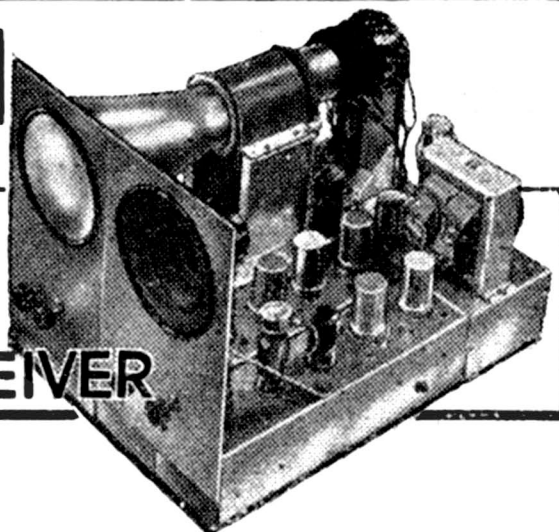


The "ARGUS"

BUILDING OUR *Free Blueprint* TELEVISION RECEIVER



3.—FURTHER TRIMMING NOTES AND SIMPLE FAULT FINDING

NOTE:—Reprints of the Blueprint and instructions are now available for 2/6 each.

THE tuning cores of the vision receiver should be adjusted so as to provide maximum quality starting with the last one feeding the detector and working back to the aerial coil.

It will probably be found that the picture is inclined to jump and will have black lines running diagonally across it. This is due to sound breakthrough, and the rejector coils L6 and L7 should be adjusted to eliminate this interference. To obtain maximum sound rejection it is a good idea to wait for the close of the evening's transmission when the vision channel has been cut off and the sound channel is radiating the news bulletin. A pair of earphones can be inserted in the anode circuit of the video valve V6, and L6 and L7 adjusted so as to eliminate the sound signal.

As the cores of the vision receiver are adjusted to bring out the maximum quality in the picture it can be found necessary to advance the contrast control to counteract the loss of gain. It will be found best to "stagger" tune the coils, that is, to tune them above and below their peak frequency. This staggering has been partly catered for in the winding of the coils but the quality can be further improved by continuing the process.

The method to be employed is to adjust all cores

level with the tops of the formers. Now screw L2 and L4 out a few turns and screw L1 and L3 in a few turns. The effect on the picture should be noted and the process repeated if necessary.

Final adjustments should be made on Text Card C. which is radiated every morning between 10 a.m. and noon.

To receive the sound signal turn up the volume control and simply adjust T1, T2 and T3 for maximum volume, final adjustments being made with the cores of the coils.

Faults

In case any snags arise, here is a brief guide to the more common faults which may occur.

No sound; no vision; no raster.

The fault obviously lies in some part which is common to the whole unit. That can only be the mains supply. Check the on/off switch, mains plug, etc.

A spot only is obtained.

Reduce the brilliance control at once! The fault indicates that neither time bases are working. Check H.T. and filament lines in the time base.

A horizontal line only is obtained.

This indicates that the line time base is functioning but the frame time base is not. Examine the circuits of V17 and V18. Check the height control.

A vertical line only is obtained.

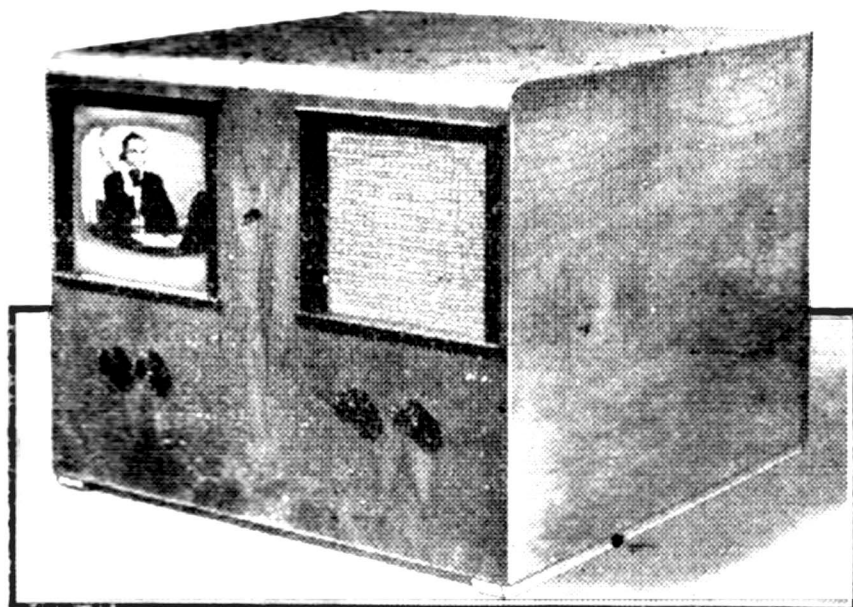
This indicates that the frame time base is functioning but not the line time base. Check V15 and V16 and associated circuits.

