

SEMI-CIRCULAR CORRECTOR S61

Date of design:- 1931
 Where fitted:- D/F Outfit 85X and in some cases D/F Outfit 8D.
 Reference:- Admiralty Handbook of W/T (1931) paragraphs 808 and 809.

Semi-Circular corrector S61 can be used on frequencies below 670 kc/s. A primary coil (12) in the corrector is connected to a non-directional aerial (10) by a three way switch (7) in the sensefinder S42 (see page LC3), this aerial being the same one as that used for sensefinding. In older models of S42 the aerial is changed over from S42 to S61 by means of an independent C.O.S. the switch (7) in S42 not having a secondary connection to S61. The other end of the coil is earthed. The primary coil (12) is coupled to a secondary coil (13) which is permanently connected in one lead from the frame coil (3) (or search coil (21)) to the tuner. The purpose of the instrument is to convert blurred zeros into sharp zeros. In many ships minima are less clearly defined on the beams than ahead and astern.

Bearings should always be taken first with the coupling (19) of the semi-circular corrector at zero. If a blurred zero is obtained the corrector can be brought into operation by increasing the coupling, while the frame-coil is kept trained on the bearing. A value of coupling (in one direction or the other) should quickly be found where the blurring is reduced and it should only be a matter of careful adjustment of coupling and training to obtain a perfect zero.

When the minimum has been improved by use of the corrector it will be found that the reciprocal minimum has been blurred still more. It must not be inferred, however, that the perfect zero gives the true direction (i.e., the sense) of the station. This type of Semi-Circular Corrector is not capable of being used as a sensefinder, although working on a similar principle.

The series condenser (11) is provided for use with a large aerial which may

- (a) give too strong signals, or
- (b) come into resonance within the range of frequencies 60 - 670 kc/s.

In the case of (a) the settings of the coupling in the Corrector may be too critical if the series condenser is not employed and in the case of (b) the current flowing down the aerial will not be in the right phase, but may be put right by bringing in the series condenser, by breaking the short circuiting switch (14).

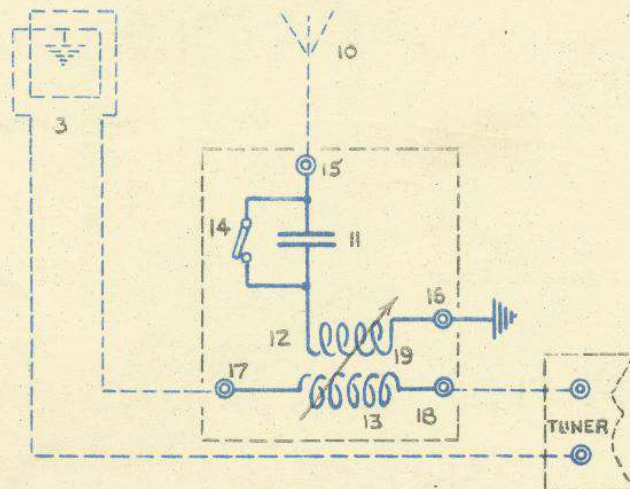


FIG. A

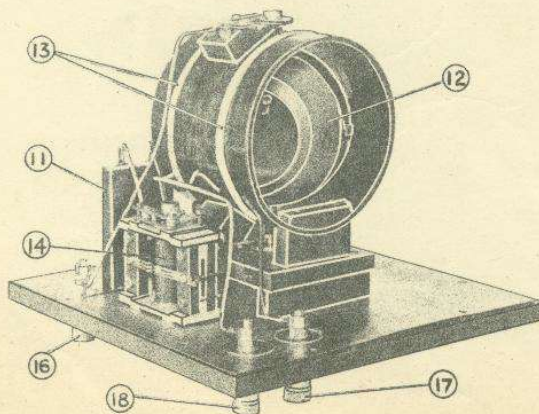


FIG. B

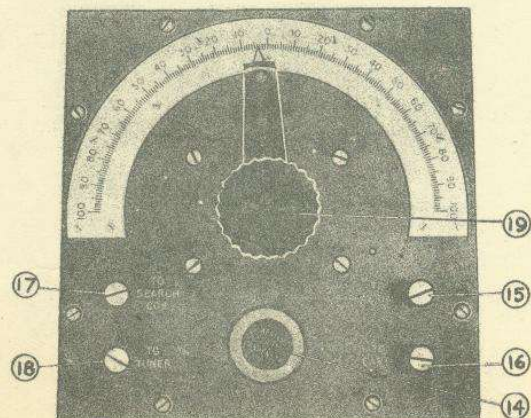


FIG. C