

# INDEX—VOLUME XXIX

JULY 1st—DECEMBER 30th, 1931.

- A.A. Telephone** : Radio Version, 670  
 Absorbing Surplus Voltage, 652  
 A.B. 25 Mains Transformer, Bryce, 748  
 Accurate H.T. Measurements, 199  
 — Voltage Measurements, 583  
 A.C. Filament Heating, 247  
 — Heated Valves, Bias for, 172  
 — Resistance of Valve (*Encyclopedia*), 450  
 Adding an Input Filter, 89  
 — a Pre-Selector, 432  
 Adjusting the Trimmers, 714  
 Adjustment of Modern Receivers, The, 174  
 Admitting Defeat, 306  
 Advantages of the Variable- $\mu$  Valve, The, 546  
 Aerials, Frame. *See under* Frame Aerials  
 Aerial, Undesirable Form of, 651  
 Air-cored Chokes for Tone Correction, 553  
 — *versus* Bakelite, 603  
 Alternative to Tapping, An, 103  
 Amateur and the Professional, The (*Edit.*), 1  
 America Adopts Half-wave Aerials, 466  
 American "Sponsor," The, 400  
 — Trends, 192  
 Amplification Constant or Amplification Factor  
 (*Encyclopedia*), 480  
 Amplion "Six," 690  
 — Type M.C.6 Loud Speaker, 196  
 Anode Bend Detector (*Encyclopedia*), 510  
 — Current Measurements, 50, 626  
 — Feed Resistances, Choosing, 472  
 Anti-lightning Devices, 145  
 — microphonic Valve Holder, New, 243  
 Are Prices Right? (*Edit.*), 173  
 Artificial Aerial, 571  
 — Loading, 225  
 "Astra" Midget Dials, 97  
 Atlas Combined Mains Unit, Model A.C.290, Clarke's  
 (*Winning Apparatus*), 537  
 — Mains Unit, Clarke's: Model A.C.290, 607  
 Atmospheres or Local Interference? 432  
 Attack on Dialects, The, 326  
 "Audak" Gramophone Pick-up, 20  
 Australia, Receiver Design in, 152  
 Automatic Bias Changes, 701  
 — Bias Conversion, 126  
 — Gramophone, H.M.V., 257  
 — Over-biasing, 247  
 — Safeguard, An, 404, 752  
 — Volume Control, 200  
 Auto-transformer, Combined, Double-wound, 171
- Background Noises**, 728  
 Back Numbers, 104  
 Balance, Maintaining, 726  
 Ballot, *Wireless World* Olympia Show Competition, 281  
 Band Pass and Tone Correction, 604  
 — Pass Filter (*Encyclopedia*), 530  
 — Pass Filter Unit, Type BPFMR, Watmel, 717  
 — Pass Frequency Response, 651  
 — Pass or Tone Correction? 228  
 — Pass Pentode Three, 477, 495, 625, 752  
 — Pass Pentode Three, Cabinet for the, 542  
 — Pass Receiver, A Selective (*Wireless World* Three),  
 272  
 Bass Booster, A, 493  
 Battery and Eliminator Combined, 225  
 — Bias, 676  
 — fed A.C. Valves, 190  
 — H.T., Life of, 52  
 — Sets Can be as Good (*Edit.*), 51  
 — Sets, First Variable- $\mu$  Valve for, 732  
 — Valves, 725  
 Bayliss L.F. Choke, 426  
 B.B.C. and Standard English, The (*Edit.*), 459  
 — and Ultra Short Waves, The, 713  
 — Enterprise, 433  
 Becol Formers, 509  
 Belling-Lee Fuses, 143  
 — Mains Fuse, 671  
 Berlin Radio Show, 253  
 Bias and Decoupling Resistance Confused? 140  
 — for A.C. Heated Valves, 172  
 Blue-Spot: All-electric Model W.S.400, 556  
 Books Received, 177, 223, 231, 421, 446, 474, 686, 746  
 Book Reviews, 109, 192, 438, 446, 474, 686, 688  
 "Boomy" Reproduction, 458  
 Booster Battery, The, 563  
 Bordeaux Sud-Ouest (France) (*Foreign Broadcast  
 Guide*), 572  
 Bottom Bend Biasing, 172  
 Bratislava (Czechoslovakia) (*Foreign Broadcast  
 Guide*),  
 172  
 British Radio Christmas Gifts (*Edit.*), 627  
 Broadcast Brevities, 19, 43, 71, 99, 123, 138, 163, 186,  
 224, 241, 269, 299, 323, 403, 429, 455, 479, 505,  
 540, 567, 602, 624, 647, 667, 699, 723, 743  
 — Guide, Foreign, 50, 104, 126, 146, 172, 200, 226,  
 248, 306, 432, 458, 482, 512, 544, 572, 604, 626,  
 652, 676, 702, 726, 752  
 — Transmissions and the Conductor, 420  
 Broadcasting a Standardised Pronunciation, 508  
 — on 200 Kilowatts, 619  
 — Stations, Short Wave, 718  
 — Wave Ranges, 226  
 Bryce A.B.25 Mains Transformer, 748  
 B.T.H. Gramophone Motors, 196  
 — "Minor" Pick-up and Tone Arm, 697  
 Burndept Merry-maker Two, 16  
 By-pass Condenser Defects, 171
- Cabinets for Recently Described Sets**, 542  
 — for Telsen Victor 3-Kit Set, 748  
 Calibrating a Superheterodyne, 171  
 Calibration Without Meters, 112  
 Camco Cabinet for "Wireless World Three," 542  
 — "Westminster" Radio-gram Cabinet, 242  
 Capacity (*Wireless Encyclopedia*), 569  
 Capehart Record Changer, 77  
 Carbon Lamp Resistances, 465  
 Catalogues Received, 74, 219, 243, 565, 697, 717, 749  
 Celestion Pick-up, 21  
 — R.P.M.12 Loud Speaker, 108  
 Challis Mains Transformers, 144  
 Checking Anode Current, 92  
 — Push-pull Valves, 225  
 Chester Mains Transformers, 696  
 Choke and Loud Speaker, 226  
 — H.F. the Best, 306  
 Choosing Anode Feed Resistances, 472  
 Clarion Cabinet for "Single-dial Superheterodynes,"  
 749  
 Clarke's Atlas Combined Mains Unit, Model A.C.290  
 (*Winning Apparatus*), 537  
 — Atlas Mains Unit, Model A.C. 290, 697  
 Climax All-Mains Three, 612  
 Clix Constructor's Kit and "Vicegrip" Wander  
 Plug, 671  
 — Panel Mounting Valve Holder, 219  
 Club News, 42, 409, 464, 529, 555, 650, 682  
 Codd L.T. Cells, 696  
 Coils Cans—and Matched Inductance, 583  
 Coils at Right Angles, 140  
 Cologne (Germany), (*Foreign Broadcast Guide*), 626  
 Colonial Receiver, The McMichael, 506  
 Colour Comparison (Photo Cells and Their Applica-  
 tions), 744  
 Columbia Radio Gramophone, Model 602, 448  
 Colvern Link Filter Coils (*Winning Apparatus*), 534  
 Combined Detector and Output Valve, 125  
 Commercial Wireless: A Record of the Year's Pro-  
 gress, 730  
 Common Fault, A, 248  
 Compact Eliminator, A, 90  
 Compensated Pentode Output, 172  
 Compensating for Sideband Loss, 404  
 Competition, Olympia Show (*Edit.*), 249  
 — Olympia Show (*Winning Apparatus* Described),  
 531  
 — Olympia Show, *Wireless World* Ballot, 281, 310,  
 380  
 — Result, 494  
 — Result (*Edit.*), 483  
 Components for the Set Constructor and New Acces-  
 sories, 394  
 — (Show Forecast), 290  
 Condenser Breakdowns, 126  
 Condensers: Inductive and Non-Inductive, 604  
 "Connexit" Wire, Saxon, 168  
 Consistency of Valve Characteristics, 104  
 Constant Aerial Loading, 714  
 — Peak Band-Pass Filters (Show Forecast), 297
- Constructors' Kits, Straight Sets and (New Receiver  
 Designs), 384  
 Continuous Gramophone, The Link, 113  
 Contrary to Regulations, 24  
 Controlling Volume with the Variable- $\mu$  Valve, 606  
 Converting a Short-wave Set, 458  
 Copenhagen (Denmark), (*Foreign Broadcast Guide*), 126  
 Copying High-speed Signals, 184  
 Cork (I.F.S.) (*Foreign Broadcast Guide*), 652  
 Correspondence, 22, 47, 75, 101, 124, 142, 169, 198,  
 222, 246, 304, 402, 430, 454, 541, 570, 582, 649,  
 700, 724, 750  
 Cossor Screen Grid Amplifier—The, 220 V.S.G., 732  
 Counting and Timing Device (Photo Cells), 444  
 Coupling and Decoupling, 544  
 — Capacity: Its Effect on Tuning, 432  
 — Condenser Values, 544  
 Cross Modulation (*Encyclopedia*), 640  
 — Talk at 980 Metres, 741  
 Crypto D.C. and A.C. Convertors, 122  
 Curbing the Pentode, 726  
 Current Carrying Capacity, 145  
 — for a Dial Light, 571  
 — Leakage, Avoiding, 625  
 — Topics, 14, 37, 64, 93, 117, 134, 158, 185, 209,  
 237, 258, 298, 370, 401, 416, 442, 471, 500, 554,  
 584, 615, 635, 663, 689, 715, 737  
 Cutting High Notes, 457
- Danger of Cross Modulation**, 458  
 D.C. Bias Battery Eliminator, 24  
 — Mains Superheterodyne, The, 604  
 — Mains Three, 9  
 — Pilot Light, 431  
 — Super-Selective Five, The, 131, 148, 187  
 — to A.C., 404, 675  
 — Valve Connections Simplified, 372  
 Decentralisation of Broadcasting (*Edit.*), 147  
 Decibel, The, 85  
 — (*Wireless Encyclopedia*), 747  
 Decline of the 1-v-2 Circuit, 372  
 De-coupling, 550  
 — (*Wireless Encyclopedia*), 698  
 — a Milliammeter, 126  
 — Condenser Connections, 668  
 — H.F. Circuits, 49  
 Desensitising Switch, A, 103  
 Detection of Dangerous Gases (Photo Cells), 525  
 Detector and Output Valve, Combined, 125  
 — Anode Circuit, The, 741  
 — Damping, A Cure for, 687  
 — L.F. Problem, The, 89  
 — Output, 714  
 — Voltage, 539  
 Developments in Loud Speakers and Gramophone  
 Equipment, 389  
 Dialects, The Attack on, 326  
 Differential Reaction Conversion, 324  
 Digby Cabinets, New, 564  
 Double-acting Volume Control, 571  
 — Oscillation, 725  
 — Volume Control, 482  
 — wound and Auto-Transformer Combined, 171  
 Dual-range Frame Aerial, Wearite, 475  
 — range Light Weight Portable, 172  
 Dubilier Condensers, Types 665 and 670, 671  
 — Metallised Resistances, 509  
 "Dux" L.F. Transformer, R.I., 243
- Earth Plates**, 199  
 Ebonite, Ripault's, 76  
 Economical Field Current, 478  
 Eddystone Scientific Two, 94  
 Edison Bell Condenser Microphone, 205  
 Ediswan Electric Clocks, 509  
 Editorial Comment, 1, 25, 51, 79, 105, 127, 147, 173,  
 201, 227, 249, 307, 373, 405, 433, 459, 483, 513,  
 545, 573, 605, 627, 653, 677, 703, 727  
 "Elex" Frame Aerial, 97  
 — Short-wave Adaptor, Type "A," 136  
 — Terminal, New, 565  
 Effect of Environment, The, 125  
 Ekco R.S.3 All Electric Console, 210  
 Electricity for Radio Receivers (*Edit.*), 653

