TELEGRAMS: "RADICENTRE"
TELEPHONE 55-020

R.N.Z
RADIO CORPORATION OF NEW ZEALAND LTD.
80 COURTENAY PLACE, WELLINGTON, C3.
G.P.O. BOX 1585

SERVICE SUPPLEMENT
No. S.40/6
Date 15th August, 1940

S.40/6 ENGLISH "OSRAM" VALVE TYPES:

As the six types of "Osram" Valves now being used in several models are likely to ~~continue~~ date be used for some time the following information is supplied -

X65 Triode-hexode convertor - Heater 6.3 volts, .3 amps
Plate voltage 250v maximum
Screen voltage 100v maximum
Oscillator plate voltage 250v through 25000 ohms
Conversion conductance 225 micro amps per volt
Impedance 2.5 megohms

This valve has a high input impedance and very good oscillator stability resulting in excellent performance on short waves. Price..... 9/6

KTW61 Variable-Mu R.F. Beam Tetrode
Heater 6.3 volts, .3 amps
Plate voltage 250v maximum
Screen voltage 80v (100v maximum)
Mutual conductance 2.9 M.A. per volt
Impedance 450,000 ohms

This valve has a high mutual conductance and low inter-electrode capacities resulting in a high signal-to-noise ratio and higher gain than is possible with the familiar 6K7 type. Price..... 9/-

DH63 Double Diode Triode - Heater 6.3 volts, .3 amps
Plate voltage 250v maximum
Amplification factor 70
Impedance 58,000 ohms

This valve is essentially similar to the more familiar Type 75 or 6Q7 valve Price..... 8/-

KT61 - Audio Frequency Power Amplifier Beam Tetrode
Heater 6.3 volts, .95 amps
Plate voltage 250v maximum
Screen voltage 250v maximum
Plate current 40 MA
Screen current 7.5 M.A.
Mutual conductance 10 M.A. per volt
Bias resistor 90 ohms
Optimum load impedance 6,000 ohms
Output 3.5 watts at 5% distortion

This valve has a very high mutual conductance and is capable of great output with small signal input. The grid bias is only 4 volts approximately and therefore this valve cannot be replaced by 6F6 without damage to the latter. Price..... 9/6

Y63 - Magic Eye - This valve is similar to 6U5 but is fitted with octal base Price.....10/-

U.50 - Rectifier - This valve is electrically similar to 5Y3G and is directly replaceable by it. Price..... 4/6

62A

TELEGRAMS:
"RADICENTRE"

TELEPHONE 55-020

R.N.Z
RADIO CORPORATION OF NEW ZEALAND LTD.
60 COURTENAY PLACE, WELLINGTON, C3.
G.P.O. BOX 1585

SERVICE SUPPLEMENT
No. Date

S. 41/1.

27th March, 1941.

REPLACEMENT OF X65 TUBE BY 6K8
and KTW61 with 6K7.

In view of the difficulty in obtaining supplies of X65 valves it is necessary to replace this type with 6K8. However, straight out replacement with this valve will not be satisfactory. A small circuit change is also necessary. The oscillator grid condenser ~~which~~ in a chassis using the X65 is .0005 ~~is to~~ and must be changed to .00005. This latter size of mica condenser will be supplied by the Store in all cases where 6K8's are sent in response to replacement orders for X65 ~~type~~. The particular condenser is usually the nearest to the front of the chassis but as it is identical in appearance (though not in marking) with the .00005 mfd. condenser connected between the oscillator plate and the tuned circuit it should be carefully identified. There should be no confusion between the two condensers. The .00005 mfd. oscillator plate condenser remains in the circuit unchanged either with X65 or 6K8 valves.

If the oscillator grid condenser is not changed as mentioned the effect will most likely be violent oscillation on the higher frequencies of the short wave bands, together, ~~of course~~, with lower sensitivity.

Temporarily, at any rate, supplies of KTW 61 valves are also unobtainable and it is necessary to substitute 6K7. In this case no changes in the circuit are necessary although there will be a slight loss in sensitivity ~~but not very great~~ enough.

(62B)

TELEGRAMS:
"RADICENTRE"

TELEPHONE 55-020

R.N.Z
RADIO CORPORATION OF NEW ZEALAND LTD.
60 COURTENAY PLACE, WELLINGTON, C.3.
G.P.O. BOX 1585

SERVICE SUPPLEMENT

No. S41/3.

Date 21st May, 1941.

REPLACEMENT OF OSRAM VALVES.

As you probably know, export of valves from England has now been fully prohibited and as, in the past, we made wide use of Osram Tubes, it is probable that in service jobs we shall be faced with the problem of replacing them by equivalent American types. Until our present stocks are completely exhausted we shall endeavour to replace all Osram tubes, but whenever that ~~may not be convenient~~ IS NOT POSSIBLE we shall send you the American equivalent.

For your guidance we list below the equivalents of Osram Tubes which we have used in our models.

DH63 : This valve has its ~~direct~~ near equivalent in 6Q7G and may be replaced by it in all cases. note it is desirable to increase the plate resistor to 1 meg when fitting 6Q7.

