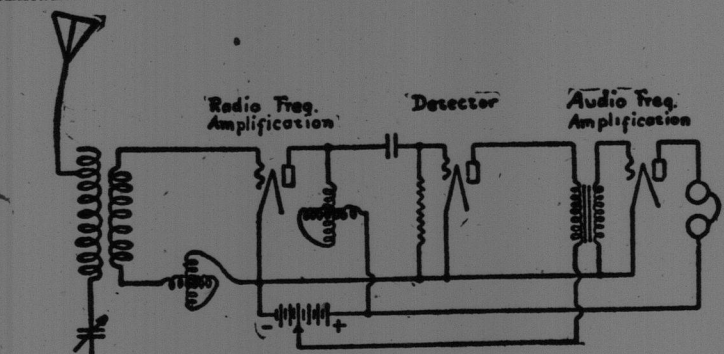


## FIFTEEN MINUTES OF RADIO EACH DAY

By Edward N. Davis  
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Lesson No. 147.  
SIMPLE R. F. AMPLIFICATION.

Radio frequency amplifiers employing air core transformers have been used quite extensively with considerable success when care is exercised in designing the transformers for the particular wave length on which they are to be used. The arrangement shown in the diagram below makes use of one stage of radio frequency, detector and one step of radio frequency amplification.



The circuit shown requires but one amplifying transformer since coupling between the one step of radio frequency amplification and the detector circuit is obtained by means of impedance coupling in the form of a variable capacitor. A study of the circuit shows that no additional equipment other than that contained in the ordinary two variometer regenerative receiver is needed for the one step of radio frequency amplification. Filament battery—connections are omitted for simplicity.

Since radio frequency amplification requires that the transformers employed be designed for the particular wave length on which it is desired to receive, the circuit shown above where a variometer is employed for coupling purposes enables the operator to adjust the circuit to the exact wave length to be received and thus secure maximum efficiency from the set. The adjustment to the exact wave length being received is also an important factor in reducing interference from stations transmitting on nearly the same wave length.

While this circuit is useful in the reception of damped waves such as emitted by spark stations and radiotelephone stations by increasing the filament temperature of the radio frequency amplifier tube this circuit may be caused to oscillate at an adjustable frequency so that the reception of continuous waves such as the carrier wave of radiotelephone stations and continuous wave telegraph stations may be accomplished on the heterodyne principle.

The circuit illustrated is particularly useful in cutting out the interference from the spark stations, since these signals are not amplified the same amount as the signals from continuous wave stations. Station disturbances are also reduced to a minimum when employing the radio frequency transformer.

In using this type as well as other types of radio frequency amplifiers it should always be remembered that vacuum tubes have a certain capacity between the elements which varies somewhat with the different makes and lengths of tubes. At the very high frequency which corresponds to the wave length of 960 meters at present extensively employed for broadcasting purposes the capacity of the tube plays an important part and in some types of tubes forms a shunt path for the radio frequency currents thereby materially reducing the strength of the received signal.

It has been noted above that this circuit may be used for the reception of undamped signals by setting up local oscillations. In multi-stage amplifiers it is sometimes difficult to prevent the circuit from oscillating due to a certain amount of feedback coupling in the battery circuits or the other wiring of the set. Oscillation may sometimes be prevented by exercising great care in making the battery wiring as short and as low resistance as possible or by employing separate batteries for the different stages of amplification.

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Lesson No. 148.  
POINTS TO REMEMBER.

If the receiving antenna is exceptionally long it may be necessary to insert a variable condenser in series with the antenna circuit in order to reduce the wave length sufficiently to tune the resonance with broadcasting stations operating on 960 meters. In order to receive amateur stations operating on 200 meters the capacity may have to be still further reduced by turning the knob on the condenser toward the zero mark.

Storage batteries may be charged from any lighting circuit whether the current is alternating or direct. If the current is alternating it is necessary to step the voltage down by means of a transformer, then to rectify it into pulsating direct current by means of some form of magnetic or electrolytic rectifier. If the current is direct it is merely necessary to reduce the voltage by means of series resistance inserted in the line which may be in the form of lamps in parallel.

Receiving sets for portable use at summer camps and elsewhere may be operated in conjunction with a loop or coil antenna thereby avoiding danger from lightning and obviating the necessity of constructing an outdoor antenna and ground. Regenerative receivers should be used when a loop is employed since considerable radio frequency amplification is obtained with this type of receiver.

