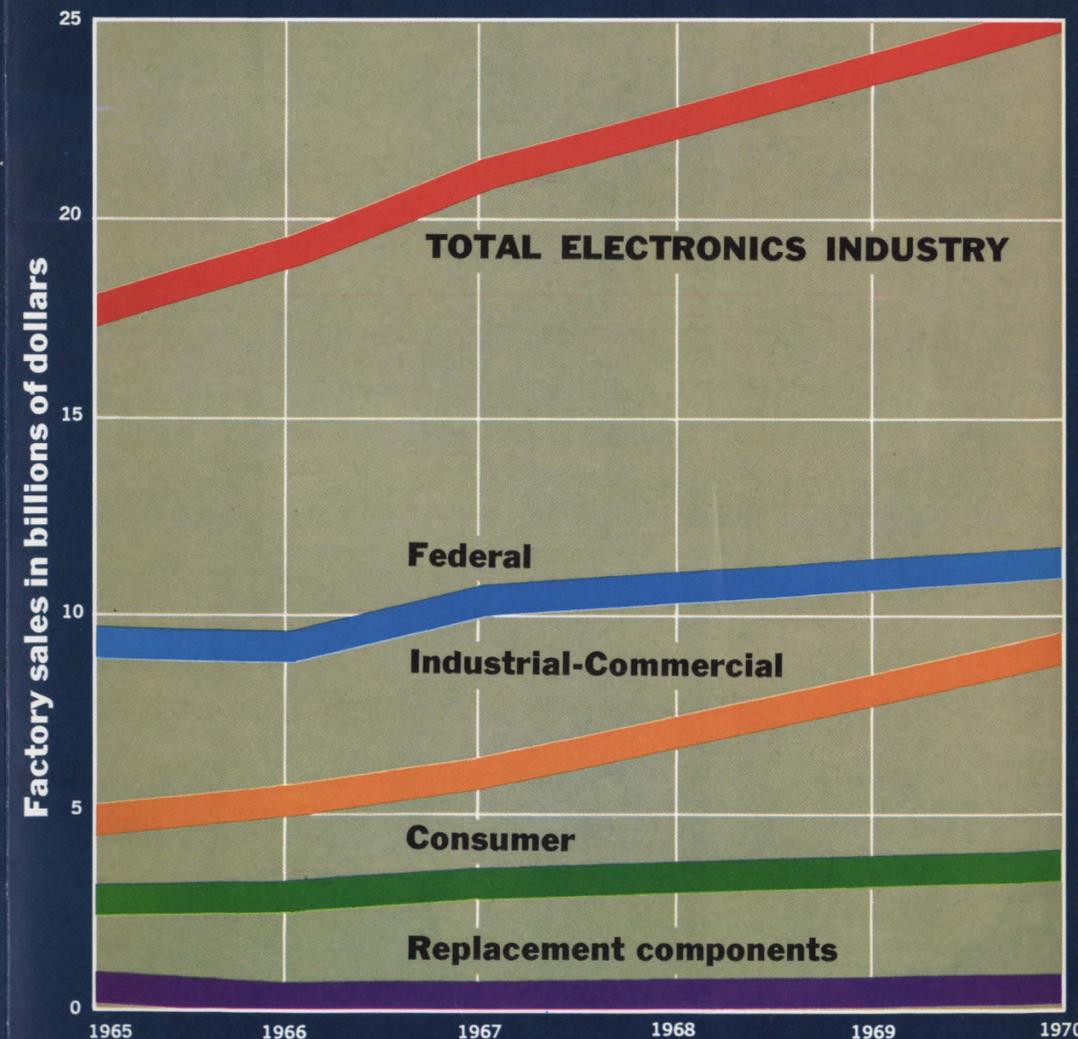
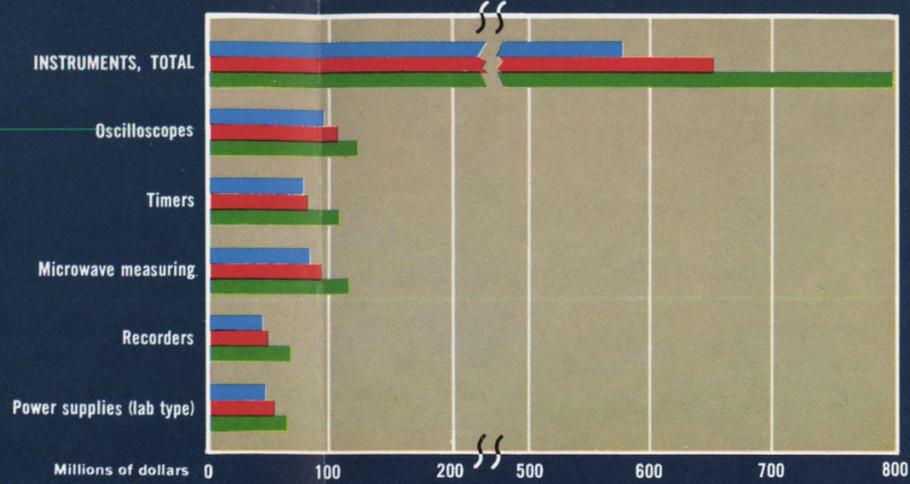


