

# Communication Equipment: 2004

Issued August 2005

MA334P(04)-1

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### SUMMARY OF FINDINGS

During 2004, the total value of shipments for communications equipment totaled \$61.7 billion, an increase of 9.0 percent from the

2003 value of \$56.6 billion. Shipments of telephone switching equipment totaled \$6.2 billion, an increase of 26.0 percent from the \$4.9 billion shipped in 2003. Shipments of carrier line equipment and nonconsumer modems increased 6.0 percent, from \$3.0 billion in 2003 to \$3.2 billion in 2004. Other telephone and telegraph equipment shipped in 2004 totaled \$12.1 billion, a decrease of 1.0 percent from the \$12.3 billion shipped in 2003. Communications systems and equipment increased 10.6 percent, from \$25.8 billion shipped in 2003 to \$28.5 billion in 2004. Shipments of broadcast, studio, and related electronic equipment decreased 1.1 percent, to \$2.9 billion in 2004. Alarm systems totaled \$2.4 billion in 2004, an increase of 5.0 percent from \$2.3 billion in 2003.

For general CIR information, explanation of general terms and historical note, see the appendix.

Address inquiries concerning these data to Investment Goods Industries Branch, Manufacturing and Construction Division (MCD), Washington, DC 20233-6900 or call Keith McKenzie, 301-763-4777.  
For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-763-4673.

U S C E N S U S B U R E A U

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Table 1. Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Class of Product: 1999 to 2004  
[Millions of dollars]

Product class code	Product description	2004	2003	2002	2001	2000	1999
	Communication equipment, including telephone, telegraph, and other electronic systems and equipment.....	61,672.3	56,586.6	62,212.2	93,802.6	104,388.7	89,556.6
3342101	Telephone switching and switchboard equipment.....	6,160.8	4,899.9	7,437.0	12,187.7	15,173.7	13,742.4
3342104	Carrier line equipment and modems 1/.....	3,226.8	3,045.1	4,487.5	10,943.4	13,112.3	9,263.0
3342107	Other telephone and telegraph equipment and components.....	12,139.1	12,271.8	13,885.6	22,840.9	28,970.6	23,257.7
3342201	Communication systems and equipment (except broadcast).....	28,535.0	25,805.2	25,103.8	36,501.3	36,357.1	33,280.9
3342202	Broadcast, studio, and related electronic equipment.....	2,898.4	2,931.7	3,304.3	3,490.5	4,029.4	3,999.5
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	462.0	428.4	384.7	450.6	446.8	401.1
3342901	Alarm systems.....	2,370.0	2,257.8	2,439.9	2,374.4	2,755.2	2,218.2
3342902	Vehicular and pedestrian traffic control equipment and electrical railway signals and attachments.....	910.3	944.7	927.9	805.6	838.1	952.3
3333197	Electronic teaching machines, teaching aids, trainers, and simulators.....	1,459.5	1,222.6	1,167.7	1,172.0	782.1	700.7
3359997	Laser sources.....	982.8	833.0	928.6	1,050.9	(S)	(S)
335999A	Ultrasonic equipment.....	255.1	196.2	174.3	233.3	271.6	225.7
335999F	Other electronic systems and equipment, n.e.c. ....	2,272.6	r/ 1,760.0	1,970.9	1,752.0	1,651.8	1,515.1

n.e.c. Not elsewhere classified. r/Revised by 5 percent or more from previously published data. S Does not meet publication standards.

1/This total includes product code 3344184105 for historical consistency.

Note: Data may not add to total due to rounding.

