400	1,600
	SM-5	C	2,490	2,800	2,800	2,600	10,690
TI	TMS-1000	P/C	<u>10,000</u>	<u>10,000</u>	<u>10,500</u>	<u>9,000</u>	<u>39,500</u>
<b>Total 4-Bit MCUs</b>			<b>28,085</b>	<b>32,230</b>	<b>36,835</b>	<b>36,399</b>	<b>133,549</b>

S = Sampled

Source: Dataquest  
July 1989



# 4-Bit Microcontrollers--Historical Shipment Data

Table 10

Estimated 4-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>
Eurotech.	COP	C/N	S	S	80	110	190
Fujitsu	884X	N	2,800	2,500	2,300	2,300	9,900
	8850	C	800	800	750	800	3,150
Gould	S2000	N	100	200	185	81	566
Hitachi	HMCS-40	P/N/C	6,000	5,600	4,600	4,400	20,600
Matsushita	MN1400	P/N/C	3,420	3,730	3,830	3,600	14,580
	MN1500	N	380	410	420	410	1,620
Motorola	141000	C	20	28	25	39	112
National	COPS	C/N	3,000	3,500	4,700	5,000	16,200
NEC	UCOM-4	P/C	6,000	7,200	7,000	5,000	25,700
	uPD-75XX	C	1,800	1,800	2,200	2,200	8,000
Oki	Series-40	C	250	420	830	950	2,450
Rockwell	PPS-4	P	425	350	500	400	1,675
Sharp	SM-3	P	250	260	240	240	990
	SM-4	C	500	550	450	450	1,950
	SM-5	C	2,500	2,500	2,200	2,200	9,400
TI	TMS-1000	P/C	8,000	7,000	6,000	5,000	26,000
Toshiba	T Series	C	1,200	2,000	2,500	2,600	8,300
	TLCS-43	N	500	600	700	1,500	3,300
	TLCS-46	C	500	600	1,100	700	2,900
	TLCS-47	C/N	<u>50</u>	<u>100</u>	<u>250</u>	<u>200</u>	<u>600</u>
Total 4-Bit MCUs			38,995	40,148	40,860	38,180	158,183

S = Sampled

Source: Dataquest  
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# 4-Bit Microcontrollers--Historical Shipment Data

Table 11

Estimated 4-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>
Eurotech.	COP	C/N	130	160	250	300	840
Fujitsu	884X	N	2,100	1,900	1,750	1,750	7,500
	8850	C	775	775	780	780	3,110
Gould	S2000	N	40	40	30	5	115
Hitachi	HMCS-40	P/N/C	4,800	4,800	5,400	5,600	20,600
Matsushita	MN1400	P/N/C	4,100	4,480	4,940	4,900	18,420
	MN1500	N	710	1,500	2,100	2,050	6,360
Motorola	141000	C	35	36	36	23	130
National	COPS	C/N	4,500	5,500	5,500	5,500	21,000
NEC	UCOM-4	P/C	5,000	5,000	5,500	5,500	21,000
	uPD-75XX	C	2,500	2,900	4,500	5,200	15,100
Oki	Series-4	C	1,100	1,380	1,500	1,500	5,480
Rockwell	PPS-4	P	350	550	600	300	1,800
Sharp	SM-3	P	220	220	200	200	840
	SM-4	C	425	450	425	450	1,750
	SM-5	C	2,400	2,500	2,650	2,800	10,350
TI	TMS-1000	P/C	4,000	3,000	2,500	2,400	11,900
Toshiba	T Series	C	3,100	2,400	2,500	1,800	9,800
	TLCS-43	N	2,200	2,200	2,400	2,400	9,200
	TLCS-46	C	800	800	1,000	980	3,580
	TLCS-47	C/N	350	600	800	1,320	3,070
Total 4-Bit MCUs			39,635	41,191	45,361	45,758	171,945

Source: Dataquest  
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## 4-Bit Microcontrollers--Historical Shipment Data