# Electronics Markets 1967

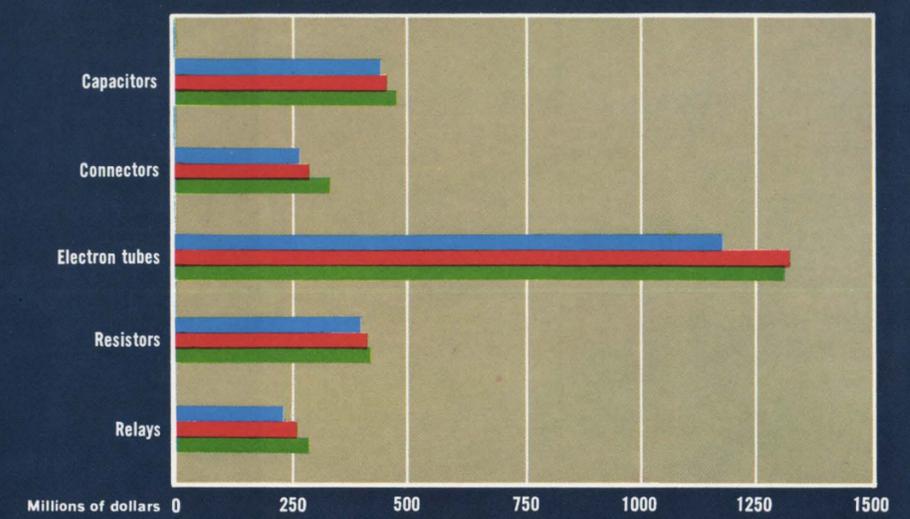
TOTAL ELECTRONICS INDUSTRY			
	(millions of dollars)		
	1966	1967	1970
<b>ELECTRONICS INDUSTRY, TOTAL</b>	19,699.6	21,553.9	25,205.8
Consumer electronics	3,445.6	3,697.9	4,120.4
Industrial-commercial	5,734.0	6,420.0	8,629.4
Federal (including military and government nonmilitary, adjusted for calendar year)	9,810.0	10,719.0	11,731.0
Replacement components	710.0	717.0	725.0



