

# **PHILIPS FACTORY VALVE CODES**

Revision 5  
23<sup>rd</sup> July 2002

# 1. Introduction

Most Philips valves are marked with a group of symbols which contain coded information relating to the type, place of manufacture or country of origin in the case of bought in valves, and the date of manufacture. Apart from the interest of knowing when and where a valve was made, the code group can still provide useful type identification when the commercial markings have become illegible.

This document details two code formats using the same type identifiers which were in use from 1948 to the end of manufacture of receiving valves. The code format changed from the 'old' to the 'new' system around 1955/6. From examination of actual valves it is clear that whatever may have been the decree from Eindhoven, there were apparent deviations on the ground at manufacturing plants in other locations. Again based on examination it seems that prior to the coding system described herein, a purely numerical system was in use for encoding the type and that for its own production, Mullard continued to use this until adopting the 'new' code in 1955.

Some of the information herein is open to interpretation, translation from fairly terse Dutch original documents or based on examination of actual valves. No claims of absolute accuracy are made.

# 2. The code

The code has the following elements, represented in the generic layout guide by the bold letters:

- T** Type. May consist of one, two or three symbols.
- F** Manufacturer or country of origin. One symbol.
- Y** The least significant digit of the year of manufacture. This is only present in the 'new' code.
- M** Month of manufacture. In the 'old' code this was represented by a sequence of 36 symbols which repeated every three years according to the following table:

| Month | 1948 | 1949 | 1950 |
|-------|------|------|------|
|       | 1951 | 1952 | 1953 |
|       | 1954 | 1955 | 1956 |
| Jan   | A    | R    | t    |
| Feb   | B    | S    | 0    |
| Mar   | C    | T    | 1    |
| Apr   | D    | U    | 2    |
| May   | E    | W    | 3    |
| Jun   | F    | X    | 4    |
| Jly   | H    | Y    | 5    |
| Aug   | K    | Z    | 6    |
| Sep   | L    | d    | 7    |
| Oct   | M    | k    | 8    |
| Nov   | N    | m    | 9    |
| Dec   | P    | r    | +    |

In the 'new' code each month is represented by a simple sequential letter:

|     |   |     |   |     |   |
|-----|---|-----|---|-----|---|
| Jan | A | May | E | Sep | I |
| Feb | B | Jun | F | Oct | J |
| Mar | C | Jly | G | Nov | K |
| Apr | D | Aug | H | Dec | L |

**W** Week of manufacture within month. 1 first, 2 second etc. This seems to have only been added from 1961 onwards although that does not mean that all valves made from 1961 bear it. A valve from Whyteleafe has been noted to have what looks like open week of year coding: □027.

**C** Change symbol. The intention of this is not clear but it may have been a symbol that was to be changed for each batch produced. In the 'old' code there was no year but the change symbol sequence was replaced in three year cycles such that this, taken together with the month symbol, would be a unique combination for any particular year. For example: Month W with change T would be unique to May 1955. The change sequence was as follows:

| Batch:    | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 20 |
|-----------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
| 1948-1950 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | =  | □  | %  | t  | ⋈  | ∠  | ⊙  |
| 1951-1953 | A | B | C | D | E | F | H | K | L | M | ≡  | >  | d  | r  | ~  | ↗  |    |
| 1954-1956 | N | P | R | S | T | U | W | X | Y | Z | +  | k  | ⊥  | m  | ∇  | L  |    |

In the 'new' code this was just a sequence of symbols which appear to have no purpose other than perhaps provide batch traceability. Evidence indicates that this aspect of the code may not have been applied too rigorously at some locations. It is found to be missing on examined valves of Australian Philips manufacture for example. It was not applied to bought in valves. The sequence to be applied was:

0 1 2 3 4 5 6 7 8 9 A B C D E F H K L M N P R S T U V W X Y Z d f m r t

Presumably this sequence was then repeated if necessary.

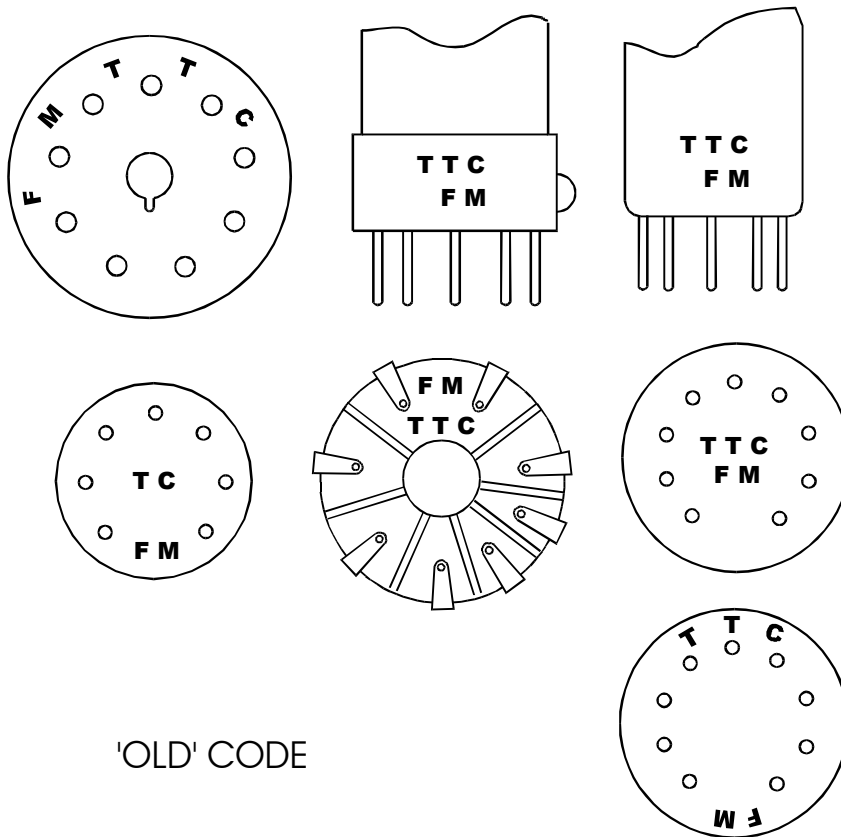
General observations:

In the type code list there are several examples of valves having two or more codes. This is generally due to differences in construction but there were errors of multiple allocation. There are also instances of two valves sharing one code. These may have been errors but the bulk of the listing here is taken from original documents "Codes for Receiving and SQ Tubes". One or more other list(s) existed and some codes were probably used again for other devices like CRTs or geiger-müller tubes for which there would be little likelihood of mistaken identity. In the list herein most types under one code are equivalents but where they are not, the word 'also' has been inserted to clarify the point. A few valves having very similar characteristics do sometimes have the same code, at least until another is allocated e.g. DY86 and DY87.

