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### SUMMARY OF FINDINGS

During 2001, the total value of shipments for communications equipment totaled \$91.9 billion, a decrease of 12.8 percent from the

2000 value of \$105.4 billion. Shipments of telephone switching equipment totaled \$11.8 billion, a decrease of 18.1 percent from the \$14.4 billion shipped in 2000. Shipments of carrier line equipment and nonconsumer modems decreased 26.8 percent, from \$14.8 billion in 2000 to \$10.8 billion in 2001. Other telephone and telegraph equipment shipped in 2001 totaled \$26.6 billion, an increase of 1.0 percent from the \$26.3 billion shipped in 2000. Communications systems and equipment decreased 19.2 percent, from \$38.3 billion shipped in 2000 to \$30.9 billion in 2001. Shipments of broadcast, studio, and related electronic equipment decreased 10.6 percent, from \$3.9 billion in 2000 to \$3.5 billion in 2001. Alarm systems totaled \$3.3 billion in 2001, an increase of 40.7 percent from \$2.4 billion in 2000.

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, 301-457-4777.

For mail or fax copies of this publication, please contact the Information Services Center, MCD, Washington, DC 20233-6900, or call 301-457-4673.

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

*Helping You Make Informed Decisions*

U.S. Department of Commerce  
Economics and Statistics Administration  
U.S. CENSUS BUREAU



Table 1. Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Class of Product: 1997 to 2001  
[Millions of dollars]

Product code	Product description	2001	2000	1999	1998	1997
	Communication equipment, including telephone, telegraph, and other electronic systems and equipment.....	91,861.1	105,403.1	89,556.6	82,176.4	73,587.8
3342101	Telephone switching and switchboard equipment.....	11,821.1	r/ 14,432.5	13,742.4	12,422.2	10,302.2
3342104	Carrier line equipment and modems.....	10,838.9	r/ 14,815.7	9,263.0	9,378.8	7,278.1
3342107	Other telephone and telegraph equipment and components 1/.....	26,563.1	r/ 26,260.0	23,257.7	19,896.8	16,488.1
3342201	Communication systems and equipment (except broadcast).....	30,929.6	r/ 38,300.9	33,280.9	31,127.7	29,416.0
3342203	Broadcast, studio, and related electronic equipment.....	3,487.9	3,901.6	3,999.5	3,603.3	3,360.5
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	474.2	r/ 494.8	401.1	248.9	256.4
3342901	Alarm systems.....	3,343.0	r/ 2,376.3	2,218.2	2,024.1	1,926.5
3342902	Vehicular and pedestrian traffic control equipment and electrical railway signals and attachments.....	878.0	934.9	952.3	911.8	963.7
3333197	Electronic teaching machines, teaching aids, trainers, and simulators.....	742.4	814.2	700.7	713.0	872.0
3359997	Laser sources .....	1,138.6	1,203.6	(S)	(S)	991.8
335999A	Ultrasonic equipment.....	233.3	267.0	225.7	204.7	212.9
335999C	Other electronic systems and equipment, n.e.c. ....	1,410.8	1,601.6	1,515.1	1,645.1	1,519.7

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

1/Total for product class 3342104 does not include product code 3344184005.

