

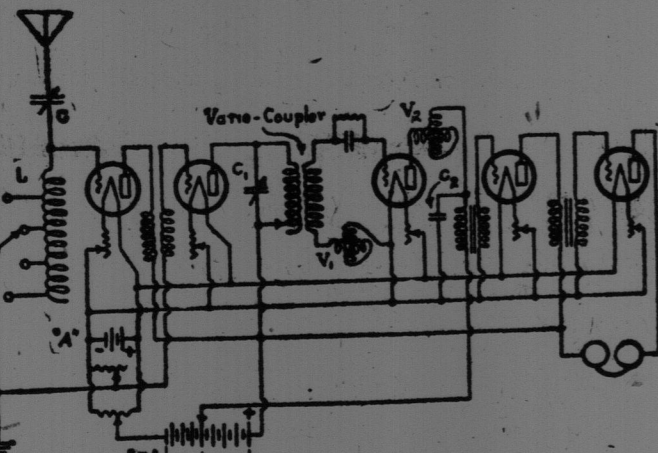
**FIFTEEN MINUTES OF RADIO EACH DAY**

By Edward N. Davis  
Formerly Technical Electrical Expert For U. S. Government

Lesson No. 215.

**AMPLIFICATION PLUS REGENERATION.**

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If a regenerative circuit, consisting of a vario-coupler, plate and grid variometers and associated apparatus, is combined with radio and audio-frequency amplification an extremely sensitive method is obtained for the reception of short wave signals radiated from distant transmitting stations.



There are two types of regenerative circuits, in general use, which operate very efficiently for the reception of short waves such as the broadcasted signals with wave lengths of approximately 800 or 400 metres. These two types of circuits are, namely, the "tickler circuit" and "tuned plate circuit". Either of these circuits produce magnification of signal by transferring a portion of the plate circuit energy to the grid circuit and superimposing this energy upon the original radio wave. As this action is cumulative, up to a certain point, a considerably reinforced oscillation is secured.

The "tickler circuit" obtains increased strength of signal by inserting a "tickler coil" in the plate circuit, coupling this coil to the secondary coil and transferring the amplified oscillations of the plate circuit, by induction, to the grid circuit. The "tuned plate circuit" uses an adjustable inductance, such as a variometer, to replace the "tickler coil" and this inductance need not be coupled to the secondary coil as coupling between the plate and grid circuits is obtained by utilizing the capacity existing between the grid and plate of the vacuum tube itself.

If the energy contained in the waves, radiated from a distant transmitting

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Many new pieces of this famous Old Ware are now being shown.  
Old Roman Scenery produced from original engravings.  
**W. H. HAYWARD CO. LIMITED**  
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station, is too feeble to properly operate the detector it is necessary to build up the weak signal by inserting one or more stages of radio-frequency amplification between the detector and the antenna and thus amplify the original radio wave at the same frequency with which it is transmitted through the other. The strength of signal may thus be increased to a point where proper detection is secured and the signals converted from a "radio" or inaudible frequency to an "audio" or audible frequency. If it is desired to further increase the signal audibility so that a loud speaker may be used it is necessary to add one or more stages of audio-frequency amplification.

The accompanying diagram illustrates an arrangement whereby two stages of radio-frequency amplification and two stages of audio-frequency amplification are combined with a short wave regenerative circuit, of the "tuned-plate" type. By proper adjustment of these circuits, a weak signal, intercepted by the antenna is so strengthened as to efficiently operate a loud speaker thus reproducing without distortion and with intensified energy the sounds of music or speech which originated at the transmitting station.

The tuning coil (L) and the series condenser (C) are adjusted to the frequency of the incoming wave which is then amplified by two stages of radio-frequency amplification. The transformer in the plate circuit of the second tube consists of a standard vario-coupler which is tuned by the variable condenser (C-1) having a capacity of 0.001 microfarad. The radio wave is further amplified and detected in the regenerative system containing the grid variometer (V-1), the plate variometer (V-2), the grid condenser and leak and the secondary coil of vario-coupler. The by-pass condenser (C-2) provides an easy path for the oscillations of high frequency which otherwise would be checked back by the reactance of the primary coil of the transformer in the first stage of audio-frequency amplification. After being detected the signal is amplified by two stages of audio-frequency amplification and reproduction of the original sounds of music or speech is obtained in a greatly amplified form in the receiving telephones or by inserting in their place a loud speaker.

