

Serenity Pro Manual V.1.1

The heavenly choir and string pad synthesizer



Serenity - what it is and what it is not: This synthesizer is aimed to create various choir and string pad sounds but it is not meant to emulate this or that vintage string and/or choir machine. Though you might get sounds resembling quite nice the flavours of the old machines. Serenity is more about heading towards the future not the past of the old machines. So don't get yourself restricted in pursuing emulations of old machines instead make use of the possibilities offered by this fully fledged synthesizer with filters, LFO, various effects and especially the Twin Etherify effect to create some more stunning flavours to expand your creativity. In addition the internal waveset has been carefully selected to provide you with a wide range of string, choir and vocal waves plus some more complex padsounds. Most of these waves have been processed widely from prior versions and some new waves have been added.

Main features (based on Pro version):

- 2 x PCM wave oscillators with 128 waves
- 1 x Filter - 3 types (LoPass, HiPass, BandPass), ADSR EG with 3 Response Modes, Vel control on A & D,
- 1 x 4 channel adaptive mixer for cutoff modulation with selectable mod sources
- 1 x VCA EG (ADSR) with 3 Response Modes and Vel control on Attack & Decay
- 1 x Pan
- 3 x LFO
- 1 x S&H
- 1 x DLFO (Double LFO with two outputs and phaseshifting)
- 1 x special Pitch LFO with Speed Up/Down options
- 1 x Twin Etherify Formant Filter
- 1 x Gator not only on Level but optional for Filter and delay Pan too
- 1 x Delay with several options for panning delayed signal
- 1 x Stereo Flanger
- 1 x Stereo Reverb
- 1 x Bass Enhance
- 1 x XY-Joypad with 6 controls for 12 destinations and optional display for LFO & Aftertouch motion
- 3 x Lazy Buttons
- 12 voices, over 760 patches (1 internal bank, 5 external banks)

Differences of Free version:

Free version: 3 voices, no internal patch management, no MIDI Learn, no velocity control on Attack / Decay of VCF / VCA EG, only 4 Joyypad Controllers, no SF2 Load, less patches, but an easter egg gimmick ;-)

The Soundsources



Two pcm wave oscillators serve as sonic heart (using sf2 files with carefully selected waves). Each oscillator has options for semitone settings (0 to +11), octave (-2 to +2). Detune slider to spread both slightly off tune. Each oscillator has a Mute Button and a level knob for level adjustment. Both oscillators can be balanced to to direct out (of VCA) or Filter.

The Filter section



There are three types of different resonant filters selectable: 24dB LowPass, 12dB HighPass, and BandPass. Cutoff and Resonance knobs are quite obvious. For modulating Cutoff there is a 4 channel adaptive mixer of different selectable modsources. The mixer is adaptive which means with one knob at max and the others at min the one up provides 100% mod amount, with two knobs at max each one contributes 50% mod amount, with three at max each one 33,3% mod amount and all four at max each 25% mod amount. So 100% will never be exceeded. Raising one will lower others amount respectively. This allows the creation of very distinctive modulations esp., when different LFO are selected to get a new waveshape out of the two.

There is a dedicated ADSR EG for the filter with three response modes; Normal, Exponential and reverse Exponential (which allows most snappy envelopes)., Also Attack and Decay can be modulated by velocity to shorten or to lengthen time.

CutOff MixMod 1: Vel +, Vel -, KTrk+, KTrk-

CutOff MixMod 2: FEG +, FEG -

CutOff MixMod 3: Man, LFO 1, LFO 2, LFO 3, S n H, ModW, Gator, ATch +, ATch -

CutOff MixMod 4: Man, DLFO1, DLFO2, LFO 1, LFO 2, LFO 3, ModW, Gator

Mod Sources



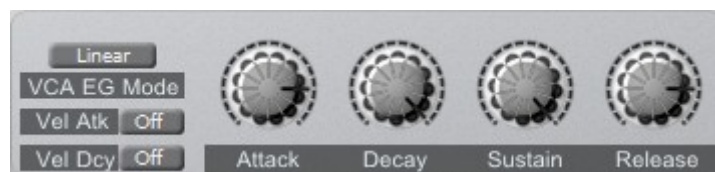
There is a dedicated Pitch LFO which can also be controlled by Aftertouch or Modwheel and allows setting for speeding up or down.

