

"Airzone" 513, 513H / 563, 573, 574

(Circuit Diagram on page 236)

Airzone model 563 is a five-valve receiver designed for broadcast coverage and operation from battery power supplies. Model 563 might be termed the "basic" model of a series as the same circuit arrangement, with minor physical changes, is also found in the chasses fitted to models 573 and 574. The major point of difference lies in the fact that whereas model 563 is fitted with an

"aero" type dial, models 573 and 574 are fitted with dials of the horizontal straight-line type. The aero type dial chassis bears the type number "513," while the later chasses are designated "513H".

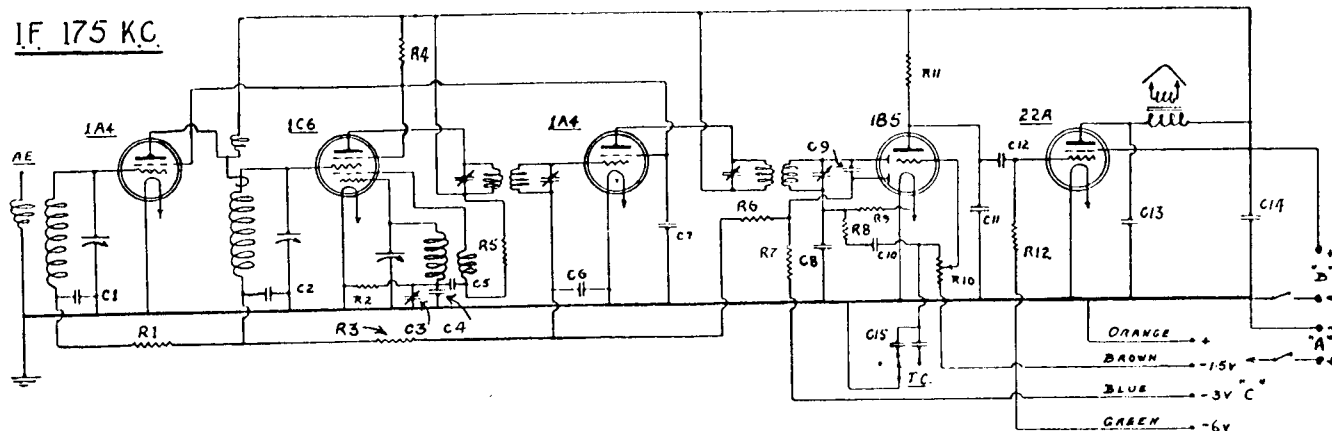
Each of these receivers is housed in a console type cabinet and four controls are fitted. These are for volume (with combined battery switch); tuning; tone (3 positions); and dial lamp control. The

dial lamp in each case is a 2 volt miniature screw type. The loudspeaker fitted to these receivers is an 8 inch unit of the permanent magnet type and connection to the receiver is effected by means of a 4 pin plug. The battery power supply for these receivers consists of a 2 volt accumulator for "A" supply (leads coded red and black for positive and negative, respectively); three 45 v. series-connected dry batteries (only two leads, coded yellow and white for positive and negative, respectively); and a 9 v. tapped

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"Airzone" Battery-operated Models 563, 573, 574

I.F. 175 KC.



RESISTORS

R1	-	.1 M.Ω	$\frac{1}{2}$ W
R2	-	.1 M.Ω	
R3	-	.1 M.Ω	"
R4	-	20 K.Ω	$\frac{1}{2}$ W
R5	-	50 K.Ω	$\frac{1}{2}$ W
R6	-	.5 M.Ω	$\frac{1}{2}$ W
R7	-	.1 M.Ω	"
R8	-	30 K.Ω	"
R9	-	.5 M.Ω	"
R10	-	.5 M.Ω	V.C.
R11	-	.1 M.Ω	$\frac{1}{2}$ W
R12	-	.5 M.Ω	$\frac{1}{2}$ W

CONDENSERS

C1	-	.05 μf	400v.tubular
C2	-	.05 μf	400v.tubular
C3	-	Adj. padder	3 Plato
C4	-	750 puf	mica
C5	-	4000 puf	mica
C6	-	.05 μf	400v.tubular
C7	-	.1 μf	400v.tubular
C8	-	250 puf	mica
C9	-	50 puf	mica
C10	-	.01 μf	400v.tubular
C11	-	250 puf	mica
C12	-	.01 μf	400v.tubular

C13	-	5000 puf	mica
C14	-	.5 μf	400v.tubular
C15	-	.001 + .004	400v.tub.

RECEIVER N° 563

CHASSIS N° 513

(Continued from previous page)
bias battery (four leads, coded as shown on the diagram).

The circuit arrangement of these receivers is quite straightforward, but attention should be paid to the fact that a series-type oscillator feedback circuit is employed instead of the shunt-fed system which is found in many of the A.C. operated Airzone receivers produced during 1936. It should be noted, however, that the plate by-pass condenser (C5) is returned to earth through the padder assembly (C3, C4). A further point of interest is provided by the fact that the padder assembly also serves as grid

blocking condenser for the oscillator and is directly shunted by the grid leak (R2). Finally, it should be noted that minimum bias for the R.F. converter and I.F. valves is applied through the A.V.C. system from the 3 volt tapping on the bias battery; this voltage also serves to delay the A.V.C. action to quite an appreciable extent.

OPERATING VOLTAGES.

There is little need to tabulate the operating voltages for this receiver, as most of them will be self-evident from the diagram. The only voltages which are not directly evident are the screen supply and the oscillator anode-grid

voltage; these should be 45 volts and 55 volts, respectively, when measured with a "1,000 ohms per volt" meter and the receiver tuned to a "no-signal" point. A little difficulty will be found in obtaining an exact indication of the 1B5 plate voltage, due to the high resistance in circuit. This will normally be indicated as about 90 volts on the "250 volts" scale of a meter, but a better indication is provided by the plate current, which should be 0.3 mA. As a final check, the plate current of the type 22A output pentode should be approx. 5.5 mA. and the total "no-signal" drain of the receiver about 12 mA.