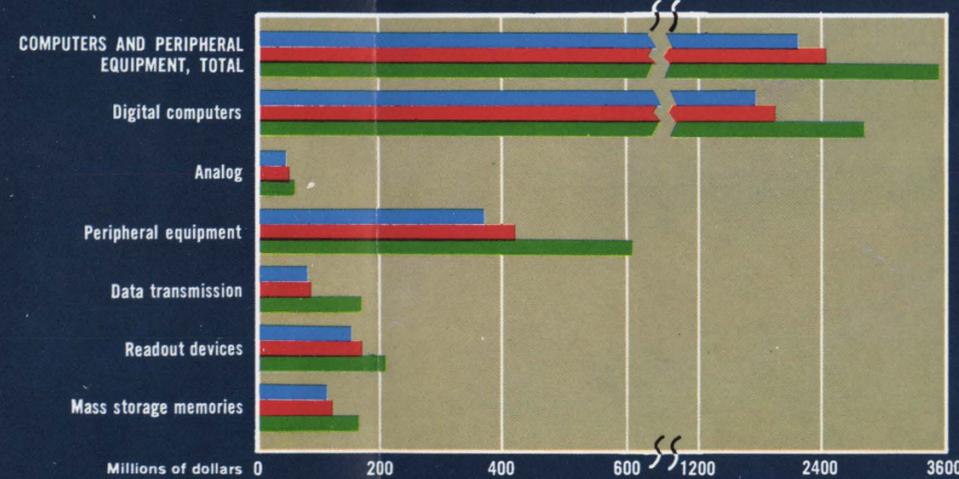
## INSTRUMENTS



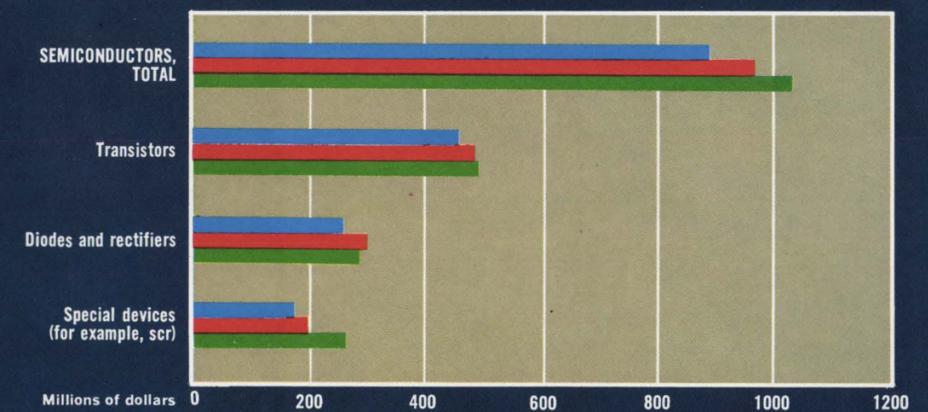
## COMPONENTS



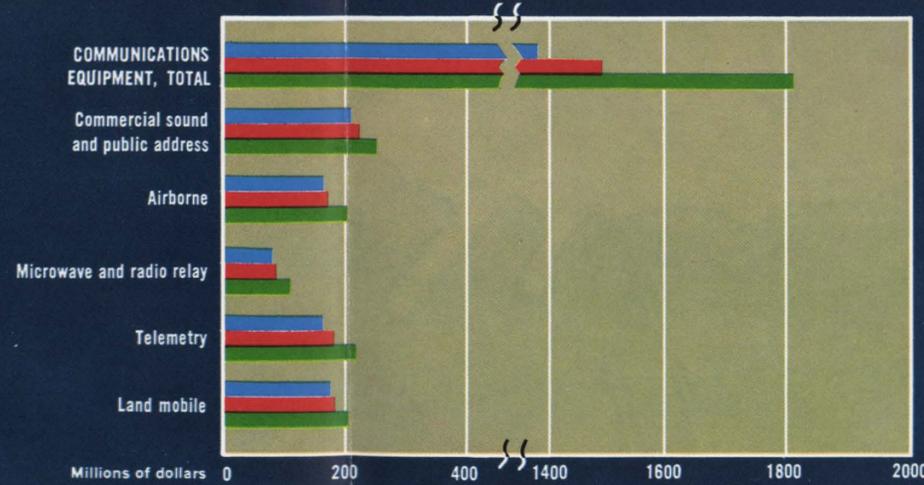
## COMPUTERS AND PERIPHERAL EQUIPMENT, TOTAL



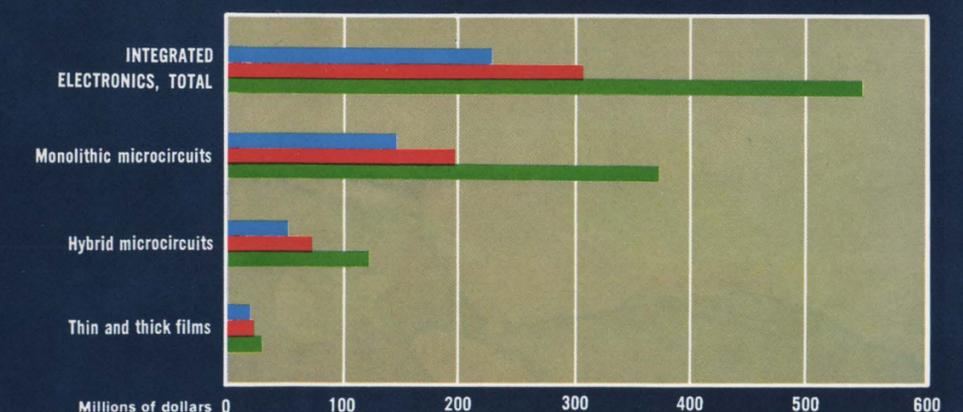
## SEMICONDUCTORS, TOTAL



## COMMUNICATIONS EQUIPMENT



## INTEGRATED ELECTRONICS



1966 1967 1970

1966 1967 1970

# Electronics Markets 1967

Federal Electronics				Industrial Electronics				Consumer Electronics			
	1966	1967	1970		1966	1967	1970		1966	1967	1970
	(millions of dollars)				(millions of dollars)				(millions of dollars)		
<b>FEDERAL ELECTRONICS, TOTAL</b>	<b>9,810</b>	<b>10,719</b>	<b>11,731</b>	<b>INDUSTRIAL AND COMMERCIAL, TOTAL</b>	<b>5,734.0</b>	<b>6,420.0</b>	<b>8,629.4</b>	<b>CONSUMER ELECTRONICS, TOTAL</b>	<b>3,445.6</b>	<b>3,697.9</b>	<b>4,120.4</b>
Department of Defense, electronics portion, total	7,901	8,780	9,653	Test and measuring instruments	576.0	650.8	799.5	Television receivers, total	1,819.0	2,017.0	2,223.0
Procurement, total	4,462	4,973	5,449	Medical equipment	230.6	266.2	340.1	Monochrome tv receivers	729.0	667.0	473.0
Communications	1,136	1,274	1,386	Nuclear instruments and equipment	138.2	158.6	214.6	Color tv receivers	1,090.0	1,350.0	1,750.0
