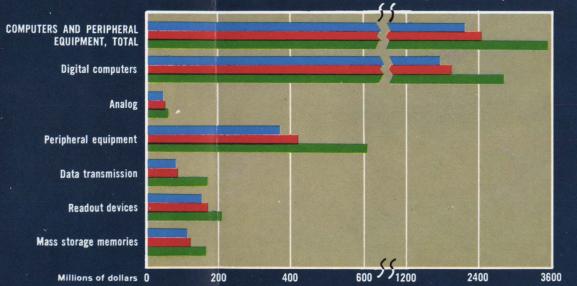


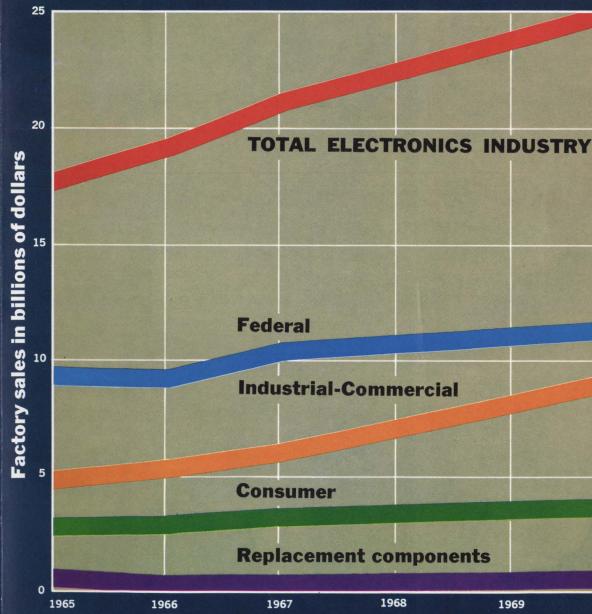
COMPUTERS AND PERIPHERAL EQUIPMENT, TOTAL



COMMUNICATIONS EQUIPMENT COMMUNICATIONS EQUIPMENT, TOTAL **Commercial sound** and public address Airborne Microwave and radio relay Telemetry Land mobile 400 1400 1600 1800 2000 Millions of dollars () 200 1970 1966 1967

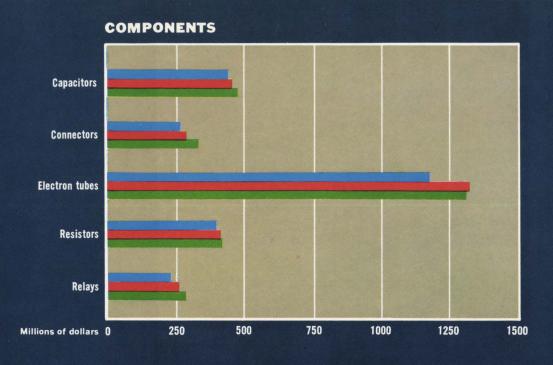
# **Electronics Markets** 1967

TOTAL ELECTRONICS INDUSTRY							
	(n	nillions of dollars	s)				
	1966	1967					
ELECTRONICS INDUSTRY, TOTAL	19,699.6	21,553.9					
Consumer electronics	3,445.6	3,697.9					
Industrial-commercial	5,734.0	6,420.0					
Federal (including military and government nonmilitary, adjusted for calendar year)	9,810.0	10,719.0					
Replacement components	710.0	717.0					

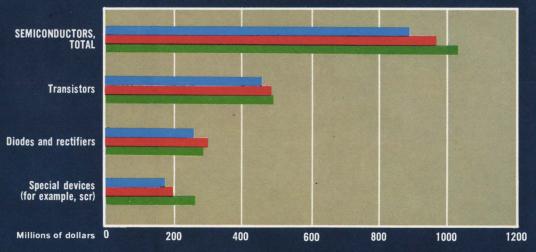


1970 25,205.8 4,120.4 8,629.4 11,731.0 725.0

1970



#### SEMICONDUCTORS, TOTAL





INTEGRATED ELECTRONICS



## **Electronics Markets 1967**

A for a for

### **Federal Electronics**

and a

#### **Industrial Electronics**

## **Consumer Electronics**

J.

	1966 (mil	1967 lions of dol	1970 llars)
FEDERAL ELECTRONICS, TOTAL	9,810	10,719	11,731
Department of Defense, electronics portion, total	7,901	8,780	9,653
Procurement, total	4,462	4,973	5,449
Communications	1,136	1,274	1,386
Aircraft	1,283	1,420	1,561
Missiles	1,442	1,617	1,772
Mobile and ordnance	124	141	155
Ships	477	521	575
Research, development, test and evaluation	1,975	2,157	2,409
Operations and maintenance	1,464	1,650	1,795
NASA, electronics portion	1,745	1,776	1,868
Federal Aviation Agency, electronics portion	100	100	150
Atomic Energy Commission, electronics portion	64	63	60
			A STATE OF A

