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Friday, September 22nd, 1933.



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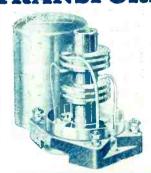
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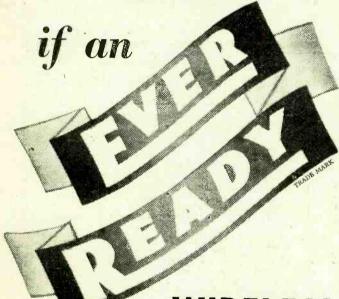


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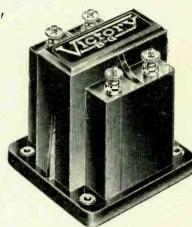
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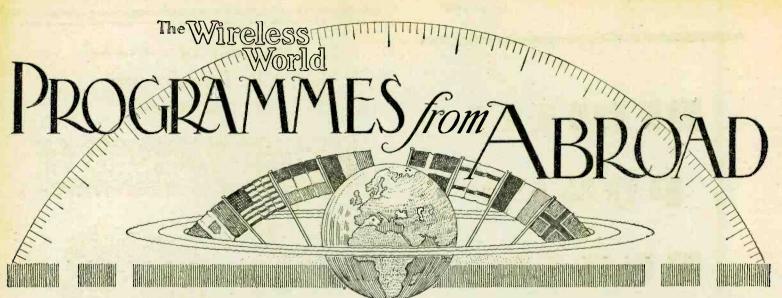
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BROADCASTING STATIONS ARRANGED IN ORDER OF WAVELENGTH

TIMES AND DETAILS OF FULL WEEK'S FOREIGN TRANSMISSIONS

| | 2.19 | | | | | | | | |
|----------------|--------------|--------------|---|----------------------|----------------|------------|---------------|--|----------------------|
| Metres. | kc's. | k W . | Station. | Tuning Positions. | Metres. | kc/s. | k W . | Station. | Tuning Positions. |
| 1935 | 155 | 7 | Kaunas (Kovno) (Lithuania) | | 453.2 | 662 | 0.25 | Agea (France) | |
| 1875 | 160 | 8.5 | Hilversum (Holland) (Kootwyk, 50kW., after | | 453.2 | 662 | 4 | Milan (Vigentino) (Italy). (Relays Rome) | |
| 1 | | | 3.10 p.m.) $(V.A.R.A., A.V.R.O.$ and | | 450.3 | 666 | -20 | Madona (Latvia). (Relays Riga) | |
| 1796 | 167 | 40 | V.P.R.O. programmes.) Lahti (Finland) | | 447.1 | 671 | | Paris, Ecole Supérieure, PTT (7.0 kW.); | |
| 1725 | 174 | 75 | Radio Paris, C.F.R. | | | | | Rjukan (0.15 kW.). Notodden (0.08 kW.), Alesund (0.35 kW.) (Norway) (relays Oslo). | |
| 1635 | 183.5 | 60 | Berlin. (Deutschlandsender) (Germany). | | 441.2 | 680 | 50 | Rome, IRO. (SW. Station, 2RO on 25.4 m.) | |
| 1000 | 10.5.0 | 00 | (SW. Stn. D.J.A on 31.38 m., D.J.B on | | 435.4 | 689 | 55 | Stockholm, SASA (Sweden) | |
| | | | (SW. Stn. DJA on 31.38 m., DJB on 19.73 m., DJC on 49.83 m., DJD on 25.51 m., | | 430.4 | 697 | 2.5 | Belgrade (Yugoslavia) | |
| 1554.4 | 193 | 30 | DJE on 16.86 m.) Daventry National | | | 707 | 2 | Madrid, EAJ7 (Union Radio) | |
| 1538 | 195 | 7 | Daventry National Ankara (Angora) (Turkey) | | 424.3 | 707 | 100 | Moscow, Imini Stalina (Russia) | |
| 1481 | 202.5 | 500 | Moscow, RVI (Old Komintern) (Russia) | | 419.0 | 715 | 1.5 | Berlin, Funkstunde (Germany) | |
| 1446 | 207.5 | 13 | Eiffel Tower, FL. Paris | | 416.4 | 720.5 | 5 | Rabat (Morocco) | |
| 1412 | 212.5 | 120 | Eiffel Tower, FL, Paris | | 413 | 725 | 60 | Athlone (Irish Free State) | |
| 1380 | 217.5 | 100 | Novosibirsk, RV76 I (Russia) | | 408.7 | 734 | 16 | Katowitz (Poland) | |
| 1354.4 | 221.5 | 30 | Motala (Sweden). (Relays Stockholm) | | 403.8 398.9 | 743 752 | 25 25 | Sottens (Radio Suisse Romande) (Switzerland) | |
| 1350 | 222 | 0.5 | Tunis-Kasbah (Tunisia) | | 394.2 | 761 | 12 | Midland Regional (Daventry) | |
| 1304 | 230 | 100 | Moscow, WZSPS (Trade Union) (Russia) | | 389.6 | 770 | 120 | Bucharest (Roumania) Leipzig (Germany) | |
| 1230 | 244 | 0.6 | Boden (Sweden). (Relays Stockholm) | | 385.1 | 779 | 8 | Toulouse (Radiophonie du Midi) (France) | |
| 1200 1200 | 250 250 | 5 21 | Stamboul (Turkey) Reykjavik (Iceland) | | 385.1 | 779 | 10 | Stalino, RV26 (Russia) | |
| 1190 | 252 | 200 | Luxambourg | | | 788 | 16 | | |
| 1170 | 256 | 25 | Luxembourg | | 376.4 | 797 | . 50 | Scottish Regional (Falkirk) | |
| 1154 | 260 | 75 | Kalundborg (Denmark). (Relays Copenhagen) | | 312.2. | 806 | 1.5 | Hamburg (Germany) | |
| 1154 | 260 | 20 | Monte Ceneri (Switzerland). (Temporarily | | 370.1 | 810.5 | 0.8 | Radio, LL, Paris | |
| 1,101 | 200 | | Closed). | | 368.1 | 815 | | Seville, EAJ5 (Union Radio) (1.0 kW.); | *********** |
| 1117 | 268.5 | 40 | Moscow, Popoff RV58 (Russia) | | | | 1 1 1 1 1 1 1 | Galicia EAJ+ (0.2 kW.) (Spain); Bolzano (1.0 kW.) (Italy); Helsinki (10 kW.) (Finland) (relays Lahti); Kharkov, RV20 (10kW.) | |
| 1083 | 277 | 60 | Oslo (Norway) | | | | | land) (relays Lahti); Kharkov, RV20 (10kW.) | |
| 1071 | 280 | 35 | Tiflis, RV7 (Russia) | | 0004 | 015 | 0.7 | (Russia). | |
| 1035 | 290 | 36 | Kiev, RV9 (Russia) | | 368.1 364.1 | 815 824 | 0.7 | | |
| 1000 | 300 | 100 | Moscow RV39 (Russia) (S-W. Stn. on 50 m.) | | | 825 | 13 | Algiers (Algeria) | |
| 938 | 320 | 20 | Kharkov, RV4 (Russia) | | 360.6 | 832 | 60 | Mühlacker (Stuttgart) (Germany) | |
| 857 | 350 | 100 | Rudayest (Hungary) | | 355.9 | 843 | 50 | London Regional (Brookmans Park) Graz (Austria). (Relays Vienna) | |
| 840 825 | 357 363.6 | 18.5 | Budapest (Hungary) Sverdlovsk, RV5 (Russia) | | 352.1 | 852 | 7 | Graz (Austria). (Relays Vienna) | |
| 760 | 395 | 1.3 | Geneva (Switzerland). (Relays Sottens) | | 348.8 | 860 | 7.6 | Barcelona, EAJI (Spain) | |
| 720 | 416.6 | 20 | Moscow, RV2 (Experimental) (Russia) | | 348.8 | 860 | 10 | Leningrad, RV70 (Russia) | |
| 690 | 434.6 | 1.5 | Oulu (Uleaborg) (Finland) | | 345.2 | 869 | 11.5 | | |
| 680 | 441.2 | 0.6 | Lausanne (Switzerland). (Relays Sottens) | | 341.7 | 878 | 35 | Brno (Brunn) (Czechoslovakia) | |
| 574.7 | 522 | 7 | Liubliana (Yugoslavia) | | 338.2 | 887 896 | 15 5 | Brussels II, Velthem (Belgium). (In Flemish) | |
| 569 | 527 | 0.25 | | | 335 334.4 | 897 | 1.9 | Cadiz (Spain) | |
| 568.1 | 528 | 2 | Grenoble (France) | | | 905 | 50 | Milan (Italy). (Relays Turin) | |
| 563 | 533 | 16 | | | 0000 | 914 | 60 | Poste Parisien (France) | |
| 560 | 536 | 0.25 | Augsburg (Germany). (Relays Munich) | | 905 | 923 | 60 | Breslau (Germany) | |
| 560 | 536 545 | 1.5 | Kaiserslauten (Germany). (Relays Munich) Budapest No. 1 Lakihegy (Hungary) | | 0040 | 932 | 10 | | |
| 550 542 | 554 | 10 | Sundsvall (Sweden). (Reluys Stockholm) | | | 941 | 0.25 | Dresden (Germany). (Relays Leipzig) | |
| 537.6 | 558 | 3 | Palermo (Italy) | | 318.8 | 941 | 1.5 | | |
| 533 | 563 | 60 | Munich (Germany) | ,,, | 315.8 | 950 | 1.6 | Marseilles, PTT (France) | |
| 525 | 571 | 15 | Riga (Latvia) | | 312.8 | 959 | 0.7 | Radio Vitus (Paris). (SW. Stn. on 43.75 m.) | |
| 517.2 | 580 | 100 | Vienna (Bisamberg) (Austria) | | 312.8 | 959 | 1.7 | Cracow (Poland) | |
| 509 | 589 | 15 | | | | 959 968 | 10 50 | Genoa, IGE (Italy). (Relays Turin) | |
| 500.8 | 599 | 20 | Brussels No. 1, Velthem (Belgium). (In French) Florence, 1FI (Italy). (Relays Turin) Tröndelag (Norway) | | 307 | 908 | 0.75 | | |
| 495.8 | 605 | 1.2 | | | 204 | 986 | 13 | Bordeaux Lafavette, PTT (France) | |
| 488.6 | | 120 | | | 004 8 | 995 | 50 | North National (Manchester) | |
| 480 | 625 | 50 | | | | | 11 | Tallinn (Esthonia) | |
| 472.4 | | 60 1.5 | Langenberg (Germany) Lyons la Doua, PTT (France) | | | 1013 | 20 | Tallinn (Esthonia) Huizen (Holland). (7 kW. before 4.40 p.m.) | |
| 465.8 459.4 | | 60 | Beromünster (Schweizerischer Landessender) | | 11 | | | (K.R.O. and N.C.R.V. programmes). Limoges, PTT (France) | |
| 409.4 | 000 | 00 | (Switzerland). | | 293.5 | 1022 | 0.7 | Limoges, PTT (France) | |
| 453.2 | 662 | | San Sabastian EAIS (06 kW.): Pori | - | 293.5 | | 2.6 | Kosice (Czechoslovakia) | |
| 100.2 | | | (1.0 kW.) (Finland): Danzig (0.5 kW.) | | 291 288.3 | 1031 | 13.2 | Scottish National (Falkirk) | |
| | | | (relays Heilsberg); Klagenfurt (0.5 kW.) | | 288.3 | | 50 | Bournemouth. (Relay Station) | |
| | | 11 | (1.0 kW.) (Finland): Danzig (0.5 kW.) (relays Heilsberg); Klagenfurt (0.5 kW.) (Austria) (relays Vienna); Porsgrum (0.7 kW.) (relays Oslo), Tromsö (0.1 kW.) Bodő (0.5 kW.) (Norway); Uppsala (0.15 kW.) (Sweden) (relays Stockholm). | | 200.0 | 1040 | 1 | The state of the s | |
| | | | Bodo (0.5 kW.) (Norway); Uppsala | 1 | IJ | | 1 | | |
| | =1. | - | TO.15 R.W.) (SWOUGH) (relays Stockholm). | | | | 2 | | |



BROADCASTING STATIONS ABROAD (In Order of Wavelength)

| 10 | | * U | | Tuning | | , | | Obstina | Tuning Positions. |
|---------|--------|------|--|---|---------|-------|------|---|----------------------|
| Metres. | kc/s. | kW. | Station. | Positions. | Metres. | ke's. | kW. | Station. | Fositions. |
| 286 | 1049 | 0.8 | Montpellier (France) | | 244.1 | 1229 | 0.5 | Basle (Switzerland). (Relays Beromünster) | |
| 284.8 | 1053 | 0.7 | Lyons (Radio-Lyon) (France) | | 242.3 | 1238 | 1 | Belfast (N. Ireland) | |
| 283.6 | 1058 | 0.5 | German Relays (Berlin, Magdeburg, Stettin) | | 240.6 | 1247 | 0.5 | | |
| 283.6 | 1058 | 0.5 | Innsbruck (Austria). (Relays Vienna) | | 238.9 | 1256 | 2 | Nürnberg (Germany). (Relays Munich) | |
| 282.2 | 1063 | 2 | Lisbon CT 1AA (Portugal). (Short-wave | | 237.2 | 1265 | 1 | Nimes (France) | |
| 202.2 | 1000 | | Station on 31.25 m.) | | 237.2 | 1265 | 3 | Bordeaux, Sud-Ouest (France) | |
| 281.2 | 1067 | 0.75 | | | 235.5 | 1274 | 0.5 | | |
| 278.8 | 1076 | 13.5 | Bratislava (Czechoslovakia) | ******** | 235 | 1283 | 1.65 | | |
| 276.5 | 1085 | 60 | Heilsberg (Germany) | , | 232.2 | 1292 | 0.25 | | |
| 273.7 | 1096 | 7 | | 24 | 230.6 | 1301 | | Swedish Relay Stations. (Malmö, Norrköping, | |
| 271.5 | 1105 | 1.3 | | | | | | Karlstad and Trollhätten.) | |
| 269.8 | 1112 | 20 | | | 227.4 | 1319 | 0.5 | | |
| 269.8 | 1112 | 0.25 | Bremen (Germany). (Relays Hamburg) | | 227.4 | 1319 | 1.5 | | EXPERENT |
| 267.6 | 1121 | 0.75 | Valencia (Spain) | | 225.9 | 1328 | 10 | | ******* |
| 267.4 | 1122 | 6.25 | Nvireghaza (Hungary). (Relays Budapest) | | 224.4 | 1337 | 1 | | ******** |
| 265.8 | 1128.5 | 1.3 | Lille, PTT (France) | | 222.9 | 1346 | 0.15 | | |
| 263.8 | 1137 | 11.2 | Moravska Ostrava (Czechoslovakia) | | 219.9 | 1365 | 1.5 | | |
| 261.5 | 1147 | 50 | | | 218.5 | 1373 | 0.2 | | |
| 259.3 | 1157 | 17 | I lunitario di 121 (C. mining) | | 218.5 | 1373 | 0.5 | | |
| 259.3 | 1157 | 2.3 | | | 217 | 1382 | 0.5 | Königsberg (East Prussia). (Relays Heilsberg) | ****** |
| 257.1 | 1167 | 10 | Hörby (Sweden). (Relays Stockholm) | | 217 | 1382 | 0.25 | | |
| 255.1 | 1176 | 0.7 | | | 215.6 | 1391 | 0.2 | | |
| 253.1 | 1185 | 5 | Care Care Care Care Care Care Care Care | | 214.3 | 1400 | 1 | | ******* |
| 252 | 1193 | 1 | | ******** | 211.3 | 1420 | 1 | | ********* |
| 249.6 | 1202 | 0.8 | | | 209.8 | 1430 | 1.25 | | |
| 247.7 | 1211 | 10 | | V * * * * * * * * * * * * * * * * * * * | 207 | 1450 | 0.15 | | ********* |
| 245.9 | 1220 | | Berne (0.5kW.) (Switzerland) (relays Beronsin- ster): Eskilstuna (0.2kW.), Säffle (0.4 kW.) | | 206 | 1460 | 0.2 | | |
| | | | (Sweden) (relays Stockholm); Cassel | | 204.1 | 1470 | 0.2 | | |
| | | | (0.25 kW.) (Germany) (relays Frankfürt); | | 202.7 | 1480 | 0.25 | | ******** |
| | | | Linz (0.5 kW.) (Austria) (relays 1 ienna); Pietarsaari (0.5 kW.), Turku (Abo) (0.5 kW.) | | 201.3 | 1490 | 0.25 | , | |
| | | | (Finland) (relays Helsinki). | | 195 | 1530 | 0.2 | Karlskrona (Sweden) | ******** |

PRINCIPAL SHORT-WAVE STATIONS (N. P. Times of Transmission, Given in parentheses, are approximate only and represent B.S.T.)

| Metres. | ke/s. | Call Sign. | Station. | Tuning Positions. | Metres. | kc/s. | Call Sign. | Station. | Tuning Positions. |
|--|---|---------------------------------|--|----------------------|----------------------------------|--|------------------------------|--|----------------------|
| 80.0 73.0 70.2 | 3,750 4,110 4,273 | 2RO HGJB RW15 VE9BY | Rome. Quito (Ecuador). (Daily 13.30) Khabarovsk (Russia). (Daily 10.00-13.00) London, Ont. (Canada). (Sun. 07.00) Long Island, N.Y. (U.S.A.). (Fri. 01.00) Prague (Czechoslovakia). (Tues. and Fri. 20.30) | | 39.7 39.4 38.47 | 7,556 7,612 7,797 | HKF X26A HBL | Bogota (Colombia). (Westinghouse Lahs.) Nuevo Laredo (Mexico). (Thurs. 17,00). Radio Nations, Prangins (Switzerland). (Sal. 23,30-00,15.) | * * * * * * * * * * |
| 62.56 62.5 58.31 | 4,795 4.800 5,145 | W2XV OKIMPT | Long Island, N.Y. (U.S.A.). (Fri. 01.00) Prague (Czechoslovakia). (Tues. and Fri. 20.30) | | 37.33 34.68 34.68 | 8,936 8,650 8,650 | CNR W2XV VE9BY | Rabat (Moroeco). (Sun. 22.00) Long Island, N.Y. (U.S.A.). (Fri. 24.00) London, Ont. (Canada). (Mon. 22.00) | |
| 58.3 54.52 52.7 51.22 | 5,146 5,502 5,690 5,714 | W2XBH F1QA XDA | Brooklyn, N.Y. (U.S.A.). (Relays WCGU) Tananarive, P.T.T. (Madagascar). Chapultenec (Mexico) | | 33.50 31.6 31.58 31.55 | 8,928 9,490 9,500 9,510 | TGX SRI PRBA VK3ME | Guatemala City (S. America) Posen (Poland). (Tues. and Thurs. 18.30) Rio de Janeiro (Brazil). (Daily 22.30) Melhowne (Australia). (Wed. and Sat. 11.00) | |
| 50.6 50.26 50.0 | 5,930 5,970 6,000 | HJ 4ABE HVJ ZL3ZC | Medellin (Colombia) Vatican State. Rome. (Daily 20.00) Christchurch (New Zealand). (Wed. 04.00, Sal. 08.30) | | 31.54 31.51 | 9,510 9,520 | GSB OXY | Empire Broadcasting, Zones 2, 4, 5 Skamleback (Denmark). (Relays Copenhagen) | |
| 50.0 50.0 50.0 | 6,000 6,000 6,000 | RW59 EAR25 | Bucharest (Roumania) Moscow. (Relays Komülern Stn.) Burcelong, Endio Club (Spain) (Sal. 21.00) | | 31.48 31.38 31.35 | 9,530 9,560 9,570 | W2XAF DJA W1XAZ | Schenectady, N.Y. (U.S.A.). (Relays WGT) Zeesen (Germany). (Dwdy 23.00) East Springfield, Mass. (U.S.A.). (Relays WBZ) | |
| 49.96 49.83 49.8 | 6,005 6,020 6,023 | DJC XEW | Tegncigalpa (Honduras). (Daily ex. Sun. 01.00-06.00) Zeescu (Germany) Mexico City (Mexico). (Daily 02.00) | | 31.3 31.29 | 9,580 9,585 | GSC | Radio Nations. Prangins (Switzerland). | |
| 49.67 49.67 49.6 | 6,042 6,042 6,048 | W2XAL W4XB W3XAU | Zeesch (Germany) Mexico City (Mexico). (Daily 02.00) Mexico City (Mexico). (Daily 02.00) Covresville, N.J. (U.S.A.). (Relays WRNY) Mianni Beach, Florida (U.S.A.) Philadelphia, Pa. (U.S.A.). (Relays WC.11) | | 31.28 31.28 31.25 | 9,585 9,590 9,598 | W3XAU VK2ME CT1AA | Empire Broadcasting, Zone 3 Philadelphia, Pa. (U.S.A.). (Relays WCAU) Sydney (Australia). (Sun. 11.00) Lisbon (Portugal). (Tues. and Fri. 23.00– 01.00) | RINIE |
| 49.58. 49.5 49.5 | 6,050 6,060 6,060 | GSA VQ7LO W8XAL | Nairobi (Kenya Colony). (Daily 17.30). | | 31.10 31.0 | 9,640 9,675 | HS2PJ T14NRH | Bangkok (Siam). (Mon. 03.00-06.00)* (Daily 23.00 and 03.00)* | |
| 49.43 49.4 49.34 49.34 | 6,069 6,072 6,080 6,080 | VE9CS UOR2 W2XCX W9XAA | Mason, Ohio (U.S.A.). (Relays WLW) Vancouver, B.C. (Canada) Vienna. (Temporarily suspended) Kearny, N.J. (U.S.A.). (Relays WCFL). Chicaso, Ill. (U.S.A.). (Relays WCFL). Bowmanville, Ont. (Canada). (Daily 21.00) Iohannesburg (S. Africa). (Weekdays 10.00, 15.00 [Sat. 15.30] and 18.00, Sun. 14.00 and 17.30.) (Temporarily suspended) Bound Brook, N.Y. (Relays WZZ) Calcutta, India. (Daily 14.00) Bandoeng (Java). (Dully 23.45) Wayne, N.J. (U.S.A.). (Relays WABC). East. Pittsburg, Pa. (U.S.A.). (Relays KDK 4) | | 30.0 30.0 28.98 26.83 | 10,000 10,000 10,350 11,180 | LSX CT3AQ | Aranjuez (Spain). (Daily 22.30, Sat. 18.00) Belgrade (Yugoslavia). (Mon. 20.00) Buenos Aires (Argentina). (Daily 21.30) Funchal (Madeira). (Tues. and Thurs. | |
| 49.22 49.2 | 6,095 6,098 | VE9GW ZTJ | Bowmanville, Ont. (Canada). (Daily 21.00) Johannesburg (S. Africa). (Weekdays 10.00, 15.00 [Sat. 15.30] and 18.00, Sun. 14.00 | | 25.63 | 11,705 | FYA | Pontoise (France). (Colonial Stn. E-W, daily 20 30) | |
| 49.18 49.1 | 6,100 6,110 | W3XAL VUC | and 17.30.) (Temporarily suspended) Bound Brook, N.Y. (Relays WJZ) Calcutta, India. (Daily 14.00) | ********** | 25.6 25.53 25.5 | 11,720 11,750 11,760 | VE9JR GSD NDA | Winniper (Canada). (Daily ex. Sat. and Sun. 18.45) Empire Broadcasting, Zones I and 4 Chapultepee (Mexico). (Daily 21.00) | 1 |
| 49.02 49.02 48.86 | 6,120 6,120 6,140 | PKIWK W2XE W8XK | Wayne, N.J. (U.S.A.). (Relays WABC) East Pittsburg, Pa. (U.S.A.). (Relays KDKA) | | 25.5 25.45 25.4 | 11,760 11,790 11,810 | DJD W1XAL 2RO | Zeesen (Germany) Boston Mass (U.S.A.) Prato Smeraldo Rome (17.90 and 20.30) | |
| 48.8 48.65 48.35 | 6,147 6,167 6,205 | VE9CL X1F HKC 2RO | KDKA) Winnipeg (Canada). (Daily ex. Sun. 01.30) Mexico City (Mexico) Bogota (Colombia). (Daily 16.00) Rome (Italy) | | 25.36 25.34 25.28 25.27 | 11,830 11,840 11,865 11,870 | W2XE W9XAA GSE W8XK | Wayne, N.J. (U.S.A.). (Relays WABC) Chicago, Ill. (U.S.A.). (Relays WCFL) Empire Broadcasting, Zone 2 East Pittsburg, Pa. (U.S.A.). (Relays | |
| 48.2 48.05 48.0 47.0 46.69 | 6,220 6,243 6,250 6,382 6,425 | HKD CNSMC HCIDR W3XL | Barranquilla (Colombia). (Weekdays 24.45) Casablanca (Morocco). (Relays Rabat). Quito. Ecuador. (Daily 02.00) Bound Brook, N.J. (U.S.A.). (Relays WJZ | | 25.14 23.38 20.5 | 11,933 12,830 14,630 | FYA CNR XDA | KDKA) Pontoise (France). (Colonial Stn. N-S). Rabat (Morocco). (Sun. 12.30) Chapultepee (Mexico). (Daily 20.30) Heredia (Costa Rica). (Sal., Sun., Mon. 17.00 and 22.00) | |
| 46.67 | 6,426 | VE9BY | irregular) London. Ont. (Canada). (Sat. 02.00, Sun. 03.00) | | 19.9 | 15,075 15,120 | TI4NRH HVJ | Heredia (Costa Rica). (Sat., Sun., Mon. 17.00 and 22.00) Vatican State, Rome. (Daily 11.00) | |
| 45.38 45.0 | 6,611 6,667 | EW72 FM8KR | Moscow. (Relays Statin Stn.) Constantine (Algeria). (Mon. and Fri. 23,00) | | 19.81 19.73 19.72 | $15,140 \\ 15,200$ | OSF DJB W8XK | Vatican State, Rome. (Daily 11.00) Empire Broadcasting, Zone 5 Zeesen (Germany). (Daily 15.00-24.00). East Pittsburg, Pa. (U.S.A.). (Relays KDK.4) | |
| 45.0 43.75 | 6,667 6,860 | TGW | Guatemala City (Central America). (Daily | | 19.68 19.56 | 15,340 | FYA W2XAD | RDKA) Pontoise (France). (Colonial Stn. E-W) South Schenectady, N.Y. (U.S.A.). (Daily 19.00) | |
| 43.0 41.7 41.6 | 6,970 7,195 7,211 | EAR110 VS1AB EAR58 | Radio Vitus, Paris. (Dady 20.30) Madrid. (Tues. and Sat. 23.30) Singapore (Malay States). (Sun. and Wed. 16.30) Teoperific (Radio Club) (Capary Islands) | | 16.9- 16.89 16.87 | 17,750 17,760 17,780 17,790 18,105 | HSP DJE W3XAL | Bangkok (Siam). (Sun. and Tucs. 22.00) Zeesen (Germany) Bound Brook, N.J. (Weekdays 14.00) | |
| 41.5 41.0 | 7,230 7,320 | HB9D HSP2 | Teneriffe (Radio Club) (Canary Islands) Zurich (Radio Club) (Switzerland). (1st. and 3rd Sun.) Bangkok (Siam). (Mon. 15.00) Radio Nations, Prangins (Switzerland) | | 16.86 16.57 14.47 | 20.739 | GSG W9XAA LSY | Empire Broadcasting, Zone 2 Chicago, Ill. (U.S.A.). (Relays WCFI.) Buenos Aires (Argentina). (Sun. 22.00). Empire Broadcasting, Zone 3 (Daylight | |
| 40.3 | 7,443 | HBQ | Radio Nations, Prangins (Switzerland) (Sun. 23.00-23.45) | | | 21,470 | GSH W8XK | working) | |



PROGRAMMES FOREIGN

ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by

Cork, 1,337 kc/s, 224.4 metres.—8.30 p.m.,

Time Signal. 8.31, Concert by Lucy Lee

nanc's Instrumental Trio, The Glasgow

Orpheus Choir, conducted by Sir Hugh S.

Robertson. The Mystics in a Drama, and

Soprano Sologs by Gertrude Mortimer. 11.0,

Time Signal, News, Weather Report, and

Close Down.

BARCELONA

EAJ1, 863 kc/s, 348.8 metres; 8 kW.—12 Noon, Chimes from the Cathedral and Weather. 2.0, Gramophone Music. In the interval at 2.30, Theatre Notes. 3.0, Sextet Concert. 4.0, Programme for Hospitals and Concert. 4.0, Programme Noves. 3.0, Sexvet other Benevolent Institutions, with Gramophone Records. 5.0 to 6.30, Interval. 6.30, Agricultural Talk in Cantalan and Gramophone Music. 7.0, Concert by the Station Orchestra. 7.30, Song Recital by Pepita Paulet. 8.0, Concert by the Station Orchestra. Soloists: Paquita Gilbert (Songs) and Josefa Tomás (Pianoforte). 9.0, Dance Music relayed from The Hollywood Bar. 10.0, Musical Comedy on Gramophone Records. 11.45, Chess Lesson. 12 Midnight (approx.), Close Down.

BASLE.—See Schweizerlscher Landessender.

BERLIN

BERLIN

DEUTSCHLANDSENDER (REICHSSENDER),
183.5 kc/s, 1,635 metres; 60 kW.—6.0
a.m., Gymnastics from Berlin (Funkstunde). 6.15, News, followed by the Day's
Motto, Morning Hymn and Harbour Concert from Hamburg. 8.0, Two Agricultural
Talks. 8.55, Morning Recital from Nikolskos.
10.5, Weather from Berlin (Funkstunde).
11.0, Reading (Paul Ernst). 11.15, Weather.
11.30, See Leipzig. 12 Noon, See Stuttgart.
12.55 p.m., Time Signal. 1.0, Concert from
Hamburg. 2.0, The German Harvest—Radio
Sequence (Pätzold). 3.0, Hans Hermann
Wilhelm reads from his own Works. 3.30,
Song Recital by a Girls' Choir. 4.0, Reading. 4.30, Concert from Breslau. 5.30,
Reading: The Philosophy of a Churl (J.
Hanns Rösler). 5.50, Orclestral Concert.
6.50, Sports Notes. 7.0, Great Actors—Programme on Gramophoine Records with Commentary. 8.0, Concert by the Station
Orchestra, conducted by Hanns Udo Müller;
Soloists, Adelheid Armhold (Soprano), Konrad Hansen (Planoforte), and Max Bleiss
('Cello). In the interval at 8.40, Radio Report of the German Cyclists' Club. 10.0,
News. 10.45, Weather. 11.0, Concert from
Langenberg. 12 Midnight, Close Down.

BERLIN

BERLIN

FUNKSTUNDE, 715 kc/s, 419.5 metres; 1.5 kW.—11.50 a.m., See Lelpzig. 12 Noon, See Heilsberg. 2.0, Talks for Garden City Iwellers. 3.0, Dr. Johannes Günther speaks with Three Artists. 3.30, Concert by an Orchestra of Unemployed Musicians. In the interval at 5.10 (approx.), Running Commentary on the Second Half of the Rugly Match Hanover v. Berlin. 5.40, Siegfried Burgstaller Song Recital by Tiny Delniser (Soprano). 6.0, A Working Day in the Life of a German Peasant—a Radio Pieture. 7.0, Opera Songs on Gramophone Records. 7.50, Sports Notes. 8.5, Autumn from The Seasons—Oratorio (Haydn) by the Station Orchestra the Oratorio Society and Soloists. 8.40, Orchestral Concert, conducted by Willi Hahn. 10.0, News. 10.15 (approx.), Dance Music. relayed from the Delphi-Palast. In the Interval at 11.0 (approx.), A Visit to Paris (on Gramophone Records). 1.0 a.m. (Monday), Close Down.

BERNE. See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer Landessender.

BODEN.—See Stockholm.

BODO.—See Oslo.

BRATISLAVA

DRAII DLAVA

(,076 kc/s, 279 metres; 14 kW.—12.15 p.m.,
Military Band Concert. 1.30, See Prague.

1.45 to 1.50, Hydrographic Report. 3.45,
Variety Programme relayed from Skalica.

5.30, See Prague. 5.45, Rending. 6.0, Planoforte Recital by Rudolf Macudzinsky. 6.30,
Talk: The Work of the Slovak League. 6.45,
Gramophone Music. 6.55, Talk for Housewives. 7.0 till Close Down. See Prague. 10.50

(approx.), Close Down.

BREMEN .- See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwltz, 1,184 kc/s, 253 metres.—11.30 a.m., See Leipzig. 12 Noon, Concert by the Silesian Symphony Orchestra. conducted by Mundry. 2.0, Talk: Amateur Films. 2.20, Talk for Stamp Collectors. 2.40, Talk: Women in Early German History. 3.0, A Play for Children. 3.20, Orchestral Concert conducted by Gerhard Rischka. In the interval at 4.30, The New Organ at Lichten-

SEPTEMBER THE TWENTY-FOURTH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

Harvest Festival service from Cranleigh Parish NATIONAL Church.

LONDON Guards Band concert. REGIONAL

Orchestral concert from the Winter Gardens, Droit-MIDLAND REGIONAL wich Spa.

NORTH A programme of glees. REGIONAL

WEST A nocturne : orchestral concert. REGIONAL

SCOTTISH Service from St. Mungo's Church, Alloa. REGIONAL

ABROAD

9.0 p.m. The Symphony Orchestra, conducted by BRUSSELS (No. 2) Kumps. BUCHAREST 8.20 p.m. Concert by the Station Orchestra. BUDAPEST 7.45 p.m. Concert of operetta music. COPENHAGEN 8.5 p.m. Léhar operetta concert. 10.15 p.m., French opera music, by the Station Orchestra. 8.0 p.m. The Königsberg Opera House Orchestra. HEILSBERG The Symphony Orchestra. LEIPZIG 8.0 p.m. Concert by the Budapest Trio. OSLO 8.0 p.m. PITTSBURGH 8.0 p.m. National opera concert. 7.0 p.m. Opera: "Libusa," by Smetana, from the National Theatre. PRAGUE 8.30 p.m. Opera: "Ruy Blas," by Marchetti.

waldau—a Radio Report, relayed from Lichtenwaldau. 6.0, Reading (Schäke). 6.25, Talk: The Victims of Mont Blanc. 6.45, Divertimento in E Flat (Mozart). by Hanns Schmack-Urbach (Violin), Rudolf Vormeng (Viola), and Fritz Binnowsky (Cello). 7.30, Weather and Sports Notes. 8.0, A German Evening—Literary and Musical Programme. In the interval at 9.0, News. 10.0, Time and News. 10.30, Dance Music from Berlin (Funkstunde). 12 Midnight, Close Down.

TURIN

BRNO

BRNO
878 kc/s, 342 metres; 35 kW.—5.30 p.m., Song
Recital by Milada Sklenarová. 5.45, Talk:
Early Slovak Poetry. 6.0, German Transmission: Song Recital with Guitar Accompaniment. 7.0 till Close Down, See Prague. 10.50
(approx.), Close Down.

BRUSSELS (No. 1)

1.N.R., 590 kc/s, 509 metres; 15 kW.—9.45 a.m., Culinary Talk. 10.0, Gramophone Records: Vlolin Concerto No. 5 in A (Mozart); Symphonic Study, Falstaff (Elgar). 11.0, Concert by the Small Station Orchestra, conducted by Kumps. 1.0 p.m., Le Journal Parié. 1.10, Concert, conducted by Felleman, relayed from the Grand Ilotel, Antwerp. In 1.30, Monologues. 5.0, Concert by the Radio Orchestra, conducted by André. liotel, Antwerp. In the interval at 1.30, Monologues. 5.0, Concert by the Radio Orchestra, conducted by André. 5.30, Football Results. 6.0, Grannophone Records: Concerto in E. Flat (Liszt); Overture, Le Rol d'Ya (Lalo). 6.30, Song Recital by Lina Pollard: Song Cycle, Frauen-Liebe und-Leben (Schumann); Barcarolle (Schubert); Der Erkönig (Schubert). 7.0, Gramophone Music: Sonata in A (Mozart-Tertis); Teccata from Symphony No. 5 (Widor). 7.15, Religious Address. 7.36, Wireless Notes and Musical Review. 8.0, Concert by the Station Symphony Orchestra, conducted by Kumps: Soloist: Henry Wagemans (Violin); Fantasia on a Walloon Theme (Théo Ysaye); Romantic Concerto for Violin and Orchestra (Godard); Marche Cortège (Vreuis). 8.45, Readings of Walloon Poetry. 9.0, Concert by the Radio Orchestra. conducted by Franz André: Soloist: Thomé (Teaor); Hallelujah (Younans); Polonaise in D for Violin (Wieniavsky): Selection from Paganini (Lehár); Three Songs from The Land of Smiles (Lehár); Morocco (Marangue); Russian Dances (Barch). 10.0, Le Journal Parlé.

BRUSSELS (No. 2)

N.I.R., 887 ko/s, 338.2 metres; 15 kW.—

Programme in Flemish. 10.0 a.m., Concert

CASSEL.—See Frankfurt.

by the Small Station Orchestra, conducted by Leemans. 11.0, Gramophone Concert. 12.0 Noon, Concert, relayed from the Grand Hotel, Antwerp. 1.0 p.m., Le Journal Parlé. 1.10, Concert by the Station Symphony Orchestra, conducted by Kumps. 5.0, Dance Music, relayed from the St. Sauveur Palais de Danse. 5.30, Sports Notes. 6.15, Movements from the Quartet in A Minor (Schumann) on Gramophone Records. 6.30, Concert by the Small Station Orchestra, conducted by Leemans. 7.15, Religious Address. 7.30, Review of Music. 8.0, Concert by the Radio Orchestra, conducted by Franz André: Soloist: Mme. Marie-Rose (Soprano); Overture. The Bohemian Girl (Bulfe); Three Pieces (Fletcher); Finale from the Violin-Concerto in E (Vieux-temps); Sougs; Romanian Airs (Dauber); Mclody (Offenbach); Fantasia appassionata for Pianoforte (Saint-Saëns); At the Circus (Armandola). 8.45, Reading Egypt (Römer). 9.0, Concert by the Symphony Orchestra, conducted by Kumps: Soloist: Henry Wagemans (Violin); Overture, Enryanthe (Weber); Caprice for Violin and Orchestra Kein (Verlieyden). 10.0, Le Journal Parlé.

BUCHAREST

761 kc/s, 394 nietres; 12 kW.—5.0 p.m., Dance Music by the Seidmann Jazz Band. In an interval at 6.0, Radio Journal. 7.0, Educational Talk. 7.20, Gramophone Music. 7.40, Talk. 8.0, Song Recital by Gabriel Popescu. 8.20, Concert by the Station Orchestra: Overture. The Bohemian Girl (Balfe); The Nut-Cracker Suite (Tchaikovsky): Elegy (Ernst); Selection from The Flower of Hawail (Abraham); Spanish Dance (Falla). In an interval at 9.0, Talk. 9.45, Radio Journal.

BUDAPEST

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW.—Also relayed on 840 metres from 7.45 p.m. till 12 Midnight. 9.15 a.m., News. 10.0, Divine Service. 1.0, Catholic Service from a Church. 12.30 (approx.). Concert by the Opern House Orchestra, conducted by Otto Berg. 2.0, Gramohone Music. 3.45, Talk. 4.30, Military Band Concert. 5.30, Reading. 6.0, Concert by Bugen Farka's Cigány Band. 7.15, Talk. 7.45, Concert Orchestra, conducted by Fridl: Soloista: Gabrielle Relle and Johann Halmos. 9.30, Planoforte Reckal. 10.15, Concert forchestra, conducted by The Budant Catholic Concert Orchestra, conducted by Fridl: Soloista: Gabrielle Relle and Johann Halmos. 9.30, Planoforte Reckal. 10.15, Concert forchestra, conducted by The Catholic Concert forchestra, conducted by Fridl: Soloista: Gabrielle Relle and Johann Halmos. 9.30, Planoforte Reckal. 10.15, Concert forchestender; Soloist. Paul Kalmar in the Café Ostende; Soloist, Paul Kalmar his Repertoire. 12 Midnight, Close Down.

COPENHAGEN

CORK .- Sec Athlone. DANZIG .- See Heilsberg. DRESDEN.-See Lelpzig.

FECAMP

PECAMP

1,328 kc/s, 225.9 mstres; 10 kW.—1.0 a.m. till 12 Noon, Programme in English by the I.B.C. 11.0, Happy Hour. Part I. Orchestral Concert: Signature Tune; Classical Selection (arr. Ewing); Invitation to the Waltz (Weber); Selection from Die Fledermans (John Strauss); Anitra's Dance from the Peer Gynt Suite (Grieg); Searf Dance (Chaminade): Ich liebe Dich (Grieg); Hungarian Dance No. 6 (Brahms); Waltz from The Sleeping Beanty (Tchaikovsky). Part II, Organ Recital: Selection from Indian Love Lyrics (Woodforde-Finden); Bercense de Jocelyn (Godard); Les millions d'Arlequin (Drigo); Melody in F (Rubinstein); The Londonderry Air; Suite, Bailet (Luigini); Cathedral Chimes (Lindahl); Chinnt sans paroles (Tchaikovsky); Signature Tine. 12 Noon, Programme in French. 2.0 to 7.30 p.m., Programme in English by the I.B.C. 2.0, Variety Concert: Ah, Sweet Mystery of Life; The Song of Songs (Moya); Selection from Orpheus in the Underworld (Offenbach). 2.15, Concert for Blind Club Members: Signature Tune, The Night by the Sea; Overture, William Tell (Rossin); Rhapsody on Alice, where art thon? (Ascher); Liebestraum (Liszt); Valse brune (Krier); Melody in F (Rubinstein); Dance of the Hours (Ponchielli); Barcarolle from The Tales of Hoffman (Offenbach) 2.18, Menody in F (Rubinstein); Dance of the Hours (Ponchielli); Barcarolle from The Tales of Hoffman (Offenbach); Summer Davs Suite (Coates). 3.0, Light Music: Selection from Music in the Air: Ding, Dong, Ding (Evans); Jealousy (Gade); I've found the right Girl (Gay); The Song of the Rose (McCullough); Down in the Valley (Harrington); Animal Antics (Wark); Roll up the Carpet (Goodhart). 3.30, Light Orchestral Music: What's next? (arr. Finek); Chinatown, Norton); Green Hills of To-day: Signature Tune; Jolly sood Company; A Medley of British Songs; Selection from The Flower of Hawali (Abraham); Cello Solo, Harlequinade (Gurier); Wulady Dalinty (Hesse); Ay, Ay, Ay (Freire); Frühlingsstimmen (Grand); Xilophone Solo, Snappy Sticks (Robblus); Selection from Congress Dances (Heymann)

Ye Banks and Bracs; Selection from The Dubarry (Millöcker-Mackeben): Bonnie wee Uning (Fox); Columbine (Garland): Bonnie Scotland (arr. Pether). Part II—Members Request Half-Hour; Fairy on the Clock (Myers); You are my Heart's Delight (Lehar); Selection from The Desert Song (Romberg); My Darling (Heymann): The Song of the Nightingale; Hold me (Schuster); Ma curly-headed babby (Chutsam); Signature Tune, 7.0, Military Band Music; Riders of the Flag (Sousa): Policeman's Holiday (Ewing); Valse triste (Sibelius); Selection from Iolanthe (Sullivan); Wood Nymphs (Coates); A Life on the Ocean (Binding); Jolly Fellows (Vollstedt); March, Old Contrades (Teika). 7.30, Programme in English by the LB.C. 9.0, Concert of Dance Music; Signature Tune, Happy Feet; I wish I had Wings; Smilin' through; Thank Heaven for you; When Gimble hits the Cymbal; My Blue Bird's singing the Blues; He was only a poor Muscian; Rock-a-bye; Lover; Signature Tune, 9.30, Talkie Time; Times from the Talkies; Signature Tune, Sitth' in the dark; Love Songs of the Nile (Brown); Mrs. Bartholomew (Rills): There's Magic in the Air (Eyton); Selection from The Kid from Spain; Why has a Cow got four legs? (Rills); Hits from Forty-Second Street (Oubin); Sweep (Ellis; Talking to you about me (Snyder). 10.0, Concert of Gramophone Records; Selection of War Marching Songs; Clapham and Dwyer's Fairy Tales; The Birth of the Bines (Henderson); Rakoczy March (Berlioz); The Doll's Song from The Tales of Hoffmann (Offenbach); Concert Waltz in D (Glazunov); Pim the Landdord of the Inn in Aberfoyle (Roberts and Fyff); Selection of War Marching Songs. 10.30, Concert of Dance Music; My Lucky Day; Happy Finding; Moonstruck; Learn to croon; Down the old Ox Road; Twe Chapter and Fyff); Selection of War Marching Songs. 10.30, Concert of Dance Music; My Lucky Day; Happy Finding; Moonstruck; Learn to croon; Down the old Ox Road; Seven Years with the Wrong Woman; When Gimble hits the Cymbal; Body and Sonl; You're getting to be a habit with me. 110, Balalaka Orehestra : Signature

FLENSBURG. See Hamburg.

FLORENCE. See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed by Cassel, 1,220 kc/s, 265.9 metres; and Trier, 1,157 kc/s, 259.3 metres—11.30 a.m. to 1.0 p.m., See Leipzig. 1.0, Gramophone Records of Dance Music. 2.30, Talks arranged by the Wiesbaden Board of Agriculture. 2.40, Rural Programme—Two Talks. 3.30 to 5.30, See Stuttgart. 5.30, Gramophone Concert of Light Music. 5.50, Talk: The Protection and Development of the Rhenish-Franconian District. 6.15, A Pleasant Interlude. 6.45, Sports Notes. 7.0, Topical Programme. 7.30 (from Cassel), Reading (Martin Otto Johannes. 8.0, Variety Programme. 10.20, Time and News. 10.45, Dance Music from Berlin (Funkstunde). 12 Midnight, Close Down.

FREDRIKSSTAD. -See Oslo.

FREIBURG .- See Stuttgart.

GENEVA .- See Radio-Suisse Romande,

GENOA .- See Turin,

GLEIWITZ .- See Breslau.

GOTEBORG.—See Stockholm.

GRAZ.-See Vienna.

HAMAR,-See Oslo.

SEPT. 24th

continued

HAMBURG

HAMBURG

806 ke/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc,s. 259.8 metres; Flensburg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 566 metres; and Kiel, 1,292 kc/s, 232.2 metres.—10.55 a.m. (from Kiel), Divine Service relayed from the University Church. 12.15 p.m., Concert by the Hamburg Philharmonic Orchestra, conducted by Gerhard Maasz. In an interval at 12.55, Time and Weather. 2.0, Programme for the Hitler Youth. 3.0, Concert of Chamber Music by the Small Station Orchestra. 3.45 (from Hanover), Der Dildapp—Puppet Play, after the Fairy Story by Brentano. 4.40 (from Kiel). Variety Programme. 6.0, Concert by the Small Station Orchestra, conducted by Gerhard Maasz. 7.10, Reading (Max Treu), for the Author's Seventieth Birthday. 7.40, Sports Notes and Weather. 8.0, Concert of Italian Music by the Philharmonic Orchestra, conducted by Richard Richter. Soloist: Otto Stadelmaier (Tenor). In an interval, News. 10.0, Time and News and 10.10, Hamburg, Bremen and Lübeck—Weekly Review of the Hanseatic Free Cities. 10.25, Light Music and Dance Music from Berlin (Funkstunde).

HANOVER.—See Hamburg.

HEILSBERG

HEILSBERG

1,085 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 662 kc/s, 453.2 metres.—11.30 a.m., See Leipzig. 12 Noon, Concert by the Small Station Orchestra. conducted by Eugen Wilcken. 2.0, Chess Lesson. 2.30, Talk. 3.0, Das Lied von Andreas Hofer-Radio Play for Young People (Herbert Maruschak). 3.40, Concert by the Small Station Orchestra. conducted by Eugen Wilcken. In the interval at 4.20, Report of the East Prussian Gymnastic Festival, relayed from Trakehnen. 5.25, Horse-racing Results. 5.35, Talk: Richard Wagner, the Pioneer of German Opera. 6.0, Bandonion Concert. 6.45, Reading (Lorenz). 7.15, Choral Concert of New Patriotic Songs. 7.50, Sports Report. 8.0, Concert by the Königsberg Opera House Orchestra, conducted by Brückner: Overture. William Tell (Rossini): Scènes pittoresques (Massenet); Oriental Ballet Suite (Krüger); Waltz, Les Sirènes (Waldeufel); Selection from Der lustige Krieg (Joh, Strauss): Overture, Die schöne Galathie (Suppé): Ordensritter-Marsch (Blankenburg). In the interval at 9.0 (approx.), Talk: The Heilsherg Misical Programmes for the Coming Winter. 10.0, News. 10.30 (approx.). Dance Music relayed from Berlin (Funkstunde). 12 Midnight, Close Down.

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1 metres; 7 kW. (until 5.40 p.m.) and 20 kW. from 5.40 p.m.—8.10 a.m., Religious Programme of the Catholic Radio Society (K.R.O.). 9.10 to 11.55, Programme of the Christian Radio Society (K.C.R.V.). 9.10, Sacred Music on Gramophone Records. 9.40, Organ Recital by Bos. 10.10, Divine Service relayed from the Cathedral, Utrecht. After the Service. Sacred Music on Gramophone Records. 11.55 to 4.40 p.m., K.R.O. Programme. 11.55, Orchestral Concert. 12.40 p.m., Talk. 1.0 Concert (contd.). 1.50, Literary Talk. 2.10, Gramophone Music. 2.40, Farewell Ceremony to the Missionaries to Africa, relayed from the Mission House, Cadier en Keer. 4.10, Programme 4.40, Sacred Music on Gramophone Records. 4.55, Divine Service and Choral Concert, relayed from Ermelo. 7.25 till Close Down, K.R.O. Programme. 7.25, Football Results. 7.30, Talk. 7.55, Orchestral Concert. Soloist: Bril ('Cello). Overture, Russlan and Ludmilla (Glinka); Variations (Tchaikovsky): The Enchanted Lake (Liadov): 'Cello Solos: (a) Intrada (Desplanes-Lier), (b) Allegro spirituoso (Senaillé), (c) Minuet (Ravel); La jennesse d'Hercule (Saint-Saéns); Canzonetta (Pierné); Selection from Tosca (Puccini); 'Cello Solos: (a) Serenade (Cassado), (b) Prayer (Bloch), (c) Czardas (Fischer); Overture, Der Waffenschmied (Lortzing); Two Novelettes (Coleridge-Taylor); Invitation to the Dance (Weber). In the intervals at 8.30, Recitation, at 8.45 and 10.5 (approx.), News. 10.20, Epilogue by the Small Choir. 10.40 (approx.), Close Down.

HORBY:-See Stockholm.

HUIZEN

HUIZEN

(Announced HILVERSUM), 160 kc/s, 1,875
metres; 7 kW.-(intil 3.40 p.m.). Transmitted
from Kootwijk on 50 kW. from 3.40 p.m.—
8.40 to 11.40 a.m., Programme of the
Workers' Radio Society (V.A.R.A). 8.40,
Pigeon Flying Report and Football Notes.
8.43, Gardening Talk. 9.10, Concert by the
V.A.R.A. Orchestra, conducted by De Groot.
9.40, Recitations and Gramophone Music.
10.0, Orchestral Concert (contd.). 10.40, Song
Recitat by Emelanov.
10.55, Orchestral Concert (contd.). 11.40 to 4.40, Programme of
the Algemeene Vereeniging Radio Omroep
(A.V.R.O.). 11.40, Time
Gramophone Music. 12.40 p.m., Concert by
the Rentmeester Orchestra. 1.40, Book Re-

view. 2.10, Concert by the Station Orchestra, conducted by Alliert van Raalte. Soloist: Emile de Vlieger ('Cello). 3.40, Gramophone Music. 4.25, News and Gramophone Music. 4.40, V.A.R.A. Programme; Programme for Children. 5.40 to 7.40, Programme for Children. 5.40 to 7.40, Programme of the Liberal Protestant Radio Society (V.P.R.O.). 5.40, Book Review. 6.10, Organ Recital by Provily. 6.25, Divine Service relayed from Purmerend. 7.40 till Close Down, A.V.R.O. Programme. 7.40, Time Signal and News. 7.55, Concert by the Wireless Orchestra, conducted by Nico Treep. Soloist: Henk Viskil (Tenor). Overture, Morning, Noon and Night (Suppe); So tanza mannur in Wien (Weizel): Alter Refrain (Kreisler); Ah Sweet Mystery of Love (Herbert); Lasciati amor (Leoncavallo); Viennese Musical Comedy Potponrri (Robrecht): Because (d'Hardelot): Dream Waltz (Millöcker); Two Fairy Eyes (Kalmán): Max and Moritz (Zimmer); Patsy (Myddleton); Splendour and Victory (Finek). 8.40, Part II of Escape—Radio Play after the Novel by Galswortlig. 9.40, Concert of Light Music by Kovacs Lajos and his Orchestra. 10.40, Gramophone Music. 11.40 (approx.), Close Down.

INNSBRUCK.—See Vienna.

JUAN-LES-PINS

JUAN-LES-PINS

1,205 kc/s, 249 metres; 0.8 kW.—8.0 p.m., Amusement Guide and Sports Notes. 8.15, Radio Concert. 9.0, News. 9.15, Musical Programme. 10.0, The Listeners' Half Hour. 10.30 till Close Down, Programme in English by the 1.B.C. 10.30, Gramophone Concert: Saschinka. Pt. I (Schermann); Sleep on (Offenbach); Organ Solo: La Paloma (Yradier); In a Monastery Garden (Ketelbey); Violin Solo: Waltz. Dolores (Waldtenfel); I Give my Heart, from The Dubarry (Millöcker); Saschinka. Pt. II (Schermann). 11.0, Military Band Concert: Distant Greeting March (Loring): Gaiety Echoes; Quand Madelon (Bousquet); Fire Star (Carter): El Abanico (Javaloyes); Variation and Dance. Circassienne from La Source (Delibes); Wool Nymplis (Coates); Naval Patrol (Willianns). 11.30, Light Music: Waltz. Frühlingsstimmen (Joh. Strauss); Gavotte. The Fairies (Kohn): Selection from Mother of Pearl (O. Straus); Adios (Fernandez); You are my Heart's Delight (Lehār); The Skaters' Waltz (Waldtoufel); Serenata No. 2 (Toselli); Play, Fiddle. Play (Lawrence). 12 Midnight, Music by a Tango Band: El Estandarte (Pizarro); Mariette (Linda Flor); Mama, yo quiero mi novio (Collazo); A medi a Luz (Donato); Zigeuner, you have stolen my Heart (Schwabach); Goodbye Argentina (Podriguez); Farolito de mi Barrio (Tradicional); Rose Colour (Polito). 12.30, Dance Music: The King's Navee; Love will find a Way; Don't be late in the Morning; The Old Spinning Wheel; In the Valley of the Moon: Hold me, Harlem Fuss; When you've Tallen in love. 12.57, LB.C. Goodinight Melody. 4.0 (approx.), Close Down. KALUNDBORG.—See Copenhagen.

KALUNDBORG .- See Copenhagen.

KIEL.—See Hamburg.

KLAGENFURT.—See Vienna.

KOSICE.—See Prague.

LANGENBERG

LANGENBERG

635 kc/s, 473 metres; 60 kW.—10.0 a.m., Prolestant Service, relayed from the Christuskirche, Aachen. 11.30, See Leipzig. 12 Noon,
Musical Interlude. 1.0 p.m., Concert by the
Münster Municipal Orchestra, conducted by
Werner Göhre. 2.30, Chess Lesson. 3.0, A
Report with Gramophone Records: Adventures in North Africa. 3.30, Concert by the
Münster Municipal Orchestra, conducted by
Georg Ludwig Jochum. In the interval.
Talk on Pritz Wienke. 4.30, Concert by the
Fröhliche Fünt. Accordion and Gramophone
Music. 5.40, Talk: The West German Cycling
Club. 5.45, Sports Report. 6.0, The Merry
Wives of Windsor—Opera (Nicolai) (Concert
Version on Gramophone Records). 6.40,
Talk: The International Air Pageant at
Cologne. 7.0, Talk: The Pilgrimage to Trier,
1933. 7.30, Programme to be announced.
7.45, Sports Report. 8.0, A Harvest Festival
relayed from Odenthal. 9.30, Symphony No.
6—the Pastoral (Beethoven), by the Station
Orchestra, conducted by Buschkötter. 19.10,
News. 10.35, Light Music and Dance Music.
12 Midnight, Close Down.

LAUSANNE.—See Radio-Suisse Romande.

LAUSANNE.-See Radio-Suisse Romande.

LEIPZIG

LEIPZIG
769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—11.15 a.m., Talk on the following Transmission. 11.30, Was Gott tut, das ist wolligetan—Cantata (Bach), by the Municipal and Gewandhaus Orchestra, the Choir of St. Thomas, and Soloists. 12 Noon, Concert by the Emde Orchestra. 2.0 p.m., Weather and Time. 2.55, Programme Annonneements. Agricultural Notes. 2.30, Sun over Thüringia—Literary Programme. 3.0, Graunophone Music. 3.40, Programme for Young People. 4.30, See Stuttgart. 6.0, Talk: Burgenland—an old German Province. 6.20,

Talk: Autumn Days in the Garden City. 6.45, Programme to be announced. 7.5, Two One Act Comedies: (a) Der Schwarzsänger (Preil). (b) Rösige Zukunft (Klotz). 8.0, Concert by the Symphony Orchestra, conducted by Bhmer; Soloist, Charlotte Börner (Soprano): Concert Overture (Cherubini): Soprano Solos: (a) Wen ich für Dich sterbe (Alarv). (b) Das Seemannsständehen (Mercadente): Italian Capriccio (Tchaikovsky); Aria from La Traviata (Verdi): Hungarian Rhapsody No. 6 (Liszt); Aria from Turandot (Puccini): Selection from The Jewels of the Madonna (Wolfferrari); Aria from Madame Butterfly (Puccini): Overture, Der Bärenhänter (Wagner): Syrian Dances (Kienzl); Waltz. Wo die Citronen bluh'n (Strauss); Extract from the Peer Gynt Snite No. 1 (Grieg). 10.5, News. 13.15 (approx.). Dance Music from Berlin (Funkstunde). 12 Midnight, Close Down.

LINZ .- See Vienna.

LUXEMBOURG

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW.—12.30 p.m.,
Concert by the Station Orchestra, conducted by Hemri Pensis. 1.30, Gramophone Concert of Variety Music. 7.30
till Close Down, English Programme. 7.30,
Gramophone Music: Variations, Enigma
(Elgar); Spanish Caprice (Rimsky-Korsakov). 8.20, Concert by the Station Orchestra, conducted by Henri Pensis: Overture,
Fra Diavolo (Auber); Waltz, Tales from the
Vienna Woods (Joh. Strauss); Selection from
Cavalleria rusticana (Mascagni); Scheherazade (Rimsky-Korsakov); Indian Canzonetta
(Dvorák); Spanish Dances (Moszkovsky);
Kisses in the Dark (Micheli); Selection from
Viktoria and her Hussar (Abraham); The
Caress (Byford); Grandmama (Lange);
Aubade (Caludi): March, Liberia (Lincke).
In the interval at 8.50, News in French, and
at 9.50, News in German. 10.20, Dance Music
on Gramophone Records.

MADRID

MADRID

EAJ7, 707 kc/s, #24.3 metres; 2 kW.—9.0 to 10.0 a.m., Topical Review. 3.0 p.m., Chimes, Time, Theatre Notes and Popular Concert. 5.0 to 8.0, Interval. 8.0, Chimes, Radio Journal and Dance Music. 9.30 to 11.0, Interval. 11.0, Chimes, Time Signal and Science Talk. 11.20 (approx.), Variety Programme. 1.0 a.m. (Monday), Dance Music relayed from the Atkäzar Dance Hall. 1.30, Chimes and Close Down.

MALMO.-See Stockholm.

MILAN.-See Turin,

MORAVSKA-OSTRAVA

,137 kc/s, 263.8 metres; 11 kW.—6.0 to 10.50 m., See Prague.

MOTALA.-See Stockholm.

MUHLACKER .- See Stuttgart.

MUNICH

MUNICH
563 kc/s, 533 metres; 60 kW. Relayed by
Augsburg and Kaiserslautern, 536 kc/s, 560
metres; and Nürnberg, 1,256 kc/s, 239
metres.—11.0 -2.pn., Concert of Sixteenth
Century Music and Rodern Music. 11.30,
See Leipzig. 1.0 p.m., Time and News. 1.10,
Agricultural Talk. 1.30, Gramophone Concert of Light Music. 2.30, Talk: The Landscape Painter on his Travels, 2.50, Extracts
from the German Folk Song Play. Op. 32
(Zilcher). In the interval, Polonaise Fantasia, Op. 61. for Pianoforte (Chopin). 3.30,
Programme for Children. 4.0, Inps of
Mischief—Humorons Programme (Schröder
Justin) with Music by Ludwig Kusche. 4.40,
Programme to be announced. 5.10, Concert
by the Augsburg Concert Orchestra, conductor with the state of the concert of the following Tramsmission. 6.25, Talk on
the following Tramsmission. 6.35, Palestrina
—Musical Legend in Three Acts (Pfitzner),
relayed from the National Theatre. Conductor: The Composer. In the interval,
Weather and Sports Notes. 10.30 (approx.),
Time and News. 11.0, Dance Music from
Berlin (Funkstunde). 12 (Midnight), Close
Down.

NAPLES .- See Rome. NOTODDEN.—See Oslo,

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamar, 522 kc/s, 574.7 metres; Notodden, 671 kc/s, 447.1 metres; Porsgrund, 662 kc/s, 453.2 metres; and Rjukan, 671 kc/s, 447.1 metres. —5.15 p.m., Concert by the Bergen Radio Orchestra. 6.15, Talk and Recitation. 6.45, Song Recital. 7.15, Weather Report and News. 7.30, Talk. 8.0, Time Signal. 8.1, Concert by the Budapest Trio: Trio (Beetloven); Trio in B Minor, Op. 99 (Schubert). 9.0, Recitations. 9.30, Announcements. 9.40, Weather and News. 10.0, Topical Talk. 10.15, Concert of Eighteenth Century Music by the Station Orchestra, conducted by Higo Kramm: Concerto grosso in F Minor (Pietro Locatelii); Amphitryon (Purcell); Air (Lully); Minuet (Boccherini); Socur Monica (Couperin); Serenade for String Orchestra. Eine kleine Nachtmusik (Mozart). 11.0 (approx.), Close Down.

OSTERSUND,-See Stockholm,

PALERMO

558 kc/s, 537.6 metres; 3 kW.—10.25 a.m., Bible Reading_ 10.40, Sacred Music. 11.5,

Agricultural Talk. 12.45 p.m., Giornale Radio. 1.0 to 2.0, Concert of Light Musle. In the interval at 1.30, Time. Announcements and Weather. 5.20 to 6.30, Granusphone Music. 8.0, Dopolavoro Announcements and Giornale Radio. 8.20, Sports Notes. 8.25, Granusphone Music. In the interval at 8.30, Time and Announcements. 8.45, Orchestral Concert. conducted by La Rosa Parodi. In the interval. Talk. After the Concert. Granusphone Music. 11.0 (approx.), Close Down.

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).—1.0 p.m., News. 1.15, Weather. 1.30 to 2.30, Concert by the Ihos Orchestra. 6.45, Le Journal Parlé. 8.30, Gramophone Concert: Part 1: Italian Music; Part II: Variety Music. 10.0 (approx.), Close Down.

PARIS

PARIS

POSTE PARISIEN, 914 kc/s, 328.2 metres;
60 kW.—10.0 a.m., Gramophone Music. 10.20,
Press Review. 10.30, Sponsored Concert.
11.0, Orchestral Concert. 12.15 p.m., Sponsored Concert of Sound Film Music.
12.45, Sponsored Programme. 12.50, Half an Hour of Fantasy by Paul Weill. 1.30,
Sponsored Programme. 2.0, Interval. 7.0,
Le Journal Parié. 7.5, Sports Notes. 7.15,
Gramophone Music. 7.30, Catholic Review.
8.0, Classical Music on Gramophone Regords.
8.30, Sponsored Concert. 9.15, Literary Programme. 9.54, Concert. 10.15, News.

PARIS

PARIS

RADIO-PARIS, 174 kc/s, 1,725 metres; 75 kW.—7.45 a.m., Gramophone Music. 8.0, Press Review and Weather. 8.30, Physical Culture. 12.0 Noon, Religious Address. 12.20 p.m., Sacred Music: Prelude in E Minor (Bach): Pastorale (Pachehel); In dulce jubilo (Buxtehude). 12.30, Gramophone Concert. 130 to 3.0, Programme in English by the I.B.C. 1.30, Gramophone Concert. L'Heure douce (Esclavy): Selection from Lilac Time (Schubert-Berté); Song from Les noces de Jeannette (Massé); Sérénade badine (Gabriel Marie): Arlequin (Lalo); Concert Polonaise (Vidal). 2.0, Concert of Dance Music: Signature Tune, Happy Feet; From me to you; Just making conversation; Learn to croon; If I had somebody to love; Roll up the Carpet; Moonstruck; Sundown in a little green hollow; It's a nice day to-day; Signature Tune. 2.30, Orchestral Concert: March, Stars and Stripes (Sousa);

SEPT. 24th

Dixieland (Stoddon); Barcarolle from The Tales of Hoffmann (Offenbach); Selection from The Gipsy Princess (Kálmán); Selection from Bitter Sweet (Coward). 3.0, Variety Music. 5.30, Gramophone Music: Au moulin (Gillet); La valse blene (Margis); Chant d'après-midi (Cuvillier); La Housmée (Ganne); Honolulu (Yvain); Sous les ponts de Paris (Scotto); Selection from Scaramouche (Messager-Yatove); March des petits pierrots (Bosc). 6.0, Popular Concert. 7.0, Variety Music. 8.0, Gramophone Music. 8.30, News, Sports Notes and Weather. 8.45, Gramophone Music (contd). In the interval at 9.15, Press Review and News.

PITTSBURGH

PITTSBURGH

KDKA, 980 kc/s, 306 metres; 50 kW. Relayed by W8XK on 48.86 metres and 25.27 metres.

5.30 to 6.30 p.m., Radio City Concert, from New York. 7.0, Boys of Wynnecastle. 7.15 to 11.0, New York Relay. 7.15, Summer Idylls. 7.30, Popular Programme. 8.0, National Opera Concert. 9.0, Gould and Riefter. 9.15, Ennio Bolognini. 9.30, Organ Recital. 10.0, Vesper Services. 11.0, News, Among Masters. 11.15, Weather, Sports. 11.30, Huston Ray's Orchestra. 12 Midnight, Variety Programme. 12.30 to 2.45 a.m. (Sunday), New York Relay. 12.30, Desert Guns. 1.9, Light Opera Nights. 2.0, Gulf Headliners. 2.30, Walter Winchell. 2.45, Programme to be announced. 3.0, Mountain Music, from New York.

PORSGRUND.—See Oslo

PRAGUE

PRAGUE

Orchestral Concert of Czech Music. Conductor: Utakar Jeremias. Soloist: Ada Nordenova (Soprano). 12 Noon, Chimes. 12.5 p.m., News. 12.15, See Bratislava. 1.30, Agricultural Talk. 1.45 to 1.55, Announcements. 3.45, See Bratislava. 5.30, A Blind Actor's Reminiscences. 5.45, Gramophone Music. 6.0, German Transmission: Programme Review. An Operetta in One Act (Pisarowitz), with the Station Orchestra, conducted by the Composer, News. 6.55, Talk on the following Transmission: 7.0, Libusa-Opera (Smetana), relayed from the National Theatre. 10.30, News. 10.50 (approx.), Close Down.

RADIO-SUISSE ROMANDE

continued

RADIO-SUISSE ROMANDE

SOTTENS, 743 kc/s. 403 metres; 25 kW.; and
Gereva, 395 kc/s, 760 metres.—9.15 a.m.
(from Aigle), Radio Report of the Walking
Tour round Lake Geneva. 10.0 (from Lausanne), Protestant Service. 10.45 (from
Lugano), Radio Report of the International
Motor Car Race at Mont Ceneri. 12 Noon
(from Vevey), Radio Report of the Walking
Tour. 12.30 p.m., News and Weather. 12.40
(from Lausanne), Gramophone Concert. 2.0
(from Lausanne), Sports Relay from the
Stadium. Walking Tours, Rugby and FootBall Matches. 5.30, Interval. 7.0, Religious
Address. 7.40, Sports Notes. 8.0, Concert
by the Radio-Suisse Romande Orchestra.
Soloist: Henri Honegger ('Cello). Selection
from II Seraglio (Mozart); The Unfinished
Symphony (Schubert); 'Cello Concerto
(Lalo); Overture, Penelope (Fauré); Petite
Suite (Debussy). 9.0 (from Lausanne),
Readings. 9.15 (from Lausanne); Cello Recital by André Levy: Sonata in B Flat
(Händel): Suite in C (Boccherini); Spanish
Dance (Falla); Tarantella (Casella); Two
Pieces (Ibert). 9.50, News. 10.0 (from Lausanne), Pianoforte Recital by Irène Hertig:
Sonata in D (Mozart); Prelude (Prokoflev);
Jugend Erinnerung (Iseerlis): Tarantella
(Blanchet): The Blne Danube (StraussSchultz-Evler). 10.30 (approx.), Close Down.

RJUKAN. See Oslo.

ROME

ROME

Call 1RO, 680 kc/s, 441 metres; 50 kW. Relayed by 2RO, 11,810 kc/s, 25.4 metres; from 5.15 p.m.; Bart, 1,112 kc/s, 239.8 metres; Milan (Vigentino), 662 kc/s, 453.2 metres, from 8.45 p.m., and Naples, 941 kc/s, 319 metres.—10.0 a.m., News, Sports Notes and Amusement Guide. 10.30, Agricultural Notes. 10.45, Bible Reading. 11.0, See Turin. 2.0, Time and Amouncements. 5.0 (from Naples), Programme for Children. Weather, and Sports Notes. 5.15 to 6.30, Vocal and Instrumental Concert. In the interval at 5.30, Sports Notes. 6.30, Weather. 7.30, Sports Notes, Dopolovaro Report and News. 7.45, Mezzo-Soprano Solos by Bianca Bianchi. 8.0, Time and Announcements. 8.30, Sports Notes, 8.45, Variety Concert: Ornella Puliti-Santoliquido (Pianoforte). Maria Senes (Soprano) and Emlio Livi (Tenor); Pianoforte Solos; (a) Capriccio (Dohnanyi), (b)

Per una vecchia beona (Rocca), (c) Per un guerriero (Rocca); Gramophone Records: (a) Suite, The Good-humoured Ladies (Scarlatti-Tommasini). (b) Waltz Intermezzo (R. Strauss), (c) Second Eatr'acte from The Jewels of the Madonna (Wolf-Ferrari), (d) Dance of the Tumblers from The Snow Maiden (Rimsky-Korsakov); Soprano Solos: (a) Two Arias from Figaro (Mozart), (b) Mariā Wiegenlied (Reger), (c) Donde estas corazon (Sorrano); Tenor Solos: (a) Almaviva's Serenade from The Barber of Seville (Rossini), (b) Arias from Rigoletto (Verdi); Questa o quella and La donna è mobile, (c) Aria from Martha (Flotow). (d) Princesita (Padilla); Dance Music. 11.0, News.

SALZBURG.-See Vienna,

SCHENECTADY

SCHENECTADY

WGY, 790 ke/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF on 31.48 metres, and by W2XAD on 19.56 metres.—
8.0 to 10.0 (approx.), New York Relay. 8.0 p.m., Gene Arnold and the Commodores.
8.15, Pop Concert. 9.0, Wayne King's Orchestra. 9.30 to 10.0, Radio Pulpit. 1.45 to 4.45 a.m. (Monday), New York Relay. 1.45, Popular Programme. 2.0, Variety Programme. 3.0, Manhattan Merry-Go-Round.
3.30, American Album of Familiar Music 4.0, Musical Programme. 4.15, Impressions of Italy. 4.45, Sunday at Seth Parker's, from New York, followed by Programme Resumé.

SCHWEIZERISCHER

SCHWEIZERISCHER

LANDESSENDER

BEROMUNSTER, 653 kc/s, 424.19 metres; 60 kW.; Basle, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres.—10.0 a.m. (from Zürich), Protestant Service. 10.45, See Radio-Suisse Romande (Sottens). 12.0 Noon (approx.) (from Zürich), Gramophone Concert. 12.30 p.m., Tline, Weather, and News. 12.40 (from Zürich), Concert by the Station Orchestra, conducted by Neppach. 1.30 (from Zürich), Agricultural Programme. 2.30 to 5.0, Interval. 5.0 (from Zürich), Gramophone Concert. 5.30 (from Zürich), Talk: The Care of the Aged. 6.0 (from Zürich), Readings. 7.0 (from Zürich), Sports Results. 7.10 (from Zürich), Organ Recital by Peter Stüssi. 8.0 (from Zürich), Songs in Dialect. 9.0, News. 9.10 (from Zürich), Sports Notes.

SOTTENS.—See Radio-Suissa Romanda

SOTTENS.—See Radio-Suisse Romande.





TONE ...

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continued

STOCKHOLM

STOCKHOLM

689 kc/s, 436 metres; 55 kW. Relayed by
Boden, 244 kc/s, 1,229.5 metres; Goteborg,
932 kc/s, 322 metres; Horby, 1,166 kc/s,
257 metres; Motala, 221.5 kc/s, 1,354.4
metres; Ostersund, 389 kc/s, 770 metres; and
Sundsvall, 554 kc/s, 542 metres.—9.0 a.m.,
Rural Programme. 9.30, Gramophone Music.
10.10, Talk for Workers. 11.0 (from
Goteborg), Divine Service. 12.45 p.m.,
Weather. 3.0, Provincial Programme. 3.30,
Reading. 4.0, Gramophone Music. 5.5,
Programme for Children. 5.30, Pianoforte
Recital by Mary Barratt-Dne. 6.0, Divine
Service. 7.15, Weather and News. 7.35,
Master Olof—Play (August Strimberg).
9.15, Concert by the Station Orchestra;
Soloist, Stefan Frenkel (Violing). In the Interval at 9.45, Weather and News. 11.0
(approx.), Close Down

STRASBOURG

STRASBOURG

869 kc/s, 345 metres; 11.5 kW.—9.30 a.m.,
Orchestral Concert, conducted by Manrice
de Villers. 10.45, Protestant Service in German. 11.30, Catholic Service. 12 Noon,
Classical Music on Gramophone Records.
12.45 p.m., News. 1.0, Time. 1.1, Light
Music on Gramophone Records. 2.0, Popular
Music on Gramophone Records. 2.0, Interval.
4.0, Chamber Music, relayed from Radio
Coloniale (Paris), 15,243 kc/s, 19.58 metres.
5.0, Orchestral Concert, conducted by Roskam: March. Saint à l'Alsace (Sain); Waltz,
Wood Violets (Fetras); Waltz from The
Nutremberg Doll (Adam); Three Melodies
(Bralms); Liszt Potpourri (Glazunov);
Selection from La Bohême (Puccini); Orchestra Sulte. Mascarade (Lacôme). 6.0, Medical
Talk in German. 6.15, Sports Talk. 6.30,
Orchestral Concert, conducted by Maurice
de Villers: Overturc, Le Caid (Thomas);
Selection from La rôtisserie de la Reine
Pédoque (Levalde); Suite from The Sleeping Beauty (Tehaikovsky); Ballet Music
from Lakmé (Delibes); March. Pomp and
Circumskance (Elgar). 7.30, Time and News.
7.45, Gramophone Music. 8.0, Press Review
in German, Lottery Results and Announce Circumstance (Elgar), 7.30, Time and News, 7.45, Gramophone Music. 8.0, Press Review in German. Lottery Results and Announcements. 8.30, Dramatic Programme: (a) Le Lega-One-Act Play (Marivanx). (b) Les folies amoureuses—Play in Three Acts in Verse (Marivanx). 9.30 (approx.), Press Review. 10.30, Dance Music, relayed from the Savoy. 12 Midnight (approx.), Close Down.

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres, -11.30 a.m., 8ee Leipzig. 12 Noon, Orchestral Concert relayed from Glotterbad. 1.0 p.m., Topical Talk. 1.15, Ameliano Pertile Song Recital on Gramophone Records. 1.30, The Jupiter Symphony in C, No. 41 (Mozart), on Oramophone Records. 2.0, Agricultural Talks. 2.30, Songs of the Nations by Glaa Connert. 3.0, Choral Concert. 3.30, Tempo-Pempo-Play for Children (Else Holle-Hellmund), with Music by Gustav Görlich. 4.30 (from Mannheim), Concert by the Philharmonic Orchestra, conducted by Ludwig Becker. 5.30, Reading of a Swabian Story (Gaupp). 6.0, Pianoforte Sonata in F minor. Op. 57—the Appassionata (Recthoven) by Hains Brehme. 6.30, Sports Report. 6.50, A Swabian Musical Instrument—Radio Picture relayed from Trossingen. 7.20, Nazi Band Concert. 8.0, See Frankfurt. 10.20, Time and News. 10.45, Dance Music relayed from Berlin (Funkstunde). 12 Midnight, Close Down.

