SUBJECT INDEX, VOLUMES 16-25

Figures in bold type indicate the volume number, and those in ordinary type the page number. For subjects dealt with in volumes 1-15 the reader should refer to the respective decennial indexes at the end of volumes 10, 15 and 20.

Absorption wedges, circular optical —	sub-miniature valves: construction 18,217 tungsten wire for — . 18,222	contactless —, principle 25,253 gas — 25,259 spiral-groove —
Accelerators for elementary par-	Ampliscope ("harmonizing" X-ray images) 24,285	Bend tests, machine for — 17,246 Beta radiation, measurement of weak — 20,170
generator for fast neutrons 17,109 sealed neutron tube 23,325 practical importance of —	Analogue computers: for determining colour point of light source 23,118 plotting of electron trajecto-	Binaural hearing, see Stereophony Bitter patterns for investigation of magnetization reversal process . 24,244
(inaugural address Ooster- kamp)24, 1 see further Cyclotron and Linear electron accelerators	ries with resistance network and — 23,352	Brussels World Fair (Expo) 1958: Philips pavilion (4 articles) . 20, 1 "Electronic Poem" 20, 37
Acoustics, see Sound	Analysis: gas —, see Omegatron	Bulb-blowing machines 22,320
Aerials:	spectrochemical — with X-	
for radar (Luneburg lens) 22, 29 see further Radio receivers,	rays 17,269 Antennae, see Aerials	_
aerials	Arc welding, see Welding Atmosphere, exploration with	Cadmium sulphide: photoresistors using — 20,277
Agrobiological research:	radio waves 22, 61	etch pits on —
laboratory for — 16,353 control of animal pests 17,146	Automation:	Pascal 24,102
fungicides	of filament-coiling machine 21,309 automatic digital photometer for testing incandescent	Camera tubes for TV, see Tele- vision camera tubes
"Tedion V 18", experiments	lamps 23,244 see further Mechanization and	Capacitors: materials with high ε 17,129
with radioactive isotope 21,276 balance of nature 23,101	Numerical control	life in ballasts 20,162 precision variable — 20,234
Aircraft and lightning 16,296 Air engine, new construction with		precision variable — 20,234
rhombic drive mechanism 20,245		Car headlamps: with an asymmetric dipped
Airfield beaconing: design and light sources 16,273	Balance of nature (inaugural address Van der Veen) 23,101	beam 16,351 bulbs, inspection of filament
supply units	 	(photograph) 24,180 with iodine lamps 23,242
Air fractionating see Refrigerat- Air liquefier ing technique	Ballasts for gas-discharge lamps: noise emission of — 18,110	Car radio 24, 27
Alkali halides, lattice imperfections studied on — 20, 69	• small — (in polyester resin) 18,279 life of transformers and	Carbon-arc image furnace for zone melting of oxides
Alloy-diffusion technique for manufacturing HF transistors 24,231	chokes	Cardboard, reduction of trim- losses with computer 24,121
Ambiophony, see Sound, modern acoustical techniques	Barium getter films 19,290 Barium titanate for capacitors 17,129	Cardiography, vector-electro— . 21, 24 Cardiotachometer for continuous
Amplifiers:	Beacons:	measurements
for carrier telephony 16,287 pre-amplifier for pick-up (AG	microwave — with multi- reflex klystron 24,184	Cascade generator, see High-ten-
9005) 18,238 with single-ended push-pull	airfield beaconing 16,273	sion generator
output 19, 41 wide-band — with 7 cm disc-	Beam extraction, see Cyclotron	Cathodes: dispenser —, q.v.
seal triode 19,145	Beam transmitters: with double FM 17,317	oxide —, q.v.
10 W wide-band — with 7 cm disc-seal triode 21, 41	frequency stabilization for — 17,334	transmitting valves 20,301
75 cm — for radio-astronomy (with EC 157) 21,317	wide-band amplifier using 7 cm disc-seal triode 19,145	Cathode-ray tubes:
see also Difference amplifiers and Noise	10 W wide-band amplifier using 7 cm disc-seal triode 21, 41	secondary emission from the screen
	relay stations for — using disc-seal triodes 22, 16	sedimentation of screens 16,232
Amplifying valves: noise in —, see Noise	transmitting valves for —:	ratio 18,298
professional — 18,181 disc-seal triodes for cm waves:	multi-reflex klystron 17,328 18,317 disc-seal triodes } 20,225	oxide cathode with half-watt
EC 57 18,317 EC 59 20,225	D 11: 14	measurement of intensity dis-
with metal-ceramic wall	recording of isocandela dia- 23,278	tribution in snot
(OZ 92) 21,104 experimental 5 cm triode 21,167	1	tubes
various applications 22, 16 see also Amplifiers	Bearings: magnetic journal bearing 22,232	Cheater circuits for testing of thyratrons
* · · ·	•	

Chladni's figures on vibrating ca-		Counter tubes:	Diffusion studies with tracers,
pacitor	19, 84 20 50	Geiger-Müller —:	grinding machine
Cinefluorography, see X-ray image	10, 55	ring of — for thyroid examination 18, 87	Digital electronic computers, see Computers, digital electronic
intensifier		for X-ray analysis 18,262	
Cinema projection, see Film pro-		guard counter for weak	ophony
jection		beta radiation 20,170	
Cleating, improved method of - 1		scintillation counter, q.v.	Directional isolators:
Clinical thermometer		X-ray intensity measurement	application of ferroxcube for
CO ₂ welding	34, 20	with —:	
Coil winding, orthocyclic — 2 Coiling machine, see Filament-	20,505	diffractometer 16,123	for 8 mm and 4 mm waves 22, 11
coiling machine		methods 17,206 count-rate computer 17,249	Discharge flash lamps, see Flash lamps, electronic-
Coilless filters for low frequencies 2	25.330	X-ray spectrochemical	Discharge tubes, see Gas-discharge
Cold-cathode tubes Z 800 U,	,	analysis 17,269	tubes
Z 801 U	18,128	design and properties of	Disc-seal triodes, see Amplifying
Colour point, analogue computer		counter tubes 18,262	valves
for — of light source 2		proportional counter tube	
Colour rendering of "TL" lamps 1	18,249	for X-rays 18,264	
Colour television, see Television,		see also Counters	generation of — by thermal
colour —		Crackle-free potentiometer 20,283	stresses
Complex quantities at varying	0 300	Commented	Ge crystals free of — 21,340
frequencies, cathode-ray display I Computers, analogue —, see Ana-	10,500	Crystals:	influence in metals, semicon-
logue computers		structure determination with X-rays	ductors and ionic crystals 22,362 projection topographs of — 23, 82
Computer, count-rate — 1	7.249	structure determination with	projection topographs of — 23, 62
p p	,	neutrons 23, 69	Dispenser cathodes:
Computers, digital electronic:		lattice imperfections in ionic	introduction 19,177
random-access magnetic-core		—	pressed cathode 19,179
memories for — 2	20 ,193	see also Germanium and Sili-	impregnated cathode 19,186
the PASCAL 2	23, 1	con	machining of tungsten for
listening in to the PASCAL 2	24 ,164		impregnated cathodes 17, 97
applications:		Cyclotron:	L cathode, application in
magnetic field of isochro-	1 100	CERN 600 MeV synchro—:	disc-seal triode EC 57 18,317
nous cyclotron 2	24,100	design	(21, 1
reduction of trim-losses of corrugated cardboard 2	24. 191	radio-frequency system . 22,149	in magnetrons $\left.\begin{array}{c} 23,316 \\ 95,917 \end{array}\right.$
potential fields, electron	44,141	tuning-fork modulator . 22,162	Displacement massyrements do
trajectories 2	24.130	Chladni's figures on vibrating capacitor 19, 84	Displacement measurements, de- termining magnetic quantities
vacuum deposition of re-	,	Orsay 160 MeV synchro—	by — 25,207
sistors 2	24 ,144	with beam-extraction sys-	Displacement pick-up 17, 63
design of loudspeaker	,	tem 23,381	Donders, F.C., reaction-time re-
magnets 2	4, 150	investigation of magnetic field	search by —
solving a chessboard		of isochronous — 24,106	DONDERS, electronic system for
puzzle	4,157		measuring human reactions 25, 64
Condensers, see Capacitors			L .