	1966 (milli	1967 ons of do	1970 Ilars)
INDUSTRIAL AND COMMERCIAL, TOTAL	5,734.0	6,420.0	8,629.4
Test and measuring instruments	576.0	650.8	799.5
Medical equipment	230.6	266.2	340.1
Nuclear instruments and equipment	138.2	158.6	214.6
Optoelectronic instruments and equipment	95.0	101.0	112.0
 Computers and related equipment	2,145.1	2,426.8	3,534.2
Communications equipment	1,382.5	1,490.1	1,814.4
Laser equipment	33.6	49.8	99.9
Closed circuit television	30.6	42.0	59.4
Dictating devices	100.1	101.0	104.0
Power supplies	67.5	72.8	85.0
Industrial operations electronic equipment	934.8	1,060.9	1,466.3

	1966 1967 1970 (millions of dollars)					
CONSUMER ELECTRONICS, TOTAL	3,445.6	3,697.9	4,120.4			
Television receivers, total Monochrome tv receivers Color tv receivers	<b>1,819.0</b> 729.0 1,090.0	<b>2,017.0</b> 667.0 1,350.0	<b>2,223.0</b> 473.0 1,750.0			
Radios, total A-m and f-m radios Auto radios	<b>389.9</b> 177.5 212.4		208.6			
Phonographs, total Phonographs, monaural Phonographs, stereo	<b>470.2</b> 120.5 349.7	<b>470.8</b> 116.0 354.8				
Tape recorders	114.0	131.0	160.0			
Phonograph records	420.5	431.7	500.0			
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**

1966 1967 1970

	1966 (millio	1967 ns of d	1970 ollars)	
est and measuring instruments, total	576.0	650.8	799.5	
Spectrum analyzers, subaudio to 1 Ghz	14.5	15.3	17.0	
Signal generators, up to 1 Ghz	14.3	16.1	19.0	L
Sweep generators, up to 1 Ghz	4.4	5.5	7.8	
Pulse generators, up to 1 Ghz	5.5	6.5	8.5	l
Oscillators, subaudio through video	14.6	18.1	22.3	L
Waveform generators, all shapes	12.1	13.5	15.4	
Waveform analyzers and distortion meters	4.0	4.6	5.6	L
Counters, time and frequency, up to 1 Ghz	30.3	33.4	37.0	L
Timers, electronic	72.3	79.6	108.4	L
Panel meters	30.1	32.3	34.1	
Noise measuring equipment, up to 1 Ghz	11.4	12.6	14.5	l
Radio-frequency measuring instruments				
except counters	6.3	6.6	7.5	
Voltmeters and ammeters, electronic,				L
d-c to 1 Ghz, meter indicating	15.0	16.0	20.0	
Digital voltmeters	25.0	26.5	30.0	
Power meters, d-c to 1 Ghz	3.1	4.3	7.6	
Impedance measuring equipment, up to 1 Ghz	14.3	17.5	18.0	
Calibrators and standards, active	11.0	17.0	10.0	
and passive	14.1	16.0	20.3	L
Oscilloscopes, d-c to 1 Ghz	92.1	106.6	123.5	l
Recording instruments, digital and analog	41.5	47.7	66.5	
Components testers (capacitor, transistor,	11.0	11.1	00.0	
tube, etc.)	21.0	22.5	27.0	
Power supplies, lab type	43.0	49.0	60.5	l
Amplifiers, lab type	7.3	8.4	11.0	
Microwave measuring equipment	1.5	0.4	11.0	
(above 1 Ghz) total	64.8	72.6	98.0	
Oscilloscopes, above 1 Ghz	7.0	8.2	11.1	
	5.4	5.7	8.0	
Microwave phase measuring equipment	5.4	5.7	0.0	
Microwave impedance measuring	12.0	13.5	18.0	
equipment Microwave power measuring equipment	3.7	4.4	6.3	
	7.3			
Spectrum analyzers, above 1 Ghz	1.5	9.1	10.7	
Frequency measuring and analysis,	7.0	OF	11.0	
above 1 Ghz, other	7.0 5.3	8.5	11.2	
Microwave noise measuring equipment	7.5	6.8	8.8	
Signal generators, above 1 Ghz	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8.3	9.0	ł
Sweep generators, above 1 Ghz	6.1	7.2	8.7	
Pulse generators, above 1 Ghz	3.5	4.5	6.2	
Other test and measuring equipment,	15.0	10.0	00.0	
all frequencies	15.0	16.0	20.0	
ledical equipment, total	230.6	266.2	340.1	
Radioactive tracer equipment	12.4	15.3	22.6	
X-ray equipment diagnostic	85.1	89.4	112.0	
X-ray equipment, therapeutic	15.0	24.5	30.0	
Patient monitoring systems	10.7	15 4	25.6	

