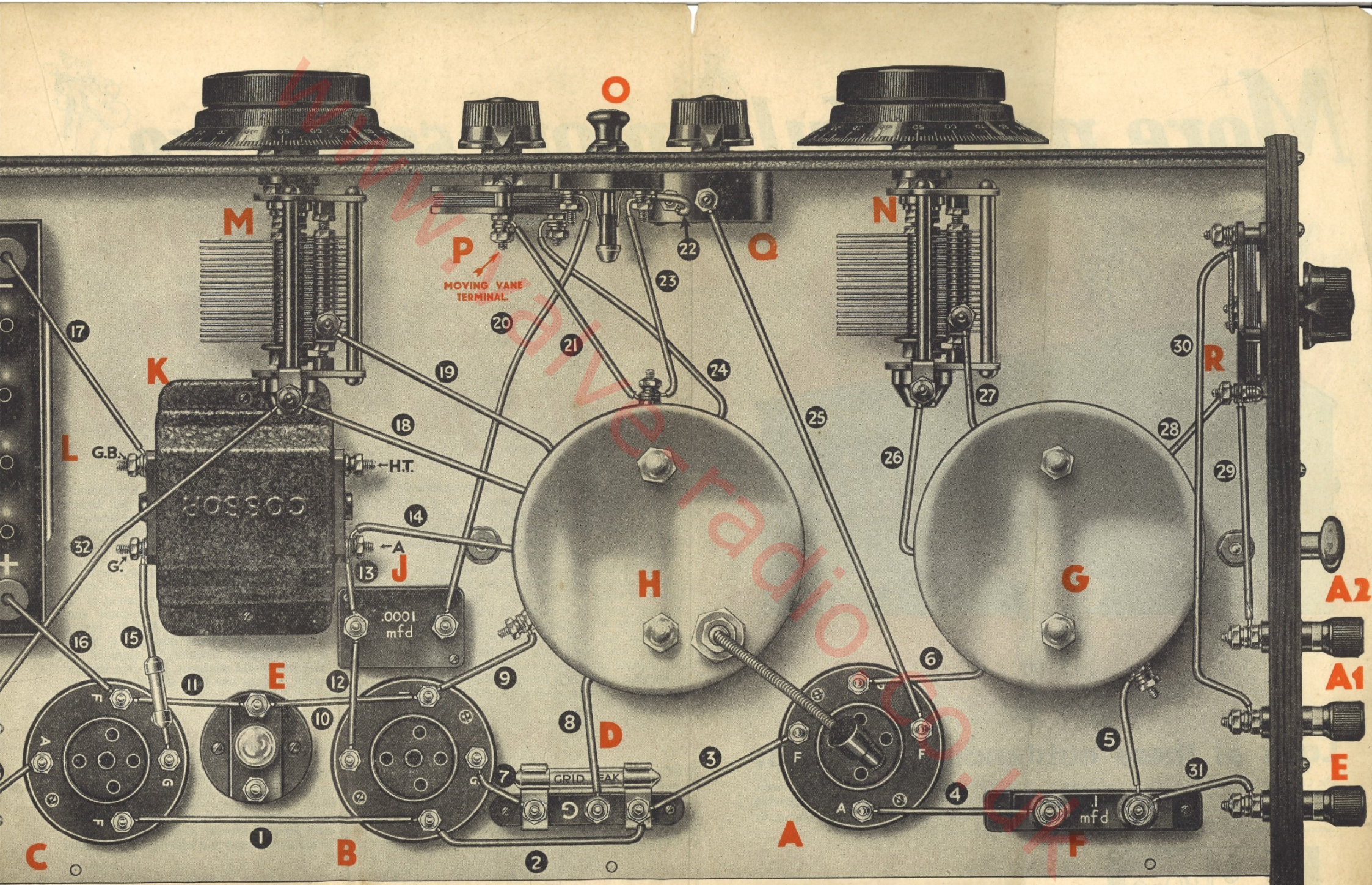


Point-to-Point Wiring Chart

Wire No.

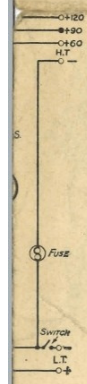
*14. Flexible lead from coil **H** to terminal A on Grosse Transformer **K**

Wire No.

*24. Flexible lead from coil **H** to fixed vanes on Reaction Condenser **P**.

How to fit a

Point-to-Point Wiring Chart



NOTE. All the wires from Nos. 1-17 inclusive should be completed before attaching the panel to the baseboard. Wires Nos. 18-27 inclusive should be completed with the panel in position Then attach the ends of the cabinet and complete the remainder of the wiring.

Wires marked thus * (Nos. 6, 8, 14, 18, 19, 24, 26, 27 and 28) are flexible leads permanently attached to the Cossor Screened Coils.

†The metal ends of the resistance in Wire No. 15 must not be allowed to make contact with either the metal case of the Cossor Transformer (K) or the head of the brass bolt holding down the Valve Holder (C) or the metal base plate.

Wire No.

1. From terminal F on Valve Holder **C** to terminal F on Valve Holder **B**.
2. From terminal F on Valve Holder **B** to terminal on Grid Condenser **D**.
3. From terminal on Grid Condenser **D** to terminal F on Valve Holder **A**.

Wire No.

4. From terminal A on Valve Holder **A** to terminal on ·1 mfd. Condenser **F**.
5. From terminal on ·1 mfd. condenser **F** to terminal on Coil **G**.

*6. Flexible lead from coil **G** to terminal G on Valve Holder **A**.

7. From terminal G on Valve Holder **B** to terminal on Grid Condenser **D**.

*8. Flexible lead from coil **H** to centre terminal on Grid Condenser **D**.

9. From terminal on coil **H** to terminal F on Valve Holder **B**.
10. From terminal F on Valve Holder **B** to terminal on fuse **E**.
11. From terminal on Fuse **E** to terminal F on Valve Holder **C**.
12. From terminal **A** on Valve Holder **B** to terminal on ·0001 mfd. Condenser **J**.
13. From terminal on ·0001 mfd. Condenser **J** to terminal **A** on Cossor Transformer **K**.

