



**Electronic
Engineering**

28 ESSEX STREET · STRAND · LONDON · W.C.2.

INDEX
VOLUME XXV
1953

INDEX

January to December

JAN	1-44	JUL	269-310	1953
FEB	45-88	AUG	313-356	
MAR	89-132	SEP	357-400	
APR	133-176	OCT	401-444	
MAY	177-220	NOV	445-488	
JUN	223-268	DEC.	489-536	

	Page
A	
Accumulator, The Silver-Zinc, by C. L. Chapman ..	422
Adders for a Variable Radix of Notation, Serial Digital, by R. T. Townsend ..	410
Ageing Processes in Instrumentation, Some Notes on, by R. H. Mapplebeck ..	22
Analogue Integration and Differentiation, A Note on Electronic, by M. J. Tucker ..	35
Analogue Integration and Differentiation, Electronic, by P. S. Brandon ..	476
Analogue Reciprocal Function Unit, by P. A. V. Thomas ..	302
Analysis of Waves Containing Harmonics up to the Twelfth, The, by D. R. Turner ..	30
Anodige, A New Discrete-Digit Voltage-Indicating Device ..	455
Audar, by R. H. James ..	451

B	
Band Pass Filter for Low Frequencies, A, by G. W. Morris and P. G. M. Dawe ..	365
Batching Counter, An Electronic, by R. T. Craxton ..	424
BBC Transmitting Station, New ..	57
Blocking Oscillators, by K. G. Beauchamp ..	239

BOOK REVIEWS	40, 84, 128, 174, 220, 264, 306, 352, 396, 436, 486, 530
Alternating Current Wave-Forms Theory and Practice ..	174
Analysis of Alternating Current Circuits ..	438
Applied Electronics Annual, 1952 ..	42
Basic Electronic Test Instruments ..	397
Beama Catalogue, 1952-1953 ..	42
B.I.M.C.A.M. Handbook for 1953 ..	487
Cathode Ray Oscillograph in Industry ..	486
Commercial A.C. Measurements ..	129
Communication Theory ..	532
Controllers for Electric Motors ..	487
Data and Circuits of Receiver and Amplifier Valves ..	129
Design of Electronic Measuring Instruments ..	396
Dictionnaire Anglais-Francais (Des Termes Relatifs a L'Electro-technique, L'Ectronique et aux applications Connexes) ..	129
Die Gestalt Der Elektrischen Freileitung ..	352
Dielectric Aerials ..	438
Die Messwandler Ihre Theorie Und Praxis ..	436
Electric Resistance Heating ..	438
Electrical Contractor's Annual, 1952-1953 ..	129
Electrical Measurements and the Calculation of The Errors Involved, Part II ..	437
Electrical Measuring Instruments, Part 2 ..	221
Electromagnetic Field ..	41
Electro-Magnetic Machines ..	438
Electron Tubes in Industry ..	265
Electronic Analogue Computers ..	264
Electronic Measurements ..	128
Electronics for Communication Engineers ..	265
Elements of Radio Engineering ..	220
Essentials of Microwaves ..	397
Fernsehtechnik (Television Engineering) ..	396
Filter Design Data for Communication Engineers ..	221
Fundamentals of Engineering Electronics ..	307

