

What is Resynthesis?

Wave



Acoustic Bass #1

Synclavier Analysis/Resynthesis

Acoustic Bass #1

Hybrid

Analyze

Samples

Subtractive

Additive

Pitch: A#2
+13.3 Cents
Hertz: 117.442

Acoustic Bass #1

Frame Count

Hybrid Attack

⚡

Synth Mode Auto Tune Next Frame Count Hybrid Attack ⚡

Developed by New England Digital in the 1980's, **Resynthesis** is a technique to create sounds with precisely-controlled harmonics that vary over time. Think of it as "sampling" before there was "Sampling". Here is a "how to":

- Call up a sample. Pitched sounds work best.
- Percussive sounds like cymbals will typically yield bizarre results.
- Change **Synth Mode** to **Analyze**. Then **Auto-tune**, then **Next**.
- **Frame Count** controls how many "Timbre Frames" are created.
- **Hybrid Attack** controls how much of the original soundfile you hear.
- ⚡ triggers the analysis, which can take several seconds.

Once the Timbre Frames have been created they can be edited with the **Frames** button. The perspective display attempts to show how the harmonics vary over time. You can control the delay and crossfade time between frames, as well as the frame volume, amount of modulation, and a pitch offset. Complex volume, modulation and pitch envelopes can be constructed using this technique.

You can edit the harmonics of each frame with the **Edit** and **Define** buttons (see the **Oscillator** section). Press **Edit** twice to toggle between editing the frame harmonics and editing the underlying soundfile parameters.

Frame



Acoustic Bass #1

20 Frames Available

Showing Frame 0

Clone/ Delete Change Splice Change Vol/Mod

Acoustic Bass #1

Frame 0 of 0 - 19

Frame Select Clone Frame Delete Frame



Loop <--> w/Tail	0	19	Frame 0 of 0 - 19	0.0 Millisec	0.0 Millisec
Loop <-->	Frame No.	Frame No.	Frame Select	Delay Time	Fade Time
Loop <-- w/Tail					
Loop <--					
No Frame Loop					

Loop Mode Loop Start Loop End Frame Select Delay Time Fade Time

Frame 0 of 0 - 19	100.00 %	100.00 %	Frame 0 of 0 - 19	0 Semitones	0.0 Cents
Frame Select	Frame Volume	Frame FM %	Frame Select	Semi-tones	Cents

Frame Select Frame Volume Frame FM % Frame Select Semi-tones Cents

Fearless sound designers can try analysis with a **Patch List**. Only one soundfile is analyzed, but the underlying hybrid attack is chosen for each note. Switch **Synth Mode** to **Additive** to remove the hybrid attack.

Resynthesized partials can be combined with other partials as desired. And of course FM and other effects can also be applied.

Switch **Synth Mode** back to **Analyze** to try again with different settings.