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2001 and 2000  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2001		2000	
			Quantity	Value	Quantity	Value
3342101	Telephone switching and switchboard equipment.....	81	(X)	11,821,098	(X) r/	14,432,513
3342101005	Central office switching equipment.....	26	(X)	5,389,689	(X) r/	6,588,219
	Private branch exchange switching equipment:					
3342101012	Up to 399 lines.....	9	(X)	877,871	(X) r/	851,812
3342101015	400-1,000 lines.....	6	(X)	34,661	(X)	76,601
3342101017	Over 1,000 lines.....	6	(X) a/	49,543	(X) a/	64,060
3342101021	Cellular mobile telephone switching equipment 1/.....	11	(X)	(D)	(X)	(D)
3342101023	Packet switching equipment 1/.....	13	(X)	(D)	(X)	(D)
3342101025	Other telephone switching and switchboard equipment.....	21	(X) a/	846,699	(X) a/	730,746
3342101099	Parts, components and subassemblies for telephone switching equipment.....	20	(X)	208,057	(X)	220,533
3342104	Carrier line equipment and modems 2/.....	88	(X)	10,838,874	(X) r/	14,815,661
	Carrier line equipment:					
3342104002	Repeaters and line transceivers, analog and digital .....	12	(X)	(D)	(X)	(D)
3342104012	Multiplex equipment, including channel banks, analog and digital.....	38	(X) a/	3,593,422	(X) r/	3,797,160
3342104022	Other subscriber loop carrier terminal and line equipment, analog and digital.....	23	(X) b/	2,511,881	(X) r/	3,318,524
3342104032	All other carrier line equipment, analog and digital .....	23	(X)	(D)	(X)	(D)
3342104042	External modems for POTS, ISDN, DSL, PSTN lines transmission.....	15	(X) b/	785,923	(X) r/	804,698
3344184005	External modems for individual PC's.....	5	(X) a/	187,837	(X)	269,325
3342107	Other telephone and telegraph equipment and components.....	186	(X)	26,563,134	(X) r/	26,260,002
	Telephone sets:					
3342107001	Single line and ISDN sets.....	9	1,467,068 b/	129,989	(D)	(D)
3342107003	Key sets .....	4	(D)	(D)	(D)	(D)
3342107005	Public pay telephone equipment.....	6	305,287 b/	83,247	516,470	150,012
3342107007	Cordless handsets.....	4	(D)	(D)	(D)	(D)
3342107009	Other telephone sets and accessories (e.g. handsets) .....	12	(X) b/	98,110	(X) r/	198,617
3342107022	Data communications equipment, including routers, gateways, bridges, terminal servers, and concentrators.....	66	(X)	22,845,505	(X)	20,732,679
3342107051	Voice frequency equipment.....	10	(X) c/	58,415	(X)	77,829
3342107062	Voice/call message processing equipment, including answering devices.....	34	(X)	1,278,767	(X)	1,368,824
3342107091	Facsimile communication equipment (complete).....	4	(X)	(D)	(X)	(D)
3342107097	Other telephone/telegraph equipment.....	45	(X) a/	1,594,808	(X) r/	3,055,089
3342107099	Parts, components and subassemblies for other telephone equipment.....	24	(X) a/	309,314	(X)	379,333
3342201	Communications systems and equipment (except broadcast).....	(NA)	(X)	30,929,633	(X) r/	38,300,916
	Radio station type 3/.....	(NA)	(X)	20,163,500	(X) r/	25,762,021
3342201301	Amateur.....	8	(X) b/	4,190	(X)	3,164
3342201307	Meteorological .....	6	(X) a/	24,110	(X)	(D)
3342201101	Fixed.....	24	(X) a/	2,390,859	(X)	3,922,448
3342201311	Telecommand .....	2	(X)	(D)	(X)	(D)
3342201313	Telemetry.....	14	(X) b/	122,244	(X)	77,474
3342201315	Radionavigational and locational .....	12	(X) b/	166,707	(X)	332,175
3342201317	Aeronautical communications.....	7	(X)	(D)	(X)	(D)
	Mobile:					
	Cellular system equipment:					
3342201202	Analog and digital.....	19	(X)	12,775,732	(X)	16,183,390
3342201207	Other conventional and trunked system equipment.....	12	(X)	520,769	(X)	530,409
3342201209	Other mobile.....	10	(X)	328,586	(X)	295,402