- Electrolytic Condensers, 562  
Eliminator or Built-in Power Equipment, 603  
— More Output Needed, 145  
Ellison Filament Transformer, 122  
Empire Broadcasting at Last! 600  
Encyclopedia of Wireless Terms, 421, 456, 480, 510,  
530, 569, 640, 698, 747  
Essentially for Batteries, 702  
Estimating Bias Resistance, 104  
Estimating Rectified Voltage, 669  
Eta Coil Winder, 671  
Europe's Wavelength Difficulties (*Edit.*), 677  
— Wavelength Tangle, 522  
Evolution of the Output Stage, The, 316  
Exhibitors at Olympia, 1931, 282  
Experiments with Light Control, 641  
External Tone Corrector, 482
- Failing Resistances, 171**  
Faulty Variable Condensers, 145  
Fécamp (France) (*Foreign Broadcast Guide*), 676  
Ferranti A.C. Meters, New Range of, 77  
— B.8 Chokes, 242  
— Condensers and Synthetic Resistances, New, 122  
— Type M.1 Loud Speaker, 536  
Field Winding Connection, 751  
— Winding Conversation, 104  
" Fierce " Reaction Control, 431  
Filament Transformer, Ellison, 122  
Filter Adjustment, Niceties of, 652  
— Circuit Isolation, 660  
— Circuit Screening, 481  
— Coupling Condensers, 478  
Filters and Reaction, 248  
Fitting an H.F. Potentiometer, 126  
Five Metre Tests by the Post Office, 738  
Forecast, Points from Our, 271  
Foreign Broadcast Guide, 50, 104, 126, 146, 172, 200,  
228, 248, 306, 432, 458, 482, 512, 544, 572, 604,  
626, 652, 676, 702, 726, 752  
— Station Tuning Chart, Hints on the, 502  
Formo Condensers, Some New, 197  
— Gang Condensers, 697  
— " Multivo " Battery Eliminator, 565  
For the West Country, 200  
Fotos " Nipper " Transformer, 749  
Frame Aerial and Spaghetti Resistance, Lewcos, 45  
— Aerial Efficiency, 431  
— Aerial, Not for a, 49  
— Aerials, Matching, 645  
— or Mains? 125  
Free Bias for Battery Sets, 110  
— Bias Polarity, 78  
— Field Current, 54, 306  
— Grid, A, 146  
Fully Loaded, 225
- Gambrell Voluvernina, 77**  
Ganged Condensers, New Range of, 427  
— Condenser Spindles, 623  
— Control Elaborations, 324  
Garrard Gramophone Motors, 740  
Geophone All-wave Superheterodyne, Type B.C.3160,  
418  
— Compact Three-valve Receiver for A.C. Mains  
Operation, 238  
— The New, 34  
Give Radio This Year, 628  
Globe, Pocket Silk, 564  
Golden Age of Electricity, The, 279  
Good for Valve Makers 104  
— " Goodness," Testing Circuit, 623  
Gramophone Equipment and Loud Speakers (*Show  
Forecast*), 293  
— Equipment and Loud Speakers, Developments,  
389  
— Motors, B.T.H., 196  
— Volume Control, 24  
Graphite Track Resistances, 248  
Graves S.G.3, 178  
Grid Acceptor Detection, 172  
— Bias and the Band-Pass Filter, 438  
— Circuit Decoupling, 322, 457  
— Circuit Fault, A, 145  
— Current Damping, 626  
— Detection Without High Note Loss, 50  
— Wiring Complications, 512  
Grispo Indoor Aerial Insulator, 168  
Grosvenor Red Line H.T. Battery, 121
- Half-metre Telephony, 634**  
H. and B. Coils for D.C. Mains Condensers, 76  
— and B. Radio, Special Components by, 243  
Hand Capacity Effects, Allowing for, 90  
Happy Omission, A, 319  
Hardy Annual, A, 675  
Haynes, Mr. F. H., 666  
Heayberd All-Electric Unit, Model E.150, 167  
Heilsberg (Germany) (*Foreign Broadcast Guide*), 146  
Helsby Condensers, 44  
Heterodyne Whistles, Eliminating, 514
- H.F. Amplifiers, Instability in, 739  
— Bias Circuits 668  
— Calculations, Simplified, 213, 244, 266  
— Coupling Condensers, 539  
— Potentiometer, Fitting an, 126  
High Note Loss in Extension Leads, 305  
— or Low Impedance, 78  
— Resistance Joint, A, 625  
— Voltage Valves, 709  
Hints and Tips, Practical, 66, 89, 112, 324, 478, 492,  
538, 562, 583, 622, 645, 668, 694, 714, 741  
— Before the Show (*Edit.*), 201  
— on the Foreign Station Tuning Chart, 502  
H.M.V. Automatic Gramophone, 257  
— Cabinet Radio Receiver, Model 435, A.C. Three  
Valve, 720  
— Model 501, Table Radio Gramophone, 468  
— Model No. 11 Pick-up Unit, 670  
" Home Talks " (*Edit.*), 127  
Hopelessly Unselective, 603  
House-lighting Battery, 544  
How It Works, 404  
— Much Power? 659  
H.T. Battery, The Life of the, 52  
— Short-Circuit: A Possible Result, 562  
— Supply in the Tropics, 50  
Hum and the Pick-up, 583  
— Frequency Halved, 702  
Hunt's Polymet Electrolytic Condensers, 218
- Iceland's New Broadcasting Station, 84  
Idle Transformer Windings, 626  
I.F. Amplifier Selectivity, 457  
Igranic " Parvo " L.F. Transformer, 716  
Imaginary Difficulty, An, 247  
Impracticable for D.C., 651  
Improvements in the " Trautonium," 618  
Improvised Milliammeter, An, 645  
Incipient Motor Boating, 539  
Incomplete Grid Circuit, 604  
Indirectly Heated D.C. Valves in Push Pull, 270  
Inductor Dynamic Loud Speaker, The, 579  
— Types (*Loud Speakers under Test*), 598  
Inefficient Earth? An, 404  
Influence of Components of Quality, The, 5  
Information Bureau, A New (*Edit.*), 727  
— Bureau, *The Wireless World*, 736  
Inoperative H.F.—L.F. Filter, 511  
Input Filter, Adding an, 89  
— Tone Correction, 305  
Insensitive Pick-up? 225  
Instability, A Cure for, 324  
— in H.F. Amplifiers, 739  
" Instamat " (Major) Output Transformer, 242  
Insufficient Feed Capacity, 226  
Insulated Connector, 475  
Interference from the Charging Dynamo, 626  
— Troubles (*Edit.*), 545  
Interpreting Valve Characteristics, 476  
" Iso " Dials, New, 20  
" Isomona " L.F. Transformers, 121  
Is the Listener's Standard Worthy of Broadcasting  
(*Edit.*), 307  
— the S.G. Valve a Good Detector? 153
- Juan-les-Pins (France) (*Foreign Broadcast Guide*), 458**  
" Junior " Multi-cellular H.F. Choke, Varley, 716  
Junit " Losos " Valve Holders, 45
- Kalundborg (Denmark) (*Foreign Broadcast Guide*), 726**  
Keep Grid Resistance Low, 511  
Kinva Screened H.F. Choke, 696  
Kit Constructors' Notes, 263  
Kolster Brandes Three-Valve A.C. Mains Receiver,  
Model K.B.279, 664
- Laboratory Tests, 20, 44, 76, 96, 121, 143, 167, 196,  
218, 242, 426, 475, 509, 564, 670, 696, 716, 748**  
Leave Well Alone, 247  
Leipzig (Germany) (*Foreign Broadcast Guide*), 306  
Less Effective Decoupling, 103  
Lewcos Frame Aerial and Spaghetti Resistance, 45  
L.F. Instability, 112  
— Transformer, Making the Most of the, 30, 72  
— Transformer, Another Use for, 248  
Life of the H.T. Battery, The, 52  
Light Control, Experiments with, 641  
— weight Portable, The, 13, 26  
Lille (France, PTT) (*Foreign Broadcast Guide*), 226  
Link Continuous Gramophone, The, 113  
Listener's Standard, Is it Worthy of Broadcasting?  
(*Edit.*), 307  
List of Parts, The (*Edit.*), 605  
— of Parts, The, 608  
Loading Coil, Inserting a, 146  
Lodz (Poland) (*Foreign Broadcast Guide*), 604  
" Local Distance " Detector Voltage, 563  
— Distance " H.F. Potentiometer, 676
- Loewe Power Resistances, 143  
Logarithmic Horn, A 10 ft., 21  
" Losos " Valve Holders, Junit, 45  
Long Leads, Where they are Dangerous, 512  
— Wave Coils, 493, 562  
— wave Ganging, 622  
— wave Parasitic Oscillations, 60  
— wave Problem, A, 458  
Looking Back, 704  
Looser Coupling Needed, 431, 752  
Lost H.T. Volts, 625  
Loud Speaker as Smoothing Choke, 603  
— Speaker Cones, 543  
— Speaker Fields, 626  
— Speaker Hum, 493  
— Speaker Rectifier, 15  
— Speakers and Gramophone Equipment, Develop-  
ments in, 389  
— Speakers (*Edit.*), 573  
— Speakers Under Test, 593  
— Speaker Testing, 78
- Magnavox Type D.C. 140 Moving Coil Speaker, 427**  
Magnification and Smoothing, 78  
Magnum Miniature Volume Control, 218  
— Twin Control Unit, 96  
Mains Aerials and Indoor Aerials Compared, 372  
— Condensers, Sound Sales, 748  
— Interference, 702  
— Periodicity and Hum, 226  
— Valve, The, 308  
— Voltage Adjustment, 482  
Manchester Radio Show: List of Exhibitors, 414  
— Record Breaking at, 443  
Manchester's Share in Wireless Progress, 439  
Marconi and Osram H.L.2 (*Valves Tested*), 65  
Marconiphone Moving-coil Transportable-three, Mode  
42, 260  
— Permanent Magnet Loud Speaker, 97  
Margin of Safety, A, 270  
Marine Receiver, A, 57  
Matching a Pentode, 146  
— Dissimilar Coils, 751  
— Frame Aerials, 645  
— Inductance, 432  
— Moving Coil Loud Speakers, 675  
Mazda Pen. 220 Valve (*Winning Apparatus*), 535  
McMichael Colonial Receiver, The, 506  
— Permanent Magnet Moving Coil Loud Speaker,  
121  
— Radiogram, The, 68  
Measuring L.F. Chokes, 206  
— Volts—With a Foot Rule, 622  
Medium Wave Interference, 306  
Metal Chassis Dimensions, 752  
— Rectifier, A New, 144  
— Rectifier, New (Westinghouse H.T. 8 Unit), 560  
Metallised Valves: Two Points Cleared Up, 481  
Milliammeter Connections, 751  
— or Kickmeter? 156  
Moderate Magnification, 571  
Modern Receivers, The Adjustment of, 174  
— Screened Coil, The, 311, 397, 406, 451  
Modulation Distortion, A Note on, 88  
— Hum, 482  
Montpellier (France) (*Foreign Broadcast Guide*), 104  
Moravska-Ostrava (Czechoslovakia) (*Foreign Broadcast  
Guide*), 248  
Motor-boating, A Cure for, 492  
—boating, Incipient, 539  
Moving Coil Loud Speakers, Matching, 675  
— Coil Loud Speakers, The Upper Register in, 106  
— Coil Microphone, New, 683  
— Coil Types (*Loud Speakers Under Test*), 593  
— Iron Loud Speaker, The, 590  
— Iron Types (*Loud Speakers Under Test*), 597  
— the Output Transformer, 695  
Mullard P.M.202 Power Valve, 524  
Multi-valve Set? . . . Or a, 220  
" Multivo " Battery Eliminator, Formo, 565  
Murphy Type A.3 Receiver, 114  
— Type A.3 Receiver (*Winning Apparatus*), 533  
Music Magnet, Osram Four, New (*Kit Constructors'  
Notes*), 263
- Neglected Selling Point, A. (*Edit.*), 405**  
Neon Tuning Indicator, 270  
New Call Signs and Changes of Address, 236, 712  
— Information Bureau, A (*Edit.*), 727  
— Readers' Number Announcement, 477  
— Receiver Design (*The Trend of Progress*), 381  
— Season's Polar Condensers, 564  
— Season's Sets, The (*Show Forecast*), 285  
— York Radio Show, 519  
— Wine . . . , 49, 625  
— Wine in Old Bottles, 132  
No Basic Difference, 372  
— Help from H.F. Amplification, 200  
Noisy Set, A, 305  
Non-reversible Connector, 143  
Not a Radio-Gramophone, 725  
— for a Frame Aerial, 49  
— for General Consumption, 726