	(mill	ions of a	dollars)
Diathermy, shortwave and microwave	2.0	2.1	3.2
Other medical electronic equipment	16.6		28.0
etter inquien erecterine equipment	10.0	20.1	20.0
Nuclear instruments and equipment, total	138.2	158.6	214.6
Analyzers, pulse height	13.5	16.8	21.2
Other spectrometers for nuclear applications	4.0	4.3	5.6
Accelerators, linear	13.0	14.3	17.6
Accelerators, other	8.4		and the second se
Power supplies for nuclear equipment	6.3		15.0
Amplifiers for nuclear equipment	4.1		
Pulse generators for nuclear equipment	0.6	and the second second second	
Personal dosimeters	0.7	0.8	1.0
Radiation monitoring, portable			
survey instruments	2.5		5.0
Radiation monitoring, fixed position	4.0	4.3	4.9
Detectors (all, separate unit or part of	0.1	10.0	10.0
system), total	9.1	A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER OWNE	16.0
Semiconductors	3.0		5.1 4.8
Tubes (Geiger, gas flow, BG <sub>3</sub> )	2.4 3.0		
Scintillation, crystals and organic phosphors	3.0	3.3	5.1
Ionization chambers	0.7	0.8	1.0
Reactor controls	27.0	29.5	37.5
Nuclear instruments and equipment, other	45.0	50.0	64.0
Optoelectronic instruments and equipment	95.0	101.0	112.0
(including electronic densitometers, infrared generators and detectors, photoelectric tem plate followers, etc.)			
Computers and related equipment, total	2,145.1	2,426.8	3,534.2
Digital computers, except process control	,700.0	1,920.0	2,800.0
Analog computers, except process control	40.6	44.8	55.7
Hybrid computers, except process control	34.6	41.5	66.4
Peripheral equipment, total	299.9	338.0	437.1
Converters, A to D	9.6		16.8
Converters, D to A	4.9		8.5
Converters, card to tape	6.5		
Readers, paper tape	21.5		
Readout devices	150.0		
Mass storage memories, total	107.4		
Magnetic tape machinery	58.2		80.3
Magnetic drum memories	12.0		
Magnetic disc memories	37.2	a la construction de la construc	and the second second
Data transmission equipment	70.0	82.5	175.0

	1966 1967 1970 (millions of dollars)					
	(millions of dollars					
Marine communications	17.6	19.6	25.6			
Airborne, including ground links	165.7	170.6	210.0			
Carrier current	16.3	18.6	27.2			
Intercom Commercial sound and public address	95.3 212.3	99.7 222.7	110.2 256.4			
A-m station equipment	14.4	15.3	17.6			
F-m station equipment	11.3	12.8	16.9			
Tv station equipment	128.1					
Amateur equipment	25.3	27.8	31.1			
Citizens band equipment	35.9	40.5	48.7			
Facsimile	22.0	25.5	30.5			
Optical (light) communications						
(laser, infrared)	2.5	3.0	4.5			
Telemetry	160.4	181.7	224.9			
Communications equipment, other	45.3	56.1	79.7			
Laser equipment, total	33.6	49.8	99.9			
Welding and machining lasers	3.2	6.5	18.4			
Measuring and surveying lasers	6.5	9.5	20.0			
Medical lasers	1.0	1.3				
Communications lasers	2.4	3.5	6.0			
Other lasers	20.5	29.0	52.5			
Closed circuit television, total	30.6	42.0	59.4			
Industrial CCTV	14.4	20.1	26.6			
Educational CCTV	10.0	13.4	19.5			
Theater cctv	2.2	2.8	4.4			
Medical CCTV	4.0	5.7	8.9			
Dictating devices (for business)	100.1	101.0	104.0			
Power supplies, OEM type	67.5	72.8	85.0			
Industrial operations electronic						
equipment, total	934.8	1,060.9	,466.3			
Motor speed controls	50.2	59.5	75.0			
Welding	21.3	26.7	36.5			
Power supplies (complete equipment)	95.0	104.7				
Cryogenic equipment	55.4	66.1	90.0			
Ultrasonic cleaning equipment	10.3 12.4	11.1 14.1				
Other ultrasonic equipment Infrared equipment	35.7	40.4				
X-ray, industrial	23.2	26.7	49.1			
Nuclear gauging and processing	65.4		110.0			
Process control computer systems, total	202.2	235.8				
Process control computer systems, analog	21.0	21.5	28.7			
Process control computer systems, digital	75.6	103.8	193.6			
Process control computer systems, hybrid	4.6	5.5	8.0			
Other process controls	101.0	105.0	120.0			

Patient-monitoring systems	10.7	15.4	25.6					Machine tool controls, total	217.3	242.3	335.5
Hearing aids	50.4	55.2	58.5	Communications equipment, total	1,382.5 1	490 1 1	814.4	Point-to-point control systems	165.0	178.2	222.8
Electroencephalographs	2.9	3.7	5.3	communications equipment, total	1,002.01	,400.11	,014.4	Continuous contouring systems	52.3	64.1	112.7
Electrocardiographs	9.0	9.3	12.0	Land mobile	170.5	180.0	205.0	Controllers	29.2	31.2	38.5
Electron microscopes	7.5	8.5	10.3	Microwave and radio relay	77.4	86.3	117.2	Actuators, including valves	36.2	38.7	48.0
Analytical lab equipment,				Terminal and switching	97.6	100.3	122.7	Indicators	3.7	4.4	6.2
including blood colorimeters	13.2	15.0	20.4	Radar	54.6	63.4	77.0	Recorders	64.3	68.6	88.7
Ultrasonic, diagnostic and therapeutic	5.8	7.7	12.2	Other navigational aids	30.0	35.8	78.5	Other industrial electronic equipment	13.0	14.3	19.1