SUNDSVALL .__See Stockholm.

TOULOUSE

(Joh. Strauss); La Rigolomanie (Piccolini); Encore une Java (Maye). 11.0, Music by a Viennese Orchestra. 11.30, Orchestral Music. 11.45, Military Music. 12 Midnight, News. 12.5 a.m. (Monday), Dance Music. 12.30 (aprox.). Close Down.

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.—9.40 to 9.55 a.m., See Turin. 9.55, Mass from the Cathedral of San Giusto. 11.0, Religious Address. 11.20, Agricultural Talk. 12 Noon till Close Down, See Turin.

TRONDHEIM, -See Oslo.

TURIN

TURIN

273.7 metres; 7 kW. Relayed by Milan,
331.5 nictres, Genda, 312.8 metres, and
Florence, 509.5 metres.—9.40 to 9.55 a.m.,
News. 10.40, Agricultural Talk. 11.0, Mass
from the Church of the Anunciation,
Florence. 12 Noan, Bible Reading. 12.30
p.m., Gramophone Music. In the interval
at 1.0, Time and Announcements. 1.30 (approx) to 2.0, Orchestral Concert. 1.45
to 2.0, Gramophone Music. 4.30, Concert. In the intervals, Sports Notes and
Football Results. 6.15, Weather and
Gramophone Music. 6.30, Sports Notes,
Football Results and Announcements. 7.0,
Time and Dopolavoro Notes. 7.10, Gramophone Music. 8.0, Announcements. News,
and Sports Notes. 8.20, Talk on the following Transmission. 8.30, Ruy Blas—Opera
(Marchetti). In the intervals, Talk and
Theatre Notes. After the Opera, Giornale
Radio.

VIENNA

VIENNA

NIENNA

S81 kc/s, 517 metres; 100 kW. Relayed by Graz, 852 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenfurt, 662 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.—11.30 a.m., Radio Report of the International Hill Climbing Races on the Semmering. 11.50, Reading (Max Hayek). 12.5 p.m., Concert by the Vienna Chamber Orchestra, conducted by Karl Anderieth. Soloist: Karl Baltz (Violin). Glees (Telemann). Violin Concerto in A minor (Spolin): Suite for Strings (Junacek); Violin Pieces: Fantasia on Two Russian Folk Songs, Karaminskaya (Glinka); Serenade. Op. 15 (Fiedler); Overture to a Comedy (Reznicek). In the intervals. Relay of the International Hill Climbing Race on the Semmering. 2.40, Time and Announcements. 3.0, Agricultural Talk. 2.20, Book Review: Reminiscences of Pre-War Austria. 3.45, Concert by the Annta Ast Quartet: String Quartet in F minor, Op. 95 (Beethoven). 4.45, Talk: The Mighty Danube. 5.30, Concert by the Wiener Symphoniker, conducted by Josef Holzer. 6.30, Recital of Arias and Ballads by Franz Höbling (Baritone); Archibald Douglas (Löwe); Aria from Figaro (Mozart); Biterolf (Wolf); Gerard's Monologue from Andrea Chénier (Giordano); Bolero from Don Quixotte (Kienzl); Nilakantha's Aria from Lakme (Delibes); The Two Grenadiers (Schumann); Hans Sacha' Monologue from The Mastersingers (Wagner). 7.20, Bruno Wolfgang reads from his own works. 7.50, Time and Announcements. 8.0, Minna von Barnhelm-Comedy in Five Acts (Lessing). 10.0, Announcements. 10.15, Military Band Concert. After the Concert. Announcements.

WARSAW

WARSAW

212.5 kc/s, 1,411 nietres; 120 kW.—10.50 a.m., programme Announcements. 11.0, Divine Service and Unveiling of the War Memorial to the Fallen of the Seventh Legionary Regiment. relayed from Chehn Lubelski. In an interval at 11.57, Time Signal, and Fanfare from St. Mary's Church. Cracow. 12.50 p.m., Weather Report. 12.55, Concert by the Station Orchestra conducted by Oziminski. Soloist Mile. Perenson (Soprano). 2.0, Agrientural Programme and Weather Report. 2.20, Choral Music. 2.45, Talk on the Corn Trade. In the interval. News. 4.0, Topical Talk. 4.15, Talk on Denmark. 4.30, Gramophone Music. 5.0, Talk. 5.15, Polish Bance Music by the Adam Stromberg Orchestra. 6.0, Song Recital hy Wronski. Aria from The Hannted Castle (Moniuszko): Aria from Martha (Flotow); Aria from the First Act of Don Pasquale (Donizetti): Aria from Martha (Flotow); Aria from the First Act of Don Pasquale (Donizetti): Aria from the Third Act of André Chénler (Giordano); Don Juan's Serenade (Tchaikovsky); Two songs (Buzzi-Peccal): (a) Non una ferita. (b) Nina Querida. 6.35, Programme Announcements. 6.40, Miscellaneous Items. 7.0, Talk. 7.40, Answers to Techinal Correspondence. 8.0, Szymanovski Concert for the Composer's Fiftieth Birthday. The Station Orchestra, conducted by Fitelberg. Soloists: Szymanovski (Pianoforte), Korwin-Szmanowska (Songs) and Uminska (Violin). Introductory Talk by Prof. Z. Jachlinecki, relayed from Cracow, 959 kc/s, 312.8 metres. In the interval. Radio Journal. 10.0, Sports Talk. 10.15, Aviation Weather Report and Police Notes. 10.20, Programme relayed from Lwow, 788 kc/s, 381 metres. TOULOUSE

RADIOPHONIE DU MIDI, 779 kc/s, 385
metres; 8 kW.—11.0 a.m., Dance Music.
11.30, Military Music. 11.45, Music from Sound Films. 12 Noon, Organ Solos. 12.15
p.m., Operetta Music. 12.30, Viennese Music.
12.45, Accordion Music. 1.0, Annaement duide. 1.5, Opera Music. 1.0, Annaement duide. 1.5, Opera Music. 1.5, Chansomettes.
1.30, Orchestral Music. 1.45, Opera Music. 1.30, Orchestral Music. 1.45, Opera Music. 1.40, Topical Talk. 4.15, Talk on Demnark. 4.30, Music opera Music. 2.30, Popular Melodies. 2.45, Agricultural Notes. 3.0, Lakiné—Opera Music. 4.30, Music from Sound Films. 4.45, Music by an Argentine Orchestra. 5.0, Dance Music. 5.45, Accordion Music. 6.0, News. 6.15, Popular Melodies. 6.30, Opera Music. 5.45, Accordion Music. 6.0, News. 6.15, Popular Melodies. 6.30, Opera Music. 5.45, Accordion Music. 6.0, News. 6.15, Popular Melodies. 6.30, Opera Music. 5.45, Accordion Music. 8.0, Songs. 8.15, Military Music. 4.45, Music Vian Argentine Orchestral Music. 1.45, Opera Music. 8.545, Accordion Music. 8.0, Songs. 8.15, Military Music. 8.30, Opera Music. 8.45, Accordion Music. 8.0, Songs. 8.15, Military Music. 8.30, Opera Music. 8.45, Accordion Music. 8.45, Music Mus





ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by Cork, 1,337 kc/s, 224.4 metres;—1.30 to 2.38 p.m., Time Signal, Weather Report, Stock Exchange Quotations, and Gramophone Music. 6.0, Programme for Children. 6.45, News. 7.0, Gaelic Talk. 7.15, Reading of James Stephens* Poems by Mrs. E. V. Fleming-Moran. 7.30, Time Signal. 7.31, Concert by the Station Orchestra. 8.0, Dramatic Sketch by Rizabeth Young and Company. 8.30, Soprano Solos by May Doyle. 8.45, Lecture Recital by H. R. White. 9.15, The Station Orchestra. 9.30 to 10.30, Programme by the I.B.C. (Ireland), Ltd. 9.30, Dance Music: The Tapper; I'll be good because of you; Harlequinade: Lucky Xylophone; There's a Cabin in the Pines: Jog along; In the Valley of the Moon; When the wild, wild Roses bloom. 10.0, Concert arranged by the International Broadcasting Company (Ireland), Ltd., on behalf of Hospitals' Trust. Ltd.: Selection from The Desert Song (Romberg): Pianoforte Solo. Rangoon Rice Carriers (Holbrooke); A Bachelor Gay (Harris): Souvenir de Capri (Becce): If I were King (Robin); Gavotte (St. Denis): Waltz from The Gipsy Bajon (Strauss). 10.30, LB.C. Goodnight Melody, followed by News, Weather Report, and Time Signal. 10.40, Pipe and Fiddle Recital by Liam and Maurice Condon. 11.0 (approx.), Close Down.

BARCELONA

BARCELONA

EAJ1, 860 kc/s, 348.8 metres; 8 kW.—7.0 p.m., Trio Concert: Selection from Lohengui; Chapter); The Musical Snutf-hox (Liadov); Adoration (Filipneci); Alt Wien (Ordla); Internezzo (Hanregard); Love Song and Serenade (Vallaury and J. Weber); Selection from The Pearl Fishers (Bizet). 8.0, Request Gramophone Music. 8.20, Sports Notes. 8.30, Exchange and Talk in Catalan. 9.0, Gramophone Music. and News. 10.0, Chimes from the Cathedral, Weather. Exchange and Market Prices. 10.5, Humorous Review of the Week in Verse. 10.15, Concert by the Station Orchestra: Heroic March (Blokland); Selection from Boris Godinov (Mussorgsky); Gopak (Mussorgsky); Overture, Mignon (Thomas). 10.45, Trio Concert. 11.30, Popular Orchestral Music, relayed from the San Sebastian Casino. In the interval at 2 Midnight, News. 1.0 a.m. Tuesday), Close Down. Tuesday), Close Down.

BASLE.—See Schweizerischer Landessender.

BERLIN

BERLIN

DEUTSCHLANDSENDER

(REICHSSENDER), 183.5 kc/s, 1,635 metres; 60 kW.—1.45 p.m., News. 2.0, Gramophone Concert: Dorfschwalben aus Oesterreich (Strauss); Overture, Poet and Peasant (Suppé); Czardas and Mazurka, from Coppélia (Delibes); Overture, Der Opernball (Henberger); The Last Rose, from Martha (Flotow); Knowest thou the Land from Mignon (Thomas); Overture, Zampa (Héroid); Marche joyeuse (Chabrier-Hinrichs); Slav Dance (Chabrier); España (Chabrier); Selection, from Tielland (d'Albert); Marienklänge (Strauss). 3.0, Talk: Books for Women. 3.15, Talk: The German Autumu Fashions. 3.30, Weather and Exchange. 3.45, Book Review. 4.0, Concert from Breslau. 5.0, Talk: The Cinema. 5.20, Pianoforte Recital by Rva Ebner-Robert: Ecossaises (Beethoven); Aufschwung (Schmann), (b) Grillen (Schumann); Der Lindenhaum (Schubert-Liszt); Ständchen (Schubert-Liszt); Gnomenreigen (Liszt). 5.40, Violin and Pianoforte Recital by Erich Röhn and Hertha Düring: Andalusian Serenade (Sarasate); Danza delle streghe (Paganin). 6.0, A Poem. 6.5, Orchestral Concert; Soloists, Erwin Hartung (Songs). 6.50, Weather and Announcements. 7.0, Transmission for all German Stations: Where is Germany?—Programme arranged by Edwin Erich Dwinger. 8.0, Today's Motto. 8.5 (approx.). Concert from Frankfurt. 9.0, Ingehorg—Comedy (Götz). 10.0, News. 10.45, Weather. 11.0, Concert from Leipzig. 12 Midnight, Close Down.

BERLIN

BERLIN

FUNKSTUNDE, 715 kc/s, 419.5 metres; 1.5 kW.—4.0 p.m., Orchestral Concert, relayed from the Moka Efti: Intermezzo Eine kleine Liebelei (Lantenschläger); Serenade, Starry Night (Micheli); Czardas (Monti); Draussen in Schönbrinn (Benatzky); Cello Solo: The Rose (Spohr-Kimmmer); Selection from Pfauen und Elfenreigen (Kark); Rubin und Smaragd (Kick-Schmidt); Verdi Potpourri (Veninger). 5.5, Ernst Eduard Taubert—Song and Pianoforte Recital by Elisabeth Ohloff (Soprano) and Karl Heinz Taubert: Songs: (a) Sarella, (h) Auftrag. (c) Sonmet; Pianoforte Solos: Preinde, Intermezzo and Scherzo from Fantasiestücke. Op. 42. 5.30, The Twilight Hour—a Radio Sequence in Verse and Song. 6.0, Talk: The Petroleum Fields of the Californian Desert. 6.15, Book Review. 6.40, The Funkstunde informs its Listeners.—. 6.45, Topical Talk. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.5, A Visit to a Tolacco and Cigarette Factory. 8.55, Unfamiliar Music of German Composers—Concert by the Station Orchestra, conducted by Waldemar von Vultée, the Station Choir, conducted by Heinzkarl Weigel, and Soloists: Rio Kube (Tenor) and Burchard Kaiser (Baritone).

SEPTEMBER THE TWENTY-FIFTH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

NATIONAL LONDON REGIONAL MIDLAND REGIONAL NORTH REGIONAL

REGIONAL

WEST

SCOTTISH REGIONAL

BELFAST

Crazy Variety programme. Promenade concert from Queen's Hall.

Orchestral concert.

Orchestral concert.

From Famous Trios, instrumental recital.

"The Pigeon," a play, by Ian Priestley Mitchell.

Excerpts from opera: "Orpheus," by Gluck.

ABROAD

ATHLONE BRUSSELS (No. 1) COPENHAGEN EIFFEL TOWER

10.0 p.m. Concert on behalf of mospitors 1.1.3.

8.0 p.m. The Station Symphony Orchestra, con-Concert on behalf of Hospitals Trust Ltd. 8.0 p.m. The Station ducted by Jean Kumps. Mozart concert, by the Radio Orchestra. Concert of operetta and light music. 8.30 p.m. 8.30 p.m.

HEILSBERG HUIZEN LUXEMBOURG

8.5 p.m. Brahms concert. The Station Orchestra. 5.10 p.m. Austrian concert, by the Station Or-8.20 p.m.

chestra.

8.0 p.m. Rameau concert from Geneva.
8.30 p.m. Light opera: "Monsieur de la Palisse," by Terrasse.
6.55 p.m. Opera: "Tannhaüser" (Wagner), from

6.55 p.m. Opera: "T

VIENNA

SOTTENS STRASBOURG

Commentary by Heinrich Burkard. 9.50, Topical Talk. 10.0, News. 10.15 (approx.). Dance Music, relayed from the Roof Carden of the Eden Hotel. In the interval at 11.0, Police Notes. 12 Midnight, Close Down.

BERNE.-See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer

BODEN .- See Stockholm.

BODO .- See Oslo.

BRATISLAVA

DKALIDLAVA

1,076 kc/s, 279 mstres; 14 kW.—6.5 p.m.,
Trio Concert. Actardieff (Violin). Beza
(Finte). and Lily Kratochilová (Viola): Trio,
Op. 32 (Marteau); Serenade, Op. 77 (Reger).
6.55, Talk for Housewives. 7.0, See Prague.
7.10, See Brno. 7.40, See Moravská-Ostrava.
8.50, See Prague. 9.5, See Brno. 10.0, See
Prague. 19.15 (approx.), Close Down.

BREMEN.-See Hamburg

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—1.0 p.m., Weather. 1.5, Sound Film and Operetta Music on Gramophone Records. 1.45, Time and News. 2.10, Baritone Song Recital by Hans Hantke. 2.40, Gramophone Music. 3.0, Agricultural Prices. 3.15, Book Review: Great Germans of the Napoleonic Period. 3.35, Legal Talk. 4.0, Orchestral Concert, conducted by Gerhard Rischka; Little Suite No. 2 (Schumann-Rischka); Selection from Der Freischütz (Weber); Waltz. Hofballtänze (Lanner); Serenade (Grieg); Overture. Die fram Meisterin (Suppe); Funkgeister-Potpourri (Noack); American Intermezzo (Recktenwald); Waltz. Badener Grüsse (Kauler); Weidmanns Jubel-Quadrille (Hermann). 5.30, Agricultural Prices. 5.35, Talk: German Culture. 5.50, Programme to be announced. 6.10, Italian Duets for Mandoline and Guitar by Walter Fabig and Alfons Anianf: March, Amore e Concordia (Agostini): Capriccietto (Sartori); Neapolitan Folk Song, O sole mio (di Capua): Scherzettino, Cicaleccio di Rondini (Debiassi); Waltz, Sguardi Provocanti (Marucelli). 6.30, A Discussion: German Youth in the National Movement. 6.50, Meat Market Prices. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, News. 8.10, Symphony Concert, relayed from the Concert Ital: The Silesian Philharmonic Orchestra, conducted by Hermann Behr. Soloist: Sigmund Rleier (Violln). Overture, Der Beherrscher der Geister (Weber); Violin Concerto in D (Mozart): The Unfinished Symphony in B minor (Schubert); Overture, Christopher Columbus (Wagner); Les Preludes (Liszt). In the interval at 9.30, Theatre Talk. 10.15, Time and News. 10.45, Wireless Technical Talk. 10.55, Reading. 11.10 (approx.), Close Down.

BRNO

BRNO

878 kc/s, 342 metres; 35 kW.—5.55 p.m.,
Programme for Scouts. 6.5, Gramophone
Music. 6.25, German Transmission: News
and Talks. 7.0, See Prague. 7.10, Concert of
Russian Music. 7.40, See Moravská-Ostrava.
8.50, Home from the Holidays—Radio Scene
(Kožik). 9.5, The Countryside—Concert bit
He Station Orchestra, conducted by Bretislav Bakala: Sommertag and dem Lande,
Op. 55 (Gade); From the Fields and Groves
of bohemia (Smetana); Rural Impressions
(Finch). In the interval, Poetry Recital.
10.0, See Prague. 10.30 (approx.), Close
Down.

BRUSSELS (No. 1)

BRUSSELS (No. 1)

1.N.B., 590 kc/s, 509 metres; 15 kW.—12
Noon, Gramophone Concert. 1.0 p.m., Le
Journal Parlé. 1.10, Concert by the Small
Station Orchestra, conducted by Pierre Leemans: Overture (Rogister): Petite Smite
(Jongen): Ambadinette (Gaillard): Selection
from Hérodiade (Massenet): Humorons
Pieces for Violin (Leonard): Joujou d'amour
(Demaret): Cramignon (Gilson). 5.0, Concert by the Radio Orchestra, conducted by
Walpot: Hungarian March (Berlioz): Overture, Merry Wives of Windsor (Nicholai):
Selection from Werther (Massenet): Waltz
(Paradis): Overture, La belle Hélène (Olfenbach): Musical Poem, April in the Woods
(Gregh): Scènes brabançonnes (Sarly). 6.0,
Talk: September, 1830, 6.15, Gramophone
Music. 6.39, Concert by the Small Station
Orchestra, conducted by Leemans: Overture,
Jean de Paris (Boieldien): Symphonic Poem,
Apaisement (Caludi): Ambilité (Lagarde):
Pianoforte Solo: Ballad (Dupuis): Selection
from La Ponpée (Andran): Dream of Love
(Marsick): Rag Time (Goffin). 7.30, Film
and Theatre Keview. 8.0, Concert by the
Station Symphony Orchestra, conducted by
Jean Kumps. Soioists: Bongers (Tenor) and
Heinstraet (Bass Solos; Hopassa (De Greef):
Springdans (De Greef): Tenor Solos; Milenka (Block). In the interval at 8.45, Talk
on the coming Musical Programmes. 10.0,
Le Journal Parlé.

BRUSSELS (No. 2)

N.I.R., 887 kg's, 338.2 metres; 15 kW.—Programme in Flemish.—12 Noon, Concert by the Smail Station Orchestra. conducted by Leemans: Overture, Tancred (Rossini); Waltz Snite, Fedora (Kalmán); Geburtstag Ständchen (Lincke); Selection from Hansel and Gretel (Humperdinck); Violin Solo: La Gitana (Kreisler); The Song of Songs (Moya); Lehár Potpouri (Hruby); Two-step (Gordon). 1.0 p.m., Le Journal Parlé. 1.10, Gramophone Concert. 5.0, Concert by the Station Symphony Orchestra, conducted by

Kumps: The Unfinished Symphony (Schubert); Intermezzo for Horn and Orchestra (Jehin); Meurtri est mon coeur (De Greef); Dance (De Greef); Marche cortège (Delcroix). 5.45, Programme for Children. 6.30, Septet (Beethoven) on Gramophone Records. 7.12, Announcements. 7.15, Talk. 7.30, Le Jonnal Parlé. 8.0, Concert by the Radio Orchestra, conducted by Walpot: March of the Marionnettes (Hullebroeck); Waltz, Wiener Blut (Joh. Strauss); Overture, Lysistrata (Lincke); On the Bosphorus (Bayer): Gramophone Record: Air from The Gipsy Baron (Joh. Strauss); Fantasia on Flemish Songs (Walpot). 8.45, The Man in the Street's Views. 9.0, Concert (contd.); Suppé-Illusionen (Michaelov); Rhapsody in B (Hartung); Gramophone Records: (a) Prayer from Rienzi (Wagner). (b) Air from Aïda (Verdi); Selection from La Bohême (Puccini); Waltz Potpourri (Robrecht).

BUCHAREST

BUCHAREST

761 kc/s, 394 matres; 12 kW.—5.0 p.m., Concert by the Station Orchestra: March (Blankenburg); Waltz, The Blue Danube (Joh. Strauss); Overture, Peter Schmoll (Weber); Selection from La Traviata (Verdi); Selection from Clo-Clo (Lehar); Potpourri, Für alle (Dostal); Two Hungarian Dances (Brahms); Humoresque and Mazurka (Dvorak). In an interval at 6.0, Radio Journal. 7.3, Educational Talk. 7.20, Symphony Music on Gramophone Records. 7.40, Talk. 8.0, Quartet in F (Rogalski), by the Sarvas Quartet. 8.30, Talk. 8.45, Modern Music on Two Pianofortes. 9.15, Light Music, relayed from a Restaurant. 9.45, Radio Journal.

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW. Also relayed on 840 metres from 8.15 p.m. till Close Down.—5.0 p.m., Legal Talk. 5.30, Zither Concert. 6.15, German Conversation. 6.45, Gramophone Music. 7.45, Talk for Workers. 8.15, String Quartet Concert: Quartet in F (Ravel); String Quartet in D (Haydn). 9.15, News. 9.30, Concert from the Café Baross. 10.45, Song Recital. 11.15, Dance Music from the Café Bodo.

CASSEL .- See Frankfurt,

COPENHAGEN

COPENHAGEN

1,067 kc/s, 281 metres; 0.75 kW. Relayed by Kalundborg, 260 kc/s, 1,153.8 metres.—
12 Noon, Time and Chimes from the Town Hall. 12.5 p.m., String Ensemble Concert relayed from the Wivex Restaurant. 2.0, Interval. 3.20, Talk for Honsewives. 3.30, Concert by Karl Rydahls' Instrumental Ensemble: Overture, Berlin, wie es weint und lacht (Conradi); Waltz (Ivanovici); Selection form Alceste (Glück); Romanes (Debussy); Prelude (Danning); Waltz (Brahms); Selection from Der Obersteiger (Zeller); Russian March (Gaune); Rapsodietta (Gade); Melody from Maskarade (Nielsen); Spring Song (Mendelssohn); Intimité (Moszkowsky); Serenade (Rachmaninov); Overture, Casanova (Lincke). In the interval at 4.15, Readings. 5.30, Exchange and Fish Market Prices. 5.45, Talk. 6.15, Elementary English Lesson. 6.45, Weather and News. 7.15, Time Signal. 7.30, Talk. 8.0, Chimes from the Town Hall. 8.5, Reading for Girls. 8.10 (approx.), Pianoforte Solos by Elisabeth Mollgandri Nocturne in F sharp (Chopin); Scherzo (Schumann); Introduction and Presto in D (Haydn). 8.50, Mozart Concert: The Radio Orchestra, conducted by Fritz Mahler: Soloists: Sylvia Schierbeck (Songs), and Carl Bloch (Bassoon): Overture, Il Seraglio; Allegro from the Bassoon Concerto in B that; Song; Serenade for strings. Eine kleine Nachtmusik. 9.10, A Visit with the Microphone to Copenhagen Harbour. 9.40, Gramophone Music. 9.55, Harp Recital of Music by Marcel Tournier: Les ânesses grises sur la route d'El-Azhi; Berceuse russe; Les enfants à la crèche de noël. 10.10, News. 10.25, Concert of Opera Music by the Radio Orchestra, conducted by Fritz Mahler: Soloist: Sylvia Schierbeck (Soprano): Salome's, Dance from Salome (R. Strauss); Extracts from Wozzeck (Berg). 11.0 (approx.), Close Down.

CORK .- See Athlone. DANZIG .- See Heilsberg.

DRESDEN.—See Leipzig.

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—11.0 a.m. to 12 Noon, Programme in English by the J.B.C. 11.0, Happy Hour. Part I.—Mandoline Band Concert: Signature Tune; In Old Seville (Ege and Rosen); Capriccio Mazurka (Arienzo); Napolitana (Hay and Meisel); Loin du bal (Gillet): Mandoline (Thomé); La Czarine (Ganne). Part II.—Dance Music: My! oh my!: 1 can't remember; I cover the Waterfront; I lay me down to sleep; In the Valley of the Moon; Stay out of my Dreams: Peter, Peter; Sweetheart Darlin'; Signature Time. 12 Noon, French Programme. 4.30 to 6.0, Programme for Children. 5.0, Orchestral Concert for Chichester and

Wireless

SEPT. 25th

MONDA

continued

HAMBURG

HAMBURG

806 ke/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 ke/s, 269.8 metres; Flensburg, 1,319 ke/s, 227.4 metres; Hanover, 530 ke/s, 566 metres; and Kiel, 1,292 ke/s, 232.2 mcfres.—6.0 p.m., Variety Programme. 6.40, Frankfurt Exchange and Hamburg Market Prices. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Concert by the Wohlklang Quartet, the Small Station Orchestra, and Soloists. Conductor: Gerhard Maasz. Folk Song; Waltz Potpourri (Egg); Zither Solo: Münchener Schützen-Marsch (Bander); Old Styrian Light Music and Dance Music (Pachernegg); Quartet: Violette von Avignon (afr. Baussnern); Accordion: Foxtrot Internezzo, Glow-worm (Nicholls); Quartet: Brantfahrt in Hardanger (Kjerulf): Accordion: Tango. La Comparsita (Rodrignez); Zither Solo: Erimering ans den Alpen (Bander); Klabautermann (Lindemann). 9.6, See Berlin (Deutschlandsender). 9.50, Topical Talk. 19.10, Time and News. 10.30 (from Kiel). Concert by the Kiel Orchestra of Unemployed Musicians, conducted by Hans Döring: March. Von Welle zu Welle (Senger); Romantic Overture (Keler-Bela); Waltz, Liebe und Leben (Rossow); Gavotte (Gossee); Selection from Doa Pasquale (Donizetti); Intermezzo, Hanneles Himmelfahrt (Graener); Ungarischer Steppenmarsch (Siede); Song (Sullivan); Concert Polka No. 3 (Grünfeld); Selection from Fatinitza (Suppé); Serenade, Pierrette (Brass); March, Unterm Freiheitsstern (Blankenburg).

HANOVER .- See Hamburg.

HEILSBERG

HEILSBERG

1,685 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 652 kc/s, 453.2 metres.—1.5 p.m., Gramophone Concert: Overture, Pique Dame (Suppé); Selection from Mirella (Gomod); Aria from The Magic Flute (Mozart); Selection from Maritana (Wallace); Trio selections (Nevin): (a) Song of Thathksgiving, (h) The Rosary; Ballgeflüster (Meyer-Helmund); Blumenlied (Lange); Honnage March (Wagner); Children's Symphony (Haydn); Concert in E Flat (Liszt). In the intervals at 1.20 and 2.0, News. 2.30, Interval. 3.0, Agricultural Prices and Exchange. 3.30, Children read their own Magazines. 4.0 (from Danzig). Concert by a Nazi Band: March, Märkische Heide (Lincke); Overture, Norma (Bellini); Siegestrophäen (Friedemaun); Kreuzritter-Fanfare (Henrion); Fehrhelliner Rettermarsch (Henrion); Two Alsatian Peasant Dances (Merkling); Paraphrase on the Song, Volk ans Gewehr (Kutsch); Nazi Song Potpourri (Seidel); Marching Song Potpourri (Seidel); Marching Song Potpourri (Seidel); Marching Song Potpourri, Die Wache zieht auf (Kochmann); March, Wiener Jungarbeiter (Schröder-Nadelmayer). In the interval at 4.50 (approx.), Talk. 5.45, Wireless Technical Talk. 6.15, Agrientural Prices. 6.25 (from Danzig), Talk: Danzig Works of Art in the Danzig Municipal Muscum. 6.50, Weather. 7.0, Transmission from all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Wcather and News. 8.5, Brahms Concert by the Station Choir, conducted by Paul Firchow. Margarethe Schuchmann and Maria Fischer (Pianoforte). Five Songs, Op. 104, Liebeslieder-Walzer, Op. 52, for Soprano, Contralto, Tenor, Bass and Pianoforte. 8.50, Kleinpaul discovers a Titian—Radio Play (Franke). 9.50, Elementary English Lesson. 16.15, News.

HILVERSUM

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1 metres; 7 kW. (until 5.40 p.m.) and 20 kW. from 5.40 p.m.—Programme of the Christian Radio Society (N.C.R.V.). 11.40 a.m., Police Notes. 11.55, Gramophone Music. 12.10 p.m., Organ Recital by Jan Zwart. Potpourri (Zwart); Vor und Nachspiele (Rinck); Choral Prehude (Bach); Extracts from Concertos (Handel): Potpourri (arr Zwart). 1.40, Roadcast for Schools. 2.15, Gramophone Music. 2.25, Talk on Cookery. 2.55, Gramophone Music. 2.25, Talk on Cookery. 2.55, Gramophone Music. 3.10, Interval. 3.40 Bible Reading, Baritone Solos and Organ Recital. 4.40, Concert. Mme. Knegt. Ter Haar (Songs), Mile. Beute (Pianoforte). and Oostdam (Flute). Two Airs (Bach): (a) Höchster, was ich habe, from Cantata No. 39, (b) Ich will auf den Herru schann, from Cantata No. 33; Two Choral Preltedes for Pianoforte (Bach); Waltz in A Flat for Pianoforte (Haydn); Waltz in A Flat for Pianoforte (Chopin); Five Songs; Le rossignol en amour (Couperin); Sonata No. 8 (Mattheson); Les miais de Sologne (Rameau); Le Pouie (Ramcau); Four Songs (Wolf); (a) Verborgenheit, (b) Jägerlied, (c) Fussreise, (d) Er ist's; D'un matin de Printemps (Boulauger). 6.10, Answers to Correspondence. 6.40, Police Notes. 6.55, Ecclesiastical Notes. 7.10, Answers to Correspondence. 8.40, Talk.

9.10, Organ Recital by Klock. In the interval at 9.40, News. 10.10, Gramophone Concert. 11.10 (approx.), Close Down.

HORBY .- See Stockholm.

HUIZEN

HUIZEN

Announced HILVERSUM, 160 kc/s, 1,875
metrss; 7 kW. (up to 3.40 p.m.). Transmitted from Kootwijk on 50 kW. from 3.40
p.m. Programme of the Algemeene
Vereeniging Radio Omroep (A.V.I.O.).—
11.40 a.m., Concert by the Kovacs Lajos Orchestra. with Gramoophone Interlude. 1.40
p.m., Pictures from an Exhibition (Mussorgsky-Ravel). on Gramophone Records.
2.10, Violin and Pianoforte Recital by Jan
Felderhof and Egbert: Sonata (Reger);
Hymn (Diepenbrock). 2.40, Gramophone
Music. 3.25, Interval. 3.40, Song Recital by
Herman Sweers. 4.10, Talk, with Gramophone Illustrations: Old Viennese Operas.
5.10, Concert by the Station Orchestra. conducted by Nico Treep: March, The Diplomat
(Sousa); Overtime, Queen for a Day (Adam);
Concert Waltz (Robrecht); Selection from
Martha (Flotow-Hohmar); Gavotte (Gossac);
Minnet (Beethoven); Spanish Dances I and 2
(Beethoven); Nuptial Dance from Feramors
(Rubinstein); Potpourri of Hungarian Folk
Songs (Padonk); Selection from La vie
parisienne (Offenbach). In the intervals,
Recitations. 6.40, Book Review. 7.10, Serenade in D (Beethoven), by the Helmann
Trio. 7.40, News. 7.45, Concert by Pierre
Palla (Organ), Boris Lensky (Violin), and
Eddie Karelsen (Saxophone). 8.50, Concert by
a Male Voice Choir. 9.10, Gramophone Music.
9.25, Concert by the Station Orchestra. conducted by Nico Treep. 9.55, Gramophone
Music. 10.10, Concert by the Station Orchestra, conducted by Nico Treep: Overture,
Zampa (Herold); Filitation (Steck); Diamonds and Pearls (Dostal); Hoch Heidecksbung (Herzer). 10.40, News. 10.50, Gramophone Music. 11.40, Close Down.

INNSBRUCK.—See Vienna.

JUAN LES PINS

1,205 kc/s, 249 metres; 0.8 kW.—8.0 p.m., Amusement Guide. Exchange, Racing Re-sults, and News. 8.10, Sports Notes. 8.25, Light Music. 8.45, News and Weather. 9.0, Literary and Musical Programme.

KALUNDBORG. See Copenhagen. KIEL.-See Hamburg. KLAGENFURT.-See Vienna. KOSICE .- See Prague.

LANGENBERG

LANGENBERG

625 kc/s, 473 metres; 60 kW.—12.10 p.m., Weather.

12.12, Concert by the Münster Municipal Orchestra. conducted by Wenner Gölre. Overture. The Bohemian Girl (Balfe); Snite from La Source (Delihes); Spanish Serenade (Bizet); Dance from The Pearl Fishers (Bizet); German Dances (Schnebet); Scherzo. Sonnenkind und Wolkenmann (Clennus); Potpourri, Klänge aus Rumänien (Dauber); Waltz. Frauenliebe und Leben (Blon).

1.15, News. 1.30, Concert by the Station Orchestra. conducted by Kühn. Deutschlands Erhebung (Machts); March, Mein Kamerad (Ewers); Two Marching Songs; Waltz. Bei uns Z'Haus (Strauss); Mussinan-Marsch (Carl); Erinnerung aus dem Militärlehen (Reckling); March, Heil der Zukuntt (Frantzen); March, Mit Standarten (Blon). In the interval at 2.0 (approx.), News. 2.30, Meat Market Frices. 3.0, Talk: Paper Mannfacture. 3.15, Dialect Reading. 3.30, Market Prices and Time. 3.50, Programme for Young People. 4.30, The Cologne Zoological Gardens—a Radio Picture. 5.0.

Dance Music. 5.20, Concert: Klüre Hansen (Soprano), Hobert Kirsch (Baritone), Eghert Grape (Planoforte), Robert Grote ("Cello), Rudi Rhein (Violin), and Kurt Wessel (Harp). Romance for Violin. "Cello and Pianoforte (Marschner); Soprano Solos: Two Solos: (a) Was i hab' (Bohm), (b) Der Wagen rollt (Fürst): Barcarolle (Sokolov): "Cello Solo: Mazurka (Werkneister); Harp Solo: Concert Waltz (Gillmann): Novelletten (Gade). 6.15, Political Announcement. 6.25, Talk for Parents. 6.45, Weather, Sports Notes and Market Prices. 7.0, Transmission for all German Stations, relayed from Bertin (Deutschlandsender). 8.0, News. 8.5, Extracts from La Traviata—Opera (Verdi), by Soloists, Choir and Orchestra of the Scala Milan (on Gramophone Records). 9.6, Fritz in Westphalia—Radio Play (Josef Winckler). 10.0, News. 10.20, Concert, relayed from Leipzig.

LAUSANNE.-See Radio-Suisse Romande.

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed hy Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.5 p.m., Concert from Munich. 1.15, News and Programme Announcements. 1.30, Bayarian Folk Music.

(on Gramophone Records). 2.45, News. 3.0, Art and Film Review. 3.10, Programme for Women. 3.35, Economic Notes. 4.9, Concert. 5.0, Talk by Hans Helfritz. 5.20, Reading. 5.50, Economic Notes, Weather and Time. 6.0, Italian Lesson. 6.25 (from Dresden), Recital of Romantic Pianoforte Music liy Franz Wagner. 6.50, Review of the Day's Events. 7.0, Transmission for all German Stations, relayed from Berlin (Peutschlandsender). 8.5 to 9.50, See Berlin (Funkstunde). 9.50, Review of Sunday's Events. 10.5, News and Sports Notes. 10.15 (from Dresden). Concert by the Dresden Philhar-monic Orchestra, conducted by Hilmar Weber. Overture, The Gipsy Baron (Stranss); Ave Verum and Theme with Variations from the Suite. Mozartiana (Tchaikovsky); German Dances, Op. 10 (Reger); Songs from the Erzgebirge (Körke); Selection from Martha (Flotow); Waltz, Gartenlaube (Strauss); Waldstille und Elfenreigen (Rönke). 12 Midnight, Close Down.

LINZ.—See Vienna.

LUXEMBOURG

LUXEMBOURG

252 kc/3, 1,191 metres; 200 kW.—12.30 p.m.,
Concert by the Station Orchestra, conducted
by Henri Pensis: Overture. The Caliph of
Bagdad (Boiëldieu); Carnival Suite (Schmalstich): The Skaters' Waltz (Waldteifel);
Sur le lac (Godard); Selection from RoseMarie (Friml). 1.30, Granophone Music.
7.20 till Close Down, Austrian Programme.
7.20, Merry Schuhert—Musical Radio Sequeñoe. 8.20, Austrian Concert by the Station Orchestra, conducted by Henri Pensis;
Overture, Don Giovanni (Mozart); Verklärte
Nacht (Schönberg). 8.50, News in French.
9.0, Viennese Concert by the Station Orchestra, conducted by Henri Pensis: Overture,
Morning, Noon and Night (Suppé); Waltz,
Wiener Kinder (Jos. Strauss); Kleiner Wiener
Marsch (Kreiser); Potponiri, Servus Wien!
(Dostal); Overture, Die Fledermans (Joh.
Strauss). 9.50, News in German. 10.0, Viennese Waltzes on Gramophone Records.

Dance Music on Gramophone Records.

LYONS

LA DOUA, 644 kc/s, 465.8 metres; 1.5 kW.— 6.30 p.m., Radio Journal. 7.30, Radio Gazette for Lyons and the South-East. 8 30, See Strasbourg. After the Programme, News.

MADRID

EAJ7, 707 kc/s, 424.3 metres; 2 kW.—8.0 p.m., Chimes, Exchange, Radio Journal, Sports Notes, and Dance Music, relayed from the Alkázar Dance Hall, 9.15, Topical Review, 9.30 (approx.), Close Down.

MALMO.-Sce Stockholm.

MILAN.-See Turin.

MORAVSKA-OSTRAVA

1,137 kc/s, 263.8 metres; 11 kW.—6.15 p.m., See Prague. 6.20, German Transmission: Talks: (a) Adalbert Stifter as a Painter, and (b) Modern German Poetry. 7.0, See Prague. 7.10, See Brno. 7.40, Talk: 7.55, Village Band Concert. 8.20, See Prague. 9.5, See Brno. 10.0 See Prague. 10.15 (approx.), Close Down.

MOTALA.-See Stockholm.

MUHLACKER.—See Stuttgart.

MUNICH

MUNICH

563 kc/s, 533 metres; 60 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s, 560 metres; and Nürnberg, 1,256 kc/s, 239 metres.

—12 Noon, Orchestral Concert, Conducted by Brich Kloss: Overture, Die drei Pintos (Weber); Two Pieces (Wagner): (a) Träume, (b) Albumblatt: Rondo (Mozart); Snite from Der Rosenkavalier (R. Strauss); Extracts from Der Zanbergeiger (Grimm); Selection from Ins Dorf ohne Glocke (Künneke): Two Pieces (Scheheck): (a) Puppenhallett, (b) Spieluhr; Spinetta (Larsen).

1.15 p.m., Time, Weather and News. 1.30, Gramoplone Mucic. 2.0, Time, Weather and Annonncements. 2.20, Programme arranged by the Post Office with Gramophone Records. 2.50, Song Recital by Elisabeth Voigt (Soprano). and Fritz Schteler (Baritone); Two Soprano Songs (Schumann); Three Baritone Songs (Schumann): (a) In der Fremde, (b) Sonntags am Rhein, (c) Ich wandere nicht; Three Songs (Cornelius): (a) In der Freme, (b) Botschart, (c) Am Rhein; Daheim (Kann). 3.15, Programme for Children. 3.20 (from Nürnberg), Reading. 4.5, War Reminiscences by Major Reitzenstein). 4.30, See Frankfurt. 5.45, Youth at Work: Talk by a Jimior Teacher. 6.51, Chiemseebilder for Pianoforte (Nieman). played by Richard Staab. 6.25, Book Review. 6.45, Time, Weather and Agricultural Notes. 7.0, Trausmission for all German Stations. relayed from Berlin (Guutschlandsender). 8.0, Concert by the Station Orchestra, conducted by Hans Winter. 9.20, Frogramme to be announced. 9.40, Chamber Music by Ludwig Hölscher (*Cello) and Elly Ney (Pianoforte); Sonata in A Op. 69 (Beethoven); Adagio and Allegro (Schumann). 10.20, Time, Weather and News. 11.0, Serenade by the Small Station Orchestra, conducted by Erich Kloss. Soloners by the Small Station Orchestra, conducted by Erich Kloss. Soloners and Schumann Stations. Telayed from Berlin (Jona Elly Ney (Pianoforte); Sonata in A Op. 69 (Beethoven); Adagio and Allegro (Schumann). 10.20, Time, Weather and News. 11.0, Serenade by the Small Station Orchestra, conducted by Erich Kloss. Soloners and Schumann Schumann Schum

Bognor Listeners: Signature Tune; The Night by the Sea; The Wedding of the Birds; Love sends a little Gift of Roses (Openshaw); Out of Breath; Pianoforte Solo: Selection from He Wanted Adventure (Waller); Southern Rhapsody (Hosmer); It seems to me; Planoforte Solo: That futuristic Rag (Bloom); Selection from No, No, Nanette (Youmans), 5.20, Orchestral and Choral Concert for Hastings and Eastbourne Listeners: Roses from the South (Strauss); Selection from Waltzes from Vienua (Strauss); Love everlasting (Friml); Mighty lak' a Rose (Clutsam); Goodbye (Tosti); Come to the Fair (Easthope-Martin); The Drums; Selection from The Quaker Girl (Monekton); Signature Tune, 6.0, French Programme. 10.8 to Close Down, Programme in English by to L.B.C. 10.0, Dance Music: Signature Tune; Bells of Normandy; From me to you; Wear a great big Smile; Love Songs of the Nile; I've told every little Smile; My Darling; Rosa Mia; Maybe I love you too ginch; Smilin' Throngh; The Old Spinning Wheel: Twelfth Street Rag; In the Valley of the Moon; I raised my Hat; I gotta right to sing the Blues; Seven years with the wrong Woman; You are too beautiful; Let's all be happy together; Signature Tune; Sittin' in the Dark; I want to be haappy; But for you (Hollander); You are too beautiful; Let's all be happy together; Signature Tune; Sittin' in the Dark; I want to be haappy; But for you (Hollander); You are too beautiful; Let's all be happy together; Signature Tune; March from Tannhäuser; Water's Song from The Mastersingers; Pilgrims' Chorus from Tannhäuser; Träume; Swan Song from Lohengrin; Overture, Rienzi; March, Kibelungen. 12.5 a.m. (Tuesday), 1.B.C. News Bulletin in English. 12.10 (approx.), Club Concert. Part II; Rello (Redman); My pretty Girl (Fulcher); Hobo, you can't ride this Train (Armstrong); The Dicty Glide (Blington); I hate to leave you now (Armstrong); Signature Tune; There's a Cabin in the Pines (Hill); Sweetheart Darlin' (Kahn); Hold me (Schuster); Dancing Butterfly (Young); You're mine, you (Green); I can't remember (Berlin); D

FLENSBURG. See Hamburg

FLORENCE.—See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed by Gassel, 1,220 kc/s, 245.9 metres; and Trier, 1,157 kc/s, 559.3 metres.—4.30 p.m. (from Trier), Orchestral Concert, conducted by Otto Degen; Soloist, Otto Degen (Clarinet): Overture, Im Reiche des Indra (Lincke); Selection from Der Evangelimann (Kienzl); Waltz from Die Landstreicher (Ziehrer); Swedish Wedding March (Södermann); First Movement from the Concerto in F Minor (Welcer); Waltz, Accelerationen (Jos. Btrauss); Potpourri, Klänge aus Arkadien (Morena); Serenade, Gartenständehen (Meyer-Helmund). 5.45, Exchange. 6.0, A German Almanae. 6.19, Programme to be amounced. 6.25, Luln von Strauss-Torney discusses her new Book, Vom Biedermeier zur Bismarckzeit. 6.45, Review of the Day's News. 6.50. Time and News. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Concert by the Frankfurt Mandoline Orchestra and a Male Voice Quartet: Soloist, Hermann Untleke (Accordion): Mandoline Orchestra: Overture. Die Heimreise (Wölki): Male Voice Quartet: Folk Songs; Mandoline Orchestra: Paraphrase on Aennehen von Tharan (Schanno): Accordion Solo: Folk Dances; Mandoline Orchestra: Dance of the Butterflies (Wormsbacher, art. Wölki); Male Voice Quartet: Folk Songs; Accordion Solo: Folk Dances; Mandoline Orchestra: Dance of the Butterflies (Wormsbacher, art. Wölki); Male Voice Quartet: Folk Songs; Accordion Solo: Folk Dances; Mandoline Orchestra: Bance of the Butterflies (Wormsbacher, art. Wölki); Male Voice Quartet: Folk Songs; Accordion Solo: Folk Dances; Mandoline Orchestra: Bance of the Butterflies (Wormsbacher, art. Wölki); Male Voice Quartet: Folk Songs; Accordion Solo: Folk Dances; Mandoline Orchestra: Romanic Concert Piece (Wölki). 9.0, Part-Relay of a Rehearsal of Schiller's Drama, Die Räuher, from the Playlouse, 9.30, Chumber Music by the Riele-Quelleg Quartet: Quartet in E flat, Op. 74 (Beethoven): Italian Screnade (Hugo Wolf). 10.20, Time and News. 10.45, Programme from Leipzig.

FREDRIKSSTAD. -See Oslo.

FREIBURG .- Sec Stuttgart.

GENEVA. See Radio-Suisse Romande.

GENDA. See Turin

GLEIWITZ.—See Breslau.

GOTEBORG.-See Stockholm.

GRAZ.-See Vienna.

HAMAR .- See Cilo.

Wireless

ist: Rose Kugler (Soprano). 12 Midnight, Close Down.

NAPLES .-- See Rome.

NOTODDEN.—See Oslo.

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamai, 522 kc/s, 574.7 metres; Notodden, 671 kc/s, 447.1 metres; Porsgrund, 662 kc/s, 453.2 metres; and Rjukan, 671 kc/s, 447.1 metres.

—5.30 p.m., Orchestral Concert by the Radio Ensemble. 6.20, Recitations. 7.0, Advertising Notes, Weather, and News. 7.30, Agricultural Talk. 8.0, Time Signal. 8.1, Song Recital. 8.30, The Codemian—a Tableau of Germany in the Roccoo Period (Stefan Zweig). 9.10, Talk on Politics. 9.40, Weather and News. 10.0, Topical Talk.

OSTERSUND .- See Stockholm.

PALERMO

PALERMO

558 kc/s, 537.6 metres; 3 kW.—8.0 p.m.,
Dopolavoro Annonneements, Tourist Talk,
Agricultural Notes, Report of the Royal Geographical Society and Giornale Radio. 8.29,
Gramophone Music: In the interval at 8.30,
Time and Announcements. 8.45, Concert of
Chamber Music: Two Pianoforte Sonatas
(Scarlatti); Soprano Solos: (a) Set un "anni
(Pergolesi), (b) M'anna, non m'anna; 'Cello
Solos: (a) Nocturne (Casella), (b) Lament
(Croce); Two Movements from the Viola
Sonata (Rubinstein): 'Cello Solos: (a) Aria
in D (Bach). (b) Capriccio (Piatti); Pianoforte Solos: Three Pieces (Pick-Mangiagalli):
Soprano Solos: (a) Song (Trindelli). (b)
Solveig's Song (Grieg); Violin Solos: (a)
Romance (Bruch). (b) Gavotte (Pritter):
Pianoforte Solo: Schetzo in B minor (Mendelssohn).
After the Concert, Gramophone
Music. 11.0, Giornale Radio.

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2.550 metres) at 10.26 am. and 11.26 p.m., (Preliminary and 6-dot Signals).—6.45 p.m., Theatre Notes, 7.0, Le Journal Parlé, 8.30, Concert of Operetta Music and Light Music by the Station Orchestra, conducted by Flament: Prelude to an Operetta (Casadesus); Selection from Die geschiedene Frau (Fall); Sons un balcon fleuri (Noletty); Selection from Der Orlov (Granichstaedten); Waltz from The Count of Luxembourg (Lehár); Selection from La Maison grise (Messager) and Ciboulette (Hahn); Overture, La petite mariée (Leccq); Le gai Postillon (Flament); Andaute from Lucas et Lucette (Missa); Guitare (Thomé); Promenade en forêt (Énristiné); Selection from Miss Decima (Andran); Dause mystique (Ganne); Klatsch-Galop (Strauss). 10.0 (approx.), Close Down.

PARIS

PARIS

POSTE PARISIEN, 914 k/s, 328.2 metres; 60 kW.—7.0 p.m., Gramophone Concert of Classical Music. 7.15, Le Journal Parlé. 7.30, 110 Jazz. 8.0, Chabrier Song Recital by Paul Payen: Romance from Le roi malgre hii; Villanelle des petits canards; Toutes les fleurs; Ballade des gros dindons; Pastorale des cochons roses. 8.30, Song Recital by Max Régnier. 9.15, sponsored Gramophone Concert. 10.15, News.

PARIS

PARIS

RADIO PARIS, Call CFR; 174 kc/s, 1,725 metres; 75 kW.—7.20 a.m., Weather and Physical Culture. 7.45, Gramophone Music. 8.0, Weather and Press Review. 12 Noon, Massenet Concert on Gramophone Records: Extracts from: Le roi de Lahore. Hêrodiade, Le Cid, Esclarmonde, Thais and Thérèse. In the interval at 1.0, Exchange. News and Weather, and at 1.30, Exchange. 2.0, Exchange. 3.45, Exchange and Market Prices. 7.0, Agricultural Report. 7.10, Gramophone Concert: Selection from Bitter Sweet (Coward); Melodies from Love's Dream after the Ball (Czibulka); Torna a Sorrienta (Delusti); Monte Christo (Istvan Kotlar); Hungarian Serenale (Joncieres); Sougs from La dansense de Tanagra (Hirschmann); Potpourri, Fortissinio (Kálmán). 7.50, Commercial Notes and News. 8.0, Variety Programme. Part I—Recitation of Love Poems. Part II—Song Recital. Part III—L'école des mères—Sketch (Marivaux). Part IV—L'anglais on le four raisonnable—Play (Patrat). In the interval at 8.30, News, Sports Notes and Weather, at 8.40, Review by Paul Reboux, and at 9.15, Press Review and News.

PITTSBURGH

PITTSBURGH

KDKA, 980 kc/s, 306 metres; 50 kW. Relayed by W8XK on 48.86 metres and 25.27

metres.—7.30 p.m., Huston Ray's Orchestra.

8.0, Betty and Bob, from New York.

8.05, Betty and Bob, from New York.

8.06, Betty and Bob, from New York.

Mords and Music, from New York.

8.15, Human Values.

9.3, Radio Guild, from New York.

10.0, Uncle Tom and Betty.

10.15, KDKA Kiddies! Club.

10.20, The Singing Lady, from New York.

11.0, Press News-Reeler.

11.15, Sports, A Song. 11.30, Pittsburgh Spotlights.

11.45 to 3.6 a.m. (Tuesday), New York

SEPT. 25th

continued

Relay. 11.45, Lowell Thomas. 12 Midnight, Amos 'n' Andy. 12.15, Baby Rose Marie. 12.30, Popular Programme. 1.0, The Nomads. 1.30, Potsah and Perlmutter. 1.45, Red Davis, 2.0, Sinclair Minstrels. 2.30, Melody Moments. 3.0, Silver Toppers.

PORSGRUND.-See Oslo

PRAGUE

Gramophone Music. 3.50, Aviation Weather Report. 3.55 to 4.0, Exchange. 5.45, Hints for the Housewife. 5.55, Talk for Office Workers. 6.5, Agricultural Talk. 6.15, Talk for Workers. 6.25, News in German. 6.30, German Transmission: Review of Foreign Affairs. 7.0, Chimes. 7.5, News. 7.10, See Brno. 7.40, See Moravská-Ostrava. 8.50, Reading. 9.5, See Brno. 10.0, Time and News. 10.15, Art. Report. 10.20 (approx.), Close Down.

RADIO-SUISSE ROMANDE

RADIO-SUISSE ROMANDE

SOTTENS, 743 kc/s, 403 metres; 25 kW.;
and Geneva, 395 kc/s, 760 metres.—6.15 a.m.
to 6.30 (from Lausanne), Gynthastics Lesson.
6.30 to 12.28 p.m., Interval. 12.28, Time
signal from Neuchâtel Observatory. 12.30,
News and Weather. 12.40 (from Lausanne),
Italian Opera Music on Gramophone Music. 2.0,
Interval. 3.28, Time Signal from Neuchâtel
Observatory. 3.30 (from Lausanne), Concert
by the Station Orchestra, conducted by
Moser. 5.0 (from Lausanne), Programme for
Children. 5.30, Interval. 7.0 (from Lausanne),
Talk on Maxime Raymond's History of
Switzerland. 7.25 (from Lausanne), Weather,
Announcements, and News. 7.30 (from
Lausanne), Talk, The Swiss Lakes. 8.0
(from Geneva), Ramean Concert for the
150th Anniversary of the Composer's Birth:
Introductory Talk: Dance Suite arranged
for Orchestra; Suite in E for Harpsichord;
Aria from Les fêtes d'Hébé; Three Pieces
for Harpsichord: (a) Damphine, (b) Les
savages), (c) La Poule; Aria from Castor
and Pollux; Concerto for Flute, Viola da
Gamba and Harpsichord. 9.0 (from
Lausanne), Popular Concert by the Station
Orchestra, conducted by Moser; Soloist,
Paul Sandoz (Baritone), 9.50, News. 10.0,
Pelléas et Melisaude—Lyric Drama (Debussy), on Gramophone Records. 10.30 (approx.), Close Down.

RJUKAN.—See Oslo.

RJUKAN. See Oslo

ROME

ROME

Call 1R0, 680 kc/s, 441 metres; 50 kW. Relayed by 2R0, 11,810 kc/s, 25.4 metres, from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 metres; Milan (Vigentino), 662 kc/s, 453.2 metres, from 8.45 p.m.; and Naples, 941 kc/s, 319 metres.—12.30 p.m., Gramophone Music. 1.0 to 2.15, Popular Gramophone Music. In an interval at 1.30, Giornale Radio and Exchange, and at 2.0, Time and Announcements. 4.30, Children's Radio Beview. 4.55, Giornale Radio and Exchange, 5.10, Weather. 5.15, Vocal and Instrumental Concert: Alberico Guidi (Violin); Guglielmina Ricci (Soprano) and Alfredo Sernicoli (Tenor); Violin Solos: (a) Chaconne (Veracini-Franzoni), (b) Cantabile and Waltz (Paganini); Soprano Solos: (a) Arietta (Mazzaferrata), (b) Concert Mazurka (Chopin-Viardot); Tenor Solos: (a) Un verde praticello (Marcello), (b) Aria from Il signor Bruschino (Rossini). (c) Aria from The Queen of Sheba (Goldmark): Violin Solos: (a) Sirventese (Rick-Mangiagalli). (b) Introduction and Humoresque (D'Ambrosio): Soprano Solo: Ogni sobato avrete il lune acceso (Gordigiani). 6.40 (from Naples). Shipping and Sports Notes. 6.45, Dopolavoro Report and Tourist Notes. 7.10, Agricultural Report. 7.20, News in Foreign Languages. 7.40, Giornale Radio. 8.9, Time and Announcements. 8.5, Gramophone Music. 8.30, Giornale Radio and Sports Notes. 8,45 (from Naples). Concert of Light Music. In the intervals, Talk. 11.0, Giornale Radio.

SALZBURG.—See Vienna.

SCHENECTADY

SCHENECIADY
WGY, 790 ko/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF on 31.48 metres and by W2XAD on 19.56 metres.—8.30 p.m., Revolving Stage, from New York, 9.0, Health Hunters. 9.15 to 9.30 (approx.), Soloist. 1.45 a.m. (Tuesday), Stock Reports. 2.0 to 4.30, New York Relay. 2.0, Soconyland Sketch. 2.30, Variety Programme. 3.0, A. and P. Gypsies. 3.30, Popular Programme. 4.9, Contented Programme. 4.30, Musical Programme, from New York, followed by Programme Résumé.

SCHWEIZERISCHER

LANDESSENDER

BEROMUNSTER, 653 kc/s, 459 metres; 60 kW.; Basie, 1,229 kc/s, 244.1 metres; and Berne, 1,228 kc/s, 245.9 metres.—6.15 to 6.35 a.m. (from Basie), Gymnastics. 11.59, Time Signal from Nenchâtel Observatory and

Weather. 12 Noon (from Basie), Choral Music on Gramophone Records. 12.30 p.m., Time, Weather, and News. 12.40 (from Basie), Folk Music on Gramophone Records. 1.25 (from Basie), Time, Weather, and Exchange. 1.30 (approx.) to 5.0, Interval. 5.0 (from Zürich), Programme for Women. 5.30 (from Zürich), Talk: Swiss Statesmen in Times of Crisis, 7.0, Time and Weather. 7.5 (from Zürich), Elementary English Lesson. 8.0 (from Zürich), Reading of Poems. 9.0, Weather and News. 9.10 (from Zürich), Dvorák Concert by the Augmented Station Orchestra; Soloist: Frédéric Mottier ('Cello): Conductor, Hofmann. 10.15 (approx.). Close Down.

SOTTENS,-See Radio-Suisse Romande

STOCKHOLM

STOCKHOLM

689 kc/s, 436 metres; 55 kW. Relayed by Boden, 244 kc/s, 1,229.5 metres; Göteborg, 932 kc/s, 322 metres; Hörby, 1,166 kc/s, 257 metres; Motala, 221.5 kc/s, 1,353.4 metres; Ostersund, 389 kc/s, 770 metres; and Sundsvall, 554 kc/s, 542 metres;—5.5 p.m. (from Boden). Violin Recital: Sérénade mélancolique (Tchaikovsky); Hungarian Dance No. 4 (Brahms-Joachim); Canzonetta (Peder Gram); Der Vogel als Prophet (Schumann-Aner); Scherzo-Tarantella (Wieniawsky).
5.30, Reading. 5.45, Gramophone Music. 6.45, German Lesson. 7.15, Weather and News.
7.30, A Dialogue. 7.45, Spanish Song Recital by Karin Juel. 8.15, Talk. 8.45, Military Band Concert. conducted by Ivar Widner. Viktoriamarsch (Korsgren); Overture. I promessi sposi (Ponchielli); Indian Serenade (Burgmein); Oance of the Sultanas (Floridia); Selection from Aida (Verdi): Clarinet Solo: Waltz (Schreiner); Carnaval de Paris (Svendsen); Lindbergh March (Austin). 9.45, Weather and News. 10.0, Organ and Violin Recital. Organ Solos: Theme with Variations (Raasted); Violin and Organ Sonata, Op. 16. No. 1 (Raasted); Prelude. Fugue and Chaconne in C (Buxtehude). 11.0 (approx.), Close Down:

STRASBOURG

STRASBOURG

869 kc/s, 345 metres; 11.5 kW.—11.30 a.m.,
Variety Music on Gramophone Records.
12.45 p.m. News. 1.0, Time and Exchange.
1.5, Popular Music on Gramophone Records.
2.0, Interval. 5.0, Orchestral Concert, conducted by Roskam: March, Sabre et Lance (Starke); Overture, Casanova (Lincke); Serenade in B flat (Widor); Selection from Le Cheminean (Leroux); Spanish Rhapsody (Richardy); Pianoforte Solo, Cantabile (Sporck); Suite, Summer Days (Coates),
6.0, Film Review. 6.15. Review of the Week in German. 6.30, Boellmann Concert: Sonata for 'Cello and Pianoforte; Trio for Violin, 'Cello and Pianoforte; T.30, Time and News. 7.45, Gramophone Music. 8.0, Press Review in German, Lottery Results and Announcements. 8.30, Monsieur de la Palisse—Opéra-Bouffe in Three Acts (Terrasse). In an interval at 9.30 (approx.). Press Review. 10.30 (approx.).

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres.—1.30 p.m., Concert by the Betlin Philharmonic Orchestra on Gramophone Records: Overture, The Thieving Magpie (Rossini); Suite from L'Arlésienne (Bizet). 2.0, Concert arranged by the Post Office. 2.30, Spanish Conversation. 3.0, Elementary English Lesson. 3.30, Interval. 4.30, See Frankfurt. 5.45, German Chamber Music. 6.10, Talk: Gardening in the Autumn. 6.35, Time and News. 7.0, Traismission for all German Stations. relayed from (Deutschlandsender). 8.0, Pianoforte Quintet in F mipor Op. 34 (Brahms) by the Wendling Quartet and Prof. Walter Rehberg. 8.40, War-time Stories. 9.0 (from Karlsruthe), Wireless Cabaret. 10.20, Concert from Leipzig. 12 Midnight, SUNDSYALL.—See Stockholm

SUNDSVALL. See Stockholm.

TOULOUSE

TOULOUSE

RADIOPHONE DU MIDI, 779 kc/s, 385 metres; 8 kW.—6.0 p.m., News. 6.15, Music by an Argentine Orchestra. 6.30, Operetta Music: Selection from Rip van Winkle (Planquette): L'eau à la bouche (Parès et van Parys), Tip-Toes (Gershwin). 6.45, Accordion Music. 7.0, Symphonic Poem. Mazeppa (Lizzt). 7.15, News. Racing Results and Market Prices. 7.30, Opera Music: Extracts from: Pénélope (Fauré). Mignon (Thomas), and Resurrection (Alfano). 7.45, Orchestral Music. 8.0, Balalaika Music and Russian Songs. 8.15, Military Music. 8.30, Concert by a Viennese Orchestra: Selection from Les millions d'Arlequin (Drigo); Melody (Ebinger); Waltz (Lincke); Sourire d'avril (Depret): The Kiss Waltz (Joh. Strauss); Waltz, Frühlingsstimmen (Joh. Strauss); Serenade (Toselli). 9.0, Extracts from The Road to Paradise—Sound Film (Heymann). 9.20, Light Orchestral Music. 9.30, Concert: Wedding March (Mendelssohn); La housarde (Ganne); Selection from Les cent vierges

(Lecocq); Wedding Waltz (Lincke); Selection from La Habanera (Laparra); Marche héroique (Saint-Saéns). 10.0, Opera Music: Selection from: Siegfried (Wagner), Hérodiade (Massenet), and Sigurd (Reyer). 10.15, North African News and Local News. 10.30, Concert for Listeners in Morocco: Torero y toreador (Dorantes); Melody (Coslow); O. Prühling wie bist du so schön (Lehar); Flower Song from Carmén (Bizet); Selection from Masaniello (Auber); Künsterleben (Strauss); Les grenadiers du Cancase. 11.0, Popular Music. 11.15, Dance Music. 12 Midnight, News. Weather and Announcements. 12.5 a.m. (Tuesday), Chansonettes. 12.15, Military Music. 12.30 (approx.), Close Down.

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.-5.10 p.m. till Close Down, See Turin.

TRONDHEIM. -See Oslo.

TURIN

TURIN

273.7 metres; 7 kW. Relayed by Milan, 331.5 metras; Genoa, 312.8 metres; and Florence, 500.8 metres.—5.10 p.m., Mandoline Concert. 6.0 to 6.5, Weather. 6.40, Giornale Radio, Dopolavoro Annonneements and Gramophoue Music. 7.0, Time, Tourist Report and Gramophoue Music. 7.10, Agricultural Notes and Market Prices. 7.20, News in Foreign Languages. 7.40, Gramophone Music. 8.0, Announcements. Giornale Radio and Weather. 8.15, Sponsored Concert. 9.15, Chamber Music. Virgilio Brun (Violin), Giuseppe Taharelli (Louble Bass) and Luigi Gallino (Pianoforte). Violin Solos: (a) Minuet (Corelli-Kreisler), (b) Gavotte (Bach-Kreisler); Elegia for Double Bass (Bottesini): Violin Solos (Albéniz): (a) Catalan Song, (b) Tango; Tarantella for Double Bass (Bottesini): 9.45, A Comedy in One Act. 10.15, Orchestral Concert, conducted by Ennio Arlandi: Selection from San' Elena al Calvario (Leo); Träume, for Violin and Orchestra (Wagner); Mother Goose Snite (Ravel); Symphony in D No. 35 (Mozart). 11.0, Giornale Radio.

VATICAN CITY

15,120 kc/s, 19.84 metres (Morning), and 5,969 kc/s, 50.26 metres (Evening); 10 kW.—11.0 to 11.15 a.m., Religious Information in Italian. 8.0 to 8.15 p.m., Religious Information in

VIENNA

VIENNA

581 kc/s, 517 metres; 100 kW. Relayed by Graz, 852 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenfurt, 662 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.—12 Noon, Concert by the Wiener Symphoniker, conducted by Holzer. In the interval at 1.0 p.m., News and Announcements. 2.0, Interval. 3.0, Time, Weather and Market Report. 3.20, Talk: The Foreign Competitors at the October Riding Tournament. 3.30, Talk: Peigius, the Epic Poet of the Turkish Siege. 3.55, Song Recital by Lucie Ritter and Sybille Krumpholz: Aria from The Barber of Seville (Rossini): Kinderlieder (Blech); Luliabies of the Nations (Krumpholz). 4.35, Programme for Young People. 5.0, Talk: The Place of the Chorns in Opera. 5.25, Review of the Theatre. 5.45, Books and Works of Reference in Connection with, the Week's Talks. 5.50, Talk; Weinwurm, the Architect of the Stephansburm. 6.15, Topical Talk. 6.40, Time. Weather and Announcements. 6.55, Tannihanser—Opera in Three Acts (Wagner), relayed from the State Opera Honse. In the interval at 9.45 (approx.), News, Weather and Market Report. 10.50, Gramophone Music. After the Programme, Exchange.

WARSAW

WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m., Time Signal and Fantare from Torini Cathedral. 12.5 p.m., Gramophone. Music. 12.25, Polish Press Review. 12.33, Weather Report. 12.35, Gramophone Music. 12.55, Radio Journal. 1.0 to 2.55, Interval. 2.55, News. 3.0, Gramophone Music. 3.5, Announcements. 3.15, Gramophone Music. 5.0, Talk in French. 5.15, Soprano and Violin Recital by Walewska and Szuajderman: Violin Solo: Rondo capriccioso (Saint-Saëns); Three Songs (Zalenski): (a) La Princesse enchantée, (b) Mes chansons, (c) Petitrossignol; Song, Le rêve (Noskowski); Violin Solos: (a) The Flight of the Bumble Becklimsky-Korsakov-Kreisler). (b) Roxane's Aria from Le roi Roger (Szymanovski). (c) Caprice (Paganini-Szymanovski), (d) Motto perpetuo (Paganini), (e) Melody (Rożycki); Two Songs (Troszel); Song (Zarzycki); Hymn: Veni Creator (Niewładomski). 6.15, Talk. 6.35, Light Music. relayed (rom the Gastronomia Café. 7.20, Miscellaneous Items. 7.35, Programine Announcements. 7.40, Reading. 8.0, La Gioconda—Opera (Ponchielli), on Gramuophone Records. In the intervais, Answers to Agricultural Correspondence and Radio Journal. 10.30, Sports Notes. 10.40, Aviation Weather Report and Police Notes. 10.45, Dance Music.

ZURICH .- See Schweizerischer Landessender

ALGIERS

824 kc/s, 364 metres; 13 kW.—8.10 p.m.,
Shipping Notes. 8.15, Agricultural Report
and Weather Forecast. 8.20, Gramophone
Music. 8.40, Lottery Results. 8.55, News.
9.0, Time. 9.2, The Trout Quintet (Schubert). 9.35, News. 9.40, Dance Refrains.
10.0, Concert of Oriental Music.

ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by Cork, 1,337 kc/s, 224.4 metres.—1.30 to 2.30 p.m., Time Signal, Weather Report, Stock Exchange Quotations, and Gramophone Music. 6.0, Programme for Children. 6.40, News. 7.0, Gaelic Reading. 7.15, Tatk. 7.30, Time. Signal. 7.31, Concert of Irish Music by the Station Orchestra. 8.0, Traditional Fiddle Solos by Betty Burke. 8.15, Weber Music by the Station Orchestra. 8.50, Weber Planoforte Recital by Fred Stone. 9.10, Variety Programme by Messis. Ear's and Thornton. 9.30 to 10.30, Programme by the I.B.C. (Ireland). Ltd. 9.30, Variety Concert: Waltz, Tales from the Vienna Woods (Strauss); Love in Cloverland (Peter); Violin Solo, Au mois d'avril (Adlington); The Phantom Brigade (Myddleton). 9.45, Light Music: Accordion Duet. Talkie Film Favourites; Impressions of Bird Life; Cuban Love Song (Stothart); Accordion Duet, Festival March (Michael). 10.9, Concert arranged by the International Broadcasting Company (Ireland), Ltd.. on behalf of Hospitals Trust, Ltd. Military Band Music: The Elephant Murch (Ord Hume); The Whistler and his Dog (Pryor); Glow-Worm Idyll (Lincke); Coronation Bells (Partridge); A Gipsy Impression, from Wayside Sketches (Scott Minchin); Jolly Fellows (Vollstedt); Step Lightly (Anderson). 10.30, LB.C. Goodnight Melody, followed by News, Weather Report, and Time Signal. 10.40, Irish Ballads by Betty Byrne (Contralto). 11.0 (approx.). Close Down.

BARCELONA

BARCELONA

EAJ1, 860 kc/s, 348.8 metres; 8 kW.—7.0 p.m., Trio Concert: Extase (Ganne); May Song (Dandois); Selection from Don Quixote (Massenet); Les cloches (Debussy); Symphonic Intermezzo (Desprez); Romance from the Violin Concerto (Lalo); Overture, Der Freischütz (Weber). 8.0, Request Gramophone Records. 8.30, Exchange. 9.0, Gramophone Music and News. 10.0, Chimes from the Cathedral, Weather, Messages to Seamen, Exchange and Market Prices. 10.5, Sponsored Programme. 10.30, Concert of Spanish Music by the Station Orchestra. 11.30, Band Concert, relayed from the Café Español. In the interval at 12 Midnight, News. 1.0 a.m. (Wednesday), Close Down.

BASLE.-See Schweizerischer Landessender.

BELGRADE

DELIGRADE

OF kc/s, 430.4 metres; 2,8 kW.—6.55 p.m.,
Time and Announcements. 7.0, Popular
Songs. 7.30, Concert by the Station Orchestra. 8.30, See Paris (Eiffel Tower). In an
interval. Time and News. After the programme, Cigány Music from the Potrosacka
Zadruga Restaurant.

BERLIN

BERLIN

DEUTSCHLANDSENDER

(REICHSSENDER), 183.5 kc's, 1,635 metres; 60 kW.—2.0, Gramophone Concert: Extracts from (a) Alda (Verdi), (b) La Bohéme (Puccini), and (c) Carmen (Bizet); Concert Paraphrase on Johann Strauss' Waltzes (Rehherg); Festival Overture (Lassen): Matrosenstreiche (Rathke); Polka; Wir marschieren (Woltschach). 3.0, Concert by the Rasselbande Children's Orchestra. 3.30, Weather and Exchange. 3.45, Reading (Plato). 4.0, Concert by the Rasselbande Children's Orchestra. 3.30, Weather and Exchange. 3.45, Reading (Plato). 4.0, Concert by the Rasselbande Children's Orchestra. 3.30, Weather and Exchange. 3.45, Reading (Plato). 4.0, Concert form Leipzig. 5.0, Violin and Song Recital by Robert Zeiler and Margarete Wachsmuth. Suite for Violin and Pianoforte (Schiitt) Songs (Rasch): (a) Der schöne Sommer ging von hinnen. (b) Ich ging zur Bahn. (c) Die Liebe war nicht geringe. (d) Es sass in meiner Knahenzeit. (e) Man wünschte sich herzlich, Gute Nacht. (f) Es flog einmal ein muntres Fliegel. (g) Wenn ich dereinst. 5.0, Talk for the Country Woman. 6.0, A Poem. 6.5, Belind the Scenes—An Actor and a Playwright exchange People. 6.50, Weather and Announcements. 7.0, Transmission for all German Stations, relayed from Leipzig. 8.0, To-day's Motto. 8.5, Man the Boats!—Programme by Ralph Siegel and his Company. 9.0, Dance Music. 10.0, News. 10.20, Max Schnelling discusses his Experiences in America with Erwin Thoma. 10.45, Weather. 11.0, Concert from Hamburg. 12 Midnight, Close Down.

BERLIN

BERLIN

FUNKSTUNDE, 715 ke/s, 419.5 metres; 1.5
kW.—6.0 p.m., Three Castles: Küstrin—
Rheinsberg—Sans-souci. 6.40, The Funkstunde informs its Listeners. . . 6.45,
Topical Talk. 7.0, Transmission for all German Stations. relayed from Leipzig. 8.5,
The Second Day—Prussian Comedy (Hans
Reliberg). 9.35, Concerto in C for Three
Pianofortes and Orchestra (Bach), by
Richard Laugs, Helmuth Hidegethi. Walter
Thiele and The Station Orchestra. conducted
by Hans von Benda. 10.0, News. 10.25
(approx.), Report of the Fair at Schneidemühl. 10.40 (approx.), Concert from Hamburg. In the intervat at 11.0 (approx.),

SEPTEMBER THE TWENTY-SIXTH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

NATIONAL LONDON REGIONAL MIDLAND NORTH REGIONAL

REGIONAL

WEST REGIONAL

SCOTTISH REGIONAL BELFAST

"The Use of Man," a play by Lord Dunsany. Crazy Variety programme.

Choral programme,

Episodes and songs from "Alice in Wonderland," by Lewis Carroll.

"Simple Faith and Norman Blood, or the Secret of Biggwigg Towers," a burlesque, by Diana Morgan Michael Sayer.

Orchestral concert.

Variety programme.

ABROAD

BRUSSELS (No. 2) COPENHAGEN HAMBURG

HEILSBERG

HUIZEN

TURIN

9.15 p.m. Wagner concert, by the Station Orchestra,

conducted by Meulemans.

8.1 p.m. Concert by the Ringsted Orchestral Society.

10.40 p.m. The Philharmonic Orchestra, conducted by J. Eibenschütz.

8.5 p.m. Mozart, Weber and Wagner concert, by the Danzig State Theatre Orchestra.

The Concertgebouw Orchestra, conducted 7.55 p.m. by Blech.

8.30 p.m. Concert, relayed from the Conservatoire.

EIFFEL TOWER PALERMO Opera: "Andrea Chénier," by Giordano. 8.30 p.in. TOULOUSE

9.30 p.m. 8.30 p.m. Orchestral concert.

Operetta: "The Merry Peasant," by Fall.

Talk: Stage and Films. 12 Midnight, Close Down.

BERNE.-See Schweizerlscher Landessender. BEROMUNSTER. - See Schweizerischer Landessender.

BODEN.-See Stockholm. BODO.-See Cslo.

BRATISLAVA

1,076 kc/s, 279 metres; 14 kW.—6.5 p.m., Concert by the Station Band, conducted by Nagl. 6.40, Talk. 6.55, Talk for House-wives. 7.0, See Prague. 7.10, Granuphone Music. 7.36, An Opera relayed from the National Theatre. 10.0, See Prague. 11.0 (approx.), Close Down.