There are 3 LFO, 1 Sample & Hold (S&H) 1 Double LFO with two wave outputs and phaseshifting between these waves (best used for the stereo flanger), 1 ADSR EG 3 (for each voice played) and 1 Gator which is usable not only to affect the output level

The Gator is basically to affect the audio level but here also optional for Filter Cutoff and panning of delayed signal. Tempo of the Gator can be set in divisions related to bpm with optional offset Offset (Off, MWSpdUp, AT SpdUp). Use Shuffle to make the gating effect groove. GateLen(gth) determines the length audio signal will pass through the gate. With Attack and Release you can shape the gate to open/close from hard to softer. A further interesting option is you can mix the amount of gate affecting the audio signal even with optional modulation so this gives some more nice expressiveness to the sound.

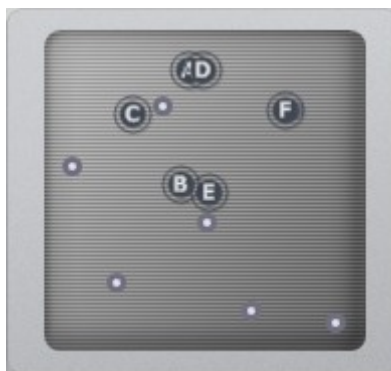
As further realtime modsources via MIDI Aftertouch and modwheel can be selected on many destinations.

VCA section



ADSR VCA EG for shaping the audiosignal in level, with three response modes: Linear, Exp(ponential), and Rev(erse) Exp(ponential) with the latter being best for snappy envelopes. Attack and Decay can be lengthened or shortened by velocity.

The Joypad



features 6 joy-controllers labelled from A to F which are connected to two destinations (as there is X and Y) so this makes it quite simple even for editing patches as the related knobs move accordingly – a fast shortcut for programming this synth so to speak.

A = Osc 1 & 2 - Dir : Filt
D = Cut Mod 3 & 4

B = Cutoff & Resonance
E = Ether Shift A & B

C = Cut Mod 1 & 2
F = Ether A & B Reso

On a 2nd level of the Joypad there is an optional display for LFO motion including Aftertouch too. Use switch LFO Show to set to on or off.

Effect & Output section

(Note: Each effect has a dedicated on/off button for instant switching.)

Twin Etherify



Twin Etherify is consisting of two Formant (or vowel) filters with the option to blend over from one to the other with selectable mod source. You can select from 11 preset vowel settings (see Appendix 3) and use Shift knob to shift frequencies of all three bands while Fine allow to set each of the three bands to a dedicated offset of about +/- 15%. Shift can be modulated by a selectable source.

Note: clicking on Shift or Fine knob will popup the display of the frequency of each band so you might set to a certain frequency within the offset range.

Also there is a level attenuator selector for the output of each Etherify which comes in handy to match the basic output level of both.

Mix Ether A:B balances between both and can be modulated by different sources.

Mod Shift A, B - Man, LFO 1 – 3, S&H, DLFO 1,2, Aftertouch, Modwheel, Gator

Mod Mix A:B - Man, LFO 1 – 3, S&H, DLFO 1,2, Aftertouch, Modwheel, Gator

Output section

Gator Mix, Mix and Pan



Gator Mix (with selectable modsource) controls the amount of the Gator on the output from the VCA output while Mix Dir:Eth balances the output of the VCA to the output of Twin Etherify.

Gator Mix modsources: Man, ModW, AT +, LFO 1, LFO 2, LFO 3, S n H

Pan has different modes as it controls both the undelayed and the delayed signal. Normal pan is to have undelayed and delayed signal move to left or right together. Next is to move delayed signal into opposite direction of undelayed signal. And some further modsources allow even more options for the delayed signal e.g. like Gator.

Pan options:

<-Pan-> - normal = undelayed and delayed signal move to same direction

P<->Dly - undelayed and delayed signal move to opposite direction = one to left the other to right

P<Dly> - spreads the delayed signal wider than just to one side.

L3<Dly> - LFO 3 modulates Pan of delayed signal

At+<Dly>, At-<Dly> - Aftertouch modulates Pan of delayed signal

Gt<Dly>, Gt-<Dly> - Gator modulates Pan of delayed signal

Delay



Though Delay is a mono delay it has dedicated pan option with modulations at the Pan Section, so you can really spread the sound in panorama. Delay is bpm synced in divisions of notelength plus settings and knob for manual offset. Knobs for Delay Level and feedback do what they are supposed to.

