

The STS-11 Synthesizer V.1.1

The Space Transition Synthesizer



This synthesizer is featuring the Wave-Transition method for absolute unique Soundscapes & Textures. A very straight userinterface with 3 "Lazy"-Buttons for randomizing different sets of parameters so programming this synthesizer is incredibly easy. The Transition method adds a stunning new dimension and motion for an evolving sound changing completely it's characteristics.

The basic features are:

- Four digital PCM-wave oscillators powered by 103 selectable waveforms
- two filters (24db Lowpass and 12 db Highpass, both mixable)
- two ADSR-style envelope generators
- one LFO (bpm-synced)
- one Sample & Hold (bpm-synced)
- one bpm-synced, pan modulated delay
- two "Transit" and one "Shift" engine

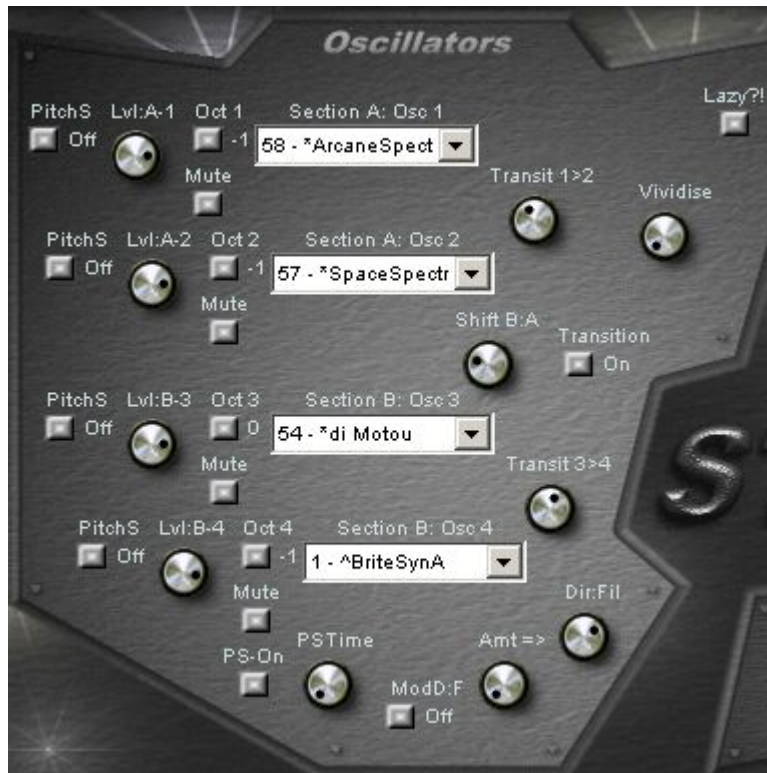
Although this is an amazingly "simple" structured synthesizer it gains its astounding sound from the Transition method between the oscillators. As there are even some waves like Waterflow, Rainy and Jungle the STS is also suited for ambient soundscapes or even industrial noises. More to come!

The features of the STS-11 Synthesizer in detail

The sound-sources

Four **digital oscillators** have a set of 90 selectable PCM-waves as soundsource. Each oscillator has a **[Level:]**-knob and can be set to -1/0/+1 octaves. The **[Vividise]**-knob is there to make digital waveforms more vivid.

The outstanding feature of this synthesizer is the adjustable transition from one wave to the next via the **[Transit >]** and **[Shift]** knobs. For details see illustration below.



Hints:

Some waves are marked "nl" = non looped variation or "h" ~half sample looped. The usage of -nl marked waves is best on Osc. 1 as such one-shot samples are probably no longer playing when time has elapsed to 3rd or 4th oscillator unless there are quite short Transit-settings used for all four oscillators. List of waves at the end of man.

The **[Lazy?!]** knob in this section changes at random waves, Transit-settings, Vividise, Mix-amount of the signal to Filter and direct output as well as the Mod-Amount to this Mix-setting. Level and Octave setting are not touched.

You can set 'Transition' to Off with the respective button and the STS is just like a norma 4 oscillator synthesizer.

