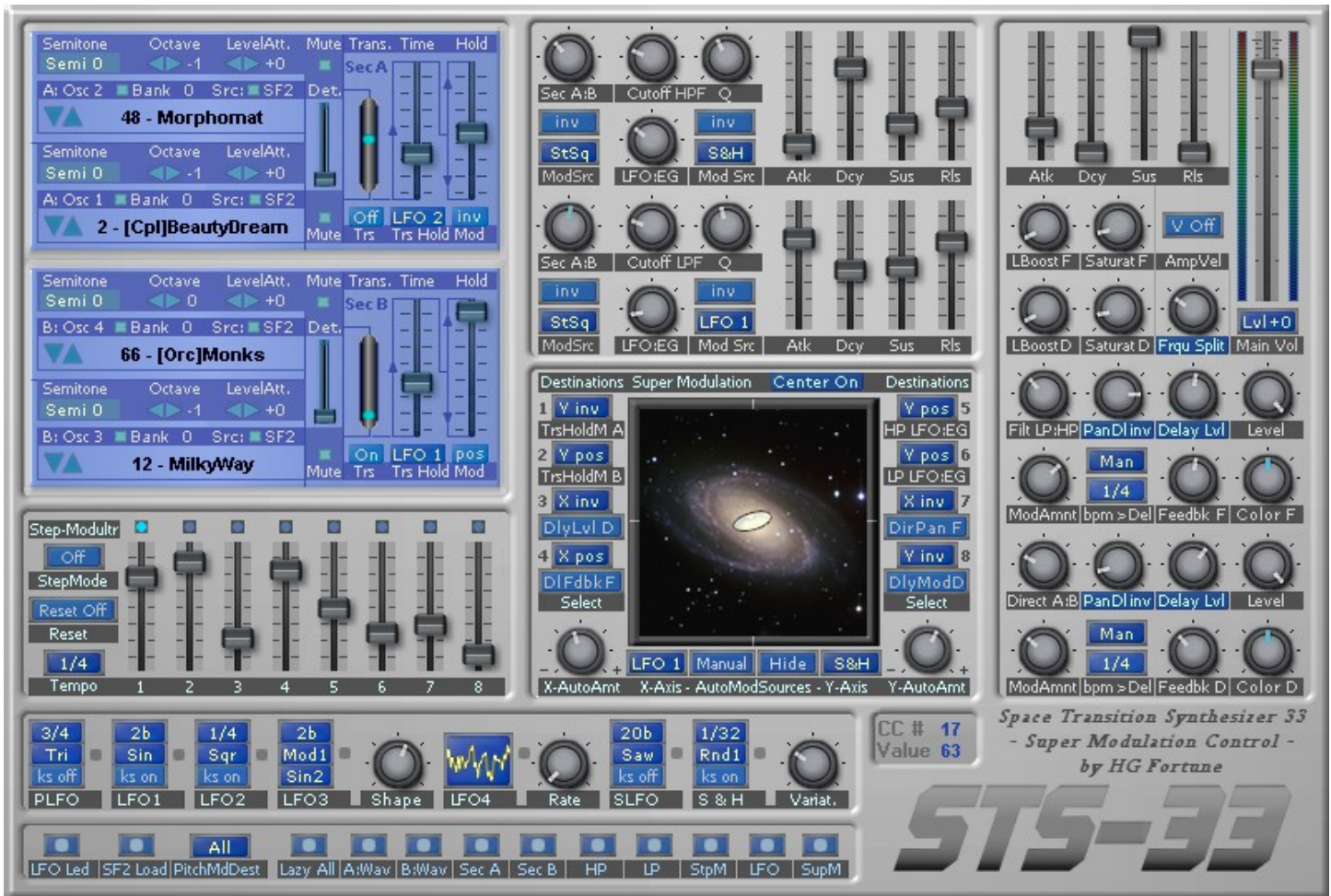# STS-33 Pro
## Future Generation Space Transition Synthesizer
*< Set the controls for the heart of sound ... and PLAY! >*

This synthesizer is featuring Wave-Transition method for absolute unique atmospheres, soundscapes, pads & textures. A very straight userinterface with 10 "Lazy"-Buttons for randomizing different sets of parameters so programming this synthesizer is incredibly easy. The Transition method plus the new Super modulation X/Y control pad add a stunning new dimension and motion for an evolving sound changing completely it's characteristics.

The basic features are:
New: Super Modulation X/Y Control Pad
New: Step Modulator
New: enhanced LFO Section with 6 LFO and SH&H
New: Frequency Split - lower fequencies to midposition (enhancing bass!) while the freqs. above can be panned
- four digital PCM-wave oscillators powered by 128 selectable waveforms (in Pro version 256 waveforms)
- two resonant filters (24db Lowpass and 12 db Highpass)
- three ADSR-style envelope generators
- two output channels (F & D) with LoBoost, Saturate, Delay and Pan each
- 10 dedicated Lazy buttons

The Pro version incorporates loading of soundfonts (SF2) & wavefiles (up to 24 Bit), and comes with a 2nd soundset comprising a 2nd waveset of 128 new waves plus further patchbank. The Pro lite version is basically the Pro version minus the 2nd soundset. The 2 voice free version does support only 64 patches per bank and is supplied with 3 banks. The waves of the free ver. are stored internally with no option to load different sf2 nor wave files - please consider to purchase the Pro or Lite version if You want these features thus You can show some gratitude and support my work too, thank You!

# The features of the STS-33 Synthesizer in detail

**The sound-sources**

Four **digital oscillators** (in sections: A-1, A-2 and B-3, B-4) have a set of 128 selectable PCM-waves as soundsources. Each oscillator has a **[Level Att**entuator]-selector and can be set to -2/-1/0/+1/+2 octaves and shifted up by 11 semitones.

The outstanding feature of this synthesizer is the adjustable transition from one wave to the next via the **[Time]** sliders and with adjustable **[Hold]**point plus modulation on this for each section. Modulation is affected after the transition has reached it's **Hold** setting. The **Hold** point is determined by the resp. **Hold** slider setting so in middle position both oscillator will sound equally unless modulated. Transition can be switched on/off by the button **[ON]** .



In other words: Transition 'morphs' from Osc 1 to Osc 2 (e.g. here Section A) with adjustable Time then falls back to Osc.1 if Hold slider is down. If a mod source other than Man(ual) is selected now modulation starts to continue this morphing bewteen those two oscs. with the amount being set by Hold slider.

Notes:
Switching soundsources between SF2 and Wave (file loading) is available in the Pro and Pro lite versions only. See appendix for additional notes! Selection of SF waves via dropdown list simply click on wave name or use the up/down arrows left of name.

Release of VCA EG is controlling 'bouncing back' of Transition after release of keys - thus you can control this behaviour to a certain extend.


## Filter section

With the STS-26 each filter has a balance knob **[Sec A:B]** to adjust level between section A and B for input to filters.

The signal of oscillators are routed to a 24 dB LowPass and 12dB High-Pass Filter both with resonance (Q). Cutoff frequency  **[Cut]** and Resonance **[Q]** are adjustable for each filter separately with the respective sliders.

Both **[ A ]  [ D ]  [ S ]  [ R ]** envelope generators let you adjust the way the filter works on the incoming signal with **A**ttack, **D**ecay, **S**ustain and **R**elease providing the shape on filtering. With the **[LFO:EG]** – knob you can mix between the mod amount of the EG and selectable LFO source.

Each selectable mod source can be inverted by a button switch ( pos / inv ).

## Mod Sources



There are 6 LFO including a dedicated Pitch mod LFO and a Sample & Hold modulator. Also there is a Step Modulator - see below.

It should be noted that Pitch LFO, LFO 1, LFO 2, SLFO and S&H have a ks on/off button. If set to 'On' the respective LFO will restart on keystroke but not when playing Legato. Note: In conjunction with modulation of delay the respective setting should be to 'off' as in 'On' status you might experience unavoidable clicks !

PFLO, LFO 1, LFO 2 and SLFO have a quite common set of waves like Sine, Triangle, Saw etc. while LFO 3 allows two more complex waves to be mixed and shaped, LFO 4 offers a set of rather complex waveforms.

**S**ample **& H**old provides a random modulation signal like pulses at varying levels in different types and the Variation knobs allows to vary the 'patterns' of S&H to a certain extend.

The Step modulator comprises of 8 steps with adjustable levels for modulation. It can be driven by clock in fractions of bar related settings or what is even more interesting the steps can be advanced by keystrokes - unless playing Legato. So this offers a versatile and flexible control for this feature. Also it has an Auto Reset on Keystroke which is useful when driven by clock and playing legato but will restart on next keystroke in non legato play.
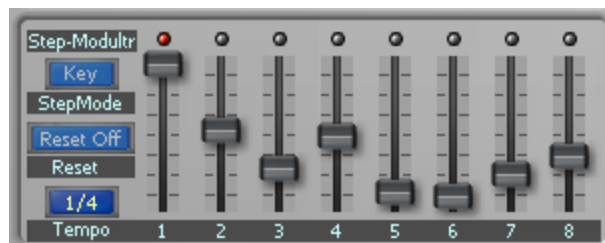


Note: Using the Step Sequencer on Filter with medium to higher Q setting will in most cases result in click or pop-like sounds - to check please raise Q full up to see how this behaves! Some users want it this way to have some additional rhythmic elements in sound.

# The Super Modulation X/Y Control pad - or: 'Ride the Ufo'

This is a VERY powerful modulation control which partly overrides the modulations already set at the destinations. There are four fixed destinations Trans A = Sec A Hold modulation,  Trans B = Sec B Hold modulation, HP LFO:EG Mix and LP LFO:EG Mix plus four selectable destinations like Pan, LP input A:B mix etc. For each destination you can select the source X positive or X inverted, Y positive or Y inverted or even set to Off. In manual mode you can use the Ufo to fly around in the square. If you choose Auto Mode You have two selectable sources one for the X axis and one for the Y axis to have this modulation done by different mod sources, and the Ufo will fly around by itself. Even You can set the amount of this modulation by the respective knobs to positive or inverted amount.



Selectable destinations:
In HP A:B - input of HP filter  Section A:B mix
Dir A:B D   - D channel  Section A:B mix
Dly Lvl D   - D channel delay level
Dly Fdbk D - D channel delay feedback

In LP A:B  - input of LP filter  Section A:B mix
Dir A:B F   - F channel  Section A:B mix
Dly Lvl F   - F channel delay level
Dly Fdbk F - F channel delay feedback

DlyPan D - D channel delayed signal pan
DirPan D - D channel nondelayed signal pan
Pan D - D channel both delayed and nondelayed signal
DlyMod D - F channel delay modulation

DlyPan F - F channel delayed signal pan
DirPan F - F channel nondelayed signal pan
Pan F - F channel both delayed and nondelayed signal
DlyMod F - F channel delay modulation

(for F- and D- channel see below Output section)

The button Hide/Show serves to hide the Ufo at quite fast motions which might be disturbing to the eye then.

This is really a powerful feature to modify a sound at an awesome extend with a single 'Ufo' ... ehh .. knob. As it is accessible via MIDI you might use a suitable joystick or touchpad (like on Korg Z1 synth or Novation MIDI controller keyboards) for external realtime control ;-)

As in most cases it is not always useful to use all possible destinations here! Less is often more! You got the option to use it but that does not necessrarily imply You have to use in any case!

# The Output section (VCA incl. Mix, Pan, EG; Delay & Main)



There is one VCA ADSR EG for the output - anyway there are two output channels one fed by both Filter outputs with a Mix knob Filt LP:HP, and one fed by the direct signals of Sec A and B also with a Mix knob Direct A:B. So there is the F channel and the D channel each with LoBoost and Saturate knob and a dedicated Delay section. The pan works in two modes: normal and put delay signal into opposite direction which provides a good spatial impression. The blue Delay Lvl is a switch for setting Delay On / Off.

The amount of delay is adjusted by the DelayLvl knob. Also there is a Color knob (Color) to have the delayed signal more dark or light. The delay itself is synced to BPM in various fractions of note values even with three options Grv1 to Grv3 which are a bit out of note related values - this might provide a more groovy delay. Also if Delay Mod Source (above the timing selector) is set to Man you can set an offset value related to the current bpm->Delay setting thus speeding up the delay more or less manually. **Note:** Delay modulation might cause (by nature) at certain settings some additional noise thus use it with care. Also you might use Delay Color to left to filter out higher frequencies.

Also the delay can be modulated by selectable sources which provides some more than just spooky sounds if set appropriately. The Amount knob turned fully to the left = 0 (zero) modulation. Also the DlyModSrc selector can be set to off. **NOTE:** It should not be overused and some settings may require delicate finetuning. As with LFOs it has to be noted these are set 'ks off' otherwise you might experience Attack clicks if the respective LFO KeySync button is set to 'On'.

Finally there is a button to switch Amp Velocity On or Off, and a note on the Frq Split / Thru Knob is needed:
Set to Frq Spilt you can determine a frequency splitting the sound into a lower frequency out and a higher frequency out with the latter one being fed to the pan and delay sections while the lower one is fed direct to the output which enhances the bass response tremendously for certain sounds.

The Level Attentuator selector at Main Volume serves to adjust the basic level setting for the output of the patch. Some patches may require a + some a - setting in order to get the best possible level. First make sure the Level at the osc section are set to appropriate (+0) It does not make sense to set all osc to e.g. -7 or -9 which simply is wasting a lot of valuable initial level! Use lowering only for having one or two osc waves less prominent.

Further switches and button:
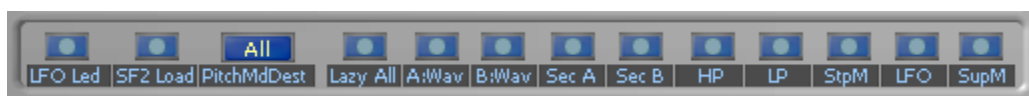


LFO Led switches the 'flashing' tempo lights at the LFOs on or off.
SF2 Load opens the slots to load SF2 file for osc. 1 to 4 - see appendix for details
PitchModDest lets You select different destinations for pitch modulations - default is 'All' but you can choose a single oscillator or a section.

Now there 10 Lazy buttons to offer a more detailed Lazy function on dedicated sections of this synth whil the 1st one Lazy All affects all assigned parameters.
Note: once somebody mentioned 'ah, this is where you switch to next program' ;-)

**Hint:** Using long release settings will increase CPU-usage - remedy: lower release at filter ADSR, lower release at ADSR in master section and raise delay MixLvl instead. So in most cases a release just below half way up of the slider will be sufficient to get a fading on the sound.

<u>Hint</u> for programming patches: Raise Levels at oscillators as much as possible and needed, next, raise levels at filters as much as possible and needed also at VCA-premix - there is a Main volume knob to lower if output is too much.

**Hint:** Switching between patches might lead to some sound artefacts by Delay when done while sound is still playing. In order to have a clean switching the sound of current patch should have faded to zero level before switching to next patch. Or, have delays set at the same Delay parameter value.

### Note: !! Patches from other/prior STS versions can't be used within the STS-33

Credits and further info
The STS-33 Synthesizer has been created by H. G. Fortune with Synthedit by Jeff McClintock.

Patches were kindly done by
Dimitri Schkoda (DS or no sign), Dr. Heinrich Horstmann (HH), Stanley King (SK), Jack Solium (JS) and me

This VSTi uses further modules by David Haupt, Kelly D. Lynch, Peter Schoffhauzer and Lance Putnam
The 'Space graphic' has been composed using parts of photos by ESA Hubble Space Telescope - Image Archive

VSTI by H. G. Fortune:
STS-33 Transition Synthesizer
Anvilia Synthesizer
X-Wheel of Fortune 4 (X-WoF 4)

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Thanks to all who have helped and do support my work!

**Note:**
The free version is fully functional but some features are available only in the 8 voice registered Pro versions.

List of 128 waveforms supplied with the STS-33 as HGF-ROM1.sf2 with Pro & Pro lite while stored internally in free version

| | | | |
|---|---|---|---|
| 001.Guevercin-I. | 033.GlassBlojob | 065.Wonderland | 097.Huuoouh |
| 002.Margalit | 034.GlassFlute | 066.Simplify | 098.FatQuyer |
| 003.DeepString | 035.Asianic | 067.HiPassed | 099.LowXsaw |
| 004.Pentagram | 036.ZFlute | 068.Soloid | 100.StabMeUp |
| 005.NTropic | 037.FakeShaku | 069.ExotAtck | 101.Distorter |
| 006.Crystallite | 038.LadyNature | 070.Hitme | 102.FatOnFloor |
| 007.TadukiVision | 039.EthnicVoc | 071.WetQAtck | 103.SoftAtkPad |
| 008.Aphrodisia | 040.Aaahhha | 072.Sawysaid | 104.MircalePad |
| 009.HugeArc | 041.LongAhhh | 073.WetSaws | 105.SparklyGls |
| 010.Spheroidia | 042.LongOoouh | 074.OmniSaw | 106.NaturePad |
| 011.Haunted | 043.AiryVoices | 075.Saxorguitar | 107.UglyPitch |
| 012.MilkyWay | 044.Horrifical | 076.LightWay | 108.Wateryfonic |
| 013.Whereisit | 045.HiGhouls | 077.SpitBras | 109.Clusterbell |
| 014.BelloPad | 046.SadFemale | 078.SharpBras | 110.SpacingOut |
| 015.She | 047.Voc2Syn | 079.Brasselle | 111.DlySurprise |
| 016.Courteousy | 048.Morphomat | 080.LiteBras | 112.HotMotion |
| 017.LunaHolmes | 049.SparkleStr | 081.AtkBrassy | 113.Lesbos |
| 018.UltraFloat | 050.MegaStrngs | 082.AtckPad | 114.HadesLoop |
| 019.Forlorn | 051.StarStrngs | 083.AtkPad-Z | 115.FXGameNoiz |
| 020.Darkness | 052.ClassicStrn | 084.RhoAtkPad | 116.RisingHigh |
| 021.TechQuyer | 053.FineStrngs | 085.AtkPadSoft | 117.LostInSpace |
| 022.FakeQuyer | 054.FatStringy | 086.AtkWonder | 118.QiGong-1S |
| 023.Technoidon | 055.WideStrngs | 087.Metallic | 119.Abstract-1S |
| 024.FLX-SpklStr | 056.Bowed | 088.BellInharm | 120.Saurus-1S |
| 025.FLXtring | 057.FastStrngs | 089.Nopia | 121.GlassTekHit-1S |
| 026.FLXAtkPad | 058.ArconicSyn | 090.Roaring60s | 122.Driftnby-1S |
| 027.FLXSyn2 | 059.SharpStrn | 091.Roaring50s | 123.Surprisor-1S |
| 028.FLX-Brite | 060.SmearTape | 092.Bishtorg | 124.BigBang1S |
| 029.FLX-Aaahh | 061.UglyStrngs | 093.gOrgantic | 125.Thunor-1S |
| 030.FLX-Strngsoft | 062.Stringelized | 094.WoodPipes | 126.Mysteries-1S |
| 031.FLX-Strgbrite | 063.Ensemblon | 095.Synphony | 127.Tumbler-1S |
| 032.FLX-PStorm | 064.WonderWorld | 096.BowedStrs | 128.Whoop!-1S |

List of 128 waveforms supplied with the Pro version as 2nd waveset in HGF-ROM7.sf2

| | | | |
|---|---|---|---|
| 000 [Cpl]AtckSphere | 032 [Cpl]UnderPad | 064 [Orc]Ham'n'Egg | 096 [Syn]Voices |
| 001 [Cpl]BeautyDream | 033 [Cpl]Vertex | 065 [Orc]Monks | 097 [Syn]WarmAnalog |
| 002 [Cpl]Bell-Pad | 034 [Cpl]WideDigi | 066 [Orc]Organic | 098 [xFX]AlienLife |
| 003 [Cpl]BestAttack | 035 [FX]AthmoLoop | 067 [Orc]RealViolins | 099 [xFX]AlienPlanet |
| 004 [Cpl]BlackHole | 036 [FX]BubbleOut | 068 [Orc]Shaku | 100 [xFX]AlienTalk |
| 005 [Cpl]BowTension | 037 [FX]DirtySync | 069 [Orc]TubularWv | 101 [xFX]BellstrumFZ |
| 006 [Cpl]ChordedNze | 038 [FX]FarOut | 070 [Orc]VoxStrings | 102 [xFX]Chaoticon6T |
| 007 [Cpl]Cinematic | 039 [FX]FlashBell-6T | 071 [Syn]AtkOpnBrass | 103 [xFX]Chicadas |
| 008 [Cpl]Clarimbowed | 040 [FX]GhostRide | 072 [Syn]AtkSine | 104 [xFX]Dustdevil6T |
| 009 [Cpl]Complexity5 | 041 [FX]GlissHarp | 073 [Syn]BendInOh6T | 105 [xFX]ElecSparks |
| 010 [Cpl]DigiBelly | 042 [FX]JunkSpace | 074 [Syn]Breit | 106 [xFX]FantaBars |
| 011 [Cpl]DigiString | 043 [FX]LongLong | 075 [Syn]Brite6T | 107 [xFX]FantaB-rev |
| 012 [Cpl]EnChoiry | 044 [FX]ResoBubble | 076 [Syn]BriteDigi | 108 [xFX]Gliss-rev |
| 013 [Cpl]FemBreath | 045 [FX]RitmoLoop | 077 [Syn]DigisynDark | 109 [xFX]HarpGliss-rev |
| 014 [Cpl]GlassLayer | 046 [FX]SparkleVox | 078 [Syn]DigisynLite | 110 [xFX]Hopping6T |
| 015 [Cpl]Grumbling | 047 [FX]SubLowHi | 079 [Syn]GoomSV | 111 [xFX]LunaticLoop |
| 016 [Cpl]HardDigi | 048 [FX]SubScape | 080 [Syn]HvySyncFZ | 112 [xFX]NoiseLoop |
| 017 [Cpl]HeavyStrok | 049 [FX]Unclocked | 081 [Syn]HybridBras | 113 [xFX]PlanetWave |
| 018 [Cpl]Hylix | 050 [FX]VX-Spacing | 082 [Syn]LiteSyncFZ | 114 [xFX]Sitar-rev |
| 019 [Cpl]LiteStar | 051 [Orc]AirVoice | 083 [Syn]LuckyEddie | 115 [xFX]Spookie! |
| 020 [Cpl]Mysticon | 052 [Orc]Angelics | 084 [Syn]MedSyncFZ | 116 [xFX]TympaniRl1S |
| 021 [Cpl]OuterPad | 053 [Orc]ArtVox | 085 [Syn]OpenJaws | 117 [xFX]VX-Storm |
| 022 [Cpl]SlowMagic | 054 [Orc]AsiaBlown | 086 [Syn]OscarSyncFZ | 118 [xFX]WeirdLoop |
| 023 [Cpl]SoftIce | 055 [Orc]AsiaChimeLp | 087 [Syn]PropheticV | 119 [xFX]WeirdLp-rev |
| 024 [Cpl]Softpudding | 056 [Orc]Bowed | 088 [Syn]ProphetSaws | 120 [zFX]Bach |
| 025 [Cpl]SpaceBirds | 057 [Orc]Ensemble | 089 [Syn]PWM-6T | 121 [zFX]RainyDay |
| 026 [Cpl]SpaceHol4 | 058 [Orc]Fanfare | 090 [Syn]SimpleSine | 122 [zFX]SeaSide |
| 027 [Cpl]SpaceJunk | 059 [Orc]Frankenhorn | 091 [Syn]SoftDigiBell | 123 [zFX]StormWind |
| 028 [Cpl]SpaceWhirl | 060 [Orc]FrankHorn | 092 [Syn]SoftJaws | 124 [zFX]ThunderArt1S |
| 029 [Cpl]StarAmbi | 061 [Orc]FrankHorn2 | 093 [Syn]SquawSaw | 125 [zFX]Voegelei |
| 030 [Cpl]TubeZone | 062 [Orc]FullStacked | 094 [Syn]StrAnna6T | 126 [zFX]Water-Birds |
| 031 [Cpl]Underneath | 063 [Orc]Hammondion | 095 [Syn]SynWoodW | 127 [zFX]WaterStream |

## Appendix on Soundfonts SF2 and wave files

**General note:** place all SF2 and wavefiles you want to use into the subdir which has been created by the STS (e.g. C:\somewhere\VSTplugins\HGF\STS-26Pro\ ) you can also have subdirs there. The VSTi will automatically point to this STS subdir so it is more convenient to load files from there.


To load an SF2 file simply press the SF2 Load button (top blue one right on image) this will open the four slots for the resp. oscillators. Pressing Load of a slot will open a typical windows file selector to navigate and select a file. **Also banks within an SF2 file can be switched here.** Note: As this is not accessible in free version simply use a patch using this bank to access this bank.

Saving a patch or patchbank with different SF2 loaded will be memorized for later usage. But please keep in mind that a selection is valid for **a whole bank** saved. So you can't have more than up to different SF2 files within a patch bank.

### Note on SF2-files:
Although you can use basically any SF2 around there is one limitation: the internal SF-Player does support only one layer or a one multisample layer of an SF2-preset or instrument (the bottom one as seen in Vienna) and the synthfunctions of the SB-hardware are not supported as a specific SB soundcard is not needed.

In order to make SF2-files from Your wavefiles You can use the freeware/donationware tool *Viena* by Kenneth Rundt - http://www.saunalahti.fi/kru99/index.htm

As a major advantage **Viena** does not require the presence of a Creative Soundblaster Live or Audigy card to assemble SF2-files and please note there is only one 'n' in Viena (unlike *Vienna* from Creative Labs).

### Notes on Loading wave files

it is possible since Ver 1.4 to load wavefiles (loops supported) directly into the STS serving as oscillators/soundsource. from V2.1 wavefiles up to 24 Bit are supported.
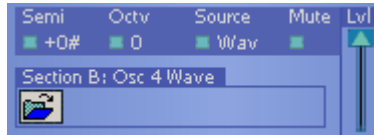


To load a wave file first click on the Source button then click on icon appearing (as shown below as example for Osc. 4) to get the file selector:

Anyway this feature is useful for testing wavefiles within the STS so you can do a quite easy selection of waves to be gathered into an SF2 file later as it is more convenient to switch between different waves rather than loading a wave from somwhere on your harddisk. Also this setting is stored und restored when loading that SF2 on next sartup again.

**HINT:** When storing a patch the location of the wavefiles loaded is stored as well in order to reload these when switching to that preset. So You should keep in mind that deleting wavefiles used within presets will lead to an error-message! **Due to this it is more advisable to use single patches stored as .fxp rather than complete banks stored as .fxb.** Worst case might be when loading a complete bankfile (.fxb) with stored information of files now deleted will lead to a whole bunch of errormessages. Now You know about it so it is up to You to take care in advance. So SF2 files are a better solution in handling a whole bunch of samples.

The STS <u>wave file playing capability</u> **is obviously not made to play drumloops, basslines or melodic loops** used typically by programs like Magix Music Maker (tm).

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

| | | | | | |
|---|---|---|---|---|---|
| Main Vol | = 7 | LP: | | | |
| D-Pan | = 8 | Cut | = 70 | | |
| F-Pan | = 10 | Q | = 71 | Amp | |
| XOver | = 11 | A | = 72 | A | = 92 |
| Detune 1-2 | = 12 | D | = 73 | D | = 93 |
| Detune 3-4 | = 13 | S | = 74 | S | = 94 |
| | = 14 | R | = 75 | R | = 95 |
| | = 15 | Mix A:B LP | = 76 | | |
| X-Axis | = 16 | EG:LFOAmt | = 77 | Out/Delay | |
| Y-Axis | = 17 | LoBoost F | = 78 | LP:HP | = 102 |
| X-Mod | = 18 | Satur F | = 79 | Dly Lvl F | = 103 |
| Y-Mod | = 19 | | | DlyFdbkF | = 104 |
| | | HP: | | Color F | = 105 |
| Oscillators | | Cut | = 80 | Mod | = 106 |
| (Sec A &B) | | Q | = 81 | | |
| Transit A | = 20 | A | = 82 | A:B | = 107 |
| Hold A | = 21 | D | = 83 | Dly Lvl D | = 108 |
| Mod A | = 22 | S | = 84 | DlyFdbkD | = 109 |
| Transit B | = 23 | R | = 85 | Color D | = 110 |
| Hold B | = 24 | Mix A:B:HP | = 86 | Mod | = 111 |
| Mod B | = 25 | EG:LFOAmt | = 87 | | |
| | | LoBoost D | = 88 | StepModltr | |
| Wav Sel 1 | = 26 | Satur D | = 89 | Step 1 | = 112 |
| Wav Sel 2 | = 27 | | | Step 2 | = 113 |
| Wav Sel 3 | = 28 | Level F | = 90 | Step 3 | = 114 |
| Wav Sel 4 | = 29 | Level D | = 91 | Step 4 | = 115 |
| | | | | Step 5 | = 116 |
| LFO3 Shape | = 30 | | | Step 6 | = 117 |
| LFO4 Rate | = 31 | | | Step 7 | = 118 |
| S&H Var | = 32 | | | Step 8 | = 119 |

**MIDI-Implementation of Continuous Controllers (CC) for selector switches using NRPN**

| Sec A: | | LP: | | Out / Delay: | |
|---|---|---|---|---|---|
| Wave-LvlAtt1 | = 1 | SecAB Mod Src | = 30 | Dly F Bpm | = 60 |
| Oct. 1 | = 2 | dto Mode | = 31 | dto. Mod Src | = 61 |
| Semitone 1 | = 3 | LFOModSrc | = 32 | Panmode F | = 62 |
| Mute 1 | = 4 | dto Mode | = 33 | Dly D Bpm | = 63 |
| Wave-LvlAtt2 | = 5 | HP: | | dto. Mod Src | = 64 |
| Oct. 2 | = 6 | SecAB Mod Src | = 34 | Panmode D | = 65 |
| Semitone 2 | = 7 | dto Mode | = 35 | Out Lvl Att | = 66 |
| Mute 2 | = 8 | LFOModSrc | = 36 | Vel On/Off | = 67 |
| Trs On/Off | = 9 | dto Mode | = 37 | LFO: | |
| TrsModSrc | = 10 | | | PLfo bpm | = 70 |
| Mod Mode | = 11 | | | PLfo Wave | = 71 |
| Sec B: | | XY SuperMod: | | PLfo Ksync | = 72 |
| Wave-LvlAtt3 | = 12 | Trs A Mod Dest | = 40 | Lfo1 bpm | = 73 |
| Oct. 3 | = 13 | Trs B Mod Dest | = 41 | Lfo1 Wave | = 74 |
| Semitone 3 | = 14 | Mod Dest 3 | = 42 | Lfo1 Ksync | = 75 |
| Mute 3 | = 15 | Mod Dest 3 Src | = 43 | Lfo2 bpm | = 76 |
| Wave-LvlAtt4 | = 16 | Mod Dest 4 | = 44 | Lfo2 Wave | = 77 |
| Oct. 4 | = 17 | Mod Dest 4 Src | = 45 | Lfo2 Ksync | = 78 |
| Semitone 4 | = 18 | HP E:L Dest | = 46 | Lfo3 bpm | = 79 |
| Mute 4 | = 19 | LP E:L Dest | = 47 | Lfo3 Wave1 | = 80 |
| Trs On/Off | = 20 | Mod Dest 7 | = 48 | Lfo3 Wave2 | = 81 |
| TrsModSrc | = 21 | Mod Dest 7 Src | = 49 | Lfo4 Wave | = 82 |
| Mod Mode | = 22 | Mod Dest 8 | = 50 | SLfo bpm | = 83 |
| VibratoDest | = 23 | Mod Dest 8 Src | = 51 | SLfo Wave | = 84 |
| | | | | SLfo Ksync | = 85 |
| StepModltr: | | Auto Mod On/Off | = 55 | S&H bpm | = 86 |
| Step Mode | = 25 | X-Axis Src | = 56 | S&H Wave | = 87 |
| Reset | = 26 | Y-Axis Src | = 57 | S&H Ksync | = 88 |
| Tempo Select | = 27 | Center On/Off | = 58 | | |



**This is the easter egg inside - find it ;-)**

**STS 33 V3.3c minor update 2013:**
recompiled and added: patchselector and patch managing
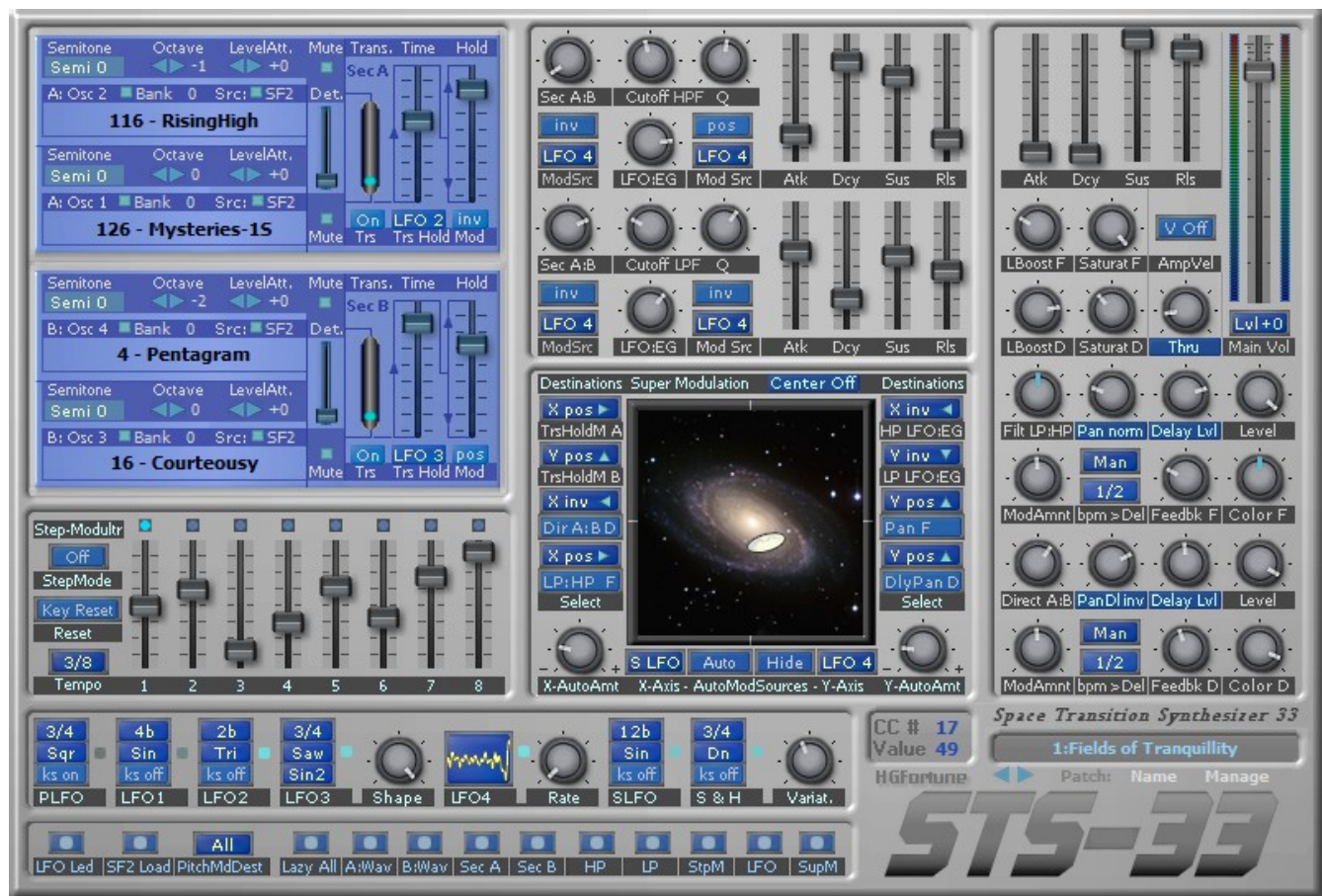


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