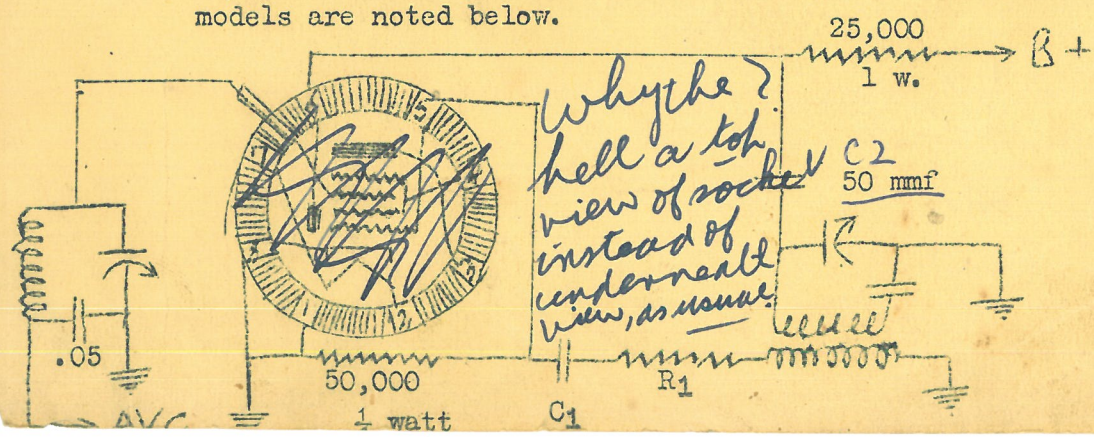
KT61 : This is the only Osram valve (of the ones we have used) that cannot be replaced directly by any other valve; we are therefore reserving supplies of these for replacement purposes. Should they be insufficient we shall advise you then of the circuit changes necessary for the use of KT61's nearest equivalent, i.e. 6V6G or 6F6G.

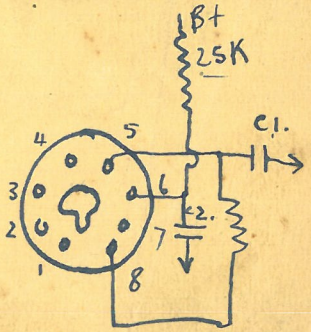
KT63 : This output valve was used in some of our models before we began using KT61. KT63 is directly replaceable by 6F6G.

KTW61 : KTW63 was used in some models before we began using KTW61. Both of these
KTW63 : tubes are directly replaceable with 6K7G, although when KTW61 is replaced with 6K7G there will be a slight loss of sensitivity.

U50 : This is the standard type of rectifier valve which is directly replaceable with 5Y3G.

X65 : In all circuits X65 can be directly replaced by 6J8G. Sometimes, however, it happens that no 6J8G valves are available. In such cases 6K8G may be used to replace X65. This change is accomplished with a change of a condenser or/and a resistor in the oscillator circuit. Different changes for different models are noted below.





62C

S41/3 21-5-41

Above diagram represents either X65, 6J8G or 6K8G as used in a shunt-fed plate-tuned oscillator circuit, as used in Models 51, 52S, 56, 62, 63, 66 and 75.

The valves of R_1 and C_1 for different models when using different values are :-

Models 51, 52S, 56, 63 and 75: 490 ohms

with X65 or 6J8G	C_1	= .0005 mf.	R_1	=	Nil
with 6K8G	C_1	= .00005 mf.	R_1	=	Nil

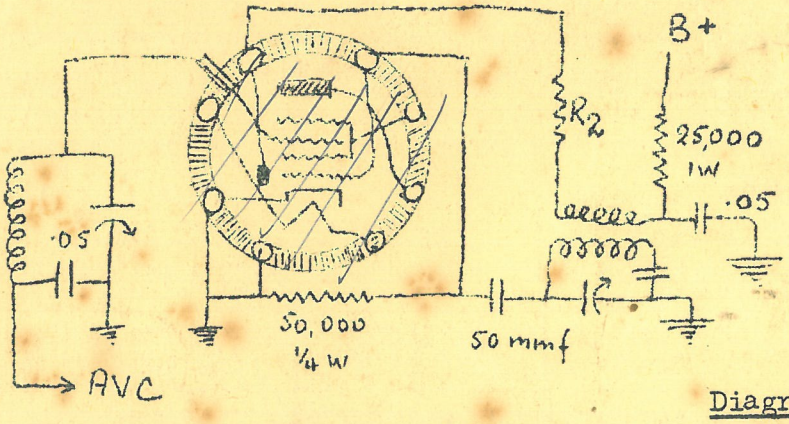
Model 62:

with X65 or 6J8G	C_1	= .0005 mf.	R_1	=	30 ohm 1/3 watt
with 6K8G	C_1	= .00005 mf	R_1	=	30 ohm 1/3 watt

Model 66:

with X65 or 6J8G	C_1	= .0005 mf.	R_1 (with R6452 Osc. Coil)	= 30 ohm $\frac{1}{4}$ watt
			R_1 (with R6459 Osc. Coil)	= Nil.
with 6K8G	C_1	= .00005 mmf.	R_1 (with R6452 or R6459)	= Nil.

(R_1 is inserted in series with the lead from wave-change switch to primary of R6452)



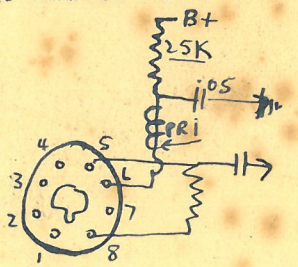


Diagram 2.

Above diagram represents either X65, 6J8G or 6K8G as used in a series-fed grid-tuned oscillator circuit, as used in Models 051 and 052.

The value of R_2 when using an X65 or 6J8G is :-

Model 051	-	Nil
Model 052	-	90 ohm 1/3 watt.

6K8G cannot be used in place of X65 or 6J8G in models 051 and 052 without considerable alteration to the circuits. These alterations should be avoided, and if an X65 valve does have to be replaced in these models by an American equivalent it should always be a 6J8G.

Y63: Octal base Magic Eye valve - There is no suitable direct replacement. We are keeping stocks of Y63 valves for replacement purposes, but should these be insufficient we shall advise you later of the most convenient change.

62D