Wire No.

*14. Flexible lead from coil **H** to terminal A on Cossor Transformer **K**.

†15. From terminal G on Valve Holder **C** to terminal G on Cossor Transformer **K**. *This is a special connector incorporating a resistance. See note* †

16. Flexible lead with wander plug from terminal F on Valve Holder **C** to positive end of Grid Bias Battery.
17. Flexible lead from terminal GB on Cossor Transformer **K** to negative end of Grid Bias Battery.

*18. Flexible lead from coil **H** to moving vanes of Condenser **M**.

*19. Flexible lead from coil **H** to fixed vanes of Condenser **M**.

20. From terminal on ·0001 mfd. Condenser **J** to terminal on switch **O**.
21. From moving vanes on Reaction Condenser **P** to terminal on Coil **H**.
22. From terminal on switch **O** to terminal on rheostat **Q**.
23. From terminal on switch **O** to terminal on coil **H**.

Wire No.

*24. Flexible lead from coil **H** to fixed vanes on Reaction Condenser **P**.

25. From terminal on rheostat **Q** to terminal F on Valve Holder **A**.

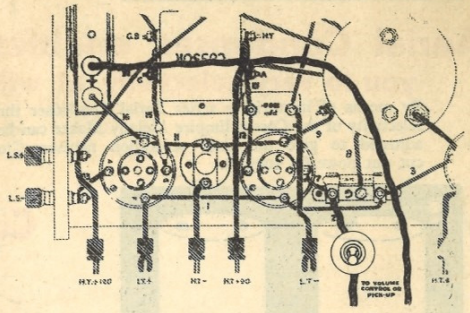
*26. Flexible lead from coil **G** to terminal on moving vanes of Condenser **N**.

*27. Flexible lead from coil **G** to fixed vanes on Condenser **N**.

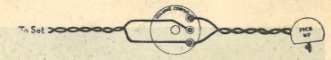
*28. Flexible lead from coil **G** to terminal on fixed vanes of Series Aerial Condenser **R**.

29. From terminal on fixed vanes of Series Aerial Condenser **R** to terminal **A2** on cabinet.
30. From terminal **A1** on cabinet to terminal on moving vanes of Series Aerial Condenser **R**.
31. From terminal **E** on cabinet to terminal on ·1 mfd. condenser **F**.
32. From loudspeaker terminal **L.S.+** on cabinet to terminal on moving vanes of condenser **M**.
33. From loudspeaker terminal **L.S.−** to terminal A on Valve Holder **C**.

How to fit a Gramophone Pick-up



It is a very simple matter to use a Gramophone Pick-up with the Cossor *Empire* Melody Maker. The diagram above shows the necessary connections for which flexible wires should be used. To one must be attached a wander-plug which should be inserted in the "$-1\frac{1}{2}$" socket of the Grid Bias Battery, the other end of this lead being connected to the volume control (or pick-up if this already incorporates a volume control). Another wire should be connected to terminal indicated on diagram above and to a small "tumbler" switch (which can be obtained from any wireless shop). It is important that this lead should be kept very short, on no account should it be extended to the gramophone. From the other side of the switch a lead should be taken to the volume control or pick-up (the connections are shown below).



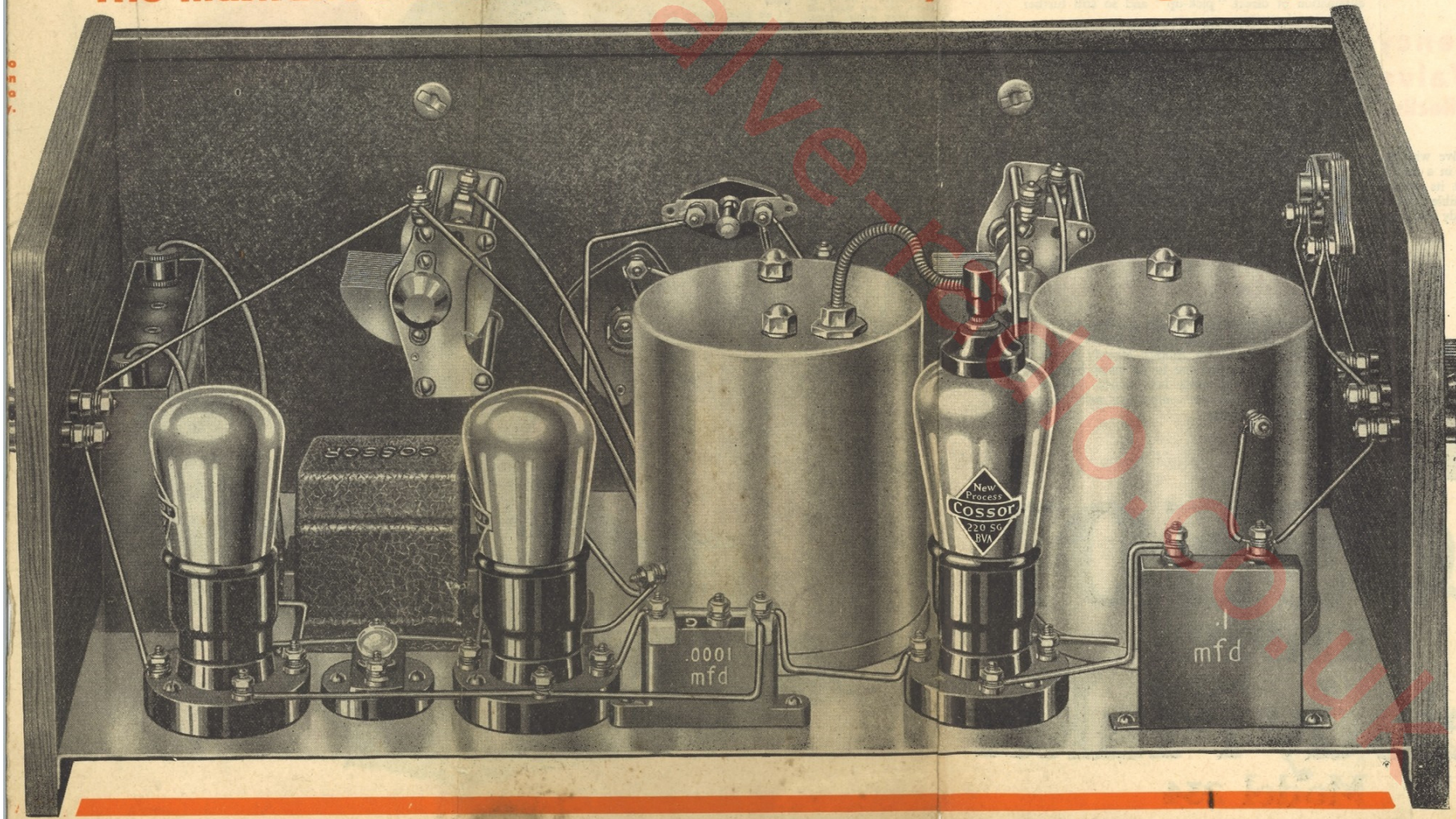
When using the Set for Gramophone reproduction the Screened Grid Valve should be turned off by means of the Rheostat on the front panel.

