

Two change over links (10) connect the aerial coil (13) or to the aerial coupling coil (156) for the spark attachment. When the links are in the "valve" position the aerial circuit is connected to the upper variable tapping (11) and lower variable tapping (12) on the tapping coil (13). The upper and lower tappings are varied by handles which project through the front of the panels.

The aerial is connected to the I/F or H/F set by one contact of the I/F - H/F C.O.S. (6). The aerial circuit consists of the aerial coil (7) variable tapping coil (13) fine tuning coil (14) and aerial ammeter transformer (15). An aerial condenser switch (9) is used to connect a series condenser (8) of 0.25 jars in series with the aerial in lieu of the aerial coil (7). The condenser is used when transmitting on frequencies above 300 kc/s. The aerial circuit is tuned by adjusting the variable tap on the aerial coil (7) and the two variable taps on the tapping coil (13); all three are adjusted by handles on the front of the panels.

Fine tuning adjustments of the aerial circuit are made on the fine tuning coil (14) the handle of which is fitted with a vee-der counter gear which records the number of turns and the degrees in use. The fine tuning coil (14) is connected between the link (10) and the aerial ammeter transformer (15) the latter being earthed via the operating switch (18).

Mechanically linked to the key C.O.S. (103), on the board 2K controlling, is a switch which changes the I/F receiving instruments to the aerial in use. Type 37 is used with the main aerial, and 4H with the auxiliary aerial.

When the set is fitted in a main W/T office and special arrangements are made for two operators, this mechanically linked switch is not used. The main aerial is connected direct

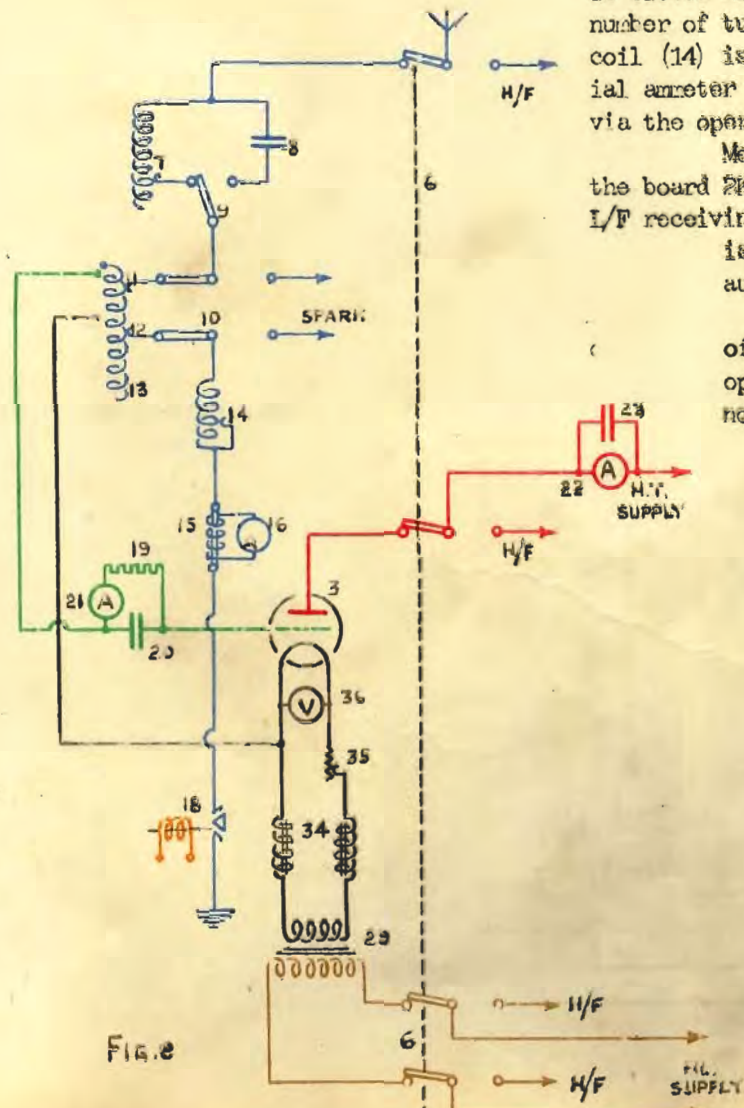


Fig. e

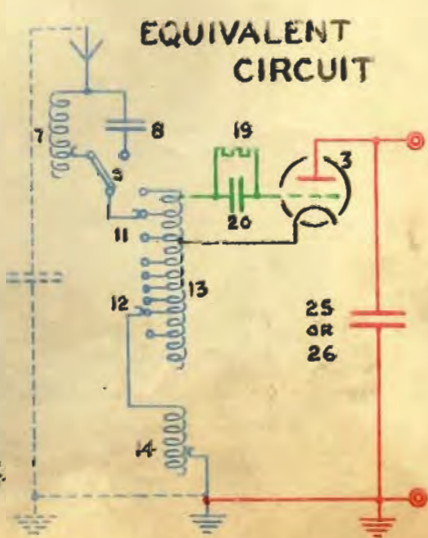


Fig. f

RFL  
150

# TYPE 37S

## TRANSMITTER 3K, L/F (CONT.)

to the receiving instruments in the main bay and the auxiliary aerial to the receiving instruments in the second bay. In this case the morse key circuit is also modified as described under D.C. auxiliary circuits (Page 255). RFL

Tuning. A tuning chart, applicable to each set, tuned with an approximate 0.6 $\mu$  jar aerial, is supplied. Set the aerial circuit adjustments given on this chart to the required frequency. Place the wavemeter mutual near the aerial coil (7) and after obtaining aerial current, readjust the aerial circuit for the required frequency.

Rough tuning adjustments are made on the aerial coil (7) and fine tuning on the fine tuning coil (14).

The filament tapping is fixed, but variations of its relative position are made by the upper tap (11) and lower tap (12) above and below, keeping the total inductance constant. This should be adjusted to give maximum aerial current and minimum anode current. The former is indicated on the aerial ammeter (16) and the latter on the anode ammeter (22).

Tuning should be carried out with decreased input voltage.

Frequencies between 800 kc/s. and 1365 kc/s. a range higher than that for which the set was designed (i. e., 670 kc/s.) can be obtained by combining the upper tap (11) and lower tap (12) at a common point. The input voltage should not exceed 120 volts when using 800 kc/s. and 70 volts at 1364 kc/s or damage may be done. A full explanation and description of this will be found in the Admiralty Handbook of W/T (1931) paragraphs 713 and 714.