## **Components Markets**

Antennas and antenna hardware345.0372.5465.5Microwave ferrite devices17.719.725.3Mercury w ResonantAntennas and antenna hardware345.0372.5465.5Microwave ferrite devices5.36.69.4ResonantBatteries, total80.888.1113.8Transformers and chokes, except tv flybacks230.4236.7267.4Stepping st TelephonePrimary batteries45.650.770.3Other ferrite products10.212.919.2Other relaysCapacitors, total436.3462.1477.3477.3477.3465.550.770.3Semiconductor Transistors,70.4			1967 ons of d				1967 ons of d		
Antennas and antenna hardware   345.0   372.5   485.5   Computer cores   5.3   6.6   9.4   Resonant     Batteries, total   0.8   96.1   113.6   Transformers and chokes, except v   23.4   23.6.7   267.4   Stepping :     Secondary batteries   35.2   27.4   43.5   45.6   50.7   07.3   Transformers and chokes, except v   23.4   236.7   267.4   Stepping :   Telephone   Telephone   10.2   12.9   19.2   Stemiconductors   Transistors, Transistor, Transitor, Transistor, Transistor, Transistor, Transitor	ALL COMPONENTS, TOTAL	6,272.5	6,834.5	7,758.3	Ferrite devices, total	288.1	305.6	361.5	Dry reed r
Antennas and antenna haloware   Sector   Size	CONTRACTOR AND A DESCRIPTION OF A DESCRIPTION OF								
Batteries, total   90.8   86.1   113.6   Tr ferrite components, including yokes, Secondary batteries   To ferrite components, including yokes, 10.2   To ferrite components, including tubes, total   Secondary yokes, 10.2   To ferrite components, including tubes, total   To ferite ferite products   To ferite ferite prod	Antennas and antenna hardware	345.0	372.5	465.5			and the second	and the second	the second se
Batteris, total   Bool   Bool   Hass   24.5   29.7   40.2   Thermain     Secondary batteries   35.2   37.4   43.5   10.2   12.9   19.2   Uher relays     Capacitors, total   456.3   462.1   477.3   Integrated electronics, total   21.4   30.0   59.0   59.0   59.0   75.5   125.0   10.0   120.0   127.5   130.0   31.0   32.0   11.0   145.0   180.0   370.0   30.0   31.0   32.0   10.6   59.9   75.5   125.0   10.0   10.06 s.an   10.0 s.an </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>230.4</td> <td>230.7</td> <td>207.4</td> <td>Telephone</td>						230.4	230.7	207.4	Telephone
Secondary batteries   35.2   37.4   43.5   Other territe products   10.2   17.3   12.2     Gapacitors, total   436.3   462.1   477.3     Paper and film capacitors   12.0   127.5   133.0     Integrated electronics, total   145.0   198.0   376.0     Gapacitors   12.0   127.5   133.0   10.0   145.0   198.0   376.0     Gitas and vitreous enamel capacitors   30.0   31.0   32.0   10.0   5.9   75.5   125.0   Diodes and film components in combination   55.9   75.5   125.0   Diodes and Diodes and Pottore tape components   7.0   8.7   14.0   15.3   158.5   Special sem Silicon components   7.0   8.7   14.0   15.3   158.5   Special sem Silicon components   7.0   8.7   17.5   56.6   7.1   8.7   7.0   8.7   7.0   8.7   12.0   Microwave     Wagnetic tape, total   143.2   17.0   221.4   Trunel dir   11.0   11.0   11.0   11.0					flybacks				Thermal re
Capacitors, total   436.3   462.1   477.3   Filters, electronic   34.8   40.6   53.4   Semiconductors     Paper and film capacitors   19.2.8   21.0.5   112.7   133.0   Integrated electronics, total   231.4   308.0   55.0   Transistors     Glass and vitreous enamel capacitors   9.0   9.0   8.0   32.0   1/b/dri direcricitus is semiconductor and thin					Other ferrite products	10.2	12.9	19.2	Other relays
Capacitors, tatal   436.3   462.1   477.3     Paper and film capacitors   122.0   127.5   133.0   32.0   145.0   198.0   379.0   Transistors     Capacitors   30.0   31.0   32.0   12.0   127.5   133.0   32.0   145.0   198.0   379.0   Transistors     Capacitors   30.0   31.0   32.0   10.0   10.0   10.0   145.0   198.0   379.0   Transistors     Capacitors   30.0   31.0   32.0   10.0	Secondary batteries	55.2	57.4	43.5	Filters, electronic	34.8	40.6	53.4	Semiconductors
Paper and film capacitors   122.0   127.5   133.0   Integrated electronics, total   231.4   308.0   50.3     Electrolytic capacitors   192.8   210.8   215.2   133.0   310.0   320.0	Canacitors, total	436.3	462.1	477.3					Transistors,
Electrolytic capacitors   192.8   210.8   215.5   Integrated circuits, monihitic   145.0   198.0   37.0     Mica capacitors   30.0   31.0   32.0   31.0   32.0   10 as and vitreous enamel capacitors   53.9   55.5   125.0   10 does and vitreous enamel capacitors   7.0   8.7   11 as angle packages   226.6   228.0   220.0   280.0   155.0 <t< td=""><td></td><td></td><td></td><td></td><td>Integrated electronics, total</td><td></td><td></td><td></td><td>Transistor</td></t<>					Integrated electronics, total				Transistor
Mica capacitors   30.0   31.0   32.0   Hydrid microcircuits is nomination film components in combination S5.9   75.5   125.0   Diddes and Diddes and Diddes and Diddes and Diddes and Diddes and Diddes and Diddes and Diddes and Diddes and Discrete chip components   7.0   8.7   14.0   Diddes and Diddes and Di							198.0	379.0	
Caranic capacitors 3.0 9.0 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>75.5</td> <td>105.0</td> <td></td>							75.5	105.0	
Utilities   33.5   33.6   33.6		and the second se	and the second	and the second			and the second second		