BREMEN.-See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—1.0 p.m., Weather. 1.5, Caruso on Gramophone Records. 1.45, Time and News. 2.10, Brahms Song Recital by Käte Mann (Soprano): Mainacht; Wir wandelten Unhewegte lane Luft; Wie bist du. meine, Königin: Ruhesiiss, Liebehen; Webe, so willst du mich wieder; Heimweh; Du blanes Ange; Botschaft. 2.40, Spanish Caprice (Rimsky-Korsakov) on Gramophone Records. 3.0, Agricultural Prices. 3.15, Programme for Children. 3.40, Book Review. 4.0, Orchestral Concert. conducted by Gerhard Rischka: Festival Overture (Leutner); Two Pieces from the Lyric Suite No. 1 (Grieg): (a) Hirtenknahe, (b) Norwegian Peasant March; Two Pieces from the Lyric Suite No. 2 (Grieg): (a) Nocturne, (b) March of the Dwarfs: Nachruf an Franz Schuhert (Fetras): Invitation to the Dauce (Weber): A la Gavotte (Schott): Homage March (Liszt). In the interval, Readings. 5.35, Agrlenthural Prices. 5.40, Talk: German Socialism. 6.0, Orchestral Concert, conducted by Rischka: Russian Suite (Bullerian): Harlequin's Serenade (Schütt); Liebeswalzer (Frank); Selection from Das Pensionat (Suppé): Waltz, Liebesspiele (Rinst); Im Märchenwald (Ganglberger): Musikalische Neckereien (Worch): Nazi Parade March (Marquart). 6.50, Meat Market Prices. 7.0, Transmission for all German Stations, relayed from Leipzig. 8.0, News. 20.25, Concert relayed from the Haus Oberschleisen, Gleiwitz. 12 Midnight, Close Down.

BRNO

BRNO

878 kc/s, 342 metros; 35 kW.—6.25 p.m., German Transmission: News, followed by Vintage in Moravia, Programme with Music, and Agricultural Report. 7.0, See Prague. 7.10, Gramophone Music. 7.20, Humorous Song Recital. 7.45, See Frague. 8.20, Read-

ing. 9.0, See Prague. 11.0 (approx.), Close Down.

BRUSSELS (No.

BRUSSELS (No. 1)

1.N.R., 590 kc/s, 509 metres; 15 kW.—12 Noon, Gramophone Concert: Overture. Fra Diavolo (Auber); Duet from Masaniello (Anher); Overture, The Black Domino (Auber); Duet from La Fauvette de Temple (Messager).

12.20 p.m., Sonada pathétique (Becthoven), played by Raemdonck.

12.45, Gramophone Concert (contd.): Extracts from Le Châlet (Adam).

1.0, Le Journal Parlé.

1.10, Concert by the Small Station Orchestra, conducted by Leemans: Scenes from The Pearl Fishers (Bizet); Suite from The Pearl Fishers (Bizet); Suite from The Pearl Fishers (Bizet); Overture, Sargino (Paer); Overture, The Water Carrier (Chernbini).

5.0, Tchaikov-sky Concert by the Radio Orchestra. conducted by Walpot; Marche slav: Ballet Music from The Bleeping Beauty.

5.30, Programme for Children.

6.51, Moonlight Sonata (Beethoven), on Gramophone Records.

7.15, Film Review.

7.30, Notes on Art and Review for Women.

8.0, Concert by the Station Symphony Orchestra. conducted by Meulemans: Symphony (Franck); Potpourit of Angevin Airs (Leken).

8.45, Religious Address.

9.0, Concert by the Radio Orchestra. conducted by Walpot; Selection from Gillette de Narhonne (Andran); Selection from Rip van Winckle (Planquette); Songs: Offenbachiann (Conradi); Selection from The Gipsy Baron (Strauss).

9.45, Song Recital by Gaston Lermeuil.

9.55, Christus vincit (Liszt).

10.0.

BRUSSELS (No. 2)

BRUSSELS (No. 2)

N.I.R., 887 kc/s, 338.2 metres; 15 kW. Programme in Flemish.—12 Noon, Concert by the small Station Orchestra, conducted by Leemans; Overture, Les Dragons de Villara (Maillart); Waltz, Dorfschwalhen ans Oesterreich (Strauss); Melody (Ray); Selection from Madame Pompadour (Fall); Les trésors de Colombine (Drigo); Auhade (Van Doren); Selection from Eine einzige Nacht (Stolz). 1.0 p.m., Le Journal Parlé. 1.10, Gramophone Music. 5.0, Concert by the Station Symphony Orchestra, conducted by Menlemans: Overture, Rienzi (Wagner); Fête polonaise (Chabrier); Gramophone Records: (a) Extase (Ganne). (b) Salut d'amour (Elgar): Overture. Die Fledermans (Joh. Strauss); Ballet Music (Lully). 5.45, Programme for Children. 6.30, Concert by the Snall Station Orchestra, conducted by Leemans, Soloist: Wigy (Violin): Overture (Raimann); Petite Suite No. 2 (Gilson); Gramophone Record: Liebestraum (Liszt-Pattmann); Violin Solo: Caprice on a Foxtot (Wigy); Marche des communiers hrugeois (Dubois). 7.0, Gramophone Music. 7.15, Talk: The Aim and Significance of the Yong People's Organisation. 7.30, Tonrist Report. 8.0, Concert by the Radio Orchestra, conducted by Charles Walpot. Soloist: Frans Schell (Tenor). Solidaritits-lied (Eysler); Overture, The Bohemian Girl

(Balfe); Bohemian Songs (Dvorák); Slav Dances (Dvorak); Hungarian March (Liszt. After the Concert, Dramatic Programme. 9.15, Wagner Concert by the Station Symplony Orchestra, conducted by Menlemans. Soloist: Frans Schell (Tenor). March of the Nobles from Tannhäuser; Songs: (a) Air from Lohengrin, (b) Walter's Prize Song from The Mastersingers; Gramophone Record: The Ride of the Valkyries; Songs: (a) Song of the Forge from Siegfried, (b) Siegfried's Death and Funeral March. 10.0, Le Journal Parté.

BUCHAREST

BUCHAREST

Variety Music by the Motoi Orchestra. In an interval at 6.0, Radio Journal. 7.0, Educational Talk. 7.20, Instrumental Music on Gramophone Records. 7.40, Talk. 8.0, Italian Song Recital (Bassani, Fasolo, Scarlatti, and Rossini). 8.20, Concert by the Station Orchestra: Persian March (Joh. Strauss); Waltz, Erimerung an Baden (Konzak); Suppé Potpourri (Michaelov); Suite, La farandole (Dubois); Slav Dances, Nos. 12 and 13 (Dvorák); La cascade (Bergée). In an interval at 9.0, Talk. 9.45, Radio Journal.

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW. Also relayed on 840 metres from 7.30 p.m. till Close Down.

-5.30 p.m., Orchestral Concert. 6.30, Talk. 7.0, Harp Recital 7.30, A Comedy. 9.30, News. 9.45, Gramophone Music. 11.0, Concert from the Café Emke. Soloist: Imre Laszlo sings Folk Songs.

CASSEL .- See Frankfurt.

COPENHAGEN

COPENHAGEN

1,067 kc/s, 281 metres; 0.75 kW. Relayed by Kalundborg, 260 kc/s, 1,153.8 metres.—12
Noon, Time Signal and Chimes from the Town Hall. 12.2 p.m., Concert by Harad Andersen's String Ensemble, relayed from the Bellevue Strandhotel. 2.0, Interval. 3.0, Concert by the Station Orchestra, conducted by Emil Reesen. Soloist: Augusta Haugsted (Pianoforte). 5.0, Programme for Children. 5.30, Exchange and Fish Market Prices. 5.45, Talk: English as a World Language. 6.15, Elementary German Lesson. 6.45, Weather. 7.0, News. 7.15, Time Signal. 7.30, Talk. 8.0, Time Signal from the Town Hall. 8.1, Concert by the Lingsted Orchestral Society, relayed from Ringsted: Overture. Rienzi (Wagner); Finale from Act II of Et Folkesagn (Gade); Judex from Mors et vita (Gounod); Three Danish Songs; March royal (Hansen); Overture, Tancred (Rossini); Helmsman's Song and Sailors' Chorus from The Flying Dutchman (Wagner). 9.0, Rameau Harpsichord Recital by Folmer Jensen. 9.15, En Satyrikus spiller paa Flötte—Radio Dialogue (Christen Möller). 9.30, Pianoforte Solos by Viktor Fischer; Sweet Pepper (Löhr); Lejonglem (Groitzsche); Chopsticks (Mayeri). 9.45, Lokkednen—Radio Play (Ernst Weigand). 10.0, News. 10.15, Octet in F, Op. 166 (Schubert). for Two Violins. Viola. Cello, Double Bass, Clarinet, Horn and Bassoon. 11.10, Dance Minsic, conducted by Jens Warny, relayed from the Nimb Restaurant. In an interval at 12 Midnight, Time Signal and Chimes from the Town Hall. 12.30 a.m. (Wednesday), Close Down. CORK.—See Athlone.

CORK .- See Athlone. DANZIG .- See Heilsberg. DRESDEN .- See Leipzig.

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—11.0 a.m. to 12 Noon, Programme in English by the I.B.C. 11.0, Happy Honr. Part 1: Orchestral Concert: Signature Tune; Selection from He wanted Adventure (Waller); Coal Black Mammy (Cliff); The Busy Bee (Bendix); Idylle bretonne (Gennin); The way to the Heart (Lincke); Fluttering Birds (Gennin); Liehesserenade (von Blon); Swanee (Gershwin). Part II: Dance Music: When Gimble hits the Cynthal; All over Italy; Maybe I love you too much; Chewing Gum; He was only a poor Musician; Down the Old Ox Road; In Santa Lucia; Learn to Croon; Signature Tune. 12 Noon, Programme in English by the I.B.C. 4.30, Programme in English by the I.B.C. 4.30, Programme in English by the I.B.C. 4.30, Programme for Children. 5.0, Military Band Concert for Torquay and Exeter Listeners: Signature Tune, The Night by the Sea; The Changing of the Guard (Flotsam and Jetsam); In a Monastery Gardien (Ketelbey); Brabazon (Dunn); On the Quarter Deck (Alford): Fighting Mac; Squirrel Dance (Elliott Smith); Jungle Drums (Ketelbey); Selection from The Vagabond King (Friml). 5.30, Orchestral Concert for Plymouth and Devonport Listeners: Nautical Moments (arr. Winter); Song, In a Sheltered Vale (Clarke); Spanish Serenade (Herbert); Chinese Serenade (Herbert); Song, Le Rêve passe (Krier); Under Henven's Blue (Payan); Song, The Company Sergeant Major (Sanderson); By the Sleepy Lagoon (Coates); Selection from Wiener Blut (Stranss); Signature Tune, 6,0, Programme in French. 10,0, Dance Music: Signature Tune, Bells of Normandy; All over Italy: My Lucky Day; Chewing Gum; Happy Ending: It was a Night in Junc; When your little Pomeranian; It's Sunday down in Caroline; Moon Song; Hyde Park Corner; My Bluebird's singing the Blues; What a Lady Josephine must



SEPT. 26th

UESDA

continued

have been; Thank Heaven for you; Goodnight, but not Good-bye; Learn to Croon; I can't remember; Down the Old Ox Road; Signature Tune. 11.0, Talkie Time: Tunes from Talkies: Signature Tune, Sittin' in the Dark; Just once for all time (Leigh); Selection from "Die Fledermaus" (Joh. Strauss); The Younger Generation (Coward); Heaven will protect an honest Girl (Weston); Pianoforte Selection from The Desert Song (Romberg); Mrs. Bartholomew (Ellis); Forty-Second Street (Warren); Whyhas a Cow got Four Legs? (Ellis); Signature Tune. 11.30, Concert by the I.B.C. (Ireland), Ltd., on behalf of Hospitals' Trust, Ltd.: Signature Tune, Come back to Erin; Once on the Rhine (Ostermann); Pompée valsante (Poldini); Biddy Mulligan (Kavanagh); Woodland Peace (Favilla); Sicilian Serenade (Schmalstich); Down by the Liffeyside (Kearne); Wedgwood Blue (Ketebey). 12.5 a.m. (Wednesday), News Bulletin in English. 12.10 (approx.), Club Concert for Lockerbie Listeners: Signature Tune, The Clum Song; Give me a Tune (Varna); Deepin my Lady's Eyes (Gartmann); Te fuiste ja ja (Matos); Rum Tum Rhythm (Aitch); Sleep on (Korngold). 12.30, Dance Music: Ont in the Open; Sweetheart Darlin'; Little Miss Muffet; Let's all be happy together; Farewell to Arms; Waltzing in a Dream; Let Rygones be Bygones; Pop Gun. 1.0, Dance Music: Signature Tune, Bells of Normandy; At the Old Pig and Whistle; Learn to croon; A Woman should stick to her Man; Down the Old Ox Road: Meet me in the Gloaming; I wish I had Wings; Lover; Have you had a good day to-day?; Talking to you about me; Peter. Peter; My Love Song; One tiny Tear; Hiawatha's Lullaby; That's my Home: This lovely Rose; Sittin' in the Dark; Signature Tune. 2.0, I.B.C. Good-night Melody and Close Down. FLENSBURG.—See Hamburg.

FLENSBURG.—See Hamburg. FLORENCE.—See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed by
Cassel, 1,220 kc/s, 245.9 metres; and Trier,
1,157 kc/s, 259.3 metres.—4.30 p.m., See
Stuttgart. 5.45, Exchange. 6.0, Reading.
6,25, Talk: Adventurers in German Literature. 6.45, Review of the Day's News. 6.50,
Time and News. 7.0, Transmission for all
German Stations, relayed from Leipzig. 8.0,
Suor Angelica—Opera in One Act (Puccini).
9.0, Gott erhalte—a Radio Sequence about
Haydn (arr. Ferdinand Drost and Karl Köstlin). 10.0, Time and News. 10.20, See
Berlin (Deutschlandsender). 10.40, See
Hamburg. 12 Midnight, Close Down.
FREDRIKSSTAD.—See Oslo.

FREDRIKSSTAD .- See Oslo.

FREIBURG.-See Stuttgart.

GENEVA.-See Radio-Suisse Romande.

GENOA.-See Turin.

GLEIWITZ.-See Breslau. GOTEBORG.—See Stockholm.

GRAZ.-See Vienna.

HAMAR .- See Oslo.

HAMBURG

HAMBURG

806 kc/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc/s, 269.8 metres; Flensburg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 566 metres; and Kiel, 1,292 kc/s, 232.2 metres.—6.15 p.m. (from Hanover), Hermann Löns Memorial Programme—Concert by the Hanover Male Voice Double Quartet, with Coomentary by Harry Moss. 6.45, Frankfurt Exchange and Hamburg Market Prices. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Leipzis. 8.0, Talk: Hermann Löns. 8.10, Richard Strauss and Franz Liszt Concert by the Hamburg Philharmonic Orchestra, conducted by José Eibenschütz. Soloist: Herbert Heinemann (Pianoforte). Dance Snite (Couperin-Strauss); Pianoforte and Orchestra: Burlesque (Strauss); Symphonic Poem Les Préfudes (Liszt). 9.25, Der verlorene Pudel vor dem Amtsgericht (The Case of the Lost Poodle)—Radio, Play (Klefisch). 10.0, Time and News. 10.20, See Berlin (Deutschlandsender). 10.40, Concert by the Hamburg Philharmonic Orchestra, conducted by José Eibenschütz: Owerture, Rienzi (Wagner): Italian Caprice (Tchaikovsky); Hungarian Dances Nos. 5 and 6 (Brahms); Invitation to the Dance (Weber); Selection from The Gipsy Baron (Joh. Strauss); Waltz, Wiener Bürger (Ziehrer).

HANOVER.-See Hamburg.

HEILSBERG

HEILSBERG

1,085 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 662 kc/s, 453.2 metres.—1.5 p.m., Gramophone Concert. In the intervals at 1.20 and 2.0, News. 2.30, Programme arranged by the Post Office with Gramophone Records. 3.0, Masical Improvisation for Children. 4.0, Concert by the Small Station Orchestra, conducted by Engen Wilcken: Overture, The Puritans (Bellim): Little Suite No. 1 (de Micheli): Selection from La Gena della beffe (Giordano): Ballet Music from Othelbo (Verdi); Waltz. The Secret of the Adige (Carena); Overture. Bruschino (Rossin). In the interval at 4.50 (approx.), Talk: What the German Woman can do for the Father, land. 5.45, Review of Periodicals. 6.15, Agricultural Prices. 6.25, Talk for Workers. 6.50,

Weather. 7.0, Transmission for all German Stations, relayed from Leipzig. 8.0, Weather. 8.5 (from Danzig), Mozart—Weber—Wagner—Concert of German Opera Music by the Danzig State Theatre Orchestra, conducted by Ernst Semil; Soloists, Reina Backhaus, Itelia Goebel, Karl Kähler, and Fritzkurt Wehner; Extracts from Don Giovanni (Mozart); Prelude and Lohengrin's Narrative from Lohengrin (Wagner); Aria from Der Freischütz (Weber); Aria and Overture from Oberon (Weber); Ania from Der Freischütz (Weber); Ania and Overture from Oberon (Weber). In the interval, News. 9.30, News. 9.35, Pianoforte Quartet in E flat, Op. 87 (Dvorak), by Kurt Dombrowski (Violin), Kurt Blinnu (Violin), Erich Höntpler ("Cello), and Karl Nike (Pianoforte). 10.0, News. 10.20, See Berlin (Deutschlandsender).

HILVERSUM

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1 metres; 7 kW. (until 5.40 p.m.) and 20 kW. from 5.40 p.m.—Programme of the Catholic Radio Society (K.R.O.) 11.40 a.m., Police Report. 11.55, Concert by the K.R.O. Boys, conducted by Lustenhouwer. 1.25, Interval. 1.40, Programme for Women. 2.40, Gramophone Music. 3.10, Recitations. 3.25, Pianoforte Recital by de Jager: Toccata and Figue in D minor (Bach-Tausig); Rhapsody in E flat (Brahms). 3.40, Gramophone Music. 4.10, Recitations. 4.25, Pianoforte Recital (contd.): Nocturne in B flat minor (Chopin); Impronptu in G (Schubert); Dutch Rhapsody (de Jager). 4.40, Gramophone Music. 5.10, Concert by the K.R.O. Sextet: Dutch Pensant Dances (Siep); Panis Angelicus (Franck); Was die Donau erzählt (Morena); Bercense (Järnefelt); Intermezzo (Schneider); March; Strauss Waltz Potpourri (Weber); Godard Potpourri (Urbach); Serenade (Siede); Finale. In an interval at 5.40, Talk. 6.40, Police Report. 6.55, Medical Talk. 7.15, Gramophone Music. 7.25, Tulk. 7.40, Concert by the K.R.O. Orchestra, conducted by Gerritsen: Overture: Anacréon (Cherubini); Concerto grosso No. 1 (Lazar); Pavane pour une infante défunte (Ravel). 8.10, News. 8.15, Recitations. 8.40, Concert by the K.R.O. Orchestra, conducted by vanitations, and at 10.15, News. 10.40, Gramophone Music. 10.55, Concert by the K.R.O. Orchestra conducted by vanitations, and at 10.15, News. 10.40, Gramophone Music. 10.55, Concert by the K.R.O. Orchestra.

HORBY.-See Stockholm.

HUIZEN

HUIZEN

Announced Hilversum, 160 kc/s, 1,875
metres; 7 kW. up to 3.40 p.m.). Transmitted from Kootwijk on 50 kW. from 3.40
p.m. Programme of the Algeneene
Vereeniging Radio Omroep (A.V.R.O.).—
11.40 a.m., Concert by the Wireless Orchestra, conducted by Nico Treep: March, Der
Tausendkünstler (Błankenburg): Overture.
Poet and Peasant (Suppé): Lyric Snite
(Grieg); Waltz, Estudiantina (Waldteufel);
Melody (Tosti); Serenade (Tosti); Selection
from Fanst (Gounod); Pumpernickel (Siede);
Delibes Potpourri (Urbach); Dream Waltz
(Millöcker): Selection from Das Süsse
Madel (Reinhardt); Anbade (Popy): Patronille enfantine (Gillet): Martial Moments
(Winter). In the Intervals, Items by the
Three Syncopaters. 2.10, Concert by the
Haagsch Trio: Sonata in A minor (Buxtehude); Trio in F (Haydn). 3.25, Interval.
3.40, Beethoven and Schubert Song Recital
by Toby v. d. Brink. 4.10, Concert by a
Children's Choir, conducted by Hamel. 4.40,
Programme for Children. 5.10, Light Music
by the Kovacs Lajos Orchestra. In the interval, at 6.10, Talk. 7.10, Talk on Dressmaking. 7.40, Time. 7.41, News. 7.45, Talk.
7.55, Concert by the Concertgebouw Orchestra, conducted by Blech. Soloist: Lotte
Schöne (Soprano): Eine kleine Nacht-musik
(Mozart); Aria from La finta Giardiniera
(Mozart); Aria from La finta Giardiniera
(Mozart); Aria from La finta Giardiniera
(Mozart); Symphony in C. No. 97 (Haydn);
Les préludes (Liszt); Two Songs: (a) Der
Hirt auf dem Félsen (Schubert), (b) Tales
from the Vienna Woods (Strauss); Overture,
Oberon (Weber). 10.10, Gramophone Music.
10.40, News. 10.50, Dange Music. 11.40 (approx.), Close Down.

INNSBRUCK .- See Vienna.

JUAN LES PINS

1,205 kc/s, 249 metres; 0.8 kW.—8.0 p.m., Amusement Guide, Exchange, Racing Results and News. 8.10, Agricultural Notes. 8.25, Musical Programme. 8.45, News and Weather. 9.0, Concert by the Casino Or-chestra, relayed from Monte Carlo.

KALUNDBORG .- See Copenhagen.

KIEL.—See Hamburg.

KLAGENFURT.-See Vienna.

KOSICE .- See Prague.

LAHTI

167 kc/s, 1,798 metres; 40 kW. Relayed by Helsinki, 815 kc/s, 388.1 metres.—6.15 p.m., Talk. 6.40, Orchestral Concert. 7.10, Recitation. 7.35, Song Recital. 8.0, Talk. 8.15, Concert by the Station Orchestra: Overture,

La ninglie rapita (Drigo); Valse des fleurs. (Tchaikovsky); Melody from Coppèlia (De-libes). 8.45, News in Finnish. 9.0, News in Swedish.

LANGENBERG

LANGENBERG

635 kc/s, 473 metres; 60 kW.—12 Noon, Concert by the Münster Municipal Orchestra, conducted by Göhre. 1.15 p.m., News. 1.30, Popular Concert by the Fröhliche Fünf. In the interval at 2.0, News. 3.0, Programme for Children. 3.20, Economic Notes and Time. 3.50, Talk with Music: War Experiences 4.20, Schubert Lieder by Elisabeth Schumann (on Gramophone Records). 4.30, Reading. 4.50, Topical Talk. 5.0, Concert by the Small Station Choir. 5.30, Concert Choir. 5.30, Concert Conducted by Eysoldt, relayed from the Municipal Theatre, Düren. 10.0, News. 10.20, See Berlin (Deutschlandsender). 10.40, Review of the Week's Events.

LAUSANNE.-See Radio-Suisse Romande,

LEIPZIG

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.15 p.m., Concert by the Plietzsch-Marko Orchestra. In the interval at 1.15, News and Programme Announcements. 2.10, News. 2.30; Tests for Steel and Iron—Radio Report from the Technical School at Dresden. 3.9, Orchestral Concert. conducted by Wünschmann: Concert Overture, In Autumn (Grieg); Baroque Snite No. 5, Op. 23 (Atterberg); Overture, Der Waldmeister (Strauss); Waltz, Fron-Fron (Blumer); Overture; The Corsair (Berlioz); Ballet Music from Rienzi (Wagner); Basque Rhapsody (Pierné); Waltz, Fron-Fron (Blumer); Overture, The Corsair (Berlioz); Ballet Music from Rienzi (Wagner); Basque Rhapsody (Pierné); Waltz, Der Himmel voller Geigen (Ziehrer); Norwegian Artists' Carnival (Svendsen); Dudelsack (Nielsen). In the intervals at 4.0, Market Prices, and at 4.15, Reading (Gotthelt). 5.30, Dialogue on the Game Laws. 5.50, Economic Notes, Weather and Time. 6.0, Review of Books for Young Hitlerites. 6.25, Brahms Lieller on Gramophone Records. 6.50, Review of the Day's Events. 7.0, Transmission for all German Stations: Soldiers' Songs—Concert by the Symphony Orchestra, conducted by Weishach: Soloist: Johannes Willy (Baritone); Ballads (Loewe): (a) General Schwerin, (b) Odins Meeresritt, (c) Trommelständchen: Orchestra: Wellington's Victory or the Battle of Vittoria, for Orchestra, Op. 92 (Beethoven); Ballads (Loewe): (a) Prince Eugene. (b) Nächtliche Heerschan, (c) Graf Eherstein, (d) Fridericus Rex; War March from Rienzi (Wagner). 8.0, Walter and Hildegund—Radio Play after the German Legend (Lehmann). 8.40, Conrt Singer—Sketch (Brink). 9.0, Concert by the Symphony Orchestra, conducted by Weissbach: 10.5, News and Sports Notes. 10.30, Talk: Infra-Red Rays. 10.40, See Hamburg. 12 Midnight, Close Down.

LINZ.-See Vienna.

LUXEMBOURG

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW.—12.30 p.m.,
Concert by the Station Orchestra, conducted by Henri Pensis: Florentine March
(Pucik); Dynamiden-Walzer (Jos. Strauss);
Selection from The Flying Dutchman
(Wagner); Prelude (Albeniz-Salabert);
Ilumoresque (De Taeye); Norwegian Dances
(Grieg); Selection from Die Fledermaus
(Joh. Strauss). 1.30, Variety Music on
Gramophone Records. 7.30 till Close Down,
Belgian Programme. 7.30, Sonata (Franck)
for Violin and Pianoforte (on Gramophone
Records). 8.10, Concert by the Station
Orchestra, conducted by Henri Pensis:
Overture. Mantired (Schumann); A Night
on the Bare Mountain (Mussorgsky); Concert Waltz (Moszkovsky): Interlude
(Vrenla): Overture. The Thieving Magpie
(Rossini); Granada (Albéniz); Spanish
Dance No. 5 (Granados); Caprice (Brusselmans); Suite from Sylvia (Delihes); Bercense (Kricka): Selection from Countess
Maritza (Kálmán). In the interval at 8.50,
News in French, and at 9.45, News in
German. 10.20, Dance Music on Gramophone Records. German. 10.20 phone Records

LWOW

788 kc/s, 381 metres; 16 kW.—7.20 p.m., Announcements and Oramophone Music. 7.35, Programme Announcements. 7.40, See Saw. 9.0, Gramophone Music. 9.10, See Warsaw. 10.40, Gramophone Music. 11.0 (approx.), Close Down.

LYONS

LA DOUA, 644 kc/s, 465.8 metres; 1.5 kW.— 6.30 p.m., Radio Journal. 7.30, Radio Gazette for Lyons and the South-East. 8.30, See Paris (Eiffel Tower). After the Programme,

MADRID

MADKID

EAJ7, 707 ke/s, 424.3 metres; 2 kW.—8,0 p.m., Chimes. Exchange, Radio Journal and Request Gramophone Records. 8.30, Talk by Joaquin España Cantos and Request Gramophone Records (contd.). 9.15, Topical Review. 9.30 to 11.0, Interval. 11.0, Chimes, Time and Topical Review. 11.20 (approx.), La Bohême—Opera (Puccini) on Gramophone Records. 1.15 a.m. (Wednesday), Topical Review. 1.30, Chimes and Close Down.

MALMO.-See Stockholm.

MILAN.-See Turin.

MORAVSKA-OSTRAVA

MORAVSKA-OSTRAVA

1,137 kc/s, 263.8 metres; 11 kW.—2.50 p.m.,
Concert by the Station Orchestra, conducted
by Plichta: Overture, Wanda (Dvorák);
Selection from Falstaff (Verdi); Medieval
Suite from The Minnesingers (Amadei);
Savanna Waltz (Balling); The Blue
Pavilion (Armandola); Andalusian Serenade
(Armandola); Mazurka (Marsik); March
(Tichy). 3.50 to 4.0, See Prague. 5.45,
Gramophone Records. 5.55, Talk: Science
and Art in Italian Switzerland. 6.5, Talk:
Travelling by River and Lake. 6.15, Programme from Brno. 7.0, See Prague. 7.10,
Concert by the Station Orchestra, conducted
by Musil: Melody (Maly); Aquarellenwalzer
(Joh. Stranss); Gallop (Leopold); Polka
(Moor); Dance (Heykens); March (Fucik).
7.45, See Prague. 8.20, See Brno. 9.0, See
Prague. 11.0 (approx.), Close Down.

MOSCOW

MOSCOW
(TRADES UNION), 360 kc/s, 1,000 metres; 100 kW.—11.45 a.m., Weather. 2.45 p.m., Weather. 3.0, Comperin and Beethoven Concert. 4.0, Topical Talk. 4.30, Boris Godunov—Play (Pushkin). 5.30, The Immovable Mountain—Operetta for Children. 6.30, Lisat Concert by the Symphony Orchestra conducted by Orlov. Soloist: Ginsburg (Pianoforte). Symphonic Concerto Overture to Dante's Divina Commedia; Mephisto-Walzer; Concerto in A; Overture. Hamlet. 9.0, News. 9.30, Programme Announcements. 9.55, Chimes. 10.5, Press Review.

MOTALA.-See Stockholm.

MUHLACKER. -- See Stuttgart.

MUNICH

MUNICH

563 kc/s, 533 metres; 60 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s, 560 metres; and Nürnberg, 1,256 kc/s, 239 metres.— 12 Noon, Gramophone Concert. 1.0 p.m., Concert, conducted by Erich Kloss. In the interval from 1.15 to 1.30, Time and News. 2.0, Time and News. 2.20, Song and Pianoforte Recital. 3.0, Programme for the Housewife. 3.55. Weather and Market Prices. 4.5, Talk: The Village Dramatic Society. 4.25, Concert by the Station Orchestra, conducted by Karl List. Soloist: Karlheinz Grono (Baritone): Hauptmann-Goering March (Tanbe); Waltz, Im schönen Tai der Isar (Löhr); Overture, Boccaccio (Suppé); Prologue to 1 Pagliacci (Leoncavallo); Ballet Music from Undine (Lortzing); Turkish Serenade (Zimmer); Finnk-walzer (Powolny); March, Rambambuli (Larsen). 5.40, A Dialogue. 6.5, Sonata, in A minor for Violin and Pianoforte (Noren). 6.25, Talk: Three German Authors who died recently—Hermann Löns, Gorch Fock and Walter Flex. 6.48, Time and News. 7.0, Transmission for German Stations, relayed from Leipzig. 8.0 (from Nürnberg), Würzburg, the Jewel of Franconia—Some Radio Pictures of an Old Bavarian City (Hans Meder). 9.0, Request Concert on Gramophone Records. 10.0, Time and News. 10.20, See Berlin (Deutschlandsender). 10.40, NAPLES—See Rome.

NAPLES .- See Rome.

NOTODDEN.-See Oslo.

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamar, 522 kc/s, 574.7 metres; Notodden, 671 kc/s, 447.1 metres; Porsgrund, 662 kc/s, 453.2 metres; and Rjukan, 671 kc/s, 447.1 metres.—5.0 p.m., Concert by the Grand Café Orchestra. 6.0, Programme for Women. 6.45, Banjo Recital by Norman Olsen. 7.0, Advertising Notes. Weather and News. 7.30, Theatre Review. 8.0, Time Signal. 8.1, Concert by the Station Orchestra, conducted by Hingo Kranm: Soloist: Nancy Naess (Songs); Introduction to The Mastersingers (Wagner); Air from Iphigenia in Anlis (Gluck); Elizabeth's Prayer from Tannikiuser (Wagner); Selection from Hansel and Gretel (Humperdinck); Two Arias (Verdi) from (a) The Force of Destiny, (b) Il Trovatore: Selection from Hanneles Himmerliahrt (Graener); Overture, Russlan and Ludmilla (Hinka); Snite ancienne (Halvorsen). In an interval at 9.0, Talk-

TURIN

on Politics. 9.40, Weather and News. 10.0, Topical Talk. 10.15, Concert by a Maie Voice Choir.

OSTERSUND.-See Stockholm.

PALERMO

PALERMO

558 kc/s, 537.6 metres; 3 kW.—3.0 p.m., Dopo-layoro Announcements. Tourist Talk. Agri-cultural Notes, and Giornale Radio. 8.20, Gramophone Music. In the interval at 8.30, Time and Announcements. 8.45, Andrea Chenier—Opera in Three Acts (diordano). In the intervals, Talk and Announcements. After the Opera, Giornale Radio.

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).— 6-45 p.m., Theatre Notes. 7.0, Le Journal Parlé. 8.30, Concert relayed from the Conservatoire: The Opéra-Comique Orchestra, conducted by Inghelbrecht, and Soloists; Overture. Phèdre (Massenet); Septet for Trumpet, Two Violins, Viola, 'Cello. Double-Bass and Pianoforte (Smint-Saëns): Lyric Scene for Women's Choir and Soloists: La Smlamite (Chabrier); Prelude and Finnle from Le Diable daus le Belfroy (Inghelbrecht); Pianoforte Concerto (Cras); Suite for Strings, Two Harps and Pianoforte, from Le bal de Béatrice d'Este (Hahn); Incidental Music to Caligula (Fauré); Norwegian Rhapsody (Lalo). 10.45 (approx.), Close Down.

PARIS

PARIS

POSTE PARISIEN, 914 kc/s, 328.2 metres; 60 kW.—7.0 p.m., Concerto in D minor (Bach), by Yehudi Mennhin (on Gramojihone Records). 7.15, Le Journal Parlé. 7.30, Le Voyage à Fontaines—One-Act Comedy. 8.0, Song Recital: Si vons l'aviez compris (Denza); Enchantement (Massenet); Paysage (Hahn): Novembre (Trémisot); Temps perdu (Vidal); Air from The Desert Song (Romberg). 8.35, Concert. 10.30, News.

PARIS

PARIS

RAD10 PARIS, Call CFR, 174 kc/s, 1,725
metres; 75 kW.—7.30 a.m., Weather and
Physical Culture. 7.45, Gramophone Music.
8.0, Weather and Press Review. 12 Noon,
Opera Music on Gramophone Records:
Overture, Si jetais roi (Adam); Songs from
Le Chalet (Adam); Overture, Fra Diavolo
(Auber); Songs from Masaniello (Auber);
Songs from La Dame blanehe (Boiedieu);
Selection from Carmen (Blzet); Song from
The Firm Maid of Perth (Bizet); Cavatima
from The Pearl Fishers (Bizet); Overture.
Le roi d'Ys (Lalo); Songs from Crisélidis
(Massenet); Nocturne from La Navarraise
(Massenet); Nocturne from La Navarraise
(Massenet); Nocturne from Le jongleur de Notre Dame (Massenet); Overture,
La princesse janue (Saint-Snëns). In the
interval at 1.0, Exchange, News and
Weather, and at 1.20, Exchange. News and
Weather, and at 1.20, Exchange.
Adam Market Prices. 7.0, Agricultural Report.
7.10, Gramophone Concert: March, King
Cotton (Sousa); Selection from The Czarevitch (Lehàr); Bells across the Meadows
(Ketelbey); Granada (Garcia); Berceuse
(Gretchaninoy); Songs from
La Paganin
(Lehàr); Melody (Prichystal); Marche tartare (Ganne). 7.50, Commercial Notes and
News. 8.0, Granophone Music: Danse sacrée
et Danse profane (Debussy); Habanera
(Anbert). 8.25, Review by Pierre Scize,
8.30, See Paris (Eiffel Tower).

PITTSBURGH

PORSGRUND.—See Oslo.

PRAGUE

PRAGUE

614 kc/s, 488.6 metres; 120 kW.—2.50 p.m., see Moravska-Ostrava. 3.50, Aviation Weather Report. 3.55 to 4.0, Exchange. 5.45, Legal Talk. 5.55, Talk on Commerce. 6.5, Agricultural Prices. 6.15, Talk for Workers. 6.25, News in German. 6.30, German Transmission: Popular Sound Film Songs. 7.0, Chimes and News. 7.10, See Moravska-Ostrava. 7.45, Talk: Water Divining. 8.0, Concert by the Prague Pianoforte Quartet: From Sumava to Verchovina (Tilnak); Tango, in your little Hanlis; Foxtrot: March (Mach). 8.20, See Brno. 9.0, Concert by the Station Orchestra, conducted by Dolzycki. 10.0, Time and News. 10.15, Pianoforte Dnets of Czech Dance Music. 11.0 (approx.), Close Down.

SEPT. 26th

continued

RADIO-SUISSE ROMANDE

RADIO-SUISSE ROMANDE

SOTTENS, 743 kc/s, 403 metres; 25 kW.;
and Genava, 395 kc/s, 760 matres.—6.15
a.m. to 6.30 (from Lausanne), Gymnastics.
12.28 p.m., Time Signal from the Neuchâtel
Observatory. 12.30, News and Weather.
12.40 (from Lausanne), Gramophone Music.
1.0 (from Lausanne), Tom Lausanne), Concert by the Station Orchestra, conducted
by Moser.
1.0 (from Causanne), Talk:
Lite-Playing in Bologna in the 15th and
16th Centuries.
1.20 (from Lausanne),
Lapointe et Ropiteau—Play in One Act
Onhamel).
1.21 (Duhamel).
1.22 (John Lausanne),
1.23 (John Lausanne),
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RJUKAN.-See Oslo.

ROME

ROME

Cail 1R3; 680 kc/s, 441 metras; 50 kW. Relayed by 2R0, 11,810 kc/s, 25.4 metras, from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 matres; Milan (Vigentino), 662 kc s, 453.2 metras, from 8.45 p.m.; and Naples, 941 kc/s, 319 metres.—12.30 p.m., Gramophone Music. 1.0 p.m., Orchestral Concert. In the interval at 1.30, Giornale Radio and Exchange. 2.0, Time and Announcements. 4.30, Children's Radio Review. 4.55, Giornale Radio and Exchange. 5.10, Weather. 5.15 to 6.0, Concert by the Station Orchestra. 6.40, Shipping and Sports Notes. 6.45, Lesson in Morse and Dopolavoro Notes. 7.0, Tourist Report. 7.10, Agricultural Notes. 7.20, News in Foreign Languages. 7.40, Giornale Radio. 8.0, Time and Announcements. 8.15, Request Gramophone Music. 8.30, Sports Notes. 8.45, Symplony Concert. conducted by Zünns; Overture, La baruffe chiozzotte (Singaglia); Extracts from the Symphony in D Minor (Franck); Overture (Züno); Intermezzo from Le Coefore (Mule); Canto di zolfara (Gibilaro); Overture, Tannhäuser (Wagner). In the interval. Talk on Literature and Art. 11.0, Giornale Radio.

SALZBURG.-See Vienna.

SCHENECTADY

WGY, 790 kc/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF on 31.48 metres and by W2XAD on 19.56 metres.—1.45 a.m. (Wednesday), Stock Reports. 2.0 to 4.45, New York Relay. 2.0, Blackstone Plantation. 2.30, Wayne King's Orchestra. 3.0, Variety Programme. 3.30, Hen Bernie's Orchestra. 4.0, Lives at Stake. 4.30, Popular Programme. 4.45, National Radio Forum. from New York, followed by Programme Resuiné.

SCHWEIZERISCHER LANDESSENDER

BEROMUNSTER, 653 kc/s, 459 metres; 60 kW.; Basle, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres.—6.15 to 6.35 a.m. (from Basle), Gymnastics. 11.59, Time from Nenchâtel Observatory and Weather. 12 Noon (from Berne), Sound Film Music on Gramophone Records. 12.30 p.m., Time, Weather and News. 12.40 (from Berne), Extracts from Faust—Opera (Gounod) on Gramophone Records. 1.0 (from Berne). A Microphone Report. 1.15 (from Berne), Folk Music on Gramophone Records. 1.25 (from Berne), Folk Music on Gramophone Records. 1.25 (from Berne), Time, Weather, and Exchange. 1.20 (approx) to 5.0, Interval. 5.0 (from Zürich), Light Orchestral Concert. 5.30 (from Basle). Review of New Gramophone Records. 6.20 (from Berne), Talk: Excursions for Stunday. 7.10 (from Berne), Extracts from Kinderszenen (Schimann) on Gramophone Records. 7.15 (from Berne), A Scene (Brawand). 7.35 (from Berne), A Scene (Brawand). 7.35 (from Berne), Plat (Chopin); Waltz in A Flat (Chopin). 7.45 (from Berne), Introductory Talk to the following Transmission. 8.0, The Queen of Spades—Opera in Three Acts (Tchaikovsky). In the interval at 9.0 (approx.), Weather and News. 10.15 (approx.), Close. Down.

SOTTENS.-See Radio-Suisec Romande.

STOCKHOLM

STOCKHOLM

889 kc/s, 436 metres; 55 kW.; Relayed by

Boden, 244 kc/s, 1,229.5 metres; Goteborg,

932 kc/s, 322 metres; Hörby, 1,166 kc/s, 257

metres; Motala, 221.5 kc/s, 1,354.4 metros;

Ostersund, 289 kc/s, 770 metres; and Sundavall, 554 kc/s, 542 metres.—5.5 p.m.,

Accordion Music, relayed from Fahim, 977

kc/s, 207 metres. 5.30, The Practical Corner.
5.45, Gramophone Music. 6.45, French Lesson.

7.15, Weather and News. 7.30, Talk,

relayed from Malmo, 1,301 kc/s, 231 metres.

8.0, Song Recital by Margit Rosengren. 8.20,

Pianoforte Recital. 8.45, Literary Review.

relayed from Malmo. 9.15, Concert by the

Statlon Orchestra. Soloist: Charles Barkel

(Violin). 9.45, Weather and News. 10.0, Popular Music by the Station Orchestra: Cavalry March (Schubert-Liszt); Suite, Joycus Yonth (Coates); Prelude and Lullaby (Järnefeldt); Valse triste (Sibelius); Melody (Akerherg); Slav Dance (Dvorak). 11.0 (approx.), Close Down.

STRASBOURG

STRASBOURG

869 kc/s, 345 metres; 11.5 kW.—11.30 a.m., Classical Music on Gramophone Records. 12 Noon, Orchestral Concert, conducted by Maurice de Villers: Ballet Music from Fanst (Gounod); Symphonic Poem, Helvetia (Scassola); Arab Snite (Dyck); Overture, Phèdre (Massenet); Symphonic Poem, Phaeton (Saint-Saéns); Orchestral Snite, L'enfant prodigne (Debussy); Himgarian Rhapsody No. 11 (Liszt). In the intervals at 12.45 p.m., News, and 1.0, Time and Exchange. 2.0, Interval. 4.45, Talk on Tunisia. 5.0, Orchestral Concert, conducted by Roskam: Marchi, Marching along together (Steininger); Waitz, Liebe kommt von einmalirgendwo her (Künneke); Dancing Moon (Anbry); Lies (Soringer and Barris); Tango (Stauch); Minnet (Boccherini); Schatzwalzer (Joh. Strauss); Selection from No No Nanette (Youmans); Auf Wiedersehen, my dear (Hoffmann-Nelson); Down South (Myddleton); Two Step (Heymann). 6.0, History Talk. 6.15, Topical Talk. 6.30, Song Recital by Jeanne Wild (Soprano) and Jean Hazart (Buss): Bass Solos: (a) Triolets (Larmanist), (b) Chant du semeur (Bruneau); Soprano Solos: (a) Gazonillis d'enfant (Jean Hazart), (b) Six Chidren's Songs; Dueis (Be.lioz): (a) Prière du Matin, (b) Sara la Baigneuse; Bass Solos: (a) L'Angelus (Fourdrain), (b) Lever du soleil (Erlanger); Soprano Solos: (a) En Sourdine (Halm), (b) Le thé, (c) Si tu le veux (Roochlin); Duets: (a) Cheillons les houquets (Godard). (b) D'un coeur qui Unime (Gounod). 7.30, Time and News. 7.45, Gramophone Music. 8.0, Press Review in German, Lottery Results and Announcements. 8.30, See Paris (Eiffel Tower). 10.45

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres.—130 p.m., Concert from Munich. 2.9, Concert arranged by the Post Office. 2.30, Advanced English Conversation. 3.0, Interval. 3.30, Talk on Flowers. 4.0, Reading and Songs (Theodor Storm). 4.30, Orchestral Concert, conducted by Gustav Górlich: Overture, Idomeneo (Mozart); Minnet from the Divertimento (Mozart); Minnet from the Divertimento (Mozart); Little Suite (Michell); Waltz, Gold and Silyer (Lehár): Selection from The Mikado (Sullivan); Siamesische Wachtparade (Lincke). 5.45, Light Music. 6.10, Talk: Modern Art. 6.35, Time and Kwss. 7.0, Transmission for all German Stations, relayed from Leipzig. 8.0, See Frankfurt. 9.0, Joseph Haydn—a Biographical Radio Sequence (Drost and Kóstlin) with Music by the Wurtemburg Symphony Orchestra. 10.0, Time and News. 10.20, See Berlin (Deutschlandsender). 10.40 from Freiburg), Theatre Talk. 11.0, Concert from Hamburg. 12 Midnight, Close Down.

SUNDSVALL. See Stockholm

TOULOUSE

TOULOUSE

779 kc/s, 385 metres; 8 kW.—6.15 p.m., Opera Music: Airs from: (a) Carmen (Bizet), (b) Romeo and Juliet (Gounod), and (c) I Pagliacci (Leoncavallo) 6.30, Light Music by a Viennese Orchestra. 7.0, Accordion Solos. 7.15, News. 7.30, Till Eulenspiegel's Merry Pranks (R. Strauss). 7.45, Opera Music: Cavatina from Norma (Belliui): Barcarolle from The Tales of Hoffmann (Offenbach); Air from Cosi fan tutte (Mozart); Aria from Le Jougleur de Notre Dame (Massenet). 8.0, Music by an Argentine Band. 8.15, Chansonnettes. 8.30, Military Music. 8.45, Hawaiian Gulfar Solos. 9.0, Concert Version of Hamlet—Opera (Thomas). 9.30, Orchestral Concert: The Flight of the Bumble Bee (Klimsky-Korsakov); Marche joyense (Chabrier): Selection from Der Bettelstudent (Millöcker); Eglogue (Rabund): Italian Serenade (Woll); Selection from The Queen of Spades (Tchaikovsky). 10.9, Sound Film Music. 10.15, News. 10.20, Concert for Listeners in Morocco: Overture, The Flying Dutchman (Wagner); Air from Figaro (Mozart); Schatzwalzer (Strauss); Jaamais (Cazes); Jolly Fellows (Vollstedt); La montmartroise (Peyronnin); Tina (Roméro). 11.0, Operetta Music: Selection from: (a) Le Train Blen (Pares and Van Parys), and (b) Les Cloches de Cornevile (Planquette). 11.15, Dance Music. 12 Midnight, News. 12.5 a.m. (Wednesday), Chansonmettes. 12.15, Music by a Viennese Orchestra. 12.30 (approx.), Close Down.

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.-5.10 p.m. till Close Down, See Turin. TRONDHEIM. -- See Oslo.

TURIN

272.7 matres; 7 kW. Relayed by Milan,
331.5 metres; Csnoa, 312.8 metres; and
Florence, 500.8 metres.—5.10 p.m., Dance
Music, relayed from the Savoia. 6.0 to 6.5,
Weather. 6.40, Giornale Radio, Dopolavoro
Announcements, and Gramophone Music.
7.0, Time, Report of the Royal Geographical
Society, and Gramophone Music.
7.10, Agricultural Notes and Market Prices.
7.20,
News in Foreign Languages.
7.40, Gramophone Music.
8.20, Announcements, Giornale
Radio, Sports Notes, and Weather.
8.25,
Talk on the following Transmission.
8.30,
The Merry Peasant—Operetta in Three Acts
(Fall). In the intervals, Talk and Literary
Notes. After the Operetta, Giornale Radio.

VATICAN CITY

15,120 kc/s, 19.84 metres (Morning) aud 5,969 kc/s, 50.26 metres (Evening); 10 kW. —11.0 to 11.15 a.m., Religious Information in English. 8.0 to 8.15 p.m., Religious In-formation in Italian.

VIENNA

VIENNA

581 kc/s, 517 metres; 15 kW. Relayed by Graz, 352 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenfurt, 652 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.

12 Noon, Concert by the Wiener Symphoniker, conducted by Holzer: Overture, Le roi Fa dit (Delibes); Extract from Carmen (Bizet); Lullaby (Smetana); Waltz, Illustrationen (Strauss); Rheinlegendchen (Mahler); Selection from The Merry Wives of Windsor (Nicolai); Waltz from Der Rosenkavalier (R. Strauss); March (Rochitzer); Violin Solo: Nocturne (Pauspertl): Waltz. In den Sternen steht's geschrieben (Petras); Poeme d'extase (Bullerian); Viennese Song (Goetz); Indian Intermezzo (Ketelbey); Waltz (Lehár); Potpourri (Komzak). In the interval at 1.0 p.m., Time. Weather and Aanouncements. 2.0, Interval. 3.3, Time, Weather and Market Prices. 3.20, Talk: Cellulose Spraying Plants. 3.35, Overtures on Gramophone Eccords. 4.30, Talk: Stories of Famous Conductors. 4.55, Talk on Autumn Flowers. 5.20, Song and Violin Recital by Hanna Lorenz (Contraito) and Ferdinand Adler: Songs: (a) My Homeland (Gretchaninov), (b) Trepak (Mussorgsky), (c) The Nightingale (Alabiev). (d) Three Russian Folk Songs; Violin Solos: (a) Faust Fantasia (Wieniavski). (b) The Lilac Bush (Huhay). (c) Serenade in E (Bass). (d) Perpetuum mobile (Novacek). 5.55, Report on Gramophone Records of the Children's Session of the German Catholie-Congress. 1933. 6.30, A Psychological Criticism of the Theory of Reincarnation. 6.55, Hunting Songs and Hunting Music—Concert by the German Folk Song Society. conducted hy Kotek, with an Introductory Talk by Karl Klier. 7.40, Time, Weather and Announcements. 7.50, Talk on Music. 8.5, Memorial Programme. 8.30, A Flight round the Worll—Potpourri (Hrnby). by the Chorus of the Volksoper, the Wiener symphoniker, the Pfleger Wind Band, the Mathé Dance Band, and Soloists. 10.0, News, Weather and Exchange. 10.15, Concert by the Haupt Orchestra, relayed from the Ilotel Krantz-Anhassador, followed by Schrammel Music

WARSAW

WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m., Time Signal, and Fanfare from St. Mary's Church, Cracow. 12.5 p.m., Gramophone Music. 12.25, Polish Press Review. 12.33, Weather Report. 12.35, Gramophone Music. 12.55, Radio Journal. 1.0 to 2.55, Interval. 3.5, News. 3.10, Announcements. 3.15, Gramophone Music. 3.25, Economic Notes. 3.35, Gramophone Music. 3.25, Economic Notes. 3.35, Gramophone Music. 3.59, Gramophone Music. 3.59, Gramophone Music. 3.50, Gramophone Music. 3.59, Gramophone Music. 3.59, Gramophone Music. 3.59, Gramophone Music. 3.59, Aviation Report and Anti-Gas Drill. 3.50, Gramophone Music. 3.55, Announcements. 4.0, Light Music and Dance Music by the Gorzynski Quartet. 5.0, Answers to Correspondence. 5.15, Soprano and Pianoforte Recital hyLaniewska and Wysocka-Ochlewska. Pianoforte Solos: (a) Chromatic Fantasia and Fugue (Bach). (b) Andante cantabile (F. E. Bach). (c) Allegro (Schubert). Songs: (a) Barcarolle (Szopski). (b) L'disean dans la forêt (Faubert). (c) L'Ondine (Glière). Pianoforte Solos: (a) Rhapsody in G minor (Bralms). (b) Variations in F minor on a Theme of Clara Wieck (Schumann). Songs: (a) Aria from Lakmé (Delibes). (b) Variations (Proch). (c) Aria from The Magic Flute (Mozart). 6.15, Talk: Poland To-day. 6.35, Concert of Polish Music by the Station Orchestra. conducted by Oziminski: Polonaise (Cymbalinski): Suitems. 7.35, Programme Annonucements. 7.40, Topical Talk. 8.0, Concert of Light Music. 8.50, Radio Journal. 9.0, Agricultural Notes. 9.10, Pianoforte Recital by Henri Sztompka: Variations in F minor (Maydn); Sonata appassionata (Beethoven); Nocturne and Cracovienne fantastique (Paderevsky): Melody (Chopin-Lisxi): Spinning Chorns from The Flying Dutchman (Wagner Liszt). 10.2, Dance Music. 10.25, Sports Notes. 10.55, Aviation Weather Report and Police Notes. 10.40, Dance Music (contd.).

ZURICH.—See Schweizerischer Landessender



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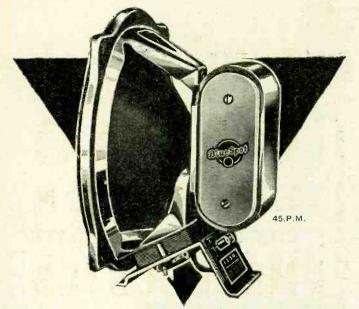
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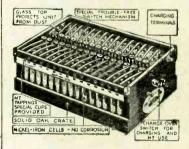
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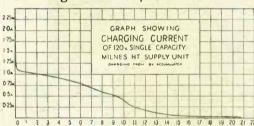




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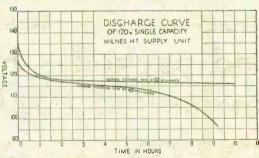
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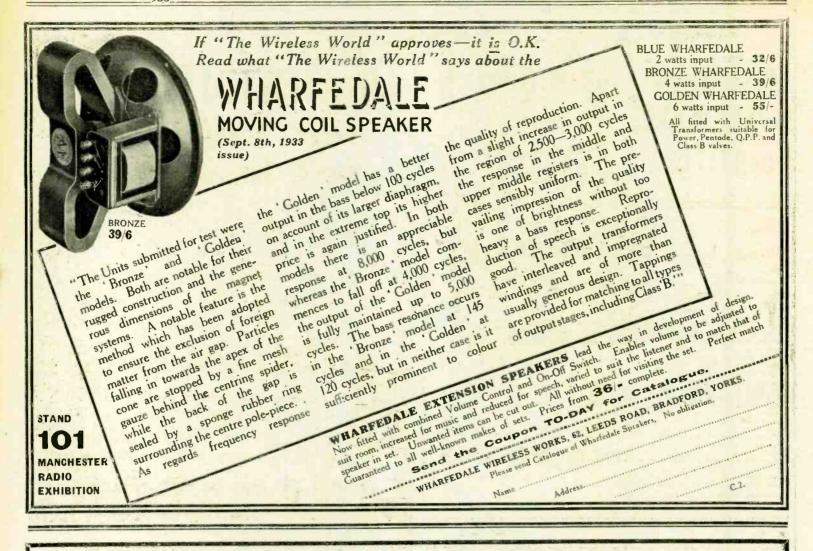


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EDITORIAL COMMENT

Car Radio

The Rumours of Official
Restrictions

NTEREST in car radio is undoubtedly increasing in this country and it looks as if, in the course of the next few months, a large number of sets will be fitted both on new models of cars and existing types. All sorts of rumours have been current as to what may be the official attitude towards car radio, and it has been suggested that the Ministry of Transport or the Home Secretary will prohibit the use of wireless whilst cars are travelling on the road.

It is not unnatural that some alarm should be felt by those wireless manufacturers who are at present interesting themselves in the development of car radio at the idea of restrictions of this kind, because the public are not likely to spend money if there is any likelihood of a ban being put on the use of the sets at an early date.

Wireless on motor cars is not by any means a new idea; portable sets have been carried for years past, and sets built in as permanent fittings on a car have also been known in this country almost since the days that broadcasting started. It is only recently, however, that the possibilities of a really compact and efficient set have made the idea generally attractive for privately owned cars.

The officials of the Ministry of Transport and the Home Office have, naturally, had to look into the question of car radio from the point of view of accident risks on the road, and consider whether special regulations ought to be issued governing the use of car wireless. Consultations have certainly taken place, but, as yet, no statement has been made by these authorities

as to what their attitude will be. On the face of it, the possibility of a prohibition of wireless on cars seems impossible. It is at present not illegal to carry and use wireless on a car, and the only action that the police might take would be on the grounds that, because the driver's attention was distracted by wireless, the car was being driven negligently or dangerously. We hope that if the Home Office and the Ministry of Transport have any recommendations to put forward, or if they contemplate regulations affecting the use of wireless on cars, they will lose no time in making these known. It would be unfortunate if car radio were developed on lines which subsequently had to be revised because of new regulations.

Regulations, if any, should be with the object of ensuring simple control of the set so as to cause the least possible distraction from the attention of the driver. For this reason it seems particularly desirable that tuning should be by touch rather than visual in order to avoid any necessity for the driver to take his eye off the road in

order to adjust the set.

End of Summer Time

Prepare for Winter Reception

week of October and the change will revive intense interest in foreign station reception. Let us make the most of our opportunity now during fine weather to overhaul aerials and earths and put up the best outside aerial which space will permit. With automatic volume control there are now dozens of foreign stations which can be received as well and consistently as many locals. A good aerial will make the average set a super set from the point of view of distant reception.

Delayed Amplified A.V.C.

Designing the System-Some Practical Considerations

SIMPLE method of selecting the correct delay voltage for a delayed diode automatic volume control circuit was recently described and it is intended in the present article to extend the treatment to cover the case of delayed amplified A.V.C., for this is a system which better fits the average receiver in which a moderate degree of H.F. amplification and a fairly large amount of L.F. amplification are employed. With amplified A.V.C., the bias voltages developed by the detector are amplified before being applied to the H.F.

valves, and this results in the detector being operated at a smaller input than in the simpler case

The first step in design is to calculate the delay voltage required. and shall before, we assume that two HF stages with Mullard V.P.4 variable-mu H.F. penpentodes are used, and that for a signal input varying in the ratio of 5,000-1 the L.F. output must not change by more than 2-1, or 6 DB. The input ratio is equivalent to change of 74 DB, so

that the amplification of the H.F. stages must change by 74-6=68 DB between a weak and a strong signal. The bias voltage change on the H.F. valves for this can be read off from the curve B of Fig. 2, which is repeated from the previous article. Curve A of this figure shows the variation of amplification, with bias voltage for a single H.F. stage, and curve B for two such stages.

The Action of the Circuit

We see immediately that if the initial bias of 1.5 volts remains constant we require 16 volts A.V.C. bias for a strong signal, but that if the initial bias drops with increasing A.V.C. bias, as with cathode type biasing, we require nearly 17.5 volts. In the previous article we assumed that the initial bias was maintained, as when it is derived from a potentiometer across the H.T. supply; this time let us assume that cathode biasing is used, and we shall then need 17.5 volts A.V.C. bias for a strong signal.

Fig. 1 shows the fundamental circuit of the amplified A.V.C. system using transformer coupling to the succeeding valve. By W. T. COCKING

A duo-diode-triode type valve is used to provide signal rectification, delayed amplified A.V.C., and the first stage of L.F. amplification. Signal rectification occurs in the diode circuit AI, and the D.C. potential consequent upon rectification is developed across the load resistance RI; the L.F. voltages also appear across this resistance, and these are applied to the grid of the triode portion of the valve through the condenser CI, the resistance

RI acting as a manual volume control. The full D.C. potential across RI, however, is applied to the grid through the resistance R2.

In the absence of a signal, the grid of the triode assumes a potential which is about 0.7 volt negative with respect to the cathode in the case of the MHD4 valve, owing to the triode grid current

anode A2 is returned to the earth line through R5, the anode A2 is negative with respect to the cathode, and there is no current flow. The bias on the H.F. valves is then only that provided by their own individual biasing resistances.

The Delay Operation

When a signal is applied to the diode Ar, rectification occurs, and the diode anode, and consequently the triode grid both assume a potential negative with respect to the cathode, and of a value which is dependent upon the signal strength. As a result, the anode current of the triode falls, and the voltage drop across R4 is reduced. The cathode, therefore, becomes less positive with respect to the earth line. In the diode A2 circuit nothing happens until the cathode becomes negative with respect to the earth line; when the signal is strong enough for this to occur the anode A2 becomes positive with respect to the cathode, and this diode becomes conductive. Since the internal resistance of the diode is low compared with R5, the internal voltage drop can be ignored, and the diode anode assumes practically the same D.C. potential as the cathode. As the cathode moves increasingly negative with respect to the earth

H.T.+



A duo - diodetriode provides amplified A.V.C. in the R.G.D. Superheterodyne.

AMPLIFIED A.V.C. has the advantage over simpler forms in that it operates with a modest detector input and so throws less strain on the H.F. amplifier. In this article, the design of amplified A.V.C. circuits is considered in a practical manner.

flow, and the steady anode current of the triode is then determined by the value of the resistances R3 and R4 and by the H.T. voltage applied. Normally the circuit values are selected so that with no signal the cathode is positive with respect to the earth line by the amount of the delay voltage required. The grids the controlled valves are returned to earth through the filter resistance R6

and the delay-diode load resistance R5, which normally has a value of some 0.5 meg. Since the cathode is positive with respect to the earth line, and the diode

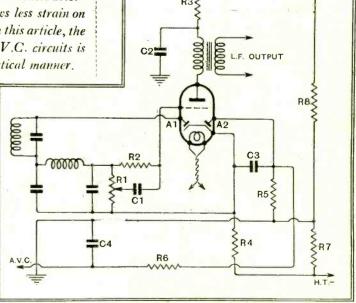


Fig. 1.—The duo-diode-triode can be connected to give delayed amplified A.V.C. The anode A2 is negatively biased in the absence of a signal and is non-conductive. With a strong signal the anode-cathode path becomes conductive and the anode assumes practically the same potential as the cathode.

line with increasing signal strength, therefore, so the potential of the diode anode A2 and the A.V.C. line follow it.

To return to the design problem, it will

¹ The Wireless World, Sept. 8th, 1933.

Delayed Amplified A.V.C.

be seen that our first problem is to assign circuit values such that with no applied signal the cathode potential is positive with respect to the earth line by the delay voltage required, in this case 17.5 volts. Let us assume that we have a total H.T. supply of 270 volts, and that we need a total of 200 volts for the H.F. stages. The drop across R8 will be 200 volts (in practice this resistance may be replaced by the other valves in the set) and that across R7 will be 70 volts. The cathodes of the

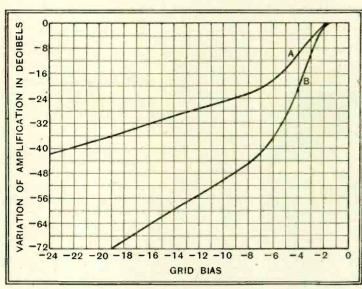


Fig. 2.—The variation of amplification with bias for one (A) and two (B) H.F. stages is shown here.

controlled valves are returned to the earth line, so that the initial cathode potential of the duo-diode-triode must be 70 + 17.5 = 87.5 volts positive with respect to negative H.T. The drop across R4, therefore, must be 87.5 volts.

Calculating Circuit Constants

The problem of selecting the value of R4 is complicated by the presence of the decoupling resistance R3, but as this will usually be necessary we cannot afford to neglect it. Let us assume that we shall lose 50 volts across R3 with no signal. The voltage available across the valve and the cathode resistance R4 will then be the total H.T. voltage less the drop in R3 or 270-50=220 volts. Fig. 3 shows the anode volts-anode current curves for the triode portion of the MHD4, and from this we can immediately derive the values of R4 and R3. We have a total of 220 volts across the valve and R4, and we know that the drop across R4 must be 87.5 volts, so that the difference, or 132.5 volts, must be the actual anode voltage of the With no-signal, the triode grid potential will be about -0.7 volt, so that we can immediately read off the no-signal anode current of the valve, and this is equal to 4.8 mA.

We have, therefore, to drop 87.5 volts at 4.8 mA. in R4, which must thus have a value of 18,250 ohms, and 50 volts at the same current in R3, which must be 10,400 ohms. It should be noted that we have assumed that the L.F. trans-

former primary has zero D.C. resistance, which is untrue. The actual value used for R3, therefore, should be the calculated figure less the resistance of the transformer primary. One well-known transformer has a primary resistance of 2,400 ohms, and in this case the actual value of R3 would become 8,000 ohms.

The next step is to draw a load line on the valve curves with a slope corresponding to the total anode and cathode resistance, and from the full H.T. point of 270 volts. The total resistance is 28,650

ohms, and is represented by the line AB of Fig. 3. This permits the anode current of the valve for any grid potential to be read off, and by multiplying the current by the cathode resistance R4 we can obtain the voltage drop acress this for any grid poten-tial. This is shown by the curve of Fig. 4, and represents the cathode potential with respect to negative H.T. We are interested, however, in the cathode potential only during that time when it is negative with respect to the earth line, for

this represents the A.V.C. bias. The figures in question can be obtained from Fig. 4 by deducting the potentials less than 70 volts (the difference between the earth and negative H.T. lines) from 70 and ignoring the potentials greater than 70, for the diode A2 is then non-conductive. We thus obtain the curve of Fig. 5.

Now for the strongest signal we need a bias of 17.5 volts, and Fig. 5 shows the grid potential necessary to give this bias, and it will be seen to be 2.95 volts, or, say, 3 volts. With this bias there will be no grid current flow in the triode, so the diode AI must provide 3 volts bias as a consequence of rectification. Curves for

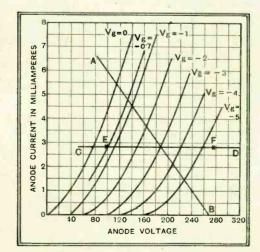


Fig. 3.—Anode-volts—anode-current curves of the MHD4 duo-diode-triode used in determining the operating conditions.

the rectification efficiency of a diode show that this D.C. potential is developed when the H.F. input is about 3 volts R.M.S., or 4.2 volts peak.

It is immediately obvious that no type of variable-mu valve at any high bias would give distortion on such a small out-

put, even when the peak value is 7.56 volts as with deep modulation. Even with a band-pass coupling preceding the detector, the output of the last H.F. or I.F. valve will only be about 15-16 volts peak, and this should raise little difficulty. The stage immediately preceding the detector can thus be fully controlled.

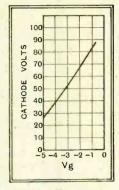


Fig. 4.—The variation in cathode potential for various grid bias voltages is shown here.

The L.F. voltage developed across the diode load R1 for 80

per cent. modulation will be $3 \times 0.8 = 2.4$ volts peak, so that at maximum input the L.F. grid voltage of the triode will swing between -0.6 volt and -5.4 volts if the manual volume control be set at maximum. The load impedance to L.F. currents is not the D.C. resistance of the circuit, but the transformer primary impedance, and on the curves of Fig. 3 this can be represented by a horizontal straight line drawn through the intersection of the -3 volts curve with the D.C. load line. This is shown by the line CD, the points E and F represented to the limits of the L.F. grid

swing. These points are nearly equidistant from the -3 volts line, so that amplification will be practically distortionless.

The L.F. amplification obtained will be equal to the valve amplification factor, and at the working point this is about 34. The L.F. output on the transformer primary for maximum signal, therefore, will be 34 × 2.4 = 81.6 volts peak with 80 per cent. modulation.

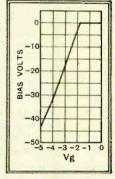


Fig. 5.—This curve shows the A.V.C. bias voltage available for various grid voltages on the MHD4.

With minimum signal, of course, at which A.V.C. just commences to operate, the output will be one-half, or 40.8 volts. With a transformer having a ratio of 3.5-1, therefore, an output stage capable of handling an input of 142.5 volts can be fully loaded.

In the majority of cases, of course, the output stage requires a much smaller input, so that the manual volume control would normally be turned down to give a smaller proportion of the available L.F. potential on the triode grid. This means, of course, that the L.F. amplification is



Delayed Amplified A.V.C .-

really excessive, but it can be turned to good account when it is desired to receive really weak signals which do not provide sufficient output at the normal setting of the control.

Now, in the previous article describing delayed diode A.V.C., it was assumed that the maximum input to the first H.F. valve would be 5 volts R.M.S. and the minimum I millivolt, and it was shown that the stage gain required from each H.F. valve to fulfil the conditions led to a figure difficult.

to attain in practice owing to instability troubles. Let us, therefore, calculate the gain required in this case for the same input figures. The detector input for A.V.C. threshold is 1.5 volts R.M.S., and the first H.F. valve input 1 millivolt, so that the amplification must be 1,500 times, or 38.7 times per stage. This is a very reasonable figure, and quite in accordance with modern practice for two H.F. stages.

It will thus be seen that amplified A.V.C. offers considerable advantages over the simpler diode circuit, for the D.C. amplification of the bias potentials which is obtained

reduces the amount of H.F. amplification necessary for good automatic volume control. Its sole disadvantages are the greater circuit complication and the need for providing a steady potential which is negative with respect to the earth line.

The Choice of Circuit

Although it has been shown that amplified A.V.C. is superior to diode A.V.C. for the particular case which we have considered, it must not be thought that it is always so. The type of receiver taken as an example is a common one, and, therefore, it is true to say that amplified A.V.C. is usually better than the simpler diode controls. Much depends on the total predetector amplification, however, and in the case of a superheterodyne, where three stages can often be controlled, amplified A.V.C. may indeed prove disadvantageous and the difficulties of the delayed diode control are reduced. Moreover, in these two articles neither delayed diode A.V.C. with L.F. control nor delayed square law A.V.C. has been considered. The whole question as to the choice of an A.V.C. circuit may be summed up by saying that no one method is generally the best, and the best system for any particular receiver will depend upon the design of that set.

DISTANT RECEPTION NOTES

More Power Increases on the Continent

PANS for increasing the power of the Paris PTT station from 7 kilowatts to 120 have recently been approved. The new transmitter is to be situated at Villejuste, twelve miles outside the city, though the studios will remain in Paris itself. Under the Lucerne Plan the wavelength of the station will be 431.7 metres, and it will

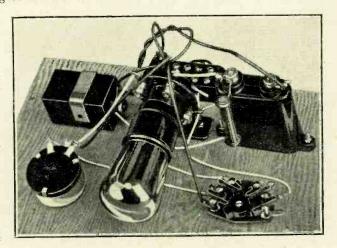


Fig. 6.—The Wireless World A.V.C. Unit is an example of one form of amplified automatic volume control.

have Belgrade on one side and Stockholm on the other as next door neighbours.

Extensive alterations will be required at the Muhlacker station of Stuttgart to increase the output power to 100 kilowatts and the wavelength to 522.6 metres. For this reason the station is now silent until 4 p.m., and it will be closed down entirely from the middle of October until the beginning of December, the old 1.5 kilowatt transmitter taking on the service.

A correspondent writes to ask why I so frequently mention Katowice as a good station since in his area "it has not been worth two minutes" attention since the winter before last." Curiously enough he lives not more than thirty miles from me, and I find Katowice one of the strongest and most reliable of Continental stations from about 8 p.m. onwards. His trouble, I think, is that lack of selectivity prevents him from separating Katowice from Athlone and Söttens.

American Stations

In a recent note I suggested that we ought soon to be hearing more of American stations with wavelengths above 300 metres. Up to the end of last month very few transatlantic stations with wavelengths higher than this were at all well heard, though several of them could be received rather feebly. I can now report excellent reception of WGY on 379.5 metres and WJZ on 394.5 metres.

A correspondent tells me that he received an American station recently at very great strength on 348.6 metres. This is WABC, the 50-kilowatt station of the Columbia broadcasting chain situated in New York City.

Is Berlin Witzleben's new transmitter now in use from about 10.30 p.m. onwards? I find the station quite weak, if indeed it is audible at all, during the early part of the evening; but later on it comes in with fine strength. Any reader who has not recently received Witzleben should certainly try for it now.

Recommended Transmissions

There is intermittent interference still with Huizen from a Russian station, though I have not often found it troublesome of late

The long-wave stations are all in good form. Oslo in particular is showing remarkable strength.

The stations at the top of the medium waveband have now definitely returned to good strength, good reception being obtainable from Budapest, Munich and Vienna. On one recent evening, however, Vienna had a strong background which appeared to come from Riga. If so, the Latvian station must be working rather below its normal wavelength. Florence is still heterodyned on many evenings, and Turin suffers badly in the same way.

in the same way.

Beromünster, Frague, Rome, Toulouse,
Strasbourg, Breslau, Hilversum, Heilsberg,
and Trieste are outstanding medium-wave
stations, though there are many others
from which first-rate reception is regularly
obtainable.

D. EXER.

FOREIGN BROADCAST GUIDE

BUCHAREST

(Roumania).

Geographical position: 44° 25′ N.; 26° 2′ E. Approximate air line from London: 1,300 miles.

Wavelength: 394.2 m. Frequency: 761 kc/s. Power*: 12 kW.

Standard time: Eastern European (G.M.T. plus 2 hours). (Roumania adopts Summer Time.)

Standard Daily Transmissions.

10.00 B.S.T., Sacred service (Sun.); 13.00, gramophone records, news; 17.00, concert, news, weather; 20.00, main evening entertainment; 22.15, dance music, news, weather.

Announcer: Woman.

Call: (Phon.) Attent-see-oon-aye ah-eetch-ee rah-dee-owe Book-oo-recht-ee. Announcements are all made in the Roumanian language, but occasionally also in French, German and Italian.

Interval signal: The following bars of a Roumanian Folk Song, Hai Lelitzo repeated ad lib.

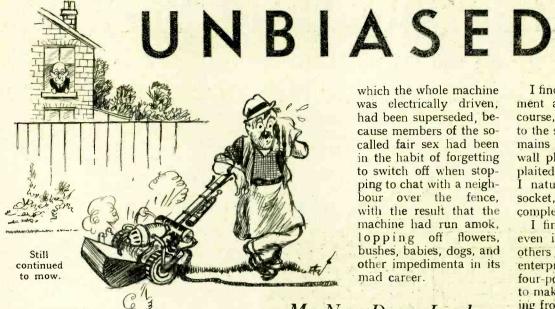


Closes down with good-night greetings (in Roumanian), Buna seara tuturor, repeated in different languages and followed by Traiasca Regele (National Anthem) played on a gramophone record.

* A high-power transmitter is under construction.

HINTS AND TIPS BOOKLET

With the issue of October 6th, a special supplement will be included in the form of a 32-page Booklet of practical Hints and Tips, specially compiled by the staff of THE WIRELESS WORLD.



which the whole machine was electrically driven, had been superseded, because members of the socalled fair sex had been in the habit of forgetting to switch off when stopping to chat with a neighbour over the fence, with the result that the machine had run amok, lopping off flowers, bushes, babies, dogs, and other impedimenta in its mad career.

My New Down Lead

N spite of all the progress that has been made in radio, we are still faced with the incongruous sight of a set housed in a beautiful piece of cabinet work connected up to the aerial by a straggling wire which meanders through the house till it finally connects with the down lead. The reason for this state of affairs is that the average urban and suburban house has its garden, and, therefore, its aerial. at the back, whereas the listeners themselves, with that peculiar cussedness which endears them so much to the hearts of the B.B.C. programme staff, insist on sticking their receivers in a room in the front of the house.

It is true that there are plenty of patented indoor aerials on the market, but no matter how sensitive the set is, a lofty outdoor aerial is always to be preferred on account of the improved signalstrength-to-noise ratio which it gives. The same argument holds good against a set which employs a frame aerial or a mains" aerial

I flatter myself that I have solved the problem in a manner which greatly redounds to my credit. The arrangement I have fixed up is really very simple. All that I have done is to fix a length of screened aerial down lead under the floorboards so that one end terminates at a

A straggling wire.

wall plug, the other end, of course, carrying on outside the house until it gives place to the ordinary down lead.

I find that the losses due to this arrangement are extraordinarily small, and, of course, the lead coming from the wall plug to the set is no more conspicuous than the mains lead running from the neighbouring wall plug. As for my earth lead, this is plaited in with the mains flex, and, since I naturally use a three-point plug and socket, all difficulties of connection are completely overcome.

FREE GRID

I find that there are very little losses even if I plait the aerial lead with the others; and so I am now waiting for an enterprising manufacturer to produce a four-point plug and socket for use in order to make the job a really neat one. Judging from my knowledge of manufacturers, however, I fear that I shall have to wait for a confoundedly long time.

Can One Steal Electrons?

NOTICE that quite a large number of people have been prosecuted lately for stealing electrical energy from the wires of radio relay companies. In my



Carefully put back by her.

opinion none of the defendants are deserving of any sympathy save one good lady who, according to a newspaper report, has parted with the sum of £1 for "fraudulently extracting a quantity of electricity."

If the good dame will take a spot of advice from me she will appeal and, if need be, carry the case right up to the House of Lords. It may certainly have been wrong to tap the wires of the relay company and steal entertainment therefrom, but that was not the subject of the charge. I entirely fail to see how anybody can "extract" a quantity of electricity from the relay company's wires, and she could, I think, successfully plead that the electrons which she took out were carefully put back by her, as they merely flowed out of one wire, trotted round her loud-speaker windings, and then went back to the company by the other wire. If the lady cares to take action she is assured of my full moral support.