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2001 and 2000  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2001		2000	
			Quantity	Value	Quantity	Value
3342201319	Other.....	30	(X)	3,581,022	(X)	4,061,930
	Other type.....	49	(X)	10,757,713	(X) r/	12,422,791
3342201401	Checkout, monitoring, evaluation and other electronic support equipment for communications systems.....	49	(X)	1,728,654	(X)	1,590,130
	Antenna systems, sold separately:					
3342201405	Below 890 MHz.....	51	(X)	464,673	(X) r/	596,091
3342201407	890 MHz and above.....	55	(X) b/	1,012,670	(X) r/	957,089
	Fiber optics equipment, excluding connectors, cable, photo diode and laser diode components, microwave equipment, and multiplexors:					
3342201415	Equipment meeting SONET standards.....	8	(X)	(D)	(X)	1,009,269
3342201419	Equipment not meeting SONET standards.....	16	(X) b/	813,593	(X) b/	1,209,226
3342201421	Other carrier equipment, n.e.c. ....	10	(X) b/	134,465	(X) a/	260,585
3342201425	Other communications systems and equipment.....	140	(X) b/	5,986,216	(X) r/	6,800,401
3342203	Broadcast, studio, and related electronic equipment.....	187	(X)	3,487,872	(X)	3,901,629
	Audio equipment, excluding consumer and P.A. types:					
3342203001	Amplifiers and preamplifiers.....	26	207,110	280,585	r/ 616,119	r/ 366,301
3342203004	Control consoles and switchers.....	18	41,952 b/	139,507	r/ 56,637	153,979
3342203009	Other (power supplies, terminal equipment broadcast recorders, etc.) .....	30	(X) b/	125,555	(X) r/	157,699
3342203013	Video equipment, including amplifiers, television cameras, and tape recorders, excluding consumer and P.A. types.....	31	(X) b/	666,274	(X)	643,569
3342203021	AM and FM transmitters.....	12	(X) a/	74,120	(X) r/	60,150
3342203024	Television transmitters.....	8	(X) a/	141,146	(X) r/	140,501
3342203027	Other (broadcast transmission line equipment, phasing equipment, television boosters and repeaters, translators, etc.).....	23	(X) c/	382,732	(X)	461,608
3342203029	Studio transmission links (STL) and remote pickup equipment.....	4	(X)	13,819	(X) r/	14,684
	Cable television (master antennae and CATV equipment):					
3342203032	Head end equipment (antennae baluns, carrier generators, head-end control units, single and broadband preamplifiers and strip amplifiers, converters, modulators and demodulators; splitting filters and traps, power supplies, switches, etc.).....	28	(X) c/	330,008	(X) r/	414,251
3342203038	Subscriber equipment (decoders, switchers; wall outlet taps; distribution amplifiers; power supplies; directional couplers, splitters, alternators, and equalizers) .....	9	(X) a/	132,131	(X)	259,996
3342203041	Broadcasting transmitting antennae and community antennae systems.....	10	(X)	90,333	(X) r/	77,247
3342203044	Closed circuit television systems and equipment, (specially designed cameras, monitors, video recorders, receivers, scan converters and control consoles) excluding broadcast and consumer products.....	20	(X)	763,159	(X) r/	758,980
3342203047	Other broadcast, studio, theater, and commercial sound equipment, sold separately, excluding studio lighting equipment, radiating and supporting towers.....	26	(X) c/	284,561	(X) r/	320,507
3342203099	Parts and accessories for broadcast, studio and related electronic equipment, sold separately.....	21	(X) c/	63,942	(X) r/	72,157

Table 2. Quantity and Value of Shipments of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment by Product Code: 2001 and 2000  
 [Quantity in number of units. Value in thousands of dollars]

Product code	Product description	No. of cos.	2001		2000	
			Quantity	Value	Quantity	Value
3342901	Alarm systems.....	86	(X)	3,343,012	(X) r/	2,376,267
	Intrusion detection:					
3342901101	Local.....	21	(X) a/	176,690	(X) r/	287,081
3342901201	Central station.....	8	(X) (D)	(D)	(X) (D)	(D)
3342901601	Direct connect.....	6	(X) b/	12,953	(X)	16,643
3342901603	Hold-up systems (commercial and industrial) .....	1	(X) (D)	(D)	(X) (D)	(D)
3342901605	Automotive.....	5	(X) (D)	(D)	(X) (D)	(D)
	Fire detection and prevention:					
	Smoke and heat detection alarms:					
3342901301	Ionization chamber type.....	10	(X)	96,836	(X) r/	128,270
3342901401	Other, including photo cell type.....	20	(X)	1,616,229	(X) r/	553,376
3342901607	Central station.....	9	(X) a/	139,528	(X)	157,053
3342901501	Direct connect.....	13	(X) c/	140,467	(X)	148,859
3342901609	Other intercommunication and alarm systems, including electric sirens and horns (marine, industrial and air raid) security locking systems.....	29	(X) a/	467,024	(X) r/	402,712
3342902	Vehicular and pedestrian traffic control equipment, electrical railway signals and attachments.....	48	(X)	878,033	(X)	934,903
3342902102	Vehicular and pedestrian traffic control equipment.....	40	(X) a/	596,985	(X)	546,748
3342902202	Railway signals and attachments, electric.....	9	(X) b/	281,048	(X) r/	388,155
3342903	Intercommunications systems, including inductive paging systems (selective calling).....	46	(X)	474,216	(X) r/	494,785
3342903001	Wired.....	37	(X) a/	328,173	(X) r/	322,245
3342903003	Nonwired.....	15	(X) a/	146,043	(X) r/	172,540
3333197	Electronic teaching machines, teaching aids, trainers and simulators .....	31	(X)	742,448	(X)	814,169
3333197001	Electronic trainers and simulators.....	29	(X)	725,386	(X)	789,011
3333197004	Other electronic teaching machines and teaching aids.....	5	(X) c/	17,062	(X) r/	25,158
3359997	Laser sources.....	39	(X)	1,138,635	(X)	1,203,634
3359997001	Nondiode lasers.....	28	(X) a/	424,492	(X) a/	517,962
3359997038	Diode lasers.....	18	(X) c/	714,143	(X) c/	685,672
335999A000	Ultrasonic equipment, n.e.c. ....	21	(X) a/	233,308	(X)	267,036
335999C	Other electronic systems and equipment, n.e.c. ....	129	(X)	1,410,843	(X)	1,601,590
335999C001	Consumer electronic equipment, n.e.c. ....	20	(X) b/	421,842	(X)	464,912
335999C005	Scientific electronic equipment, n.e.c. ....	13	(X) a/	30,580	(X) b/	44,427
335999C011	Industrial electronic equipment, n.e.c. ....	37	(X) a/	272,266	(X) a/	291,919
335999C015	All other electronic equipment, n.e.c. ....	77	(X) b/	686,155	(X) a/	800,332