How to use a Cossor Pentode

The volume given by the Cossor *Empire* Melody Maker is sufficient for all usual requirements, but where an exceptionally large out-put is required a Cossor Pentode Valve (Type 230 P.T.) should be used in place of the Cossor Power Valve supplied with the Receiver.

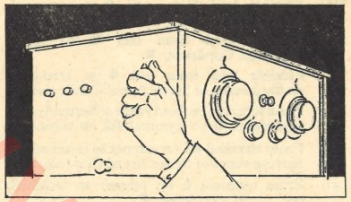
The use of a Pentode necessitates the fitting of a 5-pin valve holder in place of that supplied for position "C." The 5-pin holder has four terminals in the same positions and similarly marked to the one shown in the diagram above, and these should be connected exactly as indicated. The fifth terminal which is placed between terminals "F" and "A" should be connected to the terminal "L.S.+" (On the side of the cabinet nearest to the front panel).

The illustration below shows the assembly and wiring completed



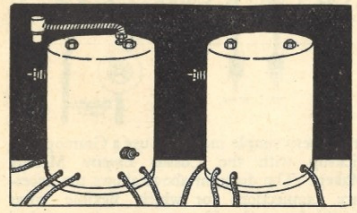
changes Wavelengths

Changing from low wave band to high (or vice versa) with the Cossor Empire Melody Maker is effected by operating the switch at the end of the cabinet. Push in for long—pull out for short.



Aerial Condenser enables you to vary selectivity at will

By means of its variable series Aerial Condenser the selectivity of the Cossor Empire Melody Maker can be adjusted to give the close separation necessary to cut out powerful stations.

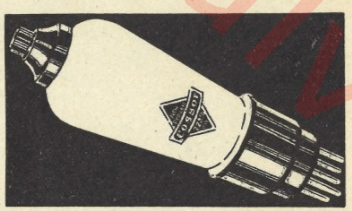


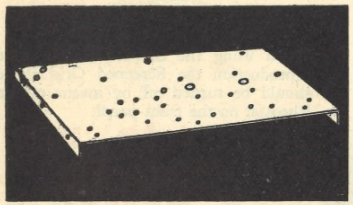
Completely Screened Coils give Greater Selectivity

The coils employed in the Cossor Empire Melody Maker are completely screened in metal "pots." This advanced system of construction (hitherto used only in the most expensive Receivers) ensures complete elimination of direct "pick-up" and so still further enhances selectivity.

Cossor High Efficiency Screened Grid Valve ensures Maximum Effective Amplification

The use of a Cossor Screened Grid Valve with its exceptionally low inter-electrode capacity, in a circuit that has been specially designed to suit its special characteristics ensures the greatest possible amplification thus giving the Cossor Empire Melody Maker its remarkable range.





All-metal Base makes Assembly easier still

Ease of assembly has always been an outstanding feature of the Cossor Melody Maker series of Receivers. The construction of the Cossor Empire Melody Maker is simpler than ever largely due to its metal base plate which is supplied with every hole drilled thus automatically ensuring that the components are mounted in their correct positions.

Cossor
EMPIRE
Melody Maker
Model 234

Why be content with your local station?

There is now no reason why you should be compelled to listen to your local station. Even if you live close to a Regional Transmitter the Cossor Empire Melody Maker will cut out its powerful transmission like magic and bring in the programme you want to hear. Every night a wide variety of entertainment floods the ether, concerts, cabarets, military bands, dance music, opera—it is there for you to enjoy and the Cossor Empire Melody Maker enables you to receive it clearly, at full volume, free from interference.

Read these letters:—

Below are a few entirely unsolicited letters of appreciation which we have received regarding last season's Cossor Empire Melody Maker. These are but a few of the many hundreds that have reached our head office. When you remember that these refer to *last year's model* and that the latest type of Cossor Empire Melody Maker is even more powerful and selective you will realise what an outstanding achievement this remarkable Receiver represents.

