

# + , an Additive Synthesiser: User Manual

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## 1 Usage

main~.pat is the main patch file and user interface. To use the synthesiser, this is the file that should be opened.

On opening, the patch will scan various folders for presets, audio files and midi files, then load a violin patch in poly mode. This may take some time, as the .sam data files can be quite large.

Presets can be chosen in the preset box on the left. Any file moved into the preset box will be recognised, so .raw files may be moved from the partialdata folder for experimentation at the user's own risk. The led on the preset box flashes once the preset is loaded. For the larger .sam files, this can take some time.

Midi files can be chosen on the right. Any type 0 (single track) midi file moved into the midi folder will be accepted. Only note and velocity data is interpreted.

The original samples can also be played back. The .wav files have the same name as the .sam files made from them and the sample chooser will automatically update to the original sample file as the preset is changed.

The sliders in the centre and the mono/poly leds display current controller values and may be used to change these values.

The synth controllers are as follows:

C1	Mono / poly mode
C2	Portamento time
C3	Vibrato rate
C4	Decay
C5	Reverb level
C6	Reverb time
C7	Early reflection mix
C8	'Liveness' control
C9	Master volume

The synth also interprets pitch bend, modulation (controls depth) and velocity data.

## 2 Files and dependencies

### 2.1 Patch files

- anyctlin.pat
- flash.pat
- loadmesd.pat
- loopramp.pat
- ramp.pat
- synth~.pat

### 2.2 Externals

These objects were provided by third parties and not coded by me.

- ddg.mono.mxe
- ddg.mono.mxo
- yafr.pat

### 2.3 Preset .sam and raw files

The preset folder contains .sam files with headers, which can be loaded into main~.pat to give different sounds. The .raw files in the partialdata folder are .sam files without headers, which can be loaded into main~.pat, but

### 2.4 Extra files

Although undocumented / not tidied, the following patches were left in for interest:

- harmonicanalyser.pat - used to create the .sam files
- graphproc.pat - for graph display in the analyser
- header\_editor.pat - used to add header information to the .sam files
- partfindclean.pat - first (incomplete) attempt at a partial hunter. On loading, will demonstrate sweeping up to the first partial and locking onto it.

## 3 Demo recording

The demo is the “Little” organ fugue in G minor by Bach and is the direct output of main~.pat with no added processing.