



Manual

for PowerCore 01

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INTRODUCTION

The TC PowerCore instrument format allows virtual synthesizers to use the available DSP-power for signal processing, while running seamlessly integrated within any VST-instrument compatible sequencer, such as Logic, Nuendo or Cubase!

TC PowerCore 01 is modeled on a classic analog synth and emulates a real oscillator, actually generating waveforms, not playing them back from sample memory! Try it for bass sounds or bubbly analog effects. Ideal for techno, drum-n-bass and ACID!

GENERAL INFORMATION

GETTING STARTED

Scroll Wheel Support

If you are using a host application that supports this feature, all parameters support scrolling on both Windows XP and Mac OS X. Simply place the mouse over a parameter value field and use the Scroll Wheel to increment/decrement the associated parameter-value.

Key Commands

In most host applications, Plug-Ins support keyboard commands for certain functions. The following key commands are available for all Plug-In parameters.

Key Commands in Mac OS

Reset To Default = [Alt]

Key Commands In Windows

Reset To Default = [Shift] & [Control]

DSP USAGE

For each open instance of the PowerCore 01 on PowerCore devices (X8, FireWire, Compact, Express, mkII, Unplugged), the following DSP usage applies:

@44.1 kHz:

mono -
stereo 22%

@48 kHz:

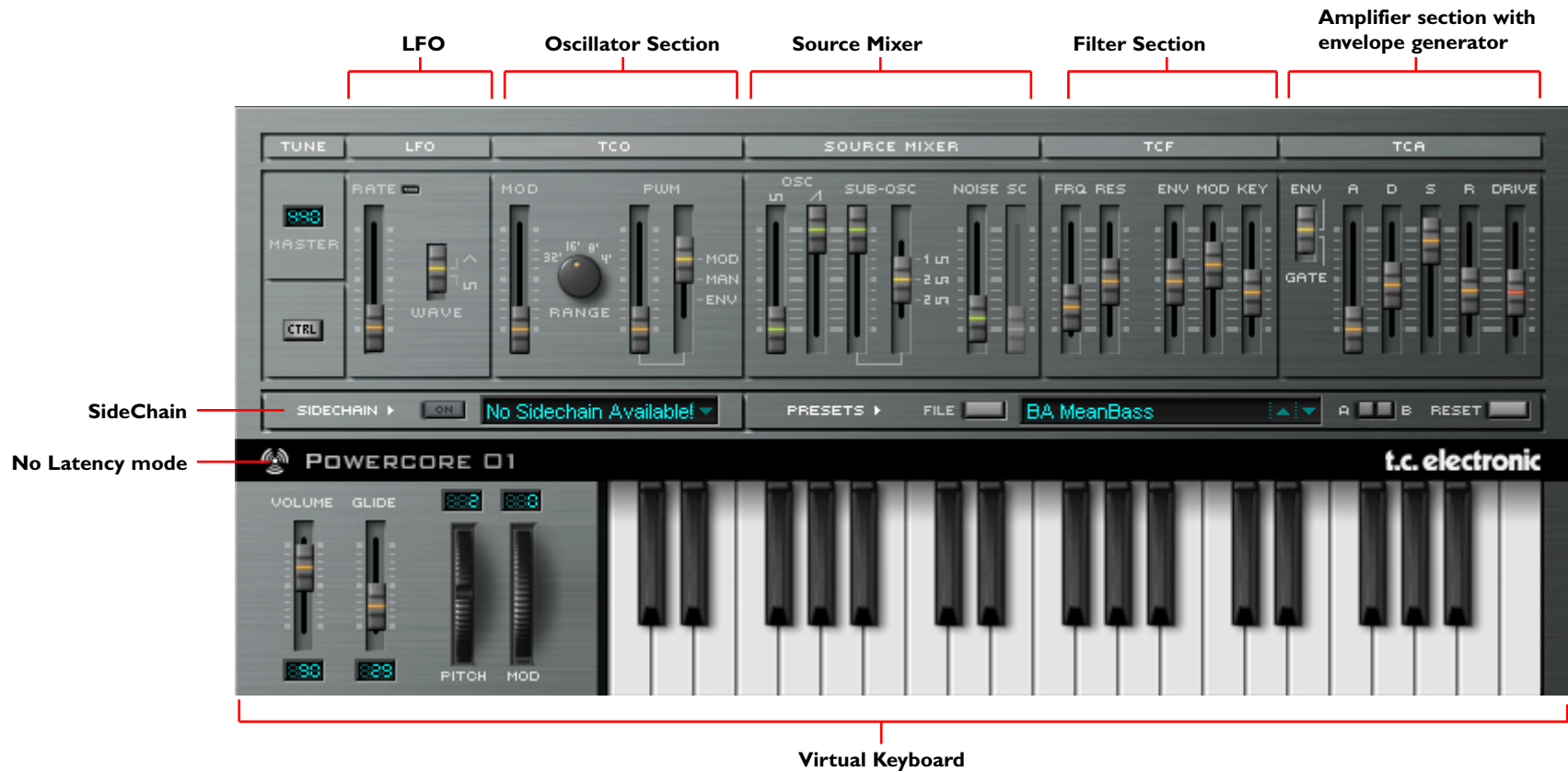
mono -
stereo 24%

@88.2 kHz:

mono -
stereo 46%

@96 kHz:

mono
stereo 50%



Double Click

In addition to the faders and sliders, it is possible to double click on most parameters and enter a value directly.

No Latency Mode

As with all TC PowerCore Plug-Ins, it is possible to put the TC PowerCore o1 synth Plug-In into No Latency Mode. This can be very helpful when you want to play the Plug-In from an external keyboard controller.

To enter No Latency mode, click on the PowerCore logo on the lower right hand side of the TC PowerCore o1 plug-in. When enabled, the PowerCore logo will have a red glow to indicate operation.

Virtual Velocity

When using the Keyboard (Virtual), it is possible to have velocity depending on click position. When clicking on the bottom of a key, you get the highest velocity amount. The higher you click on a key, moving towards the parameter section of the synth, the lower the velocity.

EXT. SIDECAINER

Introduction

Sidechaining in audio production refers to using the dynamic content of one track to control the processing of an effect inserted on another track. The TC SideChainer plug-in is included with the PowerCore package and is used in conjunction with a number of plug-ins, one of these being the PowerCore o1.

Please refer to the SideChainer plug-in manual on the CD for additional information and usage of the SideChainer plug-in.

PARAMETERS

On

For the PowerCore o1 to respond to an instance of the SideChainer plug-in press “ON” and select the relevant SideChainer instance from the drop-down menu.

TUNE

Master

Sets the basic tuning for the Oscillator. The tune range is from 430Hz to 450Hz. The default tuning is 440Hz.

LFO

Rate

This controls the rate of the LFO.

Wave

Here, you can switch between a Square Wave LFO and a Triangle Wave LFO.

TCO

TC PowerCore o1's monophonic oscillator behaves in much the same way as the classic synth from which it is modeled. The oscillator frequency is uniform for both the Square and Saw waveforms in TC PowerCore o1, but there is individual gain control in the Source Mixer.

Mod

This slider controls the Pitch Mod and allows the LFO to modulate both the oscillator and the Sub Oscillator. The slider defines the amount of pitch modulation; the LFO or ENV 1 controls the modulation itself.

Range

The Range knob sets the oscillator's octave from 4' (very high) to 32' (very low).

PWM

The first PWM slider is the PWM controller and it applies Pulse Width Modulation to the Square wave. This can be switched between MOD, which modulates the Pulse Width from the LFO, Manual modulation from the PWM controller, or ENV, which modulates the Pulse Width from the Envelope in the TCA.

PARAMETERS

SOURCE MIXER

The Source Mixer allows you to set the output volumes of the Oscillator, the Sub Oscillator, and the Noise Generator. In the Source Mixer section, you can also select the waveform of the Sub Oscillator.



- This slider allows you to select between controlling Square or Saw waveforms.

Sub Osc

The first slider allows you to control the volume of the Sub Oscillator. The Second Slider, which is linked at the bottom, allows you to select the Sub Oscillator's waveform between 1 octave square wave, 2 octaves square wave and 2 octaves square wave asynchronous.