Fundamentals of Thermometry ..	438
Grundlagen der Elektronenoptik ..	486
Guide to Broadcasting Stations ..	487
High Fidelity Simplified ..	306
Higher Industrial Production with Electricity ..	202
Information Theory and its Engineering Applications ..	436
Leitfaden der Funkortung (A Guide to Radiolocation) ..	531
Lighting in Industry ..	174
Living Brain, The ..	530
Luminescence and the Scintillation Counter ..	532
Magnetic Circuit, The ..	397
Major Faults on Power Systems ..	265
Materials Handling in Industry ..	40
Modulators and Frequency-Changers ..	353
Photoconductivity in the Elements ..	222
Photoelectric Multipliers ..	352
Practical Industrial Electronics ..	40
Practical Thermometry ..	438
Primer of Electronics and Radiant Energy ..	352
Principles of Radar ..	486
Proceedings of the National Electronics Conference ..	220
Quarterly Journal of Mechanics and Applied Mathematics ..	42
Radio and Radar Technique ..	307
Radio Antenna Engineering ..	174
Radio Designer's Handbook ..	437
Radio Engineer's Servicing Manual ..	222
Radio Research, 1951 ..	42
Radio Upkeep and Repairs ..	438
Resonant Cavity Magnetron, The ..	353
Servo-Mechanism Analysis ..	437
Signal, Noise and Resolution in Nuclear Counter Amplifiers ..	530
Soft Magnetic Materials used in Industry ..	397
Sound Reproduction ..	487
Storage Tubes and their Basic Principles ..	264
Strain Gauges Theory and Application ..	264
Sub-Station Practice ..	175
Teach Yourself Mechanical Draughtsmanship ..	41
Television ..	128
Television Depannage ..	396
Television Engineering ..	41
Television Engineers' Servicing Manual ..	306
Television Picture Faults ..	396
Tensors in Electrical Machine Theory ..	531
Thermionic Vacuum Tubes ..	222
TV Troubleshooting and Repair Guide Book, Vol. 1 ..	40
Ultrasonic Physics ..	220
Use of Radar at Sea, The ..	175
Vacuum Technique ..	40
Vector Analysis ..	129
Wave Propagation in Periodic Structures ..	532
Wireless and Electrical Trader Year Book, 1953 ..	353
Worked Examples for Advanced Electrical Students ..	222

C	
C.R.T. Trace Brightening, Automatic by J. de Klerk ..	388
Cathode-Follower Output Stages, The Theory and Design of, by E. T. Emms ..	386
Clamp, Sprung Capacitor ..	43 ^c
Computing Machines Input and Output, by R. Bird ..	407

	Page
Constructional Techniques, New, by G. W. Dummer and D. L. Johnston—	
Part 1	417
Part 2	456
Control of Thyratrons by Small Signals, by R. Bailey ..	374
Corona Discharge Tubes for Voltage Stabilization, by E. E. Shelton and F. Wade ..	18
Corona Stabilizer E.H.T. Supply for Proportional Counters, A, by P. Holton and J. Sharpe ..	63
COMMENTARIES	1, 45, 89, 133, 177, 223, 269, 313, 357, 401, 445, 489
Current Stabilizer for a Low Resistance Solenoid, An Electronic, by M. S. Wills ..	250

D

D.C. Amplifier for use in pH Measurements, A, by C. Morton ..	74
Decaplot, The ..	211
Decimal Counter Using Binary Units, A Simple, by W. C. G. Slatter ..	391
Differential Input-Stage for Low-Frequency Amplifiers, A, by V. H. Attree ..	260
Differentiating Circuits, by R. L. Lord ..	519
Discharge Tubes, The Characteristics of Some Large-Current Glow, by F. A. Benson ..	321
Doppler Radar Systems, by R. C. Coile ..	113
Dummy Load, A Very Wide Band ..	330

E

Edge Gluing Wood ..	508
Electrical Telemetry and Automatic Process Control, by J. R. Boundy—	
Part 1	154
Part 2	198
Electrolytic Conductivity, Visual Method for the Determination of, by J. K. Grierson ..	110
Electromagnets, The Design of, by L. R. Blake—	
Part 1	380
Part 2	432
Electron Microscope and the Electron-Optical Examination of Surfaces, The Scanning, by D. McMullan ..	46
Encapsulated Reference Resistors, by F. L. Valder ..	332
Equivalent Q of RC Networks, The, by D. A. H. Brown ..	294
European Television and the Coronation ..	244

