

M'S LAW  
 $E = I \times R$   
 $R = E / I$   
 $I = E / R$

CONDENSERS IN SERIES  
 $C_{TOTAL} = C_1 \times C_2 / (C_1 + C_2)$

RESISTANCES IN PARALLEL  
 $R_{TOTAL} = R_1 \times R_2 / (R_1 + R_2)$

25c [ 30c in Canada ]

FEBRUARY, 1935

\$3.00  
PER YEAR  
BY SUBSCRIPTION

# RADIO

ESTABLISHED 1917

## SHORT-WAVE AND EXPERIMENTAL

### -IN THIS ISSUE-

- A Regenerative Pre-Selector for Amateurs
- The Noise-Free Two-Tube Autodyne
- Simple Radiotelephones Using New Tubes
- The New Browning "35" With Tobe Tuner

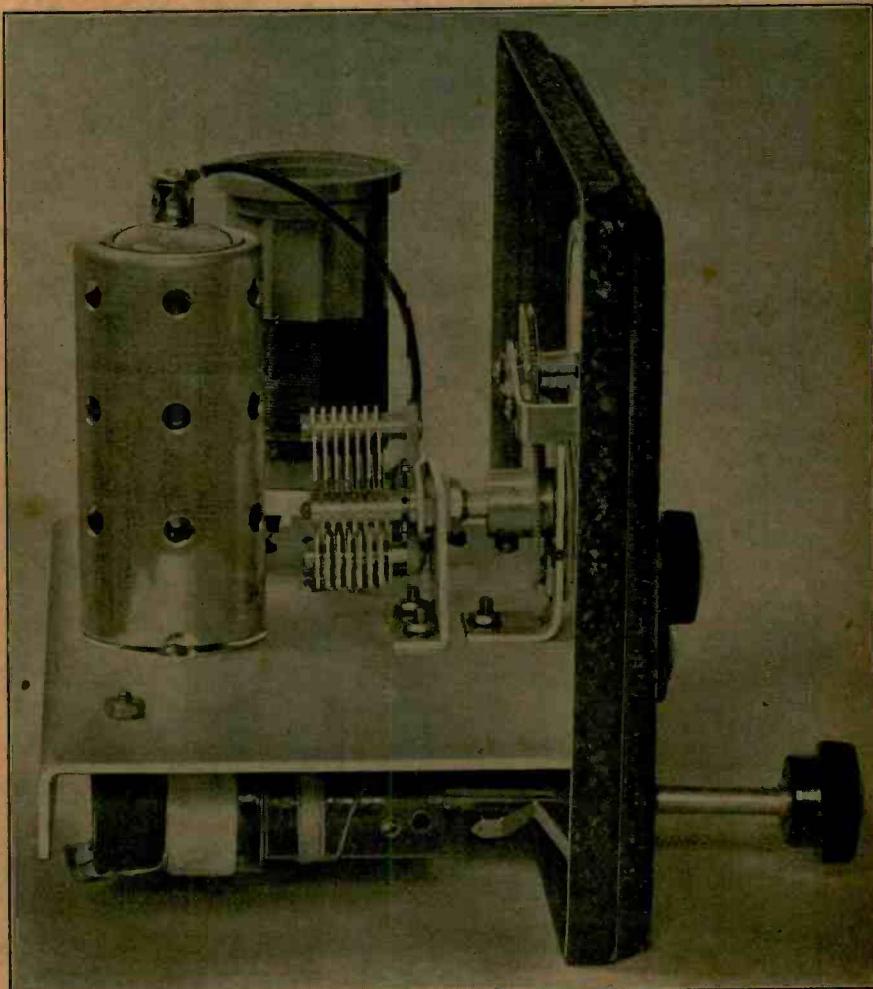
### New Tube Data

### New 802 Circuits

### McElroy's Chat



Frank C. Jones'  
 One-Tube  
 Regenerative  
 Pre-Selector  
 With Variable  
 Antenna Coupler,  
 Link-Coupled to  
 the Receiver.  
 A Highly  
 Satisfactory  
 R.F. Amplifier  
 for the Amateur  
 Bands.