Suffixes are used to denote some characteristic of construction where this is shown in original documents, as follows:

- bant "Bantam" or "bantal".
- Bee The significance of this is not mentioned in original documents.
- dev Development or provisional number
- en 'mit Einschmeltz-emaille'
- min Miniature.
- new New or revised construction.
- old Old construction

### 3. Code application



'OLD' CODE

Examples of deviations

Brasil  
**FYM**  
**TTC**

Australia  
**TT**  
**FYM**

Eindhoven  
**TTC**  
**WFYM**

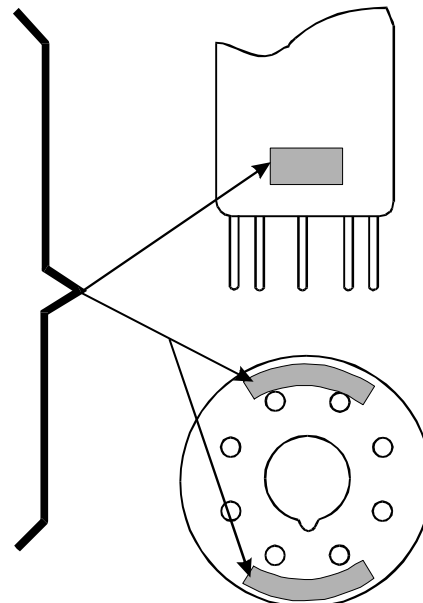
Examples of "correct" code format

**TTC**  
**FYM**

**TTC**  
**FYMW**

**TTTC**  
**FYMW**

**TTTC**  
**FYM**



'NEW' CODE

#### 4. Factory symbols

|   |   |
|---|---|
| A | Wiener Radio Werke "WIRAG", Wien  |
| B | Mullard, Blackburn  |
| C | Hendon Works, Alberton, Australia   |
| D | Valvo, Hamburg  |
| d | Ned. Instituut voor Fysisch Onderzoek   |
| E | Hyperlec Brive (Correza)  |
| F | La Radiotechnique, Suresnes   |
| Ɔ | Marconi .Osram Valve Co.  |
| f | Standard telephones and Cables Ltd. (later Thorn)<br>East German origin (after 1 Jan 1970)  |
| G | Mullard, Fleetwood<br>Loewe Opta (after 22 Feb 1954)  |
| I | Thorn-AEI Radio valve Co. Ltd. (Ediswan) , Mullard supply                                   |
| J | Mullard, Tottenham (formerly Tungstram)   |
| K | ?   |
| L | M.B.L.E., Bruxelles (Mazda)   |
| m | ?   |
| N | Matsushita Electronics Corp., Takatsuki, Japan<br>G.E.C. Mullard supply                     |
| n | Matsushita Electronics Corp., Kyoto, Japan  |
| P | Papesa, Buenos Aires  |
| R | Mullard Radio valve Co., Mitcham  |
| r | Philips Electronics Industries Ltd., Ontario, Canada  |
| S | Lampara "Z", Barcelona  |
| T | Philips, Eindhoven, afd 22652   |
| t | T.I.C. Philips Export Corp., New York   |
| Ƨ | C.I.F.T.E., Courbevoie  |
| U | Thorn-AEI Radio Valve Co. Ltd. (Formerly B.T.H.)  |
| V | Bharat Electronics (Private) Ltd, Bangalore 13, India                                       |
| X | Philips, Sittard, afd 22127   |
| x | Philips, Chilena de Productos Electronicos, Chile   |
| Y | Philips, Sittard, afd 22117 and 22118   |
| Z | Philips, Monza  |
| 1 | Philips, Eindhoven, afd 22020   |
| 2 | Philips, Eindhoven, afd 22021   |
| Ƨ | Ferranti (Mullard supply)   |
| 3 | Philips Eindhoven, volgroepen I and II, Schouwbroekseweg<br>Fivre, Italy (after 1 Jan 1970) |
| ε | Marconi, Chelmsford (Mullard supply)  |
| 4 | Venolanda S.A., Venezuela   |
| 4 | English Electric Valve Co. (Mullard supply)   |
| 5 | Toshiba, Japan  |
| Ƨ | Cinema Television (Mullard Supply)  |
| 6 | Philips, Eindhoven. Radio valve lab. receiving valve technology group<br>Russian origin     |
| ∂ | Mullard Fleetwood (after 18 Nov 1954)   |

|   |  |
|---|--|
| 7 | Philips, Eindhoven Radio valve lab. physics group.<br>Hitachi, Japan         |
| ∇ | Electrical and Musical Industries. (Mullard supply)                          |
| 8 | Philips, Eindhoven. Radio valve lab. glass group                             |
| 9 | Philips, Heerlen Radio valve lab. receiving valve technology group.          |
| + | Philips, Sittard afd 22126   |
| = | La Radiotechnique, Clichy (Neotron)  |
| * | Amperex Electronic Corp., New York   |
| % | Philips Eindhoven , afd 22851  |
| Δ | Philips, Copenhagen  |
| < | Philips Electrical Lamps Inc., Philipines<br>Co. des Lampes                  |
| > | Visseaux, France<br>Polish origin (after 1 Jan 1970)                         |
| ± | La Radiotechnique, Chartres  |
| ≡ | Electronic Tubes Ltd., (Mullard supply)<br>IPERPESA, Peru (after 1 Jan 1970) |
| ≠ | Siemens und Halske, München  |
| ∧ | Mullard Radio Valve Co. Ltd., Croydon (Waddon)                               |
| ⊠ | Mullard Whyteleafe "A"   |
| △ | Philips, Heerlen   |
| ⌞ | Mullard, Salfords  |
| Ψ | IBRAPE, Sao Paulo, Brasil  |
| ⌒ | Purchases from third parties by Mullard                                      |
| ⊙ | Mullard Whyteleafe "B" (Kenley)  |
| ⌑ | Tungsrām   |
| ⌒ | Telefunken and Telefunken Berlin   |
|   | Loewe Opta for Valvo, Hamburg  |
| ∩ | Elektronski Industija, Nis, Yugoslavia                                       |
| : | Philips, Eindhoven. Radiation detector development                           |

## 5. Single symbol type codes

These codes were applied to B7G types only.

|   |       |   |       |   |           |   |           |
|---|-------|---|-------|---|-----------|---|-----------|
| A | DA90  | T | E90CC | 4 | EC92      | □ | HK90      |
| B | DAF91 | U | EAC91 | 5 | UC92      | ⊠ | HY90      |
| C | DAF96 | V | 12X4  | 6 | DK92      | △ | HF94      |
| D | DCC90 | W | EB91  | 7 | DK92      | ⌒ | DL95      |
| E | DF91  | X | EBC90 | 9 | E92CC     | ⌒ | PL5727    |
| F | DF92  | Y | EC91  | 9 | DK93      | ⌞ | 85A2 Bee  |
| G | EC93  | Z | ECC91 | + | DC90      | ⌑ | 150B2 Bee |
| H | DF96  | d | EF91  | = | PL21 Bee  | Ψ | 150C2 Bee |
| J | 5654  | f | HL94  | % | HF93      | ⊙ | 150B2 min |
| K | DK91  | k | EF92  | & | 85A2 min  | ≈ | 6CB6      |
| L | DK92  | m | EF93  | ≡ | 90CV      | ∩ | UY92      |
| M | DK96  | r | EK90  | ⊙ | 150C2 min | ∩ | 5726      |
| N | DL92  | t | EL91  | = | HBC90     | ε | EAA91     |
| P | DL93  | 0 | EZ90  | > | HBC91     | ∩ | 5726      |
| R | DL94  | 1 | EL90  | ~ | 90CG      | * | EF95      |
| S | DL96  | 2 | EF94  | ∧ | HL92      |   | 108C1     |
|   |       | 3 | EBC91 |   |           | ≠ | E91H      |