ELECTRONIC EQUIPMENT—	38, 86, 130, 266, 308, 398, 440, 484, 528
Aerial System, Suppressed ..	484
Amp-Check ..	39
Amplifier, Probe and Delay ..	528
Anemometer, Ionization ..	484
Anti-Vibration Mountings ..	87
Cable Sealing Sleeves ..	485
Capacitance-Resistance Bridge ..	440
Capacitors, Ceramic ..	529
Capacitors, Close Controlled Temperature Coefficient ..	528
Cathode-Ray Tube for Television, 16in. ..	39
Close Accuracy Capacitors ..	398
Coaxial Relay ..	399
Conductive Ceramic for Microwave Application, A Control Desk ..	267
E.H.T. Concentric Connectors ..	528
Electronic Temperature Controller, An ..	38
Frequency Measuring, Precision ..	266
Germanium Diodes ..	484
Heavy Duty A.C. Relay ..	399
High-Speed Counter, A ..	39
High Stability Power Unit ..	267
Hi-K Ceramic Capacitors ..	440
Humidity Measurement and Control ..	130
I.F. Transformer ..	267
Humidity Test Cabinet ..	87
Independent Sideband Receiver ..	440
Induction Heater, R.F. ..	399
Industrial Counting Equipment ..	485
Line Transmission Measuring Equipment ..	266
Load Cells ..	485
Load Measuring Set, Portable ..	39
Logarithmic Ratemeter ..	130
Machine Tool Load Indicator ..	441
Magnetizer ..	440
Mechanical Time-Delay Relay ..	440
Micro-Sensitive Switches ..	130
Miniature Transformers ..	39
New Mullard Valves ..	39
Phase Meter ..	86
Potentiometer, General Purpose ..	86
Psophometer ..	528
Precision Dial, Multi-turn ..	398
Precision Multi-Way Switches ..	529
Pressure Transducers ..	441
Pulse Generator ..	441
Radar Display Tubes ..	38
Relay, D.C. ..	131

Page

Relay, D.C. ..	484
Resistors, Vitreous Enamelled ..	529
Rotary Switches ..	87
Signal Generator, Decimetric Wave ..	485
Soldering Iron Busbar Installation ..	529
Stabilized E.H.T. Unit ..	87
Stabilized Light Source ..	440
Stabilized Power Supply ..	131
Strain Indicator, Portable ..	485
Strain Measuring Bridge ..	38
Sub-Miniature Output Transformer ..	130
Sub-Miniature Potentiometer ..	87
Tape Reader, High Speed ..	484
Talk and Listen Beacon Equipment ..	441
Transformer, Audio Output ..	86
Transcription Pick-Up ..	529
Tubular Paper Capacitors ..	441
High Voltage Relay ..	398
Vacuum Impregnator ..	398
Valve Getter Firing ..	87
Valves, New ..	529
Video Amplifier ..	86
Vitreous Enamelled Resistors ..	399
V.H.F. Field Test Set, Portable ..	131
V.L.F. Amplifier ..	266
Voltage Booster ..	528
Wideband Oscilloscope ..	398

F

Fine Tuning Arrangements ..	298
Flight Simulators, by K. H. Simpkin and E. T. Emms ..	270
Frequency-Radius and Acceleration, by A. E. Maine ..	207
Frequency Synthesis, Developments in, by H. J. Finden ..	178
Foetal Heart Sounds, The Amplification and Recording of, by M. C. Wood ..	90

G

Gas Discharge Tubes for E.H.T. Stabilization, A Note on, by J. G. G. Hempson ..	109
Germanium Triode Production ..	385
Glass in the Electronic Industry, by M. Manners ..	512
Gramophone Reproduction and Distortion, by M. L. Gayford ..	24

H

Helmsman for a Motor Yacht, an Electronic, by W. H. Alexander and D. M. McCallum ..	274
Hopper Contents Control ..	117

I

Inductors, The Design of High Q Iron-Cored Inductors, by N. H. Crowhurst ..	478
Information Theory, by A. M. Andrew ..	471
The Investigation of Ionospheric Absorption, by J. B. Jenkins and G. Ratcliff—	
Part 1	140
Part 2	189
Ionosphere, Exploring the, by Means of Rockets, by E. Burgess ..	469

K

Kilovoltmeter, Electronic Peak-Reading, by M. Lorant ..	243
---	-----

L

Linear Sweep Cathode-Ray Polarograph, by H. M. Davis and J. E. Seaborn ..	314
Logic and the Circuit Designer ..	257
Low Frequency Generator for Vibration Testing, A ..	377