Noise

The Noise slider allows you to control the volume of the Noise Generator.

SideChain

Click to activate the SideChain function. When active the dynamic content of the selected external sidechain can be used to control the level of PowerCore 01. The SC slider specifies the amount of sidechain modulation.

TCF

The filter of the TC PowerCore 01 provides you with a 24 dB Low Pass Filter (LPF) with filter resonance. The filter can be modulated by an Envelope Generator, LFO or KEY FOLLOW.

Freq

Sets the LPF's Cut-off frequency in a range from 20 Hz (bottom) to 20 kHz (top).

Res

Resonance emphasizes or boosts the band of frequencies around the filter's Cut-off frequency. At maximum resonance, the filter will self-oscillate, producing a squawky ringing tone at the cut-off-frequency.

Env

Moving this fader applies the amount you want the filter's cut-off frequency to be modulated by the TCA Envelope.

PARAMETERS

Mod

This fader applies the amount you want the filter's cut-off frequency to be modulated by the LFO.

Key

This sets the Key Follow amount, or how much the keyboard pitch modulates the cutoff frequency. Key Follow allows you to achieve a brighter sound as you go up the keyboard

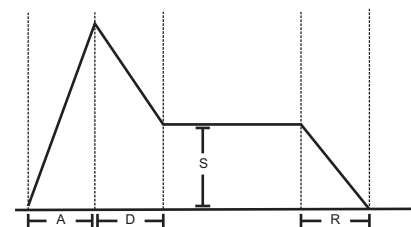
TCA

The Amplifier module of the TC PowerCore 01 Plug-In offers two modes: the classic ADSR curve, which is adjusted by the Envelope Generator, or it can be switched to Gate mode, freeing up the Envelope Generator for other tasks such as modulating the TCF.

ENV/TCA

By selecting ENV, the amplifier provides you with the classic ADSR curve, which is adjusted by the ADSR Settings.

By selecting GATE, the amplifier will only open while a key is pressed. This is exactly like setting the ADSR to A=0, D=0, S=127 and R=0.



A Sets the amplifier's Attack time from 1 ms to 10 seconds

D Sets the amplifier's Decay time from 1 ms to 10 seconds

S Sets the sustain level

R Sets the release time from 1 ms to 10 seconds

Drive

Turn up the signal level and drive your signal into distortion, to get a truly "phat" sound whenever desired.

PARAMETERS

KEYBOARD

Volume

This slider allows you to control TC PowerCore 01's main volume.

Glide

Increasing this slider's value will increase the glide time between two differently pitched notes – essential for those classic bass and sequencer lines.

Pitch

Use the pitch bend wheel to change the pitch of your sound. In the edit field on top of the wheel you can set the bend range in semitones (maximum: 12 semitones).

Mod

Use the modulation wheel for sound modulation. The Mod Wheel only controls Pitch Modulation.

CTRL

Click on the CTRL button to open up the MIDI controller assignment and Optional Front Panel Settings.

VeloSense

This controls the Velocity Sensitivity of the Synthesizer. With a setting of 0, there is no sensitivity and all velocities have the same effect on the sound. The greater the setting of this parameter, the more sensitive to velocity the Plug-In becomes.

Keyboard Transpose

Shifts the scale of the keyboard (Virtual) on screen, and does not affect MIDI notes to or from the tone generator of PowerCore 01.

MIDI Channel

Selects the MIDI Channel from 1 to 16

Local Keyboard

Sets the Keyboard (Virtual) to Local Control ON or OFF

Parameter Send

Sets the Parameter Send of the PowerCore 01 to ON or OFF. This does not affect Automation Data. Automation Data is always sent and received.

Parameter Receive

Sets the Parameter Receive of the PowerCore 01 to ON or OFF. This does not affect automation Data. Automation Data is always sent and received.

MIDI IMPLEMENTATION

MIDI controller chart

CC# PARAMETER

1	Pitch Modulation
5	Glide Amount
7	Main Volume
26	LFO Rate
27	LFO Wave
40	TCO