'Recording Secrets For The Small Studio'
Some Low-frequency Shuffling Implementations

In Chapter 8 of 'Recording Secrets For The Small Studio' I mentioned that low-frequency shuffling (ie. expanding the low-frequency width of a stereo signal) can be implemented in a number of different ways, so here are a couple of examples.

Diagram A is probably the simplest method: encode the LR stereo signal to MS format; apply a 3-6dB low-frequency shelving EQ boost to the Sides signal only; decode the MS stereo signal back to LR format. (If you need an MS encoder/decoder, try Voxengo's freeware *MSED* plug-in.) The shelving frequency you use will likely be in the 300-500Hz range, but will depend on the specific microphones and equaliser you're using, so you have to use your ears to set that up.

Diagram B shows a method working more from first principles: take a split feed from the left and right signals; polarity-invert the right-channel split feed; mix both split feeds together and low-pass-filter the result; mix the low-pass-filtered signal with the original left-channel signal; polarity invert the low-pass-filtered signal and mix it with the original right-channel signal. As in Diagram A, the low-pass filter's cutoff frequency will depend on the microphones and filter you're using. I'd recommend trying a 12dB/octave filter with low resonance (Q value less than 1) in the first instance, and digital linear-phase designs will usually give the most predictable results. The mix level for the low-pass-filtered split feeds determines the degree of low-frequency width enhancement, and will likely be somewhere between -6dB and 0dB.