Variable Explantors 2.6.6 2.6.7 <th2.7< td="" th<=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th2.7<>									
Complex components (Multicomponent packages, 202.5   220.0   280.0   Loudspeakers   105.0   115.0   128.0   Microwave Microwave Components in a single package)     Connectors, total   264.3   285.4   325.8   Audio tape   41.5   48.8   65.0   115.0   128.0   Microwave Microwave Components in a single package)   Magnetic tape, total   143.5   170.3   221.4   Audio tape   51.7   59.6   51.7   59.6   51.7   59.6   51.7   59.6   51.7   59.6   51.7   59.6   50.0 <t< td=""><td>Variable capacitors</td><td>28.6</td><td>28.8</td><td>29.5</td><td></td><td>and the second se</td><td></td><td></td><td></td></t<>	Variable capacitors	28.6	28.8	29.5		and the second se			
components in a single package)   Magnetic tape, total   143.5   170.3   221.4     Connectors, total   264.3   285.4   325.7   Audio tape   41.5   48.8   65.0   12.5   75.6   71.7   56.6   71.2   16.4   19.3   27.7   Video tape   35.1   43.9   57.5   Video tape   75.6   73.2   71.4   43.0   77.7   79.6   93.4   107.8   77.6   79.6   93.4   107.8   77.7   Voltage ref		s, 202.5	220.0	280.0	Loudspeakers	105.0	115.0	128.0	
Components in a single perceptZé4.3285.4325.8Addio tape41.548.865.0Connectors, total24.526.325.7Instrument tape35.143.957.2Voltage reCoaxial connectors87.093.1103.0Instrument tape35.143.957.2Voltage reCylindrical connectors87.093.1103.0Instrument tape35.143.957.2Voltage rePrinted circuit connectors87.093.1103.0Instrument tape35.143.957.2Voltage rePrinted circuit connectors37.440.044.4Including tubes and antennas)79.693.4107.8Servos, synchrDelay lines14.018.026.326.326.068.5Including mounts and ovens)50.058.068.5Rete generalDelay lines1.178.2 1.319.8 1.208.9270.2284.829.8Voltage reServos motorServos motorElectron tubes, total1.178.2 1.319.8 1.208.9Composition resistors, fixed39.541.514.850.0Power and special purpose tubes, total270.2284.829.8Wirewound potentiometers75.880.889.7High-vacuum tubes30.330.130.530.343.035.035.036.575.875.875.8Magnetrons36.341.037.5Wirewound potentiometers75.880.889.770.776.876.078.37					Magnetic tana tatal	142.5	170.2	221 4	
Connectors, total   264.3   285.4   325.8   Computer tape   51.7   59.6   71.2   Field effe     Coaxial connectors, standard size   24.5   26.3   25.7   35.1   43.9   57.5   Voltage re     Coaxial connectors, miniature   16.4   19.3   25.7   15.2   18.0   27.7     Coaxial connectors   87.0   93.1   103.0   Microwave components and hardware   79.6   93.4   107.8   Servos, synchr     Cyclindrical connectors   37.4   40.0   44.4   Printed circuits   102.7   106.5   142.2   Synchros   Servos womotor   Servos									
Coaxial connectors, standard size24.526.325.7Instrument tape35.143.957.5Voltage reCoaxial connectors87.093.1103.0Microwave components and hardware (not including tubes and antennas)79.693.4107.6Servos, synchr ResolversPrinted circuit connectors37.440.044.4Frinted circuits102.7106.5142.2Servos, synchr ResolversDelay lines14.018.026.3Cuartz crystals50.058.068.5SolderElectroluminescence7.09.014.0Resistors, total193.8202.2210.5SolderElectroluminescence7.09.014.0Resistors, fixed33.321.517.8Composition resistors, fixed23.321.517.8Nerewum tubes274.5283.0250.0Deposited carbon resistors, fixed39.544.554.8Presure swMightwoald270.2284.829.8Wirewound potentiometers76.078.376.5SolderNower and special purpose tubes, total20.320.119.3Wirewound potentiometers76.078.376.5Magnetrons40.039.337.0Wirewound potentiometers76.078.376.5Magnetrons9.611.414.623.724.536.577.5Magnetrons9.611.414.623.524.536.577.5Magnetrons9.611.414.6 </td <td></td> <td></td> <td></td> <td>005.0</td> <td></td> <td></td> <td></td> <td></td> <td></td>				005.0					
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Printed circuit connectors37.440.044.4Printed circuits102.7106.5142.2Serve motorDelay lines14.018.026.3Quartz crystals50.058.068.5Motor generDelay lines14.018.026.3Quartz crystals50.058.068.5Motor generElectroluminescence7.09.014.0Resistors, total193.8202.2210.5Switches, manElectron tubes, total1,178.21,319.81,308.9Composition resistors, fixed82.087.188.680.4SolderVere and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swPower and special purpose tubes20.320.119.3Yirewound resistors, fixed49.049.149.3Pressure swRitystrons36.341.037.5Wirewound potentiometers76.078.376.5Snap-actionMagnetrons36.036.050.058.050.5Solder state relays32.440.536.5Light-sensing tubes9611.414.014.053.050.053.064.574.5Storage tubes, except tathode ray30.440.553.050.075.880.889.7Twt's, including backward-wave types10.011.014.053.050.036.514.274.536.5Display tubes, except tathode ray30.440.5						79.6	93.4	107.8	Resolvers