Of the Earth . . . 66  
 Oldham H.T. Battery, Green Band Series, 716  
 Olympia 1931, Exhibitors at, 282  
 — 1931, Show Forecast, 285  
 — Show Competition (*Edit.*), 249  
 — Show Competition (*Winning Apparatus Described*), 531  
 — Show Competition (*Wireless World Ballot*), 281, 310, 494  
 — Show, The, 327  
 — Stand-to-Stand Report, 329-369  
 On the Verge, 306  
 — Or a Multivalve Set? 220  
 Organ, New All-electric Pipeless, 100  
 Oscillator Anode Current, 457, 702  
 — Coil Connections, 372  
 — The Valve as an, 181  
 Osram Four New Music Magnet, 263  
 Our Favourite Subject, 725  
 — Show Competition Result (*Edit.*), 483  
 — Show Numbers (*Edit.*), 373  
 Out of Place, 49  
 Output Circuit Decoupling, 172  
 — Stage and the Loud Speaker, 585  
 — Stage, The Evolution of the, 316  
 — Transformer, Moving the, 695  
 Outside Causes, 676

**Palermo (Italy) (*Foreign Broadcast Guide*), 752**  
 Paper Condensers for Filters, 543  
 Parallel Output Valves, 372  
 Pentode and Loud Speaker, 270  
 — Compensation, 481  
 — Output Transformer, 675  
 — Tone Correction, 543  
 Philips All-Electric D.C. Receiver, Model 2653, 160  
 Photo Cell Circuits, 320  
 — Cells and Their Applications, 444, 525, 744  
 — Cell, The, 2, 39  
 Pick-up for the "Wireless World Three," 457  
 — up in Two Senses, 511  
 — up Transformer, 305  
 — up Voltage Output, 651  
 Pirtoid Coil Formers, New, 21  
 Points from Our Forecast, 271  
 Polar Condensers, New Season's, 564  
 — Ganged Condensers, 749  
 Polymet Electrolytic Condensers, Hunt's, 218  
 Positive Bias for A.C. Valves, 478  
 Post Office Relay Proposals, 727  
 Potentiometer Recommended, 481  
 Power Grid and Leaky Grid, 631  
 — Grid and Leaky Grid: A Comparison, 672  
 — Grid Detection, New Development in, 458  
 — Resistance, Loewe, 143  
 — Transformer Defect, 24  
 — Transformer: Idle Windings, 103  
 Practical Hints and Tips, 66, 89, 112, 324, 478, 492, 538, 562, 583, 622, 645, 668, 694, 714, 741  
 Pre-Selector, Adding a, 432  
 — Set Condenser, New Type, 77  
 Prevention of Detection, 517  
 Principal Short-wave Broadcasting Stations of the World, 718  
 Progressive Smoothing, 543  
 Pronunciation, Standardised Broadcasting, 508  
 Push-pull Auto-transformer, 305  
 — pull Problems, 128  
 — pull Transformers, 571  
 — pull Valves, Checking, 225