London, S.W.6

"I have purchased one of your "Empire Melody Makers and I must congratulate you on its excellent performance. I have logged the following stations and have nearly two dozen more not yet identified :—*(Here follows a list of 32 stations, five long wave and twenty-seven medium wave. Unfortunately space does not permit this list being reproduced).* Most of them come over remarkably well. I congratulate you on such a good Set."—*F. R. Howe.*

Cardiff

"I have logged the following 53 Broadcasting Stations on my Cossor Empire Melody Maker. *(Here follow the names of the Stations which cannot be enumerated here owing to lack of space).* Fifty-three stations all told and still there are a few that I have not identified up to the present. WTIC Hartland (U.S.A.) came in at good signal strength last Saturday morning between 1 a.m. and 3 a.m. The results of this Set have astonished me and also my friends."—*R. G. Spence.*

Birmingham

"The number of stations received at full volume appears to be unlimited. Let me congratulate you on a Rolls-Royce Set at a Ford price."—*W. Haines, Jnr.*

Bath

"I am giving below a list of stations (thirty-three) that I received on the *loud speaker*."—*Victor J. E. Berman.*

Manchester

"On an indifferent aerial I have had splendid results tuning in many home and foreign stations."—*C. F. Ireland*

Dartmouth, S. Devon

"I have given your Empire Set a good test alongside more costly Receivers and it has proved to be far ahead of them. Well done Cossor!"—*L. R. Shapley.*

Whitehaven, Cumberland

"I have heard up here many sets by different makers but I think this is the best yet."—*D. Lower.*

More powerful more selective yet even simpler than any of its famous predecessors

The introduction of the original (1927) Cossor Melody Maker marked a sensational advance in 3-valve Receiver performance. It brought, for the first time, long range Radio within easy reach of the man of moderate means. It achieved an overwhelming success, tens of thousands were soon in daily use.
The 1928 model, due to the incorporation of a Cossor Screened Grid Valve, again created new standards of range and selectivity. In each of the subsequent years, as a result of improvement in design and the development of new types of valves, performance has been consistently and steadily improved. And now, with the Empire Melody Maker, Cossor again takes another step forward.
The demands on a Radio Receiver daily grow more exacting. The development of the B.B.C. Regional Scheme and continual increase in the power of many European stations calls for higher and still higher degrees of selectivity. The Wireless User demands longer and still longer range. All these requirements are completely fulfilled by the Cossor Empire Melody Maker.
By the adoption of completely screened coils of special design, the use of the latest type of Cossor Screened Grid Valve and the incorporation of all the most advanced constructional features and refinements the Cossor Empire Melody Maker marks yet another important advance in Radio Receiver development. Further, in spite of its outstanding power and efficiency, it is even simpler to assemble and to use than any of its famous predecessors.

Look at these outstanding features:

The Cossor Empire Melody Maker owes its outstanding power and efficiency to the fact that it has been specially designed to obtain the maximum results from the Cossor Valves employed. It incorporates all the most advanced features of Set design and construction. No 3-valve Screened Grid Receiver, whether factory built or bought as a Kit of Parts is more up-to-date—or more powerful than the Cossor Empire Melody Maker. Among its special features are :—

External Coupled Switch changes Wavelengths

Changing from low wave band to high (or vice versa) with the Cossor Empire Melody Maker is effected by

A real "international" Receiver.

The Cossor Empire Melody Maker puts all the best European broadcasting centres at your finger tips—at the mere twist of the dials station after station comes pouring in. This remarkable Receiver enables you literally to choose your own Wireless entertainment. It will bring in programmes on either wave-band, high or low, and no skill whatever is required to operate it. In a few minutes anyone, even those who have never before used a Wireless Set can easily learn to work the simple controls of the Cossor Empire Melody Maker and get results equal to the most expert and experienced operators.

Why be content with your local station?

There is now no reason why you should be compelled

How to use the new Cossor Empire Melody Maker

Accessories required :

BATTERIES.

A standard 9-volt Grid Bias Battery should be used. Connect Wire 16 to positive socket and Wire 17 to 6, 7½ or 9 volts as may be required for best results. Use a good 120-volt H.T. Battery. A super-capacity battery has a long life and is more economical.

ACCUMULATOR.

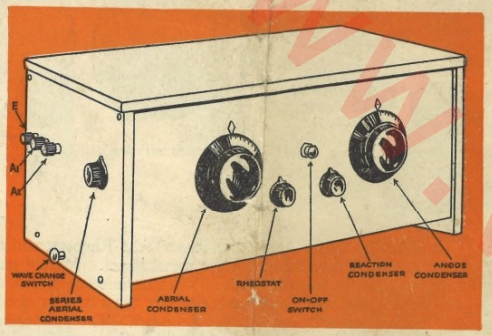
The 2-volt Accumulator should have an ampere hour capacity of about 30.

LOUD SPEAKER.

The Cossor (Model 295) price 25/- can be recommended as very suitable. For unsurpassed reproduction the new Cossor Model 550 (with 12 inch diaphragm) costs only 55/- in walnut, or similar speaker in oak cabinet (Model 500) price 50/-. Ask your Wireless Dealer to let you hear these Loud Speakers.

PICK-UP (OPTIONAL).

For gramophone reproduction (see instructions overleaf) use the Cossor Pick-up and Tone Arm 42/- (Volume Control 8/6 extra).



Fill in your own Dial Readings

	Metres	Left	Right
Long Wave Stations Switch "IN"			
Huizen (Holland)	1875	112	140
Radio Paris (France)	1725		
Königswusterhausen (Germany)	1635		
Daventry 5XX	1554		
Motala (Sweden)	1352		
Kalundborg(Denmark)	1153		
Oslo (Norway)	1071		
Croydon	900		
Short Wave Stations Switch "OUT"			
Budapest (Hungary)	550		
Munich (Germany)	533		
Riga (Latvia)	525		
Vienna (Austria)	517		
Brussels (Belgium)	509	5½	7½
Milan (Italy)	501		
Prague (Czechoslovakia)	487		
B.B.C. North Regional	479	136	144
Langenberg (Germany)	473		
Paris (France)	447		
Rome (Italy)	441		
Stockholm (Sweden)	436		
Madrid (Spain)	424		
Berlin (Germany)	418		
Dublin (I.F.S.)	413		
Katowice (Poland)	408		
Sottens (Switzerland)	403		
Daventry (Midland Regional)	398	14	11½
Frankfurt (Germany)	390		
Toulouse (France)	385	10½	10½
Glasgow (5SC)	376		
Hamburg (Germany)	372	10½	10½
Seville (Spain)	368		
Algiers (Morocco)	363		
Mühlacker (Germany)	360		
London (Regional)	356		
Barcelona (Spain)	345		
Breslau (Germany)	325		
Cardiff (5WA)	309	2½	2½
Hilversum (Holland)	298	7½	7½
Bournemouth, Bradford, Dundee, Edinburgh, Aberdeen, Newcastle, Plymouth, Swansea.	288		
Bratislava (Czechoslovakia)	279		
Turin (Italy)	274		
London (National)	261	2½	4½
Belfast (2BE)	242		
Cologne (Germany)	227		
Cork (Irish Free State)	225		

Operating Instructions

THE AERIAL AND EARTH.

