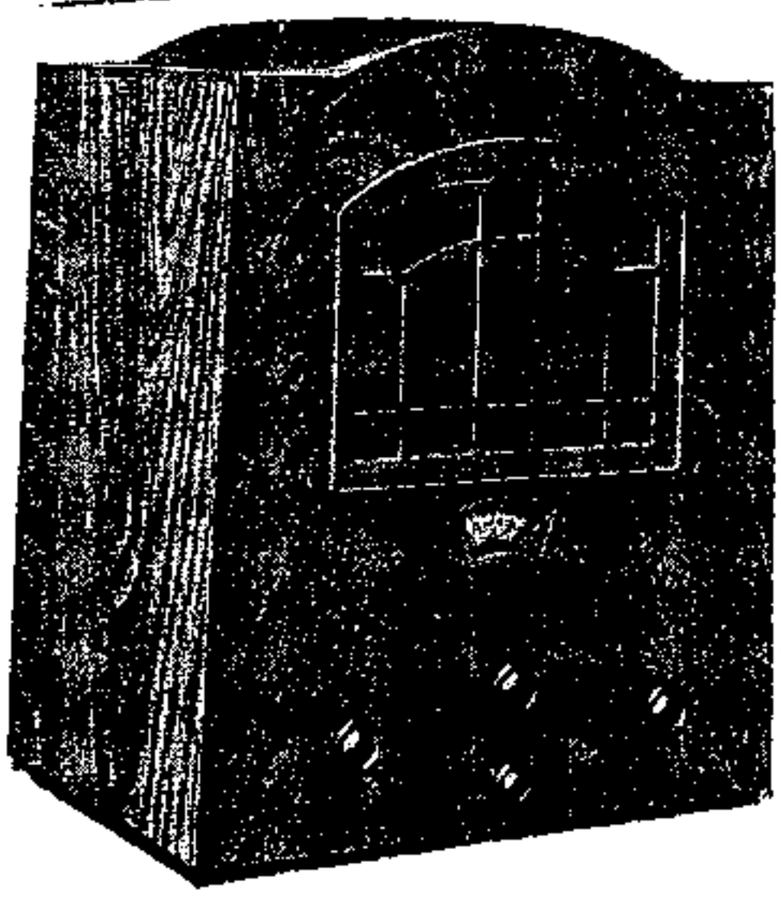
Dominion Receiver

TYPE S.G.P.3.

A Well-finished Three-valve Set for A.C. Mains.



OF the numerous features commending this receiver to the potential buyer, not the least is the cabinet, which is attractively finished in figured walnut.

A glance at the photograph reproduced above shows that the controls are placed conveniently to the hand, while the illuminated dial, calibrated in wavelengths, is easy to read without being obtrusive. The set as a whole is compact and well-proportioned and is less weighty than the majority of 3-valve A.C. mains receivers of similar specification.

The circuit follows the popular arrangement of a screen-grid H.F. stage followed by a grid detector and a power pentode output valve. The H.T. supply is derived from a full-wave valve rectifier, and the field winding of the moving coil loud speaker is included in the smoothing circuit. All the anode feed and automatic bias circuits are adequately decoupled, and the output from the pentode is compensated to avoid undue shrillness in the quality of reproduction.

An Efficient H.F. Stage.

Single dial tuning has been adopted and the two-gang condenser tunes simultaneously the input and output circuits of the H.F. stage. The ganging is accurate and the complication of a trimming control has consequently been eliminated. The tuned circuits do not include a band-pass filter, but selectivity is achieved by conserving the efficiency of the H.F. coupling circuits. Both the coils and their screening cans are larger than the average and the loading of the detector is reduced by tapping down the tuned secondary of the H.F. transformer. The damping due to the H.F. valve can also be reduced by the volume control which reduces the screen-grid voltage and so increases the valve resistance. Reaction is provided so that the user by intelligent manipulation of the volume and reaction controls can vary the selectivity of the set to suit different conditions. Thus, to increase selectivity, the volume is first reduced by the volume control and then restored by reaction.