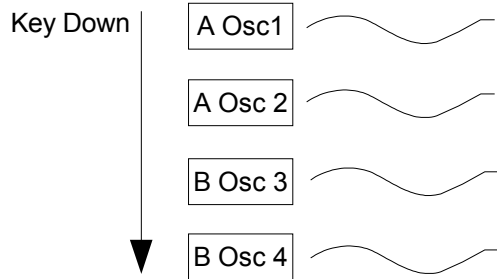
Last Minute addition: Each oscillator has a **[Mute]** button so it is easier to select waves in certain cases.

New to 11b: Timed PichShift for each oscillator up or down 1 octave each. PSTime sets the time for PitchShift while the PS-On button switches on/off (via MIDI by CC#64 - Hold Pedal)

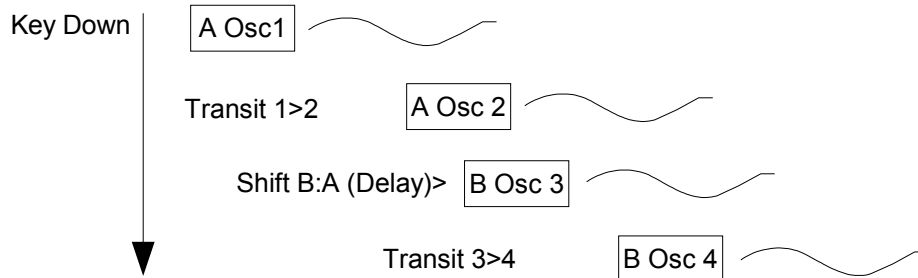
The output of the oscillators can be send to the filter-section and unmodified to the Main output section mixable by the **[Dir:Fil]** slider. This can also be modulated by LFO or S&H - see Filter & Modulation section below.

This illustration should be helpful to understand the 'Transition' Mode

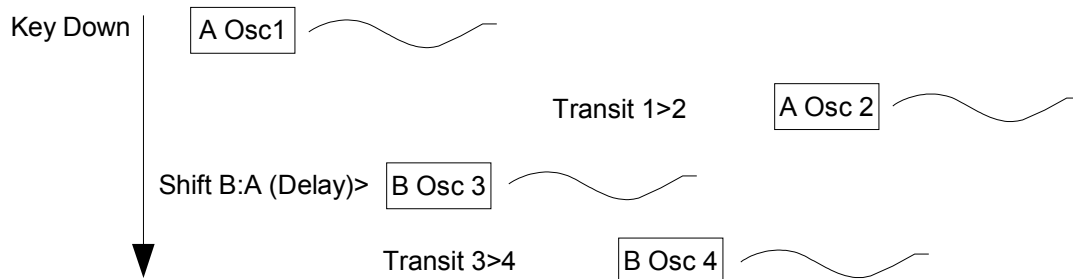
With Transition 'Off' all Oscillators start sounding at once and the STS is just like a normal 4 oscillator synthesizer



With Transition 'On' Oscillators start sounding in succession depending on the settings of the Shift and Transit knobs



You even can set it to this succession



In this case Osc A:2 is the last to sound at full level if 'Transit 1>2' is set to very long 'Shift' quite short and 'Transit 3>4' quite short also.

The [Shift]-knob actually delays the soundoutput of section B oscillators 3 & 4. If set to 0 (turned down to left position) there will be no Shift (like Transition Off) but the Transit is working depending on the setting of the two Transit knobs. Oscillators A:2 and B:4 will always give the final sound unless you stopped holding keys before.

Filter & Modulation section

The signal of digital oscillators can be routed to a 24 dB LowPass and 12dB High-Pass Filter both with resonance (Q). You can shift between the LP and HP-mode by slider **[LP:HP]**. Cutoff frequency **[Cut]** and Resonance **[Q]** are adjustable for each filter separately with the respective sliders.



Please keep in mind the Q - resonance of the HP-filter might sound a bit sharp when a lot modulation-amount is sent to it.

The **[A]** **[D]** **[S]** **[R]** envelope generator lets you adjust the way the filter works on the incoming signal with **Attack**, **Decay**, **Sustain** and **Release** providing the shape on filtering. With the **[EnvAmt]** – slider you can adjust the amount of this modulation on the filter working.