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2004 and 2003  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2004		2003	
			Quantity	Value	Quantity	Value
3342101	Telephone switching and switchboard equipment.....	68	(X)	6,160,789	(X)	4,899,902
3342101105	Central office switching equipment.....	18	(X)	1,914,491	(X)	1,820,300
	Private branch exchange switching equipment:					
3342101112	Up to 399 lines.....	10	(X)	876,426	(X)	677,704
3342101115	400-1,000 lines.....	5	(X) c/	6,584	(X) a/	18,681
3342101117	Over 1,000 lines.....	4	(X) c/	56,145	(X) b/	29,783
3342101121	Cellular mobile telephone switching equipment 1/.....	8	(X)	(D)	(X)	(D)
3342101123	Packet switching equipment 1/.....	16	(X)	2,834,595	(X)	1,835,941
3342101125	Other telephone switching and switchboard equipment.....	19	(X) a/	342,695	(X) a/	377,909
3342101199	Parts, components and subassemblies for telephone switching equipment.....	16	(X) b/	129,853	(X) b/	129,584
3342104	Carrier line equipment and modems .....	66	(X)	3,226,787	(X)	3,045,092
	Carrier line equipment:					
3342104102	Repeaters and line transceivers, analog and digital.....	10	(X) b/	50,622	(X)	254,369
3342104112	Multiplex equipment, including channel banks, analog and digital.....	30	(X) a/	895,465	(X)	881,876
3342104122	Other subscriber loop carrier terminal and line equipment, analog and digital.....	10	(X) a/	541,150	(X) a/	503,404
3342104132	All other carrier line equipment, analog and digital.....	23	(X)	1,328,931	(X)	1,021,620
3342104142	External modems for POTS, ISDN, DSL, PSTN lines transmission.....	14	(X) a/	351,663	(X)	308,416
3344184105	External modems for individual PC's.....	7	(X) a/	58,956	(X) a/	75,407
3342107	Other telephone and telegraph equipment and components.....	153	(X)	12,139,092	(X)	12,271,804
	Telephone sets:					
3342107101	Single line and ISDN sets.....	9	58,024 a/	15,923	88,537 a/	18,209
3342107103	Key sets 2/.....	6	(D)	(D)	(D)	(D)
3342107105	Public pay telephone equipment.....	7	138,409 c/	42,604	146,348 c/	30,276
3342107107	Cordless handsets 2/.....	4	6,559,973	166,250	5,165,086	173,099
3342107109	Other telephone sets and accessories (e.g., handsets).....	12	(X) a/	76,318	(X) a/	62,790
3342107122	Data communications equipment, including routers, gateways, bridges, terminal servers, and concentrators.....	51	(X)	10,533,809	(X)	10,616,036
3342107151	Voice frequency equipment.....	8	(X) b/	6,028	(X) b/	8,615
3342107162	Voice/call message processing equipment, including answering devices.....	29	(X) a/	492,102	(X) r/	552,095
3342107191	Facsimile communication equipment (complete) 3/.....	4	(X)	(D)	(X)	(D)
3342107197	Other telephone/telegraph equipment 3/.....	35	(X)	604,587	(X)	632,624
3342107199	Parts, components and subassemblies for other telephone equipment.....	19	(X)	201,471	(X)	178,060
3342201	Communications systems and equipment (except broadcast).....	312	(X)	28,534,985	(X)	25,805,223
	Radio station type 4/.....	(NA)	(X)	17,295,205	(NA)	16,006,110
3342201301	Amateur.....	8	(X) c/	4,654	(X) c/	3,843
3342201307	Meteorological .....	6	(X) a/	20,982	(X) a/r/	22,206
3342201101	Fixed.....	22	(X)	2,860,003	(X)	2,539,607
3342201311	Telecommand.....	3	(X)	(D)	(X)	(D)
3342201313	Telemetry.....	13	(X) b/	122,920	(X)	114,640
3342201315	Radionavigational and locational.....	12	(X)	199,816	(X) r/	178,897
3342201317	Aeronautical communications.....	9	(X)	(D)	(X)	(D)
	Mobile:					
	Cellular system equipment:					
3342201202	Analog and digital.....	17	(X)	9,664,825	(X)	8,742,063
3342201207	Other conventional and trunked system equipment.....	9	(X) b/	97,865	(X)	80,863
3342201209	Other mobile.....	11	(X) b/	610,236	(X)	682,808
3342201319	Other.....	29	(X)	3,101,203	(X) r/	3,098,518
3342201401	Other type.....	(NA)	(X)	11,239,780	(X)	9,799,113
	Checkout, monitoring, evaluation, and other electronic support equipment for communications systems.....	43	(X) a/	758,573	(X) a/	784,557
	Antenna systems (sold separately):					
3342201405	Below 890 MHz.....	48	(X) b/	403,933	(X) b/	276,074
3342201407	890 MHz and above.....	54	(X) a/	1,482,283	(X) a/	1,095,826
	Fiber optics equipment, excluding connectors, cable, photodiode and laser diode components, microwave equipment, and multiplexors:					
3342201415	Equipment meeting SONET standards .....	11	(X)	191,732	(X) r/	164,764
3342201419	Equipment not meeting SONET standards .....	14	(X) b/	263,672	(X) b/r/	253,607
3342201421	Other carrier equipment, n.e.c. ....	11	(X)	178,935	(X) r/	170,842
3342201425	Other communications systems and equipment.....	127	(X)	7,960,652	(X)	7,053,443
3342202	Broadcast, studio, and related electronic equipment.....	172	(X)	2,898,405	(X)	2,931,703
	Audio equipment, excluding consumer and P.A. types:					
3342202101	Amplifiers and preamplifiers.....	21	160,922	203,439	183,660	216,673
3342202104	Control consoles and switchers.....	18	26,847 b/	117,615	26,533 b/	113,818