## 6. Two symbol type codes

|    |             |    |             |    |           |    |             |
|----|-------------|----|-------------|----|-----------|----|-------------|
| AC | AW43-89     | BP | E55L (M6EL) | Cm | ECC88 Bee | D+ | LL500       |
| AD | EC88        |    | 8233        | Cr | E184CC    |    | 18GB5       |
| AE | EL500       | BR | 5639        | Ct | ECC186    |    |             |
|    | 6GB5        | BS | 2GK5        |    | 7316      | EA | 5Y3G        |
| AF | 6EU7        | BT | M2EL        |    | also      | EB | 80 en       |
| AG | CV4035      |    | 38EL        |    | ECC282    |    | 80 dev      |
| AH | PY33        | BU | XL84        | C0 | 62BTA     | EC | DL93        |
| AI | DL97        | BW | XCC189      | C2 | 18046     |    | 3A4         |
| AJ | ECC230      | BX | XL36        | C3 | E81L      | ED | DL94        |
|    | 6080        | BY | MX153       |    | 6686      |    | 3V4         |
| AL | AX50        | BZ | YL1000      | C4 | V1ELL     |    | CV2983      |
| AM | PC97        |    | M1DL        |    | ELL80     |    | also        |
|    | 4FY5        | Bf | CV4049      | C5 | E288CC    |    | MX164       |
| AN | PL1607      | B1 | M2PE        |    | 8223      | EE | DW2         |
| AS | LC97        | B2 | M3DV        | C6 | ECC808    | EF | 1561        |
|    | YC97        | B3 | M4PCF       | C7 | EC900     | EH | 1805        |
|    | 3FY5        | B4 | M7EF        | C8 | PCF801    | EI | VP4B        |
| AT | LF183       | B5 | 95400       |    | 8GJ7      | EJ | VX8179      |
|    | YF183       | B6 | 4-OA31      | C9 | XCF802    | EK | EB41        |
|    | 4EH7        | B7 | M9ECC.1     | C+ | LCF802    | EL | EC37        |
| AU | LF184       | B8 | M13PCC      |    | YCF802    | EM | ECC31       |
|    | YF184       | B9 | VX8250      |    | 6LX8      | EN | ECC32       |
|    | 4EJ7        | B+ | 3GK5        |    |           | EP | EF37A       |
| AW | 6GK5        |    |             | DB | VX8252    | ER | EF91        |
| AX | 6GK6        | CA | 35C3        | DC | LCF86     |    | 6AM6        |
| Ad | 85A1        | CB | 12CU5       |    | YCF86     | ES | 1883        |
| Af | CV4011      | CC | 6CU5        |    | 5HG8      | ET | EL35        |
|    | M8196       | CD | 4GK5        | DD | 3BA6      | EU | EZ35        |
| A0 | 347         | CE | CV1377      | DE | 6BZ6      | EV | 0A3         |
| A2 | ZC1000      | CF | 3CS6        | DF | 6DE6      |    | CV3798      |
| A3 | E88C        | CG | 0KL1B (p)   | DH | 12AL5     | EW | FW4-500     |
|    | 8255        | CH | ECF802      | DI | EL36      | EX | PM24M       |
| A4 | EC800       |    | 6JW8        |    | 6CM5      | EY | PF183       |
| A5 | XL500       | CI | PL84 min    | DJ | PCC88     | EZ | 4614        |
| A6 | EC1000      |    | 15CW5       |    | 7DJ8      | Ed | SP13        |
| A7 | PCF802      |    | also        | DL | PY300     | Ef | VX8194      |
|    | 9JW8        |    | MX154       | DM | ECF801    | Ek | SP13C       |
| A8 | 6CQ8        | CJ | VX8189      |    | 6GJ7      | Em | AZ11        |
| A9 | PY83        | CK | 6AQ5A       | DP | PC900     | Er | 1A7GT       |
|    |             | CL | 12AU6A      |    | 4HA5      | Et | FC13        |
| BA | XCF86       | CM | 12C5        | DR | QV10-P8   | E0 | 4633        |
| BB | 6DK6        | CN | PCF806      | DS | 7453      | E1 | DAC32       |
| BC | E86C        | CP | PEN40DD     | DT | 3BE6      | E2 | 4618        |
| BD | ECH800      | CR | CZ30        | DU | 3DE6      | E3 | UY21        |
| BE | 12DT8       | CS | 6-OA31      | DV | 75C1      | E4 | 4654        |
| BG | E80CF       | CT | 8-OA31      | DZ | EN33      | E5 | AL1         |
|    | 7643        | CU | PCC34       | Dd | PCF84     | E6 | 5Z4         |
| BH | 7475        | CW | 18045       |    | also      | E8 | 6A8G        |
| BI | PEN4DD      | CZ | EC95        |    | PB-1      | E9 | 6J7         |
| BJ | CV4029      |    | 6ER5        | Df | 6201      | E+ | 4673        |
|    | 5902        |    | also        | Dk | PF86      |    |             |
|    | M8200       |    | MX155       | Dm | 402       | FA | 4682        |
|    | also        | Cd | 6463        | Dr | 3AL5      | FB | 4683        |
|    | YL1000      |    | CV5304      | Dt | 3CB6      | FC | DL35        |
| BN | E55L (M5EL) | Cf | VX8205      | D2 | 3BZ6      |    | 1C5GT       |
|    |             | Ck | EC86        |    |           | FD | 4688 C tech |

|    |               |    |          |    |              |     |          |
|----|---------------|----|----------|----|--------------|-----|----------|
| FE | 4689P C tech  | GP | CV140+   | Hf | E83CC        | Im  | PF83     |
| FF | 6A8           | GR | CV417+   |    | 6681         |     | also     |
| FG | VX8114        | GS | CV465+   | Hk | EF92         |     | MX132    |
| FH | 6K7           | GT | CV466+   |    | 6CQ6         |     |          |
| FI | 60EH5         | GU | CV467+   | Hm | EL38         | lr  | EC158    |
| FJ | HCH80         | GV | 4641     | Hr | DF21         | lt  | PY180    |
| FK | 4699.5 etc    | GW | CV468+   | Ht | DF22         | l0  | ORP11    |
| FL | 6J8G          | GX | CV469+   | H0 | 5ECC dev     | l1  | 6211     |
| FM | 6F6G          | GY | CV858+   | H2 | DF70         | l2  | ORP10    |
| FN | 6F6           | GZ | CV2129+  | H3 | CF50         | l3  | PC92     |
| FP | 6V6G          | Gf | ECC82    | H4 | DK21         | l4  | EF183    |
| FR | 6V6GT         |    | 12AU7    | H5 | EL44         |     | 6EH7     |
| FS | 12SK7         | Gk | UCH5     | H6 | DK40         | l5  | EY180    |
| FT | 12SQ7         | Gm | VX8140   | H7 | DL21         | l6  | ECC83    |
| FU | 18040         | Gr | EC52     | H8 | Z701U        |     | 12AX7    |
| FV | PL3C23        | G0 | EBL31    | H9 | DL40         | l7  | XCF80    |
| FW | 25Z5          | G1 | PCF82    | H+ | DL41         | l8  | XCH81    |
| FX | 25Z6          | G2 | EC57     |    |              | l9  | XF80     |
| FY | AB2 (V base)  | G3 | EBF89    | IA | ORP20PW      | l+  | 7025     |
| FZ | ABC1 dev      |    | 6DC8     | IB | ORP20        |     |          |
| Fd | ABL1 dev      | G4 | EA52     | IC | ECF83        | JA  | HCC85    |
| Ff | 7AU7          | G5 | EA52     | ID | E182CC       | JB  | EF184    |
| Fk | EA70          |    | 6923     |    | 7119         |     | 6EJ6     |
| Fm | AD1           |    | 1EA      | IE | 4152-02      | JC  | ORP31    |
| Fr | AF2           | G6 | EN93     | IF | PC93         | JD  | PL500    |
| Ft | AF3           |    | 6D4      |    | also         |     | 27GB5    |
| F0 | AF7           | G+ | V2ECC    |    | 5876         | JE  | PC88     |
| F1 | 43            |    |          | IG | 6205         |     | 4DL4     |
| F2 | AK2 dev       | HA | DF33     |    | CV2432       | JF  | CBL6     |
| F3 | 35L6GT        | HB | AZ12     | IH | 185BT        | JG  | EA50     |
| F4 | AL2           | HC | AZ31     | II | EL360        |     | 2B35     |
| F5 | AL4           | HD | AZ41     | IJ | VX8240       | JH  | ECF1     |
| F6 | DF91          |    | 95104    |    | was used for | JP  | EL30     |
|    | 1T4           | HE | 41       |    | Hamburg      | JU  | LCF80    |
| F7 | 50L6GT        | HF | DK33     |    | PM84 till    |     | YCF80    |
| F8 | AZ1           | HG | VX8141   |    | 3.8.58       |     | 6LN8     |
| F9 | 78            | HH | CBL1 dev | IK | PZ36         | JZ  | TH2      |
| F+ | AZ4           | HI | XC95     | IL | 6286         | Jd  | UCC83    |
|    |               | HJ | EF97     | IM | 27SU         | Jf  | ECF806   |
| GA | ECC88         |    | 6ES6     | IN | ORP90        | J0  | MX150    |
| GB | UM84          | HK | CBL31    | IP | PCC189       | J7  | 4069     |
| GC | VX8167        | HL | ECH41    | IR | TY86F        |     | ME1404   |
| GD | QV9-P10       | HM | UM5      | IS | GZ37         | J8  | 3DT6     |
| GE | EH90          | HN | UL43     |    | CV378        | J9  | V3ECH    |
|    | 6CS6          | HP | UCH41    | IT | 6BJ6         | J+  | LCL84    |
| GF | CV131+        | HR | CL4      | IU | VX8227       |     | YCL84    |
| GG | VX8116        | HS | GZ40 old | IV | E180CC       |     | 10DX8    |
| GH | CV133+        | HT | CL33     |    | 7062         |     | also     |
| GI | PC95          | HU | CY1      | IW | E181CC       |     | MX108/01 |
|    | 4ER5          | HV | CBC1 dev | IX | ECC189       |     |          |
| GJ | EL81F         | HW | CY2 dev  | IY | PM84         | KA  | DL71     |
| GK | CV136+        |    | also     | IZ | EF6N         | KB  | DLL21    |
|    | tight cathode |    | EL521    |    | also         |     | also     |
| GL | CV136+        | HX | CY31     |    | ORP30        |     | DLL31    |
|    | loose cathode | HY | 60FX5    | ld | 95398        | KC  | DF35     |
| GM | EM81          | HZ | CK1 (M)  | lf | EC156        | KD  | E1C      |
|    | 6DA5          | Hd | ECL80    | lk | EC157        | KE  | EL34 old |
| GN | CV138+        |    | 6AB8     |    |              | KE2 | EL34 new |



