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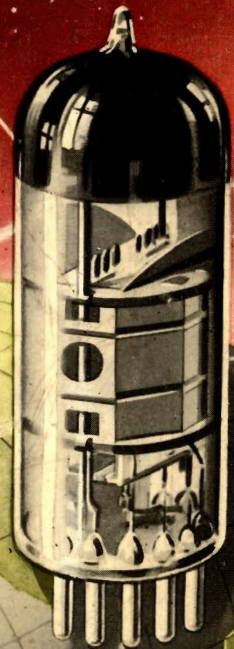
EQUIVALENT RADIO TUBES

VADE-MECUM

1953

10th Edition

PHILIPS
electronic tubes



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P. H. BRANS'

Equivalent Radio Tube VADE-MECUM

Introduction to the 10th Edition

In the preface to the 9th Edition it was explained why it was necessary to spread the extensive range of our tube data over several editions. The comparison charts herewith for equivalent radio tubes were originally intended to be part of the 10th edition, however, the final amount of material available was so large that it had to be formed into a separate edition. So great has been the demand for comparison charts similar to those which appeared for the first time in our 6th edition, that the matter could no longer be ignored and had to be given urgent attention.

For such reasons, the 11th edition will contain the television tubes and special tubes (such as klystrons, magnetrons, ignitrons, thyratrons, phasitrons, geiger counters, current stabilizers, photocells, crystal-diodes, -triodes and -tetrodes). The complete «Vade Mecum» will thus be composed as follows :

9th edition : RADIO TUBES

10th edition : EQUIVALENT RADIO TUBES

11th edition : TELEVISION TUBES

EQUIVALENTS.

The attached edition is intended to be a quick reference for the possible exchanges or substitutions of radio tubes. There are no difficulties in dealing with normally rated equivalent tubes. It is sufficient to mention one or more normal substitutes (Example : 6J7 — 1603).

NEAR-EQUIVALENTS.

For those radio tubes not usually rated as normal substitutes the procedure is not so simple. In order to keep the range of the book within reasonable limits, some restrictions had to be imposed in order to prevent excessive detail. The tables of the book are devised to give a maximum of practical information in a simple and under-

standable form, resulting in saving of valuable time with a minimum of effort.

TABLE I.

This has been simplified as far as possible. The first column lists the original type, the second column the potential substitute. If the latter is directly equivalent no further indications are given in the third column. If the potential substitute tube is not directly equivalent, the reader will find letter and number groups in the third column, indicating in what manner the listed substitute differs. The explanation of these groups can be found on the attached bookmark, which can be laid next to the tables for easy consultation.

Between the first and the second column some marks will be found giving additional information. Their meaning will also be found on the bookmark.

For further details of the differences mentioned, the characteristics given in the 9th edition will be of great assistance.

For all normal cases, the reader should not need to go farther than Table I. Only for special and complex cases (e.g. combined tubes) will Tables II and III need to be also consulted.

TABLE II.

In Table I tubes are compared in listed series of directly or near equivalents, the internal construction of which consists of the same elements. (Example : with the 7B6 only triodes are given with a built-in double diode and one cathode). In every series one type is listed in heavy print. For the sake of convenience, it will be called the «mother» type. (Example : in the 7B6 series the 6SQ7 is the mother type). It can be found in Table II together with mothertypes of other series. Here the mothertype (1st column) is given with its internal construction (2nd column) and compared with other types (3rd column) with the same principal elements but a different internal construction (4th column). (Example : the 6SQ7 is compared with 6F5, the 7X7, etc. If it is desired to find a triode having the same charac-

teristics as the triode-part of the 6SQ7, but having no diodes, it will be found in the complete series in Table I under 6F5).

TABLE III.

In the listed series of Table II one tube is also marked in heavy print. It can be found in Table III where it is compared with other mother types the characteristics of which are no longer equivalent but are very close. (Example : to search for a triode the amplification factor of which is lower than the triode-part of the 6F5. In Table III it is compared with 6K5. Tubes which are equivalent to that type may be directly located in Table I or via Table II if an equivalent with a different internal construction is needed).

ARMY TUBES.

Table IV is reserved to comparisons of military tubes of all nationalities with their commercial equivalents or prototypes. Army tubes having no commercial substitutes are not given. Their characteristics can be found in previous editions.

REMARKS :

To save space we have listed the tubes with standard numbering (e.g. the 807) but sold by different manufacturers after affixing of their respective initials (HY807, GL807, etc.) under the standard-number. If a given tube cannot be located under the manufacturers' denomination, the front initials should be omitted. This applies to CE (Cetron), CK (Raytheon), DR (Gen. Electronics), E (Electrons), F (Federal), GL (General Electric), HK (Gammatron), HY (Hytron), ML (Machlett), RK (Raytheon), T (Taylor), WE (Westrex), WL (Westinghouse). Exception has been made for tubes exclusively made by one manufacturer only. Here the full initials have been maintained.

Since crystal-diodes and -triodes are in growing demand, they have been included in the comparison charts. Transmitting tubes have been included up to 250 W rated plate dissipation, rectifiers up to 1 kW rated power.