Table 12

Estimated 4-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>
Fujitsu	884X	N	1,600	1,500	1,500	1,500	6,100
	8850	C	770	750	650	550	2,720
Hitachi	HMCS-40	P/N/C	5,600	5,600	5,600	5,600	22,400
Matsushita	MN1400	P/N/C	5,200	5,200	5,000	5,000	20,400
	MN1500	N	2,100	2,300	2,100	2,100	8,600
Motorola	141000	C	40	24	11	5	80
National	COPS	C/N	6,100	6,100	8,000	6,500	26,700
NEC	UCOM-4	P/C	4,910	4,340	3,840	3,840	16,930
	uPD-75XX	C	5,510	7,570	9,210	9,210	31,500
Oki	Series-40	C	1,600	1,600	1,600	1,600	6,400
Rockwell	PPS-4	P	415	370	600	750	2,135
Sharp	SM-3	P	200	200	200	200	800
	SM-4	C	460	460	460	460	1,840
	SM-5	C	3,000	3,190	3,000	3,000	12,190
TI	TMS-1000	P/C	2,200	2,100	2,000	2,000	8,300
Thomson	COPS	C/N	300	560	730	1,200	2,790
Toshiba	T Series	C	1,400	1,500	1,600	1,500	6,000
	TLCS-43	N	2,400	2,400	1,600	1,600	8,000
	TLCS-46	C	1,000	1,000	600	650	3,250
	TLCS-47	C/N	<u>1,400</u>	<u>1,400</u>	<u>1,700</u>	<u>1,800</u>	<u>6,300</u>
Total 4-Bit MCUs			46,205	48,164	50,001	49,065	193,435

Source: Dataquest  
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# 4-Bit Microcontrollers--Historical Shipment Data

Table 13

Estimated 4-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>
Fujitsu	884X	N	1,450	1,392	1,392	1,400	5,634
	8850	C	550	528	528	550	2,156
Hitachi	HMCS-40	P/N/C	5,600	5,376	5,376	6,000	22,352
Matsushita	MN1400	P/N/C	5,000	4,800	4,800	6,000	20,600
	MN1500	N	2,100	2,100	2,800	4,300	11,300
Motorola	141000	C	4	0	0	0	4
National	COPS	C/N	6,500	6,000	5,800	5,200	23,500
NEC	UCOM-4	P/C	3,250	2,730	2,330	1,610	9,920
	uPD-75XX	C	7,180	8,170	8,550	7,690	31,590
Oki	Series-40	C	1,700	1,632	1,632	1,650	6,614
Rockwell	PPS-4	P	400	300	360	340	1,400
Sharp	SM SERIES	C	2,490	2,490	2,695	2,695	10,370
TI	TMS-1000	P/C	1,000	950	950	1,000	3,900
Thomson	COPS	C/N	1,350	1,296	1,296	1,300	5,242
Toshiba	T Series	C	1,500	1,440	1,440	1,200	5,580
	TLCS-42	N/C	0	0	350	900	1,250
	TLCS-43	N	1,600	1,536	1,536	1,000	5,672
	TLCS-46	C	650	624	624	300	2,198
	TLCS-47	C/N	<u>1,800</u>	<u>1,728</u>	<u>1,728</u>	<u>2,500</u>	<u>7,756</u>
Total 4-Bit MCUs			44,124	43,092	44,187	45,635	177,038

Source: Dataquest  
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## 4-Bit Microcontrollers--Historical Shipment Data

Table 14

Estimated 4-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>
Fujitsu	884X	N	1,535	1,620	1,680	1,745	6,580
	885X	C	720	860	900	945	3,425
Hitachi	HMCS-40	P/N/C	6,010	5,500	5,174	5,235	21,919
Matsushita	MN1400	P/N/C	4,500	4,000	4,600	4,320	17,420
	MN1500	N	5,700	7,100	7,480	7,400	27,680
Mitsubishi	50XXX	C	5,994	7,450	6,500	7,900	27,844
National	COPS	C/N	5,950	6,928	8,435	9,960	31,273
NEC	UCOM-4	P/C	1,500	1,250	1,570	1,380	5,700
	UCOM-75X	C	0	0	1,750	2,150	3,900
	uPD-75XX	C	8,470	10,420	11,920	11,110	41,920
Oki	Series-40	C	1,860	1,900	1,820	1,637	7,217
Rockwell	PPS-4	P	400	300	210	250	1,160
Sharp	SM SERIES	C	2,700	2,030	2,150	2,260	9,140
TI	TMS-1000	P/C	4,000	4,170	3,845	4,010	16,025
Thomson	COPS	C/N	1,405	1,450	1,675	1,800	6,330
Toshiba	T Series	C	900	1,100	1,200	1,400	4,600
	TLCS-42	N/C	850	1,000	1,000	1,000	3,850
	TLCS-43	N	700	850	650	400	2,600
	TLCS-46	C	200	100	50	50	400
	TLCS-47	C/N	4,400	5,200	6,700	6,200	22,500
	TLCS-470	C	0	0	100	300	400
Others*	Unspecified	C	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>	<u>2,500</u>	<u>10,000</u>
Total 4-Bit MCUs			60,294	65,728	71,909	73,952	271,883