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2004 and 2003  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2004		2003	
			Quantity	Value	Quantity	Value
3342202109	Other (power supplies, terminal equipment broadcast recorders, etc.).....	27	(X) a/	118,113	(X) a/	120,988
3342202113	Video equipment, including amplifiers, television cameras, and tape recorders, excluding consumer and P.A. types.....	29	(X) a/	575,910	(X) a/	568,438
3342202121	AM and FM transmitters.....	12	(X) a/	103,029	(X) a/	84,649
3342202124	Television transmitters.....	9	(X) a/	111,027	(X)	148,125
3342202127	Other (broadcast transmission line equipment, phasing equipment, television boosters and repeaters, translators, etc.).....	22	(X) b/	267,947	(X) a/	316,889
3342202129	Studio transmission links (STL) and remote pickup equipment.....	3	(X)	18,038	(X)	17,625
3342202132	Cable television (master antennae and CATV equipment): Head-end equipment (antennae baluns, carrier generators, head-end control units, single and broadband pre-amplifiers and strip amplifiers, converters, modulators and demodulators; splitting filters and traps, power supplies, switches, etc.).....	25	(X) b/	138,072	(X) b/	123,692
3342202138	Subscriber equipment (decoders, switchers; wall outlet taps; distribution amplifiers; power suppliers; directional couplers, splitters, alternators, and equalizers) .....	7	(X) b/	40,787	(X)	52,291
3342202141	Broadcasting transmitting antennae and community antennae systems.....	9	(X) b/	80,398	(X)	79,201
3342202144	Closed circuit television systems and equipment, (specially designed cameras, monitors, video recorders, receivers, scan converters, and control consoles) excluding broadcast and consumer products.....	18	(X) a/	876,219	(X) r/	828,375
3342202147	Other broadcast, studio, theater, and commercial sound equipment (sold separately), excluding studio lighting equipment, radiating and supporting towers.....	20	(X) a/	191,151	(X) b/	207,883
3342202149	Home antenna.....	-	-	-	-	-
3342202153	Auto antenna 5/.....	2	(D)	(D)	(D)	(D)
3342202199	Parts and accessories for broadcast, studio and related electronic equipment, sold separately 5/.....	21	(X)	56,660	(X)	53,056
3342901	Alarm systems.....	83	(X)	2,369,979	(X)	2,257,762
	Intrusion detection:					
3342901101	Local.....	21	(X) b/	169,994	(X) a/	169,895
3342901201	Central station 6/.....	5	(X)	(D)	(X)	(D)
3342901601	Direct connect 6/.....	6	(X)	(D)	(X)	(D)
3342901603	Hold-up systems (commercial and industrial) 6/.....	1	(X)	(D)	(X)	(D)
3342901605	Automotive 6/.....	5	(X)	544,805	(X)	551,812
	Fire detection and prevention:					
	Smoke and heat detection alarms:					
3342901301	Ionization chamber type.....	8	(X)	97,936	(X)	89,874
3342901401	Other, including photocell type.....	19	(X)	820,316	(X)	763,268
3342901607	Central station.....	9	(X) a/	166,097	(X)	150,460
3342901501	Direct connect.....	12	(X)	175,943	(X)	162,901
3342901609	Other intercommunication and alarm systems, including electric sirens and horns (marine, industrial, and air raid), security locking systems.....	29	(X) a/	394,887	(X)	369,552
3342902	Vehicular and pedestrian traffic control equipment, electrical railway signals and attachments.....	45	(X)	910,264	(X)	944,748
3342902102	Vehicular and pedestrian traffic control equipment.....	37	(X) a/	467,584	(X)	529,671
3342902202	Railway signals and attachments, electric.....	9	(X)	442,680	(X)	415,077
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	33	(X)	462,040	(X)	428,418
3342903101	Wired.....	35	(X) a/	388,169	(X)	365,551
3342903103	Nonwired.....	13	(X) b/	73,871	(X) a/	62,867
3333197	Electronic teaching machines, teaching aids, trainers, and simulators.....	32	(X)	1,459,454	(X)	1,222,625
3333197101	Electronic trainers and simulators.....	30	(X)	1,440,791	(X)	1,208,446
3333197104	Other electronic teaching machines and teaching aids.....	6	(X)	18,663	(X)	14,179
3359997	Laser sources.....	41	(X)	982,841	(X)	832,998
3359997101	Nondiode lasers.....	30	(X) a/	571,360	(X)	389,043
3359997138	Diode lasers.....	21	(X)	411,481	(X)	443,955
335999A100	Ultrasonic equipment, n.e.c. ....	20	(X) a/	255,132	(X)	196,249
335999F	Other electronic systems and equipment, n.e.c. ....	131	(X)	2,272,551	(X) r/	1,760,036
335999F101	Consumer electronic equipment, n.e.c. ....	16	(X) b/	270,778	(X) r/	295,814