A Snake in the Grass

R ECENTLY, when I happened to be staying at the home of a rather unpleasant sister-in-law, I was rudely awakened one afternoon, while taking a siesta in the garden, by a demand to "come and see what's wrong with the wireless." With many muttered imprecations I bestirred myself and went into the house, where I found that electrical interference of a particularly objectionable type was drowning everything.

All my efforts to stop the trouble failed, and after spending many days experimenting with various forms of interference suppressors and a goodly portion of my sister-in-law's money in purchasing the necessary gear, I dropped everything and took to detective work. After a fruitless search of the neighbourhood I had almost given the job up as hopeless when I observed that the trouble seemed to coincide with the mechanical rattle of a mowing machine a few gardens away. Naturally I immediately suspected radiation from the ignition system of a motor mower, and I hastily went upstairs to make closer observation from a bedroom

To my surprise nothing was in view save a perspiring little man pushing a heavy-looking mower of a more or less conventional type under the direction of an imperious-looking female of amazonian proportions. I was about to turn away when the servile little serf took advantage of a momentary disappearance of his chain-gang overseer to stop and mop his brow. To my utter amazement the mower, though standing still, continued to mow. Hastily calling for a telescope I took a further observation, and noticed a snake in the grass in the form of a cable running from the machine to the house.

I immediately consulted a large firm of mowing machine makers on the 'phone concerning this strange phenomenon, and was told that this was a new type of machine which was rapidly becoming universal; only the knives were driven by the electric motor. The older type, in

The Electrostatic Loud Speaker

II. Matching Loud Speaker and Output Valve

By M. G. SCROGGIE, B.Sc., A.M.I.E.E.

E have seen the fundamental difference between the electrostatic loud speaker and all other types. Before it can be effectively used it is necessary to consider it as a load in a valve circuit.

A moving-iron speaker can be considered approximately as an inductance.

A moving-coil speaker is conveniently (but not very accurately) assumed to be a resistance. An electrostatic speaker may be represented as a capacity, perhaps not quite so pure (i.e., free from resistance) as the very best condensers, but one does not go far wrong in neglecting the impurity.

It has already been explained that the effect of a voltage between the two plates is to draw them closer together. Therefore, one would expect the

capacity to be increased thereby, and this is exactly what happens. Fig. 1 shows the measured capacity of a "Primustatic" loud speaker with an 18in. by 20in. diaphragm. The capacity averages about 0.008 mfd. per square foot, or a reactance of about 20 megohms divided by the frequency in cycles per second.

The Load Diagram

In drawing load curves on a valve diagram the loud speaker is usually represented by a straight line, which means a resistance, constant at all frequencies. No loud speaker ever does act just like that, but a moving-coil type is near enough to it over the middle range of frequencies for one to get at least a hazy idea of how to match it to the valve. Our condenser speaker has this advantage at least, that it is very closely a capacity load, but, unfortunately, it is therefore not a straight line at all, but an ellipse, and one of a different size at every frequency. So it is rather an exasperating business trying to

fit it comfortably into the valve diagram. To start with, it would be worse than manufacturing "Mickey Mouse" film to draw a diagram for every frequency, so let us select three only-80, 800, and 8,000. The respective reactances of a 21 square foot speaker are 100,000, 10,000, and 1,000 ohms,

There are two ways in which these figures can be altered to suit the valve: first, by selecting a diaphragm of different area, and, secondly, by using a

step-up or step-down transformer, which has the effect, looked at from the primary side, of multiplying the reactance by the square of the transformer ratio. A step-up is equivalent to an increase in capacity. But it is inevitable that with any one arrangement the reactance must vary over the same

teristic is that the behaviour is strikingly different according to whether a triode or a pentode is

triode with an internal resistance (impedance) about 2,500 ohms, and the three reactance eclipses have been drawn in to show what happens at the lowest, middle, and highest fre-The ellipses in quencies. each case are the largest that can go in without running into grid current on the left, or bottom-bend rectification at the foot.

At 80 cycles the full grid excitation is possible; that is to say, the grid voltage can be swung right from zero on one side to double the bias voltage on the other, without any possible risk of overloading due to recvoltage The tification.

THE electrostatic loud speaker is I unique in presenting a capacitative load to the output valve, and the conditions necessary to prevent distortion and overloading are essentially different from those of moving-iron or moving-coil types.

developed across the loud speaker is the maximum possible.

Permissible Grid Volts

At 800 cycles it is just possible to give it the full grid, but the ellipse has opened out so much that it is approaching the danger zone along the foot. Still, it is working quite happily and developing practically the full voltage. At any higher frequency, however, the lower half would be flattened out, unless the whole ellipse were reduced in size by reducing the grid input. This is well shown at the upper extreme of 8,000 cycles, where the grid excitation must be reduced to less than a half in order to avoid rectification distortion, and the anode voltage developed across the loud speaker dwindles to about a tenth.

> These features are illustrated rather more concisely in Fig. 3. Curve A shows the maximum peak volts that can be applied to the grid without overloading, and curve B shows the voltage developed across the loud speaker with maximum grid volts as given. In each case the voltage is level up to a certain critical frequency, in this case 800 cycles, after which it rapidly falls. It must not

be hastily concluded that the response suddenly falls off above 800 cycles, for it must be emphasised that curve B is strictly dependent on A, and shows the maximum output short of overloading the

P. P. Eckersley has shown experimentally that in normal broadcasting the amplitudes to be expected at the upper frequencies are considerably lower, and would come well below curve A. In addition, by-pass condensers, H.F. tuning characteristics, and other factors are almost certain to prevent the grid voltage from breaking the allotted bounds. So if the grid excitation is kept at a level six volts throughout, as it can be without fear of overloading (curve A'), the output is as shown by B'

Another point is that it is the falling part of curve B', rather than the level part, that is correct. The amplitude of diaphragm required to give a constant

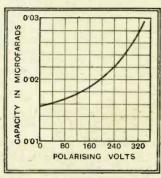
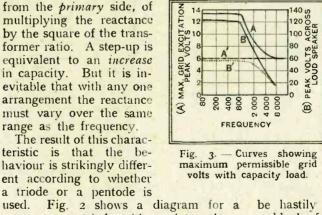


Fig. 1.—Variation of capacity with polarising voltage in the "Primustatic" 18in × 20in. loud speaker.



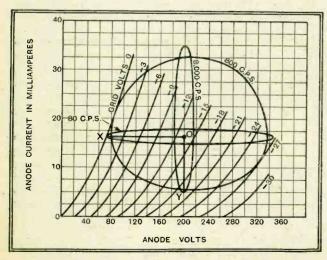


Fig. 2.—The load ellipse of an electrostatic loud speaker varies in shape and inclination as the frequency changes.

The Electrostatic Loud Speaker-

output of sound gets steadily less as the frequency rises. It is not possible to state exactly what is the ideal characteristic

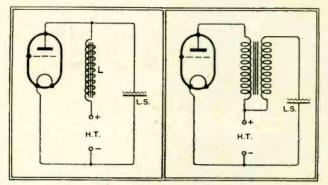


Fig 4.—Choke coupling provides the simplest connection between valve and loud speaker.

Fig. 5.—Connections for applying polarising voltage with transformer coupling.

without knowing exactly how the particular type of diaphragm behaves at various frequencies; but a listening test with a constant-amplitude pure tone shows a satisfactory response down to about 800 cycles, and a falling response below that.

The Critical Frequency

We can calculate this critical frequency by measuring the distance in anode volts horizontally from the initial working point O on the valve diagram to the zero grid voltage point X, and dividing this by the vertical distance, in anode milliamps, from O to Y, the minimum current consistent with avoiding severe curvature. This gives the reactance in thousands of ohms, which is also equal to $\frac{I,000}{2\pi fC}$, where f is

the frequency and C is the capacity in microfarads; so it is easy, knowing C, to calculate f. By altering C in either of the two ways already described it is possible to shift the critical frequency f, thus extending either the level or the falling part of the curve.

As it has just been stated that it is the falling part that is correct, it would seem that the sensible thing to do would be to make the critical frequency as low as pos-That means making either the actual capacity or the step-up ratio as large as possible. An additional allurement is that an increase in capacity means an increase in sound-radiating surface, and an increase in step-up means an increase in signal voltage, and in either case it looks as if the volume would be increased without any greater expenditure of power. But, while it is true that there is improved uniformity of response, the improved efficiency fails to materialise; for curve A is shifted to the left too, and necessitates severely cutting down the input. And, as the lower tones are less audible than the upper, there is an apparent falling-off in volume, and in endeavouring to restore it by the volume control the only result is rattling and distortion. If, on the other hand, the capacity is too small, the volume again drops, and what output there is consists almost entirely of extreme top.

Hence a compromise is necessary, giving a reasonable efficiency at the upper fre-

quencies, the lower being augmented, if necessary, by a bass moving coil unit.

To descend for a moment from these theoretical reasonings to consider how the

connection is made in practice, the simplest circuit is that of Fig. 4, where L is a choke of high inductance capable of carrying the valve anode current. In this way the loud speaker receives both the output voltage from the valve and the steady polarising voltage from the H.T. source. The choke behaves as a 1:1 transformer. and if its inductance is sufficiently high it by-passes a negligible proportion of the "signal," and so the whole arrangement conforms very closely to the preceding theory. It may be of interest to realise

theory. It may be of interest to realise that at one particular frequency the imped-

the anode current rising much above normal.

If a transformer is used to alter the ratio it is essential to allow for the polarising voltage (Fig. 5), and if it is a step-up ratio it may be desirable to add some auxiliary voltage, but only if the H.T. voltage itself is rather low. An old dry battery can be used, as no current is drawn. If the secondary is linked to the anode end of the primary the sum or difference of the voltages across both windings is obtained, giving a choice of three ratios altogether.

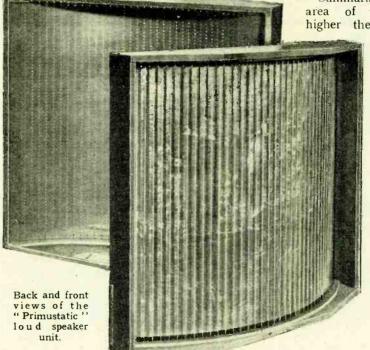
Push-pull Connections

A push-pull stage is much to be recommended, and Fig. 6 shows one method of connection. If there is no secondary winding, or if it is being used for another loud speaker, the connection of Fig. 7 is another of the many schemes. Although this looks a one-sided arrangement, it actually loads the whole transformer, which acts as a 2:1 step-down.

Summarising: the larger the area of diaphragm, or the higher the step-up, the lower

is the frequency below which response falls off. But the lower also is the efficiency and the greater the tendency to rattle. So only when there is plenty of power available in the last stage is it possible to arrange these matters so as to go low down the scale. The smaller the number of milliwatts available the higher must be the critical frequency. A dual speaker combination is in any case the best for effective reproduction over the whole audible scale.

Methods of obtaining this, together with tone control, and the conditions for pentode operation, will next be considered.



ance of the anode load is almost infinite, due to the resonance of choke and loud speaker, and is also a pure resistance, and

hence a nearly horizontal straight line instead of an el-With normal compolipse: nents this frequency is about two or three hundred cycles, but the phenomenon does not appreciably modify the performance as already described. The whole action is very beautifully confirmed by cathode ray oscillograph tests, using a variable-frequency oscillator. Beginning at the lowest frequen-cies, we see the "lengthwise" ellipse become a straight line, and then open out into an "upright" ellipse, which, unless the input is reduced, causes terrible overloading.

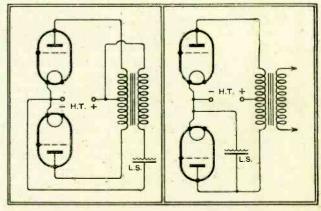
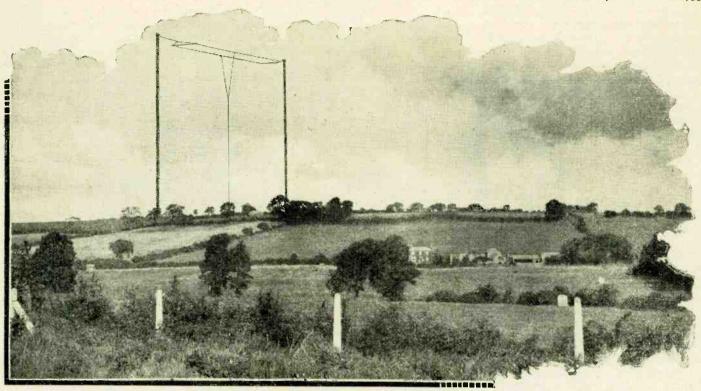


Fig. 6.—Push - pull output using transformer secondary winding to energise the loud speaker.

Fig. 7.—This circuit gives a 2:1 step-down and leaves secondary free for an additional loud speaker.



How the Signal Reaches Your Set

Modulation and the Purpose of the Carrier Wave Explained By S. O. PEARSON, B.Sc., A.M.I.E.E.

S one listens to an item in a broad-cast programme one can readily appreciate that the sound waves emanating from the diaphragm of the loud speaker must bear a very close resemblance in form to those actuating the microphone at the broadcasting station. If this were not so the sounds received would be unpleasantly distorted, if not unintelligible, for the smaller the degree of wave-shape distortion in the sending and receiving systems the more realistic and true to life is the reproduction.

The air vibrations, or waves of rarefaction and compression representing sound, extend over a considerable range of frequencies. The upper and lower limits of this range, however, are not very sharply defined, depending to a very large extent on the intensity of the sound and to some extent on the individual listener. In general, audible frequencies may be considered to extend from about 16 cycles per second at the lower end of the scale to perhaps 10,000 cycles per second or more for the highest notes. In the case of orchestral music practically the whole of this range of frequencies is involved, the highest frequencies representing the overtones of violins, etc. Ordinary speech involves a frequency range from about 100 cycles per second to 5,000 cycles per second or so. Intelligible speech can be transmitted on a much narrower band of frequencies, but when this is done the speaker loses the essential characteristics of his voice, which convey to some extent an impression of his personality. So to obtain realistic reproduction at the receiver all frequencies must

THE most vital principle of wireless communication is that of modulation of the carrier wave. The purpose of the carrier wave is often not properly understood, yet no real conception of what happens in a receiver can be gained without a grasp of this fundamental principle.

be delivered by the loud speaker in their correct relative amplitudes.

Need for the Carrier Wave.

At the transmitting station the microphone converts the sound waves impinging on its diaphragm into electrical variations of the same wave form, and consequently these electrical variations are represented by frequencies which all lie within the audible range. These frequencies are usually referred to as "low frequencies" or "audio-frequencies," to distinguish them from the very much higher frequency of the oscillations in the aerial system. The necessity for high-frequency oscillations will now be briefly explained.

A little thought will make it quite clear that the audible frequencies cannot be directly transmitted through the ether because, for one reason, every station would have to operate over the same range of frequencies and selection would be impossible; the transmitting station must

send out from its aerial system a train of ether waves of fixed frequency in order that distant receivers may be accurately tuned to it. And, further, the frequency must have a very high value compared with the frequencies within the audible range, the main reason for this being that the efficiency of an aerial as a radiator of energy falls off very rapidly as the frequency is lowered. The efficiency of radiation is proportional to the square of the frequency. The lowest frequency used for ordinary broadcasting purposes is about 155,000 cycles per second, corresponding to 1,935 metres wavelength; and the shortest wavelength stations operate with a frequency in the neigh-bourhood of twenty million cycles per second!

The constant-frequency waves emanating from the transmitting aerial are made to serve as the means of conveying the low-frequency or speech-frequency variations, representing the matter to be broadcast, from the transmitting station to the various receiving aerials. For this reason the train of high-frequency waves, upon which the low-frequency variations are to be superimposed, is known as the "carrier wave," and we are mainly concerned here with the manner in which the audio-frequencies are combined with the carrier frequency and separated out again in the circuits of the receiving set.

Now in the first place it must be remembered that the carrier frequency is far above the highest audible frequency, and could not possibly produce any sound on its own account. During an interval between two items in a programme silence

How the Signal Reaches Your Set-

reigns (or should), although the carrier wave is being received at full strength the whole of the time. In order to convey an audible note from transmitting aerial to receiving aerial the intensity or amplitude of the carrier wave must be made to vary at the audible frequency in accordance with the wave-shape representing the note in question, and this process is referred to as "amplitude modulation." The amplitude of an oscillation is the maximum or peak value reached in each direction, and the low-frequency variation of the amplitude of the high-frequency carrier wave enables the audible note to be carried.

A numerical example will be helpful in explaining the principle of amplitude modulation and in giving a sense of proportion as regards relative values. Suppose, for instance, that the frequency of the oscillations in a transmitting aerial is 1,000,000 cycles (1,000 kilocycles) per second, being the frequency of a station working on 300 metres. Currents of the same frequency are set up in the tuned circuits of a distant receiver, but when these currents have constant amplitude no sound would be given out by the loud speaker, a million cycles per second being far outside the audible range of frequencies.

Now suppose that the 1,000 kilocycle carrier wave is to convey between the transmitting station and the receiving aerial a single pure note of 500 cycles per second, being represented by a sine wave of this frequency. Then, by some suitable means, the high-frequency oscillations in the transmitting aerial are made to vary in amplitude, about the mean value, at a frequency of 500 cycles per second. Since the carrier frequency is one million cycles per second, it follows that for each cycle of the low-frequency variation (called the modulation frequency) there will be 2,000 high-frequency oscillations.

The constant-amplitude sine wave of Fig. 1 (a) represents the unmodulated

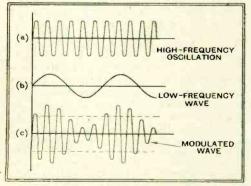


Fig. 1.—Diagram showing how the amplitude of a high-frequency oscillation is varied at an audible frequency.

high-frequency oscillations or carrier wave referred to, the frequency being 1,000 kilocycles per second. The sine wave at (b) represents the low-frequency variation corresponding to the pure tone of 500 cycles per second. By the action of the

modulating system in the transmitting circuits these two waves are combined in such a way as to give the modulated wave of Fig. 1 (c). The lines passing through the positive and negative peak values respectively of the resultant high-frequency wave have exactly the same shape and frequency of variation as the low-frequency curve shown at (b). Of course, during each low-frequency cycle there will be 2,000 high-frequency oscillations, but for convenience in drawing only a few H.F. oscillations per low-frequency cycle are shown.

It will be observed that the number of complete reversals per second is the same for the modulated wave (c) as for the unmodulated wave (a), and so it is usual to state that the modulated wave is one of constant frequency but varying amplitude. This statement is, however, not strictly correct, because the term "frequency," as ordinarily defined, only applies to a wave which repeats itself exactly cycle by cycle, and similarly as regards the term "amplitude." So it must be understood that the frequency of a modulated wave means the number of complete or double reversals per second.

Percentage Modulation

When the amplitude of a high-frequency oscillation is varying periodically above and below the mean or normal value, the degree of modulation, or depth of modulation, is expressed as a percentage of the normal amplitude of the unmodulated wave. For instance, when the modulation is 20 per cent. the amplitude of the highfrequency oscillation varies between limits 20 per cent. above and 20 per cent. below the mean value. It is possible to modulate to a depth of 100 per cent., that is to say, to vary the amplitude of the highfrequency oscillations between zero and twice the normal value, but for practical reasons connected with the quality of reproduction at the receiver it is not usual to modulate to a greater depth than about 50 per cent.

It has been assumed that the unmodulated carrier wave represented by the curve of Fig. 1 (a) is a pure sine wave, and, this being the case, the modulated wave of Fig. 1 (c) is very frequently referred to as a high-frequency sine wave whose amplitude is varying periodically at the low, or modulation, frequency. This description, however, as already pointed out, is not strictly correct, for it is quite evident that the change in peak value, cycle by cycle, is brought about by changing the shape of each H.F. wave, the number of reversals per second being unaltered. But in the case under consideration there are 2,000 high-frequency oscillations to a low-frequency cycle, and so the difference in the amplitudes of two successive H.F. oscillations is very small indeed, their ratio being practically unity. Consequently, the extent to which the high-frequency oscillations depart from the true sine shape is extremely small, and the statement referred to above as being inaccurate may be employed in a

descriptive sense. The idea of a sine wave gradually varying in amplitude is easy to understand; but such a statement would not be—indeed it could not be—tolerated by a mathematician working out the detailed theory of modulation.

Conditions at the Receiving End

The modulated ether waves reaching a receiving aerial set up in the latter high-frequency electromotive forces which vary in exactly the same way as the currents in the transmitting aerial. So when the H.F. oscillations in the sending system are modulated in any particular way, the resulting high-frequency electromotive forces in the receiving aerial are similarly

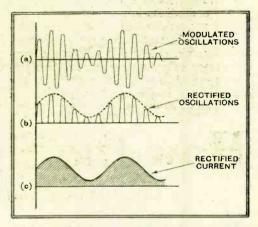


Fig. 2.—The curves show the process of separating out the low-frequency component from a modulated wave by means of a rectifier or detector.

modulated. Now if the receiving aerial circuit behaved like a simple resistance the currents set up in it would be at all times proportional to the voltage, and the resulting H.F. currents would be an exact replica of the currents in the transmitting aerial.

This would be a most desirable state of affairs, because the object is to obtain in the loud speaker an audio-frequency current which is as nearly as possible a true copy of that in the microphone circuit at the transmitting station. But it is a well-known fact that a sharply tuned receiving circuit has a modifying effect on a modulated high-frequency oscillation, the effect being to lessen or attenuate the degree of modulation.

The reason for this demodulating effect is that a certain amount of energy is stored in the tuned circuit when oscillations are present; this stored energy oscillates between the magnetic field of the coil and the electrostatic field of the condenser. The result is that any change in the amplitude of the high-frequency oscillation involves a change in stored energy, which is proportional to the square of the amplitude. Now it is a fundamental law of physics that energy cannot be accumulated or expended instantaneously, the result being that the high-frequency oscillations tend to resist any change in their amplitude, in the same way that a moving body, which possesses inertia, resists any change in its motion.

How the Signal Reaches Your Set-

The weakening effect is greatest at the highest modulation frequencies, so that the high notes tend to be reduced in greater proportion than the low ones. However, when the tuning is not too sharp, or when special filter circuits are employed, the quality of reproduction is not seriously affected on this score.

Function of the Detector

The modulated H.F. potential difference set up across the last of the tuned circuits in a receiver cannot be made to operate a loud speaker directly because, referring to curve (a) of Fig. 2, it will be seen that the curve is symmetrically placed about the zero line. Consequently, although the H.F. oscillations are modulated at low frequency, there would be no lowfrequency current set up in the loud For this reason the lowspeaker coil. frequency component or modulation frequency must be separated from the carrier wave again at the receiver, and this is the function of the detector stage.

The detector almost invariably takes the form of a rectifier, that is, a device which completely or partially cuts off all the negative half waves of the modulated oscillation by the property of possessing one-way or unilateral conductivity, in the manner shown by curve (b) of Fig. 2. A perfect rectifier could be defined as one which offers a constant resistance to current flowing in one direction, irrespective of the value of the current, but which allows no current whatever to flow in the opposite direction when the applied voltage is reversed. The static characteristic curve of a perfect rectifier is shown in Fig. 3 (a); the current is proportional to positive values of applied voltage and zero for negative values.

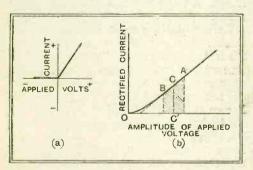
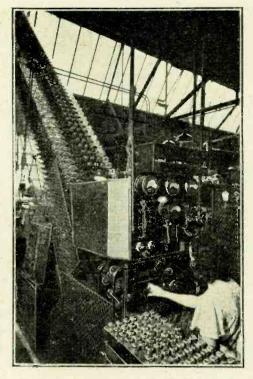


Fig. 3.—(a) The voltage/current or static characteristic curve of an imaginary perfect rectifier. (b) Representative rectification characteristic curve of a valve detector, such, for instance, as a diode.

With such an arrangement the resulting unidirectional current produced when an alternating voltage is applied will have a mean value proportional to the amplitude of the applied voltage. If the applied voltage has constant amplitude the successive current pulsations will all be equal, but when a modulated high-frequency voltage is applied to a perfect rectifier the unidirectional current pulsations will vary in amplitude in accordance with the audiofrequency variations as shown at (b) in Fig. 2. By smoothing out the radio-fre-



On this equipment at the Cossor valve works valves are carried on a continuously moving band. After first being gettered, the valves are run under operating conditions to stabilise their characteristics before testing.

quency variations with the aid of a suitable condenser filter the resulting rectified current fluctuates at the low frequency, being at all times proportional to the amplitude of the high-frequency oscillation as indicated by the dotted-line curve. Consequently, with a perfect rectifier, proportionality is fully maintained and no distortion of the audio-frequency waveshape is introduced.

In practice it is usual to employ a thermionic valve of some kind as "detector," but, although there are several possible systems, there is not one which gives theoretically perfect rectification, because the relationship between the amplitude or R.M.S. value of the applied high-frequency voltage and the resulting rectified current is never represented by a straight line; they are not truly proportional to each other. This, of course, means that the effective resistance of the rectifier depends to some extent on the value of the applied voltage oscillation. Fig. 3 (b) gives a dynamic characteristic curve of a typical valve detector; although the curve is practically straight over a considerable portion of its length it is more or less curved at the lower end, and if the straight part is produced back it does not pass through the origin O.

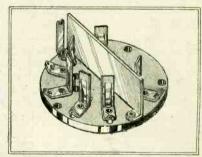
Now if a high-frequency voltage, modulated to a depth of 100 per cent., were applied to a rectifier with such a characteristic, the rectified current would obviously not conform strictly to the variations in amplitude of the applied voltage, and distortion would result. But, as stated previously, in practice 100 per cent. modulation is rarely ever encountered and with a lower percentage modulation, distortionless rectification can be attained even though the rectification

characteristic is curved at the bottom. This will be the case if the modulation is sufficiently shallow to ensure that the oscillation voltage amplitude fluctuates between upper and lower limits represented by two points such as A and B on the straight part of the curve, the wave, when unmodulated, having an amplitude OC' represented by C midway between A and B. In these circumstances the change of rectified current is proportional to the change of applied voltage, being the necessary condition for distortionless rectification.

It should be realised that this condition can only be realised if the mean amplitude OC' of the applied high-frequency voltage is sufficiently large to ensure that the upper and lower limits A and B, with the maximum degree of modulation, fall on the straight part of the curve. If the signal voltage were too low rectification would take place round the bend of the curve, with accompanying distortion. Consequently, for the reception of all but the strongest local transmissions it is essential to employ one or more stages of high-quency amplification before the detector.

HIGH-VOLTAGE VALVES

SEVERAL interesting developments have taken place in the design of Ostar-Ganz high-voltage valves, which, as most of our readers are aware, have heating elements designed for direct connection to either D.C. or A.C. mains of standard voltages without the intermediary of resistances or transformers.



Under-side of the new Ostar-Ganz valveholder, showing screening plate.

Hitherto it has been impossible to obtain really high anode voltages from the indirectly heated rectifiers of the series; this difficulty is now overcome by the introduction of a voltage-doubling rectifier, which costs 22s. 9d. With a 220-volt supply a rectified output of about 440 volts is obtainable at 40 milliamps. Another new rectifier provides full-wave rectification.

The K.3560 three-electrode output valve is another interesting innovation; it has an A.C. resistance of only 500 ohms and a mutual conductance of 6 mA/V. The maximum D.C. anode dissipation is 15 watts, and the valve is specially designed to give a large output with normal supply voltages.

It has previously been necessary to employ double smoothing chokes in circuits employing Ostar-Ganz valves. The need for this special smoothing system has now been avoided by alterations in the arrangement of the pins and by the introduction of a special valve holder, in which the heater connections are effectively screened.

The agent for Ostar-Ganz valves in Great Britain is Mr. Eugen Forbat, of 28-29, Southampton St., Strand, London, W.C.2.

News of the Week

Current Events in Brief Review

The Passing of a Giant

WE understand that one result VV arising out of the Lucerne Conference is that the famous Eiffel Tower Broadcasting Station will cease its transmission on January 1st, 1935.

Marking Foreign Valves

THE Board of Trade's Standing Council recommends that certain imported wireless and rectifying valves should be plainly marked with the country of origin. The valves specified are thermionic valves having an anode dissipation that does not exceed 50 watts, and rectifying valves not exceeding a capacity of 60 volt-amperes or passing a turrent of more than one ampere. Such valves to carry a durable mark in a contrasting colour on the bulb or cap and a corresponding indication to be printed or stamped on the carton or container in which they are exposed for calc for sale.

Guided by Music

A EROPLANE pilots in America find the broadcast programmes a pleasant means of whiling away the monotony of long flights, tuning back and forth from the special wavelengths carrying weather reports, direction signals, and landing instructions to their favourite broadcast ing station along the route. The ing station along the route. The use of the direction-finding aerial makes it possible for a pilot while listening to a programme from listening to a programme from WOR, for example, to know that he is heading in the right direction for the Newark airport.

The Obsolescent Crystal Set

IT is stated that one of the advantages to be gained by the new P.T.T. high-power station is that owners of crystal sets in Paris and its suburbs will be able to receive the programmes through-out the day, but the result of the return of the sets made in accordance with the new licence regula-tions would show that the declaration of crystal sets is negligible, those possessing these relics of the past are no longer using them. Strictly speaking, they are bound to declare them, but it is unlikely that the administration will go to the trouble of prosecuting them for their neglect.

Dr. Giesecke Returns Home

A MONG the various broadcasting chiefs who were recently compulsorily retired and sent to compulsorily retired and sent to the internment camp at Oranien-burg was the former Vice-Presi-dent of the Broadcasting Union and Director of the Reichs-Rund-funk-Gesellschaft. We are glad to learn from our foreign corre-spondent that he, Dr. Giesecke, has been liberated, and that he returned home on August 23rd. returned home on August 23rd, though we understand that no mention of this fact appeared in the German Press.

Ultra Shorts at Sing Sing SING SING is seeking permission to use ultra short waves to guard its prisoners. According to a Washington correspondent, the idea is that the warders would carry light-weight transmitters and receivers strapped on their backs, enabling them to converse across the prison grounds while on their

Unlucky Tunis

TUNISIAN listeners want to hear French, and are loudly lamentating that they are doomed to absorb German, Italian, and other foreign comedies and lectures. Apparently the only French stations that are audible, viz., Radio Paris, Poste Parisien, Toulouse, and Algiers, are so "pursued by parasites" that five, to ten minutes of listening is the utmost that can be borne.

Feeling the Economic Strain

THE Belgian Government has just decided to reduce the grant for 1933 to the National Broadcasting Institute from over

Another Arctic Station

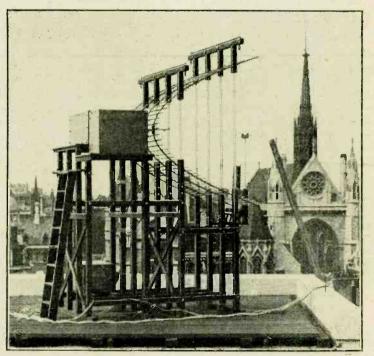
THE 10 kW. Norwegian station
now being erected at Vadsö
in Finnmark claims to be the most
northerly station in the world,
latitude 70° 4′ N. When completed it will relay the programme
from Oslo.

Storms in Hungary

LOCAL thunderstorms frequently interrupt broadcast transmission in Hungary and the relay stations often have to shut down for "storm pauses." From Budapest now comes the assurance that listeners will be warned, age that listeners will be warned, at such times, which stations are affected and which are still continuing their transmissions, in order that they may tune in to the active station and continue to follow the programme.

Belgian Political Talks

IN view of the correspondence which has recently appeared in the English papers between three distinguished statesmen and the B.B.C. concerning the selection of speakers for the forthcoming political addresses, it is interest-



MICRO-WAVES AT ELECTRA HOUSE. The Research Department of Marconi's Wireless Telegraph Co., Ltd., has now settled down in its new quarters facing the Embankment, and one sign of the move is the erection of the parabolic aerial for the ultra-short wave beam on the roof of Electra House.

million francs to about million. In consequence of this the I.N.R. (as it is generally known) has felt compelled to reduce both the talks and musical programmes. The broadcasting hours have been shortened to 12 hours have been shortened to 12 noon to 2.0 p.m. and 5.0 to 10.0 p.m. on week-days. The Sunday transmission will start two hours earlier than this, but will otherwise be the same. It is hoped that when times improve the old hours may be restored or even extended.

ing to hear from our correspondent that the Belgian Government has issued a decree according to which "every one of its members has the right to use the broad-casting station for speeches up to casting station for speeches up to a maximum of ten hours per month." If this is the case, Bel-gium stands in danger of being inundated with political addresses, and the prospect of an ardent politician insisting on his right to take the whole of his allotted time in "one fell swoop" must be rather disconcerting to listeners.

German Anti-Static Campaign

IN view of the forthcoming anti-interference law, the National Socialist Funkkammer has decided to clear the town of Baden-Baden of all man-made statics. Work has already begun under the direc-tion of a Post Office engineer and the second burgomaster of the town, and it is hoped that by the middle of October all such interference will have ceased. The authorities have inferred that the law against man-made interference will be based on the technical requirements of the Volksempfänger (the new People's Receiver), so that every owner of this set will have clear reception without the necessity of providing shielded aerial down-leads.

Forthcoming Lectures

A NEW session of the British Radfo Institution opens to-day (September 22nd), when a lecture will be given by Dr. L. E. C. Hughes on "The Reproduction of Sound via Radio." The meeting is to be held at 7.30 p.m. at King's College, Strand, W.C.2, and the chair will be taken by Prof. C. L. Fortescue. The Hon. General Secretary asks to state that any of our readers. NEW session of the British us to state that any of our readers who wish to attend what promises to be an interesting lecture will be welcomed. Invitation cards are available, but are not necessary for admission. The head-quarters of the B.R.I. are at 36, Gordon Square, W.C.I.

R.S.G.B. Meetings

THE secretary of the Incorporated Radio Society of Great Britain has kindly sent us a pre-liminary list of the series of lec-tures which will be given on Fri-day evenings at 6.15 p.m. at the Institute of Electrical Engineers.

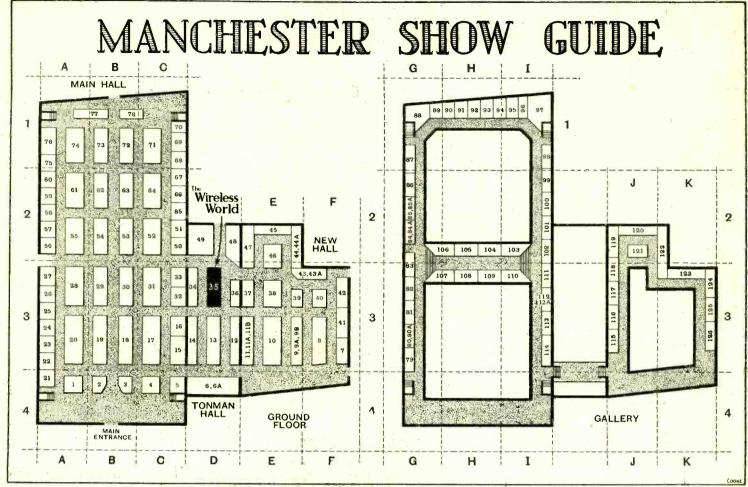
Institute of Electrical Engineers.
The dates and subjects are:

September 29th. — "Experiments with Portable 56 mc.
Apparatus," by R. H.
Hammans, G2IG.
October 20th.—"Technique in Valve Manufacture," by Stephen de Laszlo, B.A.
(Director, High Vacuum Valve Co., Ltd.).
November 24th.—"The Magnatron Oscillator for very High Frequencies," by Eric Megaw, B.Sc. (Research Laboratories, eral Electric Co.). eral Electric Co.).

December 20th.—Annual General Meeting followed by a lecture, "Transmitting Valves for Amateur Needs," by L. Grinstead (Transmitting Division (Transmitting Division, Mullard Wirgless Service

New German Relay Station

NEW relay station from A NEW relay station from Coblenz will shortly be crected and further stations are projected for Würzburg, in Bavaria, and somewhere not yet settled in Pomerania.



The Manchester Radio Show will be held in the City Hall, Deansgate, from Wednesday, September 27th to Saturday, October 7th, 1933

In the following list we give the names and addresses of exhibitors, with Stand numbers, and a reference (in heavier type) to be used in conjunction with the above plan for locating individual stands

FULL LIST OF EXHIBITORS

| in the state of th | | T. | | | |
|--|---|-------|------|---|------|
| EVELUTION STAND CO | | II. | EF. | | REF. |
| AERIALITE, Ltd STAND. SQ | EXHIBITOR. ST. City Accumulator Co., Ltd | AND S | CO. | GENERAL ELECTRIC Co., Ltd. STAND. 19 | SQS. |
| Aerialite House, Amber St., Manchester. | 18-20, Norman's Bldgs., Central St., | 1.9 | G 3 | Marmet Hause Victoria Dailes M. | B 3 |
| Allied Newspapers, Ltd 21-2 A 4, A | 3 London, E.C.1. | | | Magnet House, Victoria Bridge, Man- | |
| Withy Grove, Manchester. | | 29 | D 2 | chester. | |
| Amplion (1932), Ltd 34 D | Clarke & Co. (M/c), Ltd., H. Atlas Wks., Patricroft, Nr. Manchester. | 29 | ВЭ | Goodmans, Ltd 103 | 12 |
| 82-84, Rosoman St., London, E.C.1. | Climax Radio Electric, Ltd. | 16 | 0 2 | 69, St. John St., Clerkenwell, London, E.C.1. | |
| Automatic Coil Winder & Elec. Equip- | Haverstock Wks., 59, Parkhill Rd. | 10 | C 3 | Graham Farish, Ltd 23-6 | |
| ment Co., Ltd 118 E | 3 Hampstead, N.W.3. | | | Granam Parish, Ltd 23-6 | A 3 |
| Winder House, Douglas St., London, | | 18 | D 2 | 153, Masons Hill, Bromley, Kent. | a . |
| S.W.1. | Ekco Wks., Southend-on-Sea. | 10 | D 3 | Gramophone Co., Ltd 52 98–108, Clerkenwell Rd., London, E.C.1. | 0 2 |
| | Colvern, Ltd. | 32 | C 3 | Grampian Reproducers, Ltd 33 | |
| BALCOMBE, Ltd., A. J 73 B | 1 Mawneys Rd., Romford, Essex. | 34 | 0 0 | Grampian Reproducers, Ltd 33 Station Ave., Kew Gdns., Surrey. | US |
| 52-58, Tabernacle St., London, E.C.2. | Cosmocord, Ltd | 104 | LT 9 | Gresley Radio, Ltd 106 | 0.0 |
| Belling & Lee, Ltd. 27 A | 3 Cambridge Arterial Rd., Enfield, Mddx. | 102 | 112 | Ordsall Lane, Salford Lanes. | G 2 |
| Cambridge Arterial Rd., Enfield, Mddx. | Cossor, Ltd., A. C. | 61 | Δ 2 | Ordsan Dane, Sanord, Lanes. | |
| Bernard Jones, Publications, Ltd 76 A | 1 Cossor House, Highbury Grove, Lon- | 01 | | HACKER & Sons. H 92-3 | LIA |
| 58, Fetter Lane, London, E.C.4 | don, N.5. | | | Ray Lea Rd., Maidenhead, Berks. | LI I |
| Berry & Wilson, Ltd 79 G | | 30 | B 3 | | E 3 |
| Mansion Wks., Gt. Horton, Bradford. | 32, Brinton's Terr., Southampton. | 00 | | 10. Finsbury St., London, E.C.2. | EJ |
| Block Batteries, Ltd 54 B | 2 | | | | D 4 |
| Abbey Rd., Barking, Essex. | | 107 | G 3 | Hellesen Wks., Morden Rd., South | D 4 |
| Britannia Batteries, Ltd 2 B | DAWES, F | | | Wimbledon, London, S.W.19 | |
| 233, Shaftesbury Ave., London, W.C.2. | Dent, R. H. | 9A-1 | E 3 | High Vacuum Valve Co., Ltd 80 | G 3 |
| British Blue Spot Co., Ltd 50 C | | | | 113-117, Farringdon Rd., London. | |
| 91-96, Rosoman St., London, E.C.1. | Diggle & Co., A | - S1A | G 2 | E.C.1. | |
| British Broadcasting Corporation 91-7 T | Jane St., Rochdale, Lancs. | | | Hobday Bros., Ltd 56-9 | A 2 |
| Portland Place, London, W.1. British Pix Co., Ltd. 86 G | Dyson & Co., Ltd., J | 36 | | 14-20, Turner St., Manchester. | |
| British Pix Co., Ltd 86 G | 2 Godwin St., Bradford. | | | Hollingdrake & Sons, Ltd., H 91 | H 1 |
| 118. Southwark St., London, S.E.1. British Radiophone, Ltd | 3 ECONASIGN Co., Ltd | 81. | a 0 | Princess St., Stockport. | |
| Aldwych House, Aldwych, London, | 92, Victoria St., London, S.W.1. | 81 | G 3 | Hustler, Simpson & Webb, Ltd 10 | E 3 |
| W.C.2. | Edge Radio, Ltd | 12 | D 2 | Aerodyne Wks., Hoc St., Walthamstow, London, E.17. | |
| British Rola Co. Ltd. 75 A | 1 Bolton, Lanes. | 15 1 | טט | Lighten, E.I. | |
| Minerva Rd., Park Royal, London, | Edison Swan Electric Co., Ltd | 28 | Δ 3 | IGRANIC Electric Co., Ltd 72 | B 1 |
| N.W.10. | 155, Charing Cross Rd., London, W.C.2. | 40 1 | 71.0 | 147, Queen Victoria St., London, E.C.4. | D I |
| Brown Bros., Ltd 48 D | 2 Electro-Dynamic Construction Co., Ltd. | 109 | H 3 | Iliffe & Sons Ltd 35 | D 3 |
| Gt. Eastern St., London, E.C.2. | Devonshire Grove, London, S.E.15. | 400 | | Dorset House, Stamford St., London, | 20 |
| Bulgin & Co., Ltd., A.F 69 C | 1 Epoch Radio Mfg. Co., Ltd | 83 | G 3 | S.E.1. | |
| Abbey Rd., Barking, Essex. | Exmouth House, Exmouth St., Lon- | - | - | | |
| | don, E.C.1. | | | LISSEN, Ltd 61 | C 2 |
| CARRINGTON Mfg. Co., Ltd 44 E | 2 Ever Ready Co. (Gt. Britain), Ltd | 53 1 | B 2 | Lissen, Ltd. Lissenium Wks., Worple Rd., Isleworth, | 7 /- |
| Camco Wks. Sanderstead Rd. S. | Hercules Place, Holloway, London, N.7. | | | Middx. | |
| Croydon. | Express Radio Factors, Ltd | 6 | | | |
| Celestion. Ltd 1 A | 4 25, Gt. Eastern St., London, E.C.2. | | | McMICHAEL Radio, Ltd 71 | C 1 |
| London Rd., Kingston-on-Thames. | | | | Slough, Bucks. | |
| Cifel Products, Ltd 114 I | FERRANTI, Ltd | 20 | A 3 | | F 3 |
| 134; Pentonville Rd., London, N.1. | Hollinwood, Lancs. | | | Primrose Bank, Ashton Rd., Oldham. | |
| | | | | | |

NEW London Electron Works, Ltd. ... East Ham, London, E.6. Newnes Ltd., G. 8-11. Southampton St., Strand, Lon-don, W.C.2.

Osdur Manufacturing Co. 26, Adam St., Loridon, W.1.

PARTRIDGE. Wilson & Co.
Davenset Wis., Evington Valley Rd.,
Leicester.
Portadyne Radio, Ltd.
Gorst Rd. North Acton, London,
N.W.10.
Practical Radio, Ltd.
Stal House, Judd St. London, W.C.I.
Pressland Sales, Ltd.
84. Eden St., Kingston-on-Thames.
Priestley & Ford.
3-11, Carrs Lame, Birmingham.
Provincial Incandoscent Fittings Co., Ltd.
High St., Manchester.
Pyc Radio, Ltd.
Africa House, Kingsway, London,
W.C.2.

QUICKSIGN, Ltd. ... 106, Queen Victoria St., London, E.C.4.

106, Queen Victoria St., London, E.C.4.

RADIALADDIN, Ltd.
46, Brewer St., London, W.1.
Radio Instruments, Ltd.
Purley Way, Croydon, Surrey.
Radiomes, Ltd.
129-131. Bridge St., Warrington.
Rawlplug Co., Ltd.
Rawlplug House, Cromwell Rd., London, S.W.7.
Reproducers & Amplifiers, Ltd.
Frederick St., Wolverhampton.
Richardsons (R.M.L.), Ltd.
21, St. John St., Manchester.
Ridings Reliance, Ltd.
331. Stockport Rd., Manchester.
Roberts, J...
Bridgewater Viaduet, Knott Mill,
Manchester.

SIEMENS Electric Lamps & Supplies,

SIEMENS Fleetric Lamps & Supplies,
Ltd.

38. Upper Thaines St., London, E.C.I.
Small Power Dynamio & Motor Co., Ltd.
Old Lane, Hr. Openshaw, Manchester.
Sovereign Products, Ltd.
52-4, Rosebery Avc., Clerkenwell,
London, E.C.I.
Standard Telephones & Cables, Ltd.
364, Gray's Inn Rd., London, W.C.2.
Star Redio Products, Ltd.
11, Sugar Lane, Manchester.

TANNOY Products, Ltd.

Dalton St., West Norwood, London, S.E.27.

The 362 Radio Valve Co. Ltd.

Stoneham Wks., Stoneham Rd., London, E.5.

Thomas & Bishop, Ltd.

37, Tabernacle St., London, E.C.2.

Trade Chronicles, Ltd.

6, Carmelite St., London, E.C.4.

VARLEY (Oliver Pell Control, Ltd.) ... 103. Kinzsway, London, W.C.2. Vince's Dry Batteries, Ltd. Garford Wks., Garford St., London, E.14.

WELLWORTH Wireless Co.

8, Withy Grove, Manchester.
Westinghouse Brake & Saxby Signal Co.,
Ltd.

82, York Rd., King's Cross, London,

82. York Rd., King's Cross, London,
N.1.
Wharfedale Wireless Works, Ltd. ... 191 12
62. Leeds Rd., Bradford.
Whiteley Electrical Radio Co., Ltd. ... 62 B 2
Victoria St., Mansfield.
Wingrove & Rogers, Ltd. ... 51 C 2
Polar Wks., Old Swan, Liverpool.
Wireless & Gramophone Truder ... 60 A 2
Dorset House, Stamford St., London,
S.E.1.
Wireless Retailers' Assoc. of Gt. Britain
and N. Ireland. ... 89 G 1
1, Mitre Court, Fleet St., London, E.C.4.
Wireless World. ... 55 D 3
Dorset House, Stamford St., London,
S.E.1.
Wright & Weaire, Ltd. ... 80A G 3
710, High Rd., London, N.17.

STAND. Sos. ... 108 H3

17 C 3

3 B4

11A E 3

4 C.4

66 C-2

9 E 3

9B E 3

93 I1

45 E 2

55 A 2

112 13

47 E 2

65 C 2

5 C 4

49 D2

13 D3 112A I 3

15 C 3

102 I 2

90 H1

85A G 2

77 B 1

84 G 2

63 B 2

... 113 13

Manchester Show Guide-

In Next Week's Issue:-

"The Wireless World"

D.C. Superhet

Incorporating A.V.C., Westectors and Pentagrid Frequency Changer

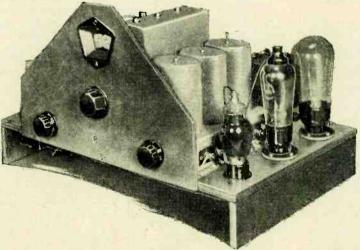
HE new receiver has only four valves, but is capable of a performance equal to, if not surpassing, that of a five- or six-valve set of only a few months ago. The reduction in the number of valves has been made possible by recent valve development and by the introduction of metal rectifiers for signal rectification.

A signal frequency H.F. stage with two tuned preselector circuits for second channel rejection precedes the Pentagrid frequency changer, and the single I.F. stage is coupled by means of iron-core type I.F. transformers. This stage feeds two Westectors, giving signal rectification and delayed A.V.C. on the H.F. frequency changer and I.F. variable-mu valves, and feeds the output pentode through a resistance coupling.

Due largely to this important feature, the A.V.C. system functions unusually well and maintains constant apparent loud speaker volume for large variations in signal input. In addition, the low value of L.F. amplification employed has farreaching effects on the question of hum. A minimum of smoothing is needed, and yet the hum level is exceptionally low, even with a positive earth, while electrostatic hum pick-up is negligible.

The quality of the reproduction reaches a high level, while the selectivity and sensitivity are adequate for most purposes. The tuning dial is wavelength calibrated, and owing to the use of a special barretter for regulating the heater current of the valves, alterations to the set for different mains voltages between 200 and 250 volts

become unnecessary.



New Superheterodyne Circuit Employing Four Valves Only.

Full size blue prints of the wiring connections will be available.

LIST OF PARTS

Aster the particular make of component used in the original model, suitable alternative products are given in some instances.

1 Super R.F. Radiopak, without volume control
Perrocart Colverdynes, 110 kc/s
1 Tapered volume control, 0.25 megolim, and knob
Glaude Lyons Type 250 M-T
(Magnum, Rothermel, Varley.)
1 Potentiometer, 5,000 ohms
Glaude Lyons Type P.58
(Haynes Radio, Rothermel, Watmel.)
1 Screened H.F. choke
(Kinva, Varley, Wearite.)
2 Mains H.F. chokes
(Davenset, Ferranti, Parmeko, R.I., Sound Sales, Varley, Vortexion.)
5 5-pin valve holder
1 T-pin valve holder
1 Chief Clar (A.T. when

5 5-pin valve holder

1 7-pin valve holder

1 Grid clip, for 6A7 valve
(Claude Lyons.)

1 Fixed condenser, 4 mfds. 250 v. D.C. working
T.C.C. Type 65

2 Fixed condensers, 2 mfds. 200v. D.C. working
T.C.C. Type 50

3 Fixed condensers, tubular, 0.1 mfd. 350v. D.C. working
T.C.C. Type 50

1 Fixed condenser, 0.01 mfd. lgranic Type F5.12
1 Fixed condenser, 0.02 mfd. lgranic Type FF.12
2 Fixed condensers, 0.002 mfd. lgranic Type FF.12
3 Fixed condensers, 0.0002 mfd. lgranic Type FF.12
4 Fixed condensers, 0.0002 mfd. lgranic Type FF.12
5 Fixed condensers, 0.0002 mfd. lgranic Type FF.12
6 Dubilier, Peak, Telsen.)

1 Make-and-break switch Claude Lyons B.A.T.728

1 Double-pole single-throw switch
Claude Lyons B.A.T.2728
(British Radiophone, Bulgin.)
2 Ebonite shrouded terminals, A.E.
Belling-Lee Type "B" (Igranic.)

Westectors Westinghouse W.6
Resistor, 25 ohms Claude Lyons Type FW.25
Resistance, 100 ohms 1½ watts ... Seradax Type M.150
Resistance, 250 ohms 1½ watts Seradax Type M.150
Resistance, 0.1 megohm 1½ watts Seradax Type M.150
Resistances, 0.25 megohms 1½ watts
Seradax Type M.150
Resistances, 0.25 megohms 1½ watts
Seradax Type M.150
Resistance, 0.5 megohm 1½ watts

2 Resistances, 0.25 megonins 12 Seradex Type M.150

1 Resistance, 0.5 megonin 12 watts

1 Resistance, 1 megonin 12 watts Seradex Type M.150

1 Resistance, 2 megolins 12 watts Seradex Type M.150

1 Resistance, 10,000 ohms 22 watts

Seradex Type M.150

2 Resistances, 10,000 ohms 22 watts

Seradex Type M.150

Belling-Lee Type 1033
(Bulgin.)

1 Length Screened Sleeving Harbros
Plymax baseboard, 10in. × 16in. × fin. Peto-Scott
(Overall dimensions of assembled chassis, 16in.
length × 10in. width × 9\frac{1}{2}in. height.)

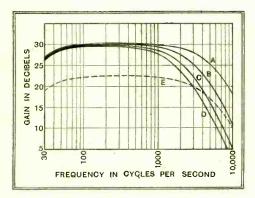
1 Voltage regulator
4 oz. No. 20 timned copper wire, 10 lengths Systofiex, wire, wood, etc.

Screws:—
25 4in. No. 4 R/hd.
4 4in. No. 4 R/hd.
7 8in. No. 4 C/sk. | Scrows :-- | 25 \{ \frac{1}{2} in. No. 4 R/hd. \ 10 \{ \frac{2}{3} in. No. 4 R/hd. \ 4 \{ \frac{6}{2} in. No. 4 R/h

G.E.C. Six-watt Power Amplifier

Two-stage A.C.-operated Power Unit in Compact Form

HE B.C.S.1562 power amplifier made by the General Electric Co., Ltd., Magnet House, Kingsway, London, W.C.2, is an A.C.-operated two-stage unit giving a maximum undistorted power output of six watts. An output of this order is sufficient to fill a small- or medium-sized hall, and with suitable disposition of loud speakers will answer for many purposes out of doors, such as at sports meetings, garden fêtes, and the like. Yet on first acquaintance few would include it in the category of public address equipment in view of its exceptionally small size, for the overall dimensions are but 13in. x 61in. x 101in. high. Despite its compactness, there is no undue crowding of the components, nor has the safety factor in a single instance been pared down to the border line to achieve this end; indeed, the components are very generously



Overall response curves of G.E.C. six-watt amplifier taken across the 15-ohm tapping of output transformer. A, normal characteristic, B, C and D with three degrees of tone control, and E, low grain characteristic.

The circuit employed is quite straightforward, and consists of an Osram MS4B S.G. valve resistance-capacity coupled to a PX25 power valve. The A.C. output from this is fed through a choke-capacity filter to an output transformer having tappings on its secondary winding to give correct matching for loud speakers of 2.5, 5, 7.5, and 15 ohms impedance. Alternatively, if two or more loud speakers are employed the wide choice of output ratios renders it comparatively easy to arrange their connections so that the total impedance of the line amounts to one of these four values. The provision for low impedance transmission lines is a wise one, for with the loud speakers located at a distance little or no loss occurs of the higher frequencies due to capacity effects.

Alternative Input

Control of volume is effected by a 500,000-ohm potentiometer in the grid circuit of the first valve, but, in addition, provision is made to reduce the input to about one-half should the need arise. A switch, marked "High Gain" and "Low Gain," is fitted, and in the former position an input of about 0.22 volt suffices to fully load the amplifier, while 0.56 volt approximately is required under low-gain conditions. A volume control of one-half megohm may seem unduly high, but it allows the amplifier to be employed following the detector valve

in a wireless unit, and, furthermore, enables separate volume controls, or fading devices, to be used where two gramophone turntables or a combination of these and a microphone unit are connected to the amplifier.

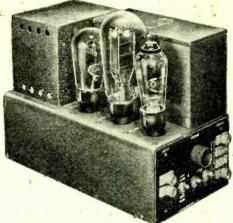
Three degrees of tone control are available, but not for compensation of the amplifier's characteristic, which is entirely satisfactory without this artificial aid. They are included in order to meet any particular contingency that may arise in connection with the acoustic properties of the hall or the loud speakers. The high-tension supply is derived from a full-wave rectifying valve (Osram U.14), the output being smoothed by a single choke and the customary array of condensers.

Anode and grid decoupling is applied where necessary, with the result that entire freedom from interstage coupling is achieved, and the amplifier is perfectly stable under all conditions of working.

The only precautions we found necessary, and this applies also to all high gain amplifiers, was to shield the gramophone pick-up leads and earth the outer covering as well as the metal parts of the tone arm.

Good Characteristic

The performance of the amplifier gives no grounds for adverse criticism; gramophone recordings are reproduced faithfully, all of which is in keeping with expectations, having regard to the very satisfactory response curve. A brief explanation of this is necessary, for it may be thought at first that it represents the total gain of the unit. In order to ascertain the overall response, including the output transformer, our measurements were made by joining a 15-ohm non-inductive resistance across the 15-ohm impedance tapping. The decibel scale should



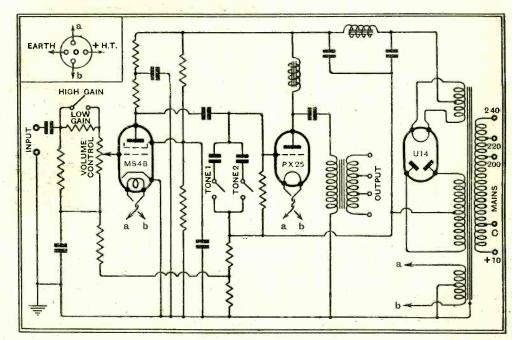
Model B.C.S. 1562

the relative level with the switch in the low gain position.

Curve A is the normal characteristic of the amplifier. For curve B tone control switch No. 1 was depressed; curve C shows the characteristic of the amplifier with the next degree of tone control, while with the full measure available curve D resulted. With the input switch set to "Low Gain" and without tone compensation we obtained the broken line curve, marked E on the graph.

Provision is made to take the necessary operating voltages for a microphone unit from the amplifier. At the back of the chassis is a sunk five-pin valve holder at the filament sockets of which is available a four-volt A.C. supply, while the anode and grid sockets give access to the smoothed D.C. line.

To sum up, the G.E.C. model B.C.S.1562 amplifier satisfactorily fulfils the various functions for which it is intended. It is of sound electrical design without frills or unnecessary complications likely to introduce annoying troubles, and, finally, the workmanship and finish are quite above criticism. Its compactness makes it readily portable and easily stowed away when not in use, and



Theoretical circuit of G.E.C. B.C.S. 1562 six-watt power amplifier.

be used for relative computation of the output only at different frequencies with and without tone compensation. It also shows at the attractive price of £18 15s., complete with valves, represents very good value for money.

BROADCAST BREVITIES

Time Signals

THE B.B.C. has long been anxious to arrange a fixed schedule for the hours at which the Greenwich time signals are transmitted to avoid the annoyance caused when the "six pips" are superimposed on an interesting programme or when the expected signal is postponed. They hope now to arrange that the time signals in future will always be heard at fixed times, and that they will not interfere with musical or other programmes.

North Regional Dramatic Producer

THE organisation of the staff for the North Regional area proceeds apace. I understand that Mr. Robin Whitworth has been appointed the dramatic producer, working under Mr. E. F. R. Harding, the recently appointed director of programmes.

0000 The Children's Hour

I UNDERSTAND that no decision has yet been made to omit the customary birth-day greetings from the Children's Hour, but that the matter is receiving serious consideration. The B.B.C. recognises that the omission may cause acute disappointment to many children, but with the development of the Children's Hour from the informal entertainment of a gathering of "Uncles and Aunts" to its present more serious fortyfive minutes, the birthday lists have grown to such a length that it is felt that they now occupy too much of the time and may have to be reluctantly abandoned.

Empire Broadcasting

THE change in the announcements of the different programmes transmitted on the Daventry short-wave sets is merely one of nomenclature. After October 8th the various Empire programmes will be known as No. 1, No. 2, and so on. Thus instead of announcing a programme for "The Canadian Zone," it will in future be known as "Programme No. 5." It has been found that there was so much overlapping of the formal zones that, in practice, the attempt to allot a certain programme to any certain zone was impossible.

000

Mr. Roger Eckersley's New Title

THE announcement that Mr. Roger Eckersley is now the "Director of Entertainments" only indicates a change in the name of his official post. It was found that some confusion arose occasionally between the respective posts of "Director of Programmes" and "Director of Talks," it was therefore decided to make it clear that the Director of Entertainments and the Director of Talks are two separate and hardworked individuals, who together are responsible for the entertainment and instructional sides of the programmes.

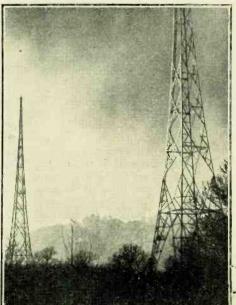
Transatlantic Relays

THE interchange of programmes between Europe and America appears likely to receive a fresh impetus from the formation of an International Committee to organise the broadcasting of taiks, debates and discussions by prominent speakers in Europe, Asia and America. Dr. Nicholas Butler, president of Columbia University, is chairBy Our Special Correspondent

man, and the committee includes distinguished representatives from England, and practically all European countries, together with China and Japan. The scheme is under the auspices of the Columbia Broadcasting System, and may be regarded as their answer to the National Broadcasting Company of America, whose interchange of programmes, following the visit of Mr. F. Bate to this country, first brought to public notice the possibilities of transoceanic broadcasting.

Prospective " General Post"

ON the completion of the new National station at Droitwich it is possible that the existing medium wave National transmitters at Brookmans Park, Moorside Edge



SILENT FOR A TIME. The splendidly situated masts of the Italian-speaking station at Monte Ceneri and the studio in Lugano. This station is at present closed down while the transmitters are adjusted to the new wavelength.

and Watchet may become redundant, but in that case it is probable that two of the transmitters will be transferred to the projected North-East of England and North of Scotland Regional stations, while the third may be reerected at Droitwich as the new Midland Regional transmitter.

The Disgruntled Statesmen

THE recent correspondence between three eminent statesmen and the chairman of the B.B.C. with regard to their noninclusion in the list of speakers to broadcast forthcoming political addresses has aroused considerable interest. Many listeners, myself included, would welcome the opportunity of hearing addresses by Sir Austen Chamberlain, Mr. Lloyd George and Mr. Winston Churchill, also by Mr. Maxton and many

other prominent politicians, but those in authority at the B.B.C. wisely set a limit to the time allotted to political speeches, fearing that a plethora of such addresses would only weary listeners and thereby defeat their own object. They therefore decided, for the coming season at all events, to limit the speakers to those chosen by the leaders of the three main parliamentary parties. In the good old days when "every little boy or gal . . . was either a little Liberal or else a little Conservative," the task of selection would have been simplified, but now that there are so many shades of political thought it becomes complicated and necessarily leads to some dissatisfaction.

The New Aberdeen Studios

IT is right that Aberdeen, the home-town of Scotland's New Regional Director, Mr. Dinwiddie, should be equipped with the most up-to-date studios, but I must confess to surprise when I dropped in at the newly designed studios in Belmont Street last

Broadcasting House in Miniature

There will be a Press view soon, and meantime those in authority have decreed that no detailed account must appear, so I am debarred from describing the new talks studio, rigged up with the now familiar "traffic signal" system of lights for communicating between the control engineer and the speaker, of the twin gramophone turntables and the modernistic fittings and furniture, the whole giving the appearance of having been lifted lock, stock, and barrel from Broadcasting House, London, while the concert studio will certainly be Scotland's finest.

Mr. Dinwiddie's Slogan

I can, however, say this: Mr. Dinwiddie



is already on the warpath with the slogan, A fair chance for every town in Scotland, and the probability is that broadcasting studios will be erected in other Scottish centres, and a start can be expected in the region of Inverness.

"The White Château" Again

LISTENERS will welcome the opportunity of again hearing that popular broadcast play, "The White Château," which will be revived on October 9th and 10th with incidental music specially composed by Norman O'Neill.

Practical HINTS and TIPS

S O far as the "one H.F." receiver is concerned, it is generally best to carry out the operation of adjusting the trimming condensers while the reaction control is advanced towards its limit. Although the best form of reaction con-

Reaction and Ganging. trol does not introduce much change in tuning, there is always the possibility of some slight disturbance

being introduced, and so it is desirable that the circuits should be in most accurate alignment when the set is in the most sensitive condition—that is, with reaction fully advanced.

In the "Hints and Tips" section of The Wireless World of September 1st a note was published on the advantages of inserting an anti-interference filter in the mains supply leads at the point where they enter the building. The purpose of

Filtering and
Electrical
Supply.

such a filter is, of course, to dispose of interference of a highfrequency nature, which may have been

superimposed on the mains current by electrical machinery, etc., connected to the same mains supply system, but perhaps at a considerable distance.

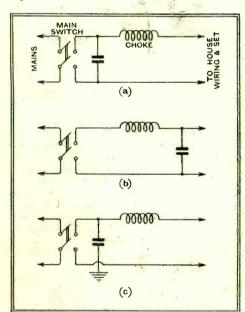


Fig. 1.—Simplified mains filters with a single choke.

As a footnote to what has already been said on the subject, it should perhaps be pointed out that in some cases the filter may be simplified and cheapened by using a single choke instead of a pair of chokes. It is therefore suggested that one or other of the arrangements shown in Fig. 1 should be tried, if only for the reason that the use of a single choke introduces less loss of voltage; looked on in another way,

AIDS TO BETTER RECEPTION

it becomes less important to use a choke of extremely low D.C. resistance.

Referring to the diagram, it will be seen that the various arrangements suggested differ only with regard to the position of the by-pass condenser. In circuits (a) and (b) this condenser is respectively connected on the "input" and "output" sides of the filter, while in diagram (c) one side of it is connected directly to earth. It can only be determined by trial which arrangement will give best results, and, above all, it must be remembered that it will depend on circumstances in which mains lead the choke should be inserted.

THE practice of fitting some form of tone control whereby heterodyne interference may be minimised by reducing the high-note response of the receiver is now fairly common. Unfortunately, most of the methods adopted are some-

The Best
Whistle
Suppressor.

what crude and extremely drastic in their action. True, many of them are effective enough in

suppressing certain forms of interference from stations working in adjacent channels, but music is quite lifeless, and speech has lost much of its intelligibility.

This is mainly due to the fact that the filters fitted have a "tailing characteristic"; they begin to attenuate at frequencies of the order of 2,000 cycles per second to an appreciable extent. The heterodyne whistle between adjacent stations, if it is worth while trying to remove it, is of considerably higher frequency than this, and it is not hard to see that the ideal arrangement should only come into operation at a suitably chosen point in the spectrum (actually about 3,500 kc/s), leaving the upper middle register at full strength.

In the New Monodial receiver a scientifically designed low-pass filter of this nature is fitted and is so arranged that it may be thrown into circuit when heterodyne interference is present. At other times full advantage is taken of the wide frequency response of the receiver.

frequency response of the receiver..

To hear a filter of this type in operation is a revelation of what can be done. With the receiver tuned to a station suffering from interference, and while the filter is out of operation, one hears a distressing background of whistle, mixed with sideband "splash," which may be so bad that the transmission has no entertainment value. Then, at a turn of the switch, the interference disappears as if the unwanted station had suddenly shut down.

The purpose of this note is to point out that the same type of low-pass filter is also applicable to other receivers, more especially to those which have an intermediate L.F. stage. The main requirements are that the filter should work with input and output impedances of roughly 10,000 ohms; this means that the preceding valve and the succeeding coupling device should have roughly that impedance value. If transformer coupling be employed, it will be necessary to reduce impedance artificially by shunting the primary with a 10,000-ohm resistance.

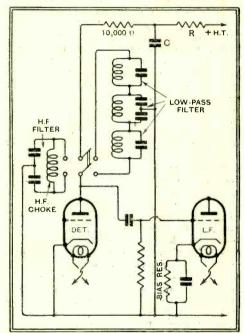


Fig. 2.—An advanced type of heterodyne whistle filter which may be thrown into circuit at will. The ordinary decoupling components are marked R. and C.

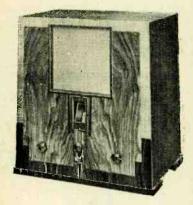
The connections of the low-pass filter unit are shown in Fig. 2 With the switch in the right-hand position the filter is in circuit, while in the other position the ordinary H.F. stopping devices become operative.

OW-FREQUENCY transformer ratio is often a matter of considerable importance, especially in view of the fact that, in most modern sets, the detector is arranged to feed directly into the output valve without an intermediate L.F. stage.

An Important Link. It is seldom that the typical grid detector provides a large surplus of undistorted output, and so the

result of using an insufficiently high stepup ratio is likely to be serious.

It should be remembered that the detector output required for loading the output stage is directly proportional to the voltage step-up provided by the transformer. If, for example, a ratio of 1:2.5 were employed in a set where 1:5 was specified, twice the detector output would be needed for correct operation.



H.M.V. "Superhet Concert Seven"

FEATURES. Type. — Seven-stage table-model super-helerodyne receiver with automatic volume control. Moving-coil loud speaker and provision for pick-up and external loud speaker. Circuit. — Signal frequency H.F. — oscillator — first detector—I.F. amplifier—metal oxide second detector—first L.F. with tone control—triode output valve. Full-wave valve rectifier. Controls.—(1) Main luning with optically magnified illuminated scale. (2) Volume control and "Static Suppressor." (3) Duplex tone control. (5) Waverange, gramoand on-off switch. Price.—22 gns. Makers.—The Gramophone Co., Ltd., 98-108, Clerkenwell Road, London, E.C.1.

A Receiver of High Performance on All Points

THE specification of this table-model receiver, having regard to its compact design, is remarkably full, and the numerous detail refinements in the circuits and controls indicate that no pains have been spared to secure the highest possible performance under modern receiving conditions. The cabinet is very similar in size and general design to that of the Model 438 reviewed in our issue of June 16th, 1933, but instead of dual vertical tuning scales there is a single illuminated drum dial which is viewed through a magnifying glass prism.

There are seven valves and seven stages in the circuit, excluding the power rectifier, the reason being that a metal oxide rectifier is used in the second detector stage. Selectivity at signal frequency is provided by the first stage, which is preceded by a bandpass tuner. Separated valves are employed for the oscillator and first detector, and two band-pass filters tuned to 117 kc/s are associated with the single I.F. stage. The metal oxide second detector is tapped across a portion of the secondary of the output I.F. transformer, while a second metal oxide rectifier for automatic volume control derives its input from the primary winding. Both the first H.F. valve and the first detector are controlled, and a delay voltage is supplied by a potential divider resistance across the H.T. supply.

In addition to the A.V.C. bias on the first

In addition to the A.V.C. bias on the first valve there is a variable cathode bias resistor which is fitted at the back of the chassis, and may be pre-set to give a volume level suited to local conditions of background noise. The full magnification of the set is obtained at any time by pushing inwards the main volume control spindle. This actuates a shorting switch connected across

the "Static Suppressor" control resistance.

The manual volume control follows the second detector and functions both on radio and gramophone. There are two L.F. stages—both triodes—the output valve giv-

ing 2½ watts undistorted. The couptorted. The coup-ling between these stages is of the parallel-fed transtransformer type, and incorporates a tone control circuit which is worthy of the name. It controls name. both high- and lownote response, and is operated by two varia ble resistances coupled together, There is a mid-position which can be felt by a notch in the control, and move-ment to the left increases the low and to the right the high notes.

The power transformer is of unusually generous proportions, and is protected by a fuse in the centre

connection to the H.T. winding and a "heat coil" in series with the primary winding. The latter is a special type of thermally delayed fuse which breaks down for steady currents in excess of 0.6 amp., but stands up to brief surges which may occur while the set is warming up

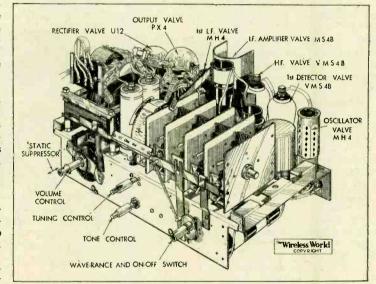
the set is warming up.

The range is all that might be expected

MODEL 467

from seven stages, and there is an ample reserve of magnification for use when conditions permit. There is not the least doubt that this set will receive any station above the prevailing noise level, and will do so, moreover, without calling for special skill on the part of the operator. At no time during the course of our tests did we find it necessary to make anything like full use of the overall amplification of which the set is capable.

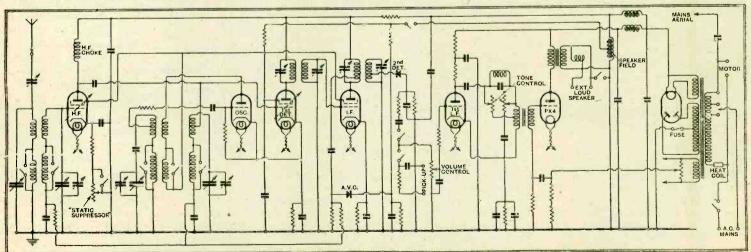
The makers claim adjacent channel selectivity, and in Central London on a 50ft. outdoor aerial the set could be tuned to Mühlacker without any trace of modulation interference from London Regional. Few receivers we have tested have equalled this performance in the matter of selec-



For a seven-stage circuit the chassis is remarkably compact.

tivity. On long waves the range and selectivity are equally good.

The high selectivity has not been gained at the expense of quality, however, and the tonal balance with the set properly tuned and the tone control in the mid-position is, in our opinion, just right when listening to the B.B.C. stations. The move-



Schematic circuit diagram. Separate metal oxide rectifiers are used for final detection and A.V.C.

H.M.V. "Superhet Concert Seven "-

ment of the silk covering the loud speaker fret affords proof of the amplitudes which are developed in the bass, but the set is free from the slight over-emphasis of low tones which we have noticed in some earlier H.M.V. sets. One's personal predilections in the matter of quality are easily satisfied by the tone control, which is one of the most satisfactory we have so far handled.

A careful search of the medium waveband failed to reveal any whistles due to second channel interference, and as no special circuits have been included to suppress these the success achieved must be attributed to the high selectivity at signal frequency

It is indicative of the satisfactory working of the A.V.C. that with the manual volume control once set for the local station no further adjustment is required when turning to the principal European stations.

Next Week's Set Review:

PHILIPS 634A SUPERINDUCTANCE RECEIVER

LABORATORY TESTS

A Review of Manufacturers' New Products

PENTAGRID VALVES

NUMBER of American Pentagrid valves, intended for use as combined oscillator and first detector valves for superheterodyne frequency changing purposes, has been submitted for test. The valves has been submitted for test. are listed as the 6A7 type, and have a heater rated to consume 0.3 ampère at 6.3 volts; they are designed expressly for use in car radio sets where the 6-volts accumulator may rise to a considerably higher voltage when on charge, hence the peculiar voltage rating. It is stated by the makers that considerable latitude in the heater potential is permissible.

The valve is of the indirectly heated type, and contains five grids and an anode. The two inner grids form the control grid and anode of the oscillator, while the next is a screen grid arranged to screen the oscillator electrodes from the others. The remaining electrodes form the control grid, screen grid, and anode of a variable-mu tetrode which is used as the first detector. No external mixing circuit is required, and the oscillator coupling is obtained internally through electronic action.

On test, the valve gave an entirely satisfactory performance, and proved superior from every point of view to the conventwo-valve frequency changer.

Although the valve is primarily intended for battery operation in a car set, it can also be used in a D.C. mains set, and tests indicated that it would give a satisfactory performance when used in this manner. It may also be operated from A.C.

Another Pentagrid with similar characteristics, the 2A7, but with a heater rated to consume o.8 ampere at 2.5 volts is available. and this is suitable for use in the New Mono-

6A7 Pentagrid with a heater rated at 6.3 volts 0.3 ampere.

dial Super. The makers are the Philco Radio and Television Corp. of Great Britain, Ltd., Aintree Road, Perivale, and the price is 16s.

W.B. TYPE PM4A SPEAKER

As in most of the W.B. range of loud speaker units this year, the model tested was fitted with the "Microlode" output transformer and switching device. There are two switch arms controlling tappings on



transformer, and a choice of seventeen ratios is available for single output valves and four

device.

ratios for push-pull stages requiring a centre The change, both in volume and quality, on varying the step-down ratio is most marked, and the load can be rapidly adjusted to give the best results.

Tested with the load adjusted to the calculated value, the efficiency was found to be exceptionally good for a permanentmagnet unit. Above 100 cycles it was equal to that of our standard 10in, energised unit.

The PM4A is also remarkable for the excellent response at the extreme top. Between 7,000 and 9,000 cycles it has a better output than any small commercial unit so far tested. There is a small resonance at 4,500 cycles, a more pronounced one at 2,500 cycles, and the bass resonance occurs at 130 cycles, below which the output falls steadily to a cut off at about 75 cycles.

The price of the new PM4A, which is made by Whiteley Electrical Radio Co., Ltd., Victoria Street, Mansfield, Notts, is 42s.

GOLTONE H.F. CHOKES

THE type P.H.F. heavy-duty H.F. choke has been designed especially for use in circuits passing currents of a greater mag-nitude than can be dealt with safely by the normal H.F. choke. It is particularly suitable for including in the heater supply circuits of a D.C. mains receiver and for certain types of interference suppressor devices where the current flowing does not exceed 0.35 amp.

Measured at a frequency of 1,000 c/s its inductance was 10,000 microhenrys approximately, yet its D.C. resistance is only 17.6 ohms. The choke is wound on a 10section former and measures 42in high, the base being 21in. x 13in. overall, and the price is 7s. 6d.