Special purpose and fused connectors35.038.349.0Printed circuits102.7106.5142.2Synchros Rate general Mator general fuctor generalDelay lines14.018.026.3Printed circuits50.058.068.5Motor general fractional heDelay lines14.018.026.3Printed circuits50.058.068.5SolderElectroluminescence7.09.014.0Resistors, total193.8202.2210.5SolderElectroluminescence7.09.014.0Resistors, total193.8202.2210.5SolderElectroluminescence7.09.014.0Resistors, total193.8202.2210.5SolderElectroluminescence7.09.014.0Resistors, total193.8202.2210.5SolderViewound potention resistors, fixed39.544.554.8Pressure swPower and special purpose tubes, total27.2284.829.8Metal film resistors, fixed39.544.554.8Pressure swMigh-vacuum tubes64.064.563.563.341.037.5Wirewound potentiometers75.880.889.7Magnetrons40.039.337.0Non-wirewound potentiometers75.880.889.7Magnetrons9.611.414.6Relay, total237.5254.1277.1Strain trans.Display tubes, except tw10.011.014.012					(not including tubes and antennas)				Servo motor
Delay lines14.018.026.3Quartz crystals (including mounts and ovens)50.058.068.5Kate general Motor gener Fractional hiElectroluminescence7.09.014.0Resistors, total388.3401.8413.2SolderElectron tubes, total1,178.21,319.81,308.9Fixed resistors, total193.8202.2210.5Switches, manElectron tubes, total1,178.21,319.81,308.9Composition resistors, fixed82.087.188.6Switches, manReceiving tubes274.5283.0250.0Deposited carbon resistors, fixed39.544.554.8Pressure swPower and special purpose tubes, total70.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swGas and vapor tubes20.320.119.3Wirewound resistors, fixed49.049.149.3Rotary switcMagnetrons40.039.337.0Non-wirewound potentiometers76.078.376.5Toggle, meroTurt's, including backward-wave types40.043.045.630.4237.5254.1277.1Strain transformLight-sensing tubes9.611.414.6Relays, total237.5254.1277.1Strain transformDisplay tubes, except tv10.011.014.021.2513.0Electromagnetic relays, total95.3104.2112.5Tv picture tubes, black-and-white157.5147.					Printed circuits	102.7	106.5	142.2	
Delay lines14.018.026.3(including mounts and ovens)Fractional heElectroluminescence7.09.014.0Resistors, total388.3401.8413.2SolderElectron tubes, total1,178.2 1,319.8 1,308.9Resistors, total193.8202.2210.5Switches, manReceiving tubes274.5283.0250.0Deposited carbon resistors, fixed82.087.188.6Coaxial switPower and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swHigh-vacuum tubes64.064.563.5Otentiometers, total151.8159.1166.2Snap-actionMagnetrons40.039.337.0Non-wirewound potentiometers75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors)42.740.536.5Pressure traStorage tubes9.611.414.6Relays, total237.5254.1277.1Strain transDisplay tubes, except twitting tubes9.010.011.014.0Relays, total95.3104.212.5Ty picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.64.6					Quartz anustala	50.0	59.0	69.5	
Electroluminescence7.09.014.0Resistors, total388.3401.8413.2SolderElectron tubes, total1,178.21,319.81,308.9Composition resistors, fixed193.8202.2210.5Switches, manReceiving tubes274.5283.0250.0Deposited carbon resistors, fixed33.321.517.8Coaxial switPower and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swHigh-vacuum tubes64.064.563.5Wirewound resistors, fixed49.049.149.380tary switcGas and vapor tubes20.320.119.3Wirewound potentiometers76.078.376.5Toggle, meroMagnetrons40.039.337.0Wirewound potentiometers75.880.889.7Transducers, transducers, tra	Delay lines	14.0	18.0	26.3		30.0	0.00	00.0	
Electron tubes, total1,178.2 1,319.8 1,308.9Fixed resistors, total193.8 202.2 210.5Receiving tubes274.5 283.0 250.0Composition resistors, fixed82.0 87.1 88.6Power and special purpose tubes, total270.2 284.8 299.8Metal film resistors, fixed39.5 44.5 54.8High-vacuum tubes64.0 64.5 63.5Wirewound resistors, fixed39.5 44.5 54.8Pressure swGas and vapor tubes20.3 20.1 19.3Potentiometers, total151.8 159.1 166.2Snap-actionKlystrons36.3 41.0 37.5Wirewound potentiometers76.0 78.3 76.5Toggle, mercMagnetrons40.0 39.3 37.0Non-wirewound potentiometers75.8 80.8 89.7Transducers, totalLight-sensing tubes9.6 11.4 14.610.1 14.010.1 14.010.1 14.010.1 14.0Light-emitting tubes9.6 11.4 14.6Solid-state relays3.2 4.3 9.7AccelerationDisplay tubes, except tv12.0 12.5 13.0Solid-state relays3.2 4.3 9.7AccelerationTv picture tubes, black-and-white157.5 147.5 124.4Contact meter relays3.6 4.6 4.6Other transducers					and oversy				
Electron tubes, total1,178.2 1,319.8 1,308.9Composition resistors, fixed82.087.188.6Switches, manReceiving tubes274.5283.0250.0Deposited carbon resistors, fixed23.321.517.8Coaxial switPower and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swHigh-vacuum tubes64.064.563.5Wirewound resistors, fixed39.544.554.8Pressure swGas and vapor tubes20.320.119.3Wirewound resistors, fixed49.049.149.3Snap-actionKlystrons36.341.037.5Wirewound potentiometers76.078.376.5Nogel, mercMagnetrons40.039.337.0Other resistors (including varistors and thermistors)42.740.536.5Transducers, tuStorage tubes9.611.414.6Eleys, total237.5254.1277.1Strain transdicers AccelerationDisplay tubes, except ta Tu picture tubes, black-and-white157.5147.5124.4Solid-state relays Contact meter relays3.64.64.64.6	Electroluminescence	7.0	9.0	14.0					Solder
Receiving tubes274.5283.0250.0Deposited carbon resistors, fixed23.321.517.8Coaxial switPower and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swHigh-vacuum tubes64.064.563.5Wirewound resistors, fixed49.049.149.3Rotary switcGas and vapor tubes20.320.119.3Potentiometers, total151.8159.1166.2Snap-actionKlystrons36.341.037.5Wirewound potentiometers76.078.376.5Non-wirewound potentiometersToggle, merceMagnetrons40.039.337.0Other resistors (including varistors74.740.536.5Transducers, toStorage tubes9.611.414.6Light-emitting tubes9.611.414.6Light-emitting tubes, except tathode ray3.04.05.3Solid-state relays3.24.39.7Cathode-ray tubes, black-and-white157.5147.5124.4Ty picture tubes, black-and-white157.5147.5124.4	Flantron tubes total	1 178 2	1 310 8	1 208 0		and the second se		and the second	Switches, man