The combined selectivity and volume control is placed immediately below the main tuning control in the middle of the panel, the reaction control is on the right and the wave-range switch on the left.

The first impression on switching on the set was one of general liveliness and "punch." In handling some receivers there is always a subconscious effort to squeeze the last ounce of power from the circuit, but in the Dominion set the tendency is rather to tone it down. Far more volume is available than can be used in the average room, and under normal working conditions it will be found that the quality is bright without shrillness and full-bodied without a preponderance of bass. The reproduction of the soprano voice, regarded by many as a crucial test of quality, was unusually good.

The sensitivity and range indicate that the H.F. stage is giving full measure and there is no appreciable difference in this respect between the performance on long and medium waves. In London, upwards of 15 stations on medium waves and 6 or 7 on long waves may be relied upon to give enjoyable programmes. The employment of critical reaction is not essential to the efficient reception of these stations, and normally the only controls used will be the wave-range switch and the main tuning knob.

Selectivity.

Having regard to the fact that band-pass tuning is not employed, the selectivity is remarkably good. On long waves Königswusterhausen can be received in Central London quite clear of Radio Paris and with only the slightest background from Daventry National. With the aerial connected to the most selective tapping (A_3), the London National programme can be confined to a band 20 metres wide and the Regional to 45 metres and four or five distant stations can be received between the wavelengths of local stations without background interference. There was slight breaking through of the local stations at the bottom of the long-wave range, but the interference was confined to only a few degrees and did not prevent the reception of any worth-while station.

The set is well above the average from the point of view of residual mains hum, which is inaudible unless the head is placed immediately in front of the loud-speaker grille.

A feature is made of the fact that the chassis is of all-steel construction, while the components used are all of tried design and good quality.

Sockets are provided at the back of the set for an external loud speaker and also for a gramophone pick-up. The wave-range switch has not been complicated by the addition of contacts for gramophone reproduction, so that the pick-up leads must be detached when not in use. It will be seen from the circuit diagram that the detector valve is biased negatively from the same source as the screen grid valve during the playing of records. Breaking through of broadcasting is avoided by turning the screen grid volume control to the left, and it is worthy of note that this control gives a very good minimum even when the set is used within sight of the Brookmans Park aerials.

H.T. Supply.

Adjustment of the mains transformer primary to the supply voltage is effected by a wander plug fitting into sockets conveniently situated in a small panel between the pentode and power rectifier valves. The range of adjustment is as follows: 200/210, 220/230 and 240/250 volts.

In view of the fact that a class "B" rectifier is included in the specification, there is no fear that any of the valves will be starved of H.T. current. The whole of the current from the rectifier is available for the receiving valves since the loud speaker field winding is in series and not shunt across the rectifier output. Incidentally, the field winding is in the positive H.T. lead, and grid bias for the screen-grid and pentode valves is taken from a common resistance in the negative H.T. lead.

All the valve holders are readily accessible and a special single unit carton has been designed to ensure the safety of the valves in transit.

There can be no doubt that the purchaser of a Dominion S.G.P.3 receiver will get very good value for money from the point of view both of performance and appearance.

FEATURES.

General.—*A three-valve, self-contained receiver for A.C. mains. Built-in energised moving-coil loud speaker. Ganged single-dial tuning. Provision for gramophone pick-up and external loud speaker.*

Circuit.—*Screen-grid H.F. stage with tuned transformer coupling and screen-potential volume control. Grid detector with reaction, transformer coupled to compensated power pentode output valve. Full-wave valve rectifier.*

Controls.—*(1) Main tuning (ganged) with illuminated scale calibrated in wavelengths. (2) Volume (and selectivity) control. (3) Reaction. (4) Wave-range switch. (5) Mains on-off switch at back of cabinet.*

Price.—*15 guineas.*

Makers.—*Brownie Wireless Co. (G.B.), Ltd., Nelson Street Works, London, N.W.1.*