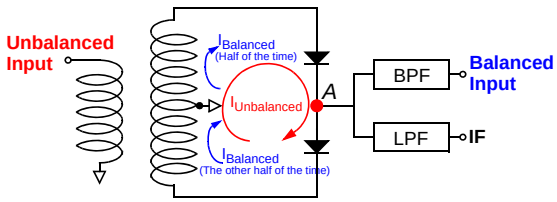
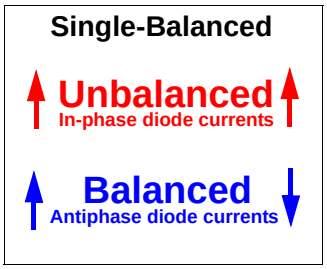
The Single-Balanced Diode Mixer

Balun $\not\Leftrightarrow$ balanced input (despite appearances)





- Unbalanced input creates in-phase diode currents
- Balanced input creates antiphase diode currents

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The diode SBM is a useful starting point as it has both balanced and unbalanced aspects.

We first note that, perhaps surprisingly, the *un*balanced input includes the transformer hybrid in its path. Given the diode orientation shown, transformer secondary currents flow in-phase (simultaneously flowing anode-to-cathode, or vice versa) in the diodes.

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