Power and special purpose tubes, total270.2284.8299.8Metal film resistors, fixed39.544.554.8Pressure swHigh-vacuum tubes64.064.563.563.5Wirewound resistors, fixed49.049.149.3Rotary switcGas and vapor tubes20.320.119.3Potentiometers, total151.8159.1166.2Snap-actionKlystrons36.341.037.5Wirewound potentiometers76.078.376.5Nogel, merceMagnetrons40.039.337.0Wirewound potentiometers75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)42.740.536.5Pressure traStorage tubes9.611.414.6Relay, total237.5254.1277.1Strain transsDisplay tubes, except tar Ty picture tubes, black-and-white157.5147.5124.4Electromagnetic relays, total Contact meter relays95.3104.2112.50Tv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6									Coaxial swit
High-vacuum tubesGaloGaloGaloGaloGaloGaloWirewound resistors, fixed49.049.149.3Rotary switcHigh-vacuum tubes20.320.119.3Potentiometers, total151.8159.1166.2Snap-actionToggle, merciKlystrons36.341.037.5Wirewound potentiometers76.078.376.5Nop-wirewound potentiometersToggle, merciMagnetrons40.039.337.0Non-wirewound potentiometers75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors)42.740.536.5Storage tubes9.611.414.6Relays, total237.5254.1277.1Strain transducers, totalDisplay tubes, except tar10.011.014.0Solid-state relays3.24.39.7AccelerationTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6									
Gas and vapor tubes20.320.119.3Potentiometers, total151.8159.1166.2Snap-actionKlystrons36.341.037.5Wirewound potentiometers76.078.376.5Toggle, merceMagnetrons40.039.337.0Non-wirewound potentiometers75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)75.880.889.7Storage tubes9.611.414.6Relays, total237.5254.1277.1Strain transducers, to Pressure tra Position transducersDisplay tubes, except cathode ray Cathode-ray tubes, black-and-white157.5147.5124.4Solid-state relays Contact meter relays3.64.64.6					Wirewound resistors, fixed	49.0	49.1		
Magnetrons40.039.337.0Non-wirewound potentioneters75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)75.880.889.7Twt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)42.740.536.5Pressure traStorage tubes9.611.414.6Relays, total237.5254.1277.1Strain transducers, total Position transducersDisplay tubes, except cathode ray3.04.05.3Solid-state relays3.24.39.7Acceleration Other transducersTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6						1 All and the second second second	the second se	and the second se	
Twt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)Transducers, totTwt's, including backward-wave types40.043.045.6Other resistors (including varistors and thermistors)42.740.536.5Pressure tra Position transducers, totStorage tubes9.611.414.6Relays, total237.5254.1277.1Strain transducers, totDisplay tubes, except cathode ray3.04.05.3Solid-state relays3.24.39.7AccelerationCathode-ray tubes, except tv12.012.513.0Electromagnetic relays, total95.3104.2112.5Other transducers, totTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6	Klystrons								loggie, merc
Light-sensing tubes35.038.050.0and thermistors)42.740.536.5Pressure traStorage tubes9.611.414.6Light-emitting tubes10.011.014.0Display tubes, except cathode ray3.04.05.3Cathode-ray tubes, except tv12.012.513.0Tv picture tubes, black-and-white157.5147.5124.4						75.8	80.8	89.7	Transducars to
Storage tubes9.611.414.6Position transtLight-emitting tubes10.011.014.0Relays, total237.5254.1277.1Strain transtDisplay tubes, except cathode ray3.04.05.3Solid-state relays3.24.39.7AccelerationCathode-ray tubes, except tv12.012.513.0Electromagnetic relays, total95.3104.2112.5Other transdTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6						127	10.5	26.5	
Light-emitting tubes10.011.014.0Relays, total237.5254.1277.1Strain transpondenceDisplay tubes, except cathode ray3.04.05.3Solid-state relays3.24.39.7AccelerationCathode-ray tubes, except tv12.012.513.0Electromagnetic relays, total95.3104.2112.5Other transpondenceTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6					and thermistors/	42.7	40.5	50.5	and the second se
Display tubes, except cathode ray3.04.05.3Solid-state relays3.24.39.7AccelerationCathode-ray tubes, except tv12.012.513.0Electromagnetic relays, total95.3104.2112.5Other transdTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6					Relays, total	237.5	254.1	277.1	
Cathode-ray tubes, except tv12.012.513.0Electromagnetic relays, total95.3104.2112.5Other transdTv picture tubes, black-and-white157.5147.5124.4Contact meter relays3.64.64.6			and the second						And the second se
Tv picture tubes, black-and-white 157.5 147.5 124.4 Contact meter relays 3.6 4.6 4.6	Cathode-ray tubes, except tv							and the second	Other transd
Iv picture tubes, color 476.0 604.5 634.7 Crystal can relays 22.2 24.2 26.3 Wire and cable					Contact meter relays	3.6	4.6	4.6	
	Iv picture tubes, color	476.0	604.5	634.7	Crystal can relays	22.2	24.2	26.3	Wire and cable

