

Through the Wormhole

A lot of queries have been made about Left-Right channel balance control for the *WarpSpeed* –from potential buyers, I might add, but so far none yet from current owners. Due to the virtually infinite number of steps in the log-antilog response curves of the LDRs, a balance control might come in handy especially on higher/lower-gain/efficiency systems. Here the LDRs will be at work at the extremes of their response curves where they are not as well matched.

After some brain cells wrangling and wringing I came up with a +/-4dB L-R balance control which I'll name the *transWarp* or αW for short. There are 2 versions –a standard one-knob control ($\alpha W1$) which features a 10-turn precision potentiometer that will simultaneously increase (-) and decrease(+) attenuation up to a maximum of 4dB on both L/R channels. This is a min-max difference of 8dB. For the pro-spirited, the control freaks, or both –a two-knob control ($\alpha W2$) features dual 10-turn precision pots to independently control Left or Right channel. It is still a +/- 4dB of play for each channel with the choice on which to either increase or decrease in attenuation. Each channel also gets a min-max difference of 8dB. On a $\alpha W2$ I usually go for the weaker channel and decrease the attenuation. For the $\alpha W1$ it will have an overall quicker knob response due to its channel-to-channel simultaneous adjustment. Both designs' icing on the cake is their guaranteed tiny, continuous incremental level increase/decrease –for a half-scale turn, how about <0.02dB?! Now if imbalance is more than what the αW can compensate for, then either I did a really lousy LDR matching job or something is faulty. The balance control circuitry is very quiet, being in the LED domain and is autonomous of the signal circuitry.

The balance knobs are anodized machined aluminum, precision scale dials that are calibrated 1/100 of a full turn and for each of the 10 full turns. These controls are independent of the main volume control.

Adjustment was easy enough that I was able to balance by ear to <1dB. I deliberately built a V4x2 with LDRs that are fairly matched to present some imbalance. You can hear it snap into place between the speakers especially lead vocal driven music...Eva Cassidy and John Hammond have been spinning heavily.

The αW options are now available on all new units or as an upgrade to existing ones.

$\alpha W2$



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