

# Valve Type Numbers

The information in this document has been gathered and assembled from various sources including *Radio Bygones* magazine No. 9 (February/March 1991).

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## Pro-Electron/Mullard Code

This are probably the most commonly encountered numbering system in the UK - and the most informative. It consists of two or more letters followed by a number (normally two digits). Examples - UL41, ECC85, UABC80.

The first letter gives heater rating:

Character	Heater Rating
A	4V
B	180mA
C	200mA
D	0 - 1.5V (previously 1.4V)
E	6.3V
F	12.6V
G	Misc. (previously 5V)
H	150mA
K	2V
L	450mA
P	300mA
T	7.4V
U	100mA
V	50mA
W	600mA
X	450mA

The remaining letters give the types of device in the valve. They are normally listed in alphabetical order.

Character	Device Type
A	Signal Diode
B	Double Diode
C	Signal Triode
D	Power Triode
E	Signal Tetrode
F	Signal Pentode
H	Hexode or Heptode (Hexode type)
K	Octode or Heptode (Octode type)
L	Output Tetrode or Pentode
M	Magic Eye (Tuning Indicator)
N	Gas-filled Triode (Thyratron)
Q	Nonode
X	Gas-filled Full-wave Rectifier
Y	Half-wave Rectifier
Z	Full-Wave Rectifier

The first digit indicates the base type. Where there is only one digit this is assumed to be the second digit, and be preceded by a zero. For example, EM4 should be interpreted as EM04.

Digit	Base Type
0 and 1	Miscellaneous Bases (P-Base, Side Contact etc)
2	B10B (previously B8B/B8G (Loctal))
3	International Octal (8-pin with centre locating spigot)
4	B8A (8 pin with locating pip on side)
5	B9G and B9D (wire ended)
6 and 7	Subminatures
8	B9A (9-pin glass)
9	B7G (7-pin glass)

The remaining digit(s) are used to differentiate between valves that would otherwise have identical numbers: -

- One digit for early valves
- Two figures for later entertainment valves
- Three or Four figures for later professional types

## GEC Code (also used on Marconi and Osram valves)

This consists of one or two letters followed by a number (normally two digits). Examples L63, KT88.

The letters have the following meaning:

Characters	Device Type
A	Industrial Valve (could be anything!)
B	Double Triode
D	Diode
GU	Gas-filled Rectifier
GT	Gas-filled Triode (Thyratron)
H	Signal Triode (High Impedance)
H	Signal Triode (Medium Impedance)
KT	Kinkless Tetrode (Beam Tetrode)
KTW	Vari-Mu RF Kinkless Tetrode
KTZ	Sharp Cut-Off RF Kinkless Tetrode
L	Signal Triode (Low Impedance)
MU	Indirectly Heated Rectifier
N	Output Pentode
P	Output Triode
PX	Output Triode
QP	Quiescent Push-Pull Double Pentode
S	Tetrode
U	Rectifier
VS	Vari-Mu Tetrode
W	Vari-Mu Pentode
X	Triode-Hexode, Heptode, Octode (Frequency Changer)
Y	'Magic Eye' Tuning Indicator
Z	Sharp Cut-Off HF Pentode

The digits are simply to distinguish similar valves and cannot be decoded: -

- One digit for early valves
- Two figures for later valves

Note: Suffix 'M' indicates external metallising

## Mazda Code

These can be confused with the US code (below). The codes consist of digits, then letters, and then digits. Examples 10D2, 6F18.

The first digits give the heater rating:

Digits	Heater Rating
1	1.4V
6	6.3V
10	100mA
20	200mA
30	300mA

The letters indicate the type of valve. Mazda codes do not normally double-up the letters - so for example 'D' would be used for single and multiple diodes.

Characters	Device Type
C	Frequency Changer
D	Signal Diode
F	Signal Tetrode or Pentode
K	Gas-filled Triode (Thyratron)
L	Signal Triode
M	'Magic Eye' Tuning Indicator
P	Output Tetrode or Pentode
U	Half-Wave Rectifier
UU	Full-Wave Rectifier

The final digits distinguish between valves that would otherwise have identical codes.

## Miscellaneous Early British Codes

A selection of some of those codes from the era of British 4, 5 and 7-pin based valves, and also Mazda Octals. Some codes were used by one manufacturer only, some by more than one.

I have tried to limit this table to those codes that, in general, always had the same meaning, though some had different shades of meaning under different brand names. Sometimes code letters were combined to identify a multiple valve, for example the AC/2PenDD, a double-diode output pentode with 4V heater from Mazda.

Characters	Device Type
AC	4-volt Heater
D	Single or Double Diode
DD	Double Diode
DDT	Double-Diode Triode
FC	Frequency Changer
H	High-Impedance Triode
M	4-volt Heater
ME	'Magic Eye' Tuning Indicator
Pen	Output Pentode
PM	Philips/Mullard
PP	Power (Output) Pentode
PT	Output Pentode
R	Full-Wave Rectifier
SP	Straight RF Pentode
TH	Triode-Heptode or Triode-Hexode
TP	Triode-Pentode
U	Rectifier (usually Half-Wave)
UU	Full-Wave Rectifier
VP	Vari-Mu RF Pentode

## USA Code

The USA codes consist of digits, then letters, the digits, then possibly further letters. Examples 6V6GT, 5Z4G.

The first digits give heater voltage rating, with the exception that '7' and '14' are used to indicate 6.3V and 12.6V valves (respectively) with Loctal bases.

The next letters indicate the type of valve, but there is no real consistency of coding. 'S' often indicates a single-ended (no top cap) version of an earlier valve with such a cap.

The second digit group refers to the number of ACTIVE ELEMENTS in that valve. Note that in the case of a metal valve, the outer shell is counted as an active element.

The final letters often specify the type of envelope:

Characters	Envelope
G	Large Glass Envelope
GC	Glass Compact
GT	Glass Tubular
M or None	Metal Envelope
MG	Metal over Glass Envelope
WA	High Quality Version