The standard model for use in H.T. smoothing circuits is made in two styles: the type S.H.F. and the type S.S.H.F.



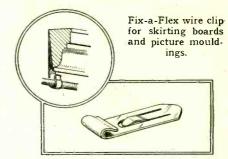
Both models are screened, the principal difference being that the type S.S.H.F. is provided with a screened lead for joining to the anode terminal of S.G. valves. The specimen tested showed an inductance of approximately 200,000 microhenrys at a frequency of 1,000 c/s, its D.C. resistance being 490 ohms. This choke will carry up to 50 mA. with safety, and the price is

The makers are Ward and Goldstone, Ltd., Frederick Road (Pendleton), Salford 6,

FIX-A-FLEX WIRE CLIP

A N ingenious clip for fixing flexible wires such as loud speaker extensions, earth lead, etc., to skirting boards, picture mouldings and other woodwork in the room, has been introduced by N. Johnson, Fix-a-Flex Works, 35a, South Park Road, Wimbledon, London, S.W.19.

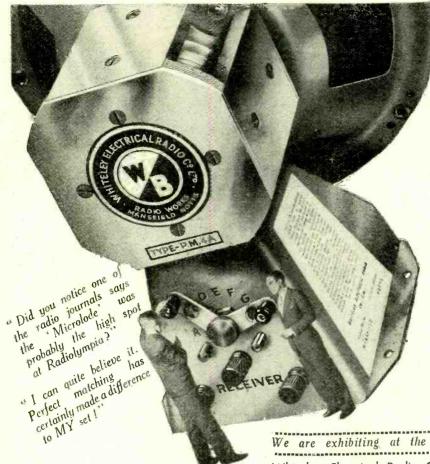
It consists of a stout brass strip, bent at one end into a loop for the wire, the other being slightly pointed and having a tonguepiece stamped out. It is fixed in position by inserting the pointed end between the woodwork and the wall; if the gap between these is too wide to afford a secure grip the tongue-piece can be opened out until a secure fixing is obtained.



They are distributed through Houghton (Ensign, Ltd.), High Holborn, London, W.C.1, and cost 1s. 6d. a box containing one dozen.

WHARFEDALE LOUD SPEAKERS

I N connection with our review of these units on page 220 of our September 8th issue, we are asked by the makers to state that the price of the "Golden" model has now been reduced from 63s. to 55s.



ACCURATE MATCHING AT LAST!



17 transformer ratios for really accurate matching to ANY power valve or pentode and 4 ratios for Class B or QPP all available on one speaker by a simple switch adjustment! Added sensitivity due to the 'Mansfield' magnetic system! Better balance through really accurate matching! The difference in performance must be heard to be believed.

(Regd Trade Mark)

Type PM4a-42/- Type PM6-32/6 MOVING-COIL SPEAKERS With the new Microlode feature and the famous ' MANSFIELD magnetic system.

Write for the MICROLODE folder.

We are exhibiting at the Manchester Radio Exhibition Sept. 27 to Oct. 7. Whiteley Electrical Radio Co. Ltd., Dept. W, Radio Works, Mansfield, Notts.

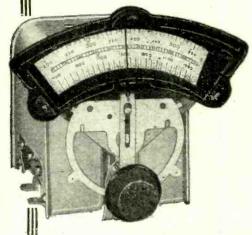


for SOUND DESIGN /

FAMOUS SINCE 1922

IIGHEST quality workmanship, accuracy and dependability have contributed to the unique position Polar hold to-day. The ever-increasing popularity has been further enhanced by the recent additions to the Polar Range.

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POLAR STAR MINOR THREE FOUR AND SUPER HET TYPES

Steel frame with cover. Trimmers operated from top. Sections matched within a per cent. or 1 mmfd. (whichever is the greater).

3× 0005 and Superhet - - - 18/9 25/-4× 0005 and Superhet - - -

With full-vision "arcuate" (as shown), horizontal or "semi-circular drive, 5/9 extra, and for a further 2/- the drive can be fitted with air dielectric trimmer as "Uniknob" design.



POLAR FULL-VISION "HORIZONTAL" DRIVE

Slow-motion drive. Scale in wavelengths and 0-100 degrees. Moulded escutcheon. Lampholder. Price 5/9

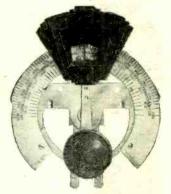
Fitted with air dielectric trimmer, as "Uniknob" design, 7/9.



POLAR "SEMI-CIRCULAR" DRIVE.

Slow-motion drive. Bevelled scale in wavelengths and 0-180 degrees. Moulded escutcheon. Lampholder. Price

Fitted with air dielectric trimmer, as "Uniknob" design, 7/9.



POLAR "MOVING-SCALE" DRIVE

Slow-motion drive. Bevelled scale in wavelengths and degrees 0-180. Moulded escutcheon. Lampholder.

Fitted with air-dielectric trimmer: as 'Uniknob' design, 6/6.

O 3564

WINGROVE & ROGERS, LTD. 188-9, STRAND, LONDON, W.C.2.
Phone: Temple Bar 2244/5/6. Polar Works: Old Swan, Liverpools

Advertisements for "The Wireless World" are only accepted from firms we believe to be thoroughly reliable.

MISCELLANEOUS ADVERTISEMENT

NOTICES.

THE CHARGE FOR ADVERTISEMENTS in these

12 words or less, 3/- and 3d. for every additional word.

Each paragraph is charged separately and name and address must be counted.

SERIES DISCOUNTS are allowed to Trade Advertisers SERIES DISCOUNTS are allowed to Trade Advertisers as follows on orders for consecutive insertions, provided a contract is placed in advance, and in the absence of fresh instructions the entire "copy" is repeated from the previous issue: 13 consecutive insertions 5%; 26 consecutive, 10%; 52 consecutive, 15%.

ADVERTISEMENTS for these columns are accepted up to FIRST POST on MONDAY MORNING (previous to date of issue) at the Head Offices of "The Wireless World," Dorset House, Stamford Street, London, S.E.1, or on SATURDAY MORNING at the Branch Offices, 19, Hertford Street, Coventry; Guildhall Buildings, Navigation Street, Birmingham, 2; 280, Deansgate, Manchester, 3; 280, Renfield Street, Glasgow, C.2.

Advertisements that arrive too late for a particular issue will automatically be inserted in the following issue unless accompanied by instructions to the contrary. All advertisements in this section must be strictly prepaid.

The proprietors retain the right to refuse or withdraw advertisements at their discretion.

Postal Orders and Cheques sent in payment for adver-tisements should be made & SONS Ltd., and crossed untraceable if lost in transit should not be sent as

All letters relating to advertisements should quote the number which is printed at the end of each advertisement and the date of the issue in which it appeared

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

RECEIVERS FOR SALE.

WEBSTER Amplifier, A.C., 8 watts undistorted output, complete 6 valves; £10.—Smallridge, 38, Farnham Rd., Guildford. [3513

W.W. Single Dial Super (battery), including valves: £4/10.—Steele, 33, Burleigh Rd., West South bourne, Bournemouth.

G AMBRELL Halford 7 tage A.C. Superhet. Chassis valves, speaker: cost #28, accept £14.—15, Ballour 13510.

8 Guineas.—Ethatrope 200-240 A.C., 2 S.G. det. and pentode, automatic tuning, in walnut cabinet, with valves and moving coil speaker; listed 23 guineas, unopened; co.d., carriage paid.—Kay, 167, City Rd., London, E.C.1.

A RMSTRONG.—Latest Universal A.C. D.C. chassis, specially efficient S.G. circuit, Pentode output, incorporating gramophone amplifier, splendid reproduction, fully guaranteed, 75/-, with 5 valves, 114/-, approval.—Armstrong Co., 100, King's Rd., N.W.1. [3517

ACCUMULATORS-BATTERIES.

MATERIALS.—Cans, 15/-; carbons, 5/9; muslins, 1/6 1,000.—Batteries, 310, Markhouse, Walthamstow.

MAINS EQUIPMENT

MAINS EQUIPMENT

N.P. Battery Chargers for A.C. Mains; trade list free; special offer for 7 days only.

N.P. Have a Few Slightly Soiled Instruments; bargains; list: from 35/- to £15.

N.P.—Trade lists make a very special offer in prices for 7 days only.

N.P.—30 volts variable ½ to 2 amps., will charge up to 30×2 volt batteries at once; cost 3d. in current.

N.P. Have 3 Circuit Chargers that Will Do Up to 120×2 volt batteries for 2/6 cost; for £7/12/5; offer open for 7 days only.

N.P.—Send full list with photographs of battery chargers, 2 years' guarantee; lowest price on market.—Nash Products, Ltd., Stechford, Birmingham, 9.

LTONE'S Transformers and Chokes the Best Obtain-

HOYNE'S Transformers and Chokes the Best Obtainable perfect insulation, regulation and reliability.

HOYNE'S Transformers used by many well-known set manulacturers after testing all others.

HOYNE'S Transformers fitted with tapped and screened prinarles, filaments all centre tapped, stout cast aluminium clamps and clearly marked terminal strips are fitted to all models.

HOYNE'S Components are guaranteed for one year; built to your own specification at very competitive prices.

HOVNE'S Components.—The components you will eventually use, start right; a dud cannot pass the

Hovne test.

Hovne test.

New Monodial Super. aluminium chassis, drilled for components, complete with Power Transformer, two chokes, push-pull intervalve transformer and valve holders 51/. carriage paid.

HOYNE'S New Monodial Transformer, 425-0-425v, 120 m.a., 4v. 3a 4v. 1a., 4v. 6a., 24/. post 1/3; weight 10lb. 10 henry choke. 6/., post 6d.; 20 henry choke. 7/6, post 6d.

HOYNE'S.—250-0-250v. 60 m.a., 4v. 1-2a., 4v. 2-4a., post 1/-, post 9d.; with extra 4v. 1-2a. winding, 12/6, post 1/-

(This advertisement continued in third column.)



Peto-Scott are pioneers in Radio and Television. Our service to the British public was introduced in 1919, and during fourteen years of Solid Service and Satisfaction we have established a reputation for fair delivery that defice competition. Sets, Kits of all descriptions, Part Kits, Miscellancous Components, Speakers, Eliminators, and Accessories. Purchases can be made for Oss', C.O.D., or on Easy Payments. Send list of your requirements for quotation by return.

NEW MONODIAL

RECEIVER KIT

Author's Kit of FIRST SPECIFIED
PARTS for REGEIVER PORTION ONLY,
less Plymax Chassis, Panel, Cabinet
and Valves
Cash or C.O.D.
Carriage Paid
Extra for Peto-Scott Plymax Chassis as used by
the Author, 14" × 12" × 8". Ready Drilled and
Assymbled with Runners
Peto-Scott Oak faced Ply Panel, Ready
Drilled, 14"×10" 26

RECEIVER KIT "A" as above but with PETOSCOTT READY - DRILLED AND ASSEMBLED PLYMAC
CASH OF CO.D., Carriage Paid, 211-12-0 or Deposit £1-12-0,
Enlance in 11 monthly payments of 20/-

POWER UNIT KIT

Author's Kit of FIRST SPECIFIED PARTS for POWER UNIT ONLY but less Plymax Chassis and Valves

BUILD your "Wireless World" Set on the PETO-SCOTT PLYMAX CHASSIS used and specified by the "Wireless World."

COMBINED KIT

Comprising Receiver and Power Unit Kits with 2 Peto-Scott Ready-drilled Plymax Chassis with Runners and Peto-Scott Ready-drilled Oak Panel, less Valves and £20-12-0 Cabinet. Cash or C.O.D. Carriage Paid £20-12-0 or £3-12-0 Deposit and 11 monthly payments of 35.

COMPLETE KIT

Comprising Receiver and Power Unit Kits as Combined Kit but with Valves, less Cabinet. Cash \$27-17-0 or C.O.D. Carriage Paid ... \$25-17-0 Deposit. Balance in 11 monthly payments of \$2-4-0.

FINISHED INSTRUMENTS

Peto-Scott supply all "Wireless World" Sets as finished receivers, Aerial tested. Cash, C.O.D. or H.P. Sendfor quotation, no obligation. Peto-Scott have specialised in "Wireless World" Kits and finished instruments for 14 years.

MODERN BATTERY FOUR

Author's Kit of FIRST SPECIFIED COMPONENTS including ready-drilled ply-panel and Peto-Scott assembled and drilled PLYMAX CHASSIS, excluding Valves, Cabinet and Speaker. Cash or C.O.D. £8-6-9

or 12 monthly payments of 15/3. PETO-SCOTT PLYMAX CHASSIS SOLELY SPECIFIED. Plymax Chassis as specified by the Author, drilled and assembled, 10"×10". Cash or C.O.D. Post 7/6 and Packing 1/3 extra.

IMMEDIATE DELIVERY CASH - C.O.D. - H.P.

PETO-SCOTT CO. LTD.
77, CITY ROAD, LONDON, E.C.1.
West End Showrooms: 62, High Holborn, London, W.C.1 West End Sho

NUMBERED ADDRESSES

NUMBERED ADDRESSES.

For the convenience of private advertisers, letters may be addressed to numbers at "The Wireless World". Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which must include the words Box 000, c/o "The Wireless World." All replies should be addressed to the Box number shown in the advertisement, c/o "The Wireless World." Dorset House, Stamford Street, London, S.E.I. Readers who rebly to Box No. advertisements are varied against sending remillance through the post except in registered envelopes; in all such cases the use of the Deposit System is recommended, and the envelope should be clearly marked "Deposit Department."

DEPOSIT SYSTEM.

Readers who hesitate to send money to advertisers in these columns may deal in perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Wireless World," both parties are advised of its receipt.

The time allowed for decision is three days, counting from receipt of goods, after which period, if buyer decides not to retain goods, they must be returned to sender. If a sale is effected, buyer instructs us to remit amount to seller, but if not, seller instructs us to return amount to depositor. Carriage is paid by the buyer, but in the event of no sale, and subject to there being no different arrangement between buyer and seller, each pays carriage one way. The seller takes the risk of loss or damage in transit, for which we take no responsibility. For all transactions up to \$10\$, a deposit fee of \$1/-1\$ is charged; on transactions over \$10\$ and under \$15\$, the fee is \$2/6\$; over \$15\$ o.5/-. All deposit matters are dealt with at Dorset House, Stamford Street, London, S.E.1, and cheques and money orders should be made payable to lliffe & Sons Limited.

SPECIAL NOTE.—Readers who reply to advertise-

be made payable to lliffe & Sons Limited.

SPECIAL NOTE.—Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post. When sending remittances direct to an advertiser, stamp for return should also be included for use in the event of the application proving unsuccessful.

Mains Equipment.-Contd.

(This advertisement continued from first column.)

HOYNE'S - erroceart Model.—350-0-350v. 60-70 m.a., 4v. 2-3a., 4v. 2-4a., 12/6, post 1/-; with extra 4v. 1-2a.

HOYNE'S,—350-0-350v. 120 m.a., 4v. 2-3a., 4v. 4-6a., 4v. 1a., 4v. 1a. 16/-, post 1/3.

HOYNE'S,—50-0-550-0-50-500v. 140 m.a., 4v. 2-4a., 4v. 4a. 1a., 4v. 2a. 27/6, post 1/3; weight 11lb.

HOYNE'S,—50-10-10-135v. 90 m.a. suitable for H.T. 6 or 7, 7/6, post 9d.; with 4v. 2-4a. winding, 9/6, post 9d.

9d.

H. OYNE'S.—200v. 200 m.a., 4v. 2-4a., 4v. 1-2a., for H.T. 8, 13/6, post 1/-.

HOYNE'S.—Auto Transformers, Chokes and Filament Transformers always in stock.

HOYNE'S Components still have no equal.

M. J. HOYNE. Offices and Works, 8a., Gladstone Rd., Wimbledon, S.W.19. Tel.: Liberty 3303. [3455]

VORTEXION, Wimbledon, for 99.9% reliable trans-

VORTEXION, Wimbledon, for 99.9% reliable transformers.

If You Haven't Tried Them Yet Ask Someone who has, or call and inspect complimentary letters.

A LI. Standard Models Delivery by Return; all secondaries centre tapped.

UARANTEED 12 Months, and within 5% normal and 2½% super models, neat shrouding, with detachable feet, as used by Government Departments, etc., etc.

VORTEXION—New monodial transformer, 200-250, 50 cycles, 425-0-425, 120 m.a., 4v. C.T. 3a., 4v. C.T. 1a., 4v. C.T. 6a., screen primary, open type, 20/; shrouded, 22/; super shrouded, 26/; 10 henry choke, 5/6; 20 henry choke, 8/6.

VORTEXION.—Ferrocart 11i, 550-0-350, 60 m.a., 4v. 2.5, C.T., 4v. 3.5, C.T.; open type 13/6, shrouded 16/; post 9d.

2.5, C.T., 4v. 3.5, C.T.; open type 13/6, shrouded 16/-: post 9d.

VORTEXION.—250-0-250, 4v. 1 to 2a., 4v. 2 to 4a.; open type 10/6, shrouded 12/6; post 9d.

VORTEXION.—Super model for H.T.8 or 9 or 10, 4v. 1 to 2, 4v. 2 to 4; open type 14/6, shrouded 16/6;

post 1/VORTEXION.—2½ watt Monodial A.V.C. model; open type 14/6, shrouded 16/6; post 1/-.
VORTEXION.—5-watt Monodial A.V.C. model, 400-0-400, 120 m.a., 4v. 6a., 4v. 3½a., 4v. 2, 4v. 1a. super screened; 20/-, shrouded 24/-.
VORTEXION.—550-0-350, 120 m.a., 4v. 2 to 5a., 4v. 2 to 4a., 4v. 2.5a.; open type 14/6, shrouded 16/6.
VORTEXION.—400 or 450 or 500v., 120 m.a., 4v. 2 to 5, 4v. 2 to 5, 4v. 2 to 5; open type 19/-, shrouded 23/-.

23/-. 20 5, 4v. 2 to 5; open type 19/-, shrouded VORTEXION.—400 or 450 or 500, 150 m.a., 4v. 4a., 4v. 2.5, 4v. 2, 4v. 2, eye size 2\(\begin{array}{c} \text{Vin} \times \text{Vin} \text{Vin}

Vortexion 30h. at 60 m.a. Chokes, 5/6; 40h. at 60 m.a., 8/6; 30h. at 150 m.a., 200 ohms, 10/6 open type. 12/6 shrouded.

type, 12/6 shrouded.

VORTEXION 200v. 30 m.a. Eliminators, 110 or 220 input with 4v. 4a. winding; 37/6.

VORTEXION.—Transformers made to your specification. All standards in stock. 'Phone all hours.

VORTEXION (S. A. Brown), 182, The Broadway, Wimbledon. Tel.: Liberty 2814.

Mains Equipment.-Contd

TANTALUM for A.C. Chargers, H.T. and L.T.—Blackwell's Metallurgical Works, Etd., Garston, Liverpool. [3448]
A.C. Charging Plant, unused, cost £18/18, for £6/18/6; write for makers' specification.—Jersey, Cumnor Hill, Oxford.

write for makers' specification.—Jersey, Cumnor Hill. Oxford

ERADEX Products, specified for "New Monodial Super." "Modern Battery Four," "Kelvin A.C. Three," "Exhibition Three," etc.

ERADEX Resistances Are Used by the Leading Set Manufacturers; let us quote you for any type of resistance; illustrated lists for stamp.

ERADEX Transformers, as supplied to Lloyds Bank.

Ltd., and to the largest British manufacturers of mains equipment; new catalogue available soon.

ERADEX V.T.7 Transformer for the New Monodial, primary terminals, heavy aluminium clamps and colour-coded leads, as specified; £1/17/6.

ERADEX Battery Chargers: new illustrated catalogue and real photographs for stamp.

ERADEX V.R.1326a Charger, will charge up to 400 cells per week at very low cost; price, complete, £4/4.

TUREVOR PEPPER, 5754 Moseley Rd. Birminghem, 12

TREVOR PEPPER, 575d, Moseley Rd., Birmingham, 12
Telephone: Calthorpe 1618. Telegrams: Scradex
[5532]

A.C. or D.C. Chargers for 2 to 200 Cells at Low Prices; state requirements; dynamos and rotaries in stock, all sizes; Brown's Generometer, battery superseders for H.T. for 2v. or 6v. input, 37/6 and 52/6; television and sewing machine universal motors, 25/-; lists.—Electrality Radios, 218, Upper Thames St., E.C.4.

CABINETS.

RADIO-GRAM Cabinets; fully illustrated list free; remarkable values.—Gilbert. Cabinet Maker. Swindon. [1886]

H.M.V. Radiogram Cabinet, model 522, in walnut, fe lined lid, handsome piece of furniture; sacrifice, 70/first cash secures.—Fine, 81, Park Avenue, Willesden.

MANUFACTURER'S Clearance Lines of Cabinets for Radiograms, loud-speakers, and radio sets; hundreds to select from; send postcard for list; special: cabinets for Skyscraper and S.T.40C.—H. L. Smith and Co., Ltd., 289, Edgware Rd., London, W.2.

DYNAMOS, ETC.

ROTARY Converters, 220 volts D.C. to 200 volts A.C., capacities up to 0.44 K.V.A., cheap.—Milo Engineer-works, Milo Rd., East Dulwich, S.E.22. Sydenham 4422.

GRAMOPHONES, PICK-UPS, ETC.

PAILLARD A.C. Induction Mofor, 12in. turntable, automatic brake, perfect condition; cost £2/5, accept 27/6.—Pinchbeck, 91, Sandy Lane, Chesm. [3500]

C. or A.C. 100-250v. Universal New K-B Gramophone Motors, complete, turntable, autostop, etc.; list £6/15, 30/- cash, post free, or c.o.d.—5. Hillside Crescent, N.10.

LOUD-SPEAKERS.

P.M. Speakers Bargain.

ARGE Quantity 8% in. P.M.M.C. Speakers, made by well known manufacturer for set maker, highly sensitive, work off any set, 3-ratio transformer; 19/6, post free; money returned if not satisfactory.—Milten Manufacturing Co., Milton St., Coventry. [3415]

Co., Milton St., Coventry. [3415]

B T.H. RK Moving Coil Speakers, guaranteed new, unused, manufacturers' surplus, original price.

Guineas, highly sensitive and wonderful tone response, will handle up to 10 watts output, available for 6v., 100v., 200v. D.C., 30/-. also A.C. models

C 2/10: carriage paid. c.o.d. or cash with order; the best value in speakers obtainable to-day.—O. H. Seekamp, First Avenue House, High Holborn, London, I/425

NC.1. Phone No.: Holborn £609. [1425]

10/——Lamplugh Silver Ghost. 2,200 ahms, with output transformer, unopened: list 47/6: c.o.d., carriage paid. Kay, 167, City Rd., London, E.C.1. [3551]

A RMSTRONG.—1934 permanent magnet moving coil

ARMSTRONG.—1934 permanent magnet moving coil speaker, better than ever this year, transformer matched to requirements full size speaker, remarkable performance: 21/-; guaranteed; approval.—Armstrong Co.. 100, King's Rd., N.W.1.

300, King's Rd. N.W.1.

30 /-!!-B.T.H., R.K. moving coil speakers, 6in. cone, new and unused, guaranteed; these speakers are the type as used in cinema sound equipment; suitable for public address work; weight 30lb., and are vastly superior to the cheap speakers now on the market, 100 volts, 150 volts, and 200 volts D.C.

27/6 !!!-6-volt D.C. speakers, as above; £2/7/6 speaker as above for 100-250 volts A.C., complete with field rectifier.

CARRIAGE Paid, cash with order or c.o.d.; send for list.—Ward, 12, Tredegar Rd., Bow, E.3. Tel.: Ad-[3489]

CHALELECTRIC Offer New Boxed Set Manufacturers' Surplus Rola Speakers, all fitted hum buckers, state for power or pentode: F6, 110-175v. (2,000 ohms), 90-130v. (2,500 ohms), 150-200v. (4,700 ohms). 200-250v. (6,500 ohms), 150-200v. (4,700 ohms). 200-250v. (6,500 ohms), 1st 35/- at 18/- each; F7, voltages as above. list 47/6, at 25/-; permanent magnets. F6, P.M. list 43, at 33/-; dual compensated (2) F6, list 43/10, at 42, or (1) F6 and (1) F7, list £4/5, at 47/-; few Class B; state requirements; all goods carriage paid; cash with order, or c.c.d.—Chal-Electric, 6, Conduit St., London, W.1. [3524]

VALVES.

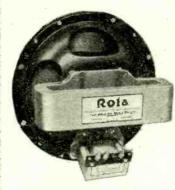
VALVES.—All types American screen grids, etc., in stock; send for quote.—Mildinay Radio Exchange, 24, Mildinay Grove, London, N.1. [3531a]

A LL Classes of Valves in Stock, including American and non-ring valves; send for price list.—R. Newman, 309, Roman Rd. London, E.3. [3246]

M.R.D. Co.'s Own Super British Valves, brand new, guaranteed 6 months. 2-volt types, V.M.s, 7/6; S.G.s, 7/6; Class B 9/-; also other types and full A.C. range; any details on request.—Mains Radio Development Co., 4-6, Muswell Hill Rd., London, N.6. [3482]



the Speakers that Put the "Class" Class B Amplification



High class radio reproduction in its highest form has always been associ-ated with Rola repro-ducers. Now, this comprehensive range of Class B units ensures. your getting quality Class B Amplifica-

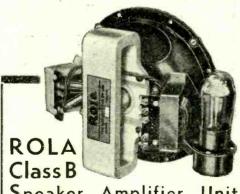
FOR MULLARD P.M. 2B, B.T.H. PD220, COSSOR 220B, STANDARD 13 B1, HIVAC B220, MARCONIPHONE B21, G.E.C. B21, CLARION B22.

ROLA FR5—PM—33—Class B ROLA FR6—PM—23—Class B ROLA F7—PM—23—Class B ROLA F7—PM—23—Class B

For COSSOR 240, FERRANTI HP2, CLARION B24.

ROLA FR5—PM—32—Class B ROLA FR6—PM—22—Class B ROLA F6—PM—22—Class B ROLA F7—PM—22—Class B

All Prices include Transformer.



Speaker Amplifier Unit

Without alteration to his set any battery set owner can increase its volume about 5 times in 5 seconds by connecting this outstanding Rola unit.

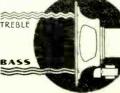
Model A—For Mullard P.M. 2B, B.T.H. PD220, Cossor 220B, Standard 13B1, Hivac B220, Marconiphone B21, G.E.C. B21, Clarion B22. Model B—For Cossor 240, Ferranti HP2, Clarion B24.

PRICE (Both Models less Valve)

THE BRITISH ROLA CO., LTD. MINERVA ROAD, PARK ROYAL, N.W.10

'Phone: Willesden 4322-3-4-5.





Valves .- Contd

Valves.—Contches Valves by world famous Continental manufacturers, fully guaranteed, screen grid, variable Mu screen grid, high magnification screen grid, high magnification screen grid, high magnification screen grid, H. H.L. L. R.C. power, superpower, pentode, Bi-grid, directly heated pentode, 300v. 60 milliamp rectified, 350v, 150 milliamp, 180v, 180

ALL Types of Valves in Stock, including the following brand new American valves, first-class makes: 247s, 255s, 224s, 256s, 237s, 235s, 245s, 248s, 12/-; 227s, 226s, 260s, 245s, 9/6:; 242s, 232s, 11/-; U.X. 210s, 15/-; U.X. 250s, 7 watts output, 16/-; 281s, 14/6; post paid, cash with order or c.o.d. Send for valve list.—Ward, 12, Tredegar Rd., Bow, E.3. Tcl.: Advance 3668.

COMPONENTS, ETC., FOR SALE.

SELECTED Parts for Sale, as new, any c.o.d. or "Wireless World" deposit system, which we recommend if in doubt as to the splendid value offered; we take risk of damage in transit to dustomers; goods tested for callers and guaranteed.

M L Anode Converter, 6v. to 200v. 40 m.a., perfect. new in February, £3/10; Gambrell senior Novotone, perfect, at new 50/-; Philips 6 amp, charger, complete 70/-; Morrision 6 amp, charger, 2 line and H.T. £5/10; B.T.H. senior P.M., with transformer, £3/10; P.A. set. with radio, 10w. A.C. entirely complete, modern, £20. Ferranti portable meter, 250v. 10v. 100 m.a., 200 thin, per volt, 45/-; Lotus 2v. A.C. set. modern, 90/-; D.C. ditto.

Ferranti portable meter. 250v. 10v. 100 m.a.. 200 obnaper volt, 45/-; Lotus 2v. A.C. set. modern. 90/-; D.C. ditto.

HARTLEY TUENER Sneaker. 200/250v. D.C. with transformer. £3/15; Westinghouse H.T.1 with R.I. transformer. £3/16; Vortexion 250v. 120 m.a., 4v. 2 amp. 4v. 7 amp. 6v. 15/-; Ferranti S4V transformer. 15/-; Ferranti E.M.1 R.T. eliminator. 200v. 100 m.a., 90/
METERS, moving coil, made for Ryall's Radio guartion, all panel flush type, bakelite case. 0-1 m.a., 25/-; 0-5 m.a., 0-20 m.a., 0-50 m.a., 0-150 m.a., 0-17 each: 0-5 m.a. 0-20 m.a., 0-50 m.a., 0-150 m.a., 0-17 each: 10-250v. 32/6; 0-300v., 35/-; 1.000-olm per volt, zero adjuster. size 34/in.

METERS, as above, moving iron, first grade, air damped, zero adjuster. 0-250v. A.C., 18/-; 0-50 m.a., A.C. and D.C., 15/-; non damped, without zero, 0-12v., 10/-; 0-250v. 12/-; 0-3 amps., 10/-; 0-20 m.a. A.C. and D.C., 15/-; non damped, without zero, 0-12v., 10/-; 0-250v. and 10. C. speaker, moving iron first grade. air day and the second day of the second

Tyall's Mains Transformers 250v. 60 m.a. 4v. 1 amp., 4v. 3 amp. 10'6, 350v. 12'9, H.T. 10'6, H.T. 8 12'9.

4v. 3 amp. 10'6, 350v. 12'9, H.T. 10'6, H.T. 8 12'9.

4v. 3-5a. L.T. 8/9; chokes, 20H. 120 m.a. 8/9, 25H. at 60 m.a. 6/9, resistance 260 ohms. 40H. at 100 m.a. 600 ohms 10'6; all other models available.

We Hold a Large Stock of First Class Radio Apparatus, meters. resistances. condensers, heavy chokes, in addition to the goods advertised.

POLAR Star 5-gang Condensers, 15/-; with drive, 17'6; Polar Uniknob 2-gangs, with cover and drive. new. 10'6; Radiophone 4 gangs, 12'6; with cover and drive. 17'6; Radiophone 4-gang superhet, type, screened, with trimmers, Radiopack type, 9'-, post 9d.; Lotus new 4 gangs, 15'-, 20 and 13 Chappers Large Lovice.

trimmers, Radiopack type, 9/-, post 9d.; Lotts new spans, 15/-.

RYALL'S RADIO, 33, Chancery Lane, London, W.C.2 (nearest Tube, Chancery Lane; bus 67 passes door, or tram to Savoy St.). Holborn 3523. Open Saturday afternoon. Close 7 p.m., Saturday 6 p.m. day.

R.

PREMIER.

PREMIER.

PHEMIER SUPPLY STORES Offer the following Set Manufacturers' Surplus New Goods at a fraction of the Original Cost, all goods guaranteed perfect, carriage paid over 5/-, under 5/- postage 6d. extra (freland, carriage forward).

LIMINATOR Kits, including transformer, choke, Westinghouse metal rectifier, T.C.C. condensers, resistances and diagram, 120°. 20 m.a., 20/-; trickle charger 8/- extra; 150°. 30 milliamps with 4v. 2-4 amps. C.T., L.T. 25/-; trickle charger, 6/6 extra; 250°. 60 milliamps. with 4v. 3-5 amps. C.T., L.T. 30/-; 200°. 100 milliamps. with 4v. 3-5 amps. C.T., L.T., 49/6; 300°. 60 milliamps. with 4v. 3-5 amps. C.T., L.T., 37/6.

POLA Moving Coil Speakers, complete with humbuck-whether power or pentode required: F6. 2.000 or 6.500 ohm, listed 35/-, at 17/6: F7. 2.000 or 6.500 ohm, listed 35/-, at 17/6: F7. 2.000 or 6.500 ohm, listed 35/-, at 17/6: F7. 2.000 or 6.500 ohm, listed 35/-, at 17/6: F7. 2.000 or 6.500 ohm, listed 47/6, at 23/6; A.C. conversion kit for any of above, 10/-.

SPECIAL Offer.—Reisz type microphone with transformer, a really professional job, listed at £12; our price 52/6.

price 52/6.

HEAVY Duty Variable Resistances, wound on porcelain, 2,000 ohms 1-4 amp., 500 ohms 1-2 amp. 120 ohms 1 amp., all the above values, 3/6 each.

P.C.C. Condensers, 750v. working, 2 ml. 3/6, 4 ml. 6/5, 4 ml. 400v. working 4/-, 250v. working 1 ml. 1/-, 2 ml. 1/9, 4 ml. 2 6, 1,500v. working Standoff insulators 5 mid. 1/6, 2 mid. 6/-, aqueous electrolytic 440v. working, 4 ml. 3/-, 8 ml. 3/6.

D.UBLIER Condensers—01 mics 6d. 01 mics 1,000v.

DUBLLIER Condensers.—.01 mica 6d., .01 mica 1,000v.

working 1/-.

ALL the Following Lines 6d. each or 5/- per dozen; 4 and 5 pin chassis mounting valve holders; shielded screen grid or pendode leads 1-watt wire end resistances, any value; T.C.C. 1 condensers; hum dingers; on-off switches pushpull; polar ganging devices.

POLAR 3-gang 0.0005 Condensers, split end vanes, totally screened, disc drive; 6/11.

A MSCO Triple-gang 0.0005 Condensers, with trimmers,

(This advertisement continued on next page.)

Did you hear those organ notes:

That's what Filson Young asked, after Mr. Taylor had played down to 32 cycles and up to 8,000 on the B.B.C. Organ.

Our customers did

If you didn't, send a 11d. stamp for "NEW NOTES IN RADIO."

Hartley Turner Loudspeakers

D.C. Model £7.7.0 A.C. Model £8.8.0

Demonstrations any time by appointment.

HARTLEY TURNER RADIO LTD.

Thornbury Road, Isleworth, Middlesex.

Tel.: Hounslow 1854.

We are demonstrating this remarkable

HARTLEY TURNER

moving coil loudspeaker daily between 12 and 3 p.m., and 4 and 6 p.m. Other times by appointment.

Easy Payment Terms for the Hartley Turner Moving Coil Unit, complete with special transformer, carriage paid, are as follows:—

D.C. Model, cash price £7.7.0 or 20/- with order and 11 monthly payments of 12/9.

A.C. Model, cash price £8.8.0 or 26/- with order and 11 monthly payments of 14/-.

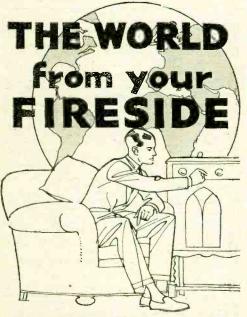
We supply all other high-grade radio apparatus on convenient easy payment terms. Please send us your enquiries and a quotation will be sent by return.

THE LONDON RADIO SUPPLY CO.

(Established 1925)

11, Oat Lane, Noble Street, London, E.C.2
(off Gresham Street)

'Phone: National 1977.



WITH YOUR PRESENT SET!

Here is a wonderful instrument that will give you tremendous range with your receiver.

Short wave stations can be tuned in with most receivers when fitted with an "ELLEX" Short Wave Convertor, Programmes from Australia, America and other distant countries are brought in without trouble even by those with little or no experience of Short wave reception. You can spend many thrilling hours tuning in distant countries and your friends will be amazed at the remarkable increase in the range of your set.

Price 52s, 6d, (less valves), Send for Booklet No. C.46,

J. J. EASTICK & SONS, 118, Bunhill Row, London, E.C.1. 'Phones: Met. 0314 (6 lines).

Components, etc., for Sale.-Contd.

(This advertisement continued from previous page.) ORMOND Condensers, 2-gang semi shielded, 2/6.

WESTERN ELECTRIC Mains Transformers, input 200-250 volt, output 500-0-500 volt, at 150 milliamps, 4v. 4a. 4v. 2.5a., 4v. 2a., 4v. 1a., 4v. 1a., massive job; 19/6

4v. 4a. 4v. 2.5a., 4v. 2a., 4v. 1a., 1916.

T.C.C. Electrolytic Condensers, 100 volts working, 15 mid.; 1/3.

Wains Transformers, manufactured

Mid.; 1/3.

SPECIAL Offer of Mains Transformers, manufactured by Philips, input 100-115v. or 200-250 v., output 180-0-180 volts, 40 m.a., 4v. 1a., and 4v. 3a., 4/6; 200-0.200v., 4v. 1a., 4v. 3a., 4/6.

ALL Premier Guaranteed Mains Transformers have engraved terminal strips with terminal connections, input 20-250 volts, 40-100 cycles, all windings paper interleaved.

PREMIER H.T.8 Transformer, 250v. 60 m.a., rectified, with 4v. 3-5a. c.t. L.T., and screened primary, 15/-; with Westinghouse rectifier, 25/-.

T.C.C. 2,000+2,000 Electrolytic, 12 volts working: listed 27/6, at 10 ROLA F5 P.M., 18/6; Rola F6 P.M., 22/6; Rola F7 P.M., 32/-; please state whether power or pentode transformer

P.M. 32/-; please state whether power or pentode transformer.

REMIER H.T.9 Transformer, 300v. 60 m.a., rectified, with 4v. 3-5a. c.t. L.T., and screened primary, 15/-; with Westinghouse rectifier, 26/
PREMIER H.T.10 Transformer, 200v. 100 m.a., rectified, with 4v. 3-5a. c.t. L.T., and screened primary, 15/-; with Westinghouse rectifier, 26/-.

PREMIER Mains Transformer, output 135v. 80 m.a., for voltage doubling, 8/6; 4v. 3-4a. c.t. L.T., 2/-extra; Westinghouse rectifier for above, giving 180v. 30 m.a., 8/6.

DREMIER Mains Transformers, output 250-0-250 volts, 60 m.a., 4v. 1-2a., 4v. 2-3a., 4v. 3-4a. (all c.t.), with screened primary; 15/-.

PREMIER Mains Transformers, output 350-0-350 volts, 90 m.a., 4v. 3-5a., 4v. 2-3a. (both c.t.), with screened

PREMIER Mains Transformers, output 400-0-400 volts, 100 m.a., 4v. 4-5a., 4v. 2-3a., with screened primary;

primary; 15/
PREMIER Mains Transformers, output 400-0-400 volts, 15/
PREMIER Auto Transformers, 100-110/200-250 volts or vice versa, 60-watt, 7/9; 100-watt, 10/-.

SPECIAL Offer of Manufacturers' Type Transformers, any input, output 250-0-250 volts, 60 m.a., 4v. 1a., 4v. 3a. (both c.t.), 8/6; H.T.8 transformer, with 4v. 3-4a. (c.t.), 8/6; with rectifier, 18/6.

AMPLION Mains Transformers, input 100-250 volts, output 350-0-350 volts, 120 m.a., 4v. 5a., 4v. 2a., 6v. 1a. (all c.l.); 17/6.

FILAMENT Transformers, polished and engraved terminal boards, N.P. terminals, 4v. 3-4a., 5/-; 10v. 3a., 6/6; 12v. 1a., 5/-; 4v. 46a., 6/6; 14v. 4a., 6/6; 22v. 1a., 6/-; 6v. 2a., 5/-; 9v. 1a., 5/-; 35v. 3a., 15/-.

PREMIER Chokes, 40 m.a., 25 hys., 4/-; 65 m.a., 50 hys., 6/-; 150 m.a., 30 hys., 10/6.

PYE Chokes, 20 or 32 hys., 4/-; Premier multi-ratio output transformers, giving 15 different ratios, 7/6.

PREMIER Eliminators, input 200-250 volts, 40-100 cycles, A.C. incorporating Westinghouse metal rectifiers, output 250v. 60 m.a., S.G. and 120v. taps, 42/6; with 4v. 4a. c.t. L.T., 7/6 extra.

BRITISH RADIOPHONE Wire Wound Potentiometers, with mains switch incorporated, 5,000 ohms, 10,000 value; 3/6.

PREMIER Eliminators, output 150v. at 30 m.a., S.G. and 100v. taps, with 4v. 3-4a. c.t. L.T., 37/6; cr with trickle charger, 42/6.

PREMIER Eliminators output 120v. at 20 m.a., S.G. and 100v. taps, 27/6; with L.T. trickle charger incorporating Westinghouse metal rectifiers: 2, 4, and 6v. at 1 amp., 17/6; 12v. 1a., 27/6; 6v. 2a., 35/-; 12v. 2a., 35/-; 12v. 15a., 30/-; 6v. 3a., 39/6; 30v. 1a., 42/6.

PREMIER—D.C. Eliminstors, output 120v. at 20 m.a., S.G. and 100v. taps, 27/6; with L.T. trickle charger incorporating Westinghouse metal rectifiers: 2, 4, and 6v. at 1 amp., 17/6; 12v. 1a., 27/6; 6v. 2a., 35/-; 12v. 2a., 35/-; 12v. 15a., 30/-; 6v. 3a., 39/6; 30v. 1a., 42/6.

MPLION High Inductance Chokes, resistance 2.500 ohms, 10/6; 180v. at 30 m.a., 8/6; 8v. at ½ amp., 6/6; 6v. 41 amp., 9/6.

WESTERN ELECTRIC Condensers, 250v. worki G×4×2×2×2 mld., 375v. working, 6/11; 4×4×1, 6/SPECIAL Offer of Wire Wound Resistances.—4 watts,
any value up to 10,000 ohms, 1/-; 8 watts, any value
up to 15,000 ohms, 1/6; 15 watts, any value up to
50,000 ohms, 2/-; 25 watts, any value up to 50,000 ohms, 3/6;
WIRE Wound Potentiometers, 15,000 ohms, 3/6; Centralab Potentiometer volume controls, 50,000 ohms,
2/-; Colverstats, logarithmically wound Potentiometers,
6,000 olms, 1/9.

FOR Callers only.—The following valves, guaranteed
new:—

THE Last Few Western Electric 3211-D Valves, 10v. 3a. filament, 750-1,000v. plate, 50-65 m.a. impedance 3,500 ohms, amplification factor 12; cost £5, to clear at 15/-.

Philips 328 Valves for L.T. Charging, 5/6; 329 Barreter lamps, 2/.

HARLEY Pick-ups, with arm and volume control; 12/6.

DREMIER SUPPLY STORES, 20-22, High St., Clapham, S.W.4, Macaulay 2188. Closed 1 o'clock Wednesdays, open to 9 o'clock Saturdays. Nearest Station, Clapham North Underground. PREMIER.

NOW READY

The completely revised 1934 EDITION of RICH & BUNDY.

24-Page CATALOGUE

OVER 100 Models of Mains Transformers and Power Chokes fully described.

Valuable information.

FREE

Ask for 1934 Catalogue "W." Free by return of post.

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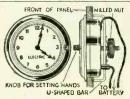
Transformer Manufacturers. New Road, Ponders End, Middlesex.

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YOU HAD AVE

particulars of the famous "Magnum" Short Wave Adaptor, which is now available for every type of receiver? Full particulars, with a list of short wave stations and free trial offer, on request.

BURNE-JONES & CO. LTD. 296, Borough High St., London, S.E.1



FIT THIS ELECTRIC **CLOCK** TO YOUR SET!

NO MAINS NEEDED! KEEPS CORRECT TIME! NO WINDING! Works off small battery lasting 12 months, or can be plugged into G.B. Battery without affecting reception. Uses practically no current. Fits into hole 3½ dia. in any panel up to ½" thick. Easy to fix—no screws required. Only ½" from front of panel to back of case. Swiss move ment. Hands set from front. Nickel plated bezel. Useful addition to any set.

to any set.

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GILBERT INDUSTRIES Parcels.

"A," "B," "D," and Condenser Parcels, as advertised in issues August 4th and August 11th, still available by return of post.

GILBERT INDUSTRIES, Ltd., 519, London Rd., West-cliff-on-Sea. [3283]

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MILDMAY RADIO EXCHANGE Offers the Following Sound and Perfect: -

FERRANTI A.F.5. 17/-; A.F.5C, 19'6; A.F.3, 11/-; A.F.6, 17/-; B5 chokes, 17/-; O.P.M.1, 10/-; O.P.1, 1.1, 7/6; O.P.M.1C, 14/-; O.P.M.2C, 14/-; O.P.M.3C, 14/-; O.P.M.3C, 14/-; O.P.M.3C, 14/-; O.P.M.5C, 14/-;

mains chokes, 5/6.

MARCONI P.M. Speaker Magnets. 15/-; Senior Sonochord D.C. speaker, 2,500. 25/-; Senior Novotone, standard model, 35/-.

GARRARD A.C. Motors, fully automatic stop and start, 35/-; Collaro A.C. motors, fully automatic, complete with combined pick-up and volume control 59/6, Jess pick-up 37/6; Wates A.C. motor, complete, 25/-; Undy ditto, 20/-.

ALL Post Paid: c.o.d. extra.

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SOUTHERN RADIO'S Wireless Bargains.—Set manutacturers' guaranteed surplus.

Variable Condensers.—British Radiophone 4-gang superhet, type 0.0005, 8/9 (list 45/-); same with dial, knob and escutcheon, 12/9 (list 50/-); Polar 3-gang 0.0005, complete with dial, knob, escutcheon, 11/- (list 35/-); Lotus 2-gang 0.0005, complete with dial, knob, escutcheon, 8/6; all ganged condensers are fully screened, with triumers and boxed; Hydra block condensers, new, 16 infd., 2+2-8+2+1+1, 1.000 volt test, 7/- each; 4 mfd., 2/6; 2 mfd., 1 9; 1 mfd., 1/
PEAKERS.—Celestion Soundex permanent magnet, 16/- (list 27/6); Rola F6 permanent magnet, 28/- (listed 49/6); D.C. mains energisel, 2:500 to 6,500 ohms, complete with humbucking coils and transformers, 16/6 (list 39/6); G.E.C. Stork speakers, complete in magnificent cabinet, 19/6 (listed £3/15); Ormond speakers, complete in cabinets, 10/- (listed £3/15); Ormond speakers, complete with a will aviable the permanent magnet speakers, 59 P.M., 35/- each, a really helty job (listed £4/15).

CONSTRUCTORS Kits.—Ready Radio "503" battery 3-valve kits, less valves, 18/- each; complete with 3 Mullard valves (P.M.1L.E. P.M.2, 2.D.X.), 33/- each (list 70/-); Ready Radio Meteor screen grid 3-valve kit, ready assembled on chassis 12/6 (listed 45/-).

READY RADIO S.T. 400 Kits, as specified by Scott Radio or Million 3-valve A.C. kit, complete with 3 Mullard A.C. valves (Pen.4V, 354V, 34V), 25/10 (list 26/10); Mullard Radio for Million 3-valve battery kits, complete with 3 Mullard valves, 17/6 (list 24/17/6); Mullard A.C. valves (Pen.4V, 354V, 354V), 35/10 (list 26/10); Mullard Radio for Million 3-valve battery kits, complete with 3 Mullard valves, 25/3; (list £6/2/6), all kit brand new in original sealed cartons.

PIFCO.—All-in-One fatest type bakelite case

m. R.D. Co.'s Guaranteed Surplus.—Carriage paid, or call; 10% discount on orders over 10/2.

M.R.D. Co.'s Guaranteed Surplus.—Carriage paid, or T.C.C. 4×4 mfd. 250v. working, 3/3; ditto 4×4×1×1 ×0.5 mfd. 3/11; T.C.C. 2 mfd., electrolytic, 100v. working, Sd.

FORMO 0.0003 Reaction. 8d., 3/- half dozen; resistors, as last week, 4-watt. 4d.; Polymet condensers, 0.0001 to 0.01, 3d. or 1/5 half dozen.

VARLEY 250.000 pots. 1/7; Radiophone 10.000 pots. mains switch, 2/6; Benjamin chassis 5-pin valveholders, 3/1, 3/1b.; genuine assorted components, 2/6.—Mains Radio Development Co., 4-6, Muswell Hill Rd. London. N 6.

Mains Radio Development Co., 4-6, Muswell Hill Rd...
London N 6.

CHAL-ELECTRIC Offers New Set Manufacturers' Surplus, all carriage paid; cash with order, or co.d.
Variable Condensers.—J.B.Nu Gang (3-gang), complete with disc drive, covers, trimmers, escutchedon, light knob. etc., 17-6; 2-gang, fitted as above, 9-6; Polar Star (3-gang 1933), complete, filted as above, list 30/6, at 18/-; Chikhodo 2-gang, fitted as above, complete, 10/-; Utility 2-gang, fitted as above, emplete, 10/-; Utility 2-gang, fitted as above, emplete, 10/-; Utility 2-gang, fitted as above, emplete, 10/-; Utility 2-gang, fitted as above, 16.

COILS (6 sets each only).—Colvern Ferrocart, F1, F2, F3, ganged, 32/-; Varley Ni-core (11, B.P.30 and 2B.P.31, 28/-; Varley Stes, B.P., 19 ganged, 25/-6, MOOTHING Condensers.—C.E.C. Murphy, etc., 800 test 250 A.C. working, in mid. 11/, 2 mid. 1/9, 4 mid. 1/9, 2 mid. 1/9, 4 mid. 1/9, 4 mid. 1/9, 2 mid. 1/9, 4 mid. 1/9, 4 mid. 1/9, 4 mid. 1/9, 1 mid. 1/9, 2 mid. 2/4, 4 mid. 1/4; Multiple Banksall, separate tappings, 20 mid., 4+4+2+2+2+2+2+1+1 at 11/- 11 mid., 4+2+2+2+1-1 at 18/9.

MAINS Transformers and Chokes.—Philips 250-0-250 at 175 m.a., 4 wils 1 smp., 4 volts 5 armps, 11/-; chokes for same, 30 henry, 75 m.a., (300 ohms), 6/9.

H.M.V. Cabinet, type M.E.10. with dors as incomported in 120 guinea job, cost to make £12, take chassis up to 22×19, overall 27×24×42; at £5; packing and carriage 8/- extra.

RADIO Gramophone Cabinets, Marcaniphone 535, walnud, 40/2×19/8×16, take chassis up to 39½×18/2×144, cost to make £8, at £2/12/6.

ASK for Special Quotation for Anything You May Need.

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Accurately **Proportioned** Magnets!

Celestion Speakers are accurately proportioned. The proportions are such that wasteful magnetic leakage is reduced to a minimum and the whole of the cobalt steel used to its fullest advantage. As a result, Celestion Speakers are much more efficient—are much more sensitive
—than other speakers fitted with far
larger magnets less accurately designed. It is such attention to detail that puts Celestion in the forefront of modern loudspeaker design. name Celestion stands for high-quality reproduction combined with unfailing efficiency. Celestion speakers can be supplied to match any set or type or output. Ask your dealer to demonstrate, or write for illustrated details.

Chassis Model £1-15-0 Chassis Model £3-17-6 PPM29 Chassis Model

Celestion Ltd., London Road, Kingston-on-Thames.

MODEL P.P.M.9

The Very Soul of Music

THE FOREMOST NAME SOUND REPRODUCTION Components, etc., for Sale. - Contd

BIRMINGHAM RADIO MART'S Weekly Selection Guaranteed Manufacturers' and Bankrupt Stocks,

Guaranteed Manufacturers' and Bankrupt Stocks, all perfect.

PESISTANCES—Erie, H.M.V., etc., 100 to 100,000 ohms, our assortment; 3/- doz. various values.

POTENTIOMETERS—Wire wound Radiophone, 5,000, 15,000, 50,000, 100,000; Magnum, 25,000; Colvern, 2,500. 5,000, 6,000; all 2/3.

TRANSFORMERS, standard, not stripped.—Wearite, 300,300v, 60 m.a., 4v. 2½ m.a., 4v. 3-4a., 9/6; HIT.8, 4v. 2a., 4v. 4a., 9/6; Philips stripped, 200/200, 4v. 3a., 4v. 1n., 4

CONDENSERS—Polar 3-gang, 10/6; 2-gang, 5/6; screened and trimmers, standard, not faked.

DUAL Faders—Magnum, 2/9; A.E.D. 3/3; Electrolytics, T.C.C., 15 mid., 100v, 1/-; 8 mid., 440v., 4queous, 3/11; Hellesens, 8+4 mfd., 500v., 3/11; all post 3d. extra.

Aqueous, 3/11; Hellesens, 8+4 mfd., 500v., 5/11; aupost 3d. extra.

M ETERS.—Raymart's famous 25/in. nickel flush, any reading above 25 m.a.; 5/9; full list stamp.

CALLERS Only.—2 H.M.V. Super-power amplifiers, £8, less valves: Decca ditto, with valves, gram. etc., £10 to £15

LARGEST Stocks in Midlands of H.M.V. Marconi Set and Radiogram Cabinets, and other quality radio gear; trade invited; we can save you money.

THE Square Dealers, "Raymart," 19, John Bright St. and 44, Holloway Head, Birmingham. [349]

NOVOTONE, standard £5 model, 37/6; Varley constant inductance choke, 8/6.—Atkin, 13, Clapham Park Rd., S.W.4.

HOUSE Telephones, magneto ringing, 12-6; with magneto, 17/6; battery ringing, 15/-; table telephones, magneto ringing, 15-Below.

PEDESTAI, Phones, 7/6; handphones, 4/6; magnetos, 4/6; microphones, 1/-, 2/6 and 4/6; transformers, 2/6; phone bells, 3/-; loud ringing, 6/-Below.

TALKIE Reduction Gears, 2 flexible shalts, 40 to 1, 9/-; dimmer rheostats, 110v., 15/-; motor driven pumps, for water, etc., 110v. or 220v. D.C., 35/-Below.

A.C. Induction Motors, fractional, 220v., 50 cycles, single phase, synchronous type in new condition, 7/6 cach.

Below.

X-RAY Coils, 10-incn, complete, £3: ditto, no inter-rupter, £2; also 1\(\frac{1}{2}\) in. coils, 10\(\frac{1}{2}\): 1in. coil, 6\(\frac{1}{2}\); igni-tion coils, 5\(\frac{1}{2}\); 7 lbs.-useful scrap (no iron). \$\(\frac{1}{2}\)-, post free.—

Below

Potary Converters, 6-12v., D.C. input, 30v.1a., A.C. output, 15/-; also 220v. D.C. input, with 500-700v. 150 m.a. D.C. output, £3/10.—Below

CHARGING Dynamos to Requirements; also meters, rheostats, regulators, D.C. motors, switches, transformers, etc.; please state requirements.—Below.

CALPIN, 31, Boufield Rd., Lewisham, London, S.E.13.—All goods guaranteed; cash with order or c.o.d, Works and stores, 14, Loampit Hilly S.E.13. All correspondence to private address. [3512]

T. W. THOMPSON and Co., 17, Strutton Ground, Westminster, S.W.I. Telephone: Franklin 6355. Nearest station St. James's Park (Underground).

A LI. Goods on 3 Days' Approval Against Cash or C.o.d. (J.E.S. excepted).

PEN Every Day Until 7 30 p.m. (Sundays excepted).

THE Firm to Give Satisfaction. Established 40 years. To deal with the fountain's head of surplus materials saves pounds.

The Firm to Give Satisfaction. Established 40 years. To deal with the fountain's head of surplus materials saves pounds.

INDOOR and Office Telephones.—Sterling, wall type, magnetoringing, 12/6 each; table type, 10/6, complete and working, all laving high grade micrephone.

High Grade Transmitting Microphones, brand new and complete with breast fixing attachment: cost 30/-, to clear 6/- each, post 9d.

ELECTRIC Driven Morse Recording Tape Machines, in good order: cost £35, to clear 70/-.

H.M.V. Balanced Armathre Loud-speakers, complete with high grade volume control and essistance, in beautiful oak cabinet; ridiculous clearance, 7/6 each, post 1/-.

FLMOPHONE. Unbreakable Gramophone Records, all the latest dance records and selections, were listed at 1/6; to clear 5/- per dozen, post 9d.

A FEW of the Remaining Goods Left from Our Last Display Advertisement of September 8th issue: "Wireless World," and from which we obtained hundreds of highly satisfied customers: Electric light and power check meters, for A.C. mains, 6/- each, post 9d. Philips latest type chokes, 20/36 hennies, 2/-: Crypto D.C. to A.C. converters, £4/15; Centralāb volume controls, 2/6; British Radiophone controls, with switch, 2/- each, post 3d.: A.C. eliminators, 28/6; D.C. eliminators, 12/6.

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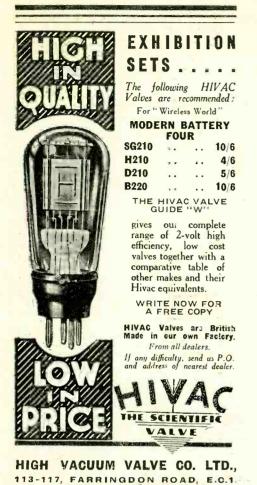
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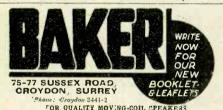
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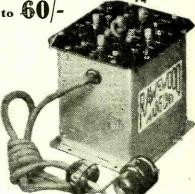
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ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by Gork, 1,337 kc/s, 224.4 metres.—1.30 to 2.30 p.m., Time Signal, Weather Report. Stock Exchange Quotations, and Gramophone Music. 6.0, Programme for Children. 6.45, News. 7.0, Gaelic Talk. 7.15, German Lesson. 7.30, Time Signal. 7.31, Violin and Pianoforte Recital by Any Elliard and Mrs. Boxwell. 7.55, Tenor Solos by N. O'C. Redmond. 8.5, Concert by the Station Orchestra. 8.35, Tenor Solos (contd.). 8.45, Orchestral Concert (contd.). 9.15, Gaelic Song Recital by Brigid O'Cleirigh. 9.30 to 10.30, Programme by the 1.B.C. (Ireland). Ltd. 9.30, Dance Music: When it's lamp-lightin' time; The Language of Love: Peter; There's a Light in your window; You've got me cryin' again; I've got the World on a String; One tiny Tear: The Girl in the little green Hat; My Darling. 10.0, Concert arranged by the International Broadcasting Company (freland), Ltd., on behalf of Hospitals Trust, Ltd.: Augero March (Franco); Pizzicato from Sylvia (Delibes); Valse caprice (Rubinstein); Autumn (Chaminade); Violin Solo, Fandango (Godowsky); Liebeslied (Kreisler): Golliwog's Cakewalk (Debussy). 10.20, I.B.C. Goodnight Melody, followed by News, Weather Report, and Time Signal. 10.40, Pipe and Fiddle Solos by S. MacAonghusa and F. O'Higgins. 11.0 (approx.), Close Down.

BARCELONA

BARCELONA

EAJI, 860 kc/s, 348.8 mstres; 8 kW.—7.9
p.m., Trio Concert: Selection from The
Mastersingers (Wagner); Seremade (Dvorák);
Le concon (Daquin); Reverie (Tchaikovsky);
Selection from Mirela (Gounod); The Shepherd's Song (Eigar); Carnaval japonais (de
Basque). 8.0, Request Gramophone Records.
8.30, Exchange. 9.0, Gramophone Music and
News. 10.0, Chimes from the Cathedral,
Weather, Exchange and Market Prices. 10.45,
Concert by the Station Orchestra. 10.45,
Trio Concert. 11.30, Dance Music, relayed
from the Casa Llibre. In the interval at 12
Midnight, News. 1.0 a.m. (Thursday), Close
Down.

BASLE.—See Schweizerischer Landessender.

BELGRADE

Time and Amouncements. 7.0, Talk. 7.30, Song and 'Cello Recital. 8.30, Part Relay of an Opera from Ljubijana, 522 kc/s (574.7 metres). 10.30, Time and News. 10.45 (approx.), Dance Music on Gramophone Records.

BERLIN

BERLIN

DEUTSCHLANDENDER (REICHSSENDER), 183.5 kc/s, 1,635 metres; 60 kW.—
2.0 p.m., Gramophone Concert: Walter Rehberg (Pianoforte): (a) Spanish Rhapsody (Liszt), (b) Impromptu in G (Schubert); Vasa Prihoda (Violin): (a) Ilumoresque (Dvorák), (b) Chant d'autonne (Tchaikovsky); Iteinrich Schlusnus (Baritone): (a) Bie heiden Grenadiere, (b) Der Hidalgo (Schumann); Willi Domgraf-Fassbaender (Baritone): (a) Monologue from Rigoletto (Verdi), (b) Cavatina from The Barber of Seville (Rossini); Egon Petri (Pianoforte): (a) And dem Wasser zu singen (Schubert-Liszt), (b) Die Forelle (Schubert-Liszt); Pablo Casals ('Cello): (a) Songs my Mother Lught me (Dvorák), (b) Prelude (Chopin-Sieveking); Franz Völker (Tenor): (a) Homeland (Gretchaninov), (b) Mattinata (Leoncavailo). 3.0, Programme for Children. 3.30, Weather and Exchange. 3.45, Love—Reading from the Letters of German Mystics. 4.0, See Hamburg. 5.0, Programme in commemoration of Hermann Loius. 5.30, Concert of Light Music. 6.0, Poems. 6.5, Religious Address. 6.35, Wireless Teclmical Talk. 6.50, Weather and Announcements. 7.0, Transmission for all German Stations, relayed from Frankfurt. 8.0, To-day's Motto. 8.2 (approx.). Cavalleria rusticana.—Opera in One Act (Mascagni), followed by 1 Pagliacci—Opera in Two Acts (Leoncavallo), relayed from Breslau. 12 Midnight, Close Down. Close Down.

BERLIN

BERLIN

FJNKSTUNDE, 715 kc/s, 419.5 metres; 1.5 kW.—4.30 p.m., Dance Music relayed from the Moka Efti. 5.25, A Discussion on Labour Service between Hans Wilhelm Scheidt and Dr. Will Decker. 5.45, Artur Hartmann Song Recital by Susanne Haym (Soprano) with the Composer accompanying. Dahelm. Songs from Des Knaben Wunderhorn: (a) Morgenlied, (b) Ich hab' die Nacht getränmet. (c) Wer sehen will zween lebendige Brunnen, (d) Altdeutscher Spruch, (e) Ich wandre meine Strassen. (f) Ach, wenn ich so wär, (g) Es wollt' ein Mägillein Wasser holen. 6.5, See Berlin (Deutschlandsender). 6.40, The Funkstunde informs its Listeners. 6.45, Topical Talk. 7.0, Transmission for all German Stations relayed from Frankfurt. 8.5, Recital of Folk Songs. 8.40. Fare-

SEPTEMBER THE TWENTY-SEVENTH

PRINCIPAL EVENTS OF THE DAY:

NATIONAL LONDON REGIONAL MIDLAND REGIONAL MORTH REGIONAL WEST REGIONAL SCOTTISH

REGIONAL RELEAST

Promenade concert from Queen's Hall.
"The Use of Mar," a play, by Lord Dunsany.

Military Band programme.

Concert Party programme from the Spa Theatre, Searborough A Children's Evening : Welsh choral programme.

Excerpt from "Sunny Days," relayed from the Barrfields Pavilion, Largs.
"The Bishop's Candlesticks," a play, by Norman McKinnel

ABROAD

BARGELONA BRUSSELS (No. 1) BUDAPEST

7.0 p.ni. Trio concert. 8.0 p.m. The Station Orchestra, conducted by D. Dufauw. 8.0 p.m. Orchestral concert, conducted by E.

Dohnanyi. COPENHAGEN

10.30 p.m. Concert of Danish opera music, by the Station Orchestra.

HAMBURG LUXEMBOURG 8.0 p.m. Concert of opera music, relayed from Kitl. 9.20 p.m. The Station Orchestra, conducted by H. Pensis.

PRAGUE

9.30 p.m. Mendelssohn's String Quartet in E Minor (Op. 44, No. 2), played by the Ondrecek Quartet.
8.30 p.m. Three operettas: "La Chouanne," by Missa, "Les deux Pêcheurs" and "Le violoneux,"

STRASBOURG

by Offenbach.

8.30 p.m. Opera: "Il Pirata," by Bellini.

8.15 p.m. Orchestral concert from the Conservatoire.

TURIN WARSAW

well to Summer—a Radio Report of the River Trailic. 9.0, Schumann Concert by the Station Occhestra, conducted by Engen Jochum and Prof. Walter Rehberg (Piano-forte), Pianoforte Concerto in A minor Op. 54; Fourth Symphony in D minor Op. 120. 10.0, News. 10.15 (approx.), Dance Music relayed from the Spreegarten, Treptow. In the interval at 1.10, Radio Report from Moabit. 12 Midnight, Close Down.

BERNE.—See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer Landessender.

BODEN.-See Stockholm.

BODO.-See Oslo.

BRATISLAVA

1,076 kc/s, 279 netres; 14 kW.—5.55 p.m., Hungarian Programme: From the Car-pathians to the Mediterranean—Radio Sequence with Gramophone Records. 6.55, Talk for Housewives. 7.0 till Close Down, See Prague. 10.30 (approx.), Close Down.

BREMEN.—See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—12 Noon, Weather. 12.5 p.m., See Leipzig. 1,45, Time and News. 2.10 (from Gleiwitz). Soprano Song Recital by Anni Bernert. 2.40, Gramophone Music. 3.0, Agricultural Market Prices. 3.15, Talk: The Gold Fields of New Gninea. 3.35, Talk: The Original Home of the Gipsy. 4.0, Pianoforte Recital by Helmut Korbella; Twelve Variations on Ein Mädehen (Beethoven); Impromptu in B flat (Schubert): Bolero in C (Chopin). 4.30, Talk. 4.50, Violin Recital by Otto v. Wilpert: Sonata in E minor (Biber); Sonata, Op. 1 (Thuille). 5.20, Agricultural Prices. 5.25, Talk: The Bolshevist Régime in Russia. 5.40, Concert by the Beuthen Choir. 6.35, Talk: The German Revolution. 6.50, Meat Market Prices. 7.0, Transmission for all German Stations relayed from Frankfurt. 8.0, News. 8.10, (Chamber Music. 8.40, Colotte Song Recital by Gertrude Pitzinger (Mezzo-Soprano): Wechsellied zum Greicherdt); Das Veilchen (Mozart); Mailied (Beethoven); Tulistmane (Schumann); An den Mond (Schubert): Der Musensohn (Schubert); Songs (H. Wolf): (a) Anakreons Grab, (b) Frühlung übers Jahr. (c) Der Schäfer. (d) Epiphanias. 9.10, The Great Chance—Comedy (Möller and Lorenz). 10.15, Time and News. 10.40, Wireless Notes. 10.50, Concert from the Café Vaterland.

878 kc/s, 342 metres; 35 kW.—5.25 p.m., German Transmission: News, Taik, Broad-cast for Workmen and Educational Taik, 7.0. See Prague. 7.25, Music by a Bagpire

Trio. 7.50 till Close Down, See Prague, 10.30 (approx.), Close Down.

BRUSSELS (No. 1)

BRUSSELS (No. 1)

1.N.R., 590 kc/s, 509 metres; 15 kW.—12

Noon, Concert by the Station Orchestra, conducted by Leemans: March (Ross); Waltz, Très joile (Waldtenfel); Serenade, El mi amor (Margutti); Selection from Madame Britterfly (Puccini), Violin Solo: Serenade (Bass); Intermezzo. Bird of Love Divine (Haydn Wood); Waltz, Paradise of my Heart (Novuo); Piece for Two Pianofortes: Kitten on the Keys (Confrey); Selection from Un bon Garcon (Yvain). 1.0 p.m., Lo Journal Parlé. 1.10, Concert, relayed from the Grand Hotel, Antwerp. 5.0, Concert by the Radio Orchestra, conducted by Walpot: Wedding Murch, Francia (Paradis); Overture. Maximilien Robespierre (Litolff); Bruissement sous Bois (Razigade); Danse maenbre (Saint-Saëns); Selection from Carmen (Bizet). Violin Solo: Meditation from Thais (Massenet); Vers la Cité hindone (Delmas); Marche lorraine (Ganne). 6.0, Talk. 6.15, Petite Shite (Jongen) on Gramophone Records. 6.30, Concert by the Small Station Orchestra, conducted by Leemans: Overture, Fra Diavolo (Auber); Snite, Sunmer Days (Coates); Barcanolle (Gaillanme); Selection from H.M.S. Plnafore (Sullivan); Dance (Roels): Oriental March (Gilson). 7.50, Talk on Hygiene. 8.0, Concert by the Station Orchestra, conducted by Desiré Dufanw. Soloist: Maurice Dambois (Cello): Overture, Euryanthe (Weber); Concert for 'Cello and Orchestra (Dvorak); Symphonic Poem, Werther (Vrenis); Elegiac Song for Cello and Orchestra (Dvorak); Symphonic Poem, Werther (Vrenis); Elegiac Song for Cello and Orchestra (Dvorak); Symphonic Poem, Werther (Poems by Belgian Authors. 10.0, Le Journal Parlé.

BRUSSELS (No. 2)

BRUSSELS (No. 2)

BRUSSELS (No. 2)

N.I.R., 887 kc/s, 338.2 metres; 15 kW. Programme in Flemish.—12 Noon, Concert, conducted by André Felleman, relayed from the Grand Hotel, Antwerp: March, Blaze away (Holzmann); Overture to a Spanish Comedy (Keler-Beln); Cigány Song Potpourri, Play Cigány (Geiger-Huber); Tango, Gy zwarte zigeuner (Vecek); Selection from The Tales of Hofimann (Offenbach); Foxtrot. One Tiny Tear (Woods); Peter-Peter (Woods), 1.0 p.m., Le Journal Parlé, 1.10, Concert by the Small Station Orchestra, conducted by Leemans: Overture, The Italian Girl in Algiers (Rossini); Pesther-Walzer (Lanner); Love in Arcaly (Wood); Selection from Engene Onegin (Tchaikovsky). Violin Solo: Humoresque (Wigy); Serenade (Moszkowsky); Selection from Die geschiedene Fran (Fall); Slav Dances (Dvorás). 5.0, Dance Music, relayed from the St. Sauveur Palais de Danses. 6.15, Talk. 6.30, Sonata Recital by Lien Van Eyek and Jean Laurent:

Sonata No. 5 in E flat (Mozart); Sonata, Op. 13 (Fauré). 7.15, Reading. 7.30, Book Review. 8-0, Concert by the Radio Orchestra, conducted by Walpot. Soloists: Mme. Lauwers-Vanhommerich (Soprano) and Rik Willemse (Baritone): Overture, Die Fledermans (Joh. Strauss); Waltz, Dolores (Waldteufel); Bells across the Mendow (ketchley). Soprano Solos: Selection from The Tales of Hoffmann (Offenbach). Baritone Solos: Parade of the Tin Soldiers (Jessel). Pianoforte and Orchestra: Rhapsody in Blue (Gershwin). Soprano Solos: Selection from Viktoria and her Hussar (Abraham). Baritone Solos: Love's Dream after the Ball (Czibulka); 1983 Jazz Fantasia (Candrix). In an interval at 8.45, Readings. 10.0, Le Dournal Parlé.

BUCHAREST

BUCHAREST
761 kc/s, 324 metres; 12 kW.—5.0 p.m., Concert by the Station Orchestra: March (Translateur); Waltz (Lincke); Overture, Raymond (Thomas); Selection from The Tales of Hoffmann (Offenbach); Potpourri of Popular Melodies (Morena); Fantasy on a Theme of Tchaikovsky (Urbach); Garofita (Dinico); Violin Solo, Leggenda d'amore (Becce); Grotesque (Siede). In an interval at 6.0, Radio Journal. 7.0, Educational Talk. 7.20, Symphony Music (on Gramophone Records). 7.40, Talk. 8.0, Pianofoite Recital by Nicolas Radulesco: Two Sonatas (Scarlatti); Variations (Beethoven). 8.30, Talk. 8.45; Flute Recital of Romanian Music. 9.15, Violin Recital. 9.45, Radio Journal.

BUDAPEST

BUDAPES I

545 kc/s, 550.5 metres; 18.5 kW. Also relayed
on 840 metres from 8.0 p.m. till Close Down.

-5.30 p.m., Dance Music from the Calé
Ostende. 6.15, Italian Conversation. 6.45,
Concert by Jeno Perti's Cigany Band. 8.0,
Recitations. 8.30, Orchestral Concert conducted by Ernst Dohnanyi: Symphony No. 3
in F (Brahms); Suite, Scheharnzade
(Rimsky-Korsakov). 10.0, News. 10.15,
Relay of a Sound Film. 10.40, Trio Concert, relayed from the Calé Simplon.

CASSEL .- See Frankfurt.

COPENHAGEN

CORK .- See Athlone. DANZIG .- See Heilsberg. DRESDEN .- See Leipzig.

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—\$1.0 to 12

Noon, Frogramme in English by the I.B.C.

11.0 a.m., Happy Hour: Fart I. Request Half Hour; Signature Tune, Let me explain (Tower); Farewell to Arms (Wrubel); Hold me (8chuster); My Darling (Heymann); The Old Spinning-Wheel (Hill); The Girl in the Little Green Hat (Rich); Auf Wiederschen, my Dear (Ager); Stormy Weather (Arlen); Part II. Dance Music: It's Sunday down in Caroline; From me to you; It was a Night in June: Love Songs of the Nile: My Lucky Day; Picanninny Happy ending; When my little Pomeranian (Schuster); Signature Tune. 12 Noon, French Programme. 4.30 to 6.0, Programme in English by the I.B.C.

4.30, Programme for Children, 5.0, Octet Concert for Portsmouth and Southsea Listeners; Signature Tune. The Night by the Sea; Valse bluette (Drigo); Song, My ain Folk (Lemon); Narcissus (Nevln); Hungarain Dance in D (Brahms); Blumenge-flüster (von Blon); Romance (Rubinstein); Song, Over the Dark Still Silence (Rizza); Rose mousse (Bosc). 5.30, Gramophone Concert for Isle of Wight Listeners: Selection from The Belle of New York (Kerker); Ocarina Solo, Under the Double Eagle (Tapiero); My Old Kentucky Moon (Foster); Friends once more united (Spoliansky); Veterans of Variety; Still I love her (Gas-kill); A little Idea of my own (Robey); Xylophone Solo, Snappy Sticks (Robbins); Signature Tune. 6.0, French Programme in English by the I.B.C. 10.0, Dance

Wireless

SEPT. 27th

continued

Music: Signature Tune, Bells of Normandy; Learn to Croon; That's my Home; Down the Old Ox Road; Sittin' in the Dark; Waltzing in a Dream; He was only a Poor Musician; Pop Gun; In Santa Lucia; Nine Little Miles from Ten, Ten, Tennessee; Eerie Moon; It's a glory; Anytime, any day, anywhere; My Darling; Happy Ending; One little Word led to auother; My Lucky Day; Signature Tune, Sittin' in the Dark; Smilin' through; The Kiss Waltz; Happy Ending (Davies); Oh! I wish I could sing a Love Song; Learn to Croon; Song of the West; My Lucky Day; Shuffle off to Buffalo; Signature Tune, 11.30, Club Concert for Moffat Listeners: Part I, Orchestral Music; Signature Tune, The Chun Song; The Thistle (Myddleton); Barcarolle from The Tales of Hoffman (Offenbach): Violin Solo, Selection from Herre Kati (Huhay); Three Fishers went sailing (Kingsley); Selection from The Yoomen of the Guard (Sullivan); I kiss your lips (Rudolphe); The Foula Reel (Traditional). 12.5 am. (Thursday), 1.B.C. News Bulletin in English. 12.10 (approx.), Club Concert, Part II: Jericho (Myers); Loving them all (Coningsby); faw down and go "Boom" (Stevens); Deep Night (Vallee); The Bogie Wail (Myers); Signature Tune. 12.30, Dance Music: There's A Cabin in the Pines; Jog along; Waiters on Parade; The Old Spinning-Wheel; It was a Night in June; At the Old Pig and Whistle; It's Sunday down in Caroline; A Woman should stick to her man: I cover the Waterfront. 1.9, Dance Music: Signature, Bells of Normandy; Sweetheart Darlin'; When it's Lamp lightin time in the Valley; The Language of love; Put a little Springtime: Her Name is Mary; Let's All be Happy Together; Stay out of my Dreams; Adorable; Rosa mia; Love Songs of the Nile; That's my Home; From me to you, Rio Rida; Someone to care for; They all do the Rumba; Won't you stay to Tea?; Signature Tune. 2.0, I.B.C. Goodnight Melody and Close Down.

FLENSBURG.—See Turin.