For general use a 40 ft. aerial (including down-lead) is recommended. When the Set is used exceptionally close to a powerful Broadcasting Station, it will be advantageous to use a somewhat shorter aerial. See that the aerial is well insulated from the side of the house. Stranded copper or phosphor bronze wire (7/22) is recommended. The earth lead should be of heavy gauge wire and as short as possible. The connection should be made either to an earth tube, or to a buried plate having a large surface area. Alternatively, if a main water pipe is available, this is to be preferred.

TO TUNE IN YOUR LOCAL STATION.

After you have connected up the L.T. and H.T. and Loudspeaker you should insert the valves in the following order :

Valve Holder "A"—Cossor 220 S.G. (Screened Grid).
Valve Holder "B"—Cossor 210 H.L. (Detector stage).
Valve Holder "C"—Cossor 220 P. (Output stage).

Attach the earth lead and connect the aerial to terminal A2 for normal use. Where extra selectivity is required in order to give greater ease in separating stations the aerial should be connected to terminal A1. This brings into circuit the Series Aerial Condenser mounted on the side of the cabinet. Pull out the switch on the front of the panel, thus switching on the valves. Pull out the wave change switch on the left-hand side of the Set, thus switching the coils for receiving short waves.

Now proceed as follows :—Reduce reaction to the minimum by rotating the knob of the reaction condenser until the vanes are completely out of mesh. Rotate the rheostat knob in a clockwise direction three-quarters of the way. Rotate the two main tuning dials until their readings approximate with the wavelength of your local station (See *Radio Times*). For instance, London National (wavelength 261 metres) will be heard with dial readings at about 28 degrees, London Regional (wavelength 356 metres) at about 45 degrees, and North Regional (wavelength 479 metres) at about 70 degrees. If the station is broadcasting it should be clearly audible on the loudspeaker. Additional volume may be obtained by rotating the rheostat in a clockwise direction. The slow motion dials will enable you to adjust the two main tuning condensers to ensure maximum sharpness of tuning.

TO OBTAIN INCREASED SELECTIVITY.

If you are situated close to a powerful station you will find it necessary to connect the aerial to terminal A1 and to adjust the Series Aerial Condenser in order to obtain the required degree of selectivity. The action of this Condenser can be described as having the same effect as varying the length of the aerial. In this way the Set is enabled to operate under the best receiving conditions for the particular waveband required. After a little experiment you will be able to determine with ease the best settings of this Series Aerial Condenser in conjunction with the rheostat which, by dimming the filament of the Screened Grid Valve, also influences selectivity.

TO TUNE OUT YOUR LOCAL STATION.

Set the dials to the approximate reading of the station you wish to receive. If the station is not audible even by rotating the dials through a few degrees on either side increase reaction until the distant station is heard. By the adjustment of the rheostat in conjunction with the Series Aerial Condenser it will be possible to tune out your local station if its overpowering transmission forms a background to the distant station. After adjusting the Series Aerial Condenser and the rheostat the dials should be carefully adjusted to ensure maximum sharpness of tuning and the reaction increased until the required volume is built up.

THE USE OF REACTION.

If the Reaction Condenser is increased beyond a certain point the Receiver will begin to oscillate and thus prevent clear reproduction. It is always an advantage to use as little reaction as possible consistent with the volume required. In this way quality of reception will not be marred by distortion.

CORRECT VOLTAGE FOR SCREENING GRID.

The normal voltage which should be applied to the screening grid of the Cossor 220 S.G. is 60 volts. This, however, should be varied between 50 and 80 until the best results are obtained.

THE FUSE BULB.

This is provided for the protection of the valve filaments. If at any time the Receiver will not function and seems to be entirely dead the fuse may have blown. If so,it will require renewing with a genuine fuse bulb which can be obtained from any wireless dealer. On no account should an ordinary flashlight bulb be used. Although of similar appearance a flashlight bulb is quite useless as a safety device.

COSSOR

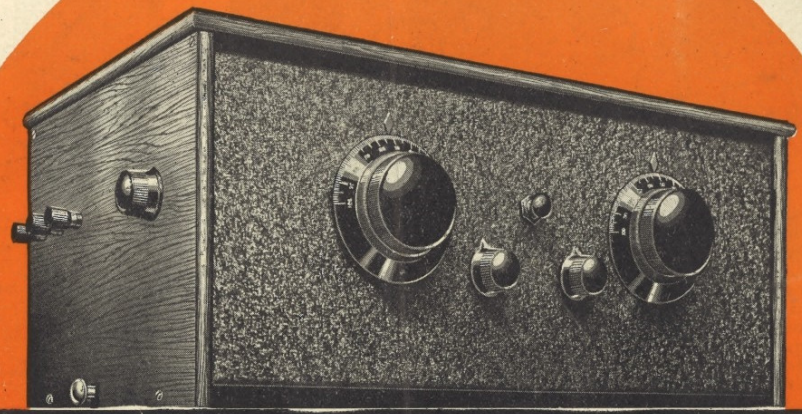
VALVES AND RECEIVING SETS

Service Depots :
BIRMINGHAM 8, Temple Street.
BRISTOL 14, Bath Street.
GLASGOW 21, Waterloo Street.
LEEDS 17, Wellington Street.
DUBLIN 184, Pearse Street.

Service Depots :
LIVERPOOL 42, Paradise Street.
MANCHESTER 21, Bridge Street.
NEWCASTLE 15, High Bridge.
SHEFFIELD 30, Trippet Lane.

A. C. Cossor Ltd., *Head Office and Works :* Highbury Grove London N.5.

C12(2). 50M. 29931 *Gilbert Advertising Ltd.* G.A. 212.