Contact microradiography \ldots $\left\{\begin{array}{c}1\\1\end{array}\right\}$	0 221		Doping:
Contactless bearing, principle 2	5 253	DC/AC converters:	preparative methods of Ge and Si
contactions bearing, principle 2	20,200	vibrator— 16,118	inhomogeneities in Ge and Si 25,195
Control engineering and theory:			
electronic control of industrial			
		centrifugal (mercury jet) — 18, 13	see further Solid-state research
processes 1	7, 21		see further Solid-state research
processes	7, 21	centrifugal (mercury jet) — 18, 13 transistor — 20,362	see further Solid-state research
control of operating param- eters in suspension reactor		centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical in- strument for — 18,276	see further Solid-state research Dosimetry:
control of operating param- eters in suspension reactor of KEMA 2	.7, 21 21,121	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals 16,341	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation 19,264
control of operating parameters in suspension reactor of KEMA 2 automatic control in glass	1,121	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical in- strument for — 18,276 Deformation of metals 16,341 Delay lines, ultrasonic 25,234	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation 19,264 dosemeters for therapy and
control of operating parameters in suspension reactor of KEMA	1,121	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals 16,341 Delay lines, ultrasonic	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation 19,264 dosemeters for therapy and diagnostics 23, 55
control of operating parameters in suspension reactor of KEMA 2 automatic control in glass manufacture 2 theory of linear control sys-	21,121 22,311	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals 16,341 Delay lines, ultrasonic 25,234 Delta modulation 24;355 Delta Project Netherlands, study	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating phar-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals — 16,341 Delay lines, ultrasonic — 25,234 Delta modulation — 24;355 Delta Project Netherlands, study of littoral drift — 21,157	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation 19,264 dosemeters for therapy and diagnostics 23, 55
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals 16,341 Delay lines, ultrasonic 25,234 Delta modulation 24;355 Delta Project Netherlands, study of littoral drift 21,157 Deposition of circular absorption	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating phar-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating phar-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating phar-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor — 20,362 using Si controlled rectifiers 23,272 Deaf-mute children, musical instrument for — 18,276 Deformation of metals 16,341 Delay lines, ultrasonic 25,234 Delta modulation	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating phar-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310 Electroluminescence
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310 Electrolytic tank: study of thermal-conductivi-
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310 Electroluminescence 19, 1 Electrolytic tank: study of thermal-conductivity problems 18, 52
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167 24,121	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310 Electroluminescence 19, 1 Electrolytic tank: study of thermal-conductivity problems
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167 24,121 6,201 6,360	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	21,121 22,311 23,109 23,151 23,167 24,121 6,201 6,360	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	23,109 23,151 23,167 24,121 66,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	23,109 23,151 23,167 24,121 66,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic) 24, 69 Electret with photoconductor 23,310 Electrolytic tank: study of thermal-conductivity problems
control of operating parameters in suspension reactor of KEMA	23,109 33,151 23,167 24,121 6,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	23,109 33,151 23,167 24,121 6,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	See further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	23,109 33,151 23,167 24,121 6,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	see further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation . 19,264 dosemeters for therapy and diagnostics 23, 55 "Duvadilan" (vasodilating pharmaceutic)
control of operating parameters in suspension reactor of KEMA	23,109 33,151 23,167 24,121 6,201 6,360 11,201	centrifugal (mercury jet) — 18, 13 transistor —	See further Solid-state research Dosimetry: pocket dosemeter for X-radiation and gamma radiation 16,134 of very weak X-radiation

emission —:	Ferromagnetic resonance (gyro- 18, 82 18,158	in a starterless circuit 17,288
demonstration austenite-	magnetic resonance) 18,158	("TL" M) 18, 17
pearlite transformation 16,337	magnetic resonance) (19,304	with natural colour rendering
construction 18, 1		("TL" de luxe) 18,249
ultramicrotome for — speci-	Ferroxcube:	double-flux "TL" lamp 19,333
mens	with rectangular hysteresis	with increased luminous
investigation of SiC whiskers 24,181	loop:	efficiency
— photographs:	theory and properties 16, 49	radio interference from — 20,135
ferroxdure 18,237	switching time 18,336	supply of — in vehicles: with direct current
"Ticonal" \dots $\begin{cases} 19, 11 \\ 24,380 \end{cases}$	application for magnetic-	("TL" C) 18, 11
7 24,300	core memories 20,193	with centrifugal con-
Electron trajectories	magnetization reversal process 24 ,242	verter 18, 13
Electron trajectories: focusing in X-ray tubes 20,291		with ransistor converter 20,362
plotting — with electrolytic	various applications: inductive aerial 16,186	with converter using Si
tank	inductive aerial for FM 24,332	controlled rectifier 23,272
plotting — with resistance	amplitude modulation of	ballasts, q.v.