LETTERS TO THE EDITOR—	37, 82, 126, 172, 216, 262, 310, 350, 394, 442, 534
Band Pass Filter for Low Frequencies, A ..	534
Beta-Particle Thickness Gauges ..	126
Cold-Cathode Voltage Stabilizer ..	127
Differential Transformer Gauge and Amplifier, A ..	218
Direct Reading Thermistor Bridge ..	262, 350
D.C. Amplifier, Measurement of Amplitude Distortion in ..	350
D.C. Amplifier for use in pH Measurements ..	310
D.C. Phototube Circuit with A.C. Modulation ..	172
D.C. Relays ..	173
Discharge Tubes, Corona ..	263
Distortion and Gramophone Reproduction ..	172
Electrolytic Conductivity, A Visual Method for the Determination of ..	312
Electro-Mechanical Voltage Stabilization ..	218
Equivalent Q of RC Networks, The ..	534
Evaporation Chamber and Specimen Holder for Shadow Casting ..	217
Ionospheric Absorption, Investigation of ..	395

	Page		Page
New Method of Assembling Magnetic Recording Heads, A ..	312	Radio Equipment for Pakistan ..	197
Noise-Free Instrument Cable ..	395	Receivers for BBC Monitoring Service, New ..	431
Range of 400c/s and 1600c/s Transducers for Service Use, A ..	443	Recent British Standards ..	132, 176
RC Networks, The Equivalent Q of ..	394	Resistance Measuring Set, A Portable Low, by R. Huggins ..	526
Saturated Diode Operation ..	216	Radio Equipment on the British 1953 Everest Expedition, by Brig. E. J. H. Moppett and R. W. Lewis ..	334
Selector Rejector Circuit for a 3-2 kc/s Pilot Signal ..	263	Radio and Television in Germany ..	497
Slotted Line Techniques ..	218	Radio-Telephone Systems, Selective Calling for, by J. R. Pollard ..	490
Stability in Negative Feedback Time-bases ..	442	R.E.C.M.F. Exhibition Preview ..	168
Ten-Volt Effect with Oxide-Coated Cathode ..	443, 535	Recurrent Sweep Chronograph, A, by H. Moss ..	282
Transmission Matrix, The Fourpole ..	351	Relative Merits of A.C. and D.C. as a Signal Source in Analogue Computers, by K. H. Simpkin ..	230
Vibration Measurements ..	216	Relays—Some Recent Techniques and Developments in D.C., by N. E. Hyde ..	11
M			
Magnetic Impulser, A, by C. A. Routledge ..	118	Remote Control and Telemetry System for a Van de Graaff Generator, by B. Millar—	
Measurement of "A" Matrix Elements of Passive Network, by W. R. Hinton ..	151	Part 1 ..	446
Micropowder Magnets ..	233	Part 2 ..	506
Microwave Attenuators, A Comparison of the Properties of Certain Materials used in Low-power, by F. A. Benson and R. M. Pearson ..	502	Repetitive Working of Photoflash Tubes, by A. S. V. McKenzie and D. B. Cleland ..	122
Moment of Inertia/Torsional Oscillation, by A. E. Maine ..	159	Resistance Wires, The Production of Fine Gauge ..	36
Multiplication in the Manchester University High-Speed Digital Computer, by A. A. Robinson ..	6	S	
Musical Tones, The Electrical Synthesis of, by A. Douglas		Sarah ..	326
Part 1 ..	278	Saturated-Diode Operation of Miniature Valves, by V. H. Attree ..	27
Part 2 ..	336	Second Order Sampling Servo, A Study of a, by S. R. Cooper ..	342
Part 3 ..	370	Selenium, New Source of ..	475
N			
New Australian Pack Set ..	139	Simple Wide Range Sine Wave Generator, A, by A. D. Booth ..	123
New Civil Aviation Communications Centre ..	124	Simple Low Frequency Amplifier, A, by J. R. Beattie and G. K. T. Conn ..	299
New Digital Computer, A ..	201	Six-Channel Recorder, A, by A. L. Whitwell ..	134
New Magnetic Tape "Memory," A, by M. Lorant ..	97	Sound Delay System, A ..	281