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 3342101021 and 3342101023 have a combined value of shipments total of 4,414,578 for 2001 and 5,900,542 for 2000.

2/Product code 3344184005 is not included in the total for 3342104.

3/Of this value of shipments total, space based (satellite) accounted for 2.8 billion in 2001 and 3.7 billion in 2000; airborne and marine based accounted for 376.3 million in 2001 and 645.4 million in 2000; earth (fixed) based accounted for 3.8 billion in 2001 and 4.8 billion in 2000; earth (mobile) portable based accounted for 13.2 billion in 2001 and 16.6 billion in 2000..

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

Table 3. Shipments, Exports, and Imports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 2001  
 [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/
3342101012, 015, 017	Private branch telephonic exchange switching apparatus.....	962,075	95,110	313,573
3342101005	Central office telephonic switching apparatus.....	5,389,689	597,522	44,570
3342101021, 023, 025	Telephonic switching apparatus, n.e.c. ....	5,261,277	160,305	37,510
3342101099	Parts components, and subassemblies for telephone switching and switchboard apparatus.....	208,057	850,266	2,053,882
3342104002	Repeaters and line trancivers, carrier line equipment.....	(D)	421,468	4,616
3342104012, 022, 032	Carrier line equipment, n.e.c. ....	(D)	2,042,490	1,714,229
3342107001, 003, 005, 007, 009	Telephone sets, including cordless handset telephones.....	463,647	440,693	1,738,179
3342104042, 3344184005	Modems, including auxiliary sets.....	973,760	851,378	1,558,751
3342107022, 051, 097	Telephone and telegraphic equipment, n.e.c., including voice frequency equipment.....	24,498,728	650,295	771,159
3342107062	Telephone answering devices.....	1,278,767	30,825	78,640
3342107091	Facsimile communication equipment (complete).....	(D)	(NA)	441,726
3342107099	Parts, components and subassemblies for other telephone equipment.....	309,314	2,274,791	1,981,727
3342203001	Audio amplifiers and preamplifiers, (except consumer and P.A. types).....	280,585	363,285	317,165
3342203021, 024, 027	Transmitters, translators, RF power amplifiers, and related equipment.....	597,998	500,154	369,366
3342201202, 207, 209	Mobile radio systems and equipment, including trancivers, and portable receivers, transmitter and receiver and receiver, hand held.....	13,621,536	6,328,998	13,095,755
3342903001, 003	Intercommunications systems, including inductive paging systems.....	474,216	38,490	53,385
3342201405, 407, 3342203041	Antennae systems, including broad-casting, transmitting, and community antennae systems.....	1,567,676	639,565	146,909

Continued

**Table 3. Shipments, Exports, and Imports of Communication Equipment, Including Telephone, Telegraph, and Other Electronic Systems and Equipment: 2001**  
 [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/
3342203032, 044, 038	Cable television and closed circuit television systems and equipment including AM and FM transmitters.....	1,225,298	569,943	-
3342901101, 201, 601, 603, 605,	Intrusion detection alarm systems.....	882,928	49,866	223,554
3342901301	Smoke detection alarms, ionization type.....	96,836	14,773	97,045
3342901401	Smoke detection alarms, n.e.c., including photo cell type.....	1,616,229	86,014	78,132
3342901501, 607	Central station and direct connect fire detection and prevention alarm systems.....	279,995	131,804	74,609
3342902102	Vehicular and pedestrian traffic control equipment.....	596,985	114,849	120,666
3342902202	Railway signals and attachments, electric.....	281,048	23,352	6,402
3333197001	Electronic trainers and simulators.....	725,386	179,346	353,740
335999A000	Ultrasonic equipment, n.e.c. ....	233,308	229,623	1,266

- Represents zero. D Withheld to avoid disclosing data for individual companies. NA Not available.  
 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.

