



THE LOFTIN THREE

Powerful, Simple, Economical—
the Set You Have been Awaiting



PROBABLY the intending constructor who has read our schedule in last week's issue will, at the present moment, be debating as to which receiver to construct. Much, of course, depends upon his own particular circumstances, but for those who have the inclination to rebuild we would suggest their using the circuit that will be published next week. The difference between this and the one published this week, while only small, generally makes the set more satisfactory, though there is no reason why those who use all their parts in the present layout should not get the best of results. For those who are commencing to build the outfit for the first time we recommend next week's adaptations.

The groundwork for both circuits will, however, be laid this week, for, after all, the differences in layout are only slight and after the directions this week have been read one should be ready to start upon either model without further instructions. The difference lies in the values of the main chain of resistances only. Where the original amplifier is to be unchanged,

a different style of connecting the radio amplifier and the pick-up must be resorted to. This will in turn be described. In the first place we must insist on the utter simplicity and cheapness of the receiver. If carefully made and the parts first class there can be no questions as to the results. In fact there is nowhere in the whole receiver where distortion can enter and the limitations to almost perfect quality will be only those of the reproducing devices such as the speaker, pick-up, etc.

The Parts List.

WE shall bandy words no further, but commence upon the construction of the Loftin Three. First consider the list of parts published here. These do not take into account the parts required for the amplifier, for it is assumed that the constructor already has this, though for those who are starting from "scratch" the additional parts for that section of the receiver are also published. Again, we must stress the point that they must be of the highest grade.

The sub-panel measures 16½ x 10 x

2½, and should be of heavy aluminium, say, 18 gauge. It is not any too big, and although the parts need not be crowded there is no waste space and there is plenty of room underneath for large condensers. The tuning condensers should be of the low-loss type and well made, for as they have to be ganged any discrepancy in their values will most certainly affect the tuning. The same applies to the coils, the construction of which appeared last week. If this wire is not spaced evenly the inductances will be unequal and the two condensers will not be able to track properly. Those who do not have the necessary winding apparatus should have the coils built for them.

The valve sockets might be of the sub-panel type which can be affixed under the panels so that only the top is visible from above, but their use entails cutting a fairly large hole in the aluminium and unless the requisite tools are to hand this is a difficult task. Of course, a dealer would be able to do that part of the business for those who desire the extra neatness involved by their use. The ordinary sockets, however, are the easiest to fit.

Four additional 5 condensers are required and these should be tested to withstand 500 volts, or in other words that will have to work safely at a voltage of 250.

Preparing the Base.

NOW that everything is to hand, study the picture diagrams accompanying, and lay your parts out according to the top view. This is the more important for the resistances and condensers underneath will fall into position when the components on the top are right. It will be seen that

the major component on the top is the power pack. This has been described previously or it may be one purchased ready made. It will be noted that the condensers in the power supply are placed in the container and those whose apparatus is more than usually bulky should make allowances in the size of the panel. At least 18 inches length may be necessary, so determine this factor beforehand.

Where there is any doubt, lay the parts out on paper and then decide the size that will be necessary to accommodate them all. When they are roughly placed, indicate the positions by lightly marking the panel, then remove them and square up the marks so that the layout will be symmetrical. The idea of the squareness can be seen from the accompanying diagram.

Now everything is replaced ready for drilling and with a sharp instrument indicate where each hole is to be drilled and then with a suitable drill make all the holes necessary. Now do the same to the under base panel components, making quite certain that none will foul the components on the top. The positioning of these under-base parts is not critical, but if alterations must be made, see that filament and plate wiring is kept well apart. Having now drilled all the holes, mount the above board components with the exception of the coils and the condensers, as these are easily damaged when the set is reversed to attend to the under base wiring.

The under base parts should occasion no difficulty, though the greatest of care must be taken that the lugs of the resistances, except where indicated, should not come into contact

BUILD THE LOFTIN THREE

We hold large stocks of Loftin-White Amplifiers and Spare Parts, Aluminium Sub-panels, Shield Cans and Wound Coils made up to any specification.

Thos. Ballinger & Co., Ltd.,

58-62 Victoria Street, Wellington.

"WHERE THE QUALITY GOODS ARE SOLD."

LIST OF PARTS:

Shield Can, 3in. cylindrical x 4½in. high
Aluminium Sub-panel, 16½in. x 10in. x 2½in.
Two .0005 Condensers.
One Midget Balancing Unit.
One Drum Dial and Coupling
Four .5 mfd. 500 test Fixed Condensers.
One U.Y. Socket.
One foot 1½in. Tubing.
Six inches 1in. Tubing.
One 224 Type Valve
Insulated Connecting Wire.
Two doz. ½in. x ½in. Brass Screws and Nuts.
Quantity 34 enamelled and 28 d.s.c. gauge wire.

Resistances for next week's set. Diagram will be slightly amended but terminology will remain the same.

RESISTANCES REQUIRED:

	Ohms	Mils.
R11	450	5
R13	2,000	5
R8	50,000	Grid Leak
R1	500	30 heavy
R2	200	Potentiometer
R3	900	30 heavy
R4	2,400	30 heavy
R5	3,500	30 heavy
R6	25,000	Grid Leak
R7	100,000	Carbonium
R12	100,000	Potentiometer

COILS:

Primary	Aerial:	Secondary	Primary	R.F.	Secondary
60		90	65		90
(tapped at 30)					
1in. former	1½in. former		1in. former		1½
34 d.s.c.	26 d.s.c.		34 d.s.c.		26 d.s.c.