FLENSBURG.—See Hamburg. FLORENCE.—See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 k \(\tilde{\tilde{K}} \). Relayed by Cassel, 1,220 kc/s, 245.9 metres; and Trier, 1,157 kc/s, 259.3 metres.—4.30 p.m., Concert from the Kirthaus, Wieshaden. 5.45, Exchange. 6.9, Talk in commemoration of Hermann Löns. 6.25, Topical Talk. 6.45, Review of the Day's News. 6.50, Time and News. 7.0, Transmission for all German Stations: The Hum of Engines—a Radio Play (Paul Ehrhardt and Dr. Paul Laven). 8.0, Concert—of Operetta Music, with Sketches in the intervals. 10.0, Pianoforte Sonata, Op. 1 (Rudolf Racky), played by the Composer. 10.15, Time and News. 10.45, Programme from Leipzig. 12 Midnight, Close Down.

FREDRIKSSTAD .- See Oslo. FREIBURG.-See Stuttgart. GENEVA.—See Radio-Suisse Romande. GENOA.—See Turin. GLEIWITZ.—See Breslau. GOTEBORG.—See Stockholm. GRAZ.-See Vienna, HAMAR .- See Oslo.

HAMBURG

HAMBURG

806 kc/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc/s, 269.8 metres; Fiensburg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 566 metres; and Kiel, 1,292 kc/s, 232.2 metres.—4.0 p.m., Antunn—Concert by the Hamburg Philharmonic Orchestra. conducted by Gerhard Maasz: Concert Overture, Im Herbst (Grieg); Minuet and Dance from The Seasons (Palmgren); Elegies (Niemann): Finale from Symphony No. 73 in. D—La Chasse (Haydn); Waltz, Herbstrosen (Jos. Strauss); Overture, St. Hubertus (Fucik). 5.0, Dialogue: A Trip to the Frisian Islands. 5.30, Hamburg, Brennen and Lübeck—Report on Eveuts in the Senates and Honses of Burgesses of the Hanseatic Free Cities. 6.0, Variety Programme. 6.40, Frankfurt Exchange and Hamburg Market Prices. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Frankfurt. 8.0 (from Kiel), Concert of Opera Music. The Kiel Orchestra of Unemployed Musicians, conducted by Hans Döring. Soloist: Helene Sommerfeld (Soprano): Entry of the Guests into the Wartburg from Tannhäuser (Wagner): Ballad from The Flying Dutchman (Wagner): Overture, Der Wildschütz (Lortzing); Selection from The Merry Wives of Windsor (Nicolai); Aria from Riegzi (Wagner); Duet from Der Rosenkavalier (R. Strauss). 9.0, See Berlin (Funkstunde). 10.0, Time and News. 10.20, Topical Talk. 10.30, Dance Music, relayed from the Haus Siegler. HANOVER. See Hamburg.

HEILSBERG

1,085 kc/s, 276.5 metres; 60 kW. Relayed by Danzig 662 kc/s, 453.2 metres.—1.5 p.m., Gramoplone Music. In the intervals at 1.20, and 2.0, News. 2.30, Programme ar-ranged by the Post Office with Gramophone Records. 3.0, Agricultural Prices and Ex-change. 3.20, Hints for the Housewife. 3.30,

Programme for Children. 4.0, Talk for Teachers—New Books for German Youth. 4.30, Concert by the Small Station Orchestra, conducted by Wilcken. Overture, Othello (Verti); Pastoral Suite (Amadei); Selection from La dame blanche (Boiedlieu); Extase (Bizet); Mazurka (Debussy); Scandinavian Suite (Frederiksen); On the Riviera (Fassunge); Legends of the Puszta (Lindsay-Theimer); Selection from Der Obersteiger (Zeller); Moonlight on the Alster (Fetras). In the interval at 5.0 (approx.), Book Review. 6.15, Agricultural Prices. 6.20, Illustrated Talk: The Art of Pianoforte Playing—Fantasiestücke (Schumann). 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Frankfurt. 8.0, News. 8.10, Dance Music by the Small Station Orchestra and the Börschel Dance Band. 10.10, Weather and News. 10.15, Concert by the Königsberg Opera House Orchestra, conducted by Brückner. Overture, Le Maçon (Anber); Little Suite (Bizet); Lagmen-Walzer (Strauss); Selection from The Carrival Fairy (Kálmán); Overture, Morning, Noon and Night (Suppé); March (Blankenburg). 11.30, Close Down.

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1 metres; 7 kW; (until 5.40 p.m.) and 20 kW. from 5.40 p.m.—Programme of the Christian Radio Society (N.C.R.V.). 11.40 a.m., Police Report. 11.55, Gramophone Music. 12.10 p.m., Concert by the Van der Horst Easemble. Sciection from The Messiah (Händel); Sonata (Händel); Sonata (Händel); Sonata (Hugnani); Songs from De Nieuwe Leidsche Kruidhof; Old Dutch Songs arranged for Two Violins and 'Cello; Das ist der Tag des Herrn (Kreutyer); Air from Die Königskinder (Humperdinck); Mendelssohn Potpourri (Petras). 1.40, Talks and Orchestral Music 2.40, Concert. Driel (Violin), Brink-Prakken (Flute), de Nobel ('Cello) and Mile. Leeuwen (Planoforte); Tute and Planoforte; Tute and Planoforte; Tute and Planoforte; Gramophone Music. Andante from the Violin Concerto in D (Mozart); Sonata in D (Mozart); Trio in G (Mozart); Sonata in D (Mozart); Trio in G (Mozart); Serénade pastorale (Bonis). 4.40, Programme for Children. 5.40, Agricultural Talk. 6.10, Programme to be announced. 6.40, Police Report. 6.55, Ecclesiastical Notes. 7.10, Gramophone Music. 7.40, Gramophone Music. 8.40. Talk. 9.10, Concert by the N.C.R.V. Choir. In the interval at 9.25, News. 18.10, Gramophone Music. 11.10 (approx.), Close Down.

HORBY.-See Stockholm.

HUIZEN

HORBY.—See Stockholm.

HUIZEN

Announced Hilversum, 160 kc/s, 1,875 metres; 7 kW. (until 3.40 p.m.). Transmitted from Kootwijk on 50 kW. from 3.40 p.m.—11.40 a.m. till Close Down, Programme of the Workers' Radio Society (Y.A.R.A.). 11.40, (gramophone Music. 11.55, Concert by the Small Station Orchestra, conducted by de Groot: Overture, The Secret Marriage (Cimarosa); Peasant Suite (Ailbout); Reve (d'Ambrosio); Marionetten auf der Spieluhr (Armandola). 12.25 p.m., Concert by De Flierefluiters. 12.55, Concert by the Small Station Orchestra (contd.): The Skaters' Waltz (Waldtenfel): Lullaby (Bizet); Duet (Bizet); Grieg Potpourri (Urbach). 1.25, Gramophone Music. 2.10, Organ Recital by Steyn. 2.40, Programme for Children. 5.10, Concert by De Notenkrakers: Giosy Csardas (Michiels); Hungarian Dances Nos. 1 and 7 (Brahms); Melody (Dvorák); Nuit d'étoiles (Delussy): Suite (Dvorák); Gramophone Records: Two Spanish Dances (Moskovsky); Spanish Charm (Mezzacapo); Spanish Rhapsody (Richardy); El torero (Lucchesi): Habanera (Barbot); Santiago (Corbin-Normann); Nino de la Palma (Lincchesi). 6.10, Concert of Light Music. 6.40, Topical Talk for Workers. 6.55, Concert by the Station Orchestra, conducted by de Groot. Soloist: Leydensdorff (Violin): Overture, Prometheus (Beethoven); Violin Concert on G Gruch); Selection from Boabdil (Moskovski); Hungarian March (Liezt). 9.10, News. 9.25, Song Recital by Angela Tosnerova and Tummers. 9.40, Concert (contd.): Overture, La Dame blanche (Boieldieu): Seebes pittoresques (Massenet); Waltz from the Serenade, Op. 48 (Tehnikovsky); Mon réve (Waldtenfel); Maxim March (Liezt). 9.10, News. 9.25, Song Recital (contd.). 10.40, Gramophone Music. 11.40 (approx.), Close Down.

INNSBRUCK.—See Vienna.

JUAN-LES-PINS

1,205 kc/s, 249 metres; 0.8 kW.—8.0 p.m., Ammsement Guide, Exchange, Racing Re-oults and News. 8.5, Oceanographic Report.

8.15, Tourist Talk. 8.30, Radio Concert. In an interval at 9.0, News and Weather. KALUNDBORG.-See Copenhagen.

KIEL.-See Hamburg

KLAGENFURT,-See Vienna. KOSICE .- See Prague.

LANGENBERG

LANGENBERG

635 kc/s, 473 metres; 60 kW.—12 Noon,
Variety Concert. 1.15 p.m., Announcements. 1.30, Concert by the Remscheid
Municipal Orchestra, relayed from Remscheid. Conductor: Felix Oberborbeck,
Schlageter-Nationalmarsch (Klein); Overture, Don Pasquale (Donizetti); Waltz, Die
Dynamiden (Strauss); Concertino (Mozart);
Selection from Preciosa (Weber); Extracts
from The Seven Words from the Cross
(Haydn); Unter dem Grillenbanner (Liudemann). In an interval at 2.0 (approx.),
Announcements. 3.0, Handwork Lesson.
3.30, Economic Notes and Time. 3.50, Programme for Young People. 4.30, Talk: The
Lower Rhine. 4.45, Programme for Women.
5.5, Dance Music conducted by Eysoldt.
6.15, Authors' Voices on Gramophone
Records. 6.45, Weather and Sports Notes.
7.0, Transmission for all German Stations,
relayed from Frankfurt. 8.0, Announcements. 8.5, Bunte Stunde. 9.5, Concert by
the Station Orchestra, conducted by Kuhn.
Soloists: Walter Schneiderhau (Violin) and
Robert Grote (Cello). Military March in
E Flat (Schubert); Czardas, Heire Kati
(Hubey); Potpourri, Wiener Spaziergänge
(Komzak); Flower Dance from Naha
(Delibes); 'Cello Solo: Allegro and Andaute
(Goltermann); Austrian Folk Dances
(Pachernegg); Persian March (Strauss).
10.5, News. 10.30, A Flying Visit. 10.45,
Chamber Music by the Cologne Viola Society,
the Station String Quartet and Soloists:
Suite in G, Op. 17, for Five Violas
(Schein); Dances for Viola da Gamba and
Harpsichord (Schenk); Suite, Lustige Feldmusik (Krieger) for Four Violas, Two Oboes,
cor anglais and Bassoon; Waltz for Guitar
and Flute; Five Country Dances (Mozart);
Pianoforte Quintet (Dvorák). In an interval, Bass Songs and Ballads by Strienz.

LAUSANNE.—See Radio-Suisse Romande.

LAUSANNE .- See Radio-Suisse Romande.

LEIPZIG

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.5 p.m., Concert by the Chemnitz Orchestra, conducted by Werner. In the interval at 1.15, News and Programme Announcements. 2.0, News. 2.30, Talk: Motor-Car and Driver 3.0, Concert by Young Musicians—Thilde Sammet (Contratto) and Irene Pretsch (Pianoforte). 3.35, Market Prices and Weather. 4.0, Programme for Young People. 5.50, Economic Notes, Weather and Time. 6.0, Book Review. 6.20, An Opera on Gramophone Records. 6.50, Review of the Day's Events. 7.0, Transmission for all German Stations, relayed from Frankfurt. 8.0, Concert by the Station Orchestra. Condeutor: Bhimer (Pianoforte). Soloist: Hans Kunz (Baritone). Overture, Undine (Lortzing): Two Songs (Schubert): (a) An die Musik, (b) Der Lindenbaum Pianoforte Solos: Valses sentimentales Op. 50 (Schubert); Hungarian Dauces Nos. 5 and 6 (Brahms); Two Songs (Brahms): (a) Wiegenlied, (b) Mein Mädel hat einen Rosenmund; Overture, Die Fledermaus (Strauss); Ballad, Tom der Reimer (Loewe); Selection from Hansel and Gretel (Humperdinck). 9.0, Opportunity—Radio Play (Loder). 10.15, News and Sports Notes. 10.20, Concert by the Ende Orchestra. Teuton March (Lilling); Overture, Eine Vision (Lehar); Intermezzo, Elfengeflüster (Rhode): Tyrolese Potpourri (Fetras); Intermezzo (Grothe): Waltz Nordseestürne (Döring); Folk Songs and Fairy Tales (Komzak); Selection from Der Vagabund (Zeller): Tango, Edith (Krüger); Bavarian Waltz (Hinterstübl); Foxtrot, Heimat am Rhein (Doelle); Potpourri, Ans der Zeit der junge Liebe (Komzak); March, Frohsinn (Blaukenburg). 12 Midnight, Close Down.

LINZ.-See Vienna.

LJUBLJANA

522 kc/s, 574.7 metres; 7 kW.—6.0 p.m., Concert of Chamber Music by a String Quartet.
7.0, Talk: Religious of the World. 7.30, Literary Talk. 8.0, Programme from the Opera House. 10.0, Weather and News. 10.30 to 11.0, Programme in English by the I.B.C. Concert: For you, Rio Rita; Sweet Amanda; In Santa Lucia; Rosa Mia; Flower of Spain; Zinganette; Someone to care for; This is no Dream. 11.0 (approx.), Close Down.

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW.—12.30 p.m., Concert by the Station Orchestra, conducted by Henri Pensis: Overture, Oberon (Weber); Salut d'Atmour (Elgar); Lyric Snite (Grieg); Waltz, The Blue Danube (Job. Strauss); Selection from La Bohème (Puccin): 1.30, Gramophone Concert of Variety Music. 7.30,

till Close Down, Luxembourg Programme. 7.30, Concert by the Station Orchestra, conducted by Henri Pensis. Soloist: Alexandre Zakin (Pianoforte). Pianoforte Concerto in Final Geishardt): One Day (Pakay); Overture, Maritana (Wallace); Selection from The Merry Widow (Lehar). 8.20, Recital of Luxembourg Songs by Auguste Donnen. 8.50, News in French. 9.0, Viola Recital by Marie Braun: Sonata in C minor (Bach); Elégie (Vieuxtemps). 9.20, Concert by the Station Orchestra, conducted by Henri Pensis: The Niteracker Suite (Tchaikovsky); Minnet (Paderevsky); Boxe (Schoemaker). 9.58, News in German. 10.0, Variety Music on Gramophone Records. 10.30, Dance Music by the Station Jazz Band, conducted by Ferry Jusa.

LYONS

LA DOUA, 644 kc/s, 465.8 metres; 1.5 kW.

-6.30 p.m., Radio Journal. 7.30, Radio
Gazette for Lyons and the South-East. 8.30,
Orchestral Concert. After the Concert,

MADRID

MADRID

EAJ7, 707 kc/s, 424.3 metres; 2 kW.—8.8, p.m., Chimes, Exchange, Radio Journal, Programme for Women, Gramophone Records, and Dance Music relayed from the Alkázar Dance Half. 9.15, Topical Review. 9.39 to 11.0, Interval. 11.0, Chimes, Time Signal and Topical Review. 11.20 (approx.), La Verdad Sospechosa—Play (Alarcón), with an Introductory Talk. 1.15 a.m. (Thursday), Topical Review. 1.30, Chimes and Close Down.

MALMO.-See Stockholm.

MILAN.-See Turin.

MORAVSKA-OSTRAVA

1,137 kc/s, 263.8 metres; 11 kW.—6,20 p.m., Gramophone Music. 6,25, Tenor Solos by Otaker Macha. 7.0, See Prague. 10.15 (ap-prox.), Close Down.

MOSCOW

MOSCOW

(TRADES UNION), 300' kc/s, 1,000 metres;
100 kW.—11.45 a.m., Weather. 2.45 p.m.,
Weather. 3.0, Literary and Musical Programme with
Topical Talk. 4.30, Literary Programme.
5.30, Technical Talk. 6.30, Music Hall
Programme. 9.0, News. 9.30, Programme.
Announcements. 9.55, Chimes. 10.5, Press

MOTALA.-See Stockholm.

MUHLACKER .- See Stuttgart.

MUNICH

MUNICH

563 kc/s, 533 metres; 60 kW. Relayed by Augsberg and Kaiserslautern, 536 kc/s, 569 metres; and Nürnberg, 1,256 kc/s, 569 metres; and Nürnberg, 1,256 kc/s, 239 metres.—12 Noon, Concert conducted by Erich Kloss. 1.15 p.m., Time and News. 1.30, Zither Recital by Bachofner. 2.0, Time and News. 2.20, Programme arranged by the Post Office with Gramophoue Records. 3.0, Concert by the Munich Chamber Orchestra, conducted by Friedrich Rein. 4.0, Weather and Agricultural Report. 4.10, Programme for Children. 4.40, Orchestral Concert, conducted by Willy Ehrmann: Overture, Oberon (Weber); Kaiserwalzer (Joh. Strauss); Erzhog-Johann Lied (Tramner); 's Röserl vom Wörthersee (Koschat); Extracts from the Peer Gynt Suite (Grieg); Crescendo (Laschen); Potpourri (Rhode); Waltz, Die ersten Gedanken (Lanner); Bayrischer Oberland Marsch (Wanker). 5.45 (from Nürnberg), Pianoforte Sonata in B minor, Op. 12 (Roselius), played by the Composer. 6.25, Reading: The Victoria Falls (Paul Lohrbach). 6.45, Time, Weather and Agricultural Report. 7.0, Transmission for all German Stations, relayed from Frankfurt. 8.0, Begone dull care!—Musical Radio Potpourri by the Wireless Orchestra, conducted by Erich Kloss, the Radio Choir, Lilly Preisig (Soprano), Karl Groll (Tenor), and Franz Bammann (Tenor). 10.20, Time and News. 11.0, Concert from Leipzig. 12 Midnight, Close Down.

NAPLES .- See Rome. NOTODDEN.-See Oslo.

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamar, 522 kc/s, 574.7 metres; Notodden, 671 kc/s, 447.1 metres; Porsgrund, 662 kc/s, 453.2 metres; and Rjukan, 671 kc/s, 447.1 metres.—5.30 p.m., Song, Violin and Pianoforte Recital: Melody (Hensent); Granada (Albeniz); Seherzo and Caprice for Pianoforte (Meudelssolm); Anderssen and Alnaes Songs; Violin Solo: Souvenir de Moscou (Wieninyski). 6.30, Programme for Boys. 7.0, Advertising Notes, Weather and News. 7.30, Talk on Science. 8.0, Time Signal. 8.1, Concert by the Station Orchestra, conducted by Hugo Kramm: Overture, Patric (Bizet); The Crown of India (Elgar); Largo from the Fifth Symphony (Dvornak): Bacchanate (Saint-Saëns); Romantic Suite (Niemann). 9.0, Talk on Politics. 9.20, Gramophone

Music. 9.30, Agricultural Report. 9.40, Weather Report and News. 10.0, Topical Talk. 10.15, Popular Concert.

OSTERSUND.—See Stockholm.
PALERMO

PALEKMU

558 kc/s, 537.6 matres; 3 kW.—8.0 p.m., Dopolayoro Announcements, Tourist Talk, Agricultural Notes, and Giornale Radio. 8.20, Gramophone Music. In the interval at 8.30, Time and Announcements. 8.45, A Midsummer Night's Dream—Play in Four Acts (Shakespeare). In the intervals, Gramophone Music. 11.0, Giornale Radio.

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).—6.45 p.m., Theatre Talk. 7.0, Le Journal Parlé. 8.30, Symphony Concert, conducted by Flament: Soloist: Georges Gabor (Pianoforte): Suite for Three Violins, Viola, 'Cello and Double-Bass (Lindsay Seymour); Pianoforte Concerto in C Minor (Beethoven); Radio Symphony (Flament); Pianoforte Solo: Allegro Barbare (Bartok): Symphonic Variations Brom Le festin de l'aralgnée Ronssel); Overture, La dame blanche (Boieldieu). 10.0 (approx.), Close Down.

PARIS

PARIS

POSTE PARISIEÑ, 914 kc/s, 328.2 metres; 60 kW.—7.0 p.m., Galli-Curei Song Recital on Gramophone Records: Arias from (a) The Barber of Seville (Rossini), (b) Rigoletto (Verdi). (c) Philémon et Baucis (Gounod); Cantata (Scarlati). 7.15, Le Johrnal Parlé. 7.30, Poetry and Music—Recital by Rosine Morgate, M. Dorival and M. Lehmann: Le pardon (Chaumet); Un Evangile (François Coppée—Thomé); La petite Margolon (Louis Bourny—Sandré); The Dairymaid and the Milk Jug (La Fontaine). 8.0, Talk on Wireless Interference. 8.5, Assurance Societies' Report. 8.25, Une danseuse est morte—Play (Le Bargy). 10.30, Dance Music relayed from the Lido. 11.0, News.

PARIS

PARIS

RADIO PARIS, Call CFR, 174 kc/s, 1,725 metres; 75 kW.—7.30 a.m., Weather and Physical Culture. 7.45, Gramophone Music. 8.0, Weather and Press Review 12.0 Educational Programme. 12.15 p.m., Gramophone Music: Alleluia d'amour (Fauré); Charité (Fauré); Le crucilix (Fauré); Berceuse from Jocelyn (Godard); Serenade printanière (Holmes). 12.30 p.m., Art Notes followed by Organ Recital, relayed from the Gaumont Palace. 1.0, Exchange, News and Weather. 1.5, Gramophone Music (contd.): Part I: Florent Schmitt Programme: La Tragedie de Salomé; Dionysiaques; Rapsodie viennoise. Part 11: Ewige Liebe (Brahms); Vergebliches Ständchen (Bralms); La procession (César Franck); Die Loreley (Liszt); Liebeslied (Liszt). In the interval at 1.30, Exchange. 2.0, Exchange. 3.45, Exchange and Market Prices. 7.0, Agricultural Report. 7.10, Gramophone Concert: Selection from Le jour et la mit (Lecocq); Funicull, Funicula (Denza); Quand refleurira le ilias blanc; Hochzeitszug in Liliput (Translateur); Les sapins (Dupont); Selection from The Girl in the Taxi (Gilbert); Marche forraine (Ganne). 7.50, Commercial Notes and News. 8.0, Recitation of Poems on Gramophone Records. 8.30, News and Weather. 8.40, Fashion Talk. 8.45, Vocal Quartet Concert. 9.15, Press Review and News. 9.30, Gramophone Concert: Symphonic Poem. Psyché (Cérar Franck); Songs: (a) Aria from The Magic Flute (Mozart), (b) Pyramus and Thisbe (Tremisot), (c) Moi (Hahu); Symphonic Poem, Stenka Razin (Glazunov); Ballet. La ronde des saisons (Busser); Marche écossaise (Debussy).

PITTSBURGH

PITTSBURGH

KDKA, 980 kc/s, 306 metres; 50 kW. Relayed by Wax K on 48.86 metres and 25.27 metres.—7.30 p.m., Pontiac, Home Forum. 8.0 to 9.30, New York Relay. 8.0, Betty and Bob. 8.15, Utility Hall. 8.30, Divis Days. 9.0, Southern Nymphonies. 9.30, Frances Ingram. 9.45, News. Markets. 10.0, Uncle Tom and Betty. 10.15, KDKA Kiddies Klub. 10.30, The Singing Lady, from New York. 11.0, Orphan Annie, from New York. 10.45, Orphan Annie, from New York. 11.5, Lowell Tioonas. from: New York. 12 Midnight, Amos 'm' Andy. from New York. 12 Midnight, Amos 'm' Andy. from New York. 12.15 a.m. (Thursday), Rhythm Kings. 12.30 to 3.30, New York Relay. 12.30, Richard Hunter's Orchestra. 1.0, Crime Clnes. 1.30, Potash and Perlmutter. 1.45, Red Davis. 2.0, American Legion. 2.30, Ortiz Tirado. 3.0, Quest of Perfect Woman.

PORSGRUND. See Cslo.

PRAGUE

PRAGUE
614 kc/s, 488.6 metres; 120 kW.—2.50 p.m.,
Concert by the Station Orchestra: Foxtrot,
from Son of the Sheik (Miro Mosay); Overture, Raymond (Thomas); Gipsy Dance (Debussy); Rondo (Gabriel Marie); Italian Suite,
In the Bay of Naples (Eilenberg); Mazurka
from Polen Blut (Nedbal); Potpourri of
Hunting Songs (Vackar); Waltz, Reminisceince (Komzak), 3.50, Aviation Weather Report. 3.55 to 40, Exchange, 5.45, Gramophone Music, 5.55, Talk: With a Yacht

WEDNESDAY SEPT. 27th

continued

through the Ægean Sea. 6.5, Agricultural Report. 6.15, Talk for Workers. 6.25, News in German. 6.30, German Transmission: Programme for Children and Talk for Workers. 7.0, Chimes and News. 7.10, Topical Talk. 7.25, Round the World on Gramophone Records—Africa. 7.50, Nannette's Wedding—Play in Three Acts (Podhorska, after the Book by Herrmann). 9.30, String Quartet in Eminor, Op. 44, No. 2 (Mendelssohn), by the Ondricek Quartet. 10.0, Time and News. 10.15, News in French. 10.30 (approx.), Close Down.

RADIO-SUISSE ROMANDE

RADIO-SUISSE ROMANDE
SOTTENS, 743 kc's, 403 metres; 25 kW.; and Geneva, 395 kc/s, 760 metres.—6.15 a.m. to 6.30 (from Lausanne), Gymnastics. 12.28 p.m., Time Signal from the Neuchatel Observatory. 12.30, News and Weather. 12.40 (from Lausanne), Gramophone Music. 1.0 (from Lausanne), Gramophone Music. 2.0, Interval. 3.28, Time Signal from Neuchâtel Observatory. 3.30 (from Geneva), Gramophone Concert. 5.0, Interval. 6.0, Programme for Children. 7.0 (from Lausanne), Talk: The Part Played by Portugal in the History of Civilisation. 7.25 (from Lausanne), Announcements and Weather. 7.30, Agricultural Talk. 8.0, Concert by the Radio-Suisse Romande Orchestra, conducted by Echenard: Overture and Ballet Music from Prometheus (Beethoven); The Italian Symphony (Mendelssohn): Light Music. 9.0 (from Lausanne), Readings. 9.20, Concert of Light Music. 9.50, News and Weather. 10.0 (from Lausanne), Dance Music by the Station Orchestra. 10.30 (approx.), Close Down.

RJUKAN.-See Oslo.

ROME

ROME

Call 1RO, 680 kc/s, 441 metres; 50 kW. Relayed by 2RO, 11,810 kc/s, 25.4 metres from 5.0 p.m.; Bari, 1,112 kc/s, 269.8 metres; Milan (Vigentino), 662 kc/s, 453.2 metres from 8.45 p.m.; and Nagles, 941 kc/s, 319 metres.—12.30 p.m., Gramophone Music. 1.2 to 2.15, Orchestral Concert. In the Intervals at 1.30, Ghornale Radio and Exchange, and 2.0, Time and Annonneements. 4.30, Children's Radio Review. 4.55, Giornale Radio. Exchange and Report of the Royal Geographical Society. 5.10, Weather. 5.15 to 6.0, Orchestral Concert: Rumba (Clarey-D'Anzi); Soleika (Chesi); Chorus and Wedding March from Lohengrin (Wagner); Lungi tn sei (Gardel-Culotta); Serenade (Manno-Ganwin); Selection from La Bohême (Puccini); Melody (Porter); Bacchanal (Azzoni). 6.40 (from Naptes), Shipping and Sports Notes. 6.45, Dopolavoro Report and Tourist Notes. 6.57, Report of the International Institute of Agriculture (in Italian and English). 7.10, Agricultural Notes. 7.20, News in Foreign Languages. 7.40, Giornale Radio. 8.0, Time, Announcements and Gramophone Music. 8.15, Medical Talk. 8.30, Giornale Radio and Sports Notes. 8.45, Fantasia—One Act Comedy (Lucio d'Ambra). with Incidental Music. 9.15, Soprano Solos by Maria Senes: Aria from The Wildow (Wolf-Ferrari); Il grillo del Natale (Zanella); Aria from 1 Puritami (Bellini). 9.50, Gramophone Concert: Symphonie classique in D. Op. 25 (Prokofev); Barcarolle from Cleopatra (Mancinelli); Fingue from the Snite Seene veneziane (Mancinelli); Introduction and Wedding Procession from The Golden Cockerel (Rimsky-Korsakov); Ballet Music from Le boutique fantasque (Rossini-Respighi). 10.30, Dance Music. 311.0, Giornale Radio.

SALZBURG.-See Vienna

SCHENECTADY

SCHENECTADY

WGY, 790 kc/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF on 31.48
metres and by W2XAD on 19.56 metres.—
8.20 p.m., Two Sents in the Balcony, from New York. 9.0, Grande Trio. from New York. 1.45 a.m. (Thursday), Stock Reports.
2.9 to 3.30, New York Relay. 2.9, Popular Programme. 2.30, Variety Programme. 3.0, Ferde Grofe's Orchestra. 3.15, Regimentalists. 3.30, Popular Programme. 4.0, Variety Programme. from New York. 4.30, Ship of loy, from New York, followed by Programme Résumé.

SCHWEIZERISCHER LANDESSENDER

LANDESSENDER
653 kc/s, 459 metres; 60 kW.; Basie, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres.—6.15 to 6.35 a.m. (from Basie). Gymnasties. 11.59, Time from Neuchâtel Observatory and Weather. 12 Noon, (from Zürich). Light Orchestral Concert. 12.30 p.m., Time. Weather and News. 12.40 (from Zürich). Time. Weather and Exchange. 1.30 to 5.0, Interval. 5.0 (from Basie). Programme for Children. 5.30 (from Basie). Light Music on Gramophone Records. 6.30 (from Zürich). Programme for Women. 7.0 (from Zürich). Time, Weather and Market Prices. 7.10 (from Zürich), Gramophone Concert. 7.30, Elementary English Lesson. 8.0

(from Zürich), The Swiss Psalm—Concert, 9.0, Weather and News. 9.10 (from Zürich), Concert by the Station Orchestra, conducted by Neppach. 10.15 (approx.), Close Down.

SOTTENS.-See Radio-Suisse Romande.

STOCKHOLM

STOCKHOLM

689 kc/s, 436 metres; 55 kW. Relayed by Boden, 244 kc/s, 1,229.5 metres; Göteborg, 932 kc/s, 322 metres; Horby, 1,166 kc/s, 257 metres; Motala, 221.5 kc/s, 1,354.4 metres; Ostersund, 389 kc/s, 770 metres; and Sundsvall, 554 kc/s, 542 metres.—5.5 p.m., Sextet Concert of Light Music: March (Costa); Romantic Overture (Kéler Béla); Waltz, Donauwellen (Ivanovici); Potponiri (Sjöberg); Romance (Kintze); Mazurka (Sjöberg); Intermezzo (Maebeth); Melody (arr. Willners); Piece (Peter). 5.45, Reading. 6.15, Gramophone Music. 7.15, Weather and News. 7.30, Cabaret Programme. 8.30, Talk, relayed from Malmo, 1,301 kc/s, 231 metres. 9.0, Symphony Noi 3 in E Flat, Op. 55 (Beethoven), relayed from the Concert Hall. Conductor: Václav Talich. 9.45, Weather and News. 10.0, Dance Music. 11.0 (approx.), Close Down.

S'TRASBOURG

STRASBOURG

869 kc/s; 345 metres; 11.5 kW.—11.30 a.m., Classical Music on Gramophone Records. 12.45 p.m., News. 1.0, Time and Exchange. 1.5, Light Music on Gramophone Records. 2.0, Interval. 4.45, Talk in German on Electricity. 5.0, Orchestral Concert, conducted by Roskam: Waltz, Winterstürme (Fucik); Overture, Die schöne Galathee (Suppé); Träume (Wagner); Selection from La Favorita (Donizetti); La chanson des beilles (Filipacci); Minuet, Gracieux page (Delannaye); Selection from Lilac Time (Schubert-Iterté); March, Salut à la France (Scassola). 6.0, Trio Concert, relayed from Lille, 1,130 kc/s, 265.4 metres. 7.0, Talk: French Wines. 7.15, Talk in German on Handicrafts. 7.30, Time and News. 7.45, Gramophone Music. 8.0, Press Review in German, Lottery Results and Amouncements. 8.30, Three One-Act Operettas: (a) La chonanne (Missa). (b) Les deux (Offenbach). In the interval at 9.20 (approx.), Press Review in Concert, relayed from the Grand Kléber Tavern: March, Lille (Letellier); Waltz from Gipsy Love (Lehar); Overture, La belle Hélène (Offenbach); Selection from Countess Maritza (Kälman); Fantasia. Les airs de Christiné (Salabert); Potpourri, Frent euch des Lebens (Lincke); Vibraphone Solo; March, Folies Bergère (Lincke). 11.0 (approx.), Close Down.

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres.—1.30 p.m., Song Recital on Gramoplione Records: Guten Abend. gut' Nacht (Brahms); Maria sitzt am Rosenlag (Reger); Wie sieh der Aenglein kindlicher Himmel (Schubert); Tom der Reimer (Loewe); Wedding Song; Tranm durch die Dämmernung (R. Strauss); Ich schwebe (R. Strauss); Mondnacht (Schumann). 2.0, Concert arranged by the Post Office. 2.30; Interval. 3.30, Programme for Children. 4.40, See Munich. 5.45, Humorous Dialogue. 6.0, Talk: Joy in Work or Enslavement by Machinery? 6.20, Gramophone Music. 6.35, Time and News. 7.0, Transmission for all German Stations relayed from Frankfurt. 8.0, Talk: What everyone should know....... 8.5, Concert by the Station Orchestra, conducted by Gustav Görlich. 9.30, Bavarian Humour on Gramophone Records. 10.10, Time and News. 10.45; Concert from Leipzig. 12 Midnight, Close Down.

SUNDSVALL.-See Stockholm

TOULOUSE

TOULOUSE

RADIOPHONIE DU MIDI, 779 kc/s. 385 metres; 8 kW.—6.0 p.m., News. 6.15, Music lay an Argentine Band. 6.20, Orchestral Music: Andante from the Quartet in G Minor (Debussy); Cheritza (Brean); Moment musical (Schuhert): Overture, Poet and Peasant (Suppé); Air from the Suite in D (Bach); March (Stravinsky). In the interval at 6 50, Talk. 7.15, News. Racing Results, Market Prices and Exchange. 7.30, Overture. Tannhänser (Waguer). 7.45, Songs. 8.0, Military Music. 8.15, Operetta Music: Songs from (a) Cibonlette (Halm), (b) Les monsquetaires an convent (Varney), (c) Véronique (Messager). (d) Paganini (Lehár). 8.30, Orchestral Music. 8.45, Opera Music: Arias from (a) The Tales of Hoffmann (Offenbach). (b) Figaro (Mozart). (c) Il Trovatore (Verdl). (d) Tannhänser (Wagner). 9.0, Old-Time Dance Music. 9.30, Light Music. 9.45, Coiteert by a Viennese Orchestra. 10.15, North African News and Local News. 10.30, Concert for Listeners in Morocco. 11.0, Opera Music: Arias from (a) Werther (Massenet). (b) The Fair Maid of Perth (Bizet), (c) Sappho (Massenet); Duet from Le châlet (Adam). 14.15, Dance Music.

12 Midnight, News, Weather and Announcements. 12.5 a.m. (Thursday), Orchestral Music: Danse macabre (Saint-Saëns); Jubél-Ouvertüre (Brahms); Selection from Schwanda the Piper (Weinberger). 12.30 (approx.), Close Down.

TRIESTE

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.—5.10 p.m.,
Concert: Bruno Degrassi (Pianoforte).
Ettore Sigon ('Cello), and Enrico Martneci
(Pianoforte): Euglish Suite in A Minor for
Pianoforte (Bach); 'Cello and Pianoforte
Duets: (a) Adagio from the Toccata in C
(Bach-Stutschewsky), (b) Minnet from the
Halliner Serenade (Mozart-Stutschewsky), (c)
Gavotte (Francoeur-Stutschewsky); Pianoforte Solos: (a) Nocturue (Respighi), (b)
Moto perpetuo (Weber); 'Cello and Pianoforte buets: (a) Two Melodies (Tausman),
(b) Exotic Dance (Jeral), 6.0 till Close
Down, See Turin.

TRONDHEIM .- See Oslo.

TURIN

TURIN

1,096 kc/s, 273.7 metres; 7 kW. Relayed by Milan, 905 kc/s, 331.5 metres; Genoa, 959 kc/s, 312.8 metres; and Florence, 599 kc/s, 500.8 metres.—5.10 p.m., See Trieste. 6.0 to 6.5, Weather. 6.35, Giornale Radio, Dopolavoro Announcements and Music. 7.0, Time, Tourist Gramophone Music. 7.10, Agricultural Notes and Market Prices. 7.20, News in Foreign Languages. 7.40, Gramophone Music. 8.0, Announcements, Giornale Radio and Weather. 8.20, Talk on the following Transmission. 8.30, Il Pirata—Opera in Two Acts (Bellini). In the intervals, Talk, Art Notes and Giornale Radio.

VATICAN CITY

15.120 kc/s, 19.84 metres (Morning) and 5,969 kc/s, 50.26 metres (Evening); 10 kW.—11.0 to 11.15 a.m., Religious Information in Spanish 8.0 to 8.15 p.m., Religious Information in Italian.

VIENNA

VIENNA

581 kc/s, 517 metres; 100 kW. Relayed by Graz, 852 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenturt, 662 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.—
12 Noon, Concert by the Wiener Symphoniker conducted by Holzer. In the interval at 1.0 p.m., Time, Weather and Announcements. 2.0, Interval. 3.0, Time, Weather and Exchange. 3.20, Talk: Poultry-keeping in the Suburbs. 3.30, Talk: Animals' Homes. 3.55, Music from Sound Films on Gramophone Records. 4.20, Programme for Young People. 4.45, Talk for Parents. 5.10, Concert of Contemporary Music by Austrian Composers—Josef Lechthaler. The Sedlak-Winkler Quartet and Erika Rokyta (Soprano). Three Songs: (a) Bitte, (b) Maria meia, im Rosenhag, (c) Der Herr ist mit dir; String Quartet, Op. 20. 5.55, Talk: Labour and Industry in the Mountains. 6.20, Wine-growing and Vintages 2,000 Years ago. 6.45, Pachennegs Concert by the Wiener Symphoniker, conducted by the Composer: Styrian Djances, Op. 36; German Baroque Snite; Hunting Music; Three Bavarian Dances; Austrian Peasant Dances; Old Styrian Dance; Waltz. Stories from the Enns Valley; Fantasia of Alpine Songs. In the interval at 7.25, Time, Weather and Announcements. 7.55, Reading: In Praise of Authum, 8.20, See Turin. In the interval at 9.20 (approx.) News, Weather and Exchange. After the Programme, Exchange.

WARSAW

WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m., Time Signal and Fantare from Torun Cathedral. 12.5 p.m., Gramophone Music. 12.25, Polish Press Review. 12.33, Weather Report. 12.35, Gramophone Music. 12.55, Radio Journal. 1.0-2.55, Interval. 2.5, News. 3.10, Announcements. 3.15, Gramophone Music. 3.25, Economic Notes. 3.35, Gramophone Music. 3.25, Economic Notes. 3.35, Gramophone Music. 3.26, Economic Notes. 3.35, Gramophone Music. 3.26, Economic Notes. 3.35, Gramophone Music. 5.0, Topical Talk. 5.15, Song and 'Cello Recital by Mmes. Korf and Adamska: 'Cello Solos: Aria from (a) I Capuletti ed i Montecchi (Bellini), (b) Don Pasquale (Donizetti), (c) Turandot (Puccini); 'Cello Solos; Songs: (a) Pourquoi dois-je taimer (Rybicki), (b) Mes chansons (Zelenski), (c) Two Songs (Rachmaniuv). 6.15, Talk relayed from Lwów 788 kc/s, 381 metres. 6.40, Light Music relayed from the Gastronomia Café. 7.20, Miscellaneous Items. 7.35, Programme Annonneements. 7.40, Reading. 8.0, Answers to Agricultural Correspondence. 8.15, Orchestral Concert, relayed from the Conservatoire: Fantasia for String Orchestra and Organ (Zelenski); Concerto in Dinior for Violin. Oboe and Orchestra (Nemorital String Orchestra (Nemorital String Orchestra (Nemorital String Orchestra (Händel). In the interval, Radio Journal. 10.0, Dance Music. 10.25, Sports Notes. 10.40, Dance Music (contd.).

ZURICH.—See Schweizerischer Landessender.

ZURICH.-See Schweizerischer Landessender.

Wireless

ALGIERS

ALGIERS

824 kc/s, 364 metres; 13 kW.—8.10 p.m.,
Shipping Notes. 8.15, Agricultural Report
and Weather Forecast. 8.20, Opera Arias.
8.40, Lottery Results. 8.55, News. 9.0,
Time. 9.2, Instrumental Concert. 9.45,
News. 9.50, Talk: Strange Facts and Hobies. 10.5, Song Recital. 10.35, News. 10.40,
Music by an Argentine Orchestra. 10.55,
News. 11.0, Concert of Oriental Music (on
Gramophone Records).

ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by Gork, 1,337 kc/s, 224.4 metres.—1.30 to 2.30 p.m., Time Signal, Weather Report, Stock Exchange Quotations, and Gramophone Music. 6.0, Programme for Children. 6.40, News. 7.0, French Lesson. 7.15, Talk by Mab Hickman: Dublin Statues — Daniel O'Connell. 7.30, Time Signal. 7.31, Concert by the Station Orchestra. 8.0, The Station Players. 8.30, Soprano Solos by Mollie Philips. 8.45, Lecture Recital by Grace O'Brien. 9.15, The Station Orchestra. 9.30 to 10.30, Programme by the I.B.C. (Ireland), Ltd. 9.30, Balalaika Orchestra: Le Rève (Andrayef); The Red Saraphan (Leontieff); By the Riverside (Leontieff); The Song of the Volga Boatmen (Leontieff). 9.45, Vocal Concert: Jewel Song from Fanst (Gounod); Aria from Rigoletto (Verdi). 19.0, Concert arranged by the International Broadcasting Company (Ireland), Ltd., on behalf of Hospitals Trust, Ltd.: The Mighty Deep (Guy); Xylophone Solo, The Blue Dannube (Strauss); Jungle Drums (Ketelbey); Live, Laugh and Love (Heymann); Panoforte Solo, Romanian Piece (Holbrooke); The Frog King's Parade (Marriot); The Tiger's Tale and When Melandy Sings, from the Suite americana (Thurban). 10.30, I.B.C. Goodnight Melody, followed by Time Signal, News. and Weather Report. 10.40, Band Music. 11.0 (approx.), Close Down.

BARCELONA

BARCELONA

EAJI, 860 kc/s, 348.8 metres; 8 kW.—7.0
p.m., Trio Concert. 8.0, Request Gramophone Records. 8.30, Exchange Quotations.
9.0, Gramophone Music. 9.20, Topical Talk,
Gramophone Music and News. 10.0, Chimes
from the Cathedral, Weather, Exchange
Quotations and Market Prices. 10.5, Concert by the Station Orchestra: Oriental
March (Ailbout): Waltz, Bluets et coquelicots (Waltteuiel); Melody (Cools); Overture, King Stephen (Beethoven). 10.30, Two
One-act Musical Plays: Agua, Azucarillos
y Aguardiente (Chueca) and La Marcha
de Cadiz (Valverde). In the interval at

BASLE.-See Schweizerischer Landessender.

BELGRADE

BELGRADE

697 kc/s, 430.4 metres; 2.8 kW.—6.55 p.m.,
Time and Announcements. 7.0, Talk. 7.30,
Sonata for Clarinet and Pianoforte (Reger).
8.0, Gramophone Music. 8.30, Concert of
Polish Music. 10.0, 'A Radio Play, followed
by Cigány Music from the Zanatski Dom
Restaurant.

BERLIN

BERLIN

DEUTSCHLANDSENDER (REICHESSENDER), 183.5 ke, s, 1,635 metres; 60 kW.—2.0 p.m., Gramophene Concert of Popular Music. 2.45, A Dialogue between Mother and Child: The Sun, Moon and Stars. 3.10, Talk for Young People: Experiences with Germans in North Africa. 3.30, Weather and Exchange. 3.45, Reading (Justus Möser). 4.0, See Heilsberg. 5.0, Talk: The German Woman as Wife, Mother and Citizen. 5.20, Musicians as Humorists. Vocal and Instrumental Concert: Songs. (a) Schade, and (b) Phyllis (Teleman), (c) Anselmuccio and (d) Romance (Schulz), (e) Eine sehr gewöhnliche Geschichte (Haydn), (f) Die alte and (g) Warnung (Mozart). (h) Der Kuss and (i) Flohelied (Beethoven); Ein musikalischer Spass, for two Violins, Viola, Bass and two Horns (Mozart): Country Dances, for two Violins and Bass (Beethoven). 6.0, Poems, 6.5, Rending (Gustav Jacobi). 6.30, Agricultural Programme. 6.50, Weather and Announcements. 7.0, Transmission for all German Stations, relayed from Hamburg. 8.0, To-day's Motto. 8.5, Upstairs and Downstairs. Humorous Programme arranged by Hamus Dekner. 9.15. Seotet (Beethoven) etc. nouncements. 7.0, Transmission for all German Stations, relayed from Hamburg. 8.0, To-day's Motto. 8.5, Upstairs and Downstairs. Humorous Programme arranged by Hanns Dekner. 9.15, Septet (Beethoven), by the Berlin State Opera House Chamber Music Society, conducted by George Kniestädt. 10.0, News. 10.45, Weather. 11.0, Programme from Hamburg. 12 Midnight, Close Down.

BERLIN

BERLIN

FUNKSTUNDE, 715 kc/s, 419.5 metres; 1.5

kW.—5.59 p.m., Pianoforte Recital by
Ferraccio Bursoni, with commentary by
Heinrich Burkard, Polonaise in A flat
(Chopin); Rigoletto Pataphrase (Liszt); Lorampanella (Liszt); Norma-Fantasia (Liszt).

6.30, A Call from Magdeburg. 6.40, The
Funkstunde informs its Listeners

6.45, Topical Talk 7.0, Transmission for
all German Stations, relayed from Hamburg. 8.0, Lottery Announcements. 8.5,
Programme to be announced. 9.0, Programme of Dance Music by Ferdy Kamffmann and his Orchestra and the Julius
Tomsen Dance Band, with Soloists. In the
interval: Music of the Streets. In an in-

SEPTEMBER THE TWENTY-EIGHTH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

NATIONAL LONDON REGIONAL MIDLAND REGIONAL NORTH REGIONAL WEST REGIONAL SCOTTISH REGIONAL BELFAST

"The Desert Song," a musical comedy, by Romberg. Promenade concert from Queen's Hall.

Orchestral programme from Leamington Spa.

"The Silent Witness," a play, by Whittie Kerr.

A Nautical Medley: orchestral and choral programme.

"Ceilidh," a gathering of some of the singers and story tellers attending the Glasgow Mod. In Lighter Vein, orchestral concert.

ABROAD

BRUSSELS (No. 2) BUDAPEST

COPENHAGEN HAMBURG

LUXEMBOURG POSTE PARISIEN PRAGUE ROME

WARSAW

8.0 p.m. The Station Symphony Orchestra and the St. Dominique Choir, conducted by Rumps.
8.50 p.m. Cigány Band concert.
8.10 p.m. The Radio Symphony Orchestra, conducted by Nicolai Malko. cheeter by Medial Marko.

7.0 p.m. Brahms concert; the Philharmonic Orchestra, conducted by J. Eibenschütz.

9.0 p.m. German music, by the Station Orchestra.

9.15 p.m. Orchestral concert.

8.0 p.m. Dvorak concert from the Smetana Hall.
8.45 p.m. Opera: "Ruy Blas," by Marchetti.
8.0 p.m. The Station Orchestra, conducted by 8.0 p.m. Nawrot.

terval at 10.0, News. 1.0 a.m. (Friday), Close Down.

BERNE.-See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer Landessender.

BODEN.-See Stockholm. BODO. See Oslo.

BORDEAUX-LAFAYETTE

986 kc/s, 304 metres; 13 kW 6.15 p.m., Radio Journal. 7.40, Talk arranged by the International Labour Bureau. 7.55, Lottery Results, Charades and News. 8.5, Gramo-phone Music. 8.30, La maison cernée— Comedy in Three Acts (P. Frondaie).

BRATISLAVA

1,076 kc/s, 279 metres; 14 kW.—5.40 p.m., Two Violin Duets (Reicha). 6.15, Gramo-phone Music. 6.30, Brothers—Historical Play in Five Acts (Vrchlicky). 6.55, Talk for Housewives. 7.0 till Close Down, See Prague. 11.0 (approx.), Close Down.

BREMEN.-See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—12 Noon, Concert by the Silesian Philharmonic Orchestra, conducted by Friebe: Ballet Music from La Gioconda (Ponchieli); Waltz, Wo die Zitronen blüh'n (Strauss); Selection from Das Pensionat (Suppé); Overture, Raymond (Thomas): Old Viennese Folk Music (Konzak); Selection from Faust (Gounod); A Viennese Waltz (Friebe). 1.45 p.m., Time and News. 2.10, Recital of Loewe Ballads by Otto Heidrich (Bass-Baritone). 2.40, Operetta Potpourris on Gramophone Records. 3.0, Agricultural Prices. 3.15, Book Review. 3.35, Talk: Autumn in the Glatz District. 3.45, Programme for Children. 4.15, Concert by the Silesian Philharmonic Orchestra, conducted by Topitz: Overture. Die Zwillingsbrüder (Schubert); Two German Dances (Unger); Five Pieces for String Orchestra (Juon); Les sirèmes (Waldteufel); Selection from Andrea Chénier (Giordano): Spanish Rhapsody (Chabrier): Overture Das Veilchenmädel (Hellmesherger). In the interval at 4.55, Talk: The German Harvest Festival Hymn, 1933. 5.55, Agricultural Prices. 6.0, Programme to be announced. 6.30, Talks by Workers and their Leaders. 7.0, Transmission for all German Stations, relayed from Hamburg. 8.0, News. 8.10, Community Singing, relayed from the Concert House. 9.10, Hermann Löns Memorial Concert by the Station Orchestra and Soloists. 10.0, See Munich. 19.20, Time and News. 10.40, Talk on the Writings of Hermann Wirth. 11.0, Programme from Berlin (Funkstunde). 1.0 a.m. (Friday), Close Down.

BRNO

878 kc/s, 342 metres; 35 kW.—6.0 p.m. till Close Down, See Prague. 11.0 (approx.), Close Down.

878 kc/s, 342 metres; 30 km.—0.0 p.m. unclose Down, See Prague. 11.0 (approx.), Close Down.

BRUSSELS (No. 1)
1.N.R.; 590 kc/s, 509 metres; 15 kW.—12
Noon, Concert by the Small Station Orchestra, conducted by Leemans: Overture, Maritana (Wallace); Suite, La Cigale (Massenet); Violin Solo, Minuet (Porpora-Kreisler); Divertissement on Popular Songs (Leemans); Spring Song (Mendelssolm); Selection from The Grand Mogul (Audran); Fantasia on Russian Airs (Douliez) 1.0 p.m., Le Journal Parlé. 1.10, Gramophone Music. 5.0, Concert by the Station Symphony Orchestra, conducted by Kumps: Overture, Mignon (Thomas); Selection from Lakmé; Selection from Lakmé; Selection from Aida (Verdi). 5.30, Programme for Children. 6.0, Talk: Art, in the Home. 6.15, Gramophone Concert. Part I, Opera Music: Overture, The Crown Diamonds (Auber); Song Irom Mirella (Gounod); Aria from Lonise (Charpentier). Part II, Operetta Music: Overture, Les Clocies de Corneville (Planquette); Two Airs from Die Fledermaus (Strauss); Duet from Miss Decima (Audran); Air Irom The Great Mogul (Audran); Chorus from Les Brigands (Offenbach). Part III: Five Comic Monologues. 7.15, Report for Workers. 7.30, Sports Notes. 8.0, Extracts from Loengrin—Opera (Wagner), on Gramophone Records; 8.45, Talk. 9.0, Waltz Music by the Station Orchestra, conducted by Kumps: Künstlerlehen (Strauss); Waltz from The Count of Luxembourg (Lehár): Invitation to the Waltz (Weber): Waltz from Mirella (Gounod), on Gramophone Records; Unter den Lindenbaum (Strauss); Waltzes from Gipsy Love (Lehár): Waltz from Romeo and Juliet (Gounod) on Gramophone Records; Waltz from The Chocolate Soldier (O. Straus); Waltz from The Chocolate Soldier (O. Straus); Waltz from The Chocolate Soldier (O. Straus); Waltz from The Merry Widow (Lehár). 10.0, Le Journal Parlé.

BRUSSELS (No. 2)

BRUSSELS (No. 2)

N.I.R.; 887 kc/s, 338.2 metres; 15 kW. Programme in Flemish. 12 Noon, Variety Music on Gramophone Records. 1.0 p.m., Le Journal Parlé. 1.10, Concert by the Small Station Orchestra, conducted by Leemans: Overture, Raymond (Thomas); Waltz. The Relles of Valencia (Moreno): Screnade (Malato); Selection from La Favorita (Donizetti); Knave of Diamonds (Kálmán); Gallop (Eilenberg). 5.0, Gramophóne Concert: Spanish Caprice (Rimsky-Korsakov): Italian Caprice (Tchaikovsky); Waltz. España (Chabrier); Joyeuse marche (Chabrier): 5.45, Programme for Children. 6.30, Concert by the Small Station Orchestra, conducted by - Leemans. Soloist, Gilson (Flute). Överture. Phêdre (Massenet); Waltz. The Blue Danube (Joh. Strauss); Serenade (Saint-Saēns); Concertino for Flute (Chaminade); Three Flemish Songs; Waltzes (Waldteufel). 7.12, News.

7.15, Talk. 7.30, Talk for Housewives. 8.9, Concert by the Station Symphony Orchestra and the St. Dominique Choir. Conductor: Kumps: De Vlaamsche Leeuw (Miry): Benediction from Lå flancée de la mer (Blockx): Choir: (a) Extracts from Cantata No. 4 (Bach), (b) Final Chorus from De Génius des Vaderlands (Benoit): Fantasia on Two Flemish Songs (De Boeck); Choir: (a) Er waren twee koningskinderen (De Boeck), (b) Zeg kwezelke wilde gij dansen? (De Boeck), Commemorative March (De Boeck), S.45, Talk. 9.0, Gramophone Concert: Márch of the Nobles, from Tannhäuser (Wagner); Selection from Die tote Stadt (Korngold); Selection from The Jewels of the Madonna (Wolf-Ferrari); Overture, Le carnaval romain (Berlioz); Prelude to Act III of Lohengrin (Wagner); Overture, Tannhäuser (Wagner). In the intervals, Songs by Sterkens. 9.55, Evening Prayer. 10.6, Le Journal Parlé.

BUCHAREST

BUCHARES I
761 kc/s, 394 metres; 12 kW.—5.0 p.m.,
Variety Music by the Dinico Orchestra. In
an interval at 6.0, Radio Journal. 7.0,
Educational Talk. 7.20, Light Music on
Gramophone Records. 7.40, Talk. 8.0, Song
Recital. 8.20, Symphony Concert by the
Station Orchestra, conducted by Rogalski;
Soloist, Maria Fotino (Pianoforte): Overture. Iin Herbst (Grieg); Concerts for Pianoforte and Orchestra (Mozart); Verklarte
Nacht (Schönberg). In an interval at 9.0,
Talk. 9.45, Radio Journal.

BUDAPEST

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW.—Also relayed on 840 metres from 8.0 p.m. till Close Down. 5.30 p.m., Song Recital by Tibor Weygand. 6.0, English Conversation. 6.30, Talk with Gramophone Hustrations: Harlem, the Negro Quarter of New York. 7.20, Pianoforte Duets by Josaf Osihy and Peter Solymos: Sonata in D (Mozart); Fantasia in F Minor (Schuhert); Cortège (Debussy); Waltz in F Sharp Minor (Dohnanyi). 8.0, Review of Foreign Politics. 8.20, Talk. 8.50, Cigany Band Concert from the Ketter Restaurant. 10.15, Orchestral Concert, conducted by Fridl. March (Weinberger); Waltz, Paysage d'autonine (Waldteufel); Overture (Ziéhrer); Die Lerche und der Frosch (Ellenberg); Parade of the Tin Soldiers (Jessel); Potpourri (Pecsi); Tife Soldiers (Jessel); Potpourri (Pecsi); Tife Soldiers (Aquatic Sports in Hungary.

CASSEL.—See Frankfurt.

COPENHAGEN

COPENHAGEN

1,967 kc/s, 281 metres; 0.75 kW. Relayed by Kalundborg, 260 kc/s, 1,153.8 metres.—
12 Noon, Time Signal and Chimes from the Town Hall. 12.2 p.m., Concert by Harald Andersen's String Busemble, relayed from the Bellevne Strandhotel. 2.0, Interval. 3.10, Scandinavian Song Recital by Sonja Heyman. 3.30, Concert by Teddy Petersen's Orchestra, relayed from the Wivex Restaurant. 4.45, Programme for Boys. 5.30, Exchange and Fish Market Prices. 5.45, Talk: Reminiscences of a Danish Parson. 6.15, Elementary English Lesson. 6.45, Weather. 7.0, News. 7.15, Time Signal. 7.16, Talk. 7.45, Danish Lesson. 8.10, Concert by the Radio Symphony Orchestra, conducted by Nicolai Malko, relayed from the State Broadcasting Building. Soloist: Nathan Milstein (Violin). Symphonic classique (Prokofiev); 'Allegro Moderato from the Violin Concerto in B, Op. 35 (Tchaikovsky); Canzonetta (Tchaikovsky); Bolero (Ravel); Chacome in D Minor (Bach); Caprice No. 5 in A Minor (Paganini); L'apprenti sorcier (Dukas). 10.15, News. 10.30, Reading. 10.50, Dance Music, conducted by Aage Juhl-Thomsen relayed from the National Scala. In the interval at 12 Midnight, Time Signal and Chimes from the Town Hall. 12.30 a.m. (Friday), Close Down.

CORK .- See Athlone. DANZIG .- See Heilsberg. DRESDEN .- See Leipzig,

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—10,30 to
11.30 a.m., Programme in English by the
1.B.C. 10.30, Happy Hour: Part I—Orchestral Concert: Signature Time; Overture
Medley (arr. Peter); Liebesfrend (Kreisler);
Cello Solo, The Nightingale and the Rose
(Kimsky-Korsakov); The Poet's Song from
La Bohème (Puccini); Minuet: Violin Solo,
Le Cygne (Saint-Saëns); Coeur Brisé (Glibert); Pizzicato from Sylvia (Delibes); Part
II—Dance Music: I've told every little Star;
Mayhe I love you too much; The Song is
you: I wake up smilling; You'll never get
up to Heaven that way; Smilin' through;
Tiger Bag; Rosa Mia; Signature Tune.
11.30, Programme in English by the I.B.C. 4.30,
Programme for Children. 5.9, Concert of Sea
Shanties for Worthing and Littlehampton
Listeners: Signature Tune. The Night by
the Sea; Nautical Moments (arr. Winter);
One Dollar Fifty a Day; Rio Grande (arr.
Harris); The Middy (Alford); A Rovin' (arr.
Terry); Shenandoah; The Drunken Sailor
(arr. Terry); A Life on the Ocean (Binding). 5.30, Concert for Brighton and Hove
Listeners; Demande et Réponse (Coleridge-



SEPT. 28th

continued

Taylor): A Birthday Screnade (Lincke); Cioze Props (Charles); Selection from Wild Violets (Stolz); The Valley of the Poppies (Anclife); Night aboard the Sancy Sue; The Warbler's Screnade (Perry); Vienna, City of my Dreams (Reeve); Signature Tune. 6.0, Programme in French. 10.0 till Close Down, Programme in English by the I.B.C. 10.0, Dance Music: Signature Tune, Bells of Normandy; You're getting to be a Habit with me: I wake up smiling; You're beantiful to-night, my dear; Sylvia: The Windmill Waltz; Piccaninny; The Village Band; When my little Pomeranian; Hold me; Smilin' through; You're mime, you; Rosa Mia; I cover the Waterfront; I'll see you in the morning; I Raised my Hat; Drifting down the Shalinar; Signature Tune, Sittin' in the Dark; I got Rhythm (Gershwin); Sweep (Ellis); The Whip (Hammerstein); Moonstruck; Love Songs of the Nile (Brown); There's Something about a Soldier (Bay); Selection of Old Talkie Gems; Three's a Crowd (Warren); Signature Tune. 11.30, Concert by the I.B.C. (Ireland), Ltl., on behalf of Hospitals' Trust, Ltd.: Signature Tune, Come back to Erin; Selection from Naila (Delibes); Rose of Tralee (Spencer); Modern Conception of Russian Melodies (de Filippi), Pan and the Wood Goblins (Bathke); Acuslidee Machree (Brown); Humoresque (Dvorák); In Thilp Time beside the Water Mill (Ailbout); Signature Tune. 12.5 a.m. (Friday), News Bulletin in English. 12.10 (approx.), Club Concert for Kelso Listeners: Signature Tune. The Chum Song; It's no use, I'm in love (Rice); Southern Serenade (Norman); Sweethearts of Yesterday; P.C. 123 (Munro); Mad Moments (Hoykins); You've got me crying again (Newman); Something came and got me in the Spring; Stormy Weather; Castles in the Sand; Come out Vienna; That's what Life is made of: Dance Pretty Lady; Spanish Eyes; Signature Tune. 1.0, Dance Music: Signature Tune. Bells of Normandy; Fit as a Fiddle; Taboo, Taboo: Balloons: Roll along Kentucky Moon; In a Second-Hand Store: My lirst Love to last; Lover; The Gold-Digger's Song; Have von had a good day, to-day?; In

FLENSBURG.—See Hamburg.

FLORENCE.—See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed
by Cassel, 1,220 kc/s, 245.9 metres; and Trier,
1,157 kc/s, 259.5 metres.—4.30 n.m., Se
Munich. 5.45, Exclange. 6.0, Talk: The
German National Spirit. 6.25, Talk: Sardinia, the Land of the Nurags. 6.45, Review
of the Day's News. 6.50, Time and News.
7.0, Transmission for all German Stations,
relayed from Hamburg. 8.0. Topical Programme. 8.15, Three Short Radio Plays of
Real Life. 9.0, Respighi Concert by the
Station Orchestra, conducted by the Composer: Overture, Belfagor; Smite for Little
Orchestra, Gli Uccelli; Smite. Impressioni
Brasiliane. 10.0, Time and News. 10.15
(approx.), Close Down.

FREDRIKSSTAD.—See Oslo.

FREDRIKSSTAD .- See Oslo. FREIBURG.-See Stuftgart. GENEVA.—Sce Radio-Suisse Romanco,

GENOA .- See Turin. GLEIWITZ .- See Breslau.

GOTEBORG. See Stockholm.

GRAZ.-See Vienna. HAMAR.-See Oslo.

HAMBURG

HAMBURG

806 ks/s; 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc/s, 269.8 metres; Flensburg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 568 metres; and Kiel, 1,292 kc/s, 232.2 metres.—6.30 p.m., Variety Programme. 6.0, Concert by the Hamburg Philharmonic Orchestra, conducted by Gerhard Mnasz: Overture, Djamileh (Bizet); Ballet Suite, A Thousand and One Nights (Bortkiewicz); Waltz, Märchen ans dem Orient (Joh. (Strauss); Sang und Klang ans dem Osten (Flerle). 6.45, Frankfurt Exchange. 6.50, Weather. 7.0, Transmission for all German Stations: Brahms Concert: The Hamburg Philharmonic Orchestra, conducted by José Eibenschütz, and Soloists: Georg Kulenkampf (Violin), Max Baldner (Cello), and Gerhard Organ (Organ); Concerto in A minor, Op. 162, for Violin and Cello: (a) Allegro, (b) Andante, (c) Vivace non troppo; Symphony No. 3 in F. Op. 90: (a) Allegre con brio. (b) Andante, (c) Poco Allegretto, and (d) Allegro. 8.0, Kleist—Tragedy (Hans Heyck). 9.30, Freedom—Recitations. 10.0, Time and News. 10.20, Topical Talk. 10.30, Old and New Dance Music by the Small Station Orchestra, conducted by Gerhard Massz.

HANOVER,-See Hamburg.

HEILSBERG

1.085 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 662 kc/s, 453.2 metres.—1.5 p.m., Gramophone Music. In the intervals at

1.20 and 2.0, News. 2.30 (from Danzig), Exchange and Market Prices. 3.0, Agricultural Prices and Exchange. 3.30, Harvest Festival Programme for Young Peoples 4.0, Concert by the Small Station Orchestra, conducted by Wilcken: Overture, Medea (Cherubini); Lyric Suite (d'Albert-Becce); Selection from The Bartered Bride (Smetana); Boston Waltz and Tango (Niemann); Cardas from Der Geist des Wojewoden (Grossmann); Sphärenklänge (Jos. Strauss); Selection from Gri-Gri (Lincke). In the Interval at 5.0 (approx.), Book Review. 5.45, Eichendorff Lyrics to the Lute by Aenne and Walther Pudelke; Heimweh (Knab); Reiselied (Hensel); Der frohe Wandersmann (Hensel); Liebe in der Fremde (Knab); Lockung (Hensel); Frende (Hensel); Der alte Garten (Knab); Die Nachthume (Knab). 6.15, Agricultural Prices, 6.25, Talk: State Diplomas for Farmers. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Hamburg. 8.0, Wcather. 8.5, Variety Programme. 9.15, Part Relay of the Municipal Festival Programme from Insterburg, for the Town's 350th Anniversary. Readings from East Prussian Authors. A German Comedy Overture (Wiemer), played by the Orchestral Society and a Military Band, conducted by the Composer. 9.50, Elementary English Lesson. 10.15, Weather, News and Sports Report. ducted by the English Lesson Sports Report.

HILVERSUM

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1
metres; 7 kW. (until 5.40 p.m.) and 20 kW.
from 5.40 p.m.—11.55 a.m. to 1.40 p.m.,
Programme of the Catholic Radio Society
(K.R.O.). 11.55, Concert by the K.R.O.
Orchestra, conducted by van 't Woud. 1.40
till Close Down. Programme of the ChristianRadio Society (N.C.R.V.). 1.40, Book-keeping
Lesson. 2.40, Talk for Women. 3.10, Interval. 3.40, Programme for Sailors. Mile.
de Lager (Songs) and Gorter (Organ). 4.40,
fandwork Lesson for Children. 5.10, Oboe
and Planoforte Recital by de Vries and
Tump: Oboe and Planoforte Concerto
(Marcelle); Oboe and Planoforte Concerto
(Marcelle); Oboe and Planoforte Concerto
in F minor (Telenam). In the intervals,
Gramophone Music. 6.10, Gramophone
Music. 6.25, Dressmaking Lesson. 6.40,
Police Notes. 6.55, Gramophone Music. 7.10,
Recitations. 7.40, Concert by the Small
N.C.R.V. Orchestra, conducted by Van de
Hurk: Overture, Raymond (Thomas): Violin
Solo: Rondo capriccioso (Saint-Saëns);
March, Blaze Away (Holzmann): Piccolo
Solo: Cleopatra (Damaré): La Housarde
(Ganne): Xylophone Solo: Herzklopfen
(Riedel); Gallop (Strauss); Saxophone Solo:
Caprice and Variations (Arban); March,
Holdenparade (Blankenburg); Trumpet Solo:
Melody from Der Trompeter von Sakkingen
(Nessler): Clarinet Duet: Duo concertante
(Bärmann): Czardas (Grossmann); Cello
Solo: Minuet (Valensin); The
Parade (Wehle): Trombone Solo: Plaisin
d'amour (Martini): Extravaganzen (Morena);
March, Semper Fidelis (Sousa). In the interval at 2.40. Talk, and at 9.40 (approx.).
News. 10.25, Gramophone Music. 11.10 (approx.), Close Down.

HORBY .- See Stockholm

HUIZEN

HORBY.—See Stockholm.

HUIZEN

Announced HILVERSUM, 160 kc/s, 1,875
metres; 7 kW. (up to 3.40 p.m.). Transmitted from Koctwijk on 50 kW. from 3.40
p.m. Programme of the Algeneene
Vereeniging Radio Omroep (A.V.R.O.).—
11.40 a.m., Gramophone Music. 11.55, Light
Music by the Otto Hendriks Ensemble, with
Gramophone Interludes. 1.55 p.m., Concert
by the Wireless Orchestra. conducted by Nico
Treep. Soloist: Geysal-Gestman (Songs):
Celtic Overture (Foulds): Suite, Four Ways
(Coates); Songs with Pianoforte Accompaniment: (a) Ave Maria (Ritema), (b)
Amarilli (Caccini), (c) Caro mio ben (Giordano). (d) Per la Gloria (Bononcini); Selection from Andrea Chénier (Giordano); Syncopation (Kreisler): Three Songs (Geysel);
Three Songs (R. Strauss): (a) Morgen, (b)
Du meine Ilerzens Krönefein, (c) Zuelgnung;
Lagunenwalzer (Strauss): The Rose Beetle
goes a-wooing (Arnandola); Overture, Les
dragons de Villars (Mnillart). 3.25, Interval.
3.40, Programme for Hospitals. 4.10, Gramophone Music. 4.40, Programme for Children.
5.10, Gramophone Music. 6.10, Sports Talk.
6.40, Light Music by the Kovacs Lajos Orchestra. In the interval at 7.10, Talk. 7.40,
Time, Weather. and News, followed by
Gramophone Music. 7.55, Light Music
(contd.). 8.40, Talk. 8.50, Concert by the
Wireless Orchestra. conducted by Gerlarz.
Soloist: Julie de Stuers (Soprano): Selection from Coppélia (Delibes): Song, Marins
d'Islande (Fourdrain); Solveig's Song from
Peer Gynt (Grieg); Three Love Songs
(Wegener-Kopman) ; Wagner Potpourri (Urbach). 10.40, News. 10.50, Gramophone
Music. 11.40, Close Down.

HNSERUCK.—See Vienna.

INNSBRUCK -See Vienna.

JUAN-LES-PINS

1,025 kc/s, 249 metres; 0.8 kW.—8.0 p.m., Amusement Guide, Exchange, Racing Re-

sults and News. 8.5, Talk on Science. 8.15, Radio Concert. 9.0, News and Weather. 9.30, Concert by Thomas and his Merry Boys, relayed from the Casino.

KALUNDBORG.-See Copenhagen.

KATOWICE

734 kc/s, 408 metres; 16 kW.—7.10 p.m., Sports Notes. 7.25, Announcements and Gramoplione Music. 7.40 till Close Down, See Warsaw.

KIEL.-See Hamburg.

KLAGENFURT.-See Vienna.

KOSICE.—Sec Prague.

LAHTI

LATT I 167 kc/s, 1,796 metres; 40 kW. Relayed by Helsinki, 815 kc/s, 368.1 metres.—6.15 p.m., Talk. 6.40, Recitations. 7.0, Flute Recital by Michele Orlando. 7.25, Talk. 7.50, Dance Music. 8.10, A Revue (Rafael Jura). 8.45, News in Finnish. 9.0, News in Swedish.

LANGENBERG

News in Finnish. 9.0, News in Swedish.

LANGENBERG

635 kc/s, 473 metres; 6 kW.—12 Noon, Concert by the Minster Orchestra, conducted by Werner Göhre: Telefunken-Marsch (Evert): Waltz, Strandwellen (Lüling); Overture, Russlan and Ludmilla (Glinka); Selection from The Merry Wives of Windsor (Nicolai); Auf stillem (Waldesfpad (Strauss); Scherzo (Stranss); Selection from Coppélia (Delibes); Serenade (Reznicck); Selection from Das Pensionat (Suppé). 1.15 p.m., News. 1.30, Orchestral Concert, conducted by Eysoldt: Overture, Gri-Gri (Lincke); Humorous Variations on Was kommt dort von der Höh (Suppé). Tango, Jealousy (Gade); Potpourri, Jung Deutschland (Weninger). In an interval at 2.0 (approx.), News. 3.0, Programme for Children. 3.30, Reonomic Notes and Time. 3.50, Talk, with Gramophone Illustrations: National Hynns all over the World. 4.15, Legal Talk. 4.35, Reading (Wilhelm Schmidthonn). 5.0, Recital on Two Pianofortes by Hermann Fassbender and Eghert Grape: Sonata in D (Mozart); Sonata in B Flat (Clementi). 5.20, Vocal and Instrumental Concert: Violin Solo, My Country (Smetana); Contralto Solos, Kinderlieder (Tillmann-Strater); Harpischord and Guitar, Sonata (Diabelli); Contralto Solos, Kinderlieder (Tillmann-Strater); Violin Solo, Sonata (Schubert). 6.15, Talk: Wilhelm Leibl, a German Artist. 6.30, Talk: German Pronunciation. 6.45, Announcements. 7.0, Transmission for German Stations, relayed from Hamburg. 8.9, Announcements. 8.5, Automn, Radio Sequence (Else Pfaff). 8.50, Topical Talk. 9.30, Programme from Frankfurt. 10.0, News. 10.25, Dance Music. conducted by Eysoldt. 12 Midnight (approx.). Close Down.

LAUSANNE.—See Radio-Suisse Romande.

LAUSANNE See Radio-Suisse Romande.

LEIPZIG

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.5 p.m., Folk Music. 1.15, News. 1.50, Gramophone Concert. 2.15, News. 2.30, Film Report. 3.0, Talk for Young People: Mathematical Problems. 3.25, Market Prices and Weather. 4.0 to 5.30. Concert by the Station Orchestra. conducted by Hilmar Weber: Overture. The Caliph of Bagdad (Boieldien); Musikalisches Bilderbuch (Volkmann): Hungarian March (Berlioz): Intermezzo from Notre Dame (Schmidt): Selection from Der arme Jonathan (Millöcker); Waltz. Uhlenhorster Kinder (Fetras); Scherzo. Ein eleusisches Fest (Anbrosius): Four Little Pieces (César Franck): Wilhelminen-Walzer (Joh. Strauss): Two Military Marches in D and G (Schubert). 5.50, Market Prices, Weather and Time. 6.0, Italian Lesson. 6.25, Medical Talk. 6.50, To-day's News. 7.0, Transmission. for all German Stations, relayed from Hamburg. 8.0, Cellar, Threshing-Floor and Wine-Press—An Antumm Play, with Music by the Emdé Orchestra. 10.5, News. followed by Talk: Mankind and the Cosmos. 10.50 (approx.), Close Down

LINZ.-See Vienna.

LJUBLJANA

522 kc/s, 574.7 metres; 7 kW.—6.0 µ.m., Talk
for Country Women. 6.30, The Letter Box.
7.0, Serho-Coatian Lesson. 7.39, Gramophone Concert. 8.0, Programme from Belgrade, 697 kc/s (430.4 metres). 10.0,
Weather and News. 10.30, Dance Music.
11.0 (approx.), Close Down.

LUXEMBOURG

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW—12.30 p.m.,
Concert by the Station Orchestra, conducted
by Henri Pensis: Overture, Sakuntala (Goldmark); Waltz, Hofballtänze (Zichrer); Selection from Hérodiade (Massenet); Selensucht
(Beyer); Gavotte caprice (Bertkiewicz);
S'kommt ein Vogel geflogen (Ochs). 1.30,
Gramophone Muslc. 7.30 till Close Down.
German Programme. 7.30, Concert by the
Station Orchestra: Violin Concerto (Bruch);
Overture, Prometheus (Beethoven). 8.15,
Talk in German: Indoor Games. 8.25, Song
Recital by Elisabeth Corty: Uher Nacht
(Hugo Wolf); Er ists (Hugo Wolf); Aria

from The Seasons (Haydu); Chernbino's Song from Figaro (Mozart); Song from Carmen (Bizet); Aria from Figaro (Mozart). 8.50, News in French. 9.0, German Music by the Station Orchestra: Overture, Der Freichütz (Weber); Invitation to the Dance (Weber); Ballet Music from Undine (Lortzing); Wiegenlied (Reger); Ständehen (R. Strauss). 9.45, News in German. 9.55, The Station Orchestra: Serenade (Tarenghi); Prairie Lily (Mills); Jalousie (Gade); Čzardas from Coppélia (Delihes). 10.20, Dance Music on Gramophone Records.

LYONS

1. A DOUA, 644 kc/s, 465.8 metres; 1.5 kW.—6.30 p.m., Radio Journal. 7.30, Radio Gazette for Lyons and the South-East. 8.30, Quintet Concert. 9.0, Violin and Harp Recital. 9.30, Quintet Concert (contd.). After the Concert, News.

MADRID

MADKID

EAJ7, 707 kc/s, 424.3 metres; 2 kW.—8.0 p.m.,
Chimes, Exchange, Radio Journal, and Programme for Children. 9.15, Topical Review.
9.30 to 11.0, Interval. 11.0, Chimes, Time Signal and Topical Review. 11.20 (approx.),
Variety Programme. 1.15 a.m. (Friday),
Topical Review. 1.30, Chimes and Close

MALMO.-See Stockholm.