|    |          |    |            |    |          |    |           |
|----|----------|----|------------|----|----------|----|-----------|
| KF | DC89     | LP | DA90       | MV | TDD13    | NX | UCH100    |
| KH | E424N    |    | 1A3        | MW | EL6      | NY | UCL11     |
|    | A4110    | LR | ECH35 Mull | MX | EL11     | NZ | UF9       |
| KI | M8144    | LS | ECH41      | MY | EL12     | Nd | UF9       |
|    | CV4033   | LT | ECH80      | MZ | EL20     |    | UF11?     |
| KJ | EF98     |    | 6AN7       | Md | EL81     | Nk | PY80 min  |
|    | 6ET6     | LU | ECL11      |    | 6CJ6     | Nm | UF41      |
| KK | DAC21    | LV | TDD4       | Mf | PCF82    |    | 12AC5     |
| KL | E443H    | LW | DC79       |    | also     | Nr | UF100     |
| KM | E447     | LX | EF93       |    | MX145    | Nt | UY2       |
| KN | EC81     |    | 6BA6       | Mk | PL38     | N0 | UL100     |
| KP | EA40     | LY | EE1        | Mm | GZ30 new | N1 | UM4       |
| KS | EA51     |    | EEP1       |    | GZ40?    | N2 | UY1N      |
| KT | EAF41    | LZ | EF6        | Mr | KB2      | N3 | UF21      |
| KU | EB34     | Ld | EW60       | Mt | KBC1     | N4 | EL41 en   |
| KV | CBC1 (M) | Lf | ECL83      | M0 | EL32     | N5 | UY41      |
|    |          | Lk | EZ2        | M1 | EL33     | N6 | UY100     |
| KW | EB40     | Lm | EL91       | M2 | EBC80    | N7 | UY42      |
| KX | EY51     |    | 6AM5       |    | 6BD7     | N8 | VCL11     |
|    | 6X2      | Lr | EZ4        | M3 | EL39     | N9 | CF2       |
| KY | EBC3     | Lt | EF80       | M4 | EL41     | N+ | VY2       |
| KZ | EBC33    |    | 6BX6       |    | 6CK5     |    |           |
| Kd | EM1      | L0 | EF8        | M5 | EL42     | PA | DL92      |
| Kf | PL83 Bee | L1 | EF9        |    | 95105    |    | 3S4       |
| Kk | EM4      | L2 | E1F        | M6 | EL42     | PB | DL72      |
| Km | EM34     | L3 | DF65       | M7 | EL8      |    | also      |
|    | 6CD7     | L4 | EF11       | M8 | EL51     |    | MX165     |
| Kt | EQ80     | L5 | EF12       | M9 | EL60     | PC | ECH42     |
|    | 6BE7     | L6 | EF22       | M+ | EL80 en  |    | 6CU7      |
| K0 | EBF2     | L7 | EF36       |    |          | PD | EL61      |
| K1 | PCC809   | L8 | EF39       | NA | PL83 en  | PE | PY80      |
| K2 | EZ41     | L9 | EF40       | NB | KF3      |    | 19X3      |
| K3 | EBF11    |    | also       | NC | KK2      | PF | UF10      |
| K4 | EBF32    |    | CV2031     | ND | KL4      | PG | 6007      |
| K5 | EBF35    | L+ | EF41       | NE | AZ50     | PH | Aa        |
| K6 | EBL1     |    | 6CJ5       | NF | UAF41    | PK | Ba        |
| K7 | EBL21    |    |            | NG | 5651     | PL | Bas       |
| K8 | EBFS40   | MA | EF42       | NH | UAF42    | PM | Ca        |
| K9 | EC40     | MB | EF50       |    | 12S7     | PN | Cas       |
| K+ | EC41     | MC | EF51       | NJ | ECH83    | PP | Da        |
|    |          | MD | EF100      |    | 6DS8     | PR | Ce        |
| LA | DK32     | ME | DL65       |    | also     | PS | Ed        |
|    | 1A7GT    | MF | EFM1       |    | MX156    | PT | E2c       |
| LB | EC81     | MG | VX8207     | NK | UL41     | PU | E2d       |
|    | 6R4      | MH | EFM11      |    | 45A5     | PV | EY88      |
| LC | ECC40    | MI | EL86       | NL | UBF11    |    | 6AL3      |
| LD | UY11     |    | 6CW5       | NM | UBL1     | PW | C3b       |
| LE | ECH3     | MJ | EBF83      | NN | UCH41    | PX | C3e       |
| LF | ECH4     |    | 6DR5       | NP | UBL21    | PY | 5Y3GT     |
| LG | VX8206   | MK | DL21S      | NR | UCH4     | PZ | E452T     |
| LH | 4671     | ML | EFP20      |    | also     | Pd | EL6/400V  |
| LI | UBF89    | MM | EFP60      |    | D3a      | Pk | EL12/325V |
|    | 19FL8    | MN | EK2        | NS | UCH11    | Pm | EL12/375V |
| LK | EFF51    | MP | EK32       | NT | UCH21    | Pr | EM4/100V  |
| LL | ECH11    | MR | EL2        | NU | UCH42    | Pt | UM4/165V  |
| LM | ECH21    | MS | EL3N       |    | 14K7     | P0 | UM4/200V  |
| LN | ECH33    | MT | EBF80 en   | NV | TDD13C   | P1 | UL44      |
|    |          | MU | UB41       | NW | UAF100   | P2 | EL43      |