**Quality Unit Mains Transformer, 20**  
 Quick Test, A, 668

**Radio at a Glance, 426**  
 — Gramophone, Not a, 725  
 — Lyon (France) (*Foreign Broadcast Guide*), 50  
 — Gramophone, Columbia: Model 602, 448  
 — Gramophone Conversion, The Simplest, 675  
 — Gramophone Tone Control, 90  
 — Paris, The New, 559  
 — Schaeerbeek (Brussels) (*Foreign Broadcast Guide*), 512  
 Ramsey Radio Gramophone Cabinet, 427  
 Range, How to Increase, 66  
 Reaction, Ineffective—A Simple Cure, 694  
 — Simple Theory of, 139  
 React or Not? To, 146  
 Readers' Problems, 24, 49, 78, 103, 125, 145, 171, 199, 225, 247, 270, 305, 372, 404, 431, 457, 481, 511, 543, 571, 603, 625, 651, 675, 701, 725, 751  
 Receiver Design in Australia, 152  
 — Design, New (*Trend of Progress*), 382  
 — Purpose of Educational Broadcasts (*Edit.*), 227  
 — Receiving Breaking at Manchester, 443  
 — Receiver, Capehart, 77  
 — Receiving Telegraphic Signals, 544  
 — Switch, Type R.D.35, 670  
 — Use H.T. Battery, Grosvenor, 121  
 — Receiving Unit, 544  
 — Receiving Two-valve All-electric, 636  
 — Receiving Unit, 426

Regulation of the Rectifier, The, 118  
 Relay Service Regulations, 18  
 Remote Tuning Control System, 216  
 — Volume Control, New, 638  
 Rennes (P.T.T.) France (*Foreign Broadcast Guide*), 200  
 Replacing Old Valves, 457  
 Resistance-Capacity Output Filter, 512  
 — Coupling and Pentode, 432  
 — fed Transformer Coupling, 146  
 Resistances and Fixed Condensers, Wates, 76  
 Restricted Wave Range, 90  
 Reykjavik (Iceland) (*Foreign Broadcast Guide*), 702  
 R.G.D. Superheterodyne, Type 901 (*Winning Apparatus*), 531  
 R.I. "Dux" L.F. Transformer, 243  
 — "Unigrad," 167  
 Ripault's Ebonite, 76  
 Rising Anode Current, 604  
 Risky Procedure, 604  
 Role of the Record in Broadcasting, The, 441

**Same Cost, The, 125**  
 Savage Transformer for Super-Selective Six, 77  
 Saving H.T. Volts, 562  
 Saxon "Connexit" Wire, 168  
 Scientific Two, Eddystone, 94  
 Screen-grid Potentiometers, 742  
 Screened Coil, The Modern, 406  
 — Coils, Where they are Unnecessary, 701  
 — H.F. Leads, 492  
 — Wiring, 303  
 Selective Band-Pass Receiver (*The Wireless World Three*), 272  
 Selectivity and Tone Correction, 734  
 Self-Adjusting, 481  
 — contained Mains Set: (*The Wireless World Three* A.C. Model), 374  
 Semi-electrified, 603  
 — ganged Tuning, 208  
 Separate Output Circuits, 431  
 Settling Down, 726  
 Seven-metre Broadcasting (*Edit.*), 703  
 S.G. Valve, Is it a Good Detector? 153  
 — Valves, Two New: For the Battery Set, 422  
 Shielded Valves, 512  
 Short-circuited Milliammeter, 572  
 — circuits Through Valve Filaments, 171  
 — Wave Adaptor (Super-Selective Receivers and the Short Waves), 706  
 — Wave Advantages, 543  
 — Wave Band, The, 710  
 — Wave Broadcasting Stations of the World, Principal, 718  
 — Wave Reception, 676  
 — Wave Set, Converting a, 458  
 — Wave Superheterodyne, 202, 233  
 Show Forecast, Olympia, 1931, 285  
 Shunt Resistance Calculations, 511  
 Siemens-Halske Pick-up, 219  
 Signals, High-speed, Copying, 184  
 Simple Theory of Reaction, 139  
 Simplified H.F. Calculations, 213, 244, 260  
 Single Control Superheterodynes, 610  
 — Dial Superheterodyne, *The Wireless World*, 589, 639, 654, 684, 752  
 Six-Sixty Valve Screen, 44  
 Slaithwaite, Yorks . . . Nr., 78  
 Small Point, But . . . A, 67  
 Smoothing Out a Resonance, 146  
 Softness, Indication of, 432  
 Sound Intensities, 680  
 — Sales Mains Condensers, 748  
 — "Sales" Transformers for Super-Selective Six, 218  
 Spoiling a Filter, 126  
 Spurious Oscillations, 104  
 "Square Peak" Coils, 49  
 "Squegger" Oscillator, 247  
 Stage-by-Stage Superheterodyne Test, 306  
 Staging a Come-back? 512  
 Standardised Pronunciation, Broadcasting a, 508  
 Standards of Output Power, 538  
 Stand-to-Stand Report, Olympia, pp. 329 to 369  
 Straight Set or Superhet? (*Edit.*), 105  
 — Set or Superheterodyne, 481  
 — Sets and Constructors' Kits (*Trend of Progress*), 384  
 Stray Earths, 571  
 Substituting a Triode, 651  
 Super-efficient Coils Unnecessary, 482  
 Superheterodyne I.F. Amplifier, 125  
 — Input Filter, 24  
 — Operating Conditions, 226  
 — Tendencies, 466  
 — Tests, 701  
 Superheterodynes and Open Aerials, 702  
 — Short-wave, 202, 233  
 — Single Control, 619  
 — (*The Trend of Design*), 382  
 — Where Efficiency is Vital, 669  
 Super-Selective Five, 33, 59, 80  
 — Selective Five, D.C., 131, 148, 187  
 — "Selective" Receivers and the Short Waves, The, 706  
 — "Selective Six" on Short Waves, The, 270  
 — "Selective Six," The, 457, 481, 572

Supply and Demand (*Edit.*), 703  
 Suppressing Long-wave Interference, 572  
 "Supremus" D.C. Eliminator Model D.120 A, 96, 197  
 Synthetic Resistances, New Ferranti Condensers, 122

**Table Radio Gramophone (H.M.V. Model 501), 408**  
 T.C.C. Condensers, New, 143  
 Telsen Components, New Range of, 196  
 — Victor 3 Kit Set, Cabinets, for, 748  
 Terminal, A New, 674  
 Territorial Ether (*Edit.*), 79  
 Testimonial for the Amateur, 29  
 Testing Circuit "Goodness," 623  
 — Field Condensers, 572  
 — Wave Range Switches, 66  
 "Thimble" Valve Screen, 76  
 Three-Control Superheterodyne, 652  
 — point Sockets, 701  
 — Wave Ranges, 226  
 Threshold Howl, 538  
 Tin-opener Unnecessary, The, 199  
 Tone Control and Load Adjustment, 404  
 — Correction, Selectivity and, 734  
 Too Easy, 103  
 To React or Not? 146  
 Toulouse (P.T.T.) France (*Foreign Broadcast Guide*), 432  
 Trackless Trams, 511  
 Trade Notes, 749  
 Transformer and Choke for "W.W.3 A.C. Model," 475  
 — Heater Windings, 652  
 Transmitters Notes, 236, 661, 712  
 "Trautonium," Improvements in the, 618  
 Trend of Progress, The, 381  
 Trieste (Italy) (*Foreign Broadcast Guide*), 482  
 Trimmer Controls Regeneration, 126  
 Trimming, A Note on, 742  
 — Condenser Adjustment, 646  
 Trix Mains Components, 167  
 Tunewell Mains Components, 44  
 Tungsram Power Valve (*Values Tested*), 91  
 Tuning Coils Compared, 695  
 — "Out" a Heterodyne, 751  
 — Range, 725  
 "Twistoflex," 509  
 Two-circuit Tuners: Automatically Variable Coupling, 646

**Ultra Short Waves, The B.B.C. and, 713**  
 Unattractive Complication, 103  
 Unattractive Volume Control, An, 751  
 Unbiased, 8, 46, 58, 98, 120, 157, 232, 278, 319, 413, 447, 467, 491, 523, 566, 599, 643, 662, 693, 733  
 Un-insulated Spindles, 572  
 "Unit" Pick-up, 565  
 Unlimited Condensers and Slow Motion Drive, 749  
 Unsatisfactory Conversion, An, 248  
 Unscreened Anode Circuit, 543  
 Unsuitable for a Frame Aerial, 604  
 — for All-Wave Work, 104  
 Upper Register in Moving Coil Loud Speakers, The, 100  
 — Register, The, 164, 193  
 Urgent Obligation of the B.B.C., An (*Edit.*), 25  
 Usual Order Reversed, The, 626