Cossor EMPIRE *Melody Maker*

Model 234

Twin Screened Coils—Latest Screened Grid Circuit—Switch Changes Wavelength

More power—Longer Range—Greater Volume

Uses New Cossor High Efficiency S.G. Valve

A high-power 3-valve Screened Grid Wireless Set for £6·15·0!

Study this illustration—it shows the handsome proportions of the Cossor Empire Melody Maker — its oak cabinet and the businesslike layout of its controls.

Prices mentioned on this Chart are not applicable in Irish Free State.

Backed by the experience of over 350,000 Melody Maker Receivers

The Cossor Empire Melody Maker is the product of over a year's research and experiment on the part of Cossor Engineers. It incorporates all those advanced features that have been developed as the result of the experience gained during the manufacture of the largest number of Kit Receivers ever produced by a single factory.

In 1927 Cossor introduced the first Melody Maker. In each of the subsequent years a new and improved model was marketed. So great has been the popularity of the Cossor Melody Maker series of Receivers that the total number now in daily use exceeds the staggering figure of 350,000—a truly remarkable success.

This amazing popularity has mainly been due to two factors. Firstly, the exceptional efficiency of the Melody Maker Sets and, secondly to their very moderate price—usually several pounds below other Receivers of equivalent performance.

The Cossor Empire Melody Maker is far in advance of the high standards set by its famous predecessors. It has been tried in all parts of the country. It has been tested for range and it has brought in station after station—all the main European Programmes.

It has been tested for volume and tone and it has given a flood of life-like melody that has fully justified the care of its designers. Yet in spite of its outstanding efficiency you can own a Cossor Empire Melody Maker for a very modest outlay.

How its moderate price has been made possible

Its low price has only been made possible by supplying the Receiver as a complete Kit of parts. By undertaking the interesting work of assembly you can save yourself pounds. When you have completed it you will own a Set equal in every way to a much more expensive factory-built Receiver. And its assembly is a very simple matter indeed. No soldering, sawing or drilling are involved—the whole of the work can be very easily carried out with a screwdriver, and a pair of pliers.

Moreover, no Wireless knowledge is necessary. The veriest novice in Radio is just as sure of success as the acknowledged expert. This is because the Cossor Empire Melody Maker has been *designed* for home assembly. It is not merely a factory-built Receiver stripped down, but a Kit of Parts that have been definitely planned to make assembly an absurdly easy but interesting task when undertaken with the easy-to-follow instructions given on the reverse of this chart.

Cossor
EMPIRE
Melody Maker
Model 234

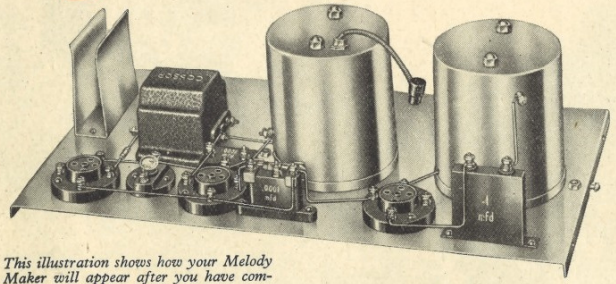
3 simple stages for building the COSSOR Empire Melody Maker

Model 234

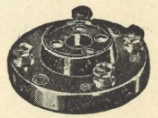
THE Cossor Melody Maker has always enjoyed a unique reputation for its ease of assembly. Due to two special features of design the new Empire Model 234 is a marked advance in simplicity of construction. Firstly, the wooden baseboard has been superseded by a metal base provided with holes to which each component is secured by bolts. Secondly, the coils are individually screened in metal containers. This eliminates the necessity for the vertical metal shield and reduces still further the number of connecting wires. In spite of the fact, therefore, that the new model is by far the most powerful and efficient Cossor Melody Maker yet designed, its assembly is a matter of only a few hours.

On this sheet are shown the three simple stages of construction necessary to build this magnificent long range Receiver. The illustrations clearly show every component and every wire. Even the merest novice can build this Set and obtain results equal in range, tone and volume to a factory-built Receiver costing very much more.

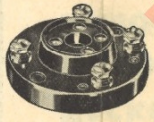
Stage ONE—Assembling & Wiring the Base



This illustration shows how your Melody Maker will appear after you have completed the assembly of the base.

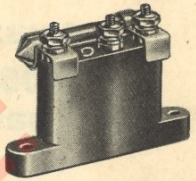


A *Valve Holder for Cossor S.G. Valve.*

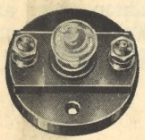


B *Valve Holder for Cossor Detector Valve.*

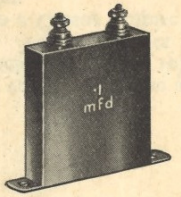
C *Valve Holder for Cossor Power Valve.*