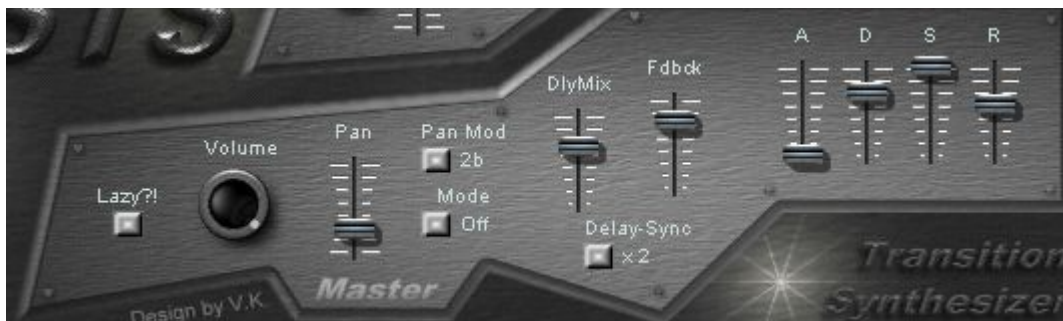
As Modulation-Sources serve one LFO and one Sample & Hold generator syncable to host-clock. The **[Mod]** buttons activate the modulation-sources to the respective destinations with an adjustable amount from the **[Amt=>]** knobs. (+ is normal modulation while - is inverted modulation.)

The **Sample & Hold** generator provides a random modulation signal like pulses at varying levels instead of a continuous / foreseeable modulation from a selected wave of the **LFO**. With the **[Seed-Src]** button you can change the characteristics of the S&H pulses: Less (peaks), More (peaks) and Up & Dn types for ascending or descending motion preferably at lower rates.

The **[Lazy?!]** knob changes at random values of all sliders and knobs in this section.

The Output-section

The output section provides an [A] [D] [S] [R] envelope generator for shaping the overall signal with **Attack**, **Decay**, **Sustain** and **Release**.



The [**Pan**] -slider serves to place the signal in stereo-panorama in a very special way as it will send the signal of the analog-style and digital oscillators into opposite direction automatically. So to say it spreads the signal: the more you have the analogstyle osc. on the left the more the digital osc. are on the right and vice versa. This pan can be modulated by an LFO providing motion to the stereo-position with a **Wide** or **Medium** amount. In addition to this the delay puts the corresponding delay-signal to the opposite side. This delay is synced to host clock with five selectable division-settings. Use the [**DlyMix**] – slider to adjust the amount of delayed signal to the normal signal and the [**Feedback**] slider to adjust the repetitions.

The [**Lazy?!**] knob changes at random values of sliders and knobs in all sections excluding the waves and Transit-settings of the oscillators.

The [**Vol**] – knob lets you adjust the overall output of the STS-11 synthesizer.
Hint: Using long release settings increases CPU-usage.

Credits and further info

The STS-11 Synthesizer has been created by H. G. Fortune with Synthedit by Jeff McClintock. The GUI-graphics have been done by **Vera Kinter** (Brno, Czech Republic) who also did an outstanding work by creating patches unveiling the a great part of deep soundpotential of the STS-11. I can only recommend her as highly skilled soundprogrammer!!!

VSTI by H. G. Fortune:

STS 11 Spacesonic Transition Synthesizer - 7 Voice (29,- € / 34,- US\$)

The 7-voice version is available at ShareIt <http://www.shareit.de/product.html?productid=300011679>

ASET-2121 Mythospheric Synthesizer - 8 Voice (20,- € / 25,- US\$)

The 8-voice version is available at ShareIt <http://www.shareit.de/product.html?productid=300011678>
for just 20,- Euro or 25 US\$

There is a well a bundle with ASET-2121 and STS Synthesizer available at ShareIt
for 42,- Euro or 50 US\$ <http://www.shareit.de/product.html?productid=300011685>

STS 11 and ASET-2121 are also out as Freeware - limited to 2 voices.