Condensers having a capacity of the order of .001 microfarad allow radio frequency currents to pass with little opposition but audio frequency currents do not pass through such small condensers. Condensers should have a capacity of several microfarads when they are to be employed in circuits in which audio frequency currents are flowing.

Inductance coils consisting of a few turns of wire on a form with an air core offer practically no opposition to the flow of audio frequency currents but are often used as radio frequency chokes. When it is desired to keep the radio frequency current entirely out of the circuit a coil having an iron core may be employed.

In damp muggy weather the pole pieces of the magnets in telephone receivers may become so rusted as to impede the vibration of the diaphragm. This condition may be remedied by removing the cap and metal diaphragm and carefully wiping off the ends of the magnets with a fine cloth dampened with sewing machine oil.

Before dismantling the receiving set in order to pack up for the summer or for transportation to the country or seashore it may be well to sketch out a circuit of the way the set is connected up so as to avoid repeating the period of experimentation which always precedes the satisfactory operation of a home-made set. This applies particularly to sets where the component parts are not mounted on a panel but are arranged at random on the table.

Variometers are not as efficient as tapped coils in tuning to very short wave lengths since there is always a certain amount of wire in the circuit representing a constant resistance in the case of the variometer.

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### WOMAN JOINS IN MISS MACSWINEY'S HUNGER STRIKING

Dublin, Nov. 7.—The other woman arrested on the same day as Miss Mary MacSwiney joined today in her hunger strike at Mount Joy prison. Miss MacSwiney was brought back weak after her exercise today and requested that she might be permitted to see Dr. Kathleen Lynn, but the application was refused.

A meeting of protest was held here tonight and Mrs. Maud Conne MacBride called upon the audience to denounce the "crowning infamy of the attempt to murder the sister of Terence MacSwiney."

Mrs. Despard suggested that women volunteers should picket night and

day the residence of those responsible for the arrest of Miss MacSwiney until she was released.

The proceeds of the tea given by the Centenary Ladies' Aid yesterday afternoon will go to the Free Kindergarten Association. Sewing was the order of business during the early part of the afternoon.

### Cuticura Soap —The Healthy— Shaving Soap

Cuticura Soap shaves without sting. Everywhere.

### BRITISH DOMINIONS

Underwriters Agency  
A British Fire Office with assets of  
ONE HUNDRED MILLION DOLLARS  
C. E. L. JARVIS & SON  
Provincial Agents  
H. H. McLELLAN, LTD.,  
City Agents.

### Why Corns?

Just say  
**Blue-jay**  
to your druggist

The simplest way to end a corn is Blue-jay. A touch stops the pain instantly. Then the corn loosens and comes out. Made in a colorless clear liquid (one drop does it) and in thin plasters. The action is the same.

**Pain Stops Instantly**

### Can You Wear

Size 2 1-2, 3  
or 3 1-2?

If So

You can get a face or button boot of extra fine quality—values up to \$10.00 at a special reduced cash price.

**Remember**

The sizes are 2½, 3 and 3½ only, and the reduced price is

**\$2.75**

Have us show you these styles made by the best manufacturers of Canada and the United States.

**McROBBIE**  
Foot St. John 50 King  
Fitters Street

### RECENT WEDDINGS

**Belyea-Akerley.**  
Miss Mildred Gladys Akerley of Big Cove, N. B. and Cody H. Belyea of Brown's Plains were married on October 24 at Big Cove by Rev. David Patterson. Among the out-of-town guests were Mrs. Frank Hill, Miss Kathleen Hill, Percy Akerley and Mrs. John King of St. John.

**Donovan-George.**  
The wedding of Harold C. Donovan and Miss Helen F. George was solemnized in Lynn, Mass., on November 2 by Rev. Joseph Lawless. The bride-maid was Miss Anna Dupuis of Lynn and the groomsmen John Collins of St. John. Mr. and Mrs. Donovan will make their home in Lynn. Among the gifts received was a silver cake basket from the employees of the long distance department of the N. B. Telephone Company with which the bride has been employed.

### RECENT DEATHS

**William Mawhinney.**  
William Mawhinney who died on Nov. 3 at Mac's Bay, was nearly ninety-four years of age. One brother, Robert of this city survives. There were eleven sons and daughters born to Mr. and Mrs. Mawhinney who were married nearly sixty-nine years and all are living with the exception of a daughter, Mrs. Thorpe of this city is a daughter. There are 123 descendants surviving. The funeral was held on Sunday at 'The Ridge' in the New Union cemetery.