Aircraft	1,283	1,420	1,561	Optoelectronic instruments and equipment	95.0	101.0	112.0	Radios, total	389.9	396.7	435.6
Missiles	1,442	1,617	1,772	Computers and related equipment	2,145.1	2,426.8	3,534.2	A-m and f-m radios	177.5	182.3	208.6
Mobile and ordnance	124	141	155	Communications equipment	1,382.5	1,490.1	1,814.4	Auto radios	212.4	214.4	227.0
Ships	477	521	575	Laser equipment	33.6	49.8	99.9	Phonographs, total	470.2	470.8	483.3
Research, development, test and evaluation	1,975	2,157	2,409	Closed circuit television	30.6	42.0	59.4	Phonographs, monaural	120.5	116.0	115.0
Operations and maintenance	1,464	1,650	1,795	Dictating devices	100.1	101.0	104.0	Phonographs, stereo	349.7	354.8	368.3
NASA, electronics portion	1,745	1,776	1,868	Power supplies	67.5	72.8	85.0	Tape recorders	114.0	131.0	160.0
Federal Aviation Agency, electronics portion	100	100	150	Industrial operations electronic equipment	934.8	1,060.9	1,466.3	Phonograph records	420.5	431.7	500.0
Atomic Energy Commission, electronics portion	64	63	60					Hi-fi components (including tuners, speakers, amplifiers, etc.)	81.5	87.5	115.0
								Kits, except toys	42.5	46.0	56.5
								Light dimmers	8.0	9.2	12.0
								Musical instruments, electronic	100.0	108.0	135.0

(Based upon factory prices)