MILAN .- See Turin,

MORAVSKA-OSTRAVA

MORAVSKA-OSTRAVA

1,137 kc/s, 263.8 metres; 11 kW.—4.0 p.m.,
Concert by the Station Orchestra, conducted
by Plichta: Pieces (Smetana): (a) Selection
from The Bartered Bride, (b) Waltzes, (c)
Polka, Czecho Suite, Op. 39 (Dvorák). 5.0,
Dance Music by the Station Orchestra. 5.30,
See Prague. 5.45, Gramophone Records. 6.30,
German Transmission: Recital of Heine's
Lyrics. 7.0, See Prague. 11.0 (approx.),
Close Down.

MOSCOW

MOSCOW

(TRADES UNION), 300 kc/s, 1,000 metrcs; 100 kW.—11.45 a.m., Weather. 2.45 p.m., Weather. 3.0, Request Concert. 4.0, Topical Talk. 4.30, Golden (hildhood—Plav (Schatunovsky), Music by Kabalevsky. 5.30, Programme for Young People. 6.30, Concert from the Radio Theatre. 9.0, News, 9.30, Programme Announcements. 9.55, Chimes. 10.5, Press Review.

MOTALA .- See Stockholm.

MUHLACKER.-See Stuttgart.

MUNICH

MUNICH

S63 kc/s, 533 metres; 60 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s, 560 metres; and Nürnberg, 1,256 kc/s, 239 metres: -12 Noon, Gramophone Concert of Light Music. 1.0 p.m., Concert by the Radio Orchestra, conducted by Josef Suder. 1.15, Time and News. 1.30, Gramophone Concert. 2.0, Time and News. 2.20, Variety Concert. 2.5, Talk: A Palatinate Musician. 3.25, Reading. 3.55, Weather and Agricultural Report. 4.5, Talk with Gramophone Illustrations: Korean Music. 4.30, Concert conducted by Erich Kloss: Overture. The Mikado (Sullivan): Vogel als Prophet (Schumann); Winterzeit (Schumann): Scene from Carmen (Bizet); Tango, Expression (Brade): Hungarian Potpourri (Leopold): Laugsamer Tanz (Franck); Illymn to the Sun from Time Golden Cockerel (Rimsky-Korsakov); March, Lachendes Leben (Blaukenburg). 5.45, Agricultural Talk. 6.5, Pianoforte Sonata in C Minor, Op. 27 (Reuss), by Karl Rinn. 6.25 (from Nürnberg), Talk. 6.45, Time, Weather and Agricultural Report. 7.0, Transmission for all German Stations, reluyed from Hamburg. 8.0, Die arme Margaret-Radio Play (Ruhnan), after the Story by Enrica Handel-Mazetti. 9.0 (from Nürnberg), Orchestral Concert, conducted by Willy Böhm: Hungarian March (Berlioz); Comedy Overture (Böhm): German Dances (Pagel); Ballad, Tom der Reimer (Loewe); Selection from Der Obersteiger (Zeller); Rococo Love Song (Mayer-Helmund); Waltz. Die Werber (Lanner). 10.0, Austria. 10.20, Time and News. NAPLES.—See Rome.

NOTODDEN .- See Oslo.

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamar, 522 kc/s, 572.7 metres; Notodden, 671 kc/s, 447.1 metres; Forsgrund, 662 kc/s, 453.2 metres; and Riukan, 671 kc/s, 447.1 metres.

—5.0 p.m., Concert by the Station Orchestra, conducted by Hlugo Kranun. 6.0, Talk. 6.30, Divine Service. 7.0, Advertising Notes. Weather and News. 7.30, Plantation Songs by a Male Voice Quartet. 8.0, Time Signal. 8.1, Agricultural Talk. 8.30, 'Cello Recttal. 9.0, Talk on Politics. 9.20, Recital of German Folk Songs (arr. Brahms) by Margrit Franke. 9.40, Weather and News. 10.0, Topical Talk. 10.15, Recitation.

OSTERSUND .- See Stockholm.

PALERMO

558 kc/s, 537.6 metres; 3 kW.—8.0 p.m., Dopolavoro Announcements, Tourist Talk, Agricultural Talk, and Giornale Radio. 8.20, Gramophone Music. In the interval at 8.30, Time and Announcements. 8.50, Gaetano va al mercato—Musical Play in One Act (Mortari). 9.30, Popular Music. 11.0, Giornale Padio.

Wireless World

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).—6.45 p.m., Theatre Notes. 7.0, Le Journal Parlé. 8.30, Granophone Concert. Part 1: Extracts from Tanuhäuser—Opera (Wagner). Part II: Popular Music. 10.0 (approx.), Close Down.

PARIS

PARIS

POSTE PARISIEN, 914 kc/s, 328.2 metres; 60 kW.—6.45 p.m., Programme for Children. 7.15, Le Journal Parlé. 7.30, Concert. 8.30, Sponsored Concert. 9.15, Orchestral Concert: Introduction and Procession from The Golden Cockerel (Rimsky-Korsakov); Waltz. Estudiantina (Waldteufel); Selection from Le cheminean (Leroux); Meditation (Glazmov); Parade galante (Ganne); Ballet Music from Véronique (Messager); Ronde française (Boëllmann); Violin and Orchestra; Romance in G (Beethoven); Rhapsody on Oriental Airs (Lacôme); Tarantella (Chopin); Trianon (Lachaume); Selection from Cavalleria rusticana (Mascagni). In the interval at 9.0, Talk on Fashions. 10.15, News.

PARIS

PARIS

RADIO PARIS, Call CFR, 174 kc/s, 1,725 metres; 75 kW.—7.30 a.m., Weather and Physical Culture 7.45, Gramophone Music. 8.0, Weather and Press Review. 12.0 Noon, Protestant Address. 12.30 p.m., Concert for Young People: Pianoforte Solo: Polichinelle (Rachmaninov); Old Popular Songs: (a) L'enfant dormira bientôt, (b) Ne pleure pas, Jeannette; Songs: (a) La toute petite maison, (b) Le petit qui no mange pas sa soupe. (c) L'omelette au chocolat; Gramophone Records: (a) Le Parisien (Dorin), (b) Les années sont courtes (Dorin); Selection from Cinderella (Zimmermann); Recitations: (a) Il faut bien se refaire une santé (Chepfer), (b) La honne hôtesse; Gramophone Records: (a) Les trois petits oiseaux (Pierné), (b) La Franc-Comtoise; Bilboquet; Becassine dit ses bâtises (Dandelin-Bol); Les Fratellini. In the interval at 1.0, Exchange, News and Weather, and at 1.30, Exchange. 2.0, Exchange, 3.45, Exchange and Market Prices. 7.0, Agricultural Report. 7.10, Gramophone Music: Selection from Schön ist die Welt (Lehár); In a Chinese Temple Garden (Ketelbey); Song (Blangy); Melody (Fijan): Christmas Evening (Gavel-Rodor); Grieg Potpourri; Slav Dances (Dvorák), 7.50, Commercial Notes and News. 8.0, Humorous Programme on Gramophone Records. 8.30, News, Weather and Sports Notes. 8.45, Gramophone Music. 9.15, Press Review and News. 9.30, Modern Music on Gramophone Records: Rugby (Honegger); Three Poems (Jacob); Marine (Delannoy); Planoforte Concerto (Gershwin).

PITTSBURGH

PITTSBURGH

KDKA, 980 kc/s, 306 metres; 50 kW. Relayed by W8XK on 48.86 metres and 25.27 metres.—7.0 p.m., Programme to be aunonneed. 7.30, Pioneers, KDKA to New York. 7.45, KDKA Home Forum. 8.0, Betty and Bob. from New York. 8.15, Quilting Party. 8.30, Words and Music, from New York. 8.45, Federation of Pennsylvanian Women. 9.0, Thursday Special, from New York. 9.39, News and Markets. 9.45, Thursday Special, from New York. 10.0, Federation of Women's Clubs. 10.15, KDKA Kiddies' Klub. 10.33, The Singing Lady, from New York. 10.45, Orphan Annie, from New York. 11.0, News, Piano Classique. 11.15, Sports, A Song. 11.30, Pittsburgh Spottights. 11.45, Lowell Thomas, from New York. 12.15 a.m. (Friday), Programme to be announced. 12.30, Concert Footlights. from New York. 12.15 a.m. (Friday), Programme to be announced. 12.30, Concert Footlights. from New York. 12.15 a.m. (Friday), Programme to be announced. 12.30, Concert Footlights. from New York. 12.45, Pathé News of the Air. 1.0 to 3.30, New York Relay. 1.0, Captain Diamond. 1.30, Adventures in Health. 1.45, The Rollickers. 2.0, Death Valley Days. 2.30, Jules Lande, Violinist. 3.0, Hands across the Border.

PORSGRUND.-See Oslo.

PRAGUE

PRAGUE

614 kc/s, 488.6 metres; 120 kW.—12.15 p.m.,
Military Band Concert, conducted by Pesta;
Sokol March (Fiala); Overture, The Caliph
of Bagdad (Boieldieu); Selection from Der
Freischitz (Weber); Czech Fantasy (Händel); Intermezzo (Pesta); Czech Military
March (Oberthor); Love Song (Suk); Potpourri (Pehlik). 1.30 to 1.45, Agricultural
Talk. 4.0, Choral Concert, relayed from Hermanny Mestec. 5.0, See Moravska-Ostrava.
5.30, Talk. 5.45, Gramophone Music. 6.0,
German Transmission: The Man Hunt—Play
in Five Acts (Kolbenheyer), followed by
News in German. 7.0, News. 7.5, Variety
Programme. 7.50, Evening Bells; Radio Report. 8.0, Dvorák Concert, relayed from the
Smetana Hall: Slavonic Dances by the Czech
Philharmonic Orchestra, conducted by Otakar
Jeremias. 10.0, Time. News and Sports
Notes. 10.15, Concert by Jaroslav Skalicky
and his Small Chamber Orchestra. 11.0 (approx.). Close Down.

SEPT. 28th

THURSDAY

continued

RADIO-SUISSE ROMANDE

RADIO-SUISSE ROMANDE

SOTTENS, 743 kc/s, 403 metres; 25 kW.; and
Geneva, 395 kc/s, 760 metres.—6.15 a.m.
to 6.30 (from Lausanne), Gymnastics. 12.28
p.m., Time Signal from Neuchâtel Observabory. 12.30, News and Weather. 12.40
(from Geneva), Humorous Programme. 1.0
(from Lausanne), Financial Notes. 1.10
(from Lausanne), Gramophone Music. 2.0,
Interval. 3.28, Time Signal from Neuchâtel
Observatory. 3.20 (from Geneva), Gramophone Music. 4.15 (from Geneva), Gramophone Music. 4.15 (from Geneva), Talk.
3.40 (from Geneva), Gramophone Concert
(contd.). 5.30, Interval. 7.0, Talk for
Momtaineering Enthusiasts. 7.30 (from
Geneva), Radio Chronicle. 7.50, Esperanto
Talk. 3.0, Jazz Music for Pianolorte. 3.20,
Readings. 8.35 (from Geneva). Concert of
Light Music by the Radio Suisse Romande
Orchestra, conducted by Echenard. Soloist: Mine. Pingeon-Faucherre (Songs). 9.50,
News. 10.0 (from Geneva), GramoMusic. 10.30 (approx.), Close Down.

RIGA

TRIVA

572 kc/s, 525 metres; 15 kW.—5.30 p.m.,
Kreisler Gramophone Records. 6.0, Programme to be announced. 6.30, English
Lesson. 7.0, Weather. 7.5, Countess
Maritza—Operetta in Three Acts (Kálmán).
followed by Concert. 10.30 (approx.), Close
Down.

RJUKAN.-See Oslo.

ROME

ROME

Cail 180, 680 kc/s, 441 metres; 50 kW. Relayed by 2RO, 11,810 kc/s, 25.4 metres; from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 metres; from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 metres; from 8.45 p.m.; and Naples, 941 kc/s, 319 metres—12.30 p.m., Gramophone Music. 1.0 p.m., Sponsored Programme. 1.10 to 2.15, Orchestral Concert. In an interval at 1.30, Giornale Radio and Exchange, and at 2.0, Time and Announcements. 4.30, Children's Radio Review. 4.55, Giornale Radio and Exchange. 5.0, Reading. 5.10, Weather. 5.15 to 6.0, Vocal and Instrumental Concert; Luisa Carlevarini (Violin), Maria Zilia (Soprano), and Gino Conti (Bass): Violin Solos: (a) Nocturne (Shelins). (b) Russian Dance (Fairchild); Soprano Solos: (a) Ich trage meine Minne (R. Stranss), (b) Aria from Falstaff (Verdi). (c) Aria from Manon (Massenet); Bass Solos: (a) Aria from Simone Boccanegra (Verdi). (h) Aria from L'Ehreo (Apolloni): Violin Solos: (a) Lotus Land (Scott). (h) Air and Trepak (Sasonov-Dushkin); Soprano Solo: Elsa's Dream from Lohengrin (Wagner). 6.40 (Naples), Shipping and Sports Notes. 6.45, Dopolavoro Notes and Tourist Report. 7.19, Agricultural Notes. 7.20, News in Foreign Languages. 7.40, Giornale Radio. 8.0, Time and Announcements. 8.15, Gramophone Music. 8.45, Rny Blas—Opera in Three Acts (Marchetti).

SALZBURG.—See Vienna.

SCHENECTADY

WCY, 790 kc/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF, on 31.48 metres and by W2XAB on 19.56 metres. 1.45 a.m. (Friday), Stock Reports. 2.0 to 5.0, New York Relay, 2.0, Variety Programme. 3.0, Captain Henry's Show Boat. 4.0, Popular Programme. 5.0, Programme

SCHWEIZERISCHER LANDESSENDER

LANDESSENDER

BEROMUNSTER, 653 kc/s, 459 metres; 60 kW; Basle, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres.—6,15 to 6.35 a.m. (from Basle), Gynmastics. 11.59, Time from Nenchatel Observatory and Weather. 12.30 p.m., Time. Weather and News. 12.40 (from Basle), Gramophone Concert. 12.30 p.m., Time. Weather and News. 12.40 (from Basle), Time. Weather and Exchange. 1.30 (approx.), to 5.0, Interval. 5.0 (from Basle), Time. Weather and Exchange. 1.30 (approx.), to 5.0, Interval. 5.0 (from Basle), Concert by the Small Station Orchestra. conducted by Max Scherbaum. 6.0 (from Berne), Gramophone Concert. 6.30 (from Basle), Time. Weather and Traflic Report. 7.19 (from Basle), Italian Arias and Songs (on Gramophone Records). 7.30 (from Basle). Elementary Italian Lesson. 8.15 (from Basle). Elementary Italian Lesson. 8.15 (from Basle). Concert of Chamber Music. relayed from the Conservatoire. Soloist: Ada Schwander (Pianoforte). 9.20 (approx.), Weather and News. 9.40 (approx.), (from Basle), A Radio Play. 10.15 (approx.), Close Down.

SOTTENS .- See Radio-Suisse Romande.

STOCKHOLM

689 kc/s, 436 metres; 55 kW. Relayed by Boden, 244 kc/s, 1,229.5 metres; Góteborg, 932 kc/s, 322 metres; Hórby, 1,166 kc s, 257 metres; Motala, 221.5 kc/s, 1,354.4 metres; Ostersund, 389 kc/s, 770 metres; and Sundsvall, 554 kc/s, 542 metres.—5.5 p.m., Divine Service. 5.30, Programme for Children. 5.45, Gramophone Music. 6.45, Elementary

English Lesson, relayed from Jönköping, 1,490 kc/s, 201.3 metres. 7.15, Weather and News. 7.30, Talk. 8.0, 'Cello Recital by Roman Dukstulsky: Toccata (Frescohaldi-Cassadó); Two Fantasiesticke (Schumann); Dance of the Green Devil (Cassado). 8.15, A Play in Three Acts (Heiberg). 9.45, Weather and News. 10.0, Concert of Light Music: Ballet Music from La Gioconda (Ponchielli); Selection from The Tales of Hoffmann (Offenbach); Valse triste (de Vecsey); Minnet in G (Beethoven); Waltz Intermezzo, Die reizende Wienerin (Kahrman); Extase (Ganne); Serenade (Widor); Tango (Ostrauss). In the Valley of the Moon (Tobias-Burker); Potpourri (Lincke). 11.0 (approx.), Close Down.

STRASBOURG

STRASBOURG

869 kc/s, 345 metres; 11.5 kW.—11.30 a.m., Variety Music on Gramophone Records. 12.45 p.m., News. 1.0, Time and Exchange. 1.5, Orchestral Concert, conducted by Maurice de Villers: Ballet Music from Henry VIII (Saint-Saèns); Overture, La roi l'a dit (Delihes); Spanish Dances (Granados); Violin Solo: Meditation from Thais (Massenet); Suite of Dances (Godard). 2.0, Programme for Children. 3.0, Interval. 3.45, Gramophone Concert. 4.45, French Elocution Lesson. 5.0, Orchestral Concert. conducted by Roskam: Overture, Les cent vièrges (Leccoq); Serenade (Padilla); Wedding Waltz (Lincke); Ideale (Tosti); Jopenso (Tosti); Selection from La belle Hélène (Offenbach); Melody (Rubinstein); Dance of the Hours, from La Gioconda (Ponchelli); Hymn to the Sun (Rimsky-Korsakov); Marche Tartare (Ganne). 6.0, Talk in Gerunan: The Barbizon School of Artists. 6.15, Talk for Women. 6.30, Song and Saxophone Recital by Inès Maujean (Sopramo) and Jean Wéber: Saxophone Solo: Fantasia on an Original Theme (Demerseman); Airs from (a) Judas Maccabaeus (Händel). (b) Rodelinda; Legend for Saxophone (Sporck); Song (Chabrier): (a) Invitation au voyage, (b) Tes yeux bleus; Saxophone Solos: Orientale (Sporck); Song from Les Adieux de l'hotesse Arabe (Bizet); Song (Chabrier): (a) Invitation au voyage, (b) Tes yeux bleus; Saxophone Solos: (a) Czardas (Gurewitch). (b) Oriental (Gurewitch); Songs: (a) Colombe (Busser), (b) Coeur solitaire (Busser). 7.30, Time and News. 7.45, Gramophone Music. 8.0, Press Review in German, Lottery Results and Annonneements. 8.30, Symphony Concert from Lyons (La Doua). 10.30 (approx.), Press Review in French.

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 579 metres.—1-15 p.m., Time and News. 1.30, Concert from Langenberg. 2.0, Concert arranged by the Post Office. 2.30, Spanish Conversation. 3.0, Etementary English Lesson. 3.30, Programme for Young People. 4.30, See Munich. 5.45, Talk: The Art of Storytelling. 6.10, A Basque Festival Day (on Gramophone Records). 6.35, Time and News. 7.0, Transmission for all German Stations. relayed from Hamburg. 8.0, Dietrich-Eckardt Programme. 9.0, See Frankfurt. 10.0, See Munich. 10.20, Time and News. 10.40, Dance Music. relayed from Berlin (Funkstunde). 12.15 a.m. (Friday), Modern Light Music and Dance Music. by Henry Kassbon: Foxtrot. Wenn die roten Rosen blühen (Kassbon); Waltz, Es gibt eine Fran, die mich lieb hat (Bachem-Schlenkermann); Tango, Ich kann dich nie vergessen (Friedemann-Pfan); Foxtrot (Winston); Fantrasia on Der Lenz (Hidach): Waltz, The Blue Dannbe (Joh. Strauss); Tango, So wie's frither war (Meisel). Violin Solos: (a) Czardas, Rulamzo Ballaton (Hubay), (b) Spanish Serenade (Chaminade); Guten Abend. Gute Nacht (Brahms-Schlenkermann); Kaiser-Walzer (Joh. Strauss). 1.0 a.m. (Friday), Close Down.

SUNDSVALL .- See Stockholm.

TOULOUSE

TOULOUSE

RADIOPHONIE DU MIDI, 779 kc/s, 385 metres; 8 kW.—6.0 p.m., News. 6.15, Jazz Music. 6.45, Music by a Viennese Orchestra. 7.15, News. 7.30, Ballet Music from Faust (Gounod). 7.45, Popular Melodies. 8.0, Operetta Music: Selection from La fille de Madame Angot (Lecocy); Die Fledermans (Joh. Strauss); The Bollar Princess (Fall). 8.15, Opera Music: Arias from: L'attaque du moulin (Bruneau); Werther (Massenet); Les Brigands (Offenbach); Tosca (Puccini). 8.20, Military Music. 8.45, Music from Sound Films. 9.0, Maurice Yvain Operetta Concert. 9.30, Accordion Music. 9.45, Orchestral Concert: Wedding Procession (Rimsky-Korsakov); Fireworks (Stravinsky); Turkish March (Mozart); Licheslied (Kreisler); Selection from El amor brujo (Falla); Two Airs from Robert the Pirate (Romberg); Air from Véronique (Alessager). 10.15, News. 10.20, Concert for Listeners in Morocco: Overture, Barbe-blene (Offenbach); Air from Prince Igor (Borodin); Sérémade des fleurs (Cazes); Simplement par amour (Eblinger); Parade of the Marionettes (Hahn). 11.0, Chansonnettes. 11.15, Dance

Music. 12 Midnight, News. 12.5 a.m. (Friday), Music by an Argentine Orchestra. 12.15, Accordion Music. 12.30 (approx.), Close

TRIESTE

,211 kc/s, 247.7 metres; 10 kW.—5.10 p.m. ill Close Down, See Turin.

TRONDHEJM.—See Oslo.

TURIN

1,096 kc/s, 273.7 metres; 7 kW. Relayed by Milan, 905 kc/s, 331.5 metres; Genoa 959 kc/s, 312.8 metres; and Florence, 599 kc/s, 509.8 metres.—5.10 p.m., Gramophone Music. 6.0 to 6.5, Weather. 6.40, Giornale Radio, Dopolavoro Announcements and Gramophone Music. 7.0, Time, Tourist Report and Gramophone Music. 7.10, Agricultural Notes and Market Prices 7.20, News in Foreign Languages. 7.40, Gramophone Music. 8.0, Announcements, Giornale Radio, Weather, and Gramophone Music. 8.30, A Comedy in Three Acts. After the Comedy, Gramophone Music. 11.0, Giornale Radio.

VATICAN CITY

15,120 kc/s, 19.84 metres (Morning); and 5,969 kc/s, 50.26 metres (Evening); 10 kW—11.0 to 11.15 a.m., Religious Information in French. 8.0 to 8.15 p.m., Religious Information tion in Italian

VIENNA

VIENNA

Sal kc/s, 517 metres; 100 kW. Relayed by Graz, 852 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenfurt, 662 kc/s, 453.2 metres; Linz, 1,229 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.—12 Noon, Concert by the Wiener Bymphoniker, conducted by Holzer. In the interval at 1.0, p.m., Time, Weather and Announcements. 2.0, Interval. 3.0, Time, Weather and Market Report. 3.20, Talk: The Roman Fortified Town of Carnuntum and the Gateway to Hungary. 3.35, Readings for Children. 4.0, Mendelssohn Concert on Gramophone Records. 4.40, Talk: Life in the Malayan Archipelago. 5.0, Talk for Women. 5.25, Song and Violin Recital by Lily Ulanowsky (Soprano) and Balda Grasser. 6.5, Talk Errors in Speech. 6.30, Talk: Old Austrian Places of Pilgrimage. 7.0, Concert by the Wiener Symphoniker, conducted by Holzer; Soloists, Dely Drexler (Soprano) and Otto Glaser (Tenor): Overture. Venus auf Erden (Lincke); Soprano Song from Paganini (Lehar): Tenor Song from Preut Euch des Lehens (Strauss-Grün); Waltz, Singen, lachen, tauzen (Ziehrer); Soprano Song from Der Orlov (Granielstaedten); Intermezzo. Lachende Welt (Siede); Tenor Song (Granichstaedten); Potpourri (Konzak); Duet from Madanne Pompadour (Fall); Duet from Madanne Pompadour; (Forms, Solpists, Hans Kolisch (Violin), Jascha Heiftz ('Cello), and Eduard Steuermann (Pianoforte): Concerto in C. Op. 56, for Pianoforte. Violin and Cello (Beethoven); Symphony No. 4 in E Minor, Op. 98 (Brahms). 10.55, Dance Music on Gramophone Records. After the Programme. Exchange.

WARSAW

Exchange.

WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m.,
Time Signal and Fanfare from St. Mary's
Church, Cracow. 12.5 p.m., Gramophone
Music. 12.25, Polish Press Review. 12.33,
Weather Report. 12.35, Gramophone Music. 12.55, Radio Journal. 1.0 to 2.55, Interval.
2.55, Announcements. 3.15, Gramophone
Music. 3.25, Economic Notes. 3.35, Gramophone
Music. 3.25, Economic Notes. 3.35, Gramophone
Music. 3.25, Economic Notes. 3.35, Gramophone
Music. 3.25, Gramophone Music. 5.0, Talk
for Women. 5.15, Latvian and Polish Songs.
5.55, Gramophone Music. 6.15, Talk 6.35,
Michalowski Pianoforte Recital: Prelude in
E flat; Prelude in F sharp minor: Bagatelle in G; Valse brillante; Berceuse:
Gavotte in B flat minor: Impromptu;
Mazurka in E minor: Mazurka in B minor;
Polonaise. 7.20, Miscellaneous Items. 7.35,
Programme Announcements. 7.40, Reading:
From Bulgaria to Constantinople. 8.0, Concert by the Station Orchestra, conducted
by Nawrot; Soloist, Karowska (Soprano):
The Nutcracker Suite (Tchaikovsky); Songs:
(a) Aria from I Pagliacei (Leoncavallo);
Aria from Sigismund Augustus (Joteyko);
Villanella (Dell' Acqua); Overture (Lortzing); Spanish Suite (Leoncavallo);
Albumblatt (Gyldmark): Waldmärchea
from Der Berggeist (Meyer-Heimund);
Waltz, Tales from the Vienna Woods (Joh.
Strauss); Three Songs: Romance (Renée);
Fête à Séville (Tavan); Waltz-Fantasia
(Grossman); Florentine March (Fucik). In
an interval at 8.50, Radio Journal and Agricultural Notes. 10.0, Dance Music (contd).

WILNO

WILNO

533 kc/s, 563 metres; 16 kW.—7.20 p.m., Answers to Correspondence. 7.40. See War-saw. 9.0, Talk. 9.10, Concert relayed from

ZURICH.—See Schweizerischer Landessender.

ALGIERS

ALGIERS

824 kc/s, 364 metres; 13 kW.—8.10 p.m.,
Shipping Notes. 8.15, Agricultural Report
and Weather Forecast. 8.20, Agricultural
Talk. 8.35, Wind Instrument Nolos. 8.55,
News. 9.0, Time. 9.2, Lottery Results.
9.10, Instrumental and Vocal Coucert. 9.45,
News. 9.50, Concert (contd.). 10.30, News.
10.35, Instrumental Concert.

ATHLONE

ATHLONE

725 kc/s, 413 metres; 60 kW. Relayed by Gork, 1,337 kc/s, 224.4 metres.—1.30-2.30 p.m., Time Signal, Weather Report. Stock Exchange Quotations and Gramophone Music. 6.0, Programme for Children. 6.45, News. 7.0, Gardening Talk by G. O. Sherrard. 7.15, Literary and Dramatic Talk by Aodh de Bacam. 7.30, Time Signal. 7.31, Songs by The Good Companions. 7.45, Concert by the Station Orchestra. 8.15, The Good Companions (contd.). 8.30, Tenor Solos by Sean O'Carroll. 8.45, Music by the Station String Orchestra. 9.10, Soprano Solos by Neilie Ryan. 9.30-10.30, Programme by the I.B.C. (Ireland), Ltd. 9.33, Concert: Hustlin' and Bustlin'; Till tomorrow; My Darling; What more can I ask?; The Lord Mayor's Show; Play, Fiddle, play; Rock-abye Moon; Jack Payne's Memories. 10.3, Concert arranged by the International Broadcasting Company (Ireland), Ltd. on behalf of Hospitals' Trust, Ltd.: Overture, Figaro (Mozart); Hungarian Dance in G minor (Brahms); Autumn Leaves (Voglein); Shepherd's Hey (Grainger); Violin Solo. Caprice viennois (Kreisler); Slav Dances (Dvorák); Waltz, Acclamation (Waldtenfel). 10.30, J.B.C. Goodnight Melody, followed by Time Signal, News, and Weather Eeport. 10.40, Accordion and Fiddle Solos by John Haugh and J. Carroll. 11.0 (approx.). Close Down.

BARCELONA

BARCELONA

EAJ1, 860 kc/s, 348.8 metres; 8 kW.—7.0
p.m., Trio Concert: Overture, Zampa
(Hérold); Feuille d'athum (Chabrier);
Melody (Leopold); Interniezzo (Percy);
Sailor's Song (Mendelssohn); Romance
(Rubinstein); Selection from Hérodiade
(Massenet). 8.0, Request Gramophone
Records, 8.30, Exchange, 9.0, Gramophone
Music and News. 10.0, Chimes from the
Cathedral, Weather, Messages to Seamen,
Exchange and Market Prices, 10.10, Concert
by the Station Orchestra. 11.15, Vicente
Diez de Tejada reads from his own Works,
11.30, An Opera on Gramophone Records.
In the interval at 12 Midnight, News. 1.0 a.m.
(Saturday), Close Down.

BASLE—See Schweizerischar Landessender.

BASLE. See Schweizerischer Landessender.

BELGRADE

697 kc/s, 430.4 metres; 2.8 kW.—6.55 p.m., Time and Programme Announcements. 7.0, Concert by the Station Orchestra. 8.30, Cor-cert relayed from Zagreb, 977 kc s (307 metres). 10.30, Time and News. 10.45 (ap-proximate), Dance Music from the Ratnicki Dom Restaurant.

BERLIN

BERLIN

DEUTSCHLANDSENDER (REICHSSENDER)
183.5 ke; s, 1,625 metres; c0 kW—12 Noon,
Weather. 12.2 p.m., Gramophone Concert:
Morning (Grieg); Oriental Suite (Popy);
Moonlight on the Danube (Gay); Wedding
Day on Troldhaugen (Grieg); O komm' in
Traum (Liszt); None but the lonely heart
(Tchaikovsky): Suite campestre (Amadei);
Slav Dance No. 8 (Dvorak); The Hight of
the Bumble Bee (Rimsky-Korsakov); Japanese Cherry Blossom Festival (Yoshitomo);
Procession of the Gnomes (Bion); Waitx,
Min Bella (Sommerfeld). 12.55, Time Sigmal. 1.45, News. 2.0, Gramophone Concert:
Bahalaika Orchestra: (a) Piece from Caucasian Sketches (Tppolitov-Ivanov),
Ukrainian Sketches (Sibirsky); Cigány
Band: (a) Folk Song, Chrysanthemum, (b)
Puszta-Grüsse (Kiss-Bela); Hawaiian Band
(a) Melody (Payne-Wallace-Herbert), (b)
Waitz, Tesoro mio (Becucci); Bandonion
Solos: (a) Internezzo, Koketterie (Mahr).
(b) Russian Waitz (Mahr); Cigány Band:
(a) Abschied von der Puszta (Jeno), (b)
Strahlende Augen (Falossy); The Wurlitzer Organ: (a) Weisst Du noch, (b)
Butterflies in the Rain (Myers). 3.0, Programme for Girls. 3.30, Wenther and Exellange. 3.45, Reading from Lucinde (Schiegel). 4.0, See Leipzig. 5.0, Reminiscences
by Alvin Dressler. 5.15, Songs by Children.
5.45, Topical Talk. 6.0, Poems. 6.5, Modern
Music by the Kart Bistempart Chamber Orchestra: Serenade for String Orchestra
CRichard Trunk); Kleine Serenade (Reznicek). 6.40, Talk by Dr. Schlange: The
Prussian-South German State Lottery. 7.0,
Transmission for all German State Lottery. 7.0
Transmission for all German

BERLIN

FUNKSTUNDE, 715 kc/s, 419.5 metres; 1.5 kW.—4.30 p.m., Concert from the Zoological Gardens. 5.0, Second String Quartet (Cart Protze). 5.30, Programme in Commenoration of Ferdinand von Saar on the Centenary of his Birth. 6.0, Fifteen minutes in front of a Picture—Talk on Caspar David Friedrich's Der einsame Baum. 6.15, Radio Week End

SEPTEMBER THE TWENTY-NINTH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

NATIONAL LONDON REGIONAL Promenade concert from Queen's Half.

"The Desert Song," a musical comedy, by Romberg.

NORTH Orchestval concert. REGIONAL

WEST REGIONAL SCOTTISH REGIONAL

BELFAST

Excerpt from the Glasgow Mod, 1933, from St. Andrew's Hall, Glasgow.

Organ, recital.

Ballad concert.

ABROAD

BRUSSELS (No. 1) 5.0 p.m. Mendelssohn concert, by the Station Symphony Orchestra. 6.30 p.m. Pianoforte recital, by Raoul Seitaels.

BRUSSELS (No. 2) COPENHAGEN

HEILSBERG

Orchestra, conducted by A. Meulemans.
8.10 p.m. Haydn recital, music for flute, violin and

cello.

9.10 p m. The Königsberg Opera House Orchestra,

HUIZEN LEIPZIG

TURIN

conducted by Brückner.

8.10 p.m. Concert by the Haydn String Quartet.

8.0 p.m. Opera: "Alceste," by Gluck, from 8.0 p.m. Dresden.

POSTE PARISIEN ROME

Comic opera: "Le Toréador," by Adam. 9.15 p.m.

Opera: "La Sonnambula," by Bellini. 8.30 p.m. Orchestral concert, conducted by D. 8.30 p.m Amfitheatrel

8.0 p.m. Symphony concert, conducted by Fitelberg. WARSAW

Report. 6.40, See Berlin (Doutschlandsender). 7.0, Transmission for all German Stations, relayed for Berlin (Deutschlandsender). 8.0, Lottery Announcements. 8.5, Programme to be announced.
8.35, Concert by the Berlin Station Orchestra, conducted by Dr. Helmuth Thierfelder.
Prelude for Orchestra, An mein deutsches Land Op. 48 (Hermann Zilcher); Variations on Ach. wie ist's möglich dann, Op. 29a (Rössler); Märehen—Symphonie Pictures (Angust Enna); Peer Gynt Suite No. 2 (Grieg); Polovtsian Dunces (Borodin). In the interval at 8.40, Radio Report of the Chimes from the Potsdam Garrison Church.
10.0, News. 10.15, (approx.), Dance Music from the Hotel Altambra. In the interval from 11.0 to 11.5, Talk: Stage and Cinema.
12 Midnight, Close Down.

BERNE—See Schweizerischer Landessender.

BERNE. See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer Landessender

BODEN .- See Stockholm. BODO.-Sec Oslo.

BRATISLAVA

1,076 kc/s, 279 metres; 14 kW.—6.25 p.m., Gramophone Music. 6.40, Sports Talk. 6.55, Talk for Housewives. 7.0, See Prague. 7.25, See Brno. 7.55 till Close Down, See Prague. 10.15 (approx.), Close Down.

BREMEN. -See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—1.5 p.m., Gramophone Music. 1.45, Time and News. 2.10, Schmert Lieder Recital by Blse Schulze (Soprano). 2.40, Gramophone Concert. 3.0, Agricultural Prices. 3.15, Programme for Young People. 3.45, Tales of the Pioneers of Gliding. 4.0, Concert by the Station Orchestra, conducted by Topitz: Overture. The Daughter of the Regiment (Donizetti); Waltz, Wiener Bürger (Ziehrer); Polka, Bitte schön (Strauss); Selection from La Traviata (Verdi); Ballet Overture (Kremser); Selection from thre floheit die Tänzerin (Goetze); Waltz. O du Himmelblauer See (Millöcker); March (Ziehrer). 5.20, Agricultural Prices, followed by Reading. 5.45, Talk: Germans outside the Reich—German Settlements in the Baltic Lands and Russia. 6.10 (from Gleiwitz). Industry on the Frontier—Radio Report from a Blast Furnace. 6.40, See Berlin (Deutschlandsender). 6.50, Moat Market Prices. 7.0, Transmission for all German Stations relayed from Berlin (Deutschlandsender). 8.0, News. 8.10, Concert by the Silesian Philharmonic Orchestra, conducted by Hoffmann. Solo-ist: Charlotte Boerner (Soprano). The London Symphony in D (Haydn); Aria from II Seraglio (Mozart); Overture. Cosi fan tutte (Mozart); Aria from Figaro (Mozart); Overture, Euryanthe (Weber); Minuet, Dance of

the Sylphs and Hungarian March from The Dannation of Fanst (Berlioz); Two Slav Dances (Dvorák); Carnival Overture (Dvorák); Overture and Aria from The Merry Wives of Windsor (Nicolai); Waltz. Frühlingsstimmen (Strauss). In the interval at 9.0, Programme to be announced. 10.15, Time. Weather and News. 10.40, Talk: German Wrought Iron Work in the Great Days of Prussia. 11.6, Light Music and Dance Music from the Admiralspalast. 12 Midnight, Close Down.

BRNO

BRNO

878 kc/s, 342 metres; 35 kW.—2.50 p.m., Concert by the Station Orchestra. conducted by Bakala: Overture, Figaro (Mozart); Mendelssohn Potpourri (Fonds); Waltz from Der Rosenkavalier (R. Strauss); Serenade for Strings (Hrimaly); Bacchanal (Dvorák). 3.50-4.0, See Prague. 5.45, Gramophone Music. 5.55, Talk for Women: Rhythmics. 6.5, Gramophone Music. 6.15, Talk for Workers, 6.25, German Transmission: News, Sports Notes. Topical Talk and Readings. 7.0, See Prague. 7.25, Haydn Chamber Music. Four Pieces for Finte; Quartet in D for Lute. Violin. Viola and Cello. 7.55, See Prague. 9.30, Pianoforte Recital by Norbert Matzek. 10.0, See Prague. 10.15 (approx.). Close Down. Matzek. 10. Close Down.

BRUSSELS (No. 1)

BRUSSELS (No. 1)

1.N.R.; 590 ke/s, 509 metres; 15 kW.—12
Noon, Acts II and III of Lucia di Lanmermoor (Donizetti), on Gramophone Records.
1.0-p.m., Le Journal Parlé. 1.10, Modes of Travelling—Gramophone Concert. 5.0, Mendelssohn Concert by the Station Symphony Orchestra, conducted by Meulemans; Overture, Ruy Blas; Spring Song; Spinning Song; Symphony in A Minor—The Scottish. 6.0, Talk: Wireless Reception and its Development in Belgium and Abroad. 6.15, Request Gramophone Music. 6.30, Pianoforte Recital by Raoul Spitaels: Spanish Smite (Albéniz); Waltz (Chopin); Dances (Debussy); Rondean brillant (Weber). 6.45, Symphony No. 1 (Beethoven), on Gramophone Records.
7.15, Talk. 7.30, Legal Talk and Literary Talk. 8.0, Concert by the Radio Orchestra, conducted by Walpot. Soloist. Mile. De Troch (Soprano). Overture and Air de Ballet from Pau's Flute (Van Oost); Waltz, Les sirènes (Waldtenfel); Selection from Paganini (Lehár); Songs: (a) Aria from Aleeste (Gluck), (h) Aria from Cavalleria rusticana (Mascagni): Selection from White Horse Inn (Stolz-Benatzky). 8.45, Talk: Ghent and its People. 9.0, Concert by the Station Symphony Orchestra, conducted by Menlemane: Overture. Anacréon (Chernthini); Petite suite (Busser); Scherzo-Valse (Guillaume); Two Symphonic Pieces (Bernaert); Scènes alsacienes (Massenet); March héroique (Saint-Saéns). 10.0, Le Journal Parlé. 10.16, La Brabançonne.

BRUSSELS (No. 2)

BRUSSELS (No. 2)

N.I.R.; 887 kc/s, 338.2 metres; 15 kW.—Programme in Flemish. 12 Noon, Concert by the Primas Sylva Orchestra. In the interval at 1.0 p.m., Le Journal Parlé. 5.0, Concert by the Radio Orchestra, conducted by Charles Walpot; Waltz. Josef Strauss Erimerung (Fahrbach); Overture, The Black Domino (Anber); Suite from Maia (Leoneavallo); Negro Lullaby (Elutsam); Selection from The Count of Luxembourg (Lehár); Flemish Dances (Blockx). 6.0, Finale from The Valkyrie—Opera (Wagner), on Gramophone Records. 6.15, Reading. 6.30, Sonata in FSharp Minor, Op. 46, for Cello and Piunoforte (Pierné). 7.9, Tone Poem, Tamar (Balakirev). on Gramophone Records. 7.15, Talk: Family Names. 7.30, Wireless Talk. 8.0, Lalo Concert by the Station Symphony Orchestra, conducted by Arthur Meulemans. Soloist, Theo Delvenne (Violin). Overture, Le roi d'Ys; Violin Concerto; Scherzo; Norwegian Rhapsody; Selection from Namouna. 9.0, Reinnert de Vos—Play, adapted for Radio by Hubert Melis, with Incidental Music by Paul Douliez. 9.45, Three Fancirul Etchings (Ketelbey). on Gramophone Records. 10.0, Le Journal Parlé.

BUCHAREST

BUCHAREST
761 kg/s, 394 metres; 12 kW.—5.0 p.m., Concert by the Station Orchestra: March. Manhattan (Sousa); Waltz Intermezzo (Translateur); Roccoco Suite (Aithout); Selection from The Circus Princess (Kálmán); Melody (De Michell); Potpourri, Extravaganza (Morena); Souvenir (Hebert); Trot de cavalerie (Rubinstein); Rigandon (Hartog). In an interval at 6.0, Radio Jonnal. 7.0, La Bohème—Opera in Three Acts (Praccini). on Gramophone Records. In the intervals, Reading and Radio Jonnal. After the Opera, Light Music relayed from a Restaurant.

BUDAPEST

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW. Also relayed on 840 metres from 7.15 p.m. till Close Down.—5.0 p.m., Cigány Band Concert. 6.0, Talk. 6.30, Song Recttal. 7.15, Two One-Act Plays. 8.0, Extracts from The Barber of Seville—Opera (Rossini) on Gramophone Records. 8.45, News. 9.0, Dance Music from the Hotel Royal, 10.15, Orchestral Concert: Overture (Cimarosa); Sonata da Camera (Marcello); Allegro alla militare (Boccherini); Sujte antique (Couperin-Kreisler); Suite, In modo popolari (Cin'); Lieder (Layotta). 11.15, Cigány Band Concert from the Restaurant Kovacsevics.

CASSEL .- See Frankfurt.

COPENHAGEN

COPENHAGEN

1,067 kc/s, 281 metres; 0.75 kW. Relayed by Kalundborg, 260 kc/s, 1,153.8 metres.—
12 Noon, Time Signal and Chimes from the Town Hall. 12.2 p.m., Concert by the Bendix String Ensemble, relayed from the Wivex Restaurant. 2.0, Interval. 2.30, Concert by Louis Preil's Instrumental Ensemble: Nura March (Andy); Suite of Viennese Waltzes (Gilson); Humoresque (de Taye); Sylvia (Spenks); Rogne Song Fantasy (Stothart); Potpourri, Von Wiendurch die Welt (Hruby); Melody (Brener); Zazra (Bowen); Die Spieluhr der Pompadour (Noack); Valse dolore (Gyldmark); Selection from Wonder Bar (Katscher); Indigo from Three Shades of Blue (Grofé); Foxtrot. Turf (Demaret); Canzonetta (Frint); Foxtrot, Business in Q (Bleyer). In an interval at 3.15 (approx.), Reading, 4.30, Programme for Children. 5.30, Exchange and Fish Market Prices. 5.45, Talk: The Masterpieces of Danish Literature. 6.15, Elementary German Lesson. 6.45, Weather. 6.54, Announcements. 7.6, News. 7.15, Time Signal. 7.16, Talk: Unemployment and the Wages Question. 8.0, Time Signal from the Town Hall. 8.1, Programme hy Per Knutzon. 8.10, Haydn Recital by Holger (Gilbert-Jespersen (Flute). Johan Henriques (Violin), and Torben Anton Svendsen (Cello): Divertimento in C for Flute, Violin and 'Cello; First Movement from the Trio in D for Flute, Violin and 'Cello; First Movement From the Trio in D for Flute, Violin and 'Cello; First Movement From the Trio in D for Flute, Violin and Cello; First Movement From the Trio in D for Flute, Violin and Cello; First Movement From the Trio in D for Flute, Violin and Cello; First Movement From the Trio in D for Flute, Violin and Cello; First Movement From the Trio in D for Flute, Violin and Cello; First Movement From the Valencia. 12 Midnight (approx.), Close Down.

CORK.—See Athlone.

DANZIG.—See Heilsberg.

CORK .- See Athlone. DANZIG .- See Heilsberg. DRESDEN .- See Leipzig.

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—11.0 a.m. to
2 Noon, Programme in English by the
1.B.C. 11.0, Happy Hour. Part I: Orchestral
Concert: Signature Time: Overture, Die
Fledermaus (Strauss); Fleurette (Fletcher);
Violin Solo, The Song of Songs (Moya);
Wedding of the Rose (Jessel); Bells across
the Meadows (Ketelbey); Xylophone Solo,
Danse d'Hesoin (Abbey); Columbine (Garland); Souvenir de Capri (Becce). Part H:
Dance Music: Merry-go-round; Saratoga
swing; Sophisticated Lady;
Man Blues; My Wishing
Man Blues; My Wishing
Man Blues; My Wishing
Song; You did
everything for me; My woman; Sadie the
Skater; Signature Tune. 12 Noon, Pro-

SEPT. 29th

continued

gramme in French. 4.30 to 6.0, Programme in English by the I.B.C. 4.30, Programme for Children. 5.0, Hawaiian Band Concert for Southampton and Winchester Listeners: Signature Tune. The Night by the Sea; Tomi, Tomi; My Waikiki Mermaid; Aloma (Bowers); Maui Girl (Liboruio); Palikiko Blues; Makin' wicky wacky down in Waikiki (Hoffmann); Reef of Stars (Watts); My South Sea Home (Camillio). 5.30, Concert for Bournemouth and Weymouth Listeners: Waltz, Künstlerleben (Strauss); Mignonette (Friml); Xylophone Solo, Clatter of the Clogs (Flynn); Selection from The Merry Widow (Lehár); Dance of the Clowns (Smetana); Air de ballet (Herbert); Xylophone Dnet. Dance of the Nymphs (Birch); Love everlasting (Friml); Signature Tune. 6.0, Programme in French. 10.0 till Close Down, Programme in English by the I.B.C. 10.0, Dance Music: Signature Tune, Bells of Normandy; Look what I've got; The Old Spinning Wheel; In the Park in Paree: In the Valley of the Moon; Falling Star; This is the Rhythm for me; Where are you tonighty; It's the Band; Won't you stay to Tea?; There's a tiny little Hair: There's a Cabin in the Pines; Jog along; Rhapsody in Rlue; Here is my Heart; Lover; Old Man Harlen; My Wishing Song; Signature Tune, Sittin' in the Dark; Selection from Music in the Air; To-day I feel so Happy (Carter); Making a Talkie (Clapham and Dwyer); I lost my Girl from Memphis; Sergeant Flagg and Sergeant Quirt (Moll); Falling in love again (Hollander); One little Drink (Akst); The Good Companions; Signature Tune, The Chum Song; Ginger Snaps (Bourdon); Marching through Georgia (Wark); Coembrisé (Gillet); Bella, the Belle o' Dunoon (Lander); Selection from The Student Prince (Romberg); March, Stars and Stripes (Sousa); And would'st thou thus have sullied (Verdi); Sans-Souci (von Blon). 12.5 a.m. (Saturday). News Bulletin in English. 12.10 (approx.), Club Concert. Part II: It's Glory (Serman); Sophisticated Lady (Ellington); Any Time, any Day, anywhere (Young); Sadie the Skater (Miller); Bass Drum Dan (Trumbaner); Signature Tune. 12.30, Danc conducted by Gerhard Gregor: Der Sommerkanon; Das Jahr (Stürmer); A Song of Summer (Delius); Nippon (Lendvai). 8.25 (from Bremen), Wenn de Hahn kreiht-Peasant Coniedy in North German Dialect (Hinrichs). 10.0, Time and News. 10.20, Topical Talk. 10.30, Music by Arnold Ebel-Violin and Pianoforte Recital for the Composer's Fittleth Birthday. 11.0, Cabaret on Gramophone Records. HANOVER.-See Hamburg. HEILSBERG

HEILSBERG

1,685 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 662 kc/s, 453.2 metres.—1.5 p.m., Gramophone Concert. In the intervals at 1.20 and 2.0, News. 2.30, Programme arranged by the Post Office with Gramophone Records. 2.45, Agricultural Prices and Exchange. 3.0, Concert by the Small Station Orchestra, conducted by Wilcken: Selection from Alceste (Gluck); Snite, Op. 98 (Þvorák); Intermezzo from I quattro rusteghi (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Coppélia (Wolf-Ferrari); Extracts from A Carnival Wedding (Poltini); Suite from Findingshift (Jos. Strauss); Selection from Frinhlingshift (Jos. Strauss); Polka and Gallop (Jos. Strauss); Waltz, Sorgenbrecher (Strauss); Radetzky March (Strauss); Selection from The Arabian Nights (Strauss); Selection from Hearthy Heaven March (Strauss); Selection from Hearthy Stations, relayed from Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Weather and News. 8.10, The East Prussian Landscape—Musical and Literary Sequence (Words, arr. Borrmann, Music arr. Besch). The Konigsberg Opera House Orchestra, conducted by Brückner. Soloist: Sports Report.

HILVERSUM

Sports Report.

HILVERSUM

Announced HUIZEN, 1,013 kc/s, 296.1 metres; 7 kW. (until 5.40 p.m.) and 20 kW. from 5.40 p.m. Programme of the Christian Radio Society (N.C.R.V.).—11.40 a.m., Police Notes. 11.55, Gramophone Music. 12.10 p.m., Concert by the Horst Ensemble: Overture, La part du diable (Auber); Frühlingszanber (Translateur); Selection from La Juive (Halévy); Styrian Dance (Gillet); Gramophone Records: Nachklänge ans Ossian (Gade): Loreley-Rheinklänge (Strauss); Selection from Rip (Planquette); Dubninischka (Schirrmanu). 1.40, Interval. 2.10, Religious Address. 2.40, Organ Recital: March from Athalie (Mendelssoliu); Chorns from The Creation (Haydn); Paraphrase (Blaauw): Three Dutch Songs; Meditation (Faulkes); Serenade (Widor); Woodland Rest (Oehme); Sabbath Eve (Elliott); Hymn. 3.40, Concert by the Dutch Harp Quartet: Prelude for Harp (Mozart-Schaefer); Ballet Music from Orphens (Gluck); Sonata in B Flat (Mozart); Sonvenir de Pergolesi (Hartogh); Pastorale (Nieland); Air (Hure); Gramophone Music; Schubert Potpourri (Trneck); Fantasia (Lewin): Trio (Ropartz); Gramophone Music; Schubert Potpourri (Trneck); Fantasia (Lewin): Trio (Ropartz); Gramophone Music, Gramophone Music, Granophone Music,

HUIZEN

HUIZEN
Announced HILVERSUM, 160 kc/s, 1,875
metres; 7 kW. (until 3.40 p.m.). Transmitted
from Kootwijk on 50 kW. from 3.40 p.m.
11.40 a.m. to 3.40 p.m., Programme of the
Algemeene Vereeniging Radio Omroep
(A.V.R.O.). 11.40, Popular Music by the
Rentmeester Ensemble. In the intervals,
Gramophone Music. 1.55 p.m., Gramophone
Music. 2.10, Talk. 2.40, Gramophone Music.
3.55-7.40, Programme of the Workers' Radio
Society (V.A.R.A.). 3.55, Organ Recital by
Jong: Cockney Suite (Ketelbey); Letzter
Frühling (Grieg); Melody from Wild Violets

(Stolz). 4.30, Programme for Children. 5.10, Orchestral Concert, conducted by de Groot: V.A.R.A. March (de Groot): Estudiantina (Waldteufel): Fricienter (Calmbley): Toujours vivement (Knuth): Durch Webers Zauberwald (Urbach): Meditation from Thais (Massenet); Kol Nidrei (Bruch); Gramophone Records: Bells across the Meadows (Ketelbey); Selection from Der Tenfelsreiter (Kálmán). 6.20, Talk. 6.40, S.O.S. Announcements. 6.42, Concert (continued): Comedy Overture (Kéler-Béla); Cancasian Sketches (Ippolitor-Ivanov). Am Ziehbrunne (Rust); Wiener Praterleben (Translateur); Glóckchen im Tale (Sackur); Die Spieldose (Eichliorn); A.B.C Potpourri (Komzak). 7.40-10.40 Programme of the Liberal Protestant Radio Society (V.P.R.O.). 7.43, Talk. 8.10, Concert by the Haydn String Quartet: String Quartet in A minor, Op. 51 (Brahms); String Quartet in C. Op. 54. No. 2 (Haydn). In the interval at 8.40, Talk. 9.40, Religious Information. 9.45, News. 9.55, Talk. 10.25, Gramophone Music. 10.40, V.A.R.A. Programme: Organ Recital by Steyn, followed by Gramophone Music. 11.40 (approx.), Close Down.

INNSBRUCK.—See Vienna.

JUAN LES PINS

1,205 kc/s, 249 metres; 0.8 kW.—12.30 p.m., Amusement Guide and Variety Items. 1.0, News. 1.15, Radio Concert. 8.0, Amuse-ment Guide, Exchange, Racing Results and News. 8.10, Esperanto Lesson. 8.30, Radio Concert. In an interval at 9.0, News and Weather.

KALUNDBORG .- See Copenhagen.

KATOWICE

KATOWICE
734 kc/s, 408 metres; 16 kW.—4.0 p.m., Concert by the Moniuszko Mandoline Orchestra:
March (Miller); Overture, Martha (Flotow);
Wiener-Walzer (Strauss); Selection from The
Bird-Fancier (Zeller); Liebesfreud (Kreisler);
Moment musical (Schuhert); Chauson
d'automne (Tchaikovsky); Fantasia (de
Lada); Waltz from Casanova (Rozycky);
March from Aida (Verdi). 5.0, See Warsaw.
7.5, Talk: Colonel Lawrence, the Uncrowned
King of the Arabs. 7.20, Gramophone Music
and Announcements. 7.35, Sports Talk. 7.40,
See Warsaw. 10.40, Dance Music. 11.0, The
Letter Box in French.

KIEL.—See Hamburg.

KIEL.—See Hamburg.

KLAGENFURT.-See Vienna.

KOSICE.-See Prague.

LANGENBERG

LANGENBERG

635 kc/s, 473 metres; 60 kW.—12 Noon, Concert of Folk Music. 1.15 p.m., News. 1.30, Concert by the Münster Municipal Orchestra, conducted by Göhre: Overture Der Erlenhügel (Kuhlau); Norwezian Wedding Procession (Grieg); Selection from Mignon (Thomas); Waltz, from Gipsy Love (Lehar); Rhapsodic Fantasia (Urban). In the Interval at 2.0, News. 3.0, Talk: German Deep Sea Fisheries. 3.20, Political Announcement. 3.30, Economic Notes and Time. 3.50, Programme for Young People. 4.30, Talk: Experiences among the Cannibals and Headhunters of German New Guinea. 5.0, Clarinet Quintet in A (Mozart), by Philipp Dreisbach and the Wending Quartet (on Gramophone Records). 5.30, Concert by the Fröhliche Fünf and Soloists. 6.15, Talk. 6.30, News. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, News. 8.5, Operetta Programme: (a) Das Liebespfand (The Love Pledge) (Hermann Bredehöft—Music Kneip), (b) Das grosse Los (The Great Gamble) (Hermann Bredehöft—Music Kneip), (c) Operetta Medley (arr. Görtitz and Kneip). (10.15, News. 10.30, Talk: Coming Events in West Germany, 10.45, Popular Concert. 11.30 (approx.), Close Down.

LAUSANNE.—See Radio-Suissa Romanda.

LEIPZIG

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.5 p.m., Concert by the Leipzig Symphony Orchestra, conducted by Theodor Blumer. Soloist: Kurt Günther (Flute); Overture, Um Deutschland (Stadler): Selection from Der Widlschütz (Lortzing); Flute Concerto in D (Mozart): Elegy and Waltz from the Serenade for Strings (Tchaikovsky); Die Jagd nach dem (Glück (Nicodé); Overture, Prince Methuselah (Joh. Strauss): Polka, Leichtes Bint (Joh. Strauss): 1.15, News. 1.30, German Dances and Marches on Gramophone Records. 2.5, News. 2.20, Lyrics by Johannes Linke. 2.30, Art Report. 2.40, Talk: Harvest Festivals in Germany. 3.35, Market Prices and Weather. 40, Concert by the Station Orchestra, conducted by Hilmar Weber: Overture Fra Diavolo (Auber); Orientale Suite (Popy); Selection from Fatinitza (Suppé); Rhapsody in B Minor, Op. 25 (Hartung); Waltz, Unterder bülnenden Linde (Gellert); Overture in Italian Style (Schubert). 5.0, Talk: Mia Munier-Wroblewska. 5.20, Talk on Architecture: Modernising Houses. 5.50, Market

Prices. Weather and Time. 6.20, Music by the Station Orchestra, with Introductory Talk. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, re-layed from Berlin (Deutschlandsender). 8.0 (from Dresden), Alceste—Opera (Glück). 10.15, News. 11.0, Programme from Stutt-gart. 12 Midnight, Close Down.

LINZ.-See Vienna

LUXEMBOURG

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW.—12.30 p.m.,
Gramophone Music. 7.30 till Close Down,
Dutch Programme. 7.30, Symphony No. 3
in F Flat, Op. 55—the Eroica (Beethoven),
on Gramophone Records. 8.35, Strauss Potpourri (arr. Marek Weber) on Gramophone
Records. 8.50, News in French. 9.0, Sofg
Recital by Alice Peffer. La cloche (BaintSaëns); La Brise (Saint-Saëns); The Harpsichord (Dell'Acqua); La maison grise
from Fortuno (Messager); Elegie (Dupare);
Chanson triste (Duparc). 9.30, Gramophone Records. 9.45, News in German.
9.55, Gramophone Music. Potpourri, Rund
um die Wolga; Waltz, The Blue Danube
(Joh. Strauss); Selection from the Dollar
Princess (Fall). 10.20, Dance Music on
Gramophone Records.

LYONS

LA DOUA, 644 kc/s, 465.8 metres; 1.5 kW.— 6.30 p.m., Radio Journal 7.30, Radio Gazette for Lyons and the South-East. 8.30, Phèdre—Drama (Racine). After the Pro-gramme, News.

MADRID

MADRID

EAJ7, 707 kc/s, 424.3 metres; 2 kW.—8.0
p.m., Chimes, Exchange, Radio Journal and
Request Gramophone Records. 9.15, Topical
Review. 9.30 to 11.0, Interval. 11.0, Chimes,
Time and Topical Review. 11.20 (approx.),
Symphony Music on Gramophone Records.
PreInde to Lohengrin (Wagner); Serenade
(Volkmann); Selection from The Dannation
of Faust (Berlioz); Symphony No. 7 (Beetlioven); Pianoforte Concerto in E- minor
(Chopin). 1.15 a.m. (Saturday), Topical
Review and Programme Announcements for
Listeners Abroad. 1.30, Chimes and Close
Down.

MALMO.—See Stockholm.

MILAN.-See Turin.

MORAVSKA-OSTRAVA

kc s, 263.8 metres; 11 kW.—6.15 p.m., Prague. 7.25, See Brno. 7.55, See gue. 10.15 (approx.), Close Down. See Prague.

MOTALA. See Stockholm.

MUHLACKER.-See Stuttgart.

MUNICH

MUNICH

MUNICH

663 kc/s, 533 metres; 60 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s, 560 metres; and Nürnberg, 1,256 kc/s, 239 metres.—12.5 p.m., See Leipzig. 1.15, Time, Weather and News. 1.30, German Opera Music on Gramophone Records. 2.0, Time, Weather and Announcements. 2.20 (Nürnberg), Programme arranged by the Post Office, with Gramophone Records. 3.0, Programme for Women. 3.55, Weather and Agricultural Notes. 4.5, Reading for Young People. 4.30, Orchestral Concert, conducted by Erich Kloss: Overture, Le Maçon (Auber); Selection from Fanst (Gounod); Waltz, Künstlerbiht (Waldschütz); Carnival Snite (Schmalstich); Sons ton halcon (Lacombe); Dance of the Merry Mascots (Ketelbey); Czardas from Ritter Pasman (Strauss). 5.45, Talk for Young People: The Universities under the New Regime. 6.5, Recital of Eichendorff's Lyrics to Settings by Annin Knab. 6.20, Talk: The Renaissance of the German Lyric. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Orchestral Concert, conducted by Erich Kloss: Overture, The Magic Moon (Humphries); Slow Movement for Violin and Viola from the Sinfonia Concertante (Mozart); Selection from Czarand Carpenter (Lortzing); Waltz. Gross-Wien (Strauss); Ballet Snite from Sylvia (Delibes-Rhode); Sword Dance (Poldini); Romance, Gipsy Longing (Nicklas-Kempner); The Merry Postillion (Pesse). 9.20, Symphony Concert by the Station Orchestra, conducted by Hans Winter. Soloist: Viktoria Wolfram-Schröff (Pianoforte): Overture to a Comic Opera (Huber); Pianoforte Concerto in D (Haydn); Swabian Music, Op. 73 (Riddinger). 10.20, Time, Weather and News.

NAPLES .- See Rome. NOTODDEN.-See Oslo.

OSLO

OSLO

277 kc/s, 1,083 metres; 60 kW. Relayed by Fredriksstad, 815 kc/s, 368.1 metres; Hamar, 522 kc/s, 574.7 metres; Notodden, 671 kc/s, 447.1 metres; Forsgrund, 662 kc/s, 453.2 metres; and Rjukan, 671 kc/s, 447.1 metres.—5.0 p.m., Gramophone Concert. 6.0, Talk. 6.30, Recital of Neapolitan and Italian Songs by Alessandro Telesio and Odette Laudner. 7.0, Advertising Notes, Weather and News. 7.30, Programme from Romerike. In the interval at 8.0, Time Bignal. 8.45, Concert by the Budapest Quartet and Anton Meyer (Planoforte). 9.30, Agricultural Report. 9.40, Weather and News. 10.0, Topical Talk. 10.15, Concert of Operetta Music

FLORENCE.-See Turin.

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed by Cassel, 1,220 kc/s, 245.9 metres; and Trier. 1,157 kc/s, 259.3 metres; and Griden Concert. The Squire String Orchestra: On Wings of Song (Mendelssohn); Ria Ginster (Songs): (a) Gaten Abend, gute Nacht (Brahms), (b) Maria sitzt im Rosen hag (Reger), (c) Wie sich der Aeuglein kindlicher Himmel (Schubert); Frida Leider (Songs): (a) Träume, (b) Schmerzen (Wagner): Elizabeth Schumann: (a) Mondnacht (Schumann), (b) Traum durch die Dämmerung, and (c) Ich schwebe (Richard Strauss): Le (vgne (Saint-Saëns). 2.0, News. 2.20, Talk. 3.0, Weather: 3.10, Time and Exchange. 3.20, Musical Programme. 4.25, Exchange. 4.30, Orchestral Concert. 5.45, Exchange. 4.30, Orchestral Concert. 5.45, Exchange. 4.30, The Day's News. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Six Pieces from the Augsburger Tafelkonfekt (Johannes Gänther, arr. Wolfgang Jacobi). 8.45, Max von Schillings Memorial Programme 10.0, Topical Talk. 10.15, Time and News. 10.45, Programme from Stuttgart. 12 Midnight, Close Down.

FREDRIKSSTAD.-See Oslo. FREIBURG .- See Stuttgart. GENEVA .- See Radio-Suisse Romanda, GENOA.-See Turin.

GLEIWITZ .- See Breslau,

HAMAR.-See Oslo.

GOTEBORG.-See Stockholm. GRAZ.—See Vienna.

HAMBURG

HAMBURG

806 kc/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc/s, 269.8 metres; Flensburg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 566 metres; and Kiel, 1,292 kc/s, 232.2 metres. —6.0 p.m. (from Hanover). Concert by the Manover Station Orchestra, conducted by otto Ebel von Sosen; Ilse Huhn-Irmschler (Soprano), Heinz Schulz (Tenor). and Willy Lantelme (Songs to the Lute). 6.25, Frank-Int Exchange and Hamburg Market Prices. 6.30, Weather. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Concert by the Station Choir,

by the Radio Ensemble. Soloists: Hulda Frisk Gran (Soprano), and Bjarne Buntz (Tenor).

OSTERSUND.—See Stockholm.

PALERMO

PALERMO

558 kc/s, 537.6 metres; 3 kW.—8.0 p.m.,
Dopolavoro Annonneements, Tourist Talk,
Agricultural Notes, Report of the Royal
Geographical Society and Giornale Radio.
8.20, Gramophone Music. In the interval at
8.30, Time and Annonneements. 8.45, Concert of Opera Music, conducted by Russo.
In the interval, Literary Talk and Annonneements. 11.0, Giornale Radio.

PARIS

PARIS

EIFFEL TOWER, Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).—6-45 p.m. Theatre Talk, 7.0, Le Journal Parlé. 8.30, Literary and Musical Programme. 9-0, Orchestral Concert, conducted by Flament: Agnès dame galante (Février); Overture and Minnet from L'accordée du village (Steck); Parameter in Eminer (Tchaikovsky); Violiu Aguès dame gafante (Fevrier); Overture and Minnet from L'accordée du village (Steck); Romance in F minor (Tchaikovsky); Violin Solo: Pieces (d'Ambrosio); (a) Rêve, (b) En badinant. (c) Cazonetta; Le pas des fleurs (Delibes); Tello Solo: Selection from La Boheme (Puccini); Overture, Le Pré aux ciercs (Hérold, 10.0 (approx.). Close Down.

PARIS

PARIS

POSTE PARISIEN, 914 kc/s, 328.2 metres; 60 kW.—7.0 p.m., Grannophone Music. 7.15, Le Journal Parié. 7.30, Concert. 8.0, Agricultural Talk. 8.30, Concert. 9.15, Le Toréador—Comic Opéra in Two Acts (Adam). 10.30, News.

PARIS

PARIS

RADIO-PARIS, Call CFR, 174 kc/s, 1,725 metres; 75 kW.—7.30 a.m., Weather and Physical Culture. 7.45, Gramophone Music. 8.0, Weather and News. 12 Noon, Programme for Hebrews. 12.30 p.m., Concert of old and New Italian Music: Madrigal (Monteverde), by the Choir of the Scala, Milan; Aria from Ezechias (Carissimi); Harpsichord Solo, Toccata (Pasquini); Two Songs (Cavalli); Sonuta for Finte and Strings (Scarlatti); Aria (Caldara); Amarilli (Caccini); Violin Solo (Tartini); Two Arias from Iris (Mascagni); Song from Resurrection (Alfano); Le fontane di roma (Respighi). In the interval at 1.0, Exchange. News, and Weather, and at 1.30, Exchange. 2.0, Exchange and Annonneements. 3.45, Exchange and Market Prices. 7.0, Agricultural Report. 7.10, Assurance Societies' Reports. 7.20, Gramophone Music: Selection from The Dollar Princess (Pall); Song from Moineau (Beydts); I. Auvergnate (Game); La Toupie (Gillet); Song, Villanelle (dell'Acqua); Reminiscences (Kock). 7.50, Commercial Notes and News. 8.0, Smite, L'Arlésienne (Bizet). on Gramophone Records. 8.30, News and Weather. 8.40, Talk. 8.45, Hors din ini—Play (Charles Etienne). 9.15, Press Review and News. 9.30, Gramophone Concert: Children's Spinphony (Haydn); Chanson de la Puce (Berlioz); Soir (Fauré); Les Borecaux (Fauré); The Fire-Bird (Stravinsky).

PITTSBURGH

PITTSBURGH

KDKA, 980 kc/s, 306 metres; 50 kW. Relayed by W8XK on 48.86 metres and 25.27 metres. 4.15 to 5.0 p.m., U.S. Marine Band, from New York. 7.30, Home Forum. 8.0, Betty and Bob, from New York 8.15, Utility Hall. 8.30 to 9.30, New York Relay. 8.36, Words and Music. 8.45, Morin Sisters. 9.0, Gene Quaw's Orchestra. 9.30, News and Markets. 9.45, Arcadians, from New York. 10.0, Uncle Tom and Betty. 10.15, KDKA Riddies' Klub. 10.30, The Singing Lady, from New York. 10.45, Orphan Annie. from New York. 10.8, Prophan Annie. from New York. 11.0, Press News-Reeler. 11.15, Sports, A Song. 11.30, Pittsburgh Spotlights. 11.45, Lowell Thomas, from New York. 12 Michight, Amos 'n' Andy, from New York. 12 Michight, Amos 'n' Andy, from New York. 12.15 a.m. (Saturday), Silver Toppers. 12.30, Lexington Hotel Orchestra, from New York. 12.45, Rhythm Kings. 1.0 to 3.30, New York Relay. 1.0, Popular Programme. 1.30, Potash and Perlmutter. 1.45, Red Davis. 2.0, Let's Listen to Harris. 2.30, Variety Programme. 3.0, First Nighter.

PORSGRUND.-See Oslo.

PORSGRUND.—See Oslo.

PRAGUE

614 kc/s, 488.6 metres; 120 kW.—2.50 p.m.,
See Brno. 3.50, Weather. 3.55 to 4.0, Exchange. 5.45, Readings. 6.5, Agricultural
Talk. 6.15, Talk for Workers. 6.25, Newsin German. 6.30, German Transmission: Talk
on Krumlov and Topical Talk. 7.0, Chimes
and News. 7.10, Talk on Economics. 7.25,
See Brno. 7.55, Reading. 8.10, The Gods
Olympus—a
Kredba at the Fianoforte. 9.30, Sonatas
for Two Violins and Pianoforte (Rändel):
(a) in B, (b) in G minor. 10.0, Time, News
and Sports Notes. 10.15 (approx.), Close
Down.

RADIO-SUISSE ROMANDE

KADIO-SUISE ROMAINDE
SOTTENS, 743 kc/s, 403 metres; 25 kW.; and
Geneva, 395 kc's, 760 metres.—6.15 to 6.30
a.m. (from Lausanne), Gymnastics. 12.28
p.m., Time Signal from Neuchâtel Observatory. 12.40, News and Weather. 12.40 (from
Lausanne), Concert by the Radio-Lausanne
Orchestra. 1.0 (from Lausanne), Financial
Notes. 1.10 (from Lausanne), Concert

SEPT. 29th

continued

(contd.). 2.0, Interval. 3.28, Time Signal from Neuchâtel Observatory. 3.20 (from Geneva), Gramophone Concert. 4.30 (from Geneva), Programme for Women. 5.30, Interval. 7.0 (from Lausanne), Weather and Announcements and Answers to Correspondence. 8.0, Talk: Modern Chinaware. 8.25, (from Geneva), Variety Programme. 9.20, News and Weather. 9.30 (from Lugano). Music and Wine, Concert by the Station Orchestra, the st. Cedie Choir and Soloists: Allegri beviam from Ernam (Verdi) Orchestra: Wine, Woman and Song (Joh. Strauss); Baritone Solo, Tuscan Song. Le Vendemmia bevi, bevi, camerata (Ferrari); Orchestra. Brindisi allegri; Tuscan Folk Songs for Soprano; Vintage Chorns from la Nostra vita. 10.50, News and Weather. 11.0 (approx.), Close Down.

RIGA

KILYA

572 kc/s, 525 metres; 15 kW.—6.0 p.m., Popular Songs. 6.30, Talk: Cancer. 7.0, Weather.

7.5, Symphony Concert: Impressions d'Italie (Charpentier); Concert Piece in D for Violin and Orchestra (Dolmanyi); Symphony in D (Dolmanyi). In the interval at 9.0, Weather and News. 9.15, Old and Modern Dauces.

RJUKAN.-See Oslo.

ROME

ROME

Call IRO, 680 kc/s, 441 metres; 50 kW. Relayed by 2RO, 11,810 kc/s, 25.4 metres, from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 metres; Milan (Vigentino), 662 kc/s, 453.2 metres from 8.45 p.m., and Naples, 941 kc/s. 319 metres.—12.30 p.m., Gramophone Music. 1.0 to 2.15, Orchestral Concert. In the interval at 1.30, Giornale Radio and Exchange, and at 2.9, Time and Announcements. 4.30, Children's Radio Review. 4.55, Giornale Radio and Exchange. 5.10, Weather. 5.15 to 6.0, Concert: Luigi Chiarappa ('Cello), Margherita Cossa (Soprano). and Carlo Platania (Baritone). 'Cello Solos: (a) Largo (Veracini-Chiarappa), (b) Internezzo from Goyescas (Granados). Soprano Solos Platania (Baritone). Cello Solos: (a) Largo (Veracini-Chiarappa), (b) Intermezzo Irom Goyescas (Grunados). Soprano Solos Castelmovo-Tedesco): (a) Ninna-Nanna. (b) Serenata indiana. (c) Girotondo dei golosi. Baritone Solos: (a) Aria from Le Roi de Lahore (Massenet). (b) Aria from Don Carlos (Verti). 'Cello Solos: (a) Greek Song (Seligmann). (b) Tarantella (Popper). Soprano Solos: (a) Su per l'argenteo ciel (Zandonai), (b) Giorno per giorno (Alfano). 6-40 (Naples), Sinpping and Sports Notes. 6-45, Dopodavoro Annonucements and Tourist Report. 6-57, Report of the International Institute of Agriculture (in Spanish, German and French). 7-10, Agricultural Notes and Market Prices. 7-20, News in Foreign Languages. 7-40, Giornale Radio. 8-0, Time, Annonucements and Sports Notes. 8-30, La Sommanhula—Opera in Three Acts (Bellim). In the intervals, Immorons Talk and Theatre Notes. After the Opera, Giornale Radio. SALZBURG.—See Vienna.

SALZBURG. See Vienna.

SCHENECTADY

WGY, 790 ke/s, 379.5 metres; 50 kW. Relayed at intervals by W2XAF on 31.48 metres; and by W2XAD on 19.56 metres.—8.30 to 9.30 p.m. (approx.). New York Relay. 8.30, The Romancers. 8.45, Three Shades of Bine. 9.0, Sonata-Recital. 9.15 to 9.30, Soloist. 1.45 a.m. (Saturday), Stock Reports. 2.0, Popular Programme, from New York. 2.30, Concert. 3.0 to 4.30, New York Relay. 3.0, Variety Programme. 3.30, Popular Programme. 4.0, First Nighters. 4.30, Friday Night Sociable, from New York, followed by Programme Resumé.

SCHENECTADY

SCHWEIZERISCHER LANDESSENDER

BEROMUNSTER,, 653 kc/s, 459 metres; 60 kW.; Basie, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres.—6.15 to 6.35 a.m. (from Basie), Gymmastics. 11.59, Time Signal from Neuchatel Observatory; and Weather. 12 Noon (from Zurich), Concert of Operetta Music by the Station Orchestra, conducted by Neppach. In the interval at 12.30 p.m., Time, Weather and News. 1.25 p.m. (from Zürich), Time, Weather and Exchange. 1.30 (approx.) to 5.0, Interval. 5.0 (from Zürich), Programme for Children. 5.30 (from Zürich), Programme for Children. 5.30 (from Berne), Programme for Wonnen. Confrom Berne), Programme for Wonnen. Confrom Berne), Time, Weather, Market Prices, Tourist Talk and Sports Notes. 7.20 (from Berne), Hugo Wolf Song Recital. 8.0, Concert by the Station Orchestra. 8.30, A Request—Sketch (Engen Robert). 9.0, Weather and News. 9.10 (from Berne), Albert Moeschlinger Song Recital by Traute Borner (Contratlo), with the Composer at the Pianoforte. 9.30, Italian-Swiss Programme relayed from Lugano. 10.30 (approx.), Close Down.

SOTTENS.—See Radio-Suisse Romande.

STOCKHOLM

689 kc/s, 436 metres; 55 k W Relayed by Boden, 244 kc/s, 1,229.5 metres; Göteborg, 26 kc/s, 322 metres; Hörby, 1,166 kc/s, 257 metres; Motala, 221.5 kc/s, 1,354.4

metres; Ostersund, 389 kc/s, 770 metres; and Sundsvaal, 554 kc/s, 542 metres.—5.5 p.m., (from Sundsvall), Rural Programme.
5.30, Reading. 6.0, Grannophone Music.
6.45, Legal Talk. 7.15, Weather and News. 7.30, Talk. relayed from Malmö, 1,301 kc/s, 231 metres. 8.0, Concert by the Station Orchestra: Soloist, Nancy Naess (Songs); Overture, Idomeneo (Mozart); Aria from Alceste (Gluck); Chacome and Rigandon for Strings (Monsigny); Three Songs with Orchestral Accompaniment (Jordan); Suite (Björkander); Aria from The Force of Destiny (Verdi); Piece for Flute, Oboe, Clarinet, Horn and Bassoon (Grainger): Norwegian Rhapsody No. 3 (Svendsen. 9.15, Talk. 9.45, Weather and News. 10.0, Microphone Report. 10.15, Light Orchestral Concert: Petite suite de Concert (Coleridge Taylor); Aria from Eugene Onegin (Tchaikovsky); Romance (Svendsen); Selection from Wonder Bar (Katscher). 11.0 (aprox.), Close Down.