Flanger

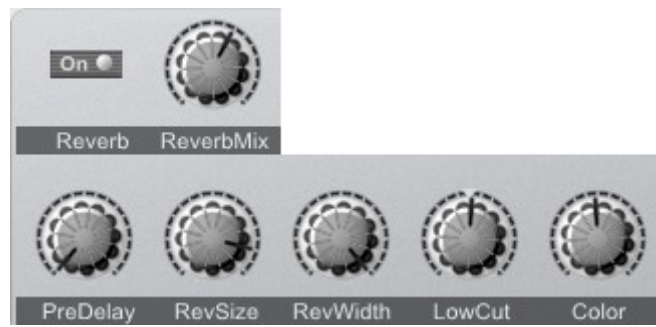


Stereo Flanger gives what you expect it for with basic controls for Depth, Feedback and Mix plus there are different modsources selectable for Depth and Mix. As there are two modulatable parameters you should try a manual setting for Depth and modulate Mix.

Flanger Depth: Man, DLFO, LFO 1, LFO 2, LFO 3, S n H, Gator, ModW, ATch -

Flanger Mix: Man, LFO 3, ModW, ATch +, ATch -, Off

Stereo Reverb



Stereo Reverb with basic controls for Width and Room/Size and Reverb Mix knob. In addition there is also a Low Cut knob to remove unwanted low rumbling frequencies in order to prevent the reverb from 'shattering'. You can even set a (short) predelay for the reverb to increase depth. Color is to have reverb more or less bright.

Main Out



With Bass Enhance you add some Bass punch which is not affected by the reverb at all as it bypasses that section.

Also you might use Aftertouch to control Main Volume for de- and reincreasing level while playing.

System functions



Internal Patch selector with Patch Name Edit and Patch Manage

Patch Name: Edit / Done to edit the patchname

Pacth Manage:

Patch Copy = to copy a patch to a different location

Inst Load and Save for storing a patch as fpx files

Bank Load and Save for storing a bank as fxb files



LFO Show to set display of LFO motion to on or off

Lazy – is obvious

MIDI CC display shows assigned MIDI CC of the control elements and incoming MIDI data

Options for voice modes

Also you may choose a voice allocation or poly mode:

Soft Steal - The same voice is re-used. Much like mono mode, Envelopes do not hard-reset to zero but start from current level. Usefull for synthesizing keyboard instruments. e.g. E-Piano.

Hard Steal - Each new note is allocated a fresh unused voice. Envelopes always start from zero. The older voice is faded-out to prevent the old note's release tail from sounding 'under' the new note. Overlap (in most cases to be preferred or best for padlike sounds) - Same as above, except the older voice continues to sound along with the new one. Useful for ensemble sounds like string sections where several instruments can play the same note.

Mono Mode can be set with option for Legato (if M-Retrigger Off) or M-Retrigger.(if On)

Hint: Using long attack and/or release settings will increase CPU-usage - remedy: lower release at filter ADSR, lower release at ADSR at VCA EG and raise delay level instead.

Known issue: loading an fxp (single patch) file to 1st patch slot *may* fail to set the correct data for the waves selected. However this does not happen when loading an fxb (patch bank) file which simply loads fine.

Credits and further info

The Synthesizer has been created by H. G. Fortune with Synthedit by Jeff McClintock.

Patches were kindly done by **Dimitri Schkoda (DS)**, **Kujashi (KJ)**, **EdTen Eyck (EDT)**, **Paule Amca (PA)**, **Sam Charles (SC)**, **[Phil Garrison](#) (PG)**, **Stanley King (SKM)**

This VSTi uses further modules by David Haupt, Kelly D. Lynch, Peter Schoffhauzer, Daz Diamond, Lance Putnam, Oli Larkin, Etric van Mayer, et al.

Thank you, guys!

VSTi by H. G. Fortune:

More VSTi: <http://www.hgf-synthesizer.de>

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official support forum on kvr: <http://www.kvraudio.com/forum/viewforum.php?f=149>

HGFortune Synthesizer on facebook (feel free to use I like ;-):

[HGFortuneSynthesizer](#)

Open group for users, fans, friends and supporters: [on www.facebook.com](https://www.facebook.com)

This is not a technical support forum but is for news, communication among users e.g. sharing ideas, images, videos and music.