Noise Factor of Centrimetric Superheterodyne Receivers, The, by J. H. Evans ..	98	Stability in Negative Feedback Time-Bases, by A. B. Starksfield ..	192
Noise-Free Instrument Cable, by M. Lorant ..	293	Stabilizer, An Alternating Current, by P. A. V. Thomas ..	522
Noise Performance of V.H.F. Receivers, by E. G. Hamer ..	68	Special Quality Valves ..	238
O			
Organ, The Wurlitzer, by A. Douglas ..	466	Spray Particles, Measurement of the Size-Distribution of, by L. K. Wheeler and E. S. Trickett ..	402
Oscillator for use with the Mass-Spectrometer Probe, A Wide-Range ..	389	Stabilizer with Saturated-Diode Control, A Low Voltage, by V. H. Attree ..	71
Oscillators, High Frequency Resistance-Capacitance, by G. W. Holbrook ..	509	Sunbury Portable Frequency Standard, The, by A. H. Morser ..	290
P			
Phase-Angle Measurements Using a Cathode-Ray Tube, A Note on, by F. A. Benson and M. S. Seaman ..	100	Synthesizer with Visual Display, A Harmonic, by H. Sutcliffe ..	517
Phase Shifting Pulse Generator for Thyatron Control, A, by J. C. West and D. K. Partington ..	120	Synthesis of Uniform Transmission Line, by D. W. C. Shen ..	287
Phase-Shift Networks, Simplified Solution of, by R. D. Trigg ..	331	Synthetic Surveillance Radar Trainer, A ..	93
Physical Society Exhibition, the 37th ..	212	T	
Pile Period or Reactivity Meter, A, by T. E. Burnup and J. H. Bowen ..	190	Tape Recorder, Baird Special Purpose ..	23
Portable High-Speed Stroboscope, A, by A. E. Ferguson ..	252	Television and Sound Broadcast of the Royal Review ..	286
Power Supply for Multi-Speed Record Players, by Lt.-Col. C. A. Henn-Collins ..	166	Television Equipment for Oceanographic Research ..	277
P.P.I. Display of Naval Review ..	277	Television, Italian Band III ..	461
Practical Calibration Adjustments for Apparatus which Obeys a Theoretical Law Imperfectly, by J. W. Head ..	499	Television Sound Reception, by S. L. Fife ..	114
Prevention of Interference by a Single Unwanted Frequency in Television Reception, The ..	298	Television Transmitting Station, Crystal Palace ..	511
Printed Circuits and Miniaturization, by P. Eisler ..	234	Television Video Waveform, A Method of inserting Blanking into, by J. E. Attew ..	392
Probes, Miniature Test ..	496	Television Waveform Display Apparatus, by G. N. Patchett ..	184
Prod, High Tension Safety Test ..	516	Television Waveform Monitor, by J. E. Attew ..	106
Pulse-Operated Time Bases, by H. A. Dell ..	94	Televisor with Wide-Angle C.R.T.'s, Using the ..	166
Pulses, D.C. Restoring of Variable Width Rectangular, by J. Van Bladel ..	524	Temperature Compensation, Automatic, by R. H. Mapplebeck ..	78
Q			
Quartz Crystals, A Polarity Indicator for, by H. L. Hammatt ..	464	Temperature-Limited Diode Type 29C1, Characteristics of the, by F. A. Benson and M. S. Seaman ..	462
R			
Radar Antenna Beamwidth, by R. C. Coile ..	145	Thermistor Bridge with Temperature Compensation, The Design of a Direct-Reading, by F. A. Benson and R. M. Pearson ..	51
Radar, New Marine and Airfield ..	406	Time-Division Multiplex Systems, by J. E. Flood—	
Radar Pulses on Target per Scan, by R. C. Coile ..	80	Part 1 ..	2
Radar Sonde Installation, A ..	416	Part 2 ..	58
Radar, Storm Warning ..	477	Part 3 ..	101
		Part 4 ..	146
		Transducers for Service Use, A Range of 400c/s and 1600c/s, by A. G. Milnes and C. S. Hudson ..	522
		Transfer Matrix of a Four-Terminal Passive Network in Terms of its Image Parameters, by H. P. Biggar ..	152