### FEATURE ARTICLES BY...

BYRON GOODMAN - FRANK C. JONES - ALEX G. HELLER - COL. C. FOSTER  
 J. N. A. HAWKINS - T. R. McELROY - FRANK LESTER - I. A. MITCHELL

# CALLS HEARD

CALLS HEARD BY NY1AB FROM OCT. 21 TO NOV. 21

Darien, Canal Zone.

W1AJD, W1ARH, W1ASP, W1HYZ, W1HSC, W1LP, W1AML, W1ABL, W1ASY, W1HYY, W1SI, W1FFG, W1BEI, W1BPN, W1BVP, W1ONE, W1HXW, W1BCJ, W1GF, W1CLH, W1CGB, W1HQN, W1G1Z, W1CBZ, W1CNU, W1CUX, W1LZ, W1FUB, W1JL, W1CGH, W1CLX, W1DXL, W1ZCC, W1GTV, W1IUU, W1DIA, W1DSH, W1DNM, W1MK, W1HII, W1FOZ, W1EZ, W1EGC, W1EFN, W1FMV, W1FPO, W2GOX, W2RP, W2FBS, W2DTB, W2GAH, W2ABS, W2FOA, W2BLV, W2V, W2GJC, W2ECL, W2FTP, W2BOY, W2DTR, W2GKB, W2BPH, W2HFN, W2BOD, W2BIC, W2CHQ, W2CXP, W2GWA, W2DUN, W2CIN, W2FSG, W2UK, W2DRJ, W2GUY, W2FDK, W2EGG, W2SM, W2ETG, W2GWE, W2ECR, W2A1Y, W2GLF, W2GBY, W2GNR, W2DRK, W2ETM, W2FVL, W2GH, W2CZV, W2EIM, W2FKJ, W2GES, W2MJ, W2FRK, W2CZK, W2BXU, W2GR, W2CDQ, W2BPR, W2CLE, W2EYD, W2CKQ, W2PY, W2DVO, W2DXO, W2AUP, W2SG, W2DZJ, W2DLO, W2FGV, W2HHG, W2CSM, W2HOK, W2GVT, W2GX, W2B, W3EQ, W3EDG, W3DBX, W3CBV, W3ZZA, W3BET, W3IA, W3CPV, W3BFH, W3COZ, W3EZ, W3CFJ, W3CYO, W3EJZ, W3ELJ, W3DD, W3BXE, W3EQA, W3BFX, W3EZP, W3BPT, W3IG, W3TR, W3QV, W3EAP, W3AFW, W3H, W3EJO, W3AHX, W3EJV, W3BFX, W3APO, W3DUG, W3CDZ, W3HG, W3BEN, W3DBC, W3DVF, W3QS, W3CSN, W3ANH, W3BUY, W3MV, W3CJN, W3EQY, W3EB, W3ASG, W3EBZ, W3CSX, W3BBB, W3BBF, W3BDV, W3EYJ, W3EIS, W3BNF, W3DYU, W3CQ, W3CBV, W3BT, W3BHD, W3CA, W3ASD, W3BBC, W3BQP, W3ASW, W3EQQ, W3BBS, W3BES, W3CEU, W3AFU, W3BZB, W4COY, W4CBA, W4AGP, W4CWY, W4BDV, W4BYD, W4OI, W4CP, W4BS, W4BDM, W4CGG, W4ST, W4BJV, W4CBF, W4CTZ, W4DEK, W4AG, W4AFQ, W4BSJ, W4CP, W4CNW, W4GI, W4FT, W4CDY, W4CFP, W4CBY, W4CSA, W4AXV, W4DDX, W4BGG, W5DZD, W5DPY, W5KC, W5DUV, W5DGB, W5CNK, W5CJZ, W5EDY, W5CJ, W5YH, W5ELE, W5DVI, W5DMD, W5EFJ, W5BNQ, W5BQA, W5BOW, W5BUZ, W5AXS, W5ZF, W5CJY, W5CNE, W5SN, W5DZK, W5CVW, W5DYY, W5TH, W5L, W5EGK, W5EIO, W5JP, W5AUG, W5CNA, W5AVG, W5BRR, W5CIU, W5CTP, W6DRL, W6GX, W6SO, W6FBE, W6KRN, W6QNN, W6MR, W6TA, W6BPO, W6ALW, W6IBQ, W6AL, W6FQJ, W6EML, W6AIC, W6TJ, W6OJ, W6BZD, W6BCO, W6MV, W6HCI, W6HQE, W7BB, W7CVD, W8SR, W8IYD, W8CZU, W8CIR, W8MQQ, W8KVK, W8JE, W8VW, W8AWD, W8IZE, W8BGT, W8LDR, W8EYY, W8KZ, W8EQB, W8DFH, W8KTL, W8FCV, W8FZ, W8MTM, W8IMR, W8EKG, W8KJW, W8EZT, W8GQU, W8DQC, W8BCT, W8FNT, W8EW, W8LOS, W8KUB, W8UV, W8KGT, W8AAK, W8NNA, W8IDJ, W8LMC, W8LXF, W8KWI, W8MCT, W8FZZ, W8KJW, W8LNW, W8KBY, W8EY, W8KZZ, W8BTH, W8KGT, W8DFX, W8GTT, W8GKH, W8AW, W8HHL, W8LVR, W8ICA, W8DML, W8ELP, W8KZH, W8FAR, W8LT, W8CNZ, W8ADX, W8BGO, W8INE, W9EQ, W9JYZ, W9MNP, W9JHN, W9JDY, W9NDA, W9FPX, W9RDT, W9RDT, W9RPF, W9PQP, W9PZ, W9DTH, W9MZP, W9GYK, W9JQS, W9NMR, W9OCL, W9IBL, W9ABB, W9LEP, W9FS, W9DFE, W9KG, W9PP, W9PLM, W9PUC, W9ROL, W9EJC, W9RHZ, W9MV, W9JWI, W9LQM, W9KJ, W9CVN, W9CWO, W9PN, W9SCG, W9TH, W9IUF, W9IRA, W9ONE, W9BJL, W9FFR, W9LBQ, W9BTU, W9HKW, W9GPJ, W9MZF, W9IQM, W9CPQ, W9IJX, W9SPB, W9HRG, W9FJR, W9GLW, W9FST, W9MKL, W9PGS, W9KVZ, W9NVE, W9CSB, W9FZO, W9USA, W9PST, W9GMV, W9DFJ, W9LW, W9NKR, W9EDD, W9KEI, W9AVS, W9MIM, W9FDL, W9AIW, CESEL, CM8RZ, CM8YB, CM7CX, CT1ED, EA3CY, EA3EG, G2BM, HC1JW, HC2MO, HI8X, JCN, K4CVV, K6EW, K6JPT, LU5CZ, LU5DJ, LU9BV, OA4J, T12WD, T12FT, T12LR, VE2CX, VE2AI, VE3QD, VE3IY, VE3OP, VE3LU, VE3IR, VE3LL, VE4ZO, VE4MY, VK2AE, VK2SK, VK2FX, VK2EX, VK2HF, VK2XZ, VP5MK, VP5PA, X1BY, X1BA, X1J, X2A1, X2N, ZL1GO, ZL2BZ, ZL2BH, ZL2MT, ZL2NI, ZL2BN, ZL2BM, ZL2QM, ZL3GM, ZL3FL, ZL3DC, ZL3BS, ZL3BJ, ZL3PP, ZL3CM, ZL3GU, ZL3AZ, ZL3CZ, ZL3FG, ZL4AI, ZL4CK, ZL4BQ.

