There's a certain appeal in exotic places or, in this case, far-away tubes. Even at this late date, there aren't a lot of West European or Japanese tubes in the hands of North American collectors, so the ones that do appear are somewhat mysterious.

The accompanying table lists a goodly collection of brand names for foreign receiving tubes. This may be helpful in two ways: the simple pleasure of unfamiliar and often bizarre names and the satisfaction of identifying the nation of origin of an unknown tube.

A brand listed here is normally given under the country of manufacture. A few trade names were used in two countries, hence appear twice. There was a large international tube trade within Europe, plus exports to everywhere else but North America. (As one exception, Star and Peerless tubes were part of a brief attempt by Philips in the '20s to sell Dutch-made tubes in the U. S. and Canada respectively.) Some of the trade names duplicate unrelated U.S. brands. These include Champion, Delta, Marathon, Powertone, Pur-A-Tone, Triotron, Ultra, and Zenith. However, the British and American Cleartron brands were related.

RCA, in its large private-brand business, was set up to make at least some U. S. tube types for export and sale by others under the Adzam, Castilla, Franklin, Mullard, Philips, Purotron, Radio Equipment, and Triotron brands.

While we're discussing Western European tubes: there was a great difference in practice between tube manufacturers there and here as to type designations. For anyone who thinks the numbering of American tubes is complex, consider that the Radio Manufacturers Association after 1932 centrally registered tube designs for the industry and assigned type identifiers. As a result, a 6SK7 is reliably a 6SK7, regardless of who made it.

The practice of European and British manufacturers was quite different during their glory years. Essentially every maker assigned numbers according to a unique system of its own. Worse, members of the British Valve Association (which seems, in the light of antitrust law, to have been a huge conspiracy in restraint of trade) had an agreement: while each might produce a particular tube design, no two makers would identify it with the same type number. For example, Philips made a popular triode, the A415. A few of the dozens of "A415s" from other makers are these:

<table>
<thead>
<tr>
<th>Brand</th>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Castilla</td>
<td>Celsior 1208</td>
<td>Eagle</td>
</tr>
</tbody>
</table>
This practice guaranteed a rich market for tube-substitution books. The mess was partially straightened out postwar, when the European industry developed its own tube-registration agency, known as Pro Electron.

Several tube brands had novel ways, for a while, to designate their products: names, not numbers. Some of these were:

- Cynnos: Bigrille, Micro, Oxyde, and Super Valve
- Dario: DC Polyodion and Mag Power
- Fotos: Bigrille/Amplificateur, Microtriode, Radiofotos, and Universel
- Hivac: Fit Midget
- Impex: Hyper-Power Forvolt, Variable Mu Screen Bivalve, and AC Polyodion
- Radiotechnique: Radio Micro
- TeKaDe: Tekadon
- Valvo: Mikrotron

SOURCES:

2. G. Salzmann, *Röhrencodierungen der 20er und 30er Jahre* (Bochum, Dr. Dieter Winkler, 1988).

**EUROPEAN TUBE BRANDS, 1920-1960**

**AUSTRIA**

AKA, Austria, Dario, Eagle, Fortissima, Ganz, Grünberger, Helikon, Kremenezky, Lilliput, Miniwatt (not Philips Miniwatt), Novak, Novis, Ostar, Ostar-Ganz, Populair, Sator-Orion, Triotron, Victrix, Watt
BELGIUM
Adzam (“Mazda” backward!)

BRITAIN

CZECHOSLOVAKIA
Mars, Tesla

DENMARK
MP, Oxytron

FRANCE

GERMANY
AEG (Allgemeine Elektrizitäts Gesellschaft), Arcotron, Auer, Autax, Blaupunkt, Delta, Delta-Alttron, DGL, Duotron, Dugtron, Fernseh, GEMA, Gundelach, Hescho, Hoges, Huth, Ideal, King-Novis, Klangfilm, Leybold und von Ardenne, Loewe, Lorenz, Mende, Müller, Opta, Orchestron, Orion, Osram, Polytron, Pressler, Radioröhren, Rectron, RRF, Seibt, Siemens, Siemens & Halske, Sinus, Stabilovolt, TeKaDe (Telefonapparate-, Kabel-, und Drahtwerke), Telefunken, Ultra, Valvo, Varta

HUNGARY
Orion, Radio-Record, Sator, Tungsram, Vatea
<table>
<thead>
<tr>
<th>Country</th>
<th>Manufacturers</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITALY</td>
<td>FIVRE (Fabbrica Italiana Valvole Radio Electriche), Zenith</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>Aravalve, Aurore, Brittany, Champion, Condor, Dio Works, Elektra-Mars, Fairy, Fama, Famar, Frelat, Heussen, Hollam, Hova, India, Mars Peerless, Philips, Pope, Power Tone, Radio-Record, Radiospar, Record, Splendid, Splendor, Stangold, Star (sold in U. S), Thermion</td>
</tr>
<tr>
<td>NORWAY</td>
<td>Hansen</td>
</tr>
<tr>
<td>SWITZERLAND</td>
<td>BBC, Brown-Boveri</td>
</tr>
<tr>
<td>SWEDEN</td>
<td>Ericsson, SER (Svenska Elektronrör)</td>
</tr>
</tbody>
</table>