network and analogue com-	centimetre waves 18, 82	see also Lighting
puter 23,352	in unidirectional wave-	Fluorescent screen for colour TV 23,133
calculation of — with digital	guides 18,158	Flying-spot scanner, see Television,
computer 24,130	piezomagnetic vibrators 18,285	flying-spot scanner
	pulse transformer 19, 28	Focusing of X-ray tubes 20,291
Electron tubes:	magnetic-core memories 20,193	Foucault pendulum in United
microphony in — 22, 71		Nations building 19,236
cold-cathode tubes Z 800 U,	Ferroxdure:	Fracturing of steel resulting from
Z 801 U 18,128	crystal-oriented — (ferrox-	hydrogen 24,252
see further:	dure II and III) 16,141	"Frena" and "Frenac" 19, 73
Amplifying valves	electron-microscope photo-	•
Cathode-ray tubes	graph 18,237	
Television camera tubes	comparison with other mate-	FM reception with strong
Television picture tubes	rials 18,358	interference
Thyratrons	topotaxy with — 20,354	multipath-transmission ef-
Transmitting valves	applications:	fects
Electronic control of industrial	magnetodynamic gramo-	beam transmitter with dou- 17,317
processes	phone pick-up 18,101	ble FM ? 17,334
Electronic games	pulse transformer 19, 28	see further Radio receivers
Electronic music, see Music	loudspeaker magnets 24,150	Fungicides, see Agrobiological
"Electronic Poem" at Brussels	L	research
World Fair 1958 20, 37	Ferroxplana:	
Electronics in the wood industry 23, 29	development and properties 18,145	
Electroscope 16,134	crystal-oriented — 19,209	
T	90.254	
Enamelled wire, manufacture and	topotactically oriented — 20,354	Callium phambida P-N lumi- (22 360
Enamelled wire, manufacture and testing 23,342	topotactically oriented — 20,354 analysis of crystal structure 22,135	Gallium phosphide, P-N lumi- 122,360
testing	analysis of crystal structure 22,135	Gallium phosphide, P-N lumi- , 22,360 nescence 25, 20
testing	analysis of crystal structure 22,135 Filament-coiling machine:	nescence 25, 20
testing	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309	nescence
testing	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239	Gamma radiation: pocket dosemeter 16,134
Entropy: concept of — 16,258 examples and applications } 16,321	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278
testing	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239	nescence
Entropy: concept of — 16,258 examples and applications } 16,321	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278
Entropy: concept of — 16,258 examples and applications	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,209 20,263 Gas analysis, see Omegatron
Entropy: concept of — 16,258 examples and applications	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,263 Gas analysis, see Omegatron Gas bearings 25,259
Entropy: concept of — 16,258 examples and applications 16,298 — and information 18,201 Etch pits:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,263 Gas analysis, see Omegatron Gas bearings 25,259
Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,209 20,263 Gas analysis, see Omegatron
testing	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233	nescence
testing	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source	nescence
testing 23,342 Entropy: 16,258 examples and applications 16,298 16,321 16,321 — and information 18,201 Etch pits: study of dislocations based on — 21,342 on CdS 22,266 on ZnS 24, 61 Experiments, science of — (statistical series design; inaugural address Hamaker)	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source (FP 20 S with SPP 800 W) 21, 73	nescence
testing 23,342 Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source (FP 20 S with SPP 800 W) 21, 73 projector of simplified design	nescence
testing 23,342 Entropy: 16,258 examples and applications 16,298 16,321 16,321 — and information 18,201 Etch pits: study of dislocations based on — 21,342 on CdS 22,266 on ZnS 24, 61 Experiments, science of — (statistical series design; inaugural address Hamaker)	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
testing 23,342 Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source (FP 20 S with SPP 800 W) 21, 73 projector of simplified design (FP 20) 21, 83 Filters, active (coilless), for low	nescence
testing 23,342 Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source (FP 20 S with SPP 800 W) projector of simplified design (FP 20) 21, 83 Filters, active (coilless), for low frequencies 25,330	nescence
testing 23,342 Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection 22,239 Filament lamps, see Incandescent lamps Film projection: professional 16 mm projector 16,158 projector for 70 mm and 35 mm film ("Todd-A.O.") 17,299 mirror-condenser lamp for 8 mm — 19,233 with pulsed light source (FP 20 S with SPP 800 W) 21, 73 projector of simplified design (FP 20) 21, 83 Filters, active (coilless), for low frequencies	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
testing 23,342 Entropy: concept of —	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,209 20,263 Gas analysis, see Omegatron Gas bearings 25,259 Gas binder, barium film 19,290 Gas-discharge lamps: ballasts for —, q.v. see further: Flash lamps, electronic- Fluorescent lamps Mercury lamps Sodium lamps Gas-discharge tubes: cold-cathode tubes Z 800 U, Z 801 U 18,128 indicator tube for counter 21,267 see also Thyratrons Gas laser, small stable — 24, 95
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	Gamma radiation: pocket dosemeter
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	Gas-discharge lamps: ballasts for —, q.v. see further: Flash lamps Mercury lamps Sodium lamps Gas-discharge tubes: cold-cathode tubes Z 800 U, Z 801 U
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	Gas-discharge lamps: ballasts for —, q.v. see further: Flash lamps Mercury lamps Sodium lamps Gas-discharge tubes: cold-cathode tubes Z 800 U, Z 801 U
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	Gamma radiation: pocket dosemeter