Transistor Circuits and Applications, by G. C. Sziklai ..	358
Transmitter for Production Testing of Television Receivers, by J. M. Silberteiu ..	224
Trigger Mechanism as a Diagnostic Aid in Electro-encephalography, An Electronic, by M. G. T. Hewlett ..	327

U

Ultrasonics in the Foundry ..	21
Use of Nickel in Valves, The, by K. Jackson and R. O. Jenkins ..	208

V

v.h.f. Aerial Radiation Pattern Measurements, by E. G. Hamer ..	427
Voltage Stabilization, by F. A. Benson—	
Part 1 ..	160
Part 2 ..	202
Voltage Stabilization with Series Valve Control, by R. D. Trigg ..	254
Voltmeter, An Electrometer Valve, by B. G. Knowles and D. G. A. Thomas ..	527

AUTHORS

A

Alexander, W. H. (with McCallum, C. M.), An Electronic Helmsman for a Motor Yacht ..	274
Andrew, A. M., Information Theory ..	471
Ashdown G., The Vapotron ..	378
Attew, J. E., A Method of Inserting Blanking into a Television Video Waveform ..	392
Television Waveform Monitor ..	106
Attree, V. H., Saturated-Diode Operation of Miniature Valves ..	27
A Low Voltage Stabilizer with Saturated-Diode Control ..	71
A Differential Input-Stage for Low-Frequency Amplifiers ..	260

B

Bailey, R., Control of Thyratrons by Small Signals ..	374
Beattie, J. R. (with Conn, G. K. T.), A Simple Low Frequency Amplifier ..	299
Benson, F. A., Voltage Stabilization—	
Part 1 ..	160
Part 2 ..	202
The Characteristics of Some Large-Current Glow-Discharge Tubes ..	321
Benson, F. A. (with Pearson, R. M.), A Comparison of the Properties of Certain Materials used in Low-power Microwave Attenuators ..	502
Benson, F. A. (with Pearson, R. M.), The Design of a Direct-Reading Thermistor Bridge with Temperature Compensation ..	46
(Letters to the Editor) ..	262, 350
Benson, F. A. (with Seaman, M. S.), A Note on Phase-Angle Measurements Using a Cathode-Ray Tube Characteristics of the Temperature-Limited Diode Type 29C1 ..	462
Beauchamp, K. G., Blocking Oscillators ..	239
Bird, R., Computing Machines Input and Output ..	407
Blake, L. R., The Design of Electromagnets—	
Part 1 ..	380
Part 2 ..	432
Booth, A. D., A Simple Wide Range Sine Wave Generator ..	123
Bowen, J. H. (with Burnup, T. E.), A Pile Period or Reactivity Meter ..	190
Boudry, J. R., Electrical Telemetering and Automatic Process Control—	
Part 1 ..	154
Part 2 ..	198
Boyd, R. L. F. (with Morris, D.), A Wide-Range Oscillator for Use with the Mass-Spectrometer Probe ..	389
Burgess, E., Exploring the Ionosphere by Means of Rockets ..	469
Burnup, T. E. (with Bowen, J. H.), A Pile Period or Reactivity Meter ..	190
Brandon, P. S., Electronic Analogue Integration and Differentiation ..	476
Brown, D. A. H., The Equivalent Q of RC Networks ..	294
Chapman, C. L., The Silver-Zinc Accumulator ..	422

Cleland, D. B. (with McKenzie, A. S. V.) Repetitive Working of Photoflash Tubes ..	122
Coile, R. C., Radar Pulses on Target Per Scan ..	80
Doppler Radar Systems ..	113
Radar Antenna Beamwidth ..	145
Conn, G. K. T. (with Beattie, J. R.), A Simple Low Frequency Amplifier ..	299
Cooper, S. R., A Study of a Second Order Sampling Servo ..	342
Craven, T. L., Logic and the Circuit Designer ..	257
Craxton, R. T., An Electronic Batching Counter ..	424
Crowhurst, N. H., The Design of High Q Iron-Cored Inductors ..	478

D

Davis, H. M. (with Seaborn, J. E.), A Linear Sweep Cathode-Ray Polarograph ..	314
Dawe, P. G. M. (with Morris, G. W.), A Band-Pass Filter for Low Frequencies ..	365
Dell, H. A., Pulse-Operated Time Bases ..	94
De Klerk, J., Automatic C.R.T. Trace Brightening ..	388
Dighton, D. T. R., Differential Transformer Gauge and Amplifier for Measuring Small Displacements ..	66
Douglas, A., The Electrical Synthesis of Musical Tones—	
Part 1 ..	278
Part 2 ..	336
Part 3 ..	370
The Wurlitzer Organ ..	466
Dummer, G. W. (with Johnston, D. L.), New Constructional Techniques—	
Part 1 ..	417
Part 2 ..	456