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2004 and 2003  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2004		2003	
			Quantity	Value	Quantity	Value
335999F105	Scientific electronic equipment, n.e.c. ....	13	(X)	a/ 43,250	(X)	37,565
335999F111	Industrial electronic equipment, n.e.c. ....	41	(X)	a/ 1,029,627	(X)	a/ 629,211
335999F115	All other electronic equipment, n.e.c. ....	77	(X)	a/ 928,896	(X)	r/ 797,446
Nonmanufacturing revenue of manufacturing establishments:						
4216900000	Supplies and accessories shipped without further manufacture, for use with communication equipment (resales).....	29	(X)	174,960	(X)	r/ 151,295
9999980000	Research and development, testing, and evaluation of systems and components.....	14	(X)	(D)	(X)	(D)
5410000000	Software sold with communications systems shipped by manufacturers.....	17	(X)	(D)	(X)	220,699
5415120000	Systems integration revenues, including configuration, installation, and site preparation, and custom programming.....	31	(X)	208,964	(X)	220,655
5415190000	Other nonmanufacturing revenues associated with communication systems.....	17	(X)	242,498	(X)	311,631

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available. n.e.c. Not elsewhere classified.  
 r/Revised by 5 percent or more from previously published data. X Not applicable.

- 1/Product codes 3342101121 and 3342101123 have been combined to avoid disclosing data for individual companies.
- 2/Product codes 3342107103 and 3342107107 have been combined to avoid disclosing data for individual companies.
- 3/Product codes 3342107191 and 3342107197 have been combined to avoid disclosing data for individual companies.
- 4/Of this value of shipments total, space based (satellite) accounted for 2.3 billion in 2004 and 2.2 billion in 2003; airborne and marine based accounted for 619.5 million in 2004 and 607.7 million in 2003; earth (fixed) based accounted for 3.1 billion in 2004 and 2.9 billion in 2003; earth (mobile) portable based accounted for 11.3 billion in 2004 and 10.3 billion in 2003.
- 5/Product codes 3342202153 and 3342202199 have been combined to avoid disclosing data for individual companies.
- 6/Product codes 3342901201, 3342901601, 3342901603, and 3342901605 have been combined to avoid disclosing data for individual companies.

Note: Percent of estimation of each item is indicated as follows: a/10 to 25 percent of this item has been estimated. b/26 to 50 percent of this item has been estimated. c/Over 50 percent of this item has been estimated.

