## **Utility Power Abroad**

- Pat Brown

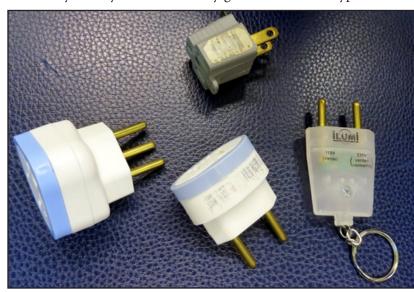
It was once a major task to ready our presentation rack for an international trip. The simple solution of specifying a "whatever-to-120 V" transformer rarely worked. I once ran off of a generator in Argentina and was greeted with an arc when I patched between my presentation rack and the house PA. These days the problem is solved by the switching power supplies used by all of my travel gear. They support a large range of line voltages and frequencies. I use a power strip with no internal electronics, and simply adapt the cable end to fit whatever outlet I am provided.



Photo 1 - A truly universal power supply

## Brazil

I especially appreciated this setup when we traveled to Brazil this spring. My translator, David Distler, met us at the airport. The question of power came up, and David reached into is backpack and produced the items shown in Photo 2. These are "standard equipment" when plugging into Brazilian utility outlets. The voltage can be 110 V or 220 V, and the outlet may or may not have a safety ground. An outlet type



that is 110 V in one room may be 220 V in the next.

## From Electricaloutlet.org:

\* Outlets are often a combination of Type A and C, and can accept either plug. In the states of Bahia, Parana (including Curitiba), Rio de Janeiro, Sao Paulo and Minas Gerais, voltage found may be 127V, though 220V is probably found in hotels. Fortaleza has 240V.

Clear enough?

## Bangkok

In June we taught in Bangkok, Thailand. After checking into the hotel we visited the local home supply store to get an appropriate adapter plug. We hit paydirt when we found an entire aisle devoted to electrical supplies. Note the power strip in Photo 3. It is sold as a "safety plug" and does indeed provide grounded outlets. But the power cord is only 2-wire and the plug has no ground.

"Life is like a box of chocolates. You never know what you're gonna get." Momma Gump



Photo 3 (above) - A "safety plug" that isn't safe

Photo 2 (left) - Brazil adapter/tester kit