		1967 Ins of d		
Dry reed relays	19.0	22.6	25.4	
Mercury wetted relays	12.5			
Resonant reed relays	1.0	1.0		
Stepping switches	12.6	12.6	11.7	1000
Telephone type relays	20.3		21.4	(Think)
Thermal relays Other relays	4.1	4.2 145.6	5.6	
	139.0	143.0	154.9	
Semiconductors, total	882.3	966.7	1,034.6	
Transistors, total	453.8	and the second second	483.7	
Transistors, silicon	282.3	322.3		
Transistors, germanium	171.5	158.1	110.5	
Diodes and rectifiers, total	257.5		286.3	
Diodes and rectifiers, silicon Diodes and rectifiers, germanium	200.2		241.5	
Rectifiers, selenium and copper oxide	35.5 21.8	35.0 21.6	25.0 19.8	Pres de
Special semiconductor devices, total	171.0		264.6	1.50
Silicon controlled rectifiers	49.3	57.2	78.7	104
Microwave diodes, including varactors	21.2		30.3	
Microwave transistors	11.1	12.1		199
Tunnel diodes	3.4	4.0	5.1	
Light-sensitive semiconductors	21.2	and the second second	31.0	Lee 1
Field effect transistors	7.6	12.0	30.0	
Voltage reference and regulator diodes	57.2	64.3	75.2	1-11
Servos, synchros and motors, total	486.8	496.4	549.3	
Resolvers	10.8	12.1	11.6	
Servo motors	26.5		26.2	00
Synchros	29.3		30.2	òp
Rate generators	3.5	4.3	5.1	yri
Motor generators	11.4		11.3	igh
Fractional horsepower motors	405.3	410.7	464.9	t 1
Solder	15.3	17.1	19.0	Copyright 1967
Switches, manual, total	143.0	155.1	199.6	Electronics®
Coaxial switches	20.3	22.5	28.4	tra
Pressure switches	28.1	30.3		ni.
Rotary switches	19.5	22.9	31.5	cs
Snap-action switches	50.0	52.1	70.3	8
Toggle, mercury, knife, misc.	25.1	27.3	33.0	AM
Transducers, total	155.4	162.7	186.8	cGr
Pressure transducers	42.0	46.0	60.0	we.
Position transducers	40.4	41.2	49.3	-H
Strain transducers	28.0		30.0	≡
Acceleration transducers	20.0	22.0	22.5	Pu
Other transducers	25.0	25.0	25.0	blic
Wire and cable	400.7	408.3	434.0	A McGraw-Hill Publication

The market estimates in this tabulation are based on a mail survey conducted by Electronics magazine. Detailed questionnaires were sent to marketing managers, analysts and planners in all segments of the electronics industry. Estimates obtained are United States factory sales in millions of dollars-projections of output for 1966, 1967, and 1970.