Table 3. Shipments, Exports, and Imports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 2004  
 [Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) 1/	Imports for consumption (value) 2/3/
3342101112, 115, 117	Private branch telephonic exchange switching apparatus.....	939,155	84,321	86,918
3342101105	Central office telephonic switching apparatus.....	1,914,491	173,465	41,665
3342101121, 123, 125	Telephonic switching apparatus, n.e.c. ....	3,177,290	140,665	83,814
3342101199	Parts, components, and subassemblies for telephone switching and switchboard apparatus.....	129,853	627,265	1,514,756
3342104102	Repeaters and line transceivers, carrier line equipment.....	50,622	11,421	2,231
3342104112, 122, 132	Carrier line equipment, n.e.c. ....	2,765,546	2,721,937	4,526,482
3342107101, 103, 105, 107, 109	Telephone sets, including cordless handset telephones.....	301,095	253,169	2,711,373
3344184105, 3342104142	Modems, including auxiliary sets.....	410,619	279,480	961,172
3342107122, 151, 197	Telephone and telegraphic equipment, n.e.c., including voice frequency equipment.....	(D)	327,033	519,766
3342107162	Telephone answering devices.....	492,102	5,442	37,878
3342107191	Facsimile communication equipment (complete).....	(D)	26,093	397,203
3342107199	Parts, components, and subassemblies for other telephone equipment.....	201,471	838,737	821,092
3342202101	Audio amplifiers and preamplifiers (except consumer and P.A. types).....	203,439	318,449	413,230
3342202121, 124, 127	Transmitters, translators, RF power amplifiers, and related equipment.....	482,003	365,529	562,890
3342201202, 207, 209	Mobile radio systems and equipment, including transceivers, and portable receivers, transmitter and receiver, hand held.....	10,372,926	1,231,877	18,474,322
3342903101, 103	Intercommunications systems, including inductive paging systems.....	462,040	42,235	115,898
3342201405, 407, 3342202141 149, 153	Antennae systems, including broadcasting, transmitting, community, home, and auto antennae systems.....	(D)	926,905	726,869
3342202132, 138, 144	Cable television and closed circuit television systems and and equipment including AM and FM transmitters.....	1,055,078	313,337	869,037
3342901101, 201, 601, 603, 605	Intrusion detection alarm systems.....	714,799	60,459	135,056
3342901301	Smoke detection alarms, ionization type.....	97,936	7,487	96,849
3342901401	Smoke detection alarms, n.e.c., including photocell type.....	820,316	58,776	132,668
3342901501, 607	Central station and direct connect fire detection and prevention alarm systems.....	342,040	133,486	132,339
3342902102	Vehicular and pedestrian traffic control equipment.....	467,584	107,750	155,120

Table 3. Shipments, Exports, and Imports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 2004  
 [Value in thousands of dollars]

Product code	Product description	Manufacturers' shipments (value f.o.b. plant)	Exports of domestic merchandise (value at port) 1/	Imports for consumption (value) 2/3/
3342902202	Railway signals and attachments, electric.....	442,680	16,272	20,242
3333197101	Electronic trainers and simulators.....	1,440,791	160,518	138,001
335999A100	Ultrasonic equipment, n.e.c. ....	255,132	5,184	17,709
3359997101	Nondiode lasers.....	571,360	649,437	200,139

D Withheld to avoid disclosing data for individual companies. n.e.c. Not elsewhere classified.

1/Source: Census Bureau report EM 545, U.S. Exports.

2/Source: Census Bureau report IM 145, U.S. Imports for Consumption.