**Valve as an Oscillator, The, 181**  
 — Data, 726  
 — Data Sheet, How to Use *The Wireless World*, 633  
 — Mounting, 172  
 — Supplement, The (*Edit.*), 627  
 — Voltmeter for the Home Laboratory, 434  
 Valves, High-voltage, 709  
 — (*Show Forecast*), 296  
 — This Season's, 392  
 — We Have Tested, 65, 91, 422, 524, 535  
 Variable Condensers, Faulty, 145  
 — mu and Silent Background, 527  
 — mu H.F. Amplifier, A, 702  
 — mu Three, The, 549, 574, 620  
 — mu Valve, The, 250, 300, 482  
 — mu Valve, The Advantages of the, 546  
 — mu Valve, Controlling Volume with the, 606  
 — mu Valve for Battery Sets, The First, 732  
 Vafley H.F. Coil and Nichoke II., 218  
 — Junior Multi-cellular H.F. Choke, 716  
 — Square Peak Canned Coils, 634  
 "Vicegrip" Wander Plug, Clix Constructor's Kit and, 671  
 Voltage on the Grid, The, 489  
 Voltron Condensers, 21  
 Volturnia, Gambrell, 77  
 Vortexion Mains Transformers, 243

**Wasting H.T. Current, 305**  
 Wates Low Tension Primary Cell, 717  
 — Resistances and Fixed Condensers, 76  
 Watmel Band-Pass Filter Unit, Type BPMFR, 717  
 — Wire-wound Potentiometer, 97

Wavelength Squabble, The: Through Continental Eyes, 678  
 Wave Range Switches, Testing, 66  
 Wearite Coils for the D.C. Mains III., 96  
 — Dual Range Frame Aerial, 475  
 — Short Wave Components, 748  
 We Commit a *Faux Pas*, 200  
 West Country, For the, 200  
 Westinghouse Style H.T. 8 Rectifier, 168, 560  
 "Westminster" Radio-Gram Cabinet, Camco, 242  
 What Advantage? 270  
 Where to Cut Off? 514

Why the Decibel? 85  
 Wilburn Connectors, 509  
 Wilno (Poland) (*Foreign Broadcast Guide*), 544  
 Winding Filter Coils, 604  
 — Long-wave Coils, 562  
 Wire Gauge and Coil Inductance, 50  
 Wireless Compass, New, 410  
 — Terms, *Encyclopedia of*, 421, 456, 480, 510, 530, 569, 640, 698, 747  
 — World Information Bureau, The, 736  
 — World Signal Dial Superheterodyne, 589, 639, 654, 684, 752

Wireless World Three A.C. Model (Self-contained Mains Set), 37, 374  
 — World Three, Notes on the, 315  
 — World Three: Questions and Answers on the, 504, 611  
 — World Three, The: A Selective Band-Pass Receiver, 250, 272, 571  
 — World Two, The, 477, 484, 603  
 — World Two with an Eliminator, The, 675  
 — World Valve Data Sheet, How to Use the, 633  
 Wiring A.C. Valve Heaters, 583  
 — and Ganged Tuning, 511  
 Word to New Readers, A (*Edit.*), 513

## ILLUSTRATIONS

Accurate H.T. Measurements (*Diagram*), 199  
 — Voltage Measurements (*Diagram*), 563  
 Adapting Dual-range Tuning Coil as Intervalve Coupling, 171  
 Adjustment of Modern Receivers, The, 174-177  
 "A.D." Low Tension Primary Cell, Wates, 717  
 Aerial Emergencies on Graf Zeppelin, 425  
 Air-cored Chokes for Tone Correction, 553  
 Amateur Stations:  
 G 5FC (F. Donald Cawley, Hale, Cheshire), 661  
 G 6BY (H. L. O'Heffernan, Croydon), 185  
 G 6QF (A. M. Robertson, Stretford, Manchester), 236  
 BRS 275, 711  
 OK 1AW (A. Weirauch, Mestec Kralove, Bohemia) 635  
 American Compliment, An, 428  
 America's Newest Control Room, 117  
 Amplion "Six," 690, 691, 692  
 — Type M.C.6 Loud Speaker, 196  
 Anode Current Measurements (*Diagram*), 626  
 — Feed Resistances, Choosing, 472, 473  
 Architect and the Loud Speaker, The, 584  
 Artificial Aerial (*Diagram*), 571  
 — Loading (*Diagram*), 226  
 "Astra" Midget Dials, 97  
 Attack on Dialects, The, 326  
 Audak "Electro-Chromatic" Pick-up, 20  
 Australian "B.B.C.," 723  
 — Broadcaster, An (Pennant Hills, N.S.W.), 568  
 Australia, Receiver Design in, 152  
 — Studio Audience in (Melbourne), 208  
 Austrian "Wandering Microphone," 624  
 Automatic Gramophone, H.M.V., 257  
 — Hospital Set, 159  
 — Over-biasing (*Diagram*), 247  
 — Volume Control, Extra Valve Connected as (*Diagram*), 200

Background Noises, 728, 729  
 Band-Pass Filters, Constant Peak (*Diagram*), 297  
 — Pass Frequency Response (*Diagrams*), 651  
 — Pass or Tone Correction? 228-231  
 — Pass Pentode Three, 495-499  
 — Pass Pentode Three, Cabinet for, 542  
 — Pass Pentode Three, Gramophone Pick-up Added to, 625  
 — Pass Pentode Three, The, 477  
 Bayliss Type No. 3442 L.F. Choke, 426  
 B.B.C. and Ultra Short Waves, The, 713  
 Becol Formers, 509  
 Belling-Lee Mains Fuse, 671  
 — Safety Fuses, 143  
 Berlin Radio Show, 253-257  
 Blue-Spot All-Electric, Model W.S.400, 556-558  
 Braillard, M. Raymond, 522  
 Britain's Loneliest Lifeboat Crew, 425  
 British Receiving Station 275, 711  
 British Radiophone Four-gang Condenser Unit, 427  
 — Record Successfully Defended (Mr. H. L. O'Heffernan, G 5BY), 185  
 Broadcasting at Sea, 699  
 — House, 325  
 — House, Mast at, 163  
 — House, No Opening Ceremony, 370  
 — House (Ready for Launching), 43  
 — Map, Short Wave, 719  
 — on 200 Kilowatts (Prague Transmitter at Cesky Brod), 619  
 Bryce A.B.25 Mains Transformers, 748  
 B.T.H. Gramophone Motors, 196  
 — "Minor" Pick-up Movement, 697  
 Bucharest Station Building, 299  
 Burndep Merry-maker Two, 16, 17

Cabinets for Recently Described Sets, 542  
 Calibration Without Meters (*Diagram*), 112  
 Camco "Westminster" Radio-gram Cabinet, 242  
 Cap ehart Record Changer, 77

Carbon Lamp Resistances, 465  
 Castaphone Marine Receiver, 57  
 Celestion R.P.M.12 Loud Speaker, 168  
 Challis Mains Transformers, 144  
 Checking Anode Current (*Diagram*), 92  
 Chester Mains Transformer, 696  
 Choosing Anode Feed Resistances, 472, 473  
 Clarion Cabinet for Single-dial Superheterodyne, 749  
 Clarke's Atlas Combined Mains Unit, Model A.C.290  
 Climax All-Mains Three, 612-614  
 Clix Constructor's Kit, 671  
 — Panel Mounting Valve Holder, 219  
 Closing Down (Old Station at Prague), 555  
 Codd L.T. Cells, 696  
 Colour Comparisons: Photo-cells and Their Applications, 744-746  
 Columbia Radio Gramophone, Model 602, 448-450  
 Colvern Link Filter Coils, 534  
 — Pre-Set Condenser, 77  
 Combined Detector-Output Valve (*Diagram*), 125  
 Commercial Filter Coil Unit Connected to A.C. Screen Grid Valve (*Diagram*), 49  
 — Wireless, 730, 731  
 Compass, New Wireless, 410-412  
 Components for the Set Constructor and New Accessories (*Trend of Design*), 394-396  
 Connecting Indirectly Heated A.C. Valves with L.T. Accumulator (*Diagram*), 199  
 — Loud Speaker Across Tapped Output Choke (*Diagram*), 652  
 Constant Aerial Loading (*Diagram*), 714  
 — Peak Band-Pass Filters (*Diagram*), 297  
 Constructors' Kits, Straight Sets and (*Trend of Design*), 384-388  
 Controlling Volume with the Variable- $\mu$  Valve, 606, 607  
 Cossor Battery Variable- $\mu$  S.G. Valve, 220 V.S.G., 732  
 Counting and Timing Devices (Photo Cells), 444, 445  
 Coupling Condensers for Selective Aerial Tuners (*Diagram*), 544  
 Cross Modulation (*Wireless Encyclopedia*), 640  
 Crypto D.C. to A.C. Convertors, 122  
 Cure for Detector Damping, A, 687, 688  
 Cutting Out the Crackle, 648  
 Czecho-Slovakian "W.A.C." OK 1AW, 635