## Industrial and Commercial Markets

Industrial and Commercial Markets				Industrial and Commercial Markets				Industrial and Commercial Markets			
	1966	1967	1970		1966	1967	1970		1966	1967	1970
	(millions of dollars)				(millions of dollars)				(millions of dollars)		
<b>Test and measuring instruments, total</b>	<b>576.0</b>	<b>650.8</b>	<b>799.5</b>	Diathermy, shortwave and microwave	2.0	2.1	3.2	Marine communications	17.6	19.6	25.6
Spectrum analyzers, subaudio to 1 Ghz	14.5	15.3	17.0	Other medical electronic equipment	16.6	20.1	28.0	Airborne, including ground links	165.7	170.6	210.0
Signal generators, up to 1 Ghz	14.3	16.1	19.0	<b>Nuclear instruments and equipment, total</b>	<b>138.2</b>	<b>158.6</b>	<b>214.6</b>	Carrier current	16.3	18.6	27.2
Sweep generators, up to 1 Ghz	4.4	5.5	7.8	Analyzers, pulse height	13.5	16.8	21.2	Intercom	95.3	99.7	110.2
Pulse generators, up to 1 Ghz	5.5	6.5	8.5	Other spectrometers for nuclear applications	4.0	4.3	5.6	Commercial sound and public address	212.3	222.7	256.4
Oscillators, subaudio through video	14.6	18.1	22.3	Accelerators, linear	13.0	14.3	17.6	A-m station equipment	14.4	15.3	17.6
Waveform generators, all shapes	12.1	13.5	15.4	Accelerators, other	8.4	10.3	15.6	F-m station equipment	11.3	12.8	16.9
Waveform analyzers and distortion meters	4.0	4.6	5.6	Power supplies for nuclear equipment	6.3	7.6	15.0	Tv station equipment	128.1	130.4	130.7
Counters, time and frequency, up to 1 Ghz	30.3	33.4	37.0	Amplifiers for nuclear equipment	4.1	5.5	9.5	Amateur equipment	25.3	27.8	31.1
Timers, electronic	72.3	79.6	108.4	Pulse generators for nuclear equipment	0.6	1.0	1.7	Citizens band equipment	35.9	40.5	48.7
Panel meters	30.1	32.3	34.1	Personal dosimeters	0.7	0.8	1.0	Facsimile	22.0	25.5	30.5
Noise measuring equipment, up to 1 Ghz	11.4	12.6	14.5	Radiation monitoring, portable survey instruments	2.5	3.4	5.0	Optical (light) communications (laser, infrared)	2.5	3.0	4.5
Radio-frequency measuring instruments except counters	6.3	6.6	7.5	Radiation monitoring, fixed position	4.0	4.3	4.9	Telemetry	160.4	181.7	224.9
Voltmeters and ammeters, electronic, d-c to 1 Ghz, meter indicating	15.0	16.0	20.0	Detectors (all, separate unit or part of system), total	9.1	10.8	16.0	Communications equipment, other	45.3	56.1	79.7
Digital voltmeters	25.0	26.5	30.0	Semiconductors	3.0	3.7	5.1	<b>Laser equipment, total</b>	<b>33.6</b>	<b>49.8</b>	<b>99.9</b>
Power meters, d-c to 1 Ghz	3.1	4.3	7.6	Tubes (Geiger, gas flow, BG <sub>3</sub> )	2.4	3.0	4.8	Welding and machining lasers	3.2	6.5	18.4
Impedance measuring equipment, up to 1 Ghz	14.3	17.5	18.0	Scintillation, crystals and organic phosphors	3.0	3.3	5.1	Measuring and surveying lasers	6.5	9.5	20.0
Calibrators and standards, active and passive	14.1	16.0	20.3	Ionization chambers	0.7	0.8	1.0	Medical lasers	1.0	1.3	3.0
Oscilloscopes, d-c to 1 Ghz	92.1	106.6	123.5	Reactor controls	27.0	29.5	37.5	Communications lasers	2.4	3.5	6.0
Recording instruments, digital and analog	41.5	47.7	66.5	Nuclear instruments and equipment, other	45.0	50.0	64.0	Other lasers	20.5	29.0	52.5
Components testers (capacitor, transistor, tube, etc.)	21.0	22.5	27.0	<b>Optoelectronic instruments and equipment</b>	<b>95.0</b>	<b>101.0</b>	<b>112.0</b>	<b>Closed circuit television, total</b>	<b>30.6</b>	<b>42.0</b>	<b>59.4</b>
Power supplies, lab type	43.0	49.0	60.5	(including electronic densitometers, infrared generators and detectors, photoelectric template followers, etc.)				Industrial CCTV	14.4	20.1	26.6