STRASBOURG

STRASBOURG

869 kc/s, 345 metves; 11.5 kW.—11.30 a.m., Gramophone Concert of Popular Music. 12.45 p.m., News. 1.0, Time and Exchange. 1.5, Syphonic Snite, Scheherazade. Op. 35 (Rimsky-Korsakov), by the Philadelphia Orchestra (on Gramophone Records). 2.0, Interval. 4.45, Literary Talk. 5.0, Orchestral Concert. conducted by Roskam: Selection from Passur la bouche (Yvain); Slow Waltz. In the Valley of the Moon (Tobias and Burke); Selection from White Horse Inn (Stolz-Benatzky); Waltz Potpourri No. 3 (Robrecht): Violin Solo: Canzonetta (d'Ambrosio); Love is the Sweetest Thing (Noble); Salut d'amour (Elgar); Two Step, Caramba (de Bezi). 6.0, Trio Concert, relayed from Lifle, 1,130 kc/s, 265.4 metres. 7.0, Topical Talk in German. 7.15, Gramophone Music. 7.30, Time and News. 7.45, Gramophone Music. 8.0, Press Review in German. Lottery Results and Announcements. 8.30, See Lyons-fa-Doua. 10.30 (approx.), Press Review.

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres.—1.15 p.m., Time and News. 1.30, Military Symphony in G. No. 100 (Haydn). on Gramophone Records. 2.0, Programme arranged by the Post Office. with Gramophone Records. 2.30 to 3.0, Advanced English Lesson. 4.15, Talk: Sunday Excursions. 4.30, See Munich. 5.45, Talk: Experiences of a Country Doctor. 6.10, Time and News. 6.40, See Berlin (Deutschlandsender). 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, Der Walfenschmied-Opera Comique (Lortzing). 10.0, Time and News. 10.20, Dance Music and Light Music from Greiner's Restaurant. 12 Midnight, Close Down.

SUNDSVALL. See Stockholm

TOULOUSE

TOULOUSE

RADIOPHONIE DU MIDI, 779 kc/s, 355 metres; 8 kW.—6.0 p.m., News. 6.15, Chansonnettes. 6.30, Accordion Missic. 6.45, Extracts from Prince Igor—Opera (Borodin). 7.9, Military Missic. 7.45, News, Racing Results, Market Prices and Exchange. 7.30, Opera Missic: Selection from II Trovatore (Verdi); Manon (Massenet): Carmen (Bizet); and Tosca (Puccini). 7.45, Orchestral Missic: Invitation to the Waltz (Weber); Radetzky March (Strauss): La boutique fantasque (Rossini): Two Melodies (Lincke): (a) Die Felsenmille, (b) Verschmähte Liebe. 8.15, Opera Music: Selection from Othello (Verdi); The Magic Flute (Mozart): and The Prophet (Aleyerbeer). 8.30, Music by a Viennese Orchestra. 9.0, Extracts from Citonlette—Operetta (Halm). 9.30, Opera Music: Selection from Le roi malgré lni (Chabrier) Madanne Butterfly (Puccini) and Carmen (Bizet). 9.45, Chansonettes. 10.0, Medical Talk. 10.5, Chamber Music: Hungarian Fantasla (Loggett): Chant saus paroles (Tchaikovsky); Ständellen (Schubert); Meditation from Thais (Massenet). 10.15, North-African News and Local News. 10.30, Concert for Listeners in Morocco. 11.0, Hungorous Items. 11.15, Dance Music. 12 Midnight, News. 12.5 a.m. (Saturday), Bahlaika Music and Russian Songs. 12.15, Light Orchestral Music. 12.30 (approx.), Close Down.

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.—5.10 till Close Down, See Turin.

TRONDHEIM. -See Oslo.

TURIN

TURIN

273.7 metres; 7 kW. Relayed by Milan,
331.5 metres; Genoa, 312.8 metres; and
Florence, 500.8 metres.—5.10 p.m. (from
Florence). Soprano and Tenor Song Recital
by Evy Santonicito and Ezio Badii; Vittoria, vittoria (Carissini). Songs (Bellini):
(a) Abbandono. (b) Melanconia, (c) Per
pietà dell' idolo mio. Aria from Manon
(Massenet); Seranata d'inverno (Bettinelli);
Rusticanella (Santonocito); La Paloma
(Yradier); Serenata (Bracco); Addio del

Sagno (de Curtis): Canzone dell' uccellino (Billi). 6.0 to 6.5, Weather. 6.40, Giornale Radio. Dopolavoro Announcements and Gramophone Music, 7.9, Time, Report of the Royal Geographical Society and Gramophone Music. 7.20, News in Fureign Languages. 7.40, Gramophone Music. 8.0, Announcements, Giornale Radio and Weather. 8.15, Spousored Music. 8.30, Orchestral Concert, conducted by Daniele Amfitheatrof. In the interval. Talk. 19.0, Gramophone Music. 11.0, Giornale Radio.

VATICAN CITY

15,120 kc/s, 19.84 metres (Morning) and 5,969 kc/s, 50.26 metres (Evening); 10 kW.—11.0 to 11.15 a.m., Religious Information in German. 8.0 to 8.15 p.m., Religious Information in Italian.

VIENNA

German. 8.0 to 8.15 p.m., Religious Information in Italian.

VIENNA

581 kc/s, 517 metres; 100 kW. Relayed by Graz, 852 kc/s, 352.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenfurt, 662 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 218.5 metres.—12 Noon, Coucert by the Volksoper Orchestra. conducted by Dostal: Overture. Alessandro Stradella (Flotow); Suite from The Steeping Beauty (Tchaikovsky); Adagietto (Bizet); Selection from Tosca (Puccini); Overture, lasbella (Suppe); Selection from a belle Hélène (Offenbach); Fata Morgana (Lehár); Italian Waltz (Stranss); Romance and Waltz intermezzo (Hiess); Gipsy Festival (Lehár). In the interval at 1.0 p.m., Time, Weather and Exchange. 3.20, Talk: Safety First Films. 3.35, Reading for Women. 4.0, The Paul Godwin Orchestra. on Gramophone Records. 5.0, Wireless Talk: Modern Methods of Combating Fading. 5.25, Sonata in F Minor, Op. 120, No. 1 (Bralms) for Clarinet and Pianoforte. 5.55, Tourist and Traffic Report. 6.10, Talk: The Sailing Championship. 6.25, Sports Review of the Week. 6.35, Talk, by Minister Dr. Eugen Lauske: A Topical Problem—The Anstrian Weekly Review. 7.0, Violin and Pianoforte Sonata Recital by Wolfgang Schneiderlan and Karl Frotzler. 7.45, Talks on Music with Song and Pianoforte Hunstrations. 8.5, Time. Weather and Announcements. 8.15, Topical Talk. 8.30, Concert by the Wiener Symphoniker, conducted by Schönherr; Soloists. Maria Gerhart (Soprano) and Dario Medina (Tenor): Goverture to a Pupper Play (Wienberger); In the Hall of the Mountain King (Grieg); Soprano Aria from The Tales of Hoffmann (Offenbach); In the Poultry-Yard (Bortkie-Wiez); Dance (Mussorgski); Tenor Serenade from 1 Pagliacci (Leoncavallo); Potpouri from Die Puppenfee (Bayer); Extracts from the Music to A Midsununer Night's Dream (Mendelssohn); Soprano Aria from The Nuremberg Doll (Adam); Dance from The Nuremberg Doll (Adam); Dance from Leon Hunsic to A Midsununer Night's Dream (Mendelssohn); Soprano Aria from The Nuremberg Doll (Adam); Dance from th

WARSAW

WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m.,
Time Signal and Fantare from Torun
Cathedral. 12.5 p.m., Gramophone Music.
12.25, Polish Press Review. 12.33, Weather
Report. 12.35, Gramophone Music. 12.55,
Radio Journal. 1.0 to 2.55, Interval. 2.55,
Gramophone Music. 3.5, News. 3.10, Announcements. 3.15, Gramophone Music. 3.25,
Economic Notes. 3.35, Gramophone Music. 3.25,
Economic Notes. 3.35, Gramophone Music. 3.25,
Gramophone Music. 3.55, Naval and
Colonial Report. 4.0, Gramophone Music.
3.50, Gramophone Music. 3.55, Naval and
Colonial Report. 4.0, Gramophone Music.
5.0, Book Review. 5.15, Violin and Song
Recital by Bacewicz and Roginska: Violin
Solos: (a) Spanish Songs (Nin), (b) Slav
Dance in E minor (Dvorák-Kreisler), (c)
Caprice No. 2 (Bacewicz): Songs; Violin
Solos: (a) Suite (Szalowski), (b) Bercense
from The Fire-Bird (Stravinsky), (c) The
Fountain of Arethusa, from Myths (Szymanovski); Songs. 6.15, Talk: Poland
To-day. 6.35, Light Music from the Gastronomia Café. 7.20, Miscellaneous Items. 7.35,
Programme Annonneements. 7.40, Topical
Talk. 8.0, Symphony Concert by the Station
Orchestra, conducted by Fitelberg: Soloist,
Woytowicz (Pianoforte): Second Symphony
(Beethoven): Polish Fantasia for Pianoforte
and Orchestra (Paderevsky): Symphonic
Snite. Scheherazade (Rimsky-Korsakoy). In
the interval at 8.30, Radio Journal and Hints
for the Week-end. 10.0, Dance Music
(contd.).

WILNO

533 kc/s, 563 metres; 16 kW.—7.35 p.m., Programme Announcements. 7.40, See Warsaw. 9.0, Talk: The Latest Developments in Aviation. 9.10, Symphony Concert relayed from

ZURICH.—See Schweizerischer Landessender.

ALGIERS

824 kc/s, 364 metres; 13 kW.—8.10 p.m.,
Shipping Notes. 8.15, Agricultural Report
and Weather Forecast. 8.20, Jazz Music.
8.55, News. 9.0, Time. 9.2, Request Gramophone Concert. 9.40, News. 9.45, Open Air Concert.

ATHLONE

ATHLONE

725 ko/s, 413 metres; 60 kW. Relayed by Gork, 1,337 ko/s, 224.4 metres.—1.30 to 2.30 p.m., Time Signal, Weather Report, Stock Exchange Quotations and Gramophone Music. 6.0, Programme for Children. 6.45, News. 7.0, Poetry Recital by Cathleen Murphy. 7.15, Gaelic Talk by Semuns O'Dulrinne, 7.30, Time Signal. 7.31, Concert by the Station Orchestra. In an interval at 7.50, Contralto Solos by Nora Kinn. 8.25, Readings from Tristram Shandy by Rev. A. H. Macpherson. 8.45, Baritone Solos by Frank Gallaghers. 9.0, The Station Orchestra. 9.15, Uilleann Pipe Solos by Liam Breathnach. 9.30 to 10.30, Programme by the I.B.C. (Ireland) Ltd. 9.30, Light Music. Just once for all time (Heymann); Bertina Waltz (Eaptiste); Song, Don't be late in the Morning (Le Clerq); Volante March (Baptiste); Swanee (Gershwin); Song, Me and mine are doing fine (Connelly); Ninon (Charlier); Coal Black Mammy (8t. Helier). 10.0, Concert arranged by the International Broadcasting Company (Ireland) Ltd. on behalf of Hospitals' Trust Ltd. The Lord Mayor's Show (Sarony); Farewell to Arms (Wrubel); The Grandfather Clock (Alwyn); You're the Cream in my Colice (de Sylva); Butterfles in the Rain (Myers); Rock-a-bye Moon (Lang); Let's all be happy together (Leslie). 10.30, I.B.C. Good-night Melody, followed by News and Weather Report. 10.40, Pianoforte Recital by Sydney Green. 11.0 (approx.), Close Down.

BARCELONA

BARCELONA

EAJ1; 860 kc/s, 348.8 metres; 8 kW.—7.0
p.m., Trio Concert: March (Hnme); Prelude
in F, No. 23 (Chopin); Minnet from the
Symphony No. 3 (Mozart); Selection from
La Bohème (Puecini): The Clock and the
Dresden Figures (Ketelbey); Noveletta No. 1
(d'Ambrosio); Selection from The Snow
Maiden (Rimsky-Korsakov). 8.0, Request
Gramophone Music. 9.15, Anti-War Talk,
Gramophone Music. 9.15, Anti-War Talk,
Gramophone Music. and News. 10.0, Chimes
from the Cathedral, Weather, Exchange. and
Market Prices. 10.5, Concert by the Station
Orchestra. 11.15, Literary Review. 11.30,
Dance Music, relayed from the Casa Libre.
In the interval at 12 Midnight, News. 1.0
a.m. (Sunday), Close Down.

BASLE.—See Schweizerischer Landessender.

BASLE.-See Schweizerischer Landessender.

BELGRADE

697 hc/s, 430.4 metres; 2.8 kW.—6.55 p.m.,
Time and Announcements. 7.0, Talk. 7.30,
Granophone Music. 8.0, Kostana—Opera
(Peter Krstic). In an interval at 9.30,
Time and News. 10.30, Cigány Music from
the Dva Jelena. Restaurant. 11.0, Dance
Music on Gramophone Records.

BERLIN

BERLIN

DEUTSCHLANDSENDER

(Reichssender),
183.5 kc/s, 1,635 metres; 60 kW.—2.0 p.m.,
Gramophone Concert. 3.0, Concert of Old
and Modern German Music: Gavotte-Musette
(Glack); Manchurian Sketches Nos. 1 and 2
(Glan); Country Dances (Mozart): Serenade
for Violin and Orchestra (Kreichgauer);
Serenade (Haydu); Concert Waltz (Winkler); Hungarian Dances Nos. 5 and 6
(Brahms); Intermezzo. The Awakening of the
Spring Flowers (Löhn); Ballgefluster (MeyerHelmund); Kiosterglocken (Derksen); Glowworm Idyll (Lincke); March (Franz). 3.30,
Weather and Exchange. 3.35 (approx.), Programme of Light Music. 4.0, See Hamburg.
5.0, Sports Review. 5.20, Concert of Light
Music. 6.0, Poems. 6.5, Reading: Ein Feldpostbrier (Rudolf Inch). 6.20, Programme
of Light Music. 6.50, Weather and Announcements. 7.0, Transmission for all German Stations, relayed from Berlin (Funkstunde). 8.0, To-day's Motto. 8.5, Variety
Programme. 10.0, News. 10.45, Weather.
11.10, Dance Music from Leipzig. 12 Midnight, Close Down.

BERLIN

BERLIN

FUNKSTUNDE, 715 kc/s, 419.5 metres; 1.5 kW.—4.0 p.m., Concert from the Stadthalle, Magdeburg: March, Deutsche Wacht (Gauss); Overture, Maritana (Wallace); Kaiser-Walzer (Joh. Strauss); Paraphrase on the Song. Ich hatte einst ein schönes Vaterland (Heyer); Czardas from Der Geist des Wojewolen (Grossmann); Overture, Die schöne Galathee (Suppé); March, Deutschland erwache; March, Hoch Magdeburg (Coors); Sclection from Die Fledermaus (Joh. Strauss). In the interval at 5.0, Sports Report, 5.30, Radio Report from the Kremmen Dam. 6.0, Recital of Songs by liete Mex (Soprano). Songs (Reger) (a) Dein Auge, (b) Und hab's og grosse Schnaucht doch, (c) Allein, (d) Ach, Liebster, in Gedanken. Songs from Geistliche Lieder op. 27 (Walter Courvoisier). 6.20, Talk: Wall and Windows—Furniture and People. 6.40, The Funkstunde informs its Listeners... 6.45, Topical Talk. 7.0, Transmission for all German Stations: Wallenatein—Radio Play (Wulf Bley). Music by Ernst Roters. 8.0,

SEPTEMBER THE THIRTIETH

PRINCIPAL EVENTS OF THE DAY:

AT HOME

NATIONAL

"My American Tour," impression of famous bands and new numbers from the U.S.A., by Henry Hall. Promenade concert from Queen's Hall.

LONDON REGIONAL MIDLAND REGIONAL

Running commentary on Shelsley Walsh Open Hill-climb for Racing and Sports Cars. A relay from the Argyle Theatre, Birkenhead.

NORTH REGIONAL WEST REGIONAL

BELFAST

Programme of incidental music to Shakespeare's

plavs.

History in music, orchestral programme.

ABROAD

BRATISLAVA

(No. 1) HILVERSUM

BRUSSELS

HUIZEN

PALERMO POSTE

7.30 p.m. Operetta: "The Vintager's Bride," by Nedbal. 8.5 p.m. Operetta: "The Merry Widow," by Lehar, from the Royal Theatre, Liège.

6.20 p.m. The K.R.O. Orchestra. 4.40 p.m. The Amsterdam Orchestral Society, con-4.40 p.m. The K.R.O. Orchestral.

The Amsterdam Orchestral Society, conducted by Diepenbeek.

8.45 p.m. Operetta: "La reginetta delle rose," by Leoncavallo.

8.30 p.m. Brahms concert.

PARISIEN STRASBOURG TOULOUSE WARSAW

8.30 p.m. Military Band concert from Verdun.
9.0 p.m. Concert of opera music.
9.30 p.m. Chopin pianoforte recital, by Mme. Jaroszewicz

Lottery Announcements. 8.5, Orchestral Concert, conducted by Etti Zimmer. Soloist: Marcel Wittrisch (Songs). March in D (Mozart); Overture, Il Seraglio (Mozart); Aria from Don Giovanni (Mozart); Entr'acte Music from Die drei Pintos (Weber); Piedmontese Dances (Sinigaglia); Tarantella, Venezia e Napoli (Liszt). Songs: (a) Aria from Turandot (Puccini), (b) Aria from Cavalleria rusticana (Mascagni): Dance of the Honrs from La Gioconda (Ponchielli); Overture, Boccaccio (Suppé); Two Songs (Joh. Strauss): (a) Gondellied, (b) Song from A Night in Venice; Ballet Music from Sylvia (Delibes); Song from Wiener Blut (Joh. Strauss): Waltz. Fideles Wien (Komzak). 10.0, News. 10.15 (approx.), Dance Music from the Wilhelmshalle of the Zoological Gardens. 1.0 a.m. (Sanday), Close Down.

BERNE.—See Schweizerischer Landessender. BEROMUNSTER. - See Schweizerischer Landessender.

BODEN.-See Stockholm.

BODO .- See Osto.

BRATISLAVA

DRATISLAVA

1,076 kc/s, 279 metres; 14 kW.—5.55 p.m.,
A Marionette Play. 6.55, Talk for Housewives. 7.0, See Prague. 7.30, The Vintager's
Bride-Operetta in Three Acts (Nedbal).
10.0, See Prague. 10.15, See MoravskaOstrava. 11.30 (approx.). Close Down.

BREMEN.-See Hamburg.

BRESLAU

BRESLAU

923 kc/s, 325 metres; 60 kW. Relayed by Gleiwitz, 1,184 kc/s, 253 metres.—1.5 p.m., Granophone Concert. 1.45, Time and News. 2.10, Gramophone Concert. 1.45, Time and News. 2.10, Gramophone Concert. 3.0, Agricultural Prices. 3.15, Book Review. 3.35, Talk: The Early German Colonists in Silesia. 3.50, Film Review. 4.5, Concert by the Station Orchestra, conducted by Rischka: Jubel-Ouvertüre (Weber); An Evening with Schubert in Old Vienna (Ralf); Extracts from the Album for the Young (Tchaikovsky): Waltz from Faust (Gounod): Ballet Music from Rienzi (Wagner): Overture, Irrfahrt nms Glück (Suppé); Andalusian Serenade (Ellenberg); To Mignonne (Schütt): Prayer and Temple Dance (Grieg): Romance (Kalmt): Waltz, Märchengelster (Staub): March, Immer höher (Gangleberger). 6.0, Programme Announcements. 6.10, Programne to be announced. 6.35, Reading. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.0, News. 8.10, Concert hy the Station Orchestra. conducted by Topitz: Wiener Jubel-Onvertüre (Suppé); Meim Lebenslauf ist Lieb und Lust (Jos. Strauss); March Flott durchs Leben (Haupt); Melody (Geisler): The Merry Clown (Strauss); Polka, Frolisim (Strauss); Potpa, F

(Komzak); Intermezzo, Weindusel (Taitenhayn); Overture, Lachendes Leben (Russ); Potpourri, Freut ench des Lebens (Lineke); Gallop, Leben heisst geniessen (Ziehrer). 10.0, Austria. 10.20, Time and News. 10.50, Dance Music by a Nazi Band, relayed from the Restaurant at the Zoological Gardens. 12 Midnight, Close Down.

BRNO

878 kc/s, 342 metres; 35 kW.—6.25 p.m., German Transmission: News, and Moravian Folk Song Recital by a Small Mixed Choir. 7.0, See Prague. 7.30, See Bratistava. 10.0, See Prague. 10.15, Sec Moravska-Ostrava. 1.30 (approx.), Close Down.

BRUSSELS (No. 1)

BRUSSELS (No. 1)

1.N.R., 590 kc/s, 509 metres; 15 kW.—12 Noon, Concert by the Small Station Orchestra, conducted by Leemans. Overture, The Barher of Seville (Rossini); Liebestraum (Liszt); Scene and Waltz from Gretna Green (Gniraud); Selection from Samson and Delilah (Saint-Saëns); Serenade (Löhr); Violin Solo: Fantasia on Fanst (Gounod-Sarasate); Dances from Ton Jones (German). 1.0, Le Journal Parlé. 1.10, Gramophone Concert. Christmas Overture (Coleridge-Taylor; Sérénade mélancolique (Tchaikovsky); Rapsodiana (arr. Debroy-Somers); Serenade (Metra); Selection from Frederica (Lehár); Aria (Verdi); Selection from Princess Charming (Waller). 5.0, Concert by the Radio Orchestra, conducted by Franz André. Soloist: Lombard (Xylophone). 6.0, Talk on the Walloon Country and People. 6.15, Andante and Allegretto from the Concerto in G No. 17 (Mozart). 6.30, Concert by the Small Station Orchestra, conducted by Pierre Leemans. Overture. Peter Schmol (Weber); Suite, At the Circus (Armandola); Serenade (Samazenilh); Strauss Potpourri (Winter); Träume (Wagner); Scène enfantine (Brusselmans); Le caravane passe (Letorey). 7.30, Wireless Notes. 8.5, The Merry Widow—Operetta (Lehár), relayed from the Royal Theatre, Liège. In the intervals at 9.4, Recitations, and 10.24, Le Journal Parlé. 11.10 (approx.), Close Down.

BRUSSELS (No. 2)

BRUSSELS (No. 2)

N.I.R., 887 kc/s, 338.2 metres; 15 kW.—
Programme in Flemish. 12 Noon, Gramophone Concert of Variety Missic. 1.0 p.m.,
Le Journal Parlé. 1.10, Concert by the
Small Station Orchestra, conducted by
Leemans. Soloist: Paul Douliez (Pianoforte). Kleiner Wienermarsch (Kreisler);
Waltz from The Count of Luxembourg
(Lehár): Serenade, (Dearly-Leslie); Afr
from Dinorah (Meyerbeer); Pianoforte
Solos: Three Waltzes (Van Hoof); Ballet
Music from Hérodiade (Massenet); Slav
Dances (Dvorák). 5.0, Dance Music, relnyed
from the Saint Sauvenr Palais de Danses.
6.0, Jazz Music. with Commentary. 7.0,
Grannophone Music. Norwegian Dances

(Grieg); Ballet Music from Isoline (Messager). 7.30, Film Review. 8.0, Concert by the Radio Orchestra, conducted by Franz André. Soloists: Locufier (Tenor) and Steurs (Accordion). Overture. Fra Diavolo (Auber); An Evening in Petrograd (Meyerlielmund); Give her a Kiss (Rodgers); Waltz, Un sourire (Ducarne); Tenor and Accordion Music; Slovak Dances (Felber); Suite behémienne (Coleridge-Taylor). 8.45, Iccitations. 9.0, Orchestral Concert (contd.). Hungarian Overture (Kéler Bela); Rhapsody in A (Dyorák); Selection from Hausel and Gretel (Humperdinck): Melodies; Le train bleu (Milhaud); Pastorale Suite (Vreuls); Final from the 'Cello Concerto (Haydn); Contes et fantaisies (Chavarri). 10.0, Le Journal Parlé.

BUCHAREST

T61 kc/s, 394 metres; 12 kW.—5.0 p.m.,
Concert of Variety Music by the Sibiceano
Orchestra. In an interval at 6.0. Radio
Journal. 7.0, Educational Talk. 7.20,
Gramophone Music. 7.40, Talk. 8.0, Romanian
Songs. 8.20, Dance Music by the Seidmann
Jazz Band. In an interval at 9.0, Talk.
9.45, Radio Journal.

BUDAPEST

545 kc/s, 550.5 metres; 18.5 kW. Also relayed on 840 metres from 5.30 p.m. till Close Down.—5.0 p.m., The Letter Box. 5.30, Military Band Concert. 6.45, Talk. 7.15, Cert. 8.0, Radio Play. 10.0, News. 10.15 (approx.), Gramophone Concert. 11.30, Cigány Band Concert, from the Hotel Metropole.

CASSEL .- See Frankfurt.

COPENHAGEN

COPENHAGEN

1,067 kc/s, 281 metres; 0.75 kW. Relayed by Kalundborg, 260 kc/s, 1,153.8 metres.—12 Noon, Time Signal and Chimes from the Town Hall. 12.15 p.m., Broadcast for Schools. 12.45, Concert by the Harald Andersen String Ensemble. 2.0, Interval. 3.0, Gramophone Concert of Variety Music. 3.30, Concert by Mogens Hansen's Instrumental Ensemble; Soloist, Helge Sehested Larsen (Songs): Overture, The Italian Girl in Algiers (Rossini); Chanson Louis XIII and Pavane (Couperin); Selection from Lina Time (Schubert-Berté); Pieces (Moszkovsky): (a) Serenade, (b) Spanish Dance No. 2 in GMinor; Song from The Merry Widow (Lehár); Six Danish Songs; Comedy Overture (Kéler-Béla); Selection from The Duchess of Chicago (Kálmán); Melody (Gabriel-Marie); Songs (Grieg): (a) Herzwunden, (b) An den Frähling; Waltz, Immertellen (Gungl); MacMahon March (Lumhye). 5.30, Exchange and Fish Market Prices 5.45, Talk on St. Michael's Church at Slagelse. 6.15, French Lesson. 6.45, Weather. 6.54, Announcements. 7.0, News. 7.30, Talk. 8.0, Time Signal from the Town Hall. 8.1, Talk: Danish Dramatic Literature. 8.45 to 12 Midnight, Radio Ball for the Older Generation; The Station Orchestra and Soloists; Conductor. Launy Gröndahl. In an interval at 11.0, News. 12 Midnight, Time Signal and Chimes from the Town Hall.

CORK.-See Athlone.

DANZIG .- See Heilsberg.

DRESDEN .- See Leipzig.

FECAMP

FECAMP

1,328 kc/s, 225.9 metres; 10 kW.—11.0 a.m. till 12 Noon, Programme in English by the I.B.C. 11.0, Ilappy Hour. Part I: Orchestral Concert: Signature Tune; Musical Comedy Switch (arr. Hall); Cheer up, good times are coming; By the Swanee River (Myddleton); Memories of Paris (Christiné); Valencia (Padilla); Waltz from Bitter Sweet (Coward); When the Lilac blooms again (Rotter); Gipsy Moon (Borganov). Part II. Dance Music; Put on your Old Grey Bonnet; Somebody stole my Gal; Whispering; That's what Life is made of; The Shadow Waltz; You're mine, you; F've got to sing a Torch Song; One tiny Tear; Signature Tune. 12 Noon, Programme in English by the I.B.C. 4.30, Programme in English by the I.B.C. 4.30, Programme for Children. 5.0, Military Band Concert for Tunbridge Wells and Isle of Thanet Listeners: Signature Tune. The Night by the Sea; Naval Patrol (Williams); Hobomoko (Jessel); Amorettentanz (Gungl); Xylophone Solo, Fairy Tiptoe (Fredericks); Loin du Bal (Gillet); Praeludium (Järnefeld); Xylophone Solo, Fiddlesticks (Robbins); Ca c'est Paree (Padilla). 5.30, Concert for Dover and Folkestone Listeners: Tango Bund; Todavia (Pizarro); La Cumparsita; Maman, vo quiero un novio? (Collazo); Madrid (Rotter); Signature Tune. 5.45, Concert: If I am dreaming (Millöcker); Caro Nome, from Rigoletto (Verdi); Serenade (Toselli); A Brown Bird singing (Haydn Wood). 6.0, Programme in English by the I.B.C. 11.0, Talkie Time; Tunes from the Talkies; Signature Tune, Sittin' in the Dark; Selection from Show Boat, Part 2 (Kern); Learn to croon (Johnston); Dream Lover; Louise; My lucky Day (Davies); The moment I saw you (Gay); Why has a Cow got Four Lega? (Ellis); Selection from The Three Musketeers (Friml); Signature Tune, 11.30, Concert by the I.B.C. (Ireland), Ltd., on behalf of Hospitals' Trust, Ltd.: Signature Tune, Come back to Erin; Beautiful

Spring (Lincke); She is far from the Land (Moore); Reconciliation (Drigo); Maire my Gri (Casey); Babes in Toyland (Herbert); The Grasshopper's Dance (Bucalosi); The Whistler and his Dog (Pryor); Signature Tune. 12.5 a.m. (Sunday), News Bulletin in English, 12.16 (approx.). Club Concert for Hawick Listeners: Signature Tune. The Chum Song; Tea for Two (Yonmans); Lover come back to me (Romberg); Kansas City Kitty (Leslie); Alice Blue Gown (Tierney); My Coquette (Andrew); And so I married the Girl (Magidson); Dancing Butterfly (Young); It's the Band (Steininger); I can't remember (Berlin); This is the Rhythm for me (Monkman); Let's all be happy together (Thomas Leslie); The Old Spinning Wheel (Hill); Sweetheart Darlin' (Kulme); Signature Tune. 1.0, Dance Music: Signature Tune. Bells of Normandy; Hiawatha's Lullaby; There's a Cabin in the Pines; In a Second-Hand Store; Seven Years with the Wrong Woman; I cover the Waterfront: You don't understand; I raised my Hat; Sweep: Look what I've got; Lover Waltz In the Park in Paree; Rhapsody in Blue; The Shadow Waltz; My, oh my; I've got to sing a Torch Song; It was a Night in June; Signature Tune. 2.0, I.B.C. Goodnight Melody and Close Down.

FLENSBURG.—See Hamburg.

FLENSBURG.—See Hamburg.

FLENSBURG.—See Hamburg. FLORENCE .- See Turin,

FRANKFURT

FRANKFURT

1,157 kc/s, 259.3 metres; 17 kW. Relayed by Cassel, 1,220 kc/s, 245.9 metres; and Trier, 1,157 kc/s, 259.3 metres.—12 (Noon), Granophone Concert: Potpourri, Fabelhaft; Was nützt dem Soldaten Schinken und Braten Bin kein Hauptmann, bin kein grosses Tier; Potpourri, Alt-Berliner Leierkasten (Leuschner); Xylophone Quartet: Die Instigen Vier; Radlerpech; Potpourri, Münchmer Bilderbogen (Guiden); Foxtrot, Dorothee-Dorothee; Potka, Pique As (Pörschmann); Potpourri, Ifoch das Bein; Intermezzo, Der verhebte Hampelmann (Rust); The Whistler and his Dog (Pryor); Potpourri, Wir kurbeln an (Dostal); Saxophone Solo, Sax-o Trix (Widoeft); Musical Jests at the Week Enii; Dem Schmitz sing Frau ess durchgebrännt (Ostermann); Näa, ich mag dich nit mie (Ostermann); Näa, ich mag dich nit mie (Ostermann); Näa, ich mag dich nit mie (Ostermann); News and Weather. 1.30, See Langenberg. In the interval at 2.0, News. 2.30, Week end Programme. 3.20, Weather. 3.25, Time and Exchange. 3.30, Programme for Young People. 4.30, See Munich. 5.45, Exchange. 6.0, Talk: The Limits of Rationalisation. 6.25, Time and News. 6.30, Weekly Review. 6.50, Review of the Day's News. 7.0, Transmission for all German Stations relayed from Berlin (Funkstunde). 8.5-1.0 a.m. (Sunday), Langenberg-Frankfurt-Stuttgart Exchange Programme. In the interval at 10.0, Time and News. 1.0 a.m. (Sunday), Close Down.

FREDRIKSSTAD .- See Oslo. FREIBURG .- See Stuttgart. GENEVA .- See Radio-Suisse Romande. GENGA.—See Turin. GLEIWITZ.—See Breslau GOTERORG .- See Stockholm. GRAZ.-See Vienna. HAMAR. -See Osto.

HAMBURG

HAMBURG

866 kc/s, 372 metres; 1.5 kW. Relayed by Bremen, 1,112 kc/s, 269.8 metres; Flensberg, 1,319 kc/s, 227.4 metres; Hanover, 530 kc/s, 566 metres; and Kiel, 1,292 kc/s, 232.2 metres.—4.0 p.m., The Cousin from Nowhere—Operetta (Künneke) (Concert Version). 5.0, Thrilling Stories, 5.20, Variety Programme. 6.30 (from Kiel). Religious Address. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Berlin (Funkstunde). 8.0 to 10.0, See Berlin (Deutschlandsender). 10.0, Time and News. 10.20, Topical Talk. 10.30, Music from Berlin (Funkstunde).

HANOVER .- See Hamburg.

HEILSBERG

HEILSBERG

1,085 kc/s, 276.5 metres; 60 kW. Relayed by Danzig, 662 kc/s, 453.2 metres.—11.30 a.m., Concert by the Königsberg Opera House Orchestra, conducted by Brückner: Overture, King Stephan (Beethoven): Divertimento No. 10 (Mozart); Ballet Suite from Macheth (Verdi); Suite from Die Todestarentella (Bitther): Waltz, Herztöne (Stranss); Overture, The Golden Cross (Brüll); Einzug schneidiger Truppen (Blankenburg). 1.5 p.m., Gramophone Concert of Variety Music. In the intervals at 1.20 and 2.0, News. 2.30, Programme arranged by the Post Office with Gramophone Records. 3.0, Agricultural Prices and Exchange. 3.30 (from Danzig), Handicrafts for Children. 4.0, Concert by the Small Station Orchestra. conducted by Eugen Wilcken: Overture, Romeo and Juliet (Bellini): Berceuse (Cui); Rêve d'amour (Gui); Selection from Le Villi (Puccini); Waltz, Nordseebilder (Stranss): Japanese Suite (Yoshitomo); Water Sprites (Ketel-bev): Dance of the Merry Mascots (Ketel-

SATURDA SEPT. 30th

continued

hey); AR Wien in Lied and Tanz (Pachernegg); Selection from The Dubarry (Millöcker-Mackeben); Overture, An mein Vaterland (Ailbout). In an interval at 4.50, A.D.A.C. Traffic Report. 5.40, Talk: Catching Wild Animals in the Primeval Forests of Liberia. 6.5, Programme Announcements. 6.15, Agricultural Prices. 6.25, Armin Knab Song Recital by Mia Neusitzer-Thoenissen. 6.50, Weather. 7.0, Transmission for all German Stations, relayed from Berlin (Deutschlandsender). 8.5, Military Programme for East Prussia. 9.5, News. 9.10, Bunter Abend. In an interval at 16.10 (approx.), News. 11.0, Dance Music relayed from Berlin (Funkstunde). 12.30 a.m. (Sunday), Close Down.

HILVERSUM

HILVERSUM

Announced Holzen, 1,013 kc/s, 296.1 metres; 7 kW. (until 5.40 p.m.) and 20 kW. from 5.40 p.m. Programme of the Catholic Radio Society (K.R.O.).—11.40 a.m., Police Notes. 11.55, Concert by the K.R.O. Sextet. 1.25 p.m., Interval. 1.40, Programme for Young People. 2.10, Programme for Children. 3.40, Concert by the K.R.O. Boys. 4.10, Talk. 4.20, Concert (contd.). 4,55, Sports Talk. 5.10, Gramophone Music. 5.35, Wireless Talk. 5.50, Gramophone Music. 5.35, Wireless Talk. 5.50, Gramophone Music. 5.35, Wireless Talk. 5.50, Gramophone Music. 6.0, Press Review. 6.20, Concert by the K.R.O. Orchestra. conducted by Gerritsen: Two Pieces. Op. 32 (Nicodé); Selection from Die Königskinder (Humperdinck); Selection from Tamhauser (Wagner). In the Interval at 6.40, Police Notes. 7.30, Talk on the Esperanto Lessons. 7.40, Concert by the K.R.O. Orchestra, conducted by van'tWond: Potponrri, Bei Lied und Wein (Armandola): Wultz Potpourri No. 2 (Robrecht): Selection from Die Poppenfee (Bayer); Alte Kameraden (Teike): Berlin, wie es weint und lacht (Conradi): The Skaters' Waltz (Waldteufel): Hurrah, die Musik kommt (Zimmer). In the Interval at 8.10 (approx.). Press Review. 8.40, Concert by the Three Keddys Ensemble. 9.0, Van den dood die bina stlerf—Farce in Five Scenes (Gledderode). 9.40, Concert by the Three Keddys. 10.35, Gramophone Music. 10.55, Concert by the K.R.O. Boys (contd.). 11.40 (approx.), Close Down.

HORBY.-See Stockholm.

HUIZEN

HUIZEN

Announced HILVERSUM, 160 kc/s, 1,875 metres; 7 kW. (until 3.40 p.m.). Transmitted from Kootwijk on 50 kW. from 3.40 p.m.—Programme of the Workers' Radio Society (V.A.R.A.) 11.40 a.m., Concert by the Small V.A.R.A. orchestra, conducted by de Groot. 1.40, Gramophone Music. 2.25, Accordion Music. 2.40, Film Review. 3.6, Concert by De Flierefluiters. conducted by Ray Forest. 3.40, Interval. 3.55, Organ Recital by Jong: Selection from Martina (Flotow); Dance of the Dervishes (Bendix); Same Old Moon (Baskette); Under my Umbrella (Flyn-Myers). 4.20, Literary Talk. 4.40, Concert by the Amsterdam Orchestral Society, conducted by Diepenheek: Freiheitsjuhel (Blankenburg); Overture, The Italian Girf in Aigiers (Rossini); Selection from Rosamund (Schubert); Weaner Madln (Ziehrer). Gramophone Music: Selection from Rammund (Schubert); Weaner Madln (Ziehrer). Gramophone Music: Selection from La fille de Madame Angot (Lecocq). 5.40, Talk. 6.0, Orchestral Concert (contd.): Husaren-Vedette (Fucik): Ballet Music from Faust (Gounod). 6.45, Accordion and Pianoforte Recital by Steyn and Jong. 6.40, Orchestral Concert (contd.): Overture, Banditenstreiche (Suppé); Vive la danse (Waldteufel); Selection from La vie parisienne (Offenbach); Russian March (Ganne). 7.10, Gramophone Music. 7.40, S.O.S. Announcements. 7.42, News. 7.50, Concert by the V.A.R.A. Orchestra. conducted by Gehert. Soloist: Rose Walter (Soprano). Allennande (Beethoven); Old Dutch Dances (Röntzen); Old Melodles; Slav Dances (Dvorák); Russian Dance (Tchaikovsky); Spanish Caprice (Granados); Romanian Folk Dance (Bartok); Polka (Weinberger); Waltz, The Blue Dannbe (Jol. Strauss). In an interval at 8.25, Part III of De Zee roept—Radio Play (Busch-Beverslnis). 9.50, Soprano Song Recital by Rose Walter (10.5), Soprano Song Recital by Rose Valter. 10.5, Talk. 10.15, Dance Music by De Fliereliniters, conducted by approx.), Close Down.

INNSBRUCK.—See Vienna.

INNSBRUCK.—See Vienna

IUAN-LES-PINS

1,205 kc/s, 249 metres; 0.8 kW.—12.30 p.m., Amusement Guide and Variety Items. 1.0, News. 1.15, Radio Concert. 8.0, Amusement Guide, Exchange, Racing Results and News. 8.5, Film Review. 8.20, Radio Concert. 9.0, News and Weather.

KALUNDBORG. See Copenhagen. KIEL.-See Hamburg. KLAGENFURT.—See Vienna. KOSICE .- See Prague.

LAHTI

LAHTI

167 kc/s, 1,796 metres; 40 kW. Relayed by Helsinki, 815 kc/s, 368.1 metres.—4.0 p.m., Concert by the Station Orchestra conducted by Erkki Linko: Heinzelmännechens Wachtparade (Noack); Arc en ciel (Waldtenfei); Melody from Paganini (Lehar); Merikanto Potpourri (Kauppi); Waltz, Wienerblut (Strauss); Offenbach Potpourri (Conradi). 5.0, Dramatic Programme. 5.30, Song Recital. 5.50, News in Finnish. 5.59, Time and Weather. 6.10, News in Swedish. 6.15, Sports Talk. 6.35, Xylophone Solos. 6.55, Talk. 7.15, Popular Concert. 8.45, News in Finnish. 9.0, News in Swedish. 9.15, Dance Music relayed from the Pörssi Restaurant. 11.0 (approx.), Close Down.

LANGENBERG

LANGENBERG

635 kc/s, 473 metres; 60 kW.—12 Noon, Broadcast for Schools. 12.30 p.m., Concert by the Münster Municipal Orchestra, conducted by Göhre; March, Gruss am Münster (Lange); Die Felsenmühle (Reissiger); Suite. The Merchant of Venice (Sullivan); Dance of the Tumblers (Rimsky-Korsakov); Flight of the Bumble Bee (Rimsky-Korsakov); Potponrri Westfalenklänge (Intter). 1.15, News. 1.30, Concert by the Station Orchestra, conducted by Rühn: Overture, The Queen's Kerchief (Stranss); Norwegian Artists' Carnival (Svendsen); Selection from Tosca (Puccini); Three Pieces from Prometheus (Beethoven); Selection from Othello (Verdi); March in C (Mozart). In the interval at 2.0 (approx.), News. 2.30, Gramophone Music. 3.30, News and Time. 3.35, Sports Report on Gramophone Records. 3.50. Talk: The Old Sea Rovers and the Hitler Youth. 4.10, Rending. 4.30, The Rhineland and Westphalia—Hünxe—Radio Sequence of Verse and Song (Bockemühl). 5.0, Pianoforte Recital by Bans Haass: Romance No. 2 (Schumann); Bunka (Grieg): Jenx d'ean (Ravel): Mazurka (Uranados); Mephisto-Walzer (Liszt). 5.30, Concert by the Station Orchestra, conducted by Eysoldt: Selection from The Geisha (Jones); Overture. Isabella (Suppe): Negro Lullaby (Chitsam); Paraphrase on the Song Rose-Marie (Blinne-Weninger); Waltz, Hereinspaziert (Ziehrer); Potponrri. Mosaic (Zimnner). In the interval, Topical Talk. 6.15, A Blind Passenger on a Sailing-boat narrates his Experiences. 6.45, News. 7.0, Transmission for all German Stations. relayed from Berlin (Funkstunde). 8.0, News. 8.5, West German Stations Calling—Langenberg-Frankfurt-Stuttgart Exchange Pio. gramme. In the interval at 10.5, News. 1.0 a.m. (Sunday); Close Down.

LAUSANNE.—See Radio-Suisse Romande.

LAUSANNE.-See Radio-Suisse Romande.

LEIPZIG

LEIPZIG

769.9 kc/s, 389.6 metres; 120 kW. Relayed by Dresden, 941 kc/s, 319 metres.—12 Noon, Weather and Time. 12.5 p.m., Gramophone Concert. 1.15, News. 1.30, Concert from Langenberg. 2.30, News. 2.35 (apprex.), Programme for Children. 3.15, Talk on Music. 3.45, Market Prices. 4.0, Reading (Rudolf Binding). 4.30, Concert from Munich. 5.45, Talk: The German Lapguage. 6.5, A Modern Dictionary. 6.20, Robert Franz Song Recital by Eva Graf (Soprano) and Erich Wagner (Tenor): Soprano Solos: (a) Ein Stündlein wohl vor Tag, (b) Die helle Sonne lenchtet; Tenor Solos: (a) Waldfahrt, (b) Willkommen. mein Wald (c) Jagdlied, (d) Auf geheinnen Waldespfade; Soprano Solos: (a) Das macht das dunkelgrüne Laub. (b) Bosmarin. (c) Er ist gekommen; Tenor Solos: (a) Weisst dn noch. (b) Umsonst; Soprano Solos: (a) Lieber Schatz. sei wieder gut zu mir, (b) Ständchen. (c) Mein Schatz ist auf der Wanderschaft: Tenor Solos: (a) Ave Maria, (b) Ahends. (c) Gute Nacht; Duet. Mutter. o sing mich zur Ruh?. 6.50, To-day's News. 7.0, Transmission for all German Stations. relayed from Berlin (Funkstunde). 8.0, Orchestral Concert from Berlin (Funkstunde). 10.5, News. 10.15 (approx.). Dance Music by the Emide Orchestra. 12 Midnight, Close Down.

LINZ .- See Vienna.

LUXEMBOURG

LUXEMBOURG

252 kc/s, 1,191 metres; 200 kW.—12.30 p.m.,
Concert by the Station Orchestra, conducted
by Henri Pensis: Overture. The Daughter
of the Regiment (Donizetti); Waltz, Les
fleurs (Waldtenfel); Selection from The
Barber of Seville (Rossini): Sereuade
(Toselli); Roccoo Gavotte (Translateur);
The Torch Dance of the Brides of Kashmir
(Rubinstein): Selection from The Blue
Mazurka (Lehár), 1.30, Gramophone Music.
7.30 till Close Down, French Programme.
7.30, Violin Concerto No. 3 (Saint-Saéns)
on Gramophone Records.
French: Anne Beffort, a Luxembourg
Anthoress. 8.20, Pianoforte Concerto (Grieg)
by Jeanne Jaspar and the Station Orchestra.
8.50, News in French. 9.0, Song Recital by
Gustave Simon, with Music by the Station
Drehestra: La vague et la cloche (Dupare);

Ballade des gros dindons (Chabrier); Villan-elle des petits canards (Chabrier); Le dor-meur du val (Bachelet); Tendresse (Bachelet); O.chestra: Danse macabre (Saint-Saëns); Le bachelier de Salamanque (Roussel); Jazz dans la mit (Roussel); Beau soir (Debussy); Mandoline (Debussy); Orchestra: Military March (Saint-Saëns). 9.50, News in German. 10.0, Gramophone Music. 10.50, Dance Music by the Station Jazz Band. Music. 10. Jazz Band.

LYONS

LA DOUA, 644 ke/s, 465.8 metres; 1.5 kW.

-5.0 p.m., Dance Music. 7.0, Granophone
Music. 7.15, Musical Programme. 7.30,
Radio Gazette for Lyons and the SouthEast. 8.30, Concert. After the Concert,
News.

MADRID

MADRID

EAJ7, 707 kc/s, 424.3 metres; 2 kW.—8.0 p.m., Chimes, Exchange, Radio Journal and Dance Music, relayed from the Slkázar Dance Hall. 9.15, Topical Review. 9.30 to 11.0, Interval. 11.0, Chimes. Time and Topical Review. 11.20 (approx.). Musical Comedy on Granophone Records: Selection from La Alegria de la Huerta (Chueca), and La Verbena de la Paloma (Breton). 1.15 a.m. (Sunday), Topical Review. 1.30, Chimes and Close Down.

MALMO.-See Stockholm.

MILAN.-See Turin

MORAVSKA-OSTRAVA

MORAVSKA-OSTRAVA

1,137 kc/s, 263.8 metres; 11 kW.—2.50 p.m.,
Concert by the Station Orchestra, conducted
by Plichta: Introduction to the Third Act
of The Devil and Kate (Dvorák); Rhapsody
(Lalo); Selection of Slovak Folk Songs
(Piskacek); Waltz, Paysage d'autonne
(Waldteufel); Intermezzo (Pretsch); March
(Cerny). 3.55 to 4.0, See Prague. 5.45,
Gramophone Records. 5.55, Reading. 6.5,
Gramophone Records. 6.15, Talk
Workers. 6.25, Brahms Song Recital. 7.0,
See Prague. 7.30, See Bratislava. 10.0, See
Prague. 10.15. Concert of Light Music by
the Station Orchestra. 11.30 (approx.), Close
Bown.

MOSCOW

MOSCOW

TRADES UNION, 300 kc/s, 1,000 metres; 100 kW.—11.45 a.m., Weather. 2.45 p.m., Weather. 3.0, Gramophone Music. 4.0, Topical Talk. 4.30, Talk on Dramatic Art by a Celebrated Actor. 5.30, Programme for Young People. 6.30, Romeo and Juliet—Opera (Berlioz) from the Radio Theatre. 9.0, News. 9.30, Programme Announcements. 9.55, Chimes. 10.5, Press Review.

MOTALA.-See Stockholm. MUHLACKER. See Stutigart.

MUNICH

MUNICH

563 kc/s, 533 metres; 60 kW. Relayed by Augsburg and Kaiserslautern, 536 kc/s, 560 metres; and Nürnberg, 1,256 kc/s, 239 metres.—12 Noon, Gramophone Music. 1.0 p.m., Orchestral Concert, conducted by Erich Kloss: Little Overture (Becce): Snite Bergamasque (Debussy); Selection from Jossendo (Spolur); Two Pieces (Micheli): (a) Albumblatt. (b) Ceciba; March, Die Husaren kommen (Eilenberg). In the interval at 1.15, Time, Weather and News. 2.0, Time, Weather and News. 2.0, Time, Weather and News. 2.0, The Reitmeier Family at the October Festival—a Radio Sequence of the Year 1899 (Brunner). 3.25, Reading. 3.45, Weather and Agricultural Notes. 4.0, Labour Market Report. 4.10, Theodore Auzinger reads from his Reminiscences. 4.30, Orchestral Concert, conducted by Karl List. Soloist: Elisabeth Hallstein (Coloratura Soprano). Overture, Pique Dame (Suppé): Parla-Concert Waltz for Soprano and Orchestra (Arditi); The Emperor Variations (Haydu); Selection from Rigoletto (Verdi-Tavan); Arietta for Soprano and Orchestra from Mirella (Gonnod); Selection from Der Evangelimann (Kieuzl); Perpetuum mobile (Gungl): March Song Potpourri. Jungdentschland (Wenninger). 5.45, Programme for Young People. 6.30, Songs to the Lutte with Violin Obbiligato by Robert and Lies Rothe and Adolf Bruno Winkler. 6.45, Wireless Notes. 7.0, Transmission for all German Stations, relayed from Berlin (Funkstunde). 8.0, Variety Programme (arr. Lippl). 10.9, Austria. 11.20, Time, Weather and News. 11.0, Serenade. 12 Midnight, Close Down.
NAPLES.—See Rome.

NAPLES .- See Rome. NOTODDEN -See Oslo,

OSLO

OSLO
277 kc/s, 1,083 metres; 60 kW. Relayed by
Fredriksstad, 815 kc/s, 368.1 metres; Hamar,
522 kc/s, 574.7 metres; Notodden, 671 kc/s,
447.1 metres; Porsgrund, 662 kc/s, 453.2
metres; and Rjukan, 671 kc/s, 447.1 metres.
—4.30 p.m., Gramophone Concert of Norwegian Music.
5.15, Forgramme for Children.
6.15, Concert of Norwegian Music.
6.45, Talk on Economics. 7.0, Advertising
Notes, News and Weather Report.
7.30,
Talk. 8.0, Concert by the Station Orchestra, conducted by Hugo Kramm. Soloists:
Leif Halvorsen (Violin) and Sigurd Hoff
(Songs). 9.20, Advertising Notes. Weather
and News. 10.0, Topical Talk. 10.15, Popular Concert.

OSTERSUND.—See Stockholm.

OSTERSUND.—See Stockholm,

PALERMO

PALERMO

558 kc/s, 537.6 metres; 3 kW.—8.0 p.m.,
Dopolavoro Announcements, Tourist Talk,
Agricultural Notes and Giornale Radio. 8.20,
Sports Notes. 8.25, Gramophone Music. In
the interval at 8.30, Time and Announcements. 8.45, La reginetta delle rose—Operetta in Three Acts (Leoncavallo). In the
intervals Talk and Announcements. After
the Operetta, Giornale Radio.

PARIS

PARIS

EIFFEL TOWER. Call FLE, 207.5 kc/s, 1,445.7 metres; 13 kW. Time Signals (on 2,650 metres) at 10.26 a.m. and 11.26 p.m. (Preliminary and 6-dot Signals).—6.45 p.m. Theatre Notes. 7.0, Le Journal Parlé. 8.30, Antony—Play (Alexandre Dumas). 10.0 (approx.), Close Down.

PARIS

PARISIEN, 914 kc/s, 382.2 metres; 60 kW.—7.0 p.m., Trio in G (Haydn), on Gramophone Records. 7.15, Le Journal Parlé. 7.30. Sponsored Gramophone Concert. 8.0, Talk: The Event of the Week. 8.30, Brahms Concert. 9.10, Dance Music by the Sonora Radio Band, conducted by Fred Hoffman. 11.0, News.

PARIS

PARIS

RADIO-PARIS; Cail CFR; 174 kc/s, 1,725
metres; 75 kW.—7.30 a.m., Weather and
Physical Culture. 7.45, Gramophone Music.
8.0, Weather and Press Review. 12 Noon,
Gramophone Concert: Selection from La vie
parisienne (Offenbach); Adios Mnchaehos
(Sander); Melody (Robrecht); Melody (Daniderff); Gouttes d'eau (Petit); Chante,
chemineau (Persiani-Jourdan); Melody
(Lincke); Entr'acte (Hirschmann-Yatove);
Chante pierrot (Bixio); Rondes enfantines
françaises; Mon fétiche (Vacher); Des
fennnes, des Roses (Grothe); Pinsonnette et
pinsonnet (Saint-Servan); Mon seul Paris
(Labor); Liebesglocken (Benatzky); Gardemoi (Yvain); J'ai compris (Lenoir); Coq et
ponles (Paradis); C'est pen de chose (Verdun); Chante de berger (Servanti-Bergeret);
Aubade d'amour (Minti); Poupées de Paris
(Loyraux). In the interval at 1.0, Exchange,
News, and Weather; and at 1.30, Exchange,
2.0, Exchange. 3.45, Exchange and Market
Prices. 7.0, Agricultural Report. 7.10, Popular Music on Gramophone Records. 7.50,
Commercial Notes and News. 8.0, Gramophone Records: March écossaise (Debussy);
Ballet Music from The Cid (Massenet);
Menuet antique (Ravel). 8.30, News,
Weathler, and Sports Notes. 8.45, Musical and
Literary Programme. Songs by Mine. Suzanne
Nivette and Recitations by Georges Saillard.
In the interval at 9.15, Press Review and
News. 10.0, Gramophone Records: Bulgarian
Smite (Wiadigerov); Coronation March
(Saint-Saëns).

PITTSBURGH

PITTSBURGH

KDKA, 989 kc/s, 306 metres; 50 kW. Relayed by W8XK on 48.86 metres and 25.27 metres.—7.0 p.m., Programme to be announced. 7.30 to 11.0, New York Relay. 7.30, Concert Echoes. 8.0, Words and Music. 8.30, Wealth of Harmony. 9.0, Dance Masters. 9.30, Concert Favourites. 10.0, Casino Orchestra. 10.30, Neil Sisters. 10.45, Orphan Annie. 11.0, News, Piano Classique. 11.15, Sports, A Song. 11.30, A Recreo by Bill and Alex. 11.45 to 12.30 a.m., (Sunday), New York Relay. 11.45, A Century of Progress. 12 Midnight, Ross Peardon, Baritone. 12.15, Ethel Waters. 12.30, Huston Ray's Orchestra. 1.0 to 3.15, New York Relay. 1.0, Jack Denny's Orchestra. 1.30, Brown and Llewellyn. 1.45, Annie, Judy and Zeke. 2.0, Tales of the Titans. 2.30, Jamborce. 3.15, Belind the Law.

PORSGRUND.-See Oslo.

PRAGUE

FRAGUE
614 kc/s, 488.6 metres; 120 kW.—2.50 p.m.,
See Moravská-Ostrava. 3.55 to 4.0, Weather.
5.45, Talk. 5.55, Commercial News. 6.3,
Agricntbural Report. 6.15, Talk for Workers:
Evening Schools and Sunday Schools. 6.25,
News in German. 6.30, German Transmission: Talk on Rome. 7.0, Chimes and News,
7.10, Reading. 7.30, See Bratislava. 10.0,
Time. News and Sports Notes. 10.15, See
Moravská-Ostrava. 11.30 (approx.), Close
Down.

RADIO-SUISSE ROMANDE

RADIO-SUISSE ROMANDE
SOTTENS, 743 kc/s, 403 metres; 25 kW.; and
Geneva, 395 kc/s, 760 metres.—6.15 a.m.
to 6.30 (from Lausanne), Gymnastics Lesson.
12.28 p.m., Time Signal from the Neuchâtel
Observatory. 12.30, News and Weather.
12.40 (from Lausanne), Light Music on
Gramophone Records. 1.0 (from Lausanne),
Financial Notes. 1.10 (from Lausanne),
Gramophone Music. 2.0, Interval. 3.28,
Time Signal from Neuchâtel Observatory.
3.30 (from Lausanne), Concert by the

SEPT. 30th

continued

Station Orchestra. conducted by Moser.
4.15 (from Lausanne). Song Recital by France Legaudy. 4.30, Concert (contd.). 5.0 (from Lausanne). Dance Music on Gramophone Records. 5.30, Interval. 7.0 (from Geneva). Talk. 7.30 (from Geneva). Radio Chronicle. 8.0 (from Geneva). Russian Music by the Horowood Orchestra. 8.25 (from Geneva), Humorous Talk. 9.0, Concert by the Radio Suisse Romande Orchestra. conducted by Echenard: Overture, Der Freischütz (Weber); Music to Ramuntchio (Pierné); Serenade for String Orchestra Op. 48 (Tchaikovsky); Danse macabre (Saint-Saëne); In the Crimea (Mussorgsky). 9.50, News and Weather. 10.0 (from Geneva), Dance Music. 11.30 (approx.), Close Down. Close Down.

RJUKAN.-See Oslo.

ROME

ROME

Call 1RO, 680 ke/s, 441 metres; 50 kW. Relayed by Naples, 941 ke/s, 319 metres; and 2RO, 11,810 kc/s, 25.4 metres from 5.15 p.m.; Bari, 1,112 kc/s, 269.8 metres; Milan (Vigentino), 662 ke/s, 453.2 metres; Milan (Vigentino), 662 ke/s, 453.2 metres; from 8.45 p.m., and Naples, 941 ke/s, 319. metres.—12.30 p.m., Gramophone Music. 1.0 to 2.15, Orchestral Concert. In the interval at 1.30, Giornale Radio. 4.30, Children's Radio Review. 4.55, Giornale Radio and Report of the Royal Geographical Society. 5.10, Weather. 5.15, Orchestral Concert of Light Music. 6.40 (Naples), Shipping and Sports Notes. 6.45, Lesson in Morse and Dopolayoro Autonuncements. 7.0, Tourist Report. 7.10, Agricultural Notes and Market Prices. 7.20, News in Foreign Languages. 7.40, Giornale Radio. 8.0, Time and News. 8.15, Sponsored Concert. 9.15, Military Band Concert: March, Viva il Duce (Marchesini); Selection from Rigoletto (Verdi); Overture. Le Roi de Lahore (Massenet); Good Friday Magic from Parsifal (Wagner); Selection from Semiramide (Rossini). In the intervals, Monologue: The Human Voice, and Literary Notes. 11.0, Giornale Radio. SALZBURG.—See Vienna.

SALZBURG.-See Vienna.

SCHENECTADY

SCHENECIADY
WGY, 790 kc/s, 379.5 metres; 50 kW. Rehayed at intervals by W2XAF on 31.48 metres and by W2XAD on 19.56 metres.—1.45 a.m. (Sunday), Stock Reports. 2.0 to 5.0, New York Relay. 2.0, Soloist. 2.15, The Sizzlers. 2.30, Sous les Ponts de Paris. 3.0, One Man's Family. 3.30, K-7. Secret Service Spy Story. 4.0, Saturday Night Dancing Party. 5.0, Programme Résumé.

SCHWEIZERISCHER LANDESSENDER

BEROMUNSTER, 653 kc/s, 459 metres; 60 kW.; Basie, 1,229 kc/s, 244.1 metres; and Berne, 1,220 kc/s, 245.9 metres; 6.15 to 6.35 a.m. (from Basie), Gynnastics. 11.59, Time Signal from Neuchâtel Observatory, and Weather. 12.0 Noon (from Berne), Chamber Music on Gramophone Records. 12.30 p.m., Time, Weather and News. 12.40 (from Berne), Light Music on Gramophone Records. 1.25 (from Berne), Time, Weather and Exchange. 1.30 (from Berne), The Listeners' Quarter of an Hour. 1.45 (from Berne), Talk on Appenzell. 2.15 (from Berne), Talk on Appenzell. 2.15 (from Berne), Talk consumption. 3.30 (from Berne), Folk Music by a Village Baud. 3.0 (from Berne), Talk: Consumption. 3.30 to 5.0, Interval. 5.0 (from Berne), Accordion Band Concert. 5.30 (from Berne), Accordion Band Concert. 5.30 (from Berne), Talk with Illustrations: Swiss Songs. 6.30 (from Berne), Recital by Richard Sturzenegger (Viola da Gamba) and Zulauf (Harpsichord). 7.0, Chimes from Zürich Churches. 7.15 (from Berne), Time, Weather and Market Prices. 7.20 (from Berne), Concert of Music by Swiss Composers. 9.5 (approx.), Weather and News. 9.20 (approx.), (from Berne), Concert of Music by the Maxim Band. 11.0 (approx.), Close Down.

SOTTENS.—See Radio-Suisse Romande.

STOCKHOLM

STOCKHOLM
689 kc/s, 436 metres; 55 kW. Relayed by
Boden, 244 kc/s, 1,229.5 metres: Göteborg,
932 kc/s, 322 metres: Hörby, 1,166 kc/s, 257
metres; Motala, 221.5 kc/s, 1,354.4 metres;
Ostersund, 389 kc/s, 770 metres; and Sundsvall, 554 kc/s, 542 metres.—4.0 p.m. (from
Göteborg), Light Orchestral Concert. 5.5,
Programme for Children. 5.30, Songs to
the Late by Vilhelm Julinder. 5.45, Gramophone Music. 6.45, Talk: Table d'hôte or
à la carte—relayed from Norrköping, 1,292

ke/s (232.2 metres). 7.15, Weather and News. 7.30, Cabaret Programme. 8.30, Cigány Band Music, relayed from a Concert Hall: Slav Dance No. 10 (Dvorák); Tarogato Solos: Old Hungarian Songs; Arias from Carmen (Bizet); Improvisations on Hungarian Folk Songs and Dances; Waltz, The Blue Danube (Joh. Strauss). 9.15, One-Act Play (Oljelund). 9.45, Weather and News. 10.0, Dance Music, relayed from the Savoy. 11.0 (approx.), Close Down.

STRASBOURG

STRASBOURG

869 kc/s, 345 metres; 11.5 kW.—11.30 a.m.,
Variety Music on Gramophone Records.
12.45 p.m., News. 1.0, Time and Exchange.
1.5, Variety Music on Gramophone Records.
2.0, Legal Talk. 2.15, Light Music on
Gramophone Records.
2.45, Music Talk:
Chabrier's España. 3.0, Interval. 4.0, Orchestral Concert, conducted by Maurice de Villers: Symphony No. 16 (Haydn); Bassoon
Concerto (Mozart); Overture, Leonora
(Beethoven); Impressions d'Italie (Charpentier); Images d'Epinal (Dupérier); Suite
No. 2. The Nursery (Inghelbrecht); Fresques
(Gaubert). 6.0, Gramophone Music. 6.15,
French Lesson. 6.30, Popular Music on
Gramophone Records. 7.0, Tourist Talk.
7.15, Gardening Talk. 7.30, Time and News.
7.45, Gramophone Music. 8.0, Press Review.
8.30, Military Band Concert, conducted by
Guiraud. relayed from Verdun: Introductory
Talk; The Temeraire (Mougeot): Sublima
Belgique (Balay); Overture, William Tell
(Rossim); Suite, Impressions d'Italie
(Charpentier); Norwegian Rhapsody (Lalo);
Ballet Music from Isoline (Messager); Selection from La Bohème (Puccini): Cornet
Solo: Polka, Graciense (Koch); Regimental
March (Guiraud). In the interval. Talk.
10.30 (approx.), Press Review. 10.45, Dance
Music, relayed from the Savoy. 12 Midnight (approx.), Close Down.

STUTTGART

STUTTGART

MUHLACKER, 832 kc/s, 360.5 metres; 60 kW. Relayed by Freiburg, 527 kc/s, 570 metres.—12.20 p.m., Gramophone Concert: Overture, The Barber of Bagdad (Cornelius); Two Pieces (Grieg): (a) Solveig's Song, (b) Cradle Song; Symphonic Poem. The Swan of Thonela (Sibelius); Symphony No. 4 in F Minor. Op. 36 (Tchaikovsky). 1.30, See Langenberg. 2.30, Time and News. 2.50, Concert by the Schulrabe Balalaika Orchestra: Night (Glinka); Polka, Marianna (Bébé); The Nightingale (Alabiev); Balalaika Quartet: Waltz, Ferne Heimat (Schulrabe); Potpourri No. 3, Aepfelchen (Schulrabe); Potpourri No. 3, Aepfelchen (Schulrabe); Sun See Frankfurt. 4.30, See Munich. 5.20 (from Pforzheim). Choral Music by Fritz Neuert—Concert in Memory of the Composer, with Introductory Talk. 5-45, Talk with Musical Hlustrations: Max Reger in Light and Serious Mood. 6.35, Time and News. 7.0, Transmission for all German Stations, relayed from Berlin (Funkstunde). 8-5 to 12 Midnight, Langenberg-Frankfurt-Stuttgart Exchange Programme. In the intervals at 10.0, Talk from Munich, and from 10.20 to 10.40, Time and News. 12 Midnight (approx.), Close Down.

SUNDSVALL.—See Stockholm.

TOULOUSE

TOULOUSE

RADIOPHONIE DU MIDI, 779 kc/s, 385 metres; 8 kW.—6.15 p.m., Music by an Argentine Band. 6.30, Opera Music. 6.45, Military Music. 7.0, Overture, Patrie (Bizet). 7.15, News. 7.30, Accordion Solos. 7.45, Opera Music: Arias from (a) William Tell (Rossini). (b) The Tales of Hoffmann (Offenbach). (c) The Hugenots (Meyerheer). and (d) Faust (Gounod). 8.0, Orchestral Music. 8.30, Operetta Music: Airs from (a) Le Comte Ohligado (Moretti), (b) Les Cloches de Corneville (Planquette). and (c) Le Coup de roulis (Messager). 8.45, Music by an Argentine Band. 9.0, Concert of Opera Music: Selection from (a) Faust (Gounod). (b) Madame Butterfly (Puccini), (c) Tosca (Puccini). (d) Lakmé (Delibes). (e) Carmen (Bizet). (f) Mignon (Thomas). (g) Mirella (Gounod). (h) Si j'étais Roi (Adam), (i) Les Dragons de Villars (Maillart). (j) Fortunio (Messager). (k) La Traviata (Verdi). (l) Sigurd (Reyer). and (m) Thäis (Massenet). After the Concert, Programme by a Viennese Orchestra. 10.0 Chansonnettes. 10.15, News. 10.30, Concert for Listeners in Morocco. 11.0, Light Music. 11.15, Dance Music. 12 Midnight, News. 12.5 a.m. (Sunday), Orchestral Music. 12.30 (approx.). Close Down.

TRIESTE

1,211 kc/s, 247.7 metres; 10 kW.—5.20 p.m., till Close Down, See Turin.

TRONDHEIM. See Oslo.

TURIN

TURIN

273.7 metres; 7 kW. Relayed by Milan, 331.5
metres; Genoa, 312.8 metres; and Florence,
500.8 metres.—5.20 p.m., Gramophone Music.
6.0 to 6.5, Weather. 6.40, Giornale Radio.
Talk, Dopolavoro Announcements and Gramophone Music. 7.0, Time, Tourist Report and
Gramophone Music. 7.10, Agricultural Notes
and Market Prices. 7.20, News in Foreign
Languages. 7.40, Gramophone Music. 8.0,
Announcements, Giornale Radio and
Weather. 8.25, Talk: Events and Problems.
8.40, Variety Programme. In the interval,
Book Review. 10.0, Orchestral Concert. 11.0,
Giornale Radio.

VATICAN CITY

15,120 kc/s, 19.84 metres (Morning) and 5,969 kc/s, 50.26 metres (Evening); 10 kW.—11.0 to 11.15 a.m., Religious Announcements in Various Languages. 8.0 to 8.15 p.m., Religious Information in Italian.

VIENNA

VIENNA

VIENNA

Sal kc/s, 517 metres; 15 kW. Relayed by Graz, 852 kc/s, 382.1 metres; Innsbruck, 1,058 kc/s, 283 metres; Klagenturt, 662 kc/s, 453.2 metres; Linz, 1,220 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 245.9 metres; and Salzburg, 1,373 kc/s, 245.9 metres; and Solzburg, 1,373 kc/s, 245.9 metres; and Solzburg, 1,373 kc/s, 246.5 metres.—12 Noon, Concert by the Wiener Symplioniker, conducted by Josef lolzer. 1 p.m., Time and News. 1.10, Concert (contd.). 3.0, Time, Weather and Market Prices. 3.15, Italian Lesson. 3.40, Zither Recital. 4.20, Talk by Dr. Hugo Adolf Bernatzik: My Expedition to the South Seas. 4.45, Gramophone Records by Famous People. 5.30, Talk: A Meeting in Erfurt. 6.0, Dance Music. 6.35, To-day's Axiom. 6.40, Time, Weather and Sports Notes. 6.50, Talk on Music. 7.0, Topical Talk. 7.35, Concert of Opera Music by the Wiener Symphoniker, conducted by Hugo Reichenberger. Soloists: Eva Hadrabova (Soprano). Armand Tokatyan (Tenor), and Josef Manowarda (Bass). Overture, The Merry Wives of Windsor (Nicolai). Bass Solos: (a) Aria from Figaro (Mozart), (b) Aria from Der Waffenschmied (Lortzing). Soprano Solos: Prelude, and Cavatina, from Der Freischütz (Weher). Tenor Solos: (a) Aria from Martha (Flotow). Bass Solos: (a) Aria from Migoletto (Verdi). Bass Solo: Aria from The Barber of Seville (Rossini). Tenor Solos: (a) Aria from Rigoletto (Verdi). Bass Solo: Aria from It Tovatore (Verdi). Bass Solo: Aria from It Barber of Seville (Rossini). Tenor Solos: (a) Aria from La Juive (Halévy). (b) Aria from Carmen (Bizet); Prelnde to Carmen (Bizet). Bass Solo: Aria from Fussalka (Dvorák): Intermezzo from Cavalleria rusticana (Mascagni). Tenor Solo: Aria from Tosca (Puccini). Bass Solo: Aria from Per Rosenkavatier (R. Strauss). 935, Mews. 9.50, Concert by the Wiener Symphoniker, conducted by Josef Holzer. After the Concert. Announcements.

WARSAW

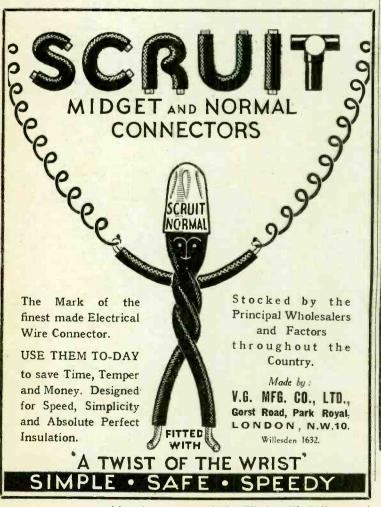
WARSAW

212.5 kc/s, 1,411 metres; 120 kW.—11.57 a.m., Time Signal and Fanfare from St. Mary's Church, Cracow. 12.5 p.m., Gramophone Music. 12.25, Polish Press Review. 12.33, Weather Report. 12.35, Gramophone Music. 22.55, Radio Journal. 1.0 to 2.55, Interval. 2.55, Gramophone Music. 3.25, Lonomic Notes. 3.35, Gramophone Music. 3.25, Lonomic Notes. 3.35, Gramophone Music. 4.0, Programme for Invalids, relayed from Lwow, 788 kc/s, 331 metres. 4.30, Gramophone Music. 5.0, Topical Talk. 5.15, Piadoforte and 'Cello Recital by Marie and Casimir Wilkomirski: Sonata in G Minor, Op. 19, for Pianoforte and 'Cello (Rachmaninov): Impromptu (Scriabin); Prelude in E. Op. 15 (Scriabin); Jardins sous la pluie (Debussy); Two Etudes, Op. 33 and Op. 39 (Rachmaninov): Hindoo Song (Rimsky-Korsakov); The Flight of the Bumble Bee (Rimsky-Korsakov); Trentale (Cni); Scherzo (Godard); Tambonrin chinois (Kreisler). 6.15, Talk. 6.35, Gramophone Music. 7.20, Miscellaneous Items. 7.35, Programme Announcements. 7.40, Humorous Reading. 8.0, Concert by the Station Orchestra, conducted by Nawrot. Soloist, Konarek-Korska (Songs). Spanish Overture (Keler-Bela): Hochzeitzug in Lilliput (Translateur); Waltz-Intermezzo, Washlumen träumen (Translateur); Three Songs; Gavotte (Lewak); Waltz, Manola (Waldterfel); Intermezzo, Bib et Bob (Demaret); Three Songs; Berceuse (Fucik); Potpourri (Namyslowski). 9.5, Radio Journal. 9.15, Agrientural Press Review, relayed from Wilno, 533 kc/s, 563 metres. 9.30, Chopin Pianoforte Recital by Mme. Jaroszewicz: Etude No. 1, Op. 25, in A Flat; Etude No. 2, Op. 25, in F Minor; Etude No. 1 in F Minor; Etude No. 1 in F Minor; Etude No. 1 op. 52; Norts Notes. 10.35, Aviation Weather Report and Police Notes. 10.40, Dance Music (contd.).

ZURICH .- See Schweizerischer Landessender.

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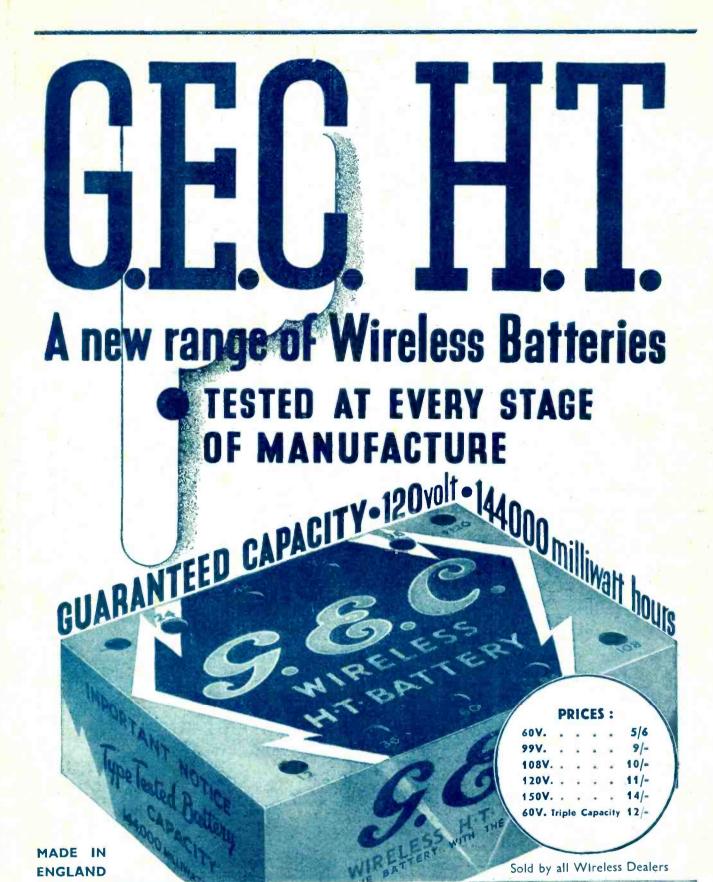
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