### Almost Unbelievable

You can hardly realize the wonderful improvement to your skin and complexion your mirror will reveal to you after using **Gouraud's Oriental Cream** for the first time.

**FERD. T. HOPKINS & SON**  
Montreal

**Gouraud's Oriental Cream**

Use the Want Ad. Way

### Amdur's Bargain Bulletin No. 27

**THURSDAY MORNING ONLY**  
9 to 11 O'clock

### Table Oilcloth,

White and in Colors

**29c. A YARD**

This line is regularly quoted at 55 cents a yard.

The Great Amdur offer of Men's Black, Blue and Red Label Underwear at \$1.45 a garment is continued.

**Amdur's, Ltd., No. 1 King Square**

### LONG SKIRT ADDS TO UNEMPLOYMENT

Garment Workers Out of Work by Style Change.

**Relief Fund is Provided—**  
Abandonment of the Suit in Favor of the Dress Enforces Idleness Upon 80,000.

New York, Nov. 8.—The return of the long skirt is held to be largely responsible for the widespread unemployment, with its consequent distress, among thousands of workers in the ladies' garment industry of New York City. The condition of the workers and their families recently became so acute that the International Ladies' Garment Workers' Union, headed by Benjamin Schlesinger, called a meeting of its district chairmen to consider what relief measures might be taken.

At a meeting held on Wednesday last the district chairmen were asked if they would give 8 per cent. of their weekly income to a relief fund for the thousands of idle workers. They voted affirmatively, and their action is binding on 2,500 district chairmen, according to Mr. Schlesinger who explained that the collection of the relief fund was already under way.

The unemployment among the garment workers is unprecedented for this time of the year, and according to Mr. Schlesinger, it is due to the change of style in women's dress. Enforced idleness is prevalent for the most part among the workers who were engaged in the manufacture of women's suits. In the manufacture of suits for women there was an unexpected slump during the summer just ended. The fall-off, according to reports current in the trade, was caused by the re-appearance of the dress with the long skirt. The suit was practically abandoned in favor of the dress during the past summer, and it was due not only to the fact that the change from knee to ankle length skirts was effected first in women's dresses, but to the fact that women found it more economical to wear dresses than suits. Another factor which increased the popularity of the dress, according to Mr. Schlesinger, is the simplicity of the one-piece garment.

"When a woman buys a dress, it is all in one piece," explained the President of the International Ladies' Garment Workers' Union. "You might say that her purchase is complete. With a suit, it is different, because there are suit, skirt and blouse. To make up a suit, including the skirt, the blouse and the shirt."

"When a woman buys a suit she then has to consider the purchase of a waist to match the suit. It is easy to understand why women showed such a decided preference during the past season for dresses."

The fact that the dress lends itself so readily to artistic drapery of the human figure is also considered among the factors which contribute to its popularity.

The Vogue for dresses, according to rough estimates by Mr. Schlesinger, has resulted in unemployment among 30,000 workers in the cloak and suit business. He said that of the entire 50,000 garment workers who expected to find employment when the long cloak and strike was ended in the spring, and the outlook was bright for a heavy demand for women's suits, there were 15,000 who were kept busy in the manufacture of women's dresses, and about 5,000 who found employment in the cloak and suit business.

Some of the manufacturers of women's suits, according to Mr. Schlesinger, have felt no ill effect from the continued popularity of the long-skirt dress, but he explained that they were the manufacturers for whose designs there was always a wide demand.

The collection of funds for the suffering garment workers and their families will continue until the first part of November when the cloak and suit business will begin to make up its garments for spring trade.

### FUNERALS

The body of Edward C. Sutton arrived yesterday from Vancouver. The funeral took place from Fairville station. Service was conducted by Rev. W. P. Dunham. Interment in Greenwood cemetery.

Inquire about the unusual opportunity to buy a Hoover Vacuum Suction Sweeper—Germain street Entrance.

Stores open 8.30 a.m., Close 6 p.m., Saturday 10 p.m. Phone Main 2400.

### Women's Heavy Winter Coats In a November Clearance

Prices have been significantly lowered on these coats. The season's best liked styles are included and the materials represent many of those most in demand this season.

**Only 100 Coats to be Disposed of in This Selling.**  
These Have Been Divided Into Four Big Bargain Price Lots

**\$13.75—**  
Good warm stylish looking coats in green or blue heather mixtures or plain fawns. Made with belts and roomy pockets. Backs are effectively trimmed with rows of heavy cable stitching. Collars are made in comfortable convertible style. Each coat is lined to the waist. All sizes from 16 yr. misses to 40 in.

