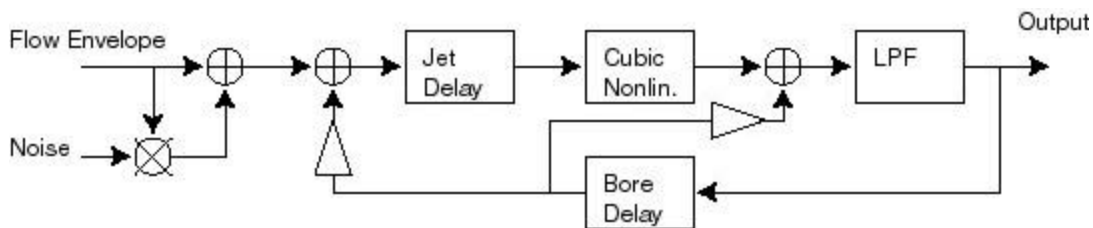**FluteDelayLine .*sep module***

The FluteDelayLine module's approach to generating a flute-like sound is based on an adaptation of Perry Cook's flute model.[1][2] Istvan Kaldor ported the FluteDelayLine to a SynthEdit[3] *prefab* from a SynC Modular ensemble by Dr.Sync[4], which slightly modified the Cook approach shown below.

The .sep module was developed, using the structure of the *prefab* as a functional specification, to overcome the restrictions on using feedback imposed by SE's block processing structure. Note the use of the Feedback Delay module, as required by SE, in the feedback path of the *prefab* structure in the included .se1 file. This introduces a delay of 90 – 120 sample frames into the feedback flow. The inability to process feedback on a sample-by-sample basis severely limits the upper pitch range of the SE *prefab*. This problem is solved in the .sep because the feedback paths are internal to the module, and are thus not subject to this restriction.

Perry Cook's flute model:

A sample .se1 file FluteDemo is included. It contains both the *prefab* and the sep *module*.
The .se1 shows an example of how to use the *module*, and the *prefab* illustrates what's going on inside the *module*.

FluteDelayLine.sep © 2003, Istvan Kaldor and David Haupt
Concept, design, and .se1 implementation: Istvan Kaldor
C++ programming: David Haupt

[1] http://www.cs.princeton.edu/~prc/
[2] http://www-ccrma.stanford.edu/software/clm/compmus/clm-tutorials/pm.html#s-f

[3] SynthEdit © 2002, Jeff McClintock, http://www.synthedit.com/
[4] http://www.mtu-net.ru/syncmodular/drsync/