

RECEIVER OUTFIT SF.

LA13

Date of design... 1923.
Frequency range... 60 - 670 kc/s. (D/F reception).
15 - 170 kc/s. (Other reception).
Components... S4, S5, A7, A8, A42, M9, M13, N9, K5.

Receiver outfit SF is used for D/F reception on frequencies 60 - 670 kc/s using a vertical frame coil S4 (3), and for other reception on frequencies 15 - 170 kc/s using the vertical loop aerial (253) or horizontal frame coil S5 (4).

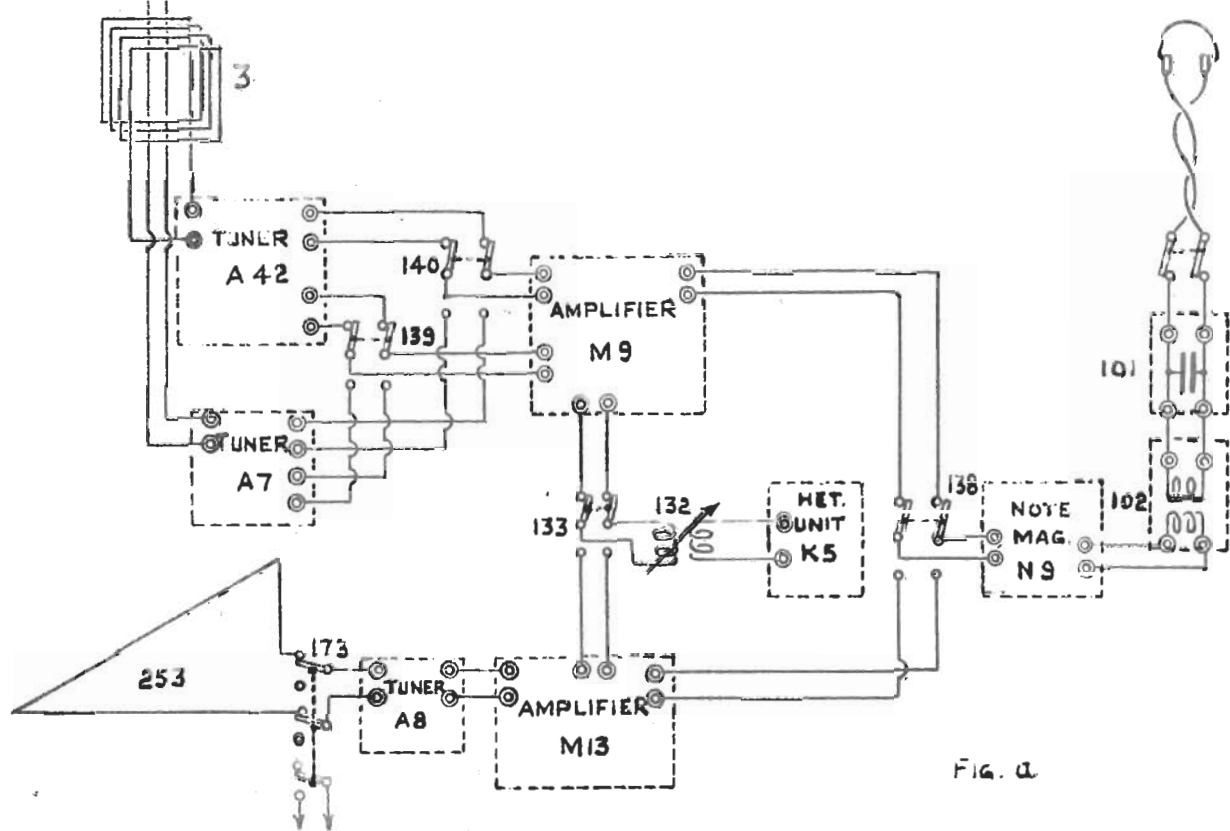
Aerials. Frame coils S4 and S5 are mounted together in wooden casings, S5 being above S4, on a hollow vertical tube (see page F3 figure b.). Raising and lowering by hydraulic power and training, by rod gearing, are controlled from the W/T office. Care should be taken not to lower the frame coil unless the vertical frame coil is in a fore and aft position or this coil will foul the casting which is specially recessed to hold it in the lowered position. A stop is fitted on the casing of the frame coil S4 to prevent the coils being turned too far in one direction which would twist the leads in the frame coils. These coils consist of 8 turns(S4) and 10 turns(S5), approximately, of rubber covered cable, the leads from which pass down the centre of the tube on which the frame coils are mounted and thence to watertight junction boxes. Screening between the leads is effected by the use of phosphor-bronze sheathing between the bottom of the tube and the junction boxes. From the junction boxes twin lead-cased cables are run to the W/T office. The vertical loop aerial consists of a loop of rubber covered cable and is arranged to be as large as possible between the bridge and the jack staff. The ends of the loop are connected to two contacts of the loop aerial safety switch (173)(see figure a.), a third contact of this switch, which is operated from board 2R controlling, closes the circuit to the main relay when the loop aerial is broken, ensuring the safety of the receiving gear.

The aerials and various instruments of the outfit are connected as shown in figure a. The reaction and input terminals of amplifier M9 can be connected by change-over switches(139)(140) to either of the tuners A7 or A42. Similarly, the input terminals of N9 can be connected to the output terminals of either of the amplifiers M9 or M13 via change over switch (138). Heterodyne unit K5 is provided and is used as a separate heterodyne for the reception of C.W. signals on all occasions, except D/F reception when amplifier M9 may be used as an autodyne receiver. For taking accurate bearings, however, the K5 should be used as a separate heterodyne. In this case also, the output from K5 can be connected to the heterodyne terminals on either of the amplifiers M9 or M13 via the quadrantal coupling coil (132) and a change over switch (133).

D/F reception of 60 - 670 kc/s is carried out using vertical frame coil S4, A42, M9, N9 and K5. Range is limited by the smallness of the frame coil but bearings of ordinary commercial coast stations at 50 miles and of high power shore stations at 100 to 250 miles should not be more than 2° in error subject to the usual conditions (see page LA2). The bearing indicator may be either on the bulkhead or carried on the training handle itself, the pointer being mechanically driven (see page F2). The indicator consists of two scales, the inner, graduated from 0 - 180° Red and Green, being fixed, the outer graduated from 0 - 360°, being rotatable, driven from the master gyro compass, and a pointer fitted with angle dividing device similar to that fitted in radiogoniometer S25 (see page LB2).

Other reception. Signals can also be received either on 60 - 170 kc/s using horizontal frame coil S5 (4), A7, M9 and K5 or on 15 - 60 kc/s using the vertical loop (253), A8, M13 and K5.





Positions of these instruments should be reversed. See L.A.S.

FIG. 2