Wheel of Fortune (Freeware)

X-Wheel of Fortune (Freeware)

X-Wheel of Fortune Pro (35,- € available at <http://www.shareit.de/product.html?productid=221828>)

Homepage: www.flomo-art.de/se

Yours H. G. Fortune

MIDI-Implementation of Continuous Controllers (CC) for sliders & knobs

	MIDI CC #	Valuerange	Remarks
Osc1 Lvl	CC # 12	0 – 127	
Osc2 Lvl	CC # 13	0 – 127	
Osc3 Lvl	CC # 14	0 – 127	
Osc4 Lvl	CC # 15	0 – 127	
Transit 1>2	CC # 72	0 – 127	
Transit 2>3	CC # 73	0 – 127	
Transit 3>4	CC # 74	0 – 127	
Vividise	CC # 75	0 – 127	
Dir:Fil	CC # 94	0 – 64 – 127	64 = 0 (Midposition)
Dir:Fil Mod Amt	CC # 80	0 – 127	
LP:HP	CC # 86	0 – 64 – 127	64 = 0 (Midposition)
Cut LP	CC # 87	0 – 127	
Q LP	CC # 88	0 – 127	
Cut HP	CC # 81	0 – 127	
Q HP	CC # 82	0 – 127	
A	CC # 89	0 – 127	
D	CC # 90	0 – 127	
S	CC # 91	0 – 127	
R	CC # 92	0 – 127	
EnvAmt	CC # 93	0 – 127	
Mod Cut LP Amt	CC # 77	0 – 127	
Mod Q LP Amt	CC # 78	0 – 127	
Mod Cut HP Amt	CC # 83	0 – 127	
Mod Q HP Amt	CC # 84	0 – 127	
Mod L:H Amt	CC # 79	0 – 127	
A	CC # 29	0 – 127	
D	CC # 30	0 – 127	
S	CC # 31	0 – 127	
R	CC # 32	0 – 127	
Pan	CC # 10 (Pan)	0 – 64 – 127	64 = 0 (Midposition)
Volume (Overall Volume)	CC # 7 (Volume)	0 – 127	
X-Delay: Fdbck	CC # 27	0 – 127	
X-Delay: DlyMixl	CC # 28	0 – 127	

List of Waves in the STS-Synthesizer

<i>General</i>	<i>Single-Cycle Synth</i>	<i>Complex-Loops</i>	<i>Noise & Nature</i>
001.^BriteSynA	026.~SynBA01	053.*Al_Saria	078.#NoizSpectr
002.^AtkStrngA	027.~SynEB02	054.*di_Motou	079.#Cold_Noise
003.^DarkStrngA	028.~SynBH03	055.*SwirlyHole	080.#Dark_Noise
004.^WideSyn	029.~SynGE04	056.*SpaceAbyss	081.#StormWind
005.^MoogySaw	030.~SynEE05	057.*SpaceSpectr	082.#MetlCrash
006.^MoogySq	031.~SynEU06	058.*ArcaneSpect	083.#MetlCrash-nl
007.^DigiPad	032.~SynUE07	059.*Spaceballs	084.#MetalHit
008.^SynSquarA	033.~SynZ008	060.*Bubbles	085.#MetalHit-nl
009.^SynVoice	034.~SynZA09	061.*Sparkling	086.#Blupps
010.^ChoirAhh	035.~SynZE10	062.*Mystery	087.#ALoop
011.^FemalOoh	036.~SynZG11	063.*Mystery-nl	088.#ALooph
012.^MelotVox	037.~SynHE12	064.*DarkBell	089.#ALoop-nl
013.^EerieVox	038.~SynHZ13	065.*DarkBell-nl	090.#BLoop
014.^MonkyVox	039.~SynT014	066.*La_Bella	091.#BLoop-nl
015.^MaleVox	040.~SynTE15	067.*La_Bella-nl	092.#Flowater
016.^BlowinV	041.~SynTZ16	068.*Cymbalic	093.#Watery
017.^VocSpectral	042.~SynA0B17	069.*Cymbalic-nl	094.#Thunder-nl
018.^SynFlute	043.~SynA0G18	070.*MetalWide	095.#Rainy
019.^SynClarinet	044.~SynA0E19	071.*MetalWi-nl	096.#Seaside
020.^Syn-Sax	045.~SynABH20	072.*RhytmoLp	097.#Falcon
021.^SynBras2	046.~SynABE21	073.*KotoicLp	098.#Jungle
022.^SynFat	047.~SynAG022	074.*Sitar	099.#Tropica
023.^SynBas1	048.~Syn-G01	075.*Sitar-nl	100.#BigRoar
024.^SynBas2	049.~Syn-G02	076.*Tambura	101.#Baby_Kong
025.^SynBas3	050.~Syn-G03	077.*Al_iksir	102.#Juno'sBird
	051.~Syn-G04		103.#Werewolf
	052.~Syn-G05		

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