D.C. Bias Battery Eliminator (*Diagram*), 24  
 — Mains Three, 9-13  
 — Super-Selective Five, 131, 148-151, 187-191  
 — to A.C. (*Diagram*), 404  
 — Valve Connections Simplified (*Diagram*), 372  
 Decibel, The, 85-87  
 — (*Wireless Encyclopedia*), 747  
 De-coupling, 550-552  
 — Condenser Connections (*Diagram*), 668  
 Desensitising Switch, A (*Diagram*), 103  
 Detection of Dangerous Gases (Photo Cells), 525  
 Detector Anode Circuit, The (*Diagram*), 741  
 — Damping, A Cure for, 687, 688  
 — L.F. Problem, The (*Diagram*), 89  
 — Output Valve, Combined (*Diagram*), 125  
 Digby Cabinet, New, 564  
 Double-acting Volume Control (*Diagram*), 571  
 — Oscillation (*Diagram*), 725  
 Dual Range Lightweight Portable (*Diagram*), 172  
 — Range Tuning Coil as Intervalve Coupling, 171  
 Dubilier Condensers, Types 665 and 670, 671  
 — Metallised Resistances, 509  
 "Dux" L.F. Transformer, R.L., 243

Economical Field Current (*Diagram*), 478  
 Eddystone Scientific Two, 94, 95  
 Edison Bell Condenser Microphone, 205  
 — Thomas Alva, 500  
 Ediswan Electric Clocks, 509  
 Elex Dual-Range Frame Aerial, 97  
 — Short-Wave Adaptor, Type "A." 136, 137  
 — Terminal T<sub>2</sub> L.C., 565

Ekco R.S.3 All-Electric Console, 210, 211, 212  
 Electro-Chromatic Pick-up, Audak, 20  
 Eliminator Unit Built into Standard Aluminium Screening Box, 90  
 Ellison Filament Transformer, 192  
 Empire Broadcasting at Last! 601  
 Estimating Rectified Voltage (*Curves*), 669  
 Eta Coil Winding Machine, 671  
 Europe's Ether Police, 501  
 — Most Powerful Broadcaster (Warsaw), 158  
 Evolution of the Output Stage, The, 316-318  
 Experiments with Light Control, 641, 642  
 Extemporised Grid Bias Battery Eliminator Operating on A.C. Mains Supply (*Diagram*), 248  
 Extra Valve Connected as Automatic Volume Control (*Diagram*), 200

Facsimile Message Received on Teleprinter, 738  
 Faraday, Michael (The Golden Age of Electricity), 279  
 Ferranti B.8 Choke, 242  
 — Mains Condensers and Synthetic Resistances New, 122  
 — Moving Iron A.C. Meter, 77  
 — Type M.1 Loud Speaker (*Winning Apparatus*), 536  
 Filament Terminal Connection for Metallised Battery Valve, 481  
 Filter Coupling Condensers: Segmented Vane Principle Applied to, 471  
 Finishing Touch, The, 429  
 Five Metre Transmission in U.S., 323  
 Foreign Station Tuning Chart, Hints on the, 502, 503  
 Formo Condensers, Some New, 197  
 — Enclosed Triple Gang Condenser, 697  
 — "Multivo" Battery Eliminator, 565  
 Fotos "Nipper" Intervalve L.F. Transformer, 740  
 Frame Aerials, Matching (*Diagram*), 645  
 — Aerial (Wearite), 669  
 Free Bias for Battery Sets, 110, 111  
 — Field Current, 54-56  
 — Grid, A (*Diagram*), 145

Gambrell Voluvernina, 77  
 Ganged Control Elaborations: Varley Ganged Potentiometers, 324  
 Garrard Gramophone Motors, 740  
 Geophone All-Wave Superheterodyne, Type B.C.3160, 418-420  
 — Compact Three-Valve Receiver for A.C. Mains Operation, 238-240  
 — The New, 34-36  
 Give Radio This Year, 628-630  
 Golden Age of Electricity, The, 279  
 Graham Farish New Anti-Microphonic Valve Holder, 243  
 Gramophone Equipment, Loud Speakers and (*Trend of Design*), 389-391  
 — Motors, B.T.H., 196  
 — Pick-up Added to "Band-Pass Pentode Three" (*Diagram*), 625  
 — Pick-up Added to "Super-Selective Five" (*Diagram*), 604  
 — Pick-up for Single Dial Superheterodyne (*Diagram*), 752  
 Graves S.G.3, 178-180  
 Gray, Mr. Andrew, 715  
 Grid Bias Battery Eliminator Operating on A.C. Mains Supply (*Diagram*), 248  
 — Circuit Decoupling (*Diagram*), 322  
 — Detection Without High Note Loss (*Diagram*), 50  
 Gripso Indoor Aerial Hook, 168  
 Grosvenor Red Line H.T. Battery, 121

Half-metre Aerial, Marconi's, 634  
 H. and B. Coils for D.C. Mains Three Receiver, 76  
 — and B. Slab Coil for Super-Selective Six Receiver, 43

Heard This One? (Moravska-Ostrava, Czechoslovakia), 258  
 Heart Throbs Broadcast, 135  
 Heayberd Model E.150 All-Electric Unit for A.C. Mains, 107  
 Helsby Condensers, 45  
 H.F. Amplifiers, Instability in, 739  
 — Calculations, Simplified, 213, 214, 216, 214, 245, 286, 267  
 Hide and Seek, 416  
 High-Frequency Cure, The, 471  
 Historic Licence, 425  
 H.M.V. Automatic Gramophone, 257  
 — Cabinet Radio Receiver, Model 435, A.C. Three Valve, 720-722  
 — Model No. 11 Pick-up Unit, 670  
 How Much Power? 659, 860  
 Hum Frequency Halved (Diagram), 702  
 Hunt's Polymet Electrolytic Condenser, 218

Iceland's New Broadcasting Station, 84  
 Igranic "Parvo" L.F. Transformer, 716  
 Improvements in the "Trautonium," 618  
 Improved Milliammeter, An, 646  
 In a Japanese Studio (Tokio), 241  
 Incipient Motor-boating (Diagram), 539  
 Inductor Dynamic Loud Speaker, The, 570-581  
 — Type Loud Speakers, 598  
 Ineffective Reaction, A Simple Cure (Diagram), 695  
 Influence of Components on Quality, The, 5, 6, 7  
 Inoperative H.F.-L.F. Filter (Diagram), 511  
 Input Tone Correction (Diagram), 305  
 Instability in H.F. Amplifiers, 739  
 "Instamat" (Major) Output Transformer, Ready Radio, 242  
 Interior Unit of "Lightweight Portable," 13  
 Interpreting Valve Characteristics, 476  
 Interviews at the Microphone (WGY, Schenectady), 470  
 "Iso" Dials, New, 21  
 "Isomona" L.F. Transformers, 121  
 Is the S.G. Valve a Good Detector? 153-155

Japanese Studio, In a (Tokio), 241  
 Japan (Tokio), Twin Broadcasting Station in, 237  
 Joak, 10 kW. Station near Tokio, 400  
 Junit's "Lolos" Valve Holders, 45

"Kapitan Funk" (The Last Word in Radio Afloat), 209  
 King's Broadcast, The, 123  
 — New Microphone, The, 19  
 Kinva Screened H.F. Choke, Standard, 696  
 Kit Constructors' Notes, 263-265  
 Kolster Brandes Three Valve A.C. Mains Receiver Model K.B.279, 664-666

Laboratory Tests, 20, 44, 76, 96, 121, 143, 167, 196, 218, 242, 426, 475, 509, 564, 696, 716, 748  
 Large Condenser with Small Capacity, A, 14  
 Last Word in Radio Afloat, The ("Kapitan Funk"), 209  
 Latest in Ship Radio (Marconi Marine Receiver), 501  
 Laval, Mlle. Josette, 567  
 Leader of Amateurs, A: Mr. Hiram Percy Maxim, 663  
 Lewcos Dual Range Frame Aerial, 45  
 — Spaghetti Resistances, 45  
 L.F. Chokes, Measuring, 206, 207  
 — Transformer, Making the Most of the, 30, 32, 72, 73  
 Light Control, Experiments with, 641, 642  
 "Lightweight Portable" for Long Wave Reception, Modifying the (Diagram), 145  
 — Portable, The, 13, 26, 29  
 Link Continuous Gramophone, The, 113  
 List of Parts, The, 608-610  
 "Live Wire" The (M. Guernier at St. Remy l'Honore), 615  
 "Local Distance" Detector Voltage (Diagram), 563  
 — Distance" H.F. Potentiometer (Diagram), 676  
 Loewe Power Resistances, 143  
 Logarithmic Horn, A 10ft., 21  
 "Lolos" Valve Holders, Junit, 45  
 Looking Back, 704, 705  
 Loud Speaker Across Tapped Output Choke, Connecting (Diagram), 652  
 — Speaker Rectifier, 15  
 — Speakers and Gramophone Equipment (Trend of Design), 389-391  
 — Speaker Testing (Diagram), 78