E

Eisler, P., Printed Circuits and Miniaturization ..	234
Emms, E. T., The Theory and Design of Cathode-Follower Output Stages ..	386
Emms, E. T. (with Simpkin, K. H.), Flight Simulators ..	270
Evans, J. H., The Noise Factor of Centrimetric Super-heterodyne Receivers ..	98

F

Fife, S. L., Television Sound Reception ..	114
Ferguson, A. E., A Portable High-Speed Stroboscope ..	252
Finden, H. J., Developments in Frequency Synthesis ..	178
Flood, J. E., Time-Division Multiplex Systems—	
Part 1 ..	2
Part 2 ..	58
Part 3 ..	101
Part 4 ..	146
Ford, R. L., Differentiating Circuits ..	519

G

Gayford, M. L., Gramophone Reproduction and Distortion ..	24
Grierson, J. K., Visual Method for the Determination of Electrolytic Conductivity ..	110

H

Hamer, E. G., Noise Performance of v.h.f. Receivers ..	68
v.h.f. Aerial Radiation Pattern Measurements ..	427
Hammatt, H. L., A Polarity Indicator for Quartz Crystals ..	464
Head, J. W., Practical Calibration Adjustments for Apparatus which obeys a Theoretical Law Imperfectly ..	499
Hempson, J. G. G., A Note on Gas Discharge Tubes for E.H.T. Stabilization ..	109
Henn-Collins, C. A., Power Supply for Multi-Speed Record Players ..	166
Hewlett, M. G. T., An Electronic Trigger Mechanism as a Diagnostic Aid in Electro-encephalography ..	327
Hinton, W. R., The Measurement of "A" Matrix Elements of Passive Networks ..	151
(Letters to the Editor) ..	351
Holbrook, G. W., High Frequency Resistance-Capacitance Oscillators ..	509
Holton, P. (with Sharpe, J.), A Corona Stabilizer E.H.T. Supply for Proportion Counters ..	63
Hudson, C. S. (with Milnes, A. G.), A Range of 400c/s and 1600c/s Transducers for Service Use ..	322
Huggins, P., A Portable Low Resistance Measuring Set ..	526

