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## Detailed user guide for TS404

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### 1. General presentation

Name: TS404  
Categories: synthesis  
Plug-in: NO  
Versions: 1.05  
Platforms (systems): Windows (95 and 98)  
URL (last login date):  
<http://sf2.chez.tiscali.fr/soundfonts.htm>  
(23/11/2003)  
Size of file to download: 120 Ko  
Language: English  
Skill level: Advanced

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### 2. Description technique

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#### **Formats**

Import files: raw  
Export files: raw

#### **Functionalities**

##### *Sound synthesis*

TS404 is a virtual synthesiser that enables you to create sounds by additive synthesis or frequency modulations. Up to 4 instruments can be superimposed. For each of these, there are: 2 oscillators, an envelope generator, a filter and an LFO.  
To record the sound, go to the “File” menu, then click on “Stream 2 Disk”.

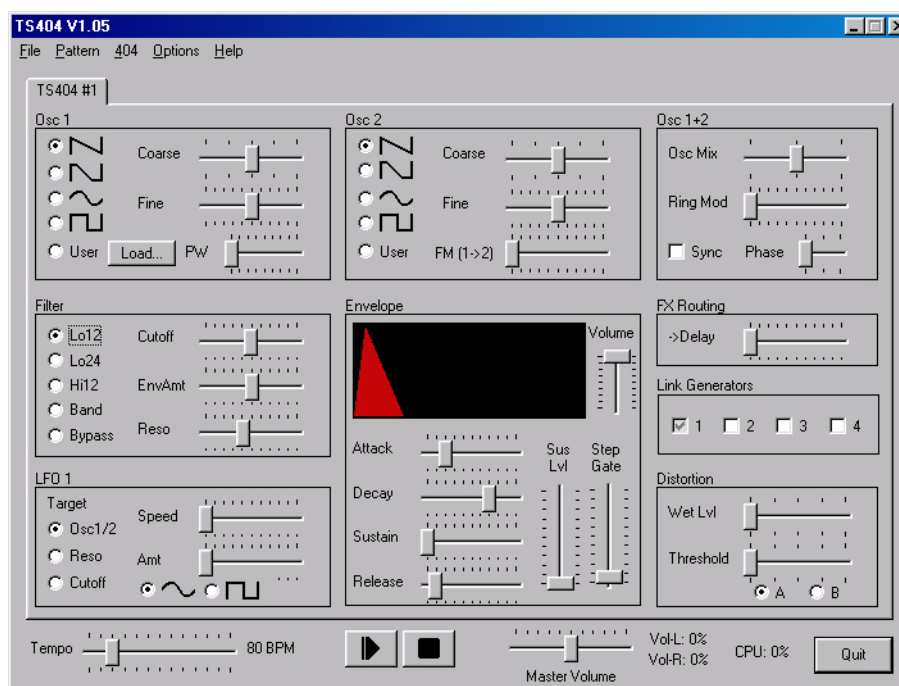
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### 3. Detail of the various windows

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#### General windows

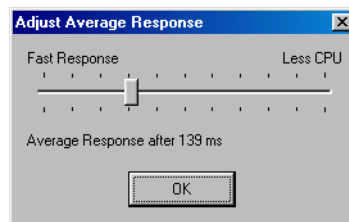
The window opened by default contains all the modules for the first instrument: “TS404#1”. To add instruments, select one, in the “404” menu, click on “Add new”. A new tab will appear with the label “TS404#2”. You can superimpose 4 instruments in this way.



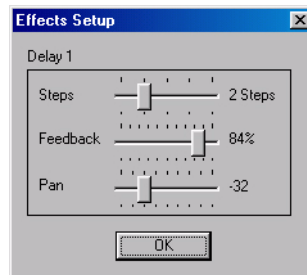
Click on “Options”, then on “Select Output Device”, and choose your audio output:



Click on “Options”, then on “Adjust Response” to modify the microprocessor's prompting: if you drag the tab to the right, the software programme can be used on less powerful computers, but the response time for the commands will be longer.