|    |               |    |            |    |           |    |             |
|----|---------------|----|------------|----|-----------|----|-------------|
| P3 | EBC41<br>6CV7 | R4 | EC53       | TA | UY3       | UM | 6BQ6GBT     |
|    |               | R5 | DL70       | TB | 1832      |    | 6CU6        |
|    |               | R6 | EL37       | TC | UBC41 Bee | UN | LC900       |
| P4 | 4689K         | R7 | GZ32       | TD | UF5       |    | 3HA5        |
| P5 | EL43          |    | 5AQ4       | TE | DF96      | UP | EF81        |
| P6 | UL44 en       | R8 | EL44       |    | 1AJ4      | UR | ECH4G       |
| P7 | 4654K         | R9 | E446 (O)   | TG | XCF801    | US | DL67/65     |
| P8 | UBL3          | R+ | CV273      | TH | DAF96     | UT | UQ80        |
| P9 | UCH5          |    |            |    | 1AH5      | UU | EAF42 Bee   |
| P+ | ABC1          | SA | EC80 en    |    | also      | UV | AZ32        |
|    |               | SB | EZ80       |    | MX142     | UW | 12SK7GT     |
| RA | AF2           | SC | UL2        | TJ | LCF801    | UX | DK96        |
| RB | AL5           | SD | DAF40      |    | 5GJ7      |    | 1AB6        |
| RC | EL5           | SE | EL45       | TK | UCH42 Bee | UZ | E447 (E)    |
| RD | VCL11         | SF | AZ41 Bee   | TM | UY42 Bee  | Ud | 12SQ7GT     |
| RE | VY2           | SG | 5V4G       | TP | UAF42 Bee | Uf | QQE03/12Bee |
| RF | X13           | SH | ECH42 Bee  | TR | UCH81     | Uk | 12SA7GT     |
|    | also          | SI | EL95       |    | 19D8      | Um | E90CC       |
|    | MX151         |    | 6DL5       | TS | ECH34     |    | 5920        |
| RG | M1EL          | SJ | CV4109     | TT | AY1       |    | CV5214      |
|    | EL131         | SK | DAF41      | TU | EL50      | Ur | LC95        |
| RH | UF42          |    | with add F | TV | AZ2       |    | YC95        |
| RI | E130L         |    | DAF40      | TY | Z805U     |    | 3ER5        |
|    | 7534          | SL | EL41 Bee   | TZ | UF41 Bee  | Ut | QQE02/5 Bee |
| RK | UBC41         | SM | UY4        | Td | EY80 min  | U0 | DY30        |
|    | 14L7          | SN | EBC41 Bee  | Tf | XF85      |    | 1B3GT       |
| RL | C443          | SP | DC80       | Tk | ECC81     | U1 | XC900       |
| RM | DAF91         |    | 6DC        | Tm | XL86      | U2 | AC2         |
|    | 1S5           | SR | EZ40 old   | Tr | TD03-10B  | U3 | EL520       |
| RN | DF92          | SS | 4060       | Tt | EL82      | U4 | DF67/5      |
|    | 1L4           | ST | EF41 Bee   |    | 6DY5      | U5 | E446 (E)    |
| RP | DK91          | SU | UBF80 en   | T0 | 3AT6      | U6 | 6SA7GT      |
|    | 1R5           | SV | 18300      | T1 | PL82      | U7 | 6SK7GT      |
| RR | EAF42         | SW | 18042 en   |    | 16A5      | U8 | 6SQ7GT      |
|    | 6CT7          | SX | PL81       | T2 | KK32 Mull | U9 | 35Z5GT      |
| RS | EAF80         |    | 21A6       | T3 | DF74      | U+ | UY41 Bee    |
| RT | EL21          | SY | EL34       | T4 | EL83 en   |    |             |
| RU | ECC35         |    | 6CA7       | T5 | MX161     | VA | 18042       |
| RV | EF55          | SZ | EF80       | T7 | DF67      |    | 6086        |
| RW | ECC91         | Sd | UCC40      | T8 | DL67      | VB | E80CC       |
|    | 6J6           | Sf | Z502S      | T9 | E83F en   |    | 6085        |
| RX | CCH35         | Sk | UF6        | T+ | UCH81 min | VC | E80F        |
| RY | EC91          | Sm | EC55       |    |           |    | 6084        |
|    | 6AQ4          |    | TD03-10    | UA | UL41 Bee  | VD | E80L        |
| RZ | EF54          | Sr | DCC90      | UB | L413S     |    | 6227        |
| Rd | EF55          |    | 3A5        | UD | A4110     | VE | E83F        |
| Rf | VX8196C       | S0 | EL81       | UE | DL96      |    | 6689        |
|    | 6AS6W         | S1 | CF7        |    | 3C4       | VF | ECC81       |
| Rk | EL22          | S2 | EAF801     | UF | DL67/5    | VG | E81CC       |
| Rm | EZ22          | S3 | L416D      | UG | 6J5G      |    | 6201        |
| Rr | FW4-800       | S4 | 506        | UH | EF43      | VH | EC92 new    |
| R0 | CY32          | S5 | EY50       | UI | 5718      | VI | UC92 new    |
| R1 | DL33          | S6 | 4684       |    | CV3930    | VJ | ECC89       |
|    | 3Q5GT         | S7 | 4688       |    | also      |    | 6FC7        |
| R2 | EAC91         | S8 | CF3        |    | EL802     | VK | 5842        |
|    | M8097         | S9 | Cf         | UJ | 37EL      |    | 417A        |
|    | CV4059        | S+ | Bh         | UK | UF43      | VL | E94CC       |
| R3 | EB91          |    |            | UL | 3AV6      | VM | ORP92       |