Amplifiers, lab type	7.3	8.4	11.0	<b>Computers and related equipment, total</b>	<b>2,145.1</b>	<b>2,426.8</b>	<b>3,534.2</b>	Educational CCTV	10.0	13.4	19.5
Microwave measuring equipment (above 1 Ghz) total	64.8	72.6	98.0	Digital computers, except process control	1,700.0	1,920.0	2,800.0	Theater CCTV	2.2	2.8	4.4
Oscilloscopes, above 1 Ghz	7.0	8.2	11.1	Analog computers, except process control	40.6	44.8	55.7	Medical CCTV	4.0	5.7	8.9
Microwave phase measuring equipment	5.4	5.7	8.0	Hybrid computers, except process control	34.6	41.5	66.4	<b>Dictating devices (for business)</b>	<b>100.1</b>	<b>101.0</b>	<b>104.0</b>
Microwave impedance measuring equipment	12.0	13.5	18.0	Peripheral equipment, total	299.9	338.0	437.1	<b>Power supplies, OEM type</b>	<b>67.5</b>	<b>72.8</b>	<b>85.0</b>
Microwave power measuring equipment	3.7	4.4	6.3	Converters, A to D	9.6	11.3	16.8	<b>Industrial operations electronic equipment, total</b>	<b>934.8</b>	<b>1,060.9</b>	<b>1,466.3</b>
Spectrum analyzers, above 1 Ghz	7.3	9.1	10.7	Converters, D to A	4.9	5.8	8.5	Motor speed controls	50.2	59.5	75.0
Frequency measuring and analysis, above 1 Ghz, other	7.0	8.5	11.2	Converters, card to tape	6.5	7.0	7.5	Welding	21.3	26.7	36.5
Microwave noise measuring equipment	5.3	6.8	8.8	Readers, paper tape	21.5	24.2	29.0	Power supplies (complete equipment)	95.0	104.7	132.0
Signal generators, above 1 Ghz	7.5	8.3	9.0	Readout devices	150.0	166.8	210.5	Cryogenic equipment	55.4	66.1	90.0
Sweep generators, above 1 Ghz	6.1	7.2	8.7	Mass storage memories, total	107.4	122.9	164.8	Ultrasonic cleaning equipment	10.3	11.1	15.0
Pulse generators, above 1 Ghz	3.5	4.5	6.2	Magnetic tape machinery	58.2	64.1	80.3	Other ultrasonic equipment	12.4	14.1	19.7
Other test and measuring equipment, all frequencies	15.0	16.0	20.0	Magnetic drum memories	12.0	15.3	23.5	Infrared equipment	35.7	40.4	52.7
<b>Medical equipment, total</b>	<b>230.6</b>	<b>266.2</b>	<b>340.1</b>	Magnetic disc memories	37.2	43.5	61.0	X-ray, industrial	23.2	26.7	49.1
Radioactive tracer equipment	12.4	15.3	22.6	Data transmission equipment	70.0	82.5	175.0	Nuclear gauging and processing	65.4	76.3	110.0
X-ray equipment diagnostic	85.1	89.4	112.0	<b>Communications equipment, total</b>	<b>1,382.5</b>	<b>1,490.1</b>	<b>1,814.4</b>	Process control computer systems, total	202.2	235.8	350.3
X-ray equipment, therapeutic	15.0	24.5	30.0	Land mobile	170.5	180.0	205.0	Process control computer systems, analog	21.0	21.5	28.7
Patient-monitoring systems	10.7	15.4	25.6	Microwave and radio relay	77.4	86.3	117.2	Process control computer systems, digital	75.6	103.8	193.6
Hearing aids	50.4	55.2	58.5	Terminal and switching	97.6	100.3	122.7	Process control computer systems, hybrid	4.6	5.5	8.0
Electroencephalographs	2.9	3.7	5.3	Radar	54.6	63.4	77.0	Other process controls	101.0	105.0	120.0
Electrocardiographs	9.0	9.3	12.0	Other navigational aids	30.0	35.8	78.5	Machine tool controls, total	217.3	242.3	335.5
Electron microscopes	7.5	8.5	10.3					Point-to-point control systems	165.0	178.2	222.8
Analytical lab equipment, including blood colorimeters	13.2	15.0	20.4					Continuous contouring systems	52.3	64.1	112.7
Ultrasonic, diagnostic and therapeutic	5.8	7.7	12.2					Controllers	29.2	31.2	38.5
								Actuators, including valves	36.2	38.7	48.0
								Indicators	3.7	4.4	6.2
								Recorders	64.3	68.6	88.7
								Other industrial electronic equipment	13.0	14.3	19.1