Appendix 1

List of 128 waveforms in bank #0

000 [Orc]Arco-Celli	032 [Str]StarStrngs	064 [Cho]SynVox FemAah	096 [Syn]OutBackVoice
001 [Orc]Arco-Violas	033 [Str]StringsPad	065 [Cho]SynVox Oohh	097 [Syn]Synvoice-VS
002 [Orc]Arco-Violins	034 [Str]Stringz2	066 [Cho]SynVox OohUhh	098 [Syn]Tabled Vox
003 [Orc]BigOrchStr	035 [Str]SwellStrings2	067 [Cho]VocNoVox2	099 [Syn]Voxodont
004 [Orc]Bowed	036 [Str]Symphony VFX	068 [Cho]WhisperVox	100 [PdC]BigFantasy
005 [Orc]BowedStrs2	037 [Str]SynStrings2	069 [Cho]WideChoir2	101 [PdC]HeavyPad
006 [Orc]Ensemble	038 [Str]SynStrinngs2	070 [Orc]ArtBreath	102 [PdC]Heliopolis
007 [Orc]Ensemble Pad	039 [Str]Tender	071 [Orc]BestChoir2	103 [PdC]LadyNature
008 [Orc]Ensemble2	040 [Str]WideStrngs2	072 [Orc]BigChoir	104 [PdC]LuringVoice
009 [Orc]RealViolins	041 [Syn]FLX-Strgbrite	073 [Orc]BriteHeavenly	105 [PdC]Mysticon
010 [Orc]StringsTremolo	042 [Syn]FLXtring	074 [Orc]Choral Aahh	106 [PdC]SarahElissa
011 [Orc]Swellstrings1	043 [Syn]FreeGliding2	075 [Orc]Fem AaaOhhhs	107 [PdC]SparkleVox
012 [Orc]SymphonyStr	044 [Syn]LoOctString2	076 [Orc]Fem Choir brite	108 [PdC]SynVocPad
013 [Orc]ViolaVioloncell	045 [Syn]MorningSun2	077 [Orc]Fem Choir soft	109 [PdC]Vertex
014 [Str]ArconicStr	046 [Syn]Sawy Strings	078 [Orc]Grumbling2	110 [PdC]WhitePad
015 [Str]Bowed2	047 [Syn]StringedVoice	079 [Orc]HeavenlyOhh2	111 [PdC]WideOpen
016 [Str]BowTension2	048 [Syn]StringSect2	080 [Orc]Huuuouh2	112 [PdS]Cosiness
017 [Str]Cinematique	049 [Syn]XtraOrchst2	081 [Orc]LongOoouh	113 [PdS]DeepString
018 [Str]ClassicStrn2	050 [Cho]AirVoice	082 [Orc]LowVox2	114 [PdS]FullPad
019 [Str]FairyStrings	051 [Cho]Angelics	083 [Orc]Male VoxEns	115 [PdS]Guevercin-2
020 [Str]FastStrngs2	052 [Cho]Aspiration2	084 [Orc]Monks(Lo)2	116 [PdS]LateSunset
021 [Str]FineStrngs	053 [Cho]BreathVox	085 [Orc]Voice Ahh	117 [PdS]WhiteClouds
022 [Str]FogString2	054 [Cho]Breathy Oohh	086 [Orc]VoxAhhh	118 [CFx]ChordedNze
023 [Str]LiteStrings2	055 [Cho]BreathySynVox	087 [Syn]AiryVoices	119 [CFx]Haunted
024 [Str]Lusher	056 [Cho]Chairesque	088 [Syn]AngelVoice	120 [CFx]Mysthooh
025 [Str]M12 Strings	057 [Cho]Choirng	089 [Syn]BriteWhisper	121 [CFx]NaturePad
026 [Str]MegaStrngs2	058 [Cho]FakeVox2	090 [Syn]Eishauch	122 [CFx]SlowMystSing
027 [Str]Mellow	059 [Cho]FatQuyer2	091 [Syn]FoggyVox	123 [SFx]SpaceBirds
028 [Str]SlowEvolv2	060 [Cho]Kwaier	092 [Syn]FogQuyer2	124 [SFx]FullBlown
029 [Str]SmearTape2	061 [Cho]MagiChoir2	093 [Syn]Ghouls2	125 [SFx]OrchHitPad
030 [Str]Softpudding2	062 [Cho]SadFemale	094 [Syn]Horrifical2	126 [SFx]OrchTuning
031 [Str]Solina2	063 [Cho]SuperSoftVoice	095 [Syn]NoVocal 2	127 [SFx]OrcBreakSplit

order in the sf2 file:

Orc - samples from acoustic sources

Str - quite typical string sounds

Syn - synth strings with more touch of synths

Cho - quite typical choir / vocal sounds

Orc - as above

Syn - as above for choir sounds

PdC - pad Choir

PdS - pad Strings

CFx - Choir FX

SFx - String FX

Note: Most of these waves have been processed widely from prior versions and some new waves have been added.

Patchbanks:	Pro version	Free Version
1.	Serenity-Init.fxb	Serenity-Init.fxb
2.	Serenity-Internal.fxb	Serenity-Internal.fxb
3.	Serenity_PA_01.fxb	Serenity_PA_01.fxb
4.	Serenity_PA_02.fxb	Serenity_PA_02.fxb
5.	Serenity_DS_02.fxb	
6.	Serenity_DS_EDT.fxb	
7.	Serenity_KJ.fxb	
8.		Serenity_xc-Free-03.fxb (*)

(*) contains randomly selected patches from:

Serenity_KJ.fxb, Serenity_DS_EDT.fxb, and Serenity_DS_02.fxb.

Appendix 2

MIDI-Implementation of MIDI CC for buttons, sliders & knobs (recognized data valid from 0-127)

Main Vol	= 7	Gator Mix	= 34	Osc 1 Wave	= 70	LFO 1 Wav	= 102
BassEnh	= 8	Gator Mix Src	= 35	Osc 1 Mute	= 71	LFO 1 bpm	= 103
Pan Mod	= 9	Gator On/Off	= 36	Osc 1 Lvl	= 72	LFO 2 Wav	= 104
Pan	= 10	Gator bpm	= 37	Osc 1 Oct	= 73	LFO 2 bpm	= 105
Rev Mix	= 11	Gator Shuffle	= 39	Osc 1 Semit.	= 74	LFO 3 Wav	= 106
Rev On/Off	= 12	GateLen(gth)	= 40	Osc 2 Wave	= 75	LFO 3 bpm	= 107
Rev Color	= 13	Attack	= 41	Osc 2 Mute	= 76	SnH Mode	= 108
Rev LowCut	= 14	Release	= 42	Osc 2 Lvl	= 77	SnH bpm	= 109
RevWidth	= 15	VCA EG Atck	= 43	Osc 2 Oct	= 78	DLFO Wav	= 110
RevSize	= 16	VCA EG Dcay	= 44	Osc 2 Semit.	= 79	DLFO bpm	= 111
RevPreDelay	= 17	VCA EG Sust	= 45	Osc 1 Dir:Filt	= 80	DLFO Phase	= 112
FlangerMix	= 18	VCA EG Rels	= 46	Osc 2 Dir:Filt	= 81	KSycn 1-3	= 113
ModMix(src)	= 19	VCF EG Atck	= 47	Ether A Select	= 82	KSycn DLFO	= 114
Feedback	= 20	VCF EG Dcay	= 48	Ether A Shift	= 83	PitchLFObpm	= 115
Depth	= 21	VCF EG Sust	= 49	ShiftA ModSrc	= 84	ModSrc	= 116
DepthMod(src)	= 22	VCF EG Rels	= 50	Ether A Fine 1	= 85	Mode	= 117
Flanger On/Off	= 23	VCF Mod 1	= 51	Ether A Fine 2	= 86	LFO Show	= 118
Delay Lvl	= 24	VCF Mod 1 src	= 52	Ether A Fine 3	= 87	3 Lazy butt.	= 119
Feedback	= 25	VCF Mod 2	= 53	Ether A Reso	= 88	(fixed set.)	
bpm Offset	= 26	VCF Mod 2 src	= 54	Ether B Select	= 89		
Delay bpm	= 27	VCF Mod 3	= 55	Ether B Shift	= 90		
Dly OffsetMod	= 28	VCF Mod 3 src	= 56	ShiftB Mod Src	= 91		
Delay On / Off	= 29	VCF Mod 4	= 57	Ether B Fine 1	= 92		
		VCF Mod 4 src	= 58	Ether B Fine 2	= 93		
Ether On/Off	= 30	Cutoff	= 59	Ether B Fine 3	= 94		
Ether Mix A:B	= 31	Resonance	= 60	Ether B Reso	= 95		
Eth Mix ModSrc	= 32		= 61				
Mix Dir:Ether	= 33		= 62				
			= 63				
		n.a./avoid *	38, 64-69				

You might use MIDI Learn or Edit via right click with mouse on the resp. Item (knob, button, selector etc.) to change these assignments.