3/Value represents the c.i.f. (cost, insurance, and freight) value at first port of entry in the United States plus import duties

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2004

Product code	Product description	Export code 1/	Import code 2/
3342101112, 115, 117	Private branch telephonic exchange switching apparatus.....	8517.30.2000	8517.30.2000
3342101105	Central office telephonic switching apparatus.....	8517.30.1500	8517.30.1500
3342101121, 123, 125	Telephonic switching apparatus, n.e.c. ....	8517.30.2500 8517.30.3000	8517.30.2500 8517.30.3000
3342101199	Parts components, and subassemblies for telephone switching and switchboard apparatus.....	8517.90.2000	8517.90.2400 8517.90.3600 8517.90.4800 8517.90.5800
3342104102	Repeaters and line trancivers, carrier line equipment.....	8518.40.1000	8518.40.1000
3342104112, 122, 132	Carrier line equipment, n.e.c. ....	8517.50.5000 8517.50.6000 8517.50.9000	8517.50.5000 8517.50.6000 8517.50.9000
3342107101, 103, 105, 107, 109	Telephone sets, including cordless handset telephones.....	8517.11.0000 8517.19.0000 8518.30.1000	8517.11.0000 8517.19.8020 8517.19.8040 8517.19.8050 8517.19.8070 8517.19.8080 8518.30.1000
3344184105, 3342104142	Modems, including auxiliary sets.....	8517.50.1000	8517.50.1000
3342107122, 151, 197	Telephone and telegraphic equipment, n.e.c, including voice frequency equipment.....	8517.30.5000 8517.80.1020 8517.80.2000	8517.30.5000 8517.80.1020 8517.80.2000
3342107162	Telephone answering devices.....	8520.20.0000	8520.20.0040 8520.20.0080
3342107191	Facsimile communication equipment (complete).....	8517.21.0000	8517.21.0000
3342107199	Parts, components, and subassemblies for other telephone equipment.....	8517.90.5000	8517.90.1200 8517.90.3800 8517.90.5200 8517.90.6400
3342202101	Audio amplifiers and preamplifiers (except consumer and P.A. types).....	8518.40.2000	8518.40.2000
3342202121, 124, 127	Transmitters, translators, RF power amplifiers, and related equipment.....	8525.10.6010 8525.10.6030 8525.10.6050 8525.10.6070 8525.10.6090 8525.10.8020 8525.10.8040	8525.10.7025 8525.10.7045 8525.10.7065 8525.10.7085 8525.10.7090 8525.10.9025 8525.10.9045 8525.10.9065 8525.10.9085 8525.10.9090
3342201202, 207, 209,	Mobile radio systems and equipment, including trancivers, and portable receivers, transmitter and receiver, hand held.....	8525.20.1000 8525.20.2000 8525.20.3030 8525.20.3040 8525.20.9020 8525.20.9040	8525.20.0500 8525.20.1500 8525.20.2400 8525.20.3010 8525.20.3015 8525.20.3025 8525.20.3040



Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2004

Product code	Product description	Export code 1/	Import code 2/
	Mobile radio systems and equipment, including transceivers, and portable receivers, transmitter and receiver, hand held - Continued		8525.20.3060 8525.20.9020 8525.20.9060 8525.20.9070
3342903101, 103	Intercommunications systems, including inductive paging systems.....	8517.80.1010 8527.90.8600	8517.80.1010 8527.90.8500 8527.90.8600
3342201405, 407, 3342202141, 149, 153	Antennae systems, including broadcast transmitting, community, home, and auto antenna systems.....	8529.10.2020 8529.10.2050 8529.10.2090 8529.10.4000 8529.10.6000	8529.10.2020 8529.10.2050 8529.10.2090 8529.10.4040 8529.10.7000 8529.10.9000
3342202132, 138, 144	Cable TV and closed circuit television systems and equipment including AM and FM transmitters.....	8525.10.2050	8525.10.3035 8525.10.3040
3342901101, 201, 601, 603, 605	Intrusion detection alarm systems.....	8531.10.0035	8531.10.0035
3342901301	Smoke detection alarms, ionization type.....	9022.29.4000	9022.29.4000
3342901401	Smoke detection alarms, n.e.c., including photocell type.....	8531.10.0015 8531.10.0025	8531.10.0015 8531.10.0025
3342901501, 607	Central station and direct connect fire detection and prevention alarm systems.....	8531.10.0045	8531.10.0045
3342902102,	Vehicular and pedestrian traffic control equipment.....	8530.80.0000 8530.90.0000	8530.80.0000 8530.90.0000
3342902202,	Railway signals and attachments, electric.....	8530.10.0000	8530.10.0000
3333197101	Electronic trainers and simulators.....	8805.21.0000 8805.29.0000	8805.21.0000 8805.29.0000
335999A100	Ultrasonic equipment, n.e.c. ....	8456.20.0000 8479.89.9585	8456.20.1010 8456.20.1050 8456.20.5000 8479.89.9585
3359997101	Nondiode lasers .....	9013.20.0000	9013.20.0000

NA Not available. n.e.c. Not elsewhere classified.