## Components Markets

Components Markets				Components Markets				Components Markets			
	1966	1967	1970		1966	1967	1970		1966	1967	1970
	(millions of dollars)				(millions of dollars)				(millions of dollars)		
<b>ALL COMPONENTS, TOTAL</b>	<b>6,272.5</b>	<b>6,834.5</b>	<b>7,758.3</b>	<b>Ferrite devices, total</b>	<b>288.1</b>	<b>305.6</b>	<b>361.5</b>	Dry reed relays	19.0	22.6	25.4
<b>Antennas and antenna hardware</b>	<b>345.0</b>	<b>372.5</b>	<b>465.5</b>	Microwave ferrite devices	17.7	19.7	25.3	Mercury wetted relays	12.5	14.4	16.0
<b>Batteries, total</b>	<b>80.8</b>	<b>88.1</b>	<b>113.8</b>	Computer cores	5.3	6.6	9.4	Resonant reed relays	1.0	1.0	1.5
Primary batteries	45.6	50.7	70.3	Transformers and chokes, except tv	230.4	236.7	267.4	Stepping switches	12.6	12.6	11.7
Secondary batteries	35.2	37.4	43.5	Tv ferrite components, including yokes, flybacks	24.5	29.7	40.2	Telephone type relays	20.3	20.6	21.4
<b>Capacitors, total</b>	<b>436.3</b>	<b>462.1</b>	<b>477.3</b>	Other ferrite products	10.2	12.9	19.2	Thermal relays	4.1	4.2	5.6
Paper and film capacitors	122.0	127.5	133.0	<b>Filters, electronic</b>	<b>34.8</b>	<b>40.6</b>	<b>53.4</b>	Other relays	139.0	145.6	154.9
Electrolytic capacitors	192.8	210.8	215.5	<b>Integrated electronics, total</b>	<b>231.4</b>	<b>308.0</b>	<b>550.3</b>	<b>Semiconductors, total</b>	<b>882.3</b>	<b>966.7</b>	<b>1,034.6</b>
Mica capacitors	30.0	31.0	32.0	Integrated circuits, monolithic	145.0	198.0	379.0	Transistors, total	453.8	480.4	483.7
Glass and vitreous enamel capacitors	9.0	9.0	8.0	Hybrid microcircuits (semiconductor and thin film components in combination)	55.9	75.5	125.0	Transistors, silicon	282.3	322.3	373.2
Ceramic capacitors	53.9	55.0	59.3	Discrete chip components	7.0	8.7	14.0	Transistors, germanium	171.5	158.1	110.5
Variable capacitors	28.6	28.8	29.5	Thin films	9.5	10.5	12.5	Diodes and rectifiers, total	257.5	286.9	286.3
<b>Complex components</b> (Multicomponent packages, two or more separate active or passive components in a single package)	<b>202.5</b>	<b>220.0</b>	<b>280.0</b>	Thick films	14.0	15.3	19.8	Diodes and rectifiers, silicon	200.2	230.3	241.5
<b>Connectors, total</b>	<b>264.3</b>	<b>285.4</b>	<b>325.8</b>	<b>Loudspeakers</b>	<b>105.0</b>	<b>115.0</b>	<b>128.0</b>	Diodes and rectifiers, germanium	35.5	35.0	25.0
Coaxial connectors, standard size	24.5	26.3	25.7	<b>Magnetic tape, total</b>	<b>143.5</b>	<b>170.3</b>	<b>221.4</b>	Rectifiers, selenium and copper oxide	21.8	21.6	19.8
Coaxial connectors, miniature	16.4	19.3	25.7	Audio tape	41.5	48.8	65.0	Special semiconductor devices, total	171.0	199.4	264.6
Cylindrical connectors	87.0	93.1	103.0	Computer tape	51.7	59.6	71.2	Silicon controlled rectifiers	49.3	57.2	78.7
Rack and panel connectors	64.0	68.4	78.0	Instrument tape	35.1	43.9	57.5	Microwave diodes, including varactors	21.2	26.3	30.3
Printed circuit connectors	37.4	40.0	44.4	Video tape	15.2	18.0	27.7	Microwave transistors	11.1	12.1	14.3
Special purpose and fused connectors	35.0	38.3	49.0	<b>Microwave components and hardware</b> (not including tubes and antennas)	<b>79.6</b>	<b>93.4</b>	<b>107.8</b>				