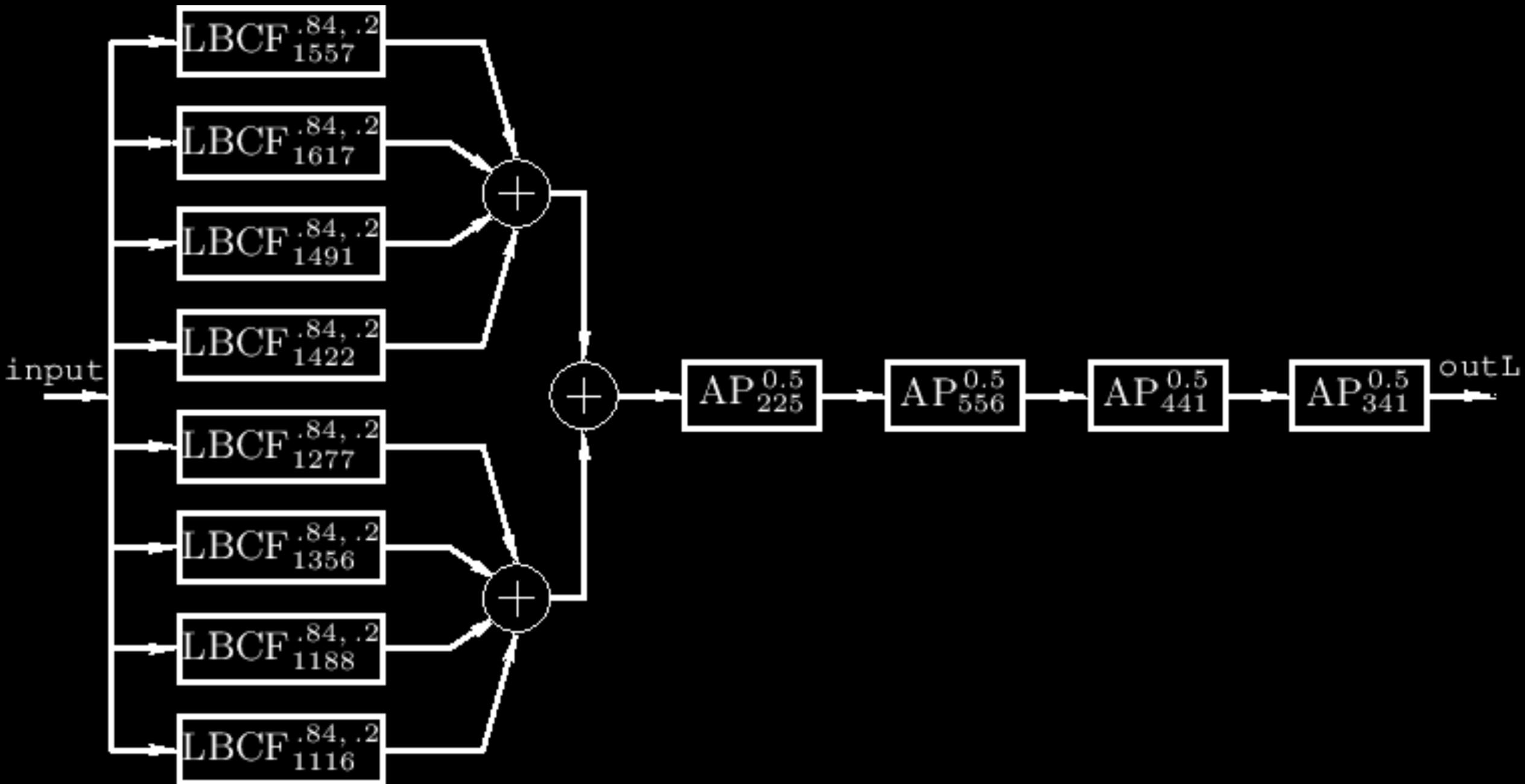# Freeverb

A more recently developed Schroeder reverberator is ``Freeverb'' -- a public domain `C++` program by ``Jezar at Dreampoint'' used extensively in the free-software world. It uses four Schroeder allpasses in series and eight parallel Schroeder-Moorer filtered-feedback comb-filters (§2.6.5) for each audio channel, and is said to be especially well tuned.

Figure: Freeverb block diagram (left stereo channel). The Schroeder-Moorer lowpass-feedback-comb-filter, denoted $\mathrm{LBCF}_N^{f,\,d}$ in the figure, is defined in §3.6.2 below. The use of three summers instead of one is for drawing convenience.

Figure 3.8 shows the default signal-processing settings for the Freeverb left stereo channel. Processing for the right channel is obtained by adding an integer to each of the twelve delay-line lengths. This integer is called `stereospread`, and its default value is 23. (See the file `tuning.h` for all constants and default values used by Freeverb.) Different software distributions may include slightly different default values in `tuning.h`. The values in Fig.3.8 were found in the `ladspa-cmt-plugins` package (``Computer Music Toolkit'') which is included in the Planet CCRMA distribution, and which is based on the June 2000 version of Freeverb, as of this writing. There are at least six more instances of Freeverb in the Planet CCRMA distribution alone.[4.10]

Subsections

- Freeverb Main Loop
- Lowpass-Feedback Comb Filter
- Freeverb Allpass Approximation
- Conclusions

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