

Valve numbers and how to decode them

Mullard Code Used for UK and European valves.

This consists of a string of letters followed by a string of digits. E.g. ECC83,

EL34 First letter gives heater rating

A - 4V

C - 200mA series connection

D - 1.4V (Normally directly heated)

E - 6.3V (By far the most common)

G - 5V

H - 450mA series connection

K - 2V

O - cold cathode/semiconductor device

P - 300mA series connection

U - 100mA series connection

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

A - signal diode

AA - 2 diodes with separate cathode

B - double diode with common cathode

C - signal triode

D - power triode (e.g. TV shunt stabiliser)

E - signal tetrode

F - signal pentode

H - hexode/heptode (Hexode structure)

K - heptode or octode (octode structure)

L - output tetrode, beam tetrode, or pentode

M - magic eye (seeing eye ?) tuning indicator

N - gas filled triode / thyatron

Q - Nonode

X - gas-filled full-wave rectifier/double diode

Y - half wave rectifier/single diode

Z - vacuum full-wave rectifier/double diode

Digits indicate the base (first digit) and a code to distinguish valves that would otherwise have identical numbers (e.g. EL84 and EL85 are both output pentodes with a 6.3V heater on a B9A base. They are otherwise different).

First digit

0,1 - misc base - P base, side contact, etc

2 - B8B Loctal

3 - International Octal

4 - B8A

5 - B9G, B9D, misc

6,7 - Subminiatures

8 - B9A

9 - B7G

GEC Code Marconi/Osram Brands also.

Consist of Letter (or Letters) followed by digits (e.g. L63, KT88). The digits are simply to distinguish similar valves (like all triodes), and cannot be decoded. The letters have the following meaning.

A - Industrial valve (Maybe almost anything - power triode, etc)

B - Double triode

D - Diode

GU - Gas-filled rectifier

GT - Gas Triode (Thyratron)

H - signal triode (high impedance)

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KT - Kinkless tetrode (beam tetrode)

L - signal triode (low impedance)

MU - indirectly heated rectifier

N - output pentode
P - output triode
QP - Quiescent push-pull double pentode
S - Tetrode (Screen Grid Valve)
U - rectifier
VS - variable mu tetrode
W - variable mu pentode
X - triode hexode, heptode, octode, frequency changer
Y - tuning indicator
Z - HF pentode

US

Codes consist of digits, letters, digits, possibly further letters

First digits give heater voltage rating, with the exception that the codes 7 and 14 are used to indicate 6.3V and 12.6V valves with a local base

Letters specify the type of valve, but there appears to be no consistency of coding. S often indicates a single-ended (no top cap) version of an earlier valve with such a cap

Second digits give either the number of active electrodes, or the number of external connections.

Final letters often specify the type of envelope. The code is

G - large glass envelope.

GC - Glass Compact - a tubular glass envelope

GT - Glass Tubular - the smallest glass envelope

M - Metal Envelope

WA - High Quality version

Mazda Code

Consists of digits, Letters, digits. Do not confuse with a US code.

First digits give heater voltage, except that 10,20,30 indicate 100mA, 200mA,

300mA for series connection.

Letters give type of valve

C - Frequency changer

D - signal diode

F - signal tetrode/pentode

K - Thyatron

L - signal triode

M - tuning indicator

P - output tetrode/pentode

U - half wave rectifier

UU - full wave rectifier.

Mazda codes tend not to double up letters - L is used for multiple triodes also.

Final digits distinguish between otherwise identical codes.

UK Airforce

Code consists of letters followed by digits. The letters have the following meanings :

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VCR - valve cathode ray (CRT)

VGT - valve gas triode (thyatron)

VI - valve indicator (tuning eye)

VR - valve receiving (general RX valve)

VS - valve stabilising (gas stabiliser)

VT - valve transmitting (general TX valve)

VU – rectifier

UK Army

Again, letters followed by digits. The letter part gives the valve type as follows :

ACR - Army CRT

AR - Army RX valve
ARD - Army RX Diode
ARDD - Army RX Double Diode
ARH - Army RX Hexode
ARP - Army RX pentode
ARS - Army RX Screen Grid (Tetrode)
ARTH - Army RX Triode Hexode
ARTP - Army RX Triode Pentode
AT - Army TX valve
ATP - Army TX Pentode
ATS - Army TX Screen Grid (Tetrode)
AU - Army Rectifier
AW - Army Stabiliser

UK Navy

Another Letters followed by digits code. The letters give the type of the valve,
as follows :

NC - Navy CRT
NGT - Navy Gas Triode (thyatron)
NR - Navy RX valve
NT - Navy TX valve
NU - Navy Rectifier

Others

CV (common valve) numbers replaced the above 3 codes during WW2. There is no way
to decode these.

VT numbers are USA military valves. Again, no way to decode.

BVA numbers (British Valve Association) were assigned to valves used for
civilian replacements in WW2.