1/Source: 2004 edition, Harmonized System-based Schedule B, Statistical Classification of Domestic and Foreign Commodities Exported from the United States.

2/Source: Harmonized Tariff Schedule of the United States, Annotated (2004).

# Appendix.

## General CIR Survey Information, Explanation of General Terms and Historical Note

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### GENERAL

The CIR program has been providing monthly, quarterly, and annual measures of industrial activity for many years. Since 1904, with its cotton and fats and oils surveys, the CIR program has formed an essential part of an integrated statistical system involving the quinquennial economic census, manufacturing sector, and the annual survey of manufactures. The CIR surveys, however, provide current statistics at a more detailed product level than either of the other two statistical programs.

The primary objective of the CIR program is to produce timely, accurate data on production and shipments of selected products. The data are used to satisfy economic policy needs and for market analysis, forecasting, and decision making in the private sector. The product-level data generated by these surveys are used extensively by individual firms, trade associations, and market analysts in planning or recommending marketing and legislative strategies, particularly if their industry is significantly affected by foreign trade. Although production and shipments information are the two most common data items collected, the CIR program collects other measures also such as inventories, orders, and consumption. These surveys measure manufacturing activity in important commodity areas such as textiles and apparel, chemicals, primary metals, computer and electronic components, industrial equipment, aerospace equipment, and consumer goods.

The CIR program uses a unified data collection, processing, and publication system. The U.S. Census Bureau updates the survey panels for most reports annually and reconciles the estimates to the results of the broader-based annual survey of manufactures and the economic census, manufacturing sector. The manufacturing sector provides a complete list of all producers of the products covered by the CIR program and serves as the primary source for CIR sampling. Where a small number of producers exist, CIR surveys cover all known producers of a product. However, when the number of producers is too large, cutoff and random sampling techniques are used. Surveys are continually reviewed and modified to provide the most up-to-date information on products produced. The CIR program includes a group of mandatory and voluntary surveys. Typically the monthly and quarterly surveys are conducted on a voluntary basis. Those companies that choose not to respond to the voluntary surveys are required to submit a mandatory annual counterpart corresponding to the more frequent survey.

### NORTH AMERICAN INDUSTRY CLASSIFICATION SYSTEM (NAICS), 1997

The adoption of the North American Industry Classification System (NAICS) in the 1997 Economic Census has had a major impact on the comparability of current and historic data. Approximately half of the industries in the manufacturing sector of NAICS do not have comparable industries in the Standard Industrial Classification (SIC) system that was used in the past.

While most of the change affecting the manufacturing sector was change within the sector, some industries left manufacturing and others came into manufacturing. Prominent among those that left manufacturing are logging and portions of publishing. Prominent among the industries that came into the manufacturing sector are bakeries, candy stores where candy is made on the premises, custom tailors, makers of custom draperies, and tire retreading. The net effect of the classification changes are such that if the 1997 value of shipments data for all manufacturers were tabulated on an SIC basis, it would be approximately 3 percent higher.

Listed below are the NAICS sectors:

- 21 Mining
- 22 Utilities
- 23 Construction
- 31-33 Manufacturing
- 42 Wholesale Trade
- 44-45 Retail Trade
- 48-49 Transportation and Warehousing
- 51 Information
- 52 Finance and Insurance
- 53 Real Estate and Rental and Leasing
- 54 Professional, Scientific, and Technical Services
- 55 Management of Companies and Enterprises
- 56 Administrative and Support and Waste Management and Remediation Services
- 61 Educational Services
- 62 Health Care and Social Assistance
- 71 Arts, Entertainment, and Recreation
- 72 Accommodation and Food Services
- 81 Other Services (except Public Administration)

(Not listed above are the Agriculture, Forestry, Fishing, and Hunting sector (NAICS 11), partially covered by the census of agriculture conducted by the U.S. Department of Agriculture, and the Public Administration sector (NAICS 92), covered by the census of governments conducted by the Census Bureau.)