Magnavox Type D.C.140 Moving Coil Loud Speaker, 427  
 Magnum Miniature Volume Control, 218  
 — Twin Control Unit, 96  
 Mains Valve, The, 308, 309  
 Maintaining a Balance (Diagram), 726  
 Making the Most of the L.F. Transformer, 30, 31, 32, 72, 73  
 Manchester Radio Show Plan, 415  
 — Record Breaking in, 443  
 Manchester's Share in Wireless Progress, 430, 440

Marconi and Osram H.L.2 (Valves Tested), 65  
 — and Osram S.21 and S.22 (Two New Valves for Battery Set), 422-424  
 — Marine Receiver, The Latest in Ship Radio, 501  
 Marconiphone Moving Coil Transportable Three, Model 42, 260-262  
 — Permanent Magnet Loud Speaker, 97  
 Marconi's Half-Metre Aerial, 634  
 Marine Receiver, Castaphone, 57  
 Mast at Broadcasting House, 163  
 Matching Frame Aerials (Diagram), 645  
 Maxim, Mr. Hiram Percy: A Leader of Amateurs, 663  
 Maxwell, James Clerk (The Golden Age of Electricity), 279  
 Mazda Pen. 220 Valve (Winning Apparatus), 535  
 McMichael Colonial Receiver, The, 506-508  
 — Permanent Magnet Coil Loud Speaker, 121  
 Radiogram, The, 68-70  
 Measuring L.F. Chokes, 206, 207  
 — Volts—with a Foot Rule (Diagram), 622  
 Metal Rectifier, New (Westinghouse H.T.8 Unit), 560, 561  
 Midget Wave Transmission, 425  
 Millammeter, An Improved, 646  
 — Connections (Diagram), 751  
 "Minor" Pickup Movement, B.T.H., 697  
 Modern Receivers, The Adjustment of, 174-177  
 — Screened Coil, The, 311-314, 397-399, 406-409, 451-453  
 Modulation Distortion, A Note on, 88  
 "Monarch of Bermuda," SS. (Radio and the Architect), 737  
 Moravska-Ostrava Broadcasting Station, 258  
 Moving Coil Loud Speakers, 593-596  
 — Coil Loud Speakers, The Upper Register, in 106-109  
 — Coil Microphone, New, 683  
 — Coil Transportable-Three, Model 42, Marconiphone, 260-262  
 — Iron A.C. Meter, Ferranti, 77  
 — Iron Loud Speakers, 597  
 — Iron Loud Speaker, The, 590, 591  
 — the Output Transformer (Diagram), 695  
 Mullard P.M.202 Power Valve, 524  
 Multi-cellular H.F. Choke, Varley Junior, 717  
 — valve Set? . . . or a, 220, 221  
 "Multivo" Battery Eliminator, Formo, 565  
 Murphy Type A.3 Receiver, 114-116  
 — Type A.3 Receiver (Winning Apparatus), 533

Neon Tuning Indicator (Diagram), 270  
 Nerve Centre, The, 667  
 New Continental Giant, A, 99  
 — Development in Power Grid Detection (Diagram), 458  
 — Receiver Designs, 382, 383  
 — Wine in Old Bottles, 132-134  
 — York Radio Show, 519-521  
 Noise Machine at Hamburg Station of "Novag," 455  
 Non-reversible Connector, Quaker, 143  
 No Opening Ceremony (Broadcasting House), 370  
 Notes on the Wireless World Three, 315

Oldham H.T. Battery, Green Band Series, 716  
 Olympia, 1931: Plan of Exhibits, 283  
 — 1931, Show Forecast, 285-297  
 — Show, Exhibits at, 329-369  
 — Show; Plan, 328  
 Oscillator, The Valve as an, 181-183  
 Osram Four New Music Magnet, 263-265  
 Ostar High Voltage Valve, 709  
 Output stage and the Loud-speaker, The, 585-588  
 — Stage, The Evolution of the, 316-318  
 — Transformer, Moving the (Diagram), 695

"Parvo" L.F. Transformer, Igranic, 716  
 Permanent Magnet Moving Coil Loud Speaker, McMichael, 121  
 Philips All Electric D.C. Receiver, Model 2653, 160-162  
 Photo Cell Circuits, 320, 321  
 — Cells and Their Applications, 444, 445, 525, 744  
 — Cell, The, 2-4, 39-42  
 Pick-up for "Wireless World Three," (Diagram), 457  
 Pilots Forewarned (Heston Aerodrome), 554  
 Pirtoid Coil Formers, New, 21  
 P.M.G., The New: Sir Kingsley Wood, 602  
 Polar Condensers, New Season's, 564  
 Police, Short Waves for the (Budapest), 689  
 Polymet Electrolytic Condenser, Hunt's, 218  
 Popular "Spaniard," A (Radio Barcelona EAJ1), 528  
 Potentiometer Volume Control Added to Existing Receiver (Diagram), 126  
 Power Grid and Leaky Grid, 631, 632, 672-674  
 — Grid Detection, New Development in (Diagram), 458  
 — Resistances, Loewe, 143  
 Prague, Old Station (closing down), 555  
 Prague Transmitter at Cesky Brod, New, 619  
 Pre-selector, Adding a (Diagram), 432  
 — Set Condenser, Colvern, 77  
 Prevention v. Detection, 517, 518  
 Progressive Smoothing (Diagram), 643

Push-pull Auto-Transformer (Diagram), 305  
 — pull Problems, 128, 129, 130

Quaker Non-Reversible Connector, 143  
 "Quality Unit" Mains Transformer, Savage, 20

Radio and the Architect (SS. Monarch of Bermuda), 737  
 — at a Glance, 426  
 — Barcelona, Describing Eclipse of Moon from, 540  
 — Barcelona EAJ1 (A Popular "Spaniard"), 528  
 — Barcelona's First Lady Control Room Engineer, 403  
 — Gramophone, Columbia Model 602, 448, 450  
 — Madrid, 269  
 — Paris, The New, 559  
 — Toulouse (New Continental Giant), 90  
 Ramsey Radio-gramophone Cabinet, 427  
 Reaction, Simple Theory of, 139-141  
 Ready for Launching (Broadcasting House), 43  
 — Radio "Instamat" (Major) Output Transformer, 242  
 Receiver Design in Australia, 152  
 — Designs, New, 382, 383  
 Record Breaking at Manchester, 443  
 Red Diamond Switch, Type R.D. 35, 670  
 — Line H.T. Battery, Grosvenor, 121  
 Regentone Two-Valve All-Electric, 636, 637  
 Regional Unit, 426  
 Remote Control Switchboard for Stage Lighting, 501  
 — Tuning Control System, 217  
 — Volume Control, New, 638  
 Reykjavik—Iceland's New Broadcasting Station, 84  
 R.G.D., Superheterodyne, Type 901 (Winning Apparatus), 531, 532  
 R.I. "Dux" L.F. Transformer, 243  
 — Ltd., Croydon Factory, 529  
 — Unigrad, 157  
 Roaming Transmitter, A, 38  
 Role of the Record in Broadcasting, The, 441  
 R.S.G.B. Sixth Annual Convention, 442  
 R.S.3 All-electric Console, Ekco, 210-212

Safety Fuses, Belling-Lee, 143  
 Savage, "Quality Unit" Mains Transformer, 20  
 Screened H.F. Leads (Diagram), 492  
 Screening-grid Potentiometer (Diagram), 742  
 Searchlights are Fashionable, 501  
 Searchlight Speaker, The, 37  
 Segmented Vane Principle Applied to Filter Coupling Condensers, 478  
 Selective Band-Pass Receiver, A (Wireless World Three) 272-277  
 Selectivity and Tone Correction, 734, 735  
 Self-contained Mains Set: The Wireless World Three A.C. Model, 374-380  
 Semi-Electrified (Diagram), 603  
 Separate Output Circuits (Diagram), 431  
 S.G. Valve. Is it a Good Detector? 153-155  
 Shaughnessy, Mr. E. H., 38  
 Short Wave Adaptor, Type "A," Ealex, 136, 137  
 — Wave Band, The, 710, 711  
 — Wave Broadcasting Map, 719  
 — Waves for the Police (Budapest), 689  
 — Waves, The Super-Selective Receivers and the (Short Wave Adaptor), 706  
 — wave Superheterodynes, 202-205, 233-235  
 Show Forecast, Olympia, 1931, 285-297  
 Shunt Resistance Calculations (Diagram), 511  
 Siemens-Halske S.G./IG. Pick-up and Tone Arm, 219  
 Simple Theory of Reaction, 139-141  
 Simplest Radio-Gramophone Conversion, The, 675  
 Simplified H.F. Calculations, 213, 214, 216, 244, 245, 266, 267  
 Single Control Superheterodyne, 616, 617  
 — Dial Super Gramophone Pick-up for (Diagram), 752  
 — Dial Superheterodyne, Wireless World, 589, 639, 654-658, 684  
 Six-Sixty Valve Screen, 44  
 Small Point, But . . . A, 67  
 Sound Intensities: The Output of the Loud Speaker, 680-682  
 — Sales Mains Condensers, 748  
 "Sales" Transformers for Super-Selective Six, 218  
 Spaghetti Resistances, Lewcos, 45  
 Spurious Oscillations (Diagram), 104  
 Stage-by-Stage Superheterodyne Test (Diagram), 306  
 Staging a Come-back? (Diagram), 512  
 Straight Sets and Constructors' Kits (Trend of Design), 384-388  
 Stray Earths (Diagram), 572  
 Studio Audience in Australia (Melbourne), 298  
 "Studio 10a," 647  
 Submarine Transmitter, A, 134  
 Superheterodynes (Trend of Design), 382, 383  
 Superheterodyne, Single Dial, 684  
 — Tendancies, 460-463  
 — Tests (Diagram), 701  
 Super-Selective Five, 33, 59, 60-63, 80-83  
 — Selective Five, Adding Gramophone Pick-up to (Diagram), 604