|    |              |    |             |      |                |    |          |
|----|--------------|----|-------------|------|----------------|----|----------|
| VN | PC96         | Wr | EBF81 min   | YD   | ECH81          | ZE | E80T     |
| VP | 95124        | Wt | DK92        |      | 6AJ8           |    | 6218     |
| VR | E188CC       |    | 1AC6        | YE   | EC56           | ZF | PL81B    |
|    | 7308         | W0 | EBF81       | YF   | EF80 en        | ZG | HL90     |
| VS | EM84         | W1 | PCL86       | YG   | ECF200         |    | 12AQ5    |
|    | 6GF6         |    | 14GW8       |      | 6X9            | ZH | ECL85    |
| VT | XCC82        | W2 | XR1-1600A   | YH   | ECL80 en       |    | 6GV8     |
|    | 7AU7         | W5 | E182F       | YI   | DF60           | ZI | EF71 rel |
| VU | PCF86        | W6 | ECC2000     |      | 5678           | ZJ | CV3986   |
| VV | PL136        | W7 | VX8195C     | YJ   | CV1868         |    | 6021     |
|    | 35FV5        | W8 | 18046 Bee   | YK   | ECC81          | ZK | 6AD6     |
| VW | EL183        | W9 | PFL200      | YL   | PL81 en        | ZL | 6BL6     |
| VX | PCL85        |    |             | YM   | PL82 en        | ZM | 6J8      |
|    | 18GV8        | XA | 401         | YN   | PY80 en        | ZN | 12BL6    |
|    | Valvo PCL805 | XB | XY88        | YP   | PY82           | ZP | 12J8     |
| VY | UY89         |    | 16AQ3       | YR   | ECH200         | ZS | 5854     |
| VZ | 6AN7A        | XC | CV468 Ultra |      | 6V9            | ZX | LFL200   |
| Vt | MX149        | XD | CV4086      | YS   | E186F          |    | 11Y9     |
|    |              | XE | M6EF        |      | 7737           | ZV | VX8222C  |
| WA | PM22A        | XF | 12DJ8       | YT   | XCL84          | ZY | LY88     |
| WB | 6BD7 min     | XG | GZ41        | YU   | 18500          |    | 20AQ3    |
| WC | 6BH5 min     | XH | PCH200      | YV   | DY87           | ZZ | 4068     |
| WD | 6M5 min      |    | 9V9         | YW   | 18501          | Zd | 5719     |
|    | also         | XI | 5899        | YX   | 18502          | Zf | EF40 Bee |
|    | EF800        |    | CV477       |      | also           | Zk | 5749     |
| WE | PY32 bant    | XJ | 5644        |      | MX130          |    | 6BA6W    |
| WF | ORP50        | XK | PCF200      | YY   | EZ90           | Zm | 6005     |
| WG | M3EFP        |    | 8X9         |      | 6X4            |    | 6AQ5W    |
| WH | 9U8          | XL | PCF201      | YZ   | EBC90          | Zr | 6080WA   |
|    | also         |    | 8U9         |      | 6AT6           | Zt | ECF201   |
|    | EL803S       | XN | 95106       | Yd   | EK90           |    | 6U9      |
| WI | 5840         | XR | PY800A      |      | 6BE6           | Z2 | LCF200   |
| WJ | EF730        | XT | E235L       | Ym   | DL22N          |    | 5X9      |
|    | 5636         | XV | DW4-350     | Yr   | E81L Bee       | Z3 | LCF201   |
| WK | E80CC Bee    |    | DW4-500     | Yt   | EC97           |    | 5U9      |
|    | also         | XW | E236L       |      | 6FY5           | Z4 | XCF200   |
|    | E1T          | XX | E282F       | Y0   | PY81           | Z5 | XCF201   |
| WL | CV4084       | Xf | EL34 bant   |      | 17Z3           | Z6 | PY801    |
| WM | E80F Bee     | Xr | E84L        | Y2   | EC81           | Z7 | ZP1080   |
| WN | 25L6GT       |    | 7320        | Y3   | EF85           | Z8 | ZP1081   |
| WP | E80L Bee     | Xt | PL2D21      |      | 6BY7           | Z9 | 4067     |
| WR | UM34         | X0 | XF184       | Y4.0 | EABC80 min     | Z+ | 6111     |
| WS | ECL86        | X1 | XF183       | Y4.1 | EABC80 en      |    |          |
|    | 6GW8         | X2 | ECC186 (L)  | Y5   | VY1            | dA | 6112     |
|    | also         | X3 | DL620       | Y6   | 6BU8           | dB | 7895     |
|    | CV4011       |    | 5672        | Y7   | EFL200         | dC | PL6574   |
| WU | C3JA         | X4 | EL300       |      | 6Y9            | dD | DY86     |
| WV | DW4-350      | X5 | PL300       | Y8   | ECH81 en       |    | 1S2      |
| WW | 18042 Bee    | X6 | 6CY5        | Y9   | EC80           |    | DY87     |
| WX | EL3          | X7 | EL502       |      | 6Q4            |    | 1S2A     |
| WY | 18045        | X9 | E9Z dev     | Y+   | PL57           | dE | 6CG7     |
| WZ | UM34/165V    | X+ | EL504       |      |                | dF | LCH200   |
| Wd | EF94         |    | 6GB5A       | ZA   | 6DT6           |    | 5V9      |
|    | 6AU6         |    |             | ZB   | 12FK6          | dG | 12X4     |
| Wf | E83F Bee     | YC | DM70        | ZC   | UL41 Bee       | dH | LL86     |
| Wk | CV4098       |    | 1M3         |      | Ag plated pins |    | 10CW5    |
| Wm | PY82         |    | also        | ZD   | 12AD6          | dl | 5949     |
|    | 19Y3         |    | DM71        |      |                |    |          |

|    |           |    |             |    |           |    |              |
|----|-----------|----|-------------|----|-----------|----|--------------|
| dJ | PCL84     | fJ | N22LL       | kl | EM87      | mV | CV1672       |
|    | 15DQ8     |    | 19KF6       |    | 6HU6      | mW | PL83         |
| dK | LL521     | fK | ECL82 Bee   | kJ | MX147     |    | 15A6         |
| dL | GY501     |    | also        |    | also      |    | also         |
|    | 3BH2      |    | EF802       |    | 18504     |    | CV359        |
|    | V2VY      | fL | EL83 Bee    | kM | EL84      | mX | E82CC        |
| dM | XL521     |    | also        |    | 6BQ5      | mY | G5S6         |
| dN | LCL85     |    | ECC801S     |    | EL84 Bee  | md | UF80         |
|    | 10GV8     | fM | PL84 Bee    | kN | DY51      | mk | UF85         |
| dP | CV287     | fN | UCL82 Bee   |    | 1BG2      | mm | EF85 en      |
| dR | YL1220    | fP | UF86        | kP | E3LL dev  | mr | E280F        |
| dS | 6AU6WB    | fR | QQE02/5 Bee | kR | ECF86     | mt | EZ40 Bee new |
| dT | EN91      |    | QQV02-6     |    | 6HG8      | m0 | EZ80 Bee     |
| dU | PL435     | fS | N22PL       | kU | HN309     | m1 | PY80         |
| dV | LCC189    | fT | N22XL       | kV | EY87      | m2 | EY80         |
|    | 5ES8      | fU | M6ECC       | kW | 1S4       |    | 6U3          |
|    | also      | fV | LSD2        | kZ | 5R4GYS    | m3 | PY82 Bee     |
|    | PL5822Du  | fW | Z303C       | kd | ECH84     | m4 | EABC80       |
| dW | PL522     | fX | E35CC       |    | 6JX8      |    | 6AK8         |
| dX | EF5000    | fY | EM84        | kk | EAM86     | m5 | E283CC       |
| dY | CV4108    | fZ | EC71        |    | 6GX8      | m6 | ECH81 Bee    |
| dZ | V6ECC     | fd | EF732       | km | XCL86     | m7 | UCH81 Bee    |
| dd | PD500     | ff | CV2281      | kr | DF61N     | m8 | EC8010       |
|    | 9ED4      | fk | EF731       | kt | M4ECC     | m9 | ECC84        |
| df | PY500     | fm | 5609        | k0 | XF86      | m+ | ECC809       |
|    | 42EC4     | fr | 5U8         |    | also      |    |              |
| dk | PL505     | ft | 12BY7A      |    | N7ELL     | rA | EF804S       |
|    | 40GK6     | f0 | LY81        | k1 | TS65      | rB | 95107        |
| dm | V7PCL     |    | 11R3        | k3 | D12L      | rC | DC80         |
| dr | CV2901    | f1 | 5609V       | k4 | D20F      | rD | PABC80       |
| dt | LCL86     | f2 | VX8234      | k5 | XCL85     |    | 9AK8         |
| d0 | M8EC      | f3 | GZ34 bant   | k6 | ECC82     | rE | UABC80       |
| d1 | EA53      |    | CV1377      | k7 | XC97      | rF | EF805S       |
| d2 | EL136     | f4 | ECL84       | k8 | CV4517    | rG | K81A         |
|    | 6FV5      |    | 6DX8        | k9 | PY800     | rH | QQE03/12Bee  |
| d3 | E810F     | f5 | 6972        |    |           |    | QQV03-10     |
|    | 7788      | f6 | M7EC        | mA | PABC80 en | rl | ME1403       |
| d4 | M13PL     |    | EC98        | mC | ECC83     | rJ | UF89 Bee     |
| d5 | M6DY      | f7 | EY500       | mD | 6AM6S     | rN | DY86         |
| d6 | GY86      |    | 6EC4        | mE | CV302 not |    | DY87         |
| d7 | PY81 en   | f8 | 24DF        |    | finished  | rS | GZ33         |
| d8 | UABC80 en | f9 | ECC83 low   | mF | CV303 not |    | CV378        |
| d9 | UCH81 en  |    | microphony  |    | finished  |    | GZ34 made in |
|    | also      |    | also        | mG | UCL83     |    | Eindhoven    |
|    | EL803     |    | CV4110      | mH | 12AU7S    | rT | E180F        |
| d+ | UF80 en   | f+ | M10PL       | ml | CV4039    |    | 6688         |
|    | also      |    |             |    | M8096     | rU | HF93         |
|    | YL1080    | kA | UF85        | mJ | EF89 Bee  |    | 12BA6        |
|    | YL1081    |    | also        |    | also      | rV | E181CC Bee   |
|    |           |    | CV4111      |    | YL1130    | rW | EL85         |
| fA | LA4-250   | kB | EZ80 en new | mK | AB2 (O)   |    | 6BN5         |
| fB | LB4-2     | kC | EZ80        | mN | GZ34      | rX | EL84 min     |
| fC | MX124/01  |    | 6V4         | mP | UF85 min  | rY | 4699N        |
| fD | MX133     | kD | EZ40        | mR | UCH81 en  | rZ | 6BK4         |
| fE | EL505     |    | 6BT4        | mS | EF80 Bee  | rd | EM85         |
|    | 6GK6      |    | CV3891      | mT | UABC80 en | rk | XL505        |
| fG | TD1-100A  | KE | GZ40        | mU | EL83      | rm | LL505        |
|    |           | kG | UM81        |    | 6CK6      | rr | CV2031       |