The "A" battery is the usual six-volt storage type and across the terminals is connected two potentiometers each having a resistance of 200 to 400 ohms. One of these potentiometers is used as a "stabilizer" for the radio-frequency amplifier tubes while the other is used to obtain the proper plate voltage for the detector tube. A potential of approximately eighteen volts of "B" battery is used in the plate circuit of the detector tube and from forty to sixty volts in the plate circuits of the amplifier tubes. It is advisable to

**Sale of Sample Corsets On Friday**

This is the annual sample sale and also comprises many broken and discontinued lines of high-grade qualities from our regular stocks.

Many styles to choose from—and a good variety of sizes. Corsets are in most cases half their original pricing.

Early comers will have the advantage of being able to select from a large assortment.

White and Flesh Corsets made from good quality coutil. Front and back laced styles with low or medium busts; long or medium hip. Some have four, others six strong supporters.

Big Bargains at  
**75c, \$1, \$1.25, \$1.50, \$1.95 and up to \$3**

**SPECIAL WHITE CORSET**  
Made from extra quality coutil with elastic inserts at back. Low bust, long hip style; very neatly finished at top. Boned to the waist only. This has four very strong hoops supporters. Sizes 20 to 30 in. A wonderful value, only \$1.50

**BRASSIERES**  
Sale prices 35c. and 50c.  
Made from fancy flesh colored brocaded cotton or pretty satin stripes. Sizes 32, 34, 36, 38 and up. A favorite style. Values are very unusual.  
No appropriation or exchange of sale goods.  
(Whitewear Dept., 2nd floor)

**NOTE THESE BIG VALUES**  
Flesh colored girdles with wide inserts of heavy elastic webbing on each side, whipped top and bottom. Four hose supporters. Many sizes.  
A very popular style 95c.  
Flesh Coutil Corsets with long hips and elastic top. Four supporters. Many sizes. Only 95c.

**MISSES' CORDED WAISTS.**  
Nice soft quality, finely corded. Only 75c. each.

**CHILD'S WAISTS**  
A limited number only—25c. and 35c. each.

**Don't Miss Seeing Our Fine Display of Oriental Rugs**

Values are absolutely the best we have been able to offer in almost fifteen years.

Practically a lifetime of service in every piece.

Oriental Rugs are unequalled for beauty, lustre, color blending and wearing quality.

Many in our present collection are priced between

**\$30 \$70**  
Carpet Department — Ground Floor  
German St. Entrance

**Manchester Robertson Allison Limited**  
KING STREET - BRASIAN STREET - MARKET SQUARE

**Lingerie Crepe**

**Lowest Here**  
Never an iron is needed for this ripply feather-down fabric—and never a second look at the price of 80c a yard for the 32 inch width. Colors—white and cream backgrounds with pink or blue birds, butterflies and blossoms. Plain mauve, pink, blue and natural.  
Kimono Crepe also 80c—here. And Ripplette—pink, blue or tan—25c.

**Messaline Silk**

**\$1.69**  
36 inches wide—\$1.98 regular price, sale price \$1.69—and in all these colors: navy, brown, flame, Jay green, jay blue, burnt orange, mauve, nickel, sapphire, firefly, pink. Long Beach, ocean, waterfall, castor and black.

**Mona Lisa**

**Veils, 19c**  
French Silk Mesh. Mona Lisa Veils in black, navy and brown, 19c. Same in double mesh, 30c.  
Pause here.  
20 p.c. off all Hand Bags, the first complete sale ever—Suedes, Crocodile, Velvets, Duvetines and Moires.

**Easter Kid Gloves \$1.29**

Genuine French Kid, black with white stitching or plain brown, grey, tan or black. \$1.40 value. Sale \$1.29  
Gauntlet Gloves in fluffy wool—grey, brown, fawn—89c.  
A few Chamoisettes left at 78c and \$1.29.