G. Vandekamp, NY1AB, ex-W6BKX,

## Calls Heard At W3OP, Allentown, Pa.

All On 7 MC

October 15 to November 29, 1934

CE8EL, CX1BU, CT1JW, CT1BG, CT1ED, CT1BX, CT1KR, CT1LZ, CT1EC, CT2AB, CT2BK, D4BRT, D4BFH, D4BK, D4RV, CN8MO, CN8MB, CN8ZO, EA1BE, EA4AO, EA4AV, EA5BA, EA1AN, EA2BE, F3CX, F8TO, F8KC, F8TQ, F8UT, F8CX, F8LX, F8GG, F8JJ, F8KC, F8SQ, FM8FD, FM8IH, FM8PW, FM8GBA, G5VN, G5CV, G6RQ, G6XB, G6RS, G5FN, G2TR, G5US, G5HC, G2DU, G5YV, G6YH, G2IC, G6NJ, G16TK, HJ3AJH, HB9AQ, HB9J, HB9AM, J4EK, K5AM, K6DV, K6LBB, K6FZO, K6IBW, K6JUY, K4CVV, LA4K, NY1AA, NY1AB, NY1AC, OK1AW, OK1FK, OK2RM, OK2MS, PA0KW, PA0DK, PA0RP, PA0XF, PA0KP, PX1AA, SP1AA, SP1DI, VP4TC, X1BC, X2V, X3C, X1BY, X2N2C, YR5AA, VK2YO, VK2NS, VK2SQ, VK2HF, VK2EO, VK2ER, VK2AE, VK2KJ, VK3GM, VK3GQ, VK3DQ, VK3KW, VK3WC, VK3JL, VK4WD, VK5DA, VK5HG, VK5WG, VK7BZ, ZL2BZ, ZL2KT, ZL2NC, ZL3FR, ZL4GP, ZL4BQ, ZL4FK, ZS6B.