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control 21,309 visual inspection	Gas-discharge lamps: ballasts for —, q.v. see further: Flash lamps Mercury lamps Sodium lamps Gas-discharge tubes: cold-cathode tubes Z 800 U, Z 801 U
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	nescence
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	Gamma radiation: pocket dosemeter 16,134 monitor for nuclear reactor 19,278 reduction of — background 20,170 scintillation counter 20,209 20,263 Gas analysis, see Omegatron Gas bearings 25,259 Gas binder, barium film 19,290 Gas-discharge lamps: ballasts for —, q.v. see further: Flash lamps, electronic- Fluorescent lamps Mercury lamps Sodium lamps Gas-discharge tubes: cold-cathode tubes Z 800 U, Z 801 U 18,128 indicator tube for counter 21,267 see also Thyratrons Gas laser, small stable — 24, 95 Gas refrigerating machine, see Refrigerating technique Gas spectroscopy, microwave — 22,187 Geiger-Müller tubes, see Counter tubes Germanium: — diodes: theory and construction 16,213 application of point-con-
Entropy:	analysis of crystal structure 22,135 Filament-coiling machine: automatic control	nescence

preparative methods (zone melting floating amusible) 21 185	by years of Philips research in	lonization manometer:
melting, floating crucible) . 21,185 dislocation-free — crystals . 21,340		simple —
inhomogeneities in doped —	solid-state chemistry 24,36	1 IPOVOX
crystals 25,195		Iron, see Steel
— transistors, see Transistors	Wolfgang von Kempelen's	Isocandela diagrams, automatic (20,288
Getter films, barium — 19,290	speaking machine 25, 4	B recording of —
Getter ion-pump	reaction-time measurements 25, 7	
Glass:	Hot-gas engine, new construction	Isoxsuprine ("Duvadilan") 24, 69
sealing of window and cone	with rhombic drive mechanism 20,24 Hydraulic servomotor 24,32	
of picture tubes 19,318	24,52	íl
demountable seals for — 22, 53	Hydrogen in iron and steel $\begin{cases} 24,22\\24,25 \end{cases}$	
— throughout the Ages 22,282	Hypar (hyperbolic paraboloid) (20,	Junction transistors, see Transis-
structure (e.g. invert glasses) 22,300	shells for Philips pavilion on 20,	tors
automatic control in — man-	Brussels World Fair (Expo) 20, 1	7
ufacture	1958 (20, 2)	7
bulb-blowing machines 22,320	1	
testing of materials for glass- to-metal seals 22,337	Hysteresis loop:	177
Glazes, gloss point 17,153	automatic recording 16, 7 ferrites with rectangular —,	Klystrons: multi-reflex 17,328
0.142.05, globb point	see Ferroxcube	multi-reflex — for microwave
Gramophones:		beacons 24,184
fabrication of records 17,101		
fabrication of sapphire and		reflex — for 4 mm waves . $\begin{cases} 18, 51 \\ 21,221 \end{cases}$
diamond styli for pick-ups 19,324	Last a	reflex — for 2.5 mm waves . 21 221
high notes, reproduction 18, 89	Illumination, see Lighting	low-noise high-power — 18,361
magnetodynamic pick-up . \$ 18,101 18,173	Image iconoscope 17,189)
recorded velocities on stereo-		
phonic test records 23, 89	Image intensifier:	
Grid emission of various mate- 19,123	X-ray —, see X-ray image intensifier	Laboratories, see Research Labo-
rials	based on electroluminescence 19,	
Grinding machine for tracer diffu-	with electrostatic "zoom"	Tutorics
sion studies	optics 25, 88	Lamps:
Growth substances in plants 17,294	Impedance measurements, see	of constant intensity, simple
Guard counter	Lecher lines	circuit 21,229
C	Implosion-proof picture tube 25, 8	1
Gyrator:	The state of the s	Flash bulbs
a new network element 18,120 realization for microwaves 18,158	Impurities in metals:	Flash lamps, electronic-
00 OF /	effects of — (inaugural address Fast) 16,34	Fluorescent lamps
magnetic resonance) 18,158		
,	hydrogen in iron and steel 24,22, 24,25	Sodium lamps
	<u>'</u>	Laser, small stable gas — 24, 95
	Incandescent lamps:	Lathe headstock, high-precision 19, 68
Wall anofficient management 90 000	for airfield beaconing 16,280	
Hall coefficient, measurement 20,220 Harbour radar of Rotterdam 20,349		Lattice imperfections:
random radar of Rotterdam 20,349	filaments 19,109 mirror-condenser lamp for	
Hearing:	8 mm projectors 19,233	atoms (inaugural address Fast) 16,341
. 16 016		studied on alkali halides 20, 69
alus · · · · · · · · · · · · · · · · 19,130	coiling machine 21,309	chemical — and dielectric
see also Perception	bulb-blowing machines for — 22,320	losses
Heart rate, continuous measure-	birth of a lamp factory, 1891 23,222	influence in metals, semicon-
ment of —	$\begin{array}{c} \text{iodine} = \dots \\ \text{iodine} = \dots \\ \text{23,23} \\ \text{23,24} \end{array}$	ductors and ionic crystals . 22,362
Heat conduction, study with electrolytic tank		
Herbicides, see Agrobiological re-	automatic digital photometer 23,244 shock testing of — 24,199	
search	50 years of gas-filled — 24,195	
	see further Car headlamps	Lecher lines:
High-frequency heating:	Indicator tube for transistorized	for reflection and impedance
inductive -, with hydrogen	decade counting circuits 21,26	
thyratrons 20,101	Indium antimonide, properties	for VHF impedance measure-
transmitting valves for — . 20,299	and applications 22,21	ments on balanced objects 21, 88
application in wood industry 23, 30	Information theory and entropy 18,20	Levitation by magnetic fields 18,125
Wigh tonsion government	Inhomogeneities in doped Ge and	Light, units
High-tension generator:	Si crystals	
compact 100 kV generator for neutron tube 23,338	Insecticides, see Agrobiological research	Light sources, see Lamps
1 MV — for fast neutrons 17,109	Intensification of X-ray images,	Lighting:
	see X-ray image intensifier	1 " "
History:	Interference of light in thin films 19, 59	
50 years of high-pressure	Interference mirrors for colour	of Dutch National War Me-
mercury lamp 18,167	separation 24,263	morial, Amsterdam 18,300
glass throughout the Ages 22,282	Interpolation with electronic § 24,100	open-air laboratory for road
radiation furnaces 23,182	computing unit 24,308	lighting 19,202
birth of Philips' lamp factory 23,222		
calculating machine of Blaice	Iodine incandescent lamps 23,23	automatic recording of iso- 20,288