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2001

Product code	Product description	Export code 1/	Import code 2/
3342101012, 015, 017	Private branch telephonic exchange switching apparatus.....	8517.30.2000	8517.30.2000
3342101005	Central office telephonic switching apparatus.....	8517.30.1500	8517.30.1500
3342101021, 023, 025	Telephonic switching apparatus, n.e.c. ....	8517.30.3000	8517.30.3000
3342101099	Parts components, and subassemblies for telephone switching and switchboard apparatus.....	8517.90.2000	8517.90.2400 8517.90.3600 8517.90.5800
3342104002	Repeaters and line transceivers, carrier line equipment.....	8518.40.1000	8518.40.1000
3342104012, 022, 033	Carrier line equipment, n.e.c. ....	8517.50.5000 8517.50.6000 8517.50.9000	8517.50.5000 8517.50.6000 8517.50.9000
3342107001, 003, 005, 007, 009	Telephone sets, including cordless handset telephones.....	8517.11.0000 8517.19.0000 8518.30.1000 8525.20.9020	8517.11.0000
3342104042, 3344184005	Modems, including auxiliary sets.....	8517.50.1000	8517.50.1000
3342107022, 051, 097	Telephone and telegraphic equipment, n.e.c, including voice frequency equipment.....	8517.30.5000 8517.80.1020 8517.80.2000 8517.30.2500	8517.30.5000 8517.80.1020 8517.80.2000 8517.30.2500
3342107062	Telephone answering devices.....	8520.20.0000	8520.20.0040 8520.20.0080
3342107091	Facsimile communication equipment (complete).....	(NA)	8517.21.0000
3342107099	Parts, components and subassemblies for other telephone equipment.....	8517.90.5000	8517.90.1200 8517.90.3800 8517.90.5200 8517.90.6400
3342203001	Audio amplifiers and preamplifiers, (except consumer and P.A. types).....	8518.40.2000	8518.40.2000
3342203021, 024, 027	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	8525.10.6020 8525.10.6040 8525.10.6060 8525.10.6080 8525.10.7025 8525.10.7045 8525.10.7065 8525.10.8000 8525.10.9025 8525.10.9045 8525.10.9065 8525.10.9085 8525.10.9090

Table 4. Comparison of North American Industry Classification System (NAICS)-Based Product Codes with Schedule B Export Codes and HTSUSA Import Codes: 2001

Product code	Product description	Export code 1/	Import code 2/
3342201202, 207, 209,	Mobile radio systems and equipment, including transceivers, and portable receivers, transmitter and receiver, hand held.....	8525.20.1000	8525.20.0500
		8525.20.2000	8525.20.1500
		8525.20.3030	8525.20.2400
		8525.20.3040	8525.20.2800
		8525.20.3042	8525.20.3010
		8525.20.3045	8525.20.3015
		8525.20.3055	8525.20.3025
		8525.20.9040	8525.20.3040
		8525.20.9080	8525.20.3060
		8527.90.8025	8525.20.3065
		8529.90.5000	8525.20.3070
			8525.20.3080
			8525.20.9020
			8525.20.9060
			8525.20.9070
	8525.20.9080		
	8527.90.9020		
	8529.90.7600		
	8529.90.8500		
3342903001, 003	Intercommunications systems, including inductive paging systems.....	8517.80.1010	8517.80.1010
		8527.90.8015	8531.80.4000
		8531.80.0035	
3342201405, 407, 3342203041	Antennae systems, including broadcasting, transmitting, and community antennae systems.....	8529.10.2020	8529.10.2020
		8529.10.2050	8529.10.2050
		8529.10.4000	8529.10.4040
		8529.10.6000	8529.10.6000
3342203032, 038, 044	Cable TV and closed circuit television systems and equipment including AM and FM transmitters.....	8525.10.2010	8525.10.2030
		8525.10.2050	
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 photo cell type.....	8531.10.0015	8531.10.0015
		8531.10.0025	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	8530.80.0000
		8530.90.0000	8530.90.0000
3342902202	Railway signals and attachments, electric.....	8530.10.0000	8530.10.0000
3333197001	Electronic trainers and simulators.....	8805.20.0000	8805.20.0000
335999A000	Ultrasonic equipment, n.e.c. ....	8456.10.0000	8456.20.1010
		8456.20.0000	8456.20.1050
		8479.89.9585	8456.20.5000
			8479.89.9585

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

1/Source: 2001 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 (2001).

# 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.