

## 10.11 Tube-Data

### 10.11.1 Nomenclature for tubes

Amplifier tubes (or valves, as they are called in British English) are designated with letters and/or numbers, e.g. ECC83. While this system helps as a coarse classification, we must not expect precise statements regarding the function of the respective tube. Even within one and the same batch of tubes manufactured in one go, there will be variations due to production aspects. Often, developments led to changes in characteristics that were not necessarily reflected in the designation, plus competitors sought to win over customers with improvements. Today, the designation system has gone completely astray because almost every “supplier” tends to invent fancy designations to make “his” tubes stand out more. The classic system for European and US tubes, respectively, specifies them as follows:

The **first character** stands for the heater voltage: **G** and **5**, respectively, for 5.0 V, **E** and **6** for 6.3 V, **12** for 12.6 V. A 12AX7 (and many similar double triodes) may be operated with 6.3 V, as well, by connecting the heaters in parallel rather than in series.

The **second character** designates the type of tube/valve in the European system: **C** for triode, **F** for pentode, **L** for power pentode, **Y** for half-wave rectifier, **Z** for full-wave rectifier. In the US-system the letters are consecutively allocated to this character position.

In the European system, the **third character** stands for the tube socket: **3** = octal (8-pin) socket, **8** = 9-pin socket. In the US-system, the corresponding character designates the type of tube: 4 = triode, 7 = double triode, 6 = tetrode or pentode in an octal socket.

In the US-system, the letters following the **dash** stand for the type of glass container: G for the large, bulbous container, GT for the small cylindrical one. A prefix “W” indicates MIL-specs. The last letter designates the production version starting with an “A”.

#### Examples:

ECC81, ECC82, ECC83: double-triode, 9-pin socket, 6.3 V (or 12.6 V) heater.

EF86: pentode for preamplifier, 9-pin socket, 6.3 V heater.

EL34: power-pentode, octal socket, 6.3 V heater.

EL84: power-pentode, 9-pin socket, 6.3 V heater.

GZ34: full-wave-rectifier valve, octal socket, 5.0 V heater.

EZ81: full-wave-rectifier valve, octal socket, 6.3 V heater.

12AT7, 12AU7, 12AX7, 12AY7: double-triode, 9-pin socket, 12.6 V (or 6.3 V) heater.

6L6-G: power-pentode, octal socket, 6.3 V heater, bulbous glass container.

6L6-GA, 6L6-GB, 6L6-GC: continued development of the 6L6-G.

6L6-WGC: 6L6 with military specifications.

6V6-GT: power-pentode, octal sockets, 6.3 V heater, glass container.

5Y3-GT: full-wave rectifier tube, octal socket, 5.0 V heater, glass container.