|    |               |    |          |    |          |    |           |
|----|---------------|----|----------|----|----------|----|-----------|
| rt | PCC84         | t4 | V7PL     | 1D | CV4011   | 2T | LSD7      |
|    | 7AN7          |    | PL802    |    | also     | 2U | LSD8      |
| r0 | 4646          | t5 | V10PL    |    | 03DF dev | 2V | XCL82     |
| r1 | DF64          | t6 | UL84     | 1E | DF62     | 2W | LSD24     |
| r2 | DL64          | t7 | EL508    | 1F | DAF92    | 2Y | ME1401    |
| r3 | 1AX2          |    | 6KW6     |    | 1U5      |    | 4065      |
| r4 | 5814A         | t8 | 6BK4A    |    | CV3912   | 2Z | ME1402    |
| r5 | 12AT7WB       | t9 | Z500T    | 1G | UCL82    |    | 4066      |
| r7 | PCF80         | t+ | Z501T    |    | 50BM8    | 2d | GY802     |
|    | 9A8           |    |          | 1J | CV4009   | 2f | EL86 Bee  |
| r8 | EM80          | 0B | LY500    | 1V | PL81F    | 2k | PCF810    |
|    | 6BR5          | 0C | PL5822   | 1W | DL69     | 2m | 3A3       |
| r9 | 6SN7GT        | 0D | ECC180   | 1Y | AN1      | 2r | PL521     |
| r+ | ED500         |    | 6BQ7A    | 1f | EBF82    | 2t | 5837A     |
|    |               | 0E | PL57K    | 1k | EL821    | 23 | MX108     |
| tA | N23PL         | 0F | YL1080   |    | 6CH6     | 24 | MX118     |
| tB | EL503         |    | YL1081   | 1m | CV2507   | 25 | MX119     |
| tC | UY85          | 0G | ECL82    | 1r | DC70     | 27 | 11AF9     |
| tD | EY86          |    | 6BM8     | 1t | DF66     | 28 | PCL83     |
|    | 6S2           | 0H | EBC81    | 10 | DF72     | 29 | XY500     |
|    | EY87          |    | 6BD7A    | 11 | DL66     | 2+ | XL508     |
|    | 6S2A          | 0I | EY70 rel | 12 | DL68     |    |           |
| tE | EF86 Bee      | 0J | CV4005   | 13 | DL95     | 3B | TD03-5    |
| tF | E99F          | 0K | 12SN7GT  |    | 3Q4      | 3E | Z300T     |
|    | 7694          | 0L | 25Z6GT   | 14 | DL73     | 3F | Z800U     |
| tH | 25Y5 (J base) | 0M | 12SA7GT  | 15 | DL75     | 3G | E82M      |
| tI | VX8163        | 0N | 18015    | 16 | DL98     | 3H | Z801U     |
| tJ | PL82 Bee      | 0P | PCC89    |    | 3B4      | 3I | UF81      |
| tK | 4694          |    | 7EF7     | 17 | DY80     | 3J | CV4019    |
| tL | M5DY          | 0S | KT66     |    | DY70?    | 3K | Z900T     |
|    | DY802         | 0U | 12SK7GT  | 18 | EA76     | 3L | E91H      |
| tM | PC86          | 0W | 12SQ7GT  |    | 6489     |    | 6687      |
|    | 4CM4          | 0Z | EC83.1   | 19 | EC70     | 3M | 6CB6      |
| tN | ECC86         | 0d | LL504    | 1+ | EC90     | 3N | EL90      |
| tP | UCC85         | 0f | DM160    |    | 6C4      |    | 6AQ5      |
| tR | EF89          |    | 6977     |    |          | 3P | 85A2      |
|    | 6DA6          | 0k | UM80     | 2A | EF70     | 3V | Z70U      |
| tS | PCL81         |    | 19BR5    |    | CV467    | 3U | EBC91     |
| tT | M11EL         | 0m | UF89     | 2B | EF71     |    | 6AV6      |
|    | EL5070        | 0r | XL504    | 2C | EF72     | 3X | 150C2     |
| tU | ECC85         | 0t | N55RPY   | 2D | EF73     | 3Y | HBC90     |
| tV | GZ34          | 00 | 18016    | 2E | EF95     |    | 12AT6     |
| tW | 4373          | 02 | EY81     |    | 6AK5     | 3Z | HF94      |
| tX | 18046 en      |    | 6R3      | 2F | EL70     |    | 12AU6     |
| tY | EBC81 Bee     | 03 | 6SA7GT   | 2G | EY802    | 3d | HBC91     |
| tZ | PCC85         | 04 | 6SK7GT   | 2H | EN32     |    | 12AV6     |
|    | 9AQ8          | 05 | 6SQ7GT   |    | also     | 3f | PCL82 Bee |
| td | 6A8GT         | 06 | N54RPY   |    | PL6574   | 3k | HK90      |
| tf | LA4-2         | 07 | UY85 Bee | 2I | UBC80    |    | 12BE6     |
|    | VX8168        | 08 | PL95     | 2J | CV4012   | 3m | DC90      |
| tk | 75            | 09 | E95F     | 2K | 5643     | 3r | HY90      |
|    | CV614         |    | 5654     |    | EN70     |    | 35W4      |
| tm | EF804         |    | 6AK5W    | 2L | EY70     | 3t | HL92      |
| tr | EL81 Bee      | 0+ | UBC81    | 2M | EY91     |    | 50C5      |
| tt | PL81 Bee      |    |          | 2N | DAF70    | 30 | E92CC     |
| t1 | PL508         | 1B | 03DF     | 2P | LSD3     | 31 | EC92      |
| t2 | PL504         | 1C | 04DL dev | 2R | LSD3A    | 32 | UC92      |
| t3 | N22EL         |    |          | 2S | LSD5     |    | 9AB4      |