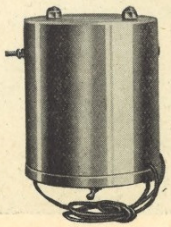
D *Grid Condenser and Grid Leak.*



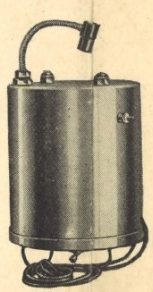
E *Fuse Holder and Bulb.*



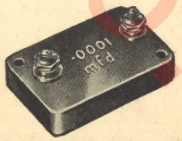
F *·1 mfd. Condenser.*



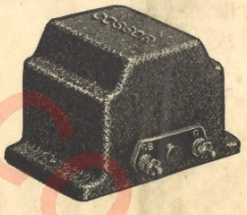
G *Cossor Aerial Coil. No. F.C. 1109.*



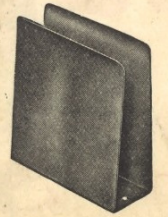
H *Cossor Anode Coil No. F.C. 1110.*



J *·0001 mfd. Condenser.*

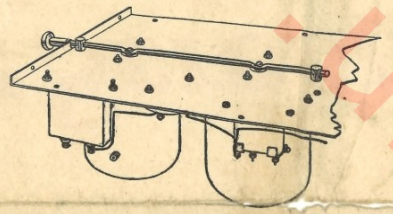


K *Cossor L.F. Transformer.*

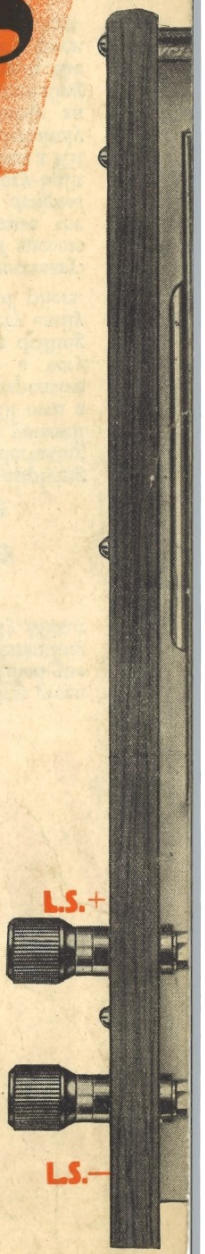


L *Grid Bias Battery Clip.*

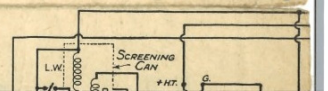
The metal base is supplied with all holes accurately drilled. When mounting the components on the base insert the bolts from above so that the nuts are below the base. Be sure to use the correct bolts for each purpose in accordance with the instructions printed on the envelope in which they are contained. Care should be taken to observe that the components are mounted correctly. For instance, the grid condenser ("D") is fitted with three terminals which are not equidistant. Between two of these terminals is engraved the letter "G." The condenser must be mounted on the base so that the letter "G" corresponds to the position shown on the diagram. Make sure also that the valve holders are mounted with their four terminals as indicated. Failure to do this will prevent the Set from functioning. The Cossor Transformer must be mounted so that the letters indicating its terminals (G.B., G., etc.) are in the position shown in the diagram. Care should also be taken to ensure that the coils are mounted in their correct relative positions by means of their projecting bolts. Observe that the positions of their flexible leads and terminals correspond with the diagram. The anode coil, (F.C.1110), can be readily identified by its armoured cable to which is attached the moulded connector which fits on the terminal on the top of the Cossor Screened Grid Valve. When all the components are assembled on the base the push rod operating the switches in the two coils should be fitted. Two brass bushes are provided to carry this rod and the fitting is extremely simple (See sketch). The wiring should be carried out according to the large diagram and if you proceed systematically in accordance with the instructions mistakes are practically impossible.



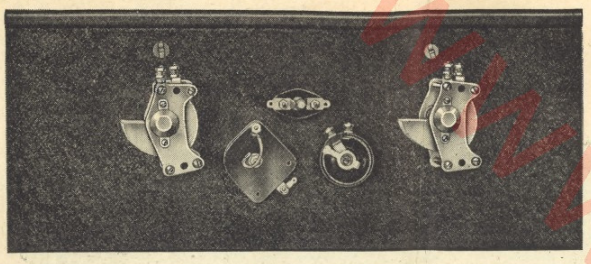
This diagram indicates the method of assembling the push rod operating the Coil Switches. The two brass bushes are attached by means of nuts on the upper side of the metal base.



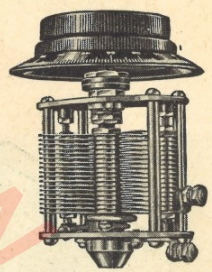
Stage TWO—Assembling the Panel



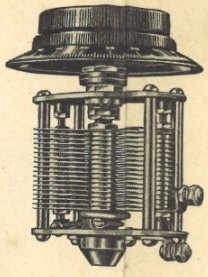
Stage TWO—Assembling the Panel



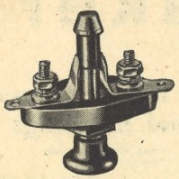
This shows the Panel assembled ready for attachment to the Base. Make sure that the components are mounted in the exact positions indicated above.



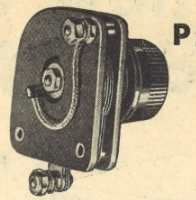
M *Anode Condenser, with Dial, Insulating Ring and Bush.*



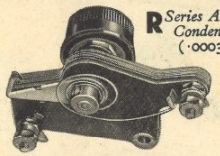
N *Aerial Condenser, with Dial, Insulating Ring and Bush.*



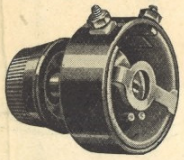
O *"On-off" Switch.*



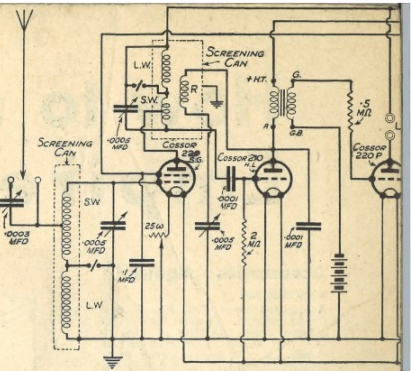
P *Reaction Condenser with knob (marked "·0005").*



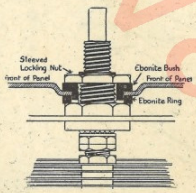
R *Series Aerial Condenser (·0003)*



Q *Rheostat with knob.*



Above is shown the theoretical circuit diagram of the Cossor Empire Melody Maker, Model 234.