	Page		Page
Hyde, N. E., D.C. Relays—Some Recent Techniques and Developments	11		
(Letters to the Editor)	173		
J			
Jackson, K. (with Jenkins, R. O.), The Use of Nickel in Valves	208		
James, R. H., Audar	451		
Jenkins, J. B., The Investigation of Ionospheric Absorption by a new Automatic Method—			
Part 1	140		
Part 2	189		
(Letters to the Editor)	395		
Jenkins, R. O. (with Jackson, K.), The use of Nickel in Valves	208		
Johnston, D. L. (with Dummer, G. W.), New Constructional Techniques—			
Part 1	417		
Part 2	456		
K			
Knowles, B. G. (with Thomas, D. G. A.), An Electrometer Valve Voltmeter	527		
L			
Lewis, R. W. (with Moppett, E. J. H.), Radio Equipment on the British 1953 Everest Expedition	334		
Lorant, M., A New Magnetic Tape "Memory"	97		
Electronic Peak-Reading Kilovoltmeter	243		
Noise-Free Instrument Cable	293		
(Letters to the Editor)	395		
M			
Maine, A. E., Moment of Inertia/Torsional Oscillation Frequency-Radius and Acceleration	159		
Manners, M., Glass in the Electronic Industry	207		
Mapplebeck, R. H., Some Notes on Ageing Processes in Instrumentation	512		
Automatic Temperature Compensation	22		
.. .. .	78		
McCallum, C. M. (with Alexander, W. H.), An Electronic Helmsman for a Motor Yacht	274		
McKenzie, A. S. V. (with Cleland, D. B.), Repetitive Working of Photoflash Tubes	122		
McMullan, D., The Scanning Electron Microscope and the Electron-Optical Examination of Surfaces	46		
Millar, B., Remote Control and Telemetry System for a Van De Graaff Generator—			
Part 1	446		
Part 2	506		
Milnes, A. G. (with Hudson, C. S.), A Range of 400c/s and 1600c/s Transducers for Service Use	322		
(Letters to the Editor)	443		
Moppett, E. J. H. (with Lewis, R.), Radio Equipment on the British 1953 Everest Expedition	334		
Morris, D. (with Boyd, R. L. F.), A Wide-Range Oscillator for use with the Mass-Spectrometer Probe	389		
Morris, G. W. (with Dawe, P. G. M.), A Band-Pass Filter for Low Frequencies	365		
Morser, A. H., The Sunbury Portable Frequency Standard	290		
Morton, C., D.C. Amplifier for use in pH Measurements	74		
(Letters to the Editor)	310		
Moss, H., A Recurrent Sweep Chronograph	282		
P			
Partington, D. K. (with West, J. C.), A Phase Shifting Pulse Generator for Thyatron Control	120		
Patchett, G. N., Television Waveform Display Apparatus—			
Part 1	184		
Part 2	248		
Pearson, R. M. (with Benson, F. A.), A Comparison of the Properties of Certain Materials used in Low-power Microwave Attenuators	502		
Pearson, R. M. (with Benson, F. A.), The Design of a Direct-Reading Thermistor Bridge with Temperature Compensation	46		
(Letters to the Editor)	262, 350		
Pollard, J. R., Selective Calling for Radio-Telephone Systems	490		
R			
Ratcliff, G. (with Jenkins, J. B.), The Investigation of Ionospheric Absorption by a new Automatic Method—			
Part 1	140		
Part 2	189		
(Letters to the Editor)	395		
Robinson, A. A., Multiplication in the Manchester University High-Speed Digital Computer	6		
Routledge, C. A., A Magnetic Impulser	118		
S			
Seaman, M. S. (with Benson, F. A.), A Note on Phase-Angle Measurements using a Cathode-Ray Tube	100		
Characteristics of the Temperature-Limited Diode Type 29C1	462		
Sharpe, J. (with Holton, P.), A Corona Stabilizer E.H.T. Supply for proportion Counter	63		
Shelton, E. E. (with Wade, F.), Corona Discharge Tubes for Voltage Stabilization	18		
(Letters to the Editor)	263		
Shen, D. W. C., Synthesis of Uniform Transmission Line	287		
Silberstein, J. M., A Transmitter for Production Testing of Television Receivers	224		
Simpkin, K. H., The Relative Merits of A.C. and D.C. as a Signal Source in Analogue Computers	230		
Simpkin, K. H. (with Emms, E. T.), Flight Simulators	270		
Slatter, W. C. G., A Simple Decimal Counter Using Binary Units	391		
Starksfield, A. B., Stability in Negative Feedback Time-Bases	192		
(Letters to the Editor)	442		
Sutcliffe, H., A Harmonic Synthesizer with Visual Display	517		
Sziklai, G. C., Transistor Circuits and Applications	358		
T			
Thomas, D. G. A. (with Knowles, B. G.), An Electrometer Valve Voltmeter	527		
Thomas, P. A. V., An Alternating Current Stabilizer	522		
Thomas, P. A. V., An Analogue Reciprocal Function Unit	302		
Townsend, R., Serial Digital Adders for a Variable Radix of Notation	410		
Trickett, E. S. (with Wheeler, L. K.), Measurement of the Size-Distribution of Spray Particles	402		
Trigg, R. D., Voltage Stabilization with Series Valve Control	254		
Simplified Solution of Phase-Shift Networks	331		
Tucker, M. J., A Note on Electronic Analogue Integration and Differentiation	35		
Turner, D. R., The Analysis of Waves Containing Harmonics up to the Twelfth	30		
V			
Valder, F. L., Encapsulated Reference Resistors	332		
Van Bladel, J., D.C. Restoring of Variable Width Rectangular Pulses	524		
W			
Wade, F. (with Shelton, E. E.) Corona Discharge Tubes for Voltage Stabilization	18		
(Letters to the Editor)	263		
Walker, D. F., A Range of 400c/s and 1600c/s Transducers for Service Use	443		
West, J. C. (with Partington, D. K.), A Phase Shifting Pulse Generator for Thyatron Control	120		
Wheeler, L. K. (with Trickett, E. S.), Measurement of the Size-Distribution of Spray Particles	402		
Whitwell, A. L., A Six-Channel Recorder	134		
Wills, M. S., An Electronic Current Stabilizer for a Low Resistance Solenoid	250		
Wood, M. C., The Amplification and Recording of Foetal Heart Sounds	89		