• • •

## Calls Heard At W1CNU, Stamford, Conn.

November 15 to December 16

14 MC CW—ST1BX, CT1BY, D4BV, D4BDR, D4CDA, EA3AN, FM8BG, F3BR, F8EX, F8JJ, F8RJ, F8VM, G2DI, G2DZ, G2LZ, G2PL, G5BJ, G5HC, G5KU, G5RX, G5SY, G6BS, G6KU, G6NJ, G6QX, G6VP, HB9AQ, HB9N, K5AA, ON4AC, ON4CJJ, ON4CSL, ON4DX, PA0CE, PA0WD, PA0XF, PA0XG, T12RC, VP2BX, VP4AA, VP5JB, VP5PZ, X1AG, X1AM, X1AY, X1DA, X1Y, ZS6M.

14 MC Fone—G5BY, HI7G, ON4MY.

7 MC CW—CT1AA, CT1AZ, CT1ED, CT1OI, D4BET, D4BFH, D4BGK, D4CDA, EA1BE, EA3AN, EA3CY, EA3EG, EA4BM, EA7BE, EA9AH, FM8BG, F8ZF, G2AO, G2ZJ, G6XB, K5AA, K5AF, K5AG, K5AM, K5AY, LUIAB, NY1AA, NY1AB, NY2AB, ON4GU, PA0XG, T13WO, VP4AA, VP4JR, VP5AA, X1BA, X1D.

7 MC Fone—HC1FG.

• • •

## Calls Heard On 40 Meters From Dec. 14 to Dec. 25, 1934

Darien, Canal Zone, January 8, 1935.