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

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

Table 15

Estimated 4-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>
Fujitsu	882XX	C	120	150	225	265	760
	884X	N	1,705	1,765	1,800	1,890	7,160
	884XX	N	410	450	478	505	1,843
	885X	C	882	905	940	1,015	3,742
	885XX	C	100	110	125	150	485
Hitachi	HMCS-40	P/N/C	6,300	6,405	6,520	6,675	25,900
	HMCS-400	C	7,600	8,000	8,000	8,500	32,100
Matsushita	MN1400	P/N/C	4,500	3,500	1,885	1,990	11,875
	MN1500	N	7,250	11,000	11,600	12,240	42,090
	MN1700	C	0	0	1,015	1,070	2,085
Mitsubishi	M5043X/44X	C	3,393	3,294	3,767	3,541	13,995
	M5046X/56X	C	2,141	3,213	3,996	3,755	13,105
	M5072/76	C	2,701	2,908	4,337	5,108	15,054
	M509X	C	156	152	727	1,021	2,056
National	COPS	N/C	8,770	8,500	8,200	6,500	31,970
NEC	uCOM-4	P/C	970	110	1,300	1,300	3,680
	uCOM75X	N/C	3,500	4,610	5,000	3,700	16,810
	uPD75XX	C	11,000	10,970	13,500	12,200	47,670
Oki	Series-40	C	1,650	1,584	1,740	1,715	6,689
Rockwell	PPS-4	P/N	185	155	150	300	790
Sharp	SM-Series	C	2,170	1,820	2,170	3,350	9,510
TI	TMS1000	P/C	4,400	4,500	2,900	1,600	13,400
SGS-Thomson	COPS	N	1,810	1,880	1,925	1,900	7,515
Toshiba	T-Series	C	1,600	1,460	1,580	1,625	6,265
	TLCS-42	N/C	1,000	1,100	980	980	4,060
	TLCS-43	N	550	560	574	525	2,209
	TLCS-46	C	50	62	48	42	202
	TLCS-47	N	1,600	1,500	1,475	1,360	5,935
	TLCS-47	C	4,300	4,220	4,405	4,572	17,497
	TLCS-470	C	300	340	350	370	1,360
	Others*	Unspecified	C	<u>11,130</u>	<u>11,130</u>	<u>11,130</u>	<u>11,130</u>
Total 4-Bit MCUs			92,243	96,353	102,842	100,894	392,332

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

Source: Dataquest  
July 1989

# 4-Bit Microcontrollers--Historical Shipment Data

Table 16

Estimated 4-Bit Microcontroller 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>
Fujitsu	MB882XX	C	320	350	380	350	1,400
	MB8840X	N	400	450	500	560	1,910
	MB884X	N	1,640	1,650	1,750	1,800	6,840
	MB8850X	C	700	900	900	1,000	3,500
	MB885X	C	900	900	1,000	1,190	3,990
Hitachi	HMCS-40	P/N/C	6,500	5,000	5,000	5,000	21,500
	HMCS-400	C	8,500	6,000	6,000	6,000	26,500
Matsushita	MN1400	P/N/C	2,100	2,200	2,000	2,100	8,400
	MN1500	N	12,180	13,370	11,730	12,300	49,580
	MN1700	C	1,100	1,300	1,100	1,200	4,700
Mitsubishi	M5043X/44X	C	3,000	3,500	3,300	3,400	13,200
	M5046X/56X	C	4,900	5,300	5,600	4,000	19,800
	M5072/76	C	2,900	3,300	4,100	3,800	14,100
	M509X	C	530	1,600	2,100	2,200	6,430
National	COP400	N/C	7,550	7,500	7,300	8,100	30,450
NEC	uCOM-4	P/C	2,700	1,350	1,300	1,100	6,450
	uCOM75X	N/C	4,050	4,350	4,750	4,700	17,850
	uPD75XX	C	13,050	14,750	18,200	17,600	63,600
Oki	SERIES-40	C	1,600	1,680	2,000	2,300	7,580
Rockwell	PPS-4	P	150	70	55	50	325
SGS-Thomson	COPS	N	1,743	2,427	2,457	2,223	8,850
Sharp	SM-SERIES	C	3,750	4,300	5,100	8,600	21,750
TI	TMS1000	P/C	1,700	2,300	2,100	1,700	7,800
Toshiba	T-SERIES	C	3,400	3,500	3,550	3,600	14,050
	TLCS-42	N/C	1,000	1,150	1,200	1,300	4,650
	TLCS-43	N	1,000	1,150	1,200	1,300	4,650
	TLCS-46	C	150	130	100	100	480
	TLCS-47	N	2,140	2,210	2,580	2,960	9,890
	TLCS-47	C	7,200	8,190	8,410	8,450	32,250
	TLCS-470	C	0	0	0	100	100
Others*	Unspecified	C	<u>6,000</u>	<u>23,500</u>	<u>25,750</u>	<u>33,250</u>	<u>88,500</u>
Total 4-Bit MCUs			102,853	124,377	131,512	142,333	501,075

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

Source: Dataquest  
July 1989