The raster is too narrow.

Take out V16; if there is no change or very little change it indicates that this valve or its circuit is faulty. If the raster becomes still more narrow when this valve is removed then it indicates that the valves V16 and V15 are being starved of H.T. Check the supply.

The raster is not tall enough.

Take out V18; if there is no change, or very little change, then it is this valve or its circuit which is at fault. If the raster becomes markedly shorter, then the H.T. supply is at fault and should be checked. Do not forget the height control!



The "Argus" in a cabinet built for it by Messrs Tallon, of Rugby.

Raster C.K. ; no picture ; no sound.

Check H.T. and L.T. to vision and sound receivers. Check particularly the circuit of V1. Check that the aerial is connected.

Raster O.K. ; no picture ; sound O.K.

The fault here lies between the anode of V1 and the grid of the tube. Check the circuit systematically from the tube, back to V1. Ensure that H.T. and L.T. are reaching the valves. Verify that the rejector coils are not tuned to the vision signal.

Raster O.K. ; picture O.K. ; no sound.

The fault lies in the sound unit between the coupling coil V1 anode circuit to the loudspeaker. Check the anode and grid voltages in the sound receiver, and trace circuit back from the loudspeaker.

The picture is upside-down

Reverse the connections to 8 and 12 on the C.R.T. holder.

The picture is left to right.

Reverse the connections to 9 and 11 on the C.R.T. holder.

The picture is "inside-out."

Reverse the connections to 8 and 12 and also the connections to 9 and 11 on the tube holder.

The picture slips sideways.

Due to either too small a sync pulse or incorrect setting of the line hold control. Adjust C58 and/or VR4. If neither of these will lock the picture, inspect the sync valve (V14) and its circuit. Try changing this valve. Also verify that the components in the time base are the correct value. Try the effect of increasing or decreasing R41.

The picture slips up and down.

Due either to too small a sync pulse or incorrect value of VR5 setting. If sync pulse appears to be O.K., then try changing R49 to a higher or lower value.

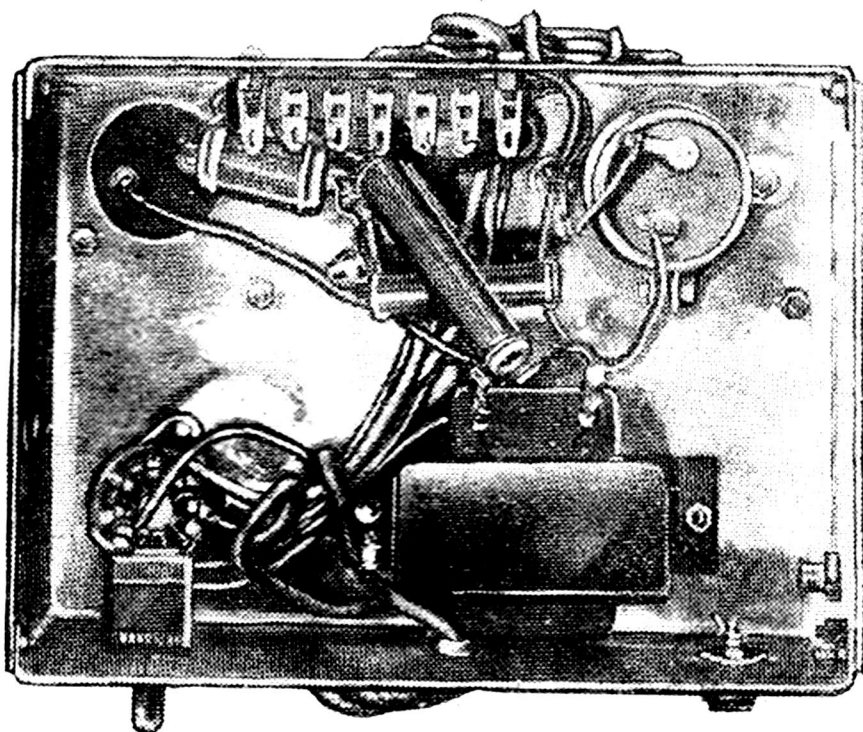
Picture will not hold in any direction.

Fault is either a very weak signal or no sync pulse

is reaching either time base. Check circuits of the sync separator and the phase splitter (V13). If the fault is due to a weak signal, a pre-amplifier may be required.

Picture seems out of focus, raster is sharp.

If the raster focuses sharply the fault is due to insuffi-



Underside view of the power pack.

cient bandwidth in the vision receiver. The tuning coils should be further staggered.

The black parts of the picture are smeary.

The fault again lies in the tuning ; circuits will require realignment.

The picture seems covered with snowflakes.

This is due to a weak signal. In this case, a good multi-element aerial is required together, possibly, with a pre-amplifier.