|    |          |    |            |    |           |    |             |
|----|----------|----|------------|----|-----------|----|-------------|
| 33 | EAA91    | 5S | EY84       | 6r | EL822     | 8M | 25Y5G       |
|    | EB91     |    | 6374       | 60 | VX8124    | 8P | 25Z6G       |
|    | 6AL5     | 5T | IW4-350    | 62 | VX8182    | 8R | CV4007      |
| 34 | DK93     | 5U | ME1400     | 63 | VX8136C   | 8S | 35Z4GT      |
| 35 | K50A     | 5V | CV4050     | 64 | VX8137C   | 8T | 35Z5G       |
| 38 | 6BZ6     | 5W | PEN-A4     |    | CV4004    | 8U | CV2204      |
| 39 | ECF80    | 5X | PEN36C     | 65 | M8162     | 8W | C3m         |
|    | 6BL8     | 5Y | PL33       |    | VX8162C   |    | R20F        |
| 3+ | UCC84    | 5Z | PL820      | 66 | EL85 min  |    | CV5232      |
|    |          | 5d | PY31       | 67 | 4383      | 8Y | EF86        |
| 4A | EF74     | 5f | UL84 Bee   | 68 | 55395     |    | 6267        |
| 4E | CV521    | 5k | PZ30       | 69 | E91AA     | 8Z | PY32        |
| 4F | LL508    | 5m | UCF80      |    | 5726      | 8d | CCH3 Mull   |
| 4G | EF83     | 5r | UL46       |    | 6AL5W     | 8f | E90F        |
| 4I | UCH80    | 5t | UR1C       | 6+ | EL180     |    | 7693        |
| 4J | CV5029   | 51 | 18512      |    |           | 8k | PY88        |
| 4M | MX112    | 52 | UBF80      | 7B | 6SJ7GT    |    | 30AE3       |
| 4N | MX115    |    | 17C8       | 7C | 5U4G      | 8m | DDC38       |
| 4P | CV2246   | 53 | HCH81 en   | 7D | R199899   | 8r | 95108       |
| 4R | EBF80    | 54 | 01DAF      | 7E | PCL82     | 8t | EZ81        |
| 4S | EY82     | 55 | 75B1       |    | 16A8      |    | 6CA4        |
|    | 6N3      | 56 | 95A1       | 7F | DF97      | 88 | 5893A       |
| 4U | EC93     | 57 | DM71       |    | 1AN5      |    |             |
| 4W | HL94     |    | 1N3        | 7H | DC96      | 9A | 5Z3         |
|    | 30A5     |    | also       | 7J | M8163     | 9B | 6AS5        |
| 4X | ECF82    |    | EL802      | 7L | E88CC     | 9C | 6A7         |
|    | 6U8      | 59 | CV4010     |    | 6922      | 9D | 6C5GT       |
|    | CV5065   |    | M8100      | 7M | 17ECC dev | 9E | 6F6GT       |
| 4d | 100117   | 5+ | CV4014     | 7R | 5X4G      | 9F | 6J5GT       |
| 4f | PY81 Bee |    | M8083      | 7S | 5Z4G      | 9G | 6AS6        |
| 4k | K51A     |    |            | 7T | 5Z4GT     | 9H | 6L6G        |
|    | OG82 dev | 6A | CV4025     | 7U | 6BG6G     | 9J | VX8084      |
| 4r | EM71     |    | M8079      | 7W | 6J7G      | 9K | 6L6GA       |
| 41 | 6263A    | 6B | 7247       | 7X | 6J7GT     | 9L | 6X5         |
| 43 | PL36     | 6C | DCF60      | 7Y | 6K7G      | 9M | 25A6G       |
|    | 25E5     | 6D | DF61       | 7Z | 6K7GT     | 9N | 42          |
| 44 | UY92     | 6E | DF63       | 7d | 6K8G      | 9P | PP35        |
| 45 | UL44     | 6H | ME1201AG   | 7f | M2EC      | 9R | PP36        |
| 47 | EB4      | 6J | Z303C      | 7k | 6K8GT     | 9S | PP60        |
| 48 | PL38M    |    | GC10B      | 7m | 6Q7G      | 9V | 5840        |
| 49 | 2A       |    | DDB32      | 7r | 6Q7GT     |    | CV3929      |
| 4+ | CCH3     | 6K | MX103      | 7t | 12J7G     | 9Z | Z500E       |
|    |          | 6L | MX120      | 70 | 3AU6      | 9k | UY82        |
| 5A | CV9      | 6M | MX122      | 71 | 39EF      | 9m | EL41 A tech |
| 5C | XY81     | 6N | MX123      | 76 | 5876A     | 9r | EF86 en     |
| 5D | HCH81    | 6P | MX124      | 7+ | 18503     | 9t | PY83        |
| 5E | QE04/10  | 6R | MX125      |    |           | 90 | ET51        |
| 5F | CV1863   | 6S | MX126      | 8A | 12J7GT    | 92 | CV2469      |
| 5H | 5Z4GT    | 6T | E180CC Bee | 8B | 12K7G     | 93 | VCRX437C    |
|    | CV2748   | 6U | Z50T       | 8C | 12K7GT    | 97 | QQV04-16    |
| 5I | 50EH5    | 6W | M8097      | 8D | 12K8G     | 99 | MX152       |
| 5K | ECC33    | 6X | CV2742     | 8E | 12K8GT    |    |             |
| 5L | ECC34    | 6Y | CV4015     | 8F | 12Q7G     | *C | Z70U        |
| 5M | EF37     |    | M8161      | 8G | CV4034    |    | Z700U       |
| 5N | EL33A    | 6Z | CV4031     | 8H | 12Q7GT    | *T | Z521M       |
|    |          |    | M8081      | 8I | E81L en   | *U | Z522M       |
| 5P | EL38M    | 6f | EZ36       | 8K | 12SJ7GT   |    |             |
| 5R | EL820    |    | 11EZ       | 8L | 19BG6G    | ∞C | Z70U        |

## 7. Three symbol type codes

|     |             |     |         |
|-----|-------------|-----|---------|
| AAA | PL509       | ACL | PB1     |
| AAB | LL802       | ACM | D3a     |
| AAC | ECF80A      |     | 7721    |
|     | 6GH8A       | ACN | 5876    |
| AAD | EL509       | ACR | 6FQ7    |
|     | 6GK6A       | ACS | 12AD6A  |
| AAE | LL509       | ACT | 12BX6   |
| AAF | XL509       | ACU | 25AV5GA |
| AAG | N30EL       | ACV | 20LF6   |
|     | 6LF6        | ACW | XCF80A  |
| AAH | 10GK6       | ACY | 8AF9    |
| AAK | 6HT5        | ACZ | ECC801S |
| AAL | CV9620      |     |         |
| AAM | 3HQ5        | ADA | 40LF6   |
| AAN | 6HQ5        |     | 7984    |
| AAP | ECF202      | ADB | CV6189  |
|     | 6AJ9        | ADC | PY500A  |
| AAR | PCL805 Siem | ADD | EY500A  |
| AAS | 27LF6       | ADE | LY500A  |
| AAT | 7586        | ADF | XY500A  |
| AAU | 5893        | ADG | EL91N   |
| AAV | 6263        | ADH | 15GK6   |
| AAW | 6264        | ADK | N25PC   |
| AAX | 5676        | ADR | N20PL   |
| AAY | 5687        | ADS | PCF808  |
| AAZ | 5751        | ADU | 6LV6    |
|     |             |     |         |
| ABA | 7587        | AEA | 16AF9   |
| ABB | 50B5        |     |         |
| ABC | 1817        | MCH | CV6189  |
| ABD | N1EFL       | MCT | PL95    |
|     | 6AF9        | MER | TH2     |
| ABE | 5963        | MES | YL1220  |
| ABG | 6264A       | MET | ZP1080  |
| ABK | 5642        | MEU | ZP1081  |
| ABL | 12BY7       | MEW | K81A    |
| ABM | 12AT5       | MEX | N54RPY  |
| ABP | 5R4GY       | MFC | 6D4     |
| ABR | ECC8100     | MFD | CV287   |
| ABS | 12AU7WA     | MFF | N55RPY  |
|     | 6189        | MFZ | CV359   |
| ABT | EL805       | MGC | VX8250  |
| ABU | ECL805      | MGF | VX8252  |
| ABV | LD500       |     |         |
| ABW | XD500       |     |         |
| ABY | CV4110      |     |         |
| ABZ | CV4111      |     |         |
|     |             |     |         |
| ACB | DW4-500     |     |         |
| ACC | EF800       |     |         |
| ACD | EF802       |     |         |
| ACE | 6CF6        |     |         |
| ACF | EL521       |     |         |
| ACG | EL802       |     |         |
| ACH | EL803       |     |         |
| ACK | EL803S      |     |         |