calculating machine of Blaise Pascal	Iodine incandescent lamps \ 23,237 23,242 Ion burn in TV picture tubes 16, 27	automatic recording of iso- § 20,288 candela diagrams 23,278 of traffic routes 23,258

				1 7 7 7	
Lightning and aircraft	16,296	with dispenser cathode	23,316	Mirror-condenser lamp for 8 mm	10.000
Line converters with ultrasonic	05 040	pulsed — for $2\frac{1}{2}$ mm waves	25,217	projectors	19,233
delay lines	25,249	Mains-voltage stabilizers Masers, solid-state —	25 280	Modulation methods:	
Linear electron accelerators:		Match boxes, inspection of veneer	23. 33	survey (symposium paper) .	24,353
application for X-ray therapy	17. 31	mapooron or voncor	,	amplitude modulation of cm	•
in industrial radiography in-	,	Materials research:	- 1	waves by means of ferrox-	
stallation	23,197	bend tests	17,246	cube	18, 82
Linear programming	24,123	with X-ray image intensifier	17 , 93	"Frena" and "Frenac"	19, 73
Liquid-air installations, see Refrig-	l	X-ray inspection of steel dur-		"compatible" single-sideband	95 211
erating technique		ing rolling	21,281	modulation frequency modulation, q.v.	23,311
Littoral drift, study with radio-		4 MeV radiography installation for —	23 107	Molecular weight, determination	
isotopes (Netherlands Delta Project)	21 157	Mechanical stresses in glass	22,337	with thermistor	20,357
ject)	#1,10°	Mechanical tests: bend test appa-	,	Monitoring, see Radiation moni-	,
Loudspeakers:	Ì	ratus	17,246	toring	
twin-cone —	16,241	,		Motion-picture projection, see	
— installation for high-	1	Mechanization:		Film projection	04 41
fidelity reproduction in the	70.004	bulb-blowing machines	22,320	Mounting on printed-wiring panels	24, 41
home	18,304	mechanized mounting of TV	94 41	Multiplier tubes, see Photomulti- pliers	
high-resistance —	20 310	sets	24, 41	Multi-reflex tubes, see Klystrons	
public-address — performance tests on —	21 362	Memories, magnetic-core —	20,193	Miller Chex cubes, see 22 join 525	
design of ferroxdure — mag-	21,002	Memories, magnetic core	-0,170	Music:	
nets with computer	24,150	Mercury lamps:		electronic:	
Low temperatures, research at -,	•	low-pressure fluorescent —,		technical aids; composi-	
see Solid-state research		see Fluorescent lamps		tion (Badings)	19 ,191
·	•	high-pressure —:	7076	Philips pavilion Brussels	00 42
·		review of development .	18,167	(Varèse)	20, 45 17 363
		application of HPK lamp	10 200	various instruments instrument for deaf-mute	17,303
M. d	94 171	for floodlighting pulsed super-high-pres-	10,500	children	18.276
Machine tools, numerical control of —	24,171	sure mercury lamp (SPP		comparison between repro-	
Magic-eye indicator tube (E 82 M)	18.243	800 W)	21, 73	duced and "live" —	17,171
Magnets, dimensions of permanent	,	,		ambiophony, see Sound, mod-	
— of various materials	18,358	Metals:		ern acoustical techniques	
Magnetic-core memories	20,193	impurities, influence (inaugu-	~ ~ ~		
		ral address Fast)	16,341	 	
Magnetic fields, static:	70 105	iron and steel, see Steel			
levitation by —	18,125	tungsten, q.v.		Negative feedback in telephone	
generation of strong — with superconducting dynamo.	25 16	Meteorology:		cable repeaters	16,287
superconducting dynamo.	40, 10	radio sonde	16, 148	Neon installations, stray capaci-	•
Magnetic materials:		radar sonde	19,258	tances in —	21,207
automatic recording of hys-		Microphones, placing of -, see			
teresis loops		Sound, modern acoustical tech-		Neutrons:	02 60
comparison of —	18, 358	niques	00 71	— diffraction	23 , 69
determining magnetic quanti-		Microphony in electron tubes	22, /1 17 45	monitoring of — flux in (swimming-pool-type reac- {	19,249
ties by displacement meas- urements	25 207	Microradiography }	19 , 221	tor	19, 273
fast and accurate measure-	20,201	Microtome, ultra—	17,178	monitoring of — flux in	21,134
ments on small samples (vi-		Microwave cooker	22, 89	suspension reactor ?	21 ,144
bration method)				sealed — tube	23 ,325
see further:		Microwaves:		generator for fast —	17,109
Ferroxcube		wide-band amplifier using	30 345	Nitrogen, production of liquid	20,177
Ferroxdure		7 cm disc-seal triode 10 W wide-band amplifier	19,145	— from air	25,340
Ferroxplana "Ticonal"		using 7 cm disc-seal triode.	21. 41	Noematachograph :	20, 10
Ticonai		dsing . chi disc-scar ariodo .	18. 158	Noise:	
Magnetic recording:		directional isolators }	22, 11	general survey (inaugural	
for programme control	20, 45	applications of — triodes	22, 16	address Knol)	20 , 50
wheel store for TV signals	22 , 1	waveguide equipment for §	22,113	receiver with very low — level	
tape for TV (studio quality).		2 mm waves ?	•	(radio-astronomy)	
5000:1 scale model of —	05 010	screened room for — experi-	99 155	 figure, automatic indicator measurement on klystron 	
process	25,319	ments	23, 133	diode as — standard for deci-	
Magnatia recongnes		klystron	24.184		
Magnetic resonance: gyro— (ferro—), q.v.		see also:	,	standard — sources (micro-	
para—	19, 301	Amplifying valves		waves)	23,293
nuclear —	21,286	Klystrons		— generator for mm waves .	22 ,391
double —	24, 206	Magnetrons		speech transmission at high	
Magnetodynamic pick-up }	18,101	Noise		- levels ("Frena", "Fre-	10 79
Manustantistiss silvetos	18,173	Radar Milling machine, see Numerical		nac")	17, 79
Magnetostrictive vibrators, see	:	control		in A-ray image intensiner.	20.216
Piezomagnetic vibrators Magnetron cooker	22. 80			in scintillation counter }	20,263
magnetion country	, 0,	(GM 6010)	16,117		-
Magnetrons:		Mirrors, dichroic }	19 , 59	plications	
range of pulsed — for 3 cm				Nuclear magnetic resonance	21,286
to 4 mm waves				Nuclear reactions for production of radio-isotopes	16 1
for microwave cooker	00 01	cal system		I at madra reatones	

swimming-pool type, moni-	19,245 19,273	Phonetic research 2		Projection of films, see Film pro- jection
suspension — of KEMA:	·	Photocells:		
reasons behind choice .	21 ,109	photomultipliers, q.v.		Projection television
measurement and control of operating parameters	21 121	photoresistors, q.v. phototransistor in pyrometer 2	00 00	Proportional counter 18,264
monitoring of low neu- tron flux		phototransistor in pyrometer 2 phototransistor in relay 1		Pulling of crystals