By NY1AB

W1AF, W1JY, W1TE, W1LZ, W1SP, W1SO, W1QP, W1SI, W1BB, W1MK, W1UC, W1AJ, W1AXX, W1AKU, W1AH, W1APA, W1AXW, W1APR, W1ARO, W1AEG, W1BKL, W1BIX, W1BBN, W1BTE, W1BIJ, W1BKN, W1BRA, W1CMZ, W1CNU, W1CHR, W1CGB, W1CNZ, W1CUC, W1DHI, W1DIY, W1DOW, W1DMA, W1DPE, W1DAH, W1DHS, W1EFL, W1EKG, W1ECC, W1EFQ, W1EKK, W1EJO, W1EWD, W1ESI, W1FOJ, W1FOZ, W1FKS, W1FYQ, W1FEP, W1FMQ, W1GYF, W1GOP, W1GCJ, W1GX, W1HPN, W1HYV, W1HQW, W1HSX, W1HXQ, W1HQF, W1HNE, W1HSX, W1HUD, W1IKD, W1ICI, W1IFK, W1IMY, W1IDL, W1IAS, W1IBD, W1JL, W1IJL, W1ZZV, W2SK, W2ZA, W2EW, W2FA, W2NL, W2AN, W2AAJ, W2AUP, W2AIW, W2ALO, W2AIO, W2ABH, W2AWF, W2ABA, W2AMR, W2APV, W2APP, W2BKK, W2BOV, W2BOX, W2BWI, W2CNL, W2CVJ, W2CII, W2CZV, W2CSE, W2CIN, W2CVR, W2CLC, W2DOE, W2DHI, W2DSH, W2DNG, W2DRJ, W2DVL, W2DFW, W2DTR, W2DTL, W2DVO, W2EXM, W2EPG, W2EVZ, W2ESZ, W2EDZ, W2ELWB, W2FAM, W2FKO, W2FTQ, W2FLJ, W2FOA, W2FVX, W2FSN, W2FXM, W2FOP, W2FSQ, W2FJR, W2FNL, W2GJF, W2GKS, W2GQJ, W2GVZ, W2GTG, W2GR, W2GNK, W2GBC, W2GCZ, W2GLJ, W2GUX, W2GRL, W2GCV, W2GUY, W2GZ, W2GCG, W2GHD, W2HJE, W2HOY, W2HIZ, W2HHG, W2HUH, W2HAY, W2HJR, W2HCZ, W2HDC, W2HOE, W3KE, W3HN, W3FO, W3SQ, W3VF, W3ER, W3OM, W3LC, W3QU, W3ZT, W3AKE, W3AZT, W3A2X, W3ASG, W3AIE, W3AIZ, W3AVJ, W3AXD, W3AHG, W3AWL, W3ATR, W3BAN, W3BUY, W3BIC, W3BFX, W3BYF, W3BYB, W3BRX, W3BXI, W3BXE, W3BKZ, W3BXR, W3BSY, W3BET, W3BPT, W3BWE, W3CKJ, W3CC, W3CD, W3CQQ, W3CRK, W3CPS, W3CLS, W3CBV, W3CQU, W3CEU, W3CPV, W3CLT, W3COZ, W3CSW, W3CAA, W3CQV, W3CUV, W3CGU, W3CKI, W3DWR, W3DEN, W3DEI, W3DHW, W3DVC, W3DRA, W3DBX, W3DPA, W3ENX, W3EKN, W3EJU, W3EYV, W3EQA, W3EMC, W3EE, W3EJO, W3EUC, W3ETG, W3EZ, W3EBZ, W3EFE, W3EMR, W3ERM, W3EOP, W3EQX, W3FHU, W3EBB, W3ETT, W3EYI, W3ELV.

W3EIO, W3FAQ.

W4AG, W3AH, W4CP, W4FT, W4GI, W4KV, W4DW, W4MR, W4MS, W4TP, W4VB, W4VX, W4ANW, W4AMM, W4AIM, W4AJY, W4ATM, W4BAO, W4BGG, W4BNR, W4BDV, W4BZJ, W4BHT, W4BTU, W4BYD, W4BRC, W4BNK, W4CDE, W4CZV, W4CZA, W4CSA, W4CYP, W4CZT, W4CDC, W4CYN, W4CYR, W4CDW, W4DEK, W4DEY, W4DBC, W4DBR, W5BB, W5YJ, W5JV, W5LA, W5DB, W5JP, W6NW, W5EJ, W5ZG, W5AVA, W5ATL, W5ADZ.

W5AJT, W5AQI, W5BXN, W5BBR, W5BJD, W5BMO, W5BYO, W5BIU, W5BHB, W5CET, W5CVX, W5CJZ, W5CYA, W5CNV, W5CRE, W5CQO, W5DZK, W5DZG, W5DGF, W5DWN, W5DNP, W5DSI, W5DZM, W5DKR, W5DZU, W5DYF, W5DPK, W5DNU, W5DLS, W5DLD, W5DQD, W5ELL, W5ECO, W5ENX, W5EJK, W5EOH, W5EER, W5ECG, W5ENR, W5EHQ, W5EGF,

W6TT, W6ZF, W6GY, W6QD, W6AD, W6BSS, W6BPF, W6BZD, W6BPT, W6CXW, W6DVV, W6DHF, W6DTR, W6EML, W6EAR, W6EFR, W6EMT, W6FBM, W6GAQ, W6GZC, W6FGS, W6HSO, W6HJW, W6IBQ, W6ISO, W6JBN, W6JSG, W6KYO, W6KGK, W6KRL, W6KLU, W6KOX,