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The 20 NAICS sectors are subdivided into 96 subsectors (three-digit codes), 313 industry groups (four-digit codes), and, as implemented in the United States, 1170 industries (five- and six-digit codes).

## FUNDING

The Census Bureau funds most of the surveys. However, a number of surveys are paid for either fully or partially by other Federal Government agencies or private trade associations. A few surveys are mandated, but all are authorized by Title 13 of the United States Code.

## RELIABILITY OF DATA

Survey error may result from several sources including the inability to obtain information about all cases in the survey, response errors, definitional difficulties, differences in the interpretation of questions, mistakes in recording or coding the reported data, and other errors of collection, response, coverage, and estimation. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to these nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is the imputing of data for nonrespondents, for late reporters, and for data that fail logic edits. Missing figures are imputed based on period-to-period movements shown by reporting firms. A figure is considered to be an impute if the value was not directly reported on the questionnaire, directly derived from other reported items, directly available from supplemental sources, or obtained from the respondent during the analytical review phase. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are suppressed or footnoted. The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

## DATA REVISIONS

Statistics for previous years may be revised as the result of corrected figures from respondents, late reports for which imputations were originally made, or other corrections. Data that have been revised by more than 5 percent from previously published data are indicated by footnotes.

## DISCLOSURE

The Census Bureau collects the CIR data under the authority of Title 13, United States Code, which specifies that the information can only be used for statistical purposes and cannot be published or released in any manner that would identify a person, household, or establishment. "D" indicates that data in the cell have been suppressed to avoid disclosure of information pertaining to individual companies.

## EXPLANATION OF GENERAL TERMS

**Capacity.** The maximum quantity of a product that can be produced in a plant in 1 day if operating for 24 hours. Includes the capacity of idle plants until the plant is reported to be destroyed, dismantled, or abandoned.

**Consumption.** Materials used in producing or processing a product or otherwise removing the product from the inventory.

**Exports.** Includes all types of products shipped to foreign countries, or to agents or exporters for reshipment to foreign countries.

**Gross shipments.** The quantity or value of physical shipments from domestic establishments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale or use. Shipments of products purchased for resale are omitted. Shipments of products made under toll arrangements are included.

**Interplant transfers.** Shipments to other domestic plants within a company for further assembly, fabrication, or manufacture.

**Inventories.** The quantity or value of finished goods, work in progress, and materials on hand.

**Machinery in place.** The number of machines of a particular type in place as of a particular date whether the machinery was used for production, prototype, or sampling, or was idle. Machinery in place includes all machinery set up in operating positions.

**Net receipts.** Derived by subtracting the materials held at the end of the previous month from the sum of materials used during the current month.

**Production.** The total volume of products produced, including: products sold; products transferred or added to inventory after adjustments for breakage, shrinkage, and obsolescence, plus any other inventory adjustment; and products that undergo further manufacture at the same establishment.

**Quantities produced and consumed.** Quantities of each type of product produced by a company for internal consumption within that same company.

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**Quantity and value of new orders.** The sales value of orders received during the current reporting period for products and services to be delivered immediately or at some future date. Also represents the net sales value of contract change documents that increase or decrease the sales value of the orders to which they are related, when the parties concerned are in substantial agreement as to the amount involved. Included as orders are only those that are supported by binding legal documents such as signed contracts or letter contracts.

**Quantity and value of shipments.** The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

**Stocks.** Total quantity of ending finished inventory.

**Unfilled orders (backlog).** Calculated by adding net new orders and subtracting net sales from the backlog at the end of the preceding year.

#### **HISTORICAL NOTE**

Data on selected electronic and associated products have been collected by the Census Bureau since 1961 on survey MA36N, Selected Electronics and Associated Products. In 1985, survey MA36N was divided into three annual surveys which are presently collected as: MA334P, Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment; MA334Q, Semiconductors, Printed Circuit Boards, and Other Electronic Components; and MA334S, Electromedical Equipment and Irradiation Equipment (Including X-Ray). Historical data may be obtained from Current Industrial Reports available at your local Federal Depository Library.