Super-Selective Five, D.C., 131, 148-151, 187-191  
— Selective Receivers and the Short Waves, 706-709  
"Supremus" D.C. Eliminator, Model D.120 A., 96

Table Radio-Gramophone, H.M.V. Model 501, 468-470  
T.C.C. Condensers, New, 143  
Teleprinter, Facsimile Message Received on, 738  
Telsen Components, New Range of, 197  
10-ft. Logarithmic Horn, A, 21  
Terminal, A New, 674  
Testing H.F. Circuits by Absorption (Diagram), 623  
— Wave Range Switches (Diagram), 66  
Thermionic Interval Signal, 505  
"Thimble" Valve Screen, 76  
This Season's Valves (Trend of Progress), 392, 393  
Three Wave Ranges (Diagram), 226  
Threshold Howl, Prevention of (Diagram), 538  
Tokio Broadcasting Studio, 241  
— Twin Wave Broadcasting, 237  
— 10kw. Station, 400  
Transformer and Choke for "W.W.3 A.C. Model," 475  
"Trautonium," Improvements in the, 618  
Trend of Progress, The, 381-396  
Trix Mains Components, 167  
Tunewell Mains Components, 44  
Tungsram Type P.430 Valve, 91  
Tuning Chart, Hints on the Foreign Station, 502, 503  
— Coils Compared (Diagram), 695  
— "out" a Heterodyne (Diagram), 751  
Twelve Years Ago: Officers of Airship R.34, 93  
Twin Wave Broadcasting in Japan (Tokio), 237  
"Twistoflex," 509  
Two-Circuit Tuner: Automatically Variable Coupling (Diagram), 646

Ultra Short Waves, The B.B.C. and, 713

Unbiased, 8, 46, 58, 98, 120, 157, 232, 278, 319, 413, 447, 467, 491, 523, 566, 599, 643, 662, 693, 733  
Unigrad, R.1., 167  
"Unit" Pick-up and Adjustable Tone Arm, 565  
Universal U.12 and Universal U.8 Transformers, Challis, 144  
Unlimitex Condensers and Slow-Motion Drive, 749  
Upper Register in Moving Coil Loud Speakers, The, 106-109  
— Register, The, 164-166, 193, 194

Valve as an Oscillator, The, 181-183  
— Characteristics, Interpreting, 476  
— World's Biggest, 401  
Valves, This Season's (Trend of Progress), 392, 393  
— Two New: Marconi and Osram S.21 and S.22, 422-424  
— We Have Tested, 65, 91, 422, 524, 535  
Valve Voltmeter for the Home Laboratory, 434-437  
Variable-mu S.G. Valve, 220 V.S.G., Cossor Battery, 732  
— Three, The, 549, 574-577, 620, 621  
— Valve, Advantages of the, 546-548  
— Valve, Controlling Volume with the, 606, 607  
— Valve, The 250-252, 300-303  
— Valve, The New (Diagram), 482  
Varley Ganged Potentiometers: Ganged Control Elaborations, 324  
— H.F. Coil and Nichoke II, 319  
— Junior Multi-cellular H.F. Choke, 717  
— Square Peak Canned Coils (Winning Apparatus), 534  
"Vicegrip" Wander Plug, 671  
Voltage on the Grid, The, 489, 490  
Voltron Condensers, 21  
Voluvernina, Gambrell, 77  
Vortexion Mains Transformers, 243

"Wandering Microphone," Austrian, 624  
Warsaw Broadcasting Station, 158  
Wates "A.D." Low Tension Primary Cell, 717  
— Resistances and Fixed Condensers, 76  
Wattmel Dual Capacity Coupled Band-Pass Filter Coils, 717  
— "Log" Volume Control, 670  
— Wire-wound Potentiometer, 97  
Wavelength Squabble, The, 678, 679  
Wave Range Switches, Testing (Diagram), 66  
Wearite Coils for D.C. Mains III, 96  
— Dual Range Frame Aerial, 475  
— Short-wave Components, 748  
Westinghouse H.T.8 Unit (New Metal Rectifier), 560, 561  
WGY Schenectady, "Interviews at the Microphone," 479  
What Next? 501  
Where to Cut Off? 514-516  
Why the Decibel? 85-87  
— Velthem Does Not Jam, 425  
Wilburn Ten-way Insulated Connector, 475  
Winding Long-wave Coils, 562  
Wireless Compass, New, 410-413  
Wireless World Single-Dial Superheterodyne, The, 589, 654-658  
— World Three, A.C. Model: Self-contained Mains Set, 371, 374-380  
— World Three: A Selective Band-Pass Receiver, 259, 272-277  
— World Three, Cabinet for the, 542  
— World Three, Notes on the, 315  
— World Three, Pick-up for (Diagram), 457  
— World Two, 477, 484-488  
Wiring A.C. Valve Heaters, 583  
Wood, Sir Kingsley: The New P.M.G., 602  
World at His Finger Tips, The, 417  
World's Biggest Valve, 401  
— First Theatre Studio, The, 743

## AUTHORS

Abrahams, J. Godchaux, 220, 517  
Andrews, H., 616

Barclay, W. A., 30, 72, 213, 244, 266, 472  
Bligh, N. R., and E. D. Whitehead, 606

Carter, R. O., 250, 300  
Chetwode-Crawley, Lt.-Col., 730  
Cocking, W. T., 59, 80, 128, 148, 187, 308, 322, 438, 460, 638, 659, 706, 728  
Cocking, W. T., and F. H. Haynes, 654  
Cocking, W. T., and W. I. G. Page, 546, 574, 620  
Colebrook, F. M., 228, 434, 734

Dent, H. B., 9, 118, 206, 476, 553  
Dinsdale, A., 519, 683

Editor, 1, 25, 51, 79, 105, 127, 147, 173, 201, 227, 249, 307, 373, 433, 459, 483, 513, 545, 573, 600, 606, 627, 653, 677, 703, 727

"Free Grid," 8, 46, 58, 98, 120, 157, 232, 278, 319, 413, 447, 467, 491, 523, 566, 599, 643, 662, 693, 733

Haynes, F. H., 54, 202, 233, 272, 374, 484  
Haynes, F. H., and W. T. Cocking, 654

Lawson, A. H., 710

McLachlan, N. W., 106, 164, 194

Oliver, D. A., 579

Page, W. I. G., 316, 489, 527, 631, 672  
Page, W. I. G., and W. T. Cocking, 546, 574, 620  
Pearson, S. O., 139, 181

Reith, Sir John, 704  
Ruff, H. R., 2, 39

Scroggie, M. G., 85, 153  
Smith, C. H., 687, 739  
Smith, H. F., 26, 495  
Sowerby, A. L. M., 311, 397, 406, 451, 585

Tyrell, S. J., 590

Vincent, D. F., 110

Walker, R. C., 320, 444, 525, 744  
Whitehead, E. D., and N. R. Bligh, 606

## BOOK REVIEWS

B.B.C. Year Book, 1932, 686  
"Chronicle" Wireless Annual, The, 516  
Foundations of Radio, by R. L. Duncan, 424  
From Telegraphy to Television: The Story of Electrical Communications, by Lt.-Col. Chetwode-Crawley, M.I.E.E., 474  
Kemp's Engineer's Year-Book for 1931, 192  
Radio Construction and Repairing, by J. A. Moyer and J. F. Wostrel, 688  
— Handbook, The, by James A. Moyer and John F. Wostrel, 446  
"Talking Pictures," by B. Brown, B.Sc., 688  
— Pictures and Acoustics, by C. M. R. Balbi, A.M.I.E.E., A.C.G.I., 109  
Wireless World Diary, 1932, The, 438