*** n.a./avoid refers to CC# 38, 64 to 69, 96 to 101 as these are often used for system related MIDI messages by MIDI keyboards/devices**

Note: In order to Restore the factory CC assignment this there is a single patch:

"Serenity CC Factory Reset Init.fxp"

Loading this last into a bank before saving will reinstall the factory MIDI CC assignment. But it is crucial that patch is loaded directly into the bank and not via a preset manager's 2nd window like in MINiHost as this won't transfer these CC assignments in all cases! I don't know why but it is so.

Q & A:

Q. Why are the sf2 files stored internally ?

A: Because I'm fed up with having these found as illegal downloads on certain sites :-(

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You may use the program in personal and/or commercial music (credits are welcome). But You are not allowed to make samples (looped or unlooped) for commercial sampling CDs without prior permission. You are allowed to run the registered i.e. Pro version of the program on different computers as long as You are the only person having access to and using the program.

You are not allowed to modify, decompile or reverse-engineer the program. This program is not copy-protected but protected by national & international (copyright-) laws.

Changes & enhancements may be made without prior notice and a grant that further editions will read patches from former version cannot be given.

The software is supplied as is. Use this program on Your own risk and Your own responsibility.

Appendix 3 - additional Data for Etherize Formant filter

UCL DIVISION OF PSYCHOLOGY & LANGUAGE SCIENCES

A study of the formants of the pure vowels of British English by J. C. Wells from March 1962

<http://www.phon.ucl.ac.uk/home/wells/formants/table-1.htm>

Vowel and keyword

Formant Frequency (Hz) (F1 to F3)

/i/ heed	F1	285	F2	2373	F3	3088
/I/ hid	F1	356	F2	2098	F3	2696
/E/ head	F1	569	F2	1965	F3	2636
/æ/ had	F1	748	F2	1746	F3	2460
/A/ hard	F1	677	F2	1083	F3	2540
/Q/ hod	F1	599	F2	891	F3	2605
/O/ haw'd	F1	449	F2	737	F3	2635
/U/ hood	F1	376	F2	950	F3	2440
/u/ who'd	F1	309	F2	939	F3	2320
/V/ Hud	F1	722	F2	1236	F3	2537
/3/ heard	F1	581	F2	1381	F3	2436

(The above are used as initial settings in the plugin)

Other data for different settings:

Formants for Selected Vowel Sounds by Peterson and Barney (see "References" section) have compiled a list of formant frequencies for common vowels in American English; refer to Figure 3: (Note: there is an 'a' like in 'hard' missing)

Phonetic Symbol	Example Word	F_1 (Hz)	F_2 (Hz)	F_3 (Hz)
/ow/	bought	570	840	2410
/oo/	boot	300	870	2240
/u/	foot	440	1020	2240
/a/	hot	730	1090	2440
/uh/	but	520	1190	2390
/er/	bird	490	1350	1690
/ae/	bat	660	1720	2410
/e/	bet	530	1840	2480
/i/	bit	390	1990	2550
/iy/	beet	270	2290	3010

Figure 3: Formant frequencies for common vowels in American English (from Peterson and Barney, 1952)

For chinese vowels:

	F1	F2	F3
Li	339	2303	3030
La	811	1276	2804
Lu	386	912	2657
Le	529	1304	2692
Lü	351	1956	2438
Lai	810	1447	2700
Lei	634	1784	2750
Lao	711	1162	2776
Lou	602	1175	2731
Lia	841	1398	2636
Lie	572	1934	2722
Luo	571	1163	2790
Lüe	591	1742	2572
Liao	691	1353	2615
Liou	480	1311	2482

(Derived from table 2 of: Intra- and inter-speaker variations of formant pattern for lateral syllables in Standard Chinese by Cuiling Zhang, Joost van de Weijer, Jingxu Cui; 2004 / 2005)