**Coats, Junior and Senior**

Fifteen per cent off, twenty per cent off?—nothing of the kind! Half, exactly half, price prevails on Velours, Broadcloths and English Homespuns, some having fur collar and cuffs. And for Juniors here is their insistence in sport styles in Velours, Polo Cloths and heavy Blanket Cloth—one or two with American Beaver collars. Half off broken lines.

Grey Chinchilla Reefers, belted all-round and scarlet flannel lined throughout. Were \$12.75—are \$8.50.

Values up to \$54.75 for \$29.50 in Evening Gowns and Afternoon Dresses—Canton Crepes, Georgettes, Taffetas—some with silk lace trimming and rich beading and embroidery.

Another special group at \$19.50 as well as Tricotines worth to \$23.50 for \$14.85. Serges, \$12.75.

Variety, quality, price unapproached—but limited quantity, so come soon to



**Grand Finale Strikes Strong Price Note**

The climax of the January Sales is undoubtedly at Daniel's, the store of choice and price. Unequalled discounts draw interest in every department. Look first to the facts, then the figures.

**Penman's Heather Hose \$1.39**

This means Penman's Cashmere seamless and full-fashioned, \$1.39 the pair. English Heather pure wools, full fashioned and seamed at back, same bargain.

Wide sport rib Hose—fawn, navy, coating, brown and black—89c.

More especially for girls and misses, wide-ribbed Heather Hose, 78c.

Kiddies' Over-stockings—cardinal and scarlet—85c and 95c.  
Kiddies' plain or ribbed Cashmires, 68c.

**Linens—Less and Less**

For an extra Sale surprise we hastened the delivery of Towels, Sheets and everything at most interesting prices.

White and colored Turkish Towels—three choosings; first, 23c each or five for a dollar; 35c each or three for a dollar; 49c each or three for \$1.40.

Colored Turkish Towelling, five yards for a dollar and five yards for \$1.40. Linen Crash Towelling, five yards for a dollar. Linen Huck Towels, large size, 68c each or three for \$2. White and striped Turkish Towels, same prices. Huck Towels, fringed and hemmed, 18c each or three for 55c. Other Hucks, 33c each or three for 95c. Twenty-five cent Glass Towelling, 18c yard or five yards for 90c.

Large size sheets, 2 1/2 x 3 1/2, \$1.40 or two for \$2.50. Sheets, 3 1/2 x 3 1/2, \$1.25 each or two for \$2.50. Plain Pillow Slips, 40 to 44 inches, 39c or three for \$1.15. Table Damask, 70 inches, regular \$1.95 for \$1.29. Fine white Long Cloth, five yards for 98c. Unbleached Cotton, five yards 87c. White Flannelette, five yards \$1.

**F. W. Daniel & Co.**  
London House Head of King St

**Round Cretonne**

**Cushions, 89c**  
Light tints and dark shades of flowered Cretonne, regularly \$1.35 each for 89c.  
Gaily bedecked Cretonne for hangings, slip-over covers or cushions, 29c yd.  
Curtains covered Comforters, large and bordered with pink or blue penels—down from \$5.99 to \$3.99.  
Double bordered Voile Curtains—36 inches wide in white, cream and beige—five yards 79c.  
White Shaker Blankets with pink and blue borders, size eleven-quarter, \$1.97.

**Sport Skirts Snaps**

All the way from Broadway, the Sussura all-wool with a peppy new all-over stitching. Navy with brown; black with white. Worth up to \$18.75. Sale \$9.85.  
Some Gabardines striped, some Broadcloth striped. Tweeds \$5.

**Chintz Polly Prim**

aprons bound with ric-rack, \$1.85. All-over Apron Dress, all colors, 89c. Striped Aprons, 89c. Print bungalow Aprons, 68c.

**RECENT DEATHS**

**Mrs. Thomas Dearness.**  
Bridgetown, N. S., Jan. 25—Mrs. Thomas Dearness, aged seventy, died on Thursday morning last. Mrs. Dearness was formerly Miss Mary Jane Henderson, of St. John. Her husband died about twenty-five years ago. Three children are left, John and Marion, residing at home, and Mrs. A. B. MacKenzie, also of Bridgetown. William A., died in infancy. She also leaves two sisters, Mrs. Margaret Lascelles of Dorchester, Mass., and Miss Ella Henderson of St. John, and two brothers, James of Danvers, Mass., and Frederick of Truro.