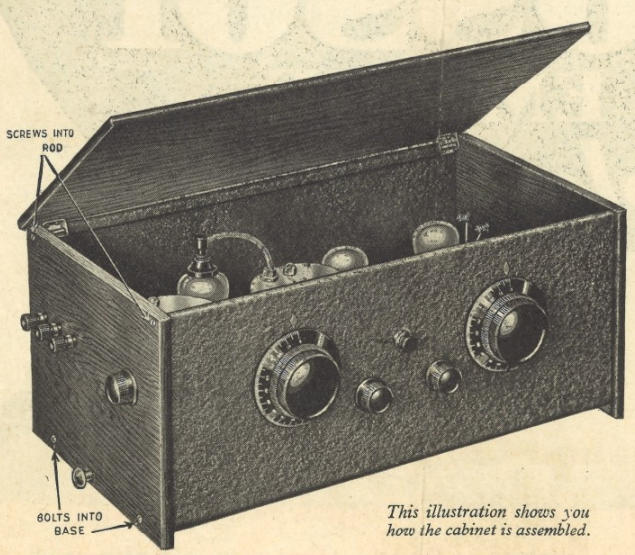


First mount the two main tuning condensers "M" and "N," these are insulated from the metal panel by means of an ebonite bush and ring. The diagram shown will make this operation quite clear. First of all, remove the locking nut and insert the condenser shaft through the hole provided for it in the metal panel with the ebonite bush on the outside and the ebonite ring on the inside of the panel. With a pair of pliers tighten up the sleeved locking nut. Now fit the dials, first screw on the main (engraved) dial until it touches the panel, then unscrew by one turn and as much farther as is necessary to bring the figure "O" uppermost when the vanes of the condenser are completely out of mesh. Then lock in position by means of the nut provided. Finally mount the slow motion dial pushing it on the shaft until it can be rotated without rubbing the main dial, then lock this in position by means of the grub screw. Do not use unnecessary force on this screw.

The Reaction Condenser (this is marked "·0005" to distinguish it from the Series Aerial Condenser), the Rheostat and the Switch need not be insulated from the metal panel. Merely remove their knobs and fix them in position with their respective hexagon nuts making sure that their positions are the same as shown on the "back of panel" photograph on the left. The pointer on the knob of the Reaction Condenser should indicate the position of the moving vanes. Bear this in mind, therefore, when fitting it to the shaft. Similarly, the knob on the Rheostat is provided with a pointer to show the position of the moving arm.

We reserve the right to vary this specification and to supply alternative components if necessary

Stage THREE—Completing the Receiver

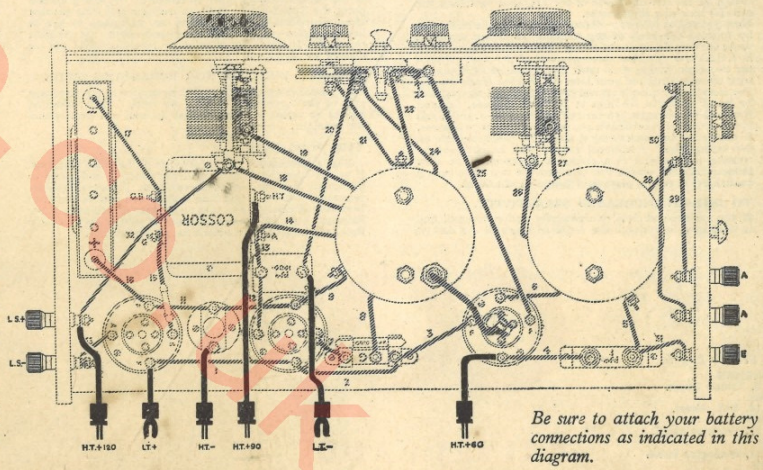


This illustration shows you how the cabinet is assembled.

The next stage is to mount the assembled panel on the completed base and to add the necessary connecting wires. The panel should be attached to the base with its flange beneath and firmly secured by means of the bolts provided. The remaining wires (Nos. 18-27) should be added as shown in the diagram. All these wires are very accessible and provided they are fitted in the order suggested no difficulties should be experienced. Finally, the cabinet must be assembled. There is a small Series Aerial Condenser (similar to the Reaction Condenser but marked "·0003") to be mounted inside the cabinet, on the left, and it is more convenient to fit this—together with the aerial, earth and loudspeaker terminals—before beginning to assemble the cabinet. In fitting these Terminals, those marked "A" should be mounted in the holes nearest the panel, and "E" in the rear one. "L.S.+" should be fitted in the hole nearest the front panel and "L.S.—" in the rear. The illustrations show the positions and holes already drilled in the woodwork. Do not omit to fit the two insulating bushes to each terminal. The first step in assembling the Cabinet is to unscrew the knob of the wave-change switch and attach the end pieces to the base and also to the metal rod which is inserted in the channel at the top of the panel. The ends can easily be identified, the left-hand one (when viewed from the front of the Set) having the Series Aerial Condenser and three terminals mounted upon it. Round headed screws are provided and it is important to see that the correct screws are used for each purpose in accordance with the instructions printed on the envelopes in which they are contained. Be sure to put a blued steel washer under the head of each of the screws passing through the woodwork.

Now attach the last few connecting wires (Nos. 28-33) as shown in the diagram. Next screw the hinges to the lid and then thread the hinge rod through both hinges and the channel in the back. Bolt back (with lid) in position so that its flange comes below the base. To ensure a sound fit for the back it is necessary slightly to "spring" the ends apart and to do this unscrew a turn or two the screws holding the ends to the rod at the top of the front panel, and also the bolts securing the ends to base. Finally tighten up all screws and screw on wave-change switch knob.

All that remains to be done is to add the battery connections and a separate diagram shows the various terminals to which they should be attached. For your convenience, indicating labels are provided for attachment to each ha[illegible] Now insert the three Cossor valves in the following positions :—The Screened Grid Valve (with ebonite cap) should be inserted in valve holder "A"; the Detector Valve (red label) in valve holder "B" and the Power Valve (green label) in valve holder "C." In connecting the armoured cable from coil "H" to the cap of the Screened Grid Valve first remove the nut from the valve, then pull out the sleeve from the cap which is attached to the cable and screw this on to the head of the valve. Finally, push on to the Screened Grid Valve the cap on the end of the cable. The nut supplied with the valve may be discarded. When you have inserted the valves, connected your accumulator, H.T. battery, loudspeaker—together with the Aerial and Earth—the Receiver is ready for use. Instructions for using the Receiver are given overleaf.



Be sure to attach your battery connections as indicated in this diagram.