**\$16.75—**  
Plain colored Velour coats lined to the waist with fancy brocaded lining. Showing in shades of fawn, tan and reindeer. These have warm convertible collars, pleated pockets and all around belts. Very remarkable value at the small price marked. All sizes from 16 misses to 38 in.

**\$17.75—**  
Belted mannish coats in heathers, brown, lovat, blue and shades of grey. Made from heavy plaid backed cloth. Regulation mannish style with roomy pockets, big collars, belts and inverted pleat in back. You would expect to pay a much greater price for coats of this quality. All sizes from 16 misses to 42 in.

**\$19.75—**  
Velour Coats with big collars of coney fur. These are lined throughout and have smart slash pockets. Backs have two inverted pleats. Only a few of these fur colored coats—but every one a very special bargain. Fawn, brown and blue only. Sizes 38 and 40 in.

No Appropriation or Exchange of Sale Coats.

Sale commences Thursday morning in costume department. (Second Floor.)

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

### Larger Turnover at Special Prices Brings Great Benefit to St. John Shopping Public

### The \$20,000.00 November Drive

**PROGRAMME FOR THURSDAY**  
Has a Lot of New Items of Saving Interest

#### "A Cold Night's Special"

**24 Chintz Covered Comforts**  
Go on Sale Tomorrow at \$3.29 each

Just now when you are in need of warmer bedding comes this comfort special. They are all Chintz covered and have attractive designs in several colorings. Size 60x72. Come early and get one at \$3.29 each

#### SPECIAL THURSDAY

Sale of High Grade Blouses.  
Sale of Beaver Trimmed Coats  
Sale of Tricotine Dresses  
Sale of Canton Dresses  
Sale of Boys' and Girls' Coats.  
Sale of Women's Underwear.  
Sale of Corsets.  
Sale of Fur Trimmed Suits.

#### Here Are 12 Doz. New

#### Leather Vanity Boxes

Marked at 98c each

Very popular fancy leather vanity boxes, neatly fitted with coin purse, powder box and two metal tubes for cosmetic sticks. There are blue, fawn, brown, tan, gray and old rose leathers in plain or fancy grained finishes. Nov. Drive Price 98c each

#### Children's Department

#### In November Drive

Children's flannellette gowns, double yoke at back. Sizes 6 to 18 years. Nov. Drive 98c

Children's fleeced waists. Nov. Drive 58c

Children's fleeced lined bloomers; gray; all sizes. Nov. Drive 68c

#### BLOUSES

#### BLOUSES

#### November Drive Special

Yes. You will find lovely Georgette, Crepe-de-Chine and Canton Crepe Blouses of the best quality at great savings. Smart designs and colors to match suit or dress.

**SPECIAL NO. 1—**High grade Georgette and Crepe-de-Chine blouses. Regular \$6.00 to \$13.50. Nov. Drive \$3.98 to \$9.50

**SPECIAL NO. 2—**Fine quality white Jap and Habutai Blouses in new tailored designs. Regular up to \$6.50. Nov. Drive \$3.98 each

#### Eiderdown, Prints, etc.

#### at November Drive Prices

29 inch fancy Eiderdown for dressing jackets, in pink, gray, blues, helio. Reg. 65c.

Nov. Drive 45c yd

Print lengths. Medium and dark colors.

Nov. Drive—5 yds for \$1.00

#### 48 Large Round

#### Cushions

To Be Sold Tomorrow

At 98c each

Round chintz covered cushions in very attractive designs, light or dark colorings. A good large size. Buy them for the den. Very serviceable. Price 98c each

#### English Ribbed Sport

#### Hose

At 69c a Pair

A "Duik" special in women's all wool English ribbed sports stockings in putty, gray, brown, fawn or black, with double heel and toe and are shown in all sizes.

Nov. Drive 69c a pr

#### Your

#### Winter Underwear

Will Cost You Less During November Drive

10 dozen women's fine elastic rib vests with long sleeves or opera styles. In all sizes. Open or closed drawers to match. Nov. Drive 68c per garment

10 dozen women's Velva knit bloomers, made on very roomy lines with elastic at waist line and knee. Pink only. Nov. Drive Price 89c

### London House

F. W. DANIEL & CO.

Head of King St.