**SAVES YEAR TO BUY COAT**

Flight of Petrograd Professor Aggravated by Fall of the Ruble.  
A cable dispatch from Moscow to the New York headquarters of the American Relief Administration says: "Of the first sixty-seven students of the University of Petrograd who, since announcement was made that the American Relief Administration was prepared to ship clothing material into Russia, inquired how they could secure clothing, not one had purchased a new garment within a year, and some of them not in five years."  
"A professor of mathematics at the university who had a suit and an overcoat stolen from him last fall found that the cheapest suit he could buy would cost him a month's salary, and that the cheapest overcoat would cost him two months' pay. He started saving, but the depreciation of the ruble has been so rapid that, according to present indications, he will not be able to buy an overcoat before next fall. The money he had laid by in August is worth in gold exchange only one-tenth what it was then."

**COUNTLESS LOSSES SUIT TO RECOVER FOR PEARLS**

Mineola, L. I., Jan. 25—A jury in the Supreme Court, after eleven and a half hours' deliberation, returned a verdict for the jewelry firm of Black, Starr & Frost, sued by the Countess Dorothy Ryle de Bernard of Fifty-fourth street, Manhattan, for \$6,000 she alleged she paid after a salesman had misrepresented pearls she purchased. The case was tried before Supreme Court Justice Harry E. Lewis.  
The testimony showed that in December, 1917, the Countess purchased a number of pearls for \$6,000 and had them set in rings. She charged that Rudolph Travart, at that time a salesman for the jeweler, told her the pearls were true Orientals. She said when she attempted to have her gems insured the appraisers told her the pearls were of the American fresh water variety.  
Travart testified that he never told the Countess the pearls were Orientals. Experts testified that if the pearls were Orientals they would have cost between \$40,000 and \$50,000.

**ISOLATION.**

Saskatoon Star: Certain publicists would have Canada adopt the policy of isolation. Aping a few misguided Americans, they warn us against international entanglements. Well meant, perhaps, but poor advice. Nations can no longer live unto themselves alone.

**Shoes For The Kiddies**

must be carefully chosen, that is why we keep a full assortment of

**HURLBUT CUSHION SOLE BOOTS**

Hurlbut's are ideal shoes for children, because they give room to grow for every toe, and encourage the natural development of the feet.

Our clerks know how and will fit your children with their correct size.

**McROBBIE**

Foot St. John 50 King Street Fitters

worth in gold exchange only one-tenth what it was then.

"At the School of Oriental Languages it was found that there was an average of only one overcoat to each ten students. Practically all carpets have vanished from Petrograd, having been converted into footwear and leggings."

"An investigation into the textile trades in Petrograd by the American Relief Administration revealed the fact that the average price of cotton, woolen and linen clothing, on a gold basis, was four times greater than in 1914."

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Foot St. John 50 King Street Fitters

**W. & R. JANUARY SALE**  
of  
**Winter Footwear**  
Drawing to a Close  
SALE ENDS JAN. 31ST  
Only a few days left in which to procure your share of the special wholesale values we are offering.

**Specials for This Week-End**

**SKATING BOOTS**  
Women's ..... \$3.95  
Boys' ..... \$2.85  
Men's ..... \$3.65

**GAITERS**  
Women's—10 Buttons ..... 50c  
Women's—12 Buttons ..... \$1.25

**FELT SLIPPERS**  
Men's ..... \$1.00 and \$1.75  
Women's ..... 95c and \$1.19  
Women's Warm Lined Boots ..... \$4.85

Women's High Cut Jersey Overshoes,  
Men's and Women's Snowshoe Moccasins

**WATERBURY & RISING, Ltd.**  
61 King St. 212 Union St. 677 Main St.

**3,000 Pairs Heather Hose**  
GUARANTEED FIRST QUALITY  
At Less Than Half Price  
**AMDUR'S, LTD.**  
No. 1 King Square  
Ladies' Heather Hose  
In fine Cashmere; full fashioned, with seam in back; of quality regularly sold at \$1.25 Pair **59c**  
**Amdur's, Ltd., No. 1 King Square**