monitoring of high neu-		Photoconductivity:		Pulse transformer for radar trans-
tron flux		principles (concepts; contacts		mitter 19, 28
safety circuits Nuclear research, technical appli-	21,140	on semiconductors) 2 photoresistors, q.v.	25,120	Pulsed magnetron, see Magnetrons Pupillary reflex
cations (inaugural address Oos-		opto-electronics (inaugural		Puzzle, solving with PASCAL 24,157
terkamp)	24 , 1	address Diemer) 2	23, 189	Pyrometer using phototransistor 20, 89
Nuclides, radioactive, see Radio- isotopes		photorectifying layer for read- ing matrix 2	23,310	
•		TV camera tube with lead-	-0,010	
Numerical control: of machine tools in general		oxide layer	6, 23	n 1
(public lecture Viersma).	24,171	TV camera tube "Plumbi- 5 2 con" 2	24, 57 25.133	Radar: pulse transformer for radar
(24 ,299	"Photoflux" lamp, see Flash bulbs	,	transmitter 19, 28
	24 ,308 24 ,320	Photography, see Flash bulbs and Flash lamps, electronic-		— sonde
(-1,020	Photometer, automatic digital, for		— system for Rotterdam 20,349 8 mm — installation 21, 92
		testing incandescent lamps 2	23,244	high-speed scanning — anten-
		Photomultipliers:		na (Luneburg lens) 22, 29 4 mm — installation 25,274
Omegatron:		construction and problems . I		Timi — instanation 20,274
for qualitative gas analysis . for quantitative gas analysis		stroboscopic operation of — 1 use for flying-spot scanning	L 9 , 50	Radiation heating:
analysis of residual gases in	,170	(50 AVP)	21,237	zone-melting furnace 23,161 ancient radiation furnaces 23,182
TV picture tubes	23,122	see also Scintillation counter		•
Operations Research Opto-electronics (inaugural ad-	20,100	Photoresistors:		Radiation monitoring: with pocket dosemeter 16,134
dress Diemer)		using CdS		of hands, feet and clothing . 16,201
Orthocyclic coil winding Oscillator, LF — with low distor-	23,365	using InSb	22,217	transistorized monitor 21,201
tion under non-linear loading .	25,22	source	21,229	see further Counter tubes and Dosimetry
Oscilloscope tubes, see Cathode- ray tubes		Phytopharmaceutical research, see		
Oxides, zone melting of —	23,161	Agrobiological research Pick-up, displacement — 1	L7. 63	Radio-astronomy: radiation from interstellar
		Pick-up, magnetodynamic $\begin{cases} 1 \\ 1 \end{cases}$	8,101	hydrogen (21 cm) 17,305
Oxide cathodes: for loads of 1 to 2 A/cm ²	23, 19	Pick-up, vibration —	18,173 17. 61	design of receiver for hydrogen radiation 17,351
with half-watt heater		Picture tubes, see Television pic-	, 0.	75 cm receiver for — 21,317
		ture tubes		Radio interference from fluorescent lamps
		Piezomagnetic vibrators:		cent lamps
Paramagnetic resonance	19 301	ferroxcube for —	8,285	Radio-isotopes:
Parametric amplification, simple		application $\ldots \ldots $ $\left. \left. \left. \left. \left. \left. \right. \right. \right. \right. \right. \right. \right\} $	8,368	production methods 16, 1 monitor for radioactive con-
experiments	21, 47	Pitch perception	25, 37	tamination 16,201
Particle counter and sizer Pascal, calculating machine of	21,235		24, 57 25,133	radioactive iodine in thyroid gland
Blaise —	24,102	P N luminoscence in Cap \ 2	22,360	as X-ray sources 18,229
PASCAL, digital electronic (computer		Pol, Balth. van der, scientific work 2	25, 20	measurement of weak beta
Pavilion at Expo, see Brussels	,	"Posyn", "Potermo" and "Povin"	-, 50	activity
World Fair (Expo) 1958 Peltier cooling, application in dew-		wire	23,342	Netherlands Delta Project 21,157
point hygrometer	21 ,196	Potential distribution:		experiments with "Tedion V 18" 21,276
Peltier effect in resistance welding	20 ,188	determination with resistance		grinding machine for diffusion
Pendulum, Fouçault — in United Nations building	19,236	network	ZI, 10	studies 25,191
D	· ·	computer		Radio receivers:
Perception: Institute for — Research	25 . 33	Potentiometer, crackle-free 24 Precision grinding machine for	20,283	aerials: inductive — 16,181
— of pitch	25 , 37	tracer diffusion studies 2	5,191	FM — 17,348
phonetic research investigation of visual sensory	25 , 43	Precision lathe headstock 19	L 9 , 68	small ferroxcube FM — 24,332
system	25 , 50	Precision variable capacitors 24 Prime numbers from computer . 24		FM section of — 17,342 ratio detector for FM 17,345
measure of perceptual work	25 , 56		, , ,	transistor — powered by a
electronic system for meas- uring human reactions	25, 64	Printed wiring: in radio sets	20,113	thermopile 18,155 printed wiring in — 20,113
history of reaction-time meas-	·	in car radio 2		transistor car radio with
urements		mechanized mounting on — panels (TV set) 2	,, ,,	push-button tuning 24, 27
see also Vision	,	Prism for colour separation in	·	see also: Amplifying valves
Pest control (see Agrobiological Pesticides (research	Ì	Process control, see Control engi-	4,263	Loudspeakers Noise
				110190

76.140	Colones and industry (address	acoustic spectrum analyser
Radio sonde 16,148	Casimir) 20, 85	with electronic scanning 21,349
Radio valves, see Amplifying valves Radio waves, exploring the atmos-	Cashini)	see further:
phere with — (inaugural address	Scintillation counter:	Gramophones
Bremmer) 22, 61	fundamentals 20,209	Loudspeakers
Reaction times, human —, see	signal-to-noise ratio and dead	Music
Perception	time	Speaking machine of v. Kempelen 25, 48
Reading matrix, photorectifying	X-ray intensity measurement 18,266	Spectrochemical analysis with X-
layer for —	Screened room for microwave experiments	rays
Receiver valves, see Amplifying	experiments	Spectroscopy, time-resolved 19, 50
valves	Secondary emission:	Speech synthesis
Rectifiers:	from fluorescent screens 16, 26	Spiral-groove bearings 25,265
Si controlled — in converters 23,272	in television camera tubes 17,189	Stabilization of frequency in beam
see further:	in photomultiplier 21,237	transmitter
Germanium diodes		Stabilization of voltage, see Volt-
Thyratrons	Semiconductors:	age stabilization Stabilized light source, simple cir-
Voltage stabilization	measurement of resistivity and Hall coefficient 20,220	cuit