W7CY, W7MF, W7VQ, W7BB, W7AIT, W7AOU, W7AQD, W7AVL, W7AAX, W7APP, W7BQY, W7COR, W7DNL, W7EJD, W7EDE, W7ETG,

W8AQ, W8EJ, W8UQ, W8VY, W8AIG, W8AYD, W8AHC, W8ATS, W8ANQ, W8BOO, W8BGT, W8BIS, W8BCT, W8BOF, W8BHN, W8BRN, W8BQJ, W8BDR, W8CNZ, W8CVS, W8CFN, W8CWU, W8DJN, W8DEF, W8DMN, W8DSC, W8DQJ, W8EYY, W8ERZ, W8ECS, W8EMW, W8EEQ, W8EQC, W8EFZ, W8EDW, W8FAX, W8FTN, W8GBD, W8GWV, W8GYZ, W8GOU, W8HDT, W8HFN, W8IZW, W8INU, W8IYB, W8IEY, W8ICL, W8INR, W8IHU, W8ILG, W8IZN, W8JYP, W8JRG, W8KQW, W8KQZ, W8KQK, W8KLQ, W8KTY, W8KWW, W8KHD, W8KSE, W8KHB, W8KTI, W8KIO, W8LCR, W8LSA, W8LPC, W8LFI, W8LQB, W8LRL, W8LBD, W8LIB, W8LEA, W8LOR, W8LPE, W8LAX, W8MOD, W8MMZ, W8MOC, W8MEE, W8MKD, W8MRR, W8MVD, W8MNA, W8MTS, W8MIY, W8MNE, W8MWT, W8MTM, W8MUV, W8MHS, W8MKK, W8MCY, W8MGO,

W9FI, W9VA, W9OF, W9ZX, W9LW, W9LF, W9KB, W9SW, W9AGK, W9AFB, W9ARW, W9ATR, W9AOJ, W9BYL, W9BYY, W9BVY, W9BLU, W9BWT, W9BMD, W9BCV, W9BUA, W9CQO, W9CSP, W9CZ, W9CBU, W9CWT, W9DFT, W9DWU, W9DWD, W9DJB, W9EBO, W9EPM, W9END, W9FFQ, W9ELO, W9EAB, W9FST, W9FFG, W9FYY, W9FOF, W9GYK, W9GVY, W9GMM, W9GGB, W9GPJ, W9GPZ, W9GEK, W9GHF, W9GXA, W9HVW, W9HWF, W9IRD, W9IAM, W9IQM, W9ICK, W9IFG, W9ISR, W9IW, W9ICW, W9JFX, W9JHM, W9JZS, W9JHQ, W9JBV, W9JII, W9KZ, W9KJZ, W9KQL, W9KRV, W9KXF, W9KRD, W9KGE, W9KVB, W9KO, W9LUC, W9LVJ, W9LHS, W9LEP, W9LFQ, W9LDJ, W9LNX, W9LLN, W9LKQ, W9LIK, W9LDM, W9LBB, W9LFE, W9MOO, W9MZP, W9MKZ, W9MIL, W9MVU, W9MQJ, W9MSM, W9MNL, W9NWJ, W9NHD, W9NBV, W9NGZ, W9NKR, W9NYD, W9NWR, W9NJA, W9NAW, W9NDB, W9OWW, W9OIT, W9ONC, W9OOT, W9OUW, W9OIP, W9PJY, W9PRT, W9PQJ, W9PJG, W9PZI, W9POK, W9PLM.

G. Vandekamp, NY1AB.

U. S. Naval Radio Station, Darien, Canal Zone.

## The Noise-Free Autodyne

(Continued from Page 7)

complete filtering of the heater leads (they are only by-passed) would probably be the answer. The use of 6.3 volt tubes would enable the use of simple heater lead chokes which would only require No. 20 wire to carry the current. Obviously the 2.5 volt type tubes require too much current to make for compact chokes. But the set worked so much better than any we had used before that we were pretty well satisfied. It handled on 28 MC like it handled on 7 MC, and the sensitivity certainly was not lacking. The sensitivity was no doubt due to the use of high L and low C, which gives maximum voltage on the grid, but does not make for extreme stability. It must be admitted that the set is not insensitive to line voltage fluctuations, but this could be eliminated by using voltage regulator tubes, or 250 volts of battery if you are a millionaire. True, local signals can lock it up, but back off the antenna coupling, and all signals are still there, weaker it is true, but without the local blocking you.

We leave you, hoping that you can utilize some of the ideas set forth in the preceding paragraphs, and with a plea for more careful design of receivers. The inclusion of a separate oscillator would overcome the blocking difficulties and would give you a receiver, every bit as good, for CW, as a superhet without the crystal.