Click on “Options”, then “FX Setup” to set delays:



Steps: number of pulses in the delay (in relation to the tempo chosen at the bottom of the main window)

Feedback: feedback rate. A part of the signal coming out of the delay is fed back into it

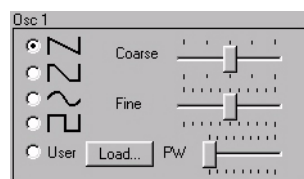
Pan: the position between left and right of the delay

### **The various modules**

The main window is split into different parts. Each one lets you set up a component of the sound.

#### ***Osc 1 and Osc 2***

The frequencies of the sound are generated by two oscillators per instrument.



Left: choose the wave shape. The last option, “user Load...”, lets you choose an external sound file as wave shape

Coarse: frequency set-up

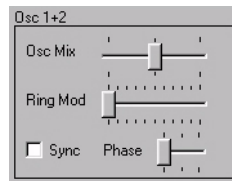
Fine: fine tuning of the frequency

FM (1->2): (available on oscillator 2) lets you set the frequency modulation rate.

Oscillator 1 modulates oscillator 2.

## ***Osc 1+2***

Settings for mixing the two oscillators:



Osc Mix: mixing the two oscillators

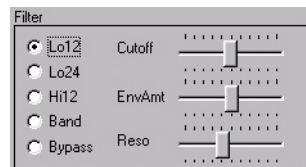
Ring Mod: ring modulation rate (simultaneous adding and subtraction of the two signals)

Sync: phase synchronisation of the two oscillators

Phase: phase delay between the two oscillators

## ***Filter***

Resonant filter



Left: choose the type of filter (Lo = low pass, Hi = high pass, Band = band pass, Bypass)

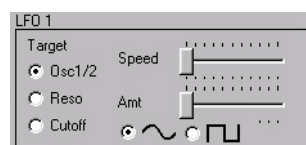
Cutoff: cutoff rate

EnvAmt: cutoff slope

Reso: filter resonance level

## ***LFO***

Low-frequency oscillator: this is used to modulate the other two oscillators or the filter



Osc1/2: modulation of the other two oscillators

Reso: modulates the filter resonance

Cutoff: modulates the filter cutoff frequency

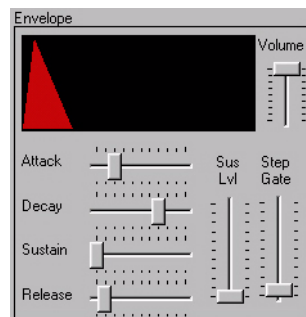
Speed: oscillator frequency

Amt: modulation amplitude

bottom: choice of wave shape

## ***Envelope***

Envelope generator



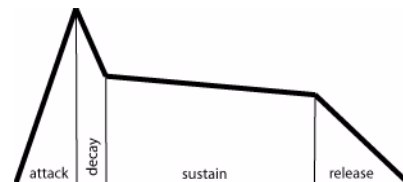
Volume: global intensity of the envelope

Attack: sound attack slope

Decay: between attack and hold

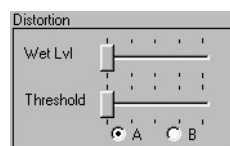
Sustain: duration of hold

Release: release slope



## ***Distorsion***

Sound distortion effect:



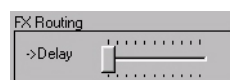
Wet Lvl: distortion level

Threshold: distortion rate

A and B: type of distortion

## ***FX routing***

Level of routing towards the delay. Clicking on “Options”, then on “FX Setup” to access the delay settings.



### ***Bottom window***

The bottom part of the main window lets you set the tempo (for the envelope and the LFO), start and stop the sound and control the general volume:



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## **4. Comments, tips**

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The large number of oscillators (up to 8 + 4 LFO) enable you to create very rich sounds.