Reflection measurements using transmission line 16,309	gallium phosphide, P-N lu- 22,360	Stars, variable: discovery with TV
Reflex klystrons, see Klystrons	minescence 25, 20	technique 19,140
Renex Riystrons, 500 22 journe	see further:	Statistics, applied (inaugural ad-
Refrigerating technique:	Germanium	dress Hamaker)
gas refrigerating machine,	Photoconductivity	0. 1
fundamentals 16, 69	Silicon	Steel:
gas refrigerating machine,	Solid-state research	X-ray inspection during rolling 21,281
construction 16,105	Thermistor applications Transistors	arc-welding — 24, 14
air fractionating column 20,177 snow separator for liquid-air	Series connection of lamps (air-	24,221
installations	field beaconing) 17, 10	hydrogen in iron and $-\cdot$ $\begin{cases} 24,221 \\ 24,252 \end{cases}$
production centre for liquid	Servomotor, hydraulic, for milling	
nitrogen	machine 24,320	Stereophony:
Relay satellite, solid-state maser	Shock testing of incandescent	comparison between repro-
in—	lamps 24,199	duced and "live" music 17,171
Relay tubes, see Cold-cathode	Silicon:	application in theatres $\begin{cases} 20,309 \\ 21,52 \end{cases}$
tubes and Thyratrons Remote control: wireless-powered	preparation by floating-zone	Stereophonic test records, record-
toys	technique 21,185	ed velocities
Repeaters for carrier telephony . 16,287	— controlled rectifiers in con-	Stereophoto of dislocations 23, 86
	verters 23,272	Stereo-reverberation (ambiopho-
Research Laboratories:	— carbide whiskers 24,181	ny), see Sound, modern acoustical
40th anniversary (Science	inhomogeneities in doped -	techniques
goes to the Fair) 17,362	crystals 25,195 Single-ended push-pull circuit 19, 41	Strain gauges, application in model tests of Brussels World
new complex of buildings in the Netherlands 24,385	Single-sideband modulation, "com-	Fair pavilion 20, 19
Symposium Eindhoven 1963 24,339-	patible" 25,311	Stresses in glass, investigation 22,337
414	Snow separator for liquid-air in-	Structure analysis, see Crystals
Research: science and industry	stallations	Stud welding
(address Casimir) 20, 85		Subminiature valves, see Ampli-
Residue effect	Sodium lamps:	fying valves
De la companya de la	recent improvements in — . 23,246 for traffic routes 23,258	Superconducting circuit, dynamo for — 25, 16
Resistance network: description	Solderability of wire	
application for plotting of	Solid-state chemistry, survey of	Nuclear reactors
electron trajectories 23,352	Philips contributions (sympo-	"Symmetrix" X-ray diagnostic
Resistance welding, influence of	sium paper) 24,364	table
Peltier effect in — 20,188	Solid-state masers 25,289	Symposium Philips Research 24,339- Laboratories, Eindhoven 1963 414
Resistivity of semiconductors,	Salid state recognish.	Laboratories, Eindhoven 1963 / 414 Synchrocyclotron, see Cyclotron
measurement 20,220 Resistors, vacuum deposition of — 24,144	Solid-state research: survey (inaugural address	Systems conversion in television
Resonance isolators, see Direc-	Polder)	with ultrasonic delay lines 25,249
tional isolators	at low temperatures:	•
Road lighting, see Lighting	introduction 22,190	<u></u>
Rolling of steel, X-ray inspection	electron conduction 22,226	,
during —	thermal conduction in in-	Tap, high-vacuum — with short
	sulators; paramagnet- ism; dielectric losses 22,268	outgassing time 17,184
	heating in vapour with pres-	Tape recorders, see Magnetic re-
	sure and temperature adjust-	cording
Sapphire styli for gramophone	ment 24,240	(17,152
pick-ups 19,324	see also Lattice imperfections	"Tedion V 18" $\dots \dots $ $\begin{cases} 19,105 \\ 91,976 \end{cases}$
Satellite communication systems,	and Semiconductors	"Tedion V 18"
solid-state masers in — 25,289	Sonde, radar 19,258 Sonde, radio 16,148	Telephony: feedback amplifiers for car-
Sawmill, electronics in — 23, 29 Scalers, see Counters	Jonue, raulo	rier — 16,287
"Scenioscope", TV camera tube 17,189	Sound:	private branch exchange
	modern accustical tech (17,258	UB 49 18, 19
Schmidt optical system:	niques (acoustics control) 20,309	uniselector U 45a
for general X-ray diagnostics 16, 58	1 21, 32	at high noise levels ("Frena",
for projection TV 19,338		
for X-ray cinefluorography . 20,331	- 79,150	1

sonic delay lines to	radio receiver 18,155	Turbines, continuous monitoring
	"Thermoplac" wire 23,371	of —
Television camera tubes:	Thoriated-tungsten cathodes in \ 19,118	
image iconoscope with glass	transmitting valves 20,301	
target ("Scenioscope") 17,18) Thomasmon	
photoconductive — 16, 2		Ultra-high frequencies:
"Plumbicon" \dots $\begin{cases} 24, 5 \\ 25, 13 \end{cases}$	grid current 16, 43	transmitting triode TBL 2/300 19,118
, =0,20	life testing (MT 5544 and	75 cm receiver for radio-as-
Television, colour —:	MT 5545) 16, 98	tronomy 21,317
fundamentals 19, 8	hydrogen — for induction	see further:
dichroic mirrors 19, 5	heating	Amplifying valves
colour-separating prisms 24,26	Thyroid gland, measurement of	Frequency modulation Lecher lines
projection (e.g. on 2.25×3 m) 19,33; for medical teaching 20,32;		Noise
flying-spot scanner for — 21,23		Ultramicrotome 17,178
fluorescent screen for picture	electron-microscope photo- \ 19, 11	•
tube 23,13		Ultrasonics:
T-1	comparison of magnetic ma-	ferroxcube for piezomagnetic
Television, flying-spot scanner: for 35 mm film 18,19	terials (e.g. $-XX$) 18,358	vibrators 18,285 machining with — (50 W \ 18,325
for colour television 21,23		and 2 kW drills) 18,368
application for the discovery	"Todd-A.O." film projector 17,299	transmitting valves for — . 20,299
of variable stars 19,14	Topotaxy 20,354	delay lines, application to TV 25,234
	Total-reflection fingerprinting 24,271	Unilines, see Directional isolators
Television picture tubes:	Toys, wireless-powered 24, 59	Uniselector for telephone ex-
secondary emission from the screen 16, 2	Tracers, see Radio-isotopes	changes (U 45a) 18,349
sedimentation of screens 16,23	Transducers	
pentode gun 18, 73		
photographs of implosion 18,260		
sealing of window and cone 19,31	Transistors:	Vacuum deposition of resistors . 24,144
analysis of residual gases 23,12	simple theory	37 . 1 .
fluorescent screen for colour —	at high current densities 18, 61	Vacuum technique: tap with short outgassing
implosion-proof — 25, 8	. I as nerwork element at low 1 '	time 17,184
impleated proof v v v v and, or	frequencies	17,121
Television receivers:	production of stable — 22,204	ionization gauge $\begin{cases} 17,121 \\ 20,153 \end{cases}$
visual acuity 16,17	manufacturing HF — with	ultra-high vacua 20,145
for four standards 17,16 phase linearity of — 18, 3		metal vacuum equipment 21,173 demountable glass seals 22, 53
luminous frame around screen 19,156		getter ion-pump 22,260
dosimetry of weak X-radia-	applications:	see further Omegatron
tion in — 19,26	hearing aids	Valves, see Electron tubes
T-1		Vapour, heating in — with pres-
Television recording: magnetic wheel store for — 22,	radio receiver powered by thermopile 18,155	sure and temperature adjustment 24,240 Vapour deposition of circular ab-
on magnetic tape (studio qual-	pre-amplifier for mag-	sorption wedge 22,402
lity) 24, 81	netodynamic pick-up . 18,238	Variable capacitors, precision — 20,234
m 1	light relay 19,280	Vasodilator "Duvadilan" 24, 69
Television standards:	pyrometer using photo-	Vector-electrocardiography 21, 24
considerations on the different —	DC/AC converter for	Velocity modulation, see Klystrons Vibrating capacitor, for electrom-
receiver for four standards . 17,16	DC/AC converter for "TL" lamp supply 20,362	eter
systems conversion with ul-	car radio 24, 27	Vibration pick-up, electrodynamic
trasonic delay lines 25,249		(PR 9260) 17, 61
Telstar, solid-state maser in — . 25 ,289		Vibrator, DC/AC converter 16,118
Temperature measurement:	transistors 25,181	Vibratory feeders 24, 84
clinical thermometer 17,25	Transmitting valves:	Vision:
pyrometer using phototran-	UHF triode up to 900 Mc/s	visual acuity in connection
sistor		with TV 16,172
of solutions, to determine	grid emission of various \ 19,123	luminous frame around TV
molecular weights 20,35'		screen 19,156
Theatres, see Sound, modern acoustical techniques	for HF heating and genera- tion of ultrasonic energy 20,299	investigation of visual sensory system
Therapy, X-ray —, see X-ray	see further:	at low light levels 25, 88
therapy	Amplifying valves	Voltage ratio, cathode-ray display
Thermal conductivity, electro-	Klystrons	of complex — 18,380
lytic tank for study of — 18, 52		V-1a
Thermal conductivity of solids,	Triodes, see Amplifying valves and	Voltage stabilization:
measuring method 21,35	Transmitting valves Tubes, see Electron tubes	mains —
Thermistor applications:	Tabos, see Diceion tubes	scope (45 kV) 18, 1
voltage stabilizer 17,	Tungsten:	2000 V power supply with
clinical thermometer 17,255	machining technique 17, 97	valves and transistors 25,181
in transistor circuits $\begin{cases} 18,246 \\ 20,132 \end{cases}$	— wire for small radio valves 18,222	Voltmeter, electronic DC milli—
determination of molecular	function of additives in — . 19,109 Tuning-fork modulator for 19, 84	(GM 6010) 16,117
weights 20,357		
-		

Waveguide equipment for $2 \text{ mm } \text{ y } 22,11$	8 "Müller" UGX unit 17,138	X-ray tubes:
waves 22,18	l dosemeters for — 23, 55	for microradiography $\begin{cases} 17, 45 \\ 19,224 \end{cases}$
Weed control, see Agrobiological	"harmonizing" X-ray images 24,285	
research		investigation of heat conduc-
	X-ray diffraction:	tion in anode 18 , 52
Weiss domains, observation of —:	counter-tube diffractometer 16,123	diffraction tube for 10 kW 19 ,314
with Faraday effect 19,28	determination of crystal	distant-focus —
with Bitter patterns 24,24	structures	
	see further Counter tubes, X-	X-rays, miscellaneous:
Welding:	ray intensity measurement	cinefluorography, see X-ray
stud — 17, 3	7 with —	image intensifier
enclosed — 20, 9		dosimetry of very weak radia-
influence of Peltier effect in	X-ray image intensifier:	tion 19,264
resistance — 20,18		fluorescence analysis 17,269
arc — of steel (zircon-basic	perception of object detail 17, 71	"harmonizing" X-ray images 24,285
electrode; CO ₂ welding) 24, 1		intensity measurement with
Whiskers, SiC — 24,18		counter tubes, see Counter
Winding, orthocyclic 23,36		tubes, X-ray intensity meas-
	medical aspects 17, 88	urement with —
Wire:	industrial radiology with — 17, 93	microradiography 17, 45
thin tungsten — 18,22		
solderability 20,15	8 (12.5 cm) tube 17, 89	pocket dosemeter 16,134
manufacture and testing of	cinefluorography with 11"	projection topographs of dis-
enamelled —	2 (28 cm) tube	locations
orthocyclic coil winding 23,36	application for orientation of	radioactive nuclides as X-ray
"Thermoplac" — 23,37		sources 18,229
Wireless-powered toys 24, 5		spectrochemical analysis 17,269
Wood industry, electronics in — 23, 2	9 with $-\dots\dots$ 21,281	
TW 1 1 1 1	37 1 1 1 1 1 1	·
Work physiology:	X-rays, industrial radiology:	
cardiotachometer 21,30	with image intensifier 17, 93	7:
measure of perceptual work 25, 5		Zinc sulphide, etch pits 24, 61
	linear accelerator for —, 4 MeV 23,197	Zone melting:
	4 Mev	of Ge and Si, various methods
	V was thoughts	
Y ray diagnostics	X-ray therapy: with moving tube (TU 1) 16, 33	(e.g. floating-zone technique) 21,185 of oxides in carbon-arc image
X-ray diagnostics: fluorography for general — 16, 5	8 linear electron accelerators	furnace 23,161
with image intensifier 17, 8	9 deservators for — 99 55	with electrostatic —
"Symmetrix" table 17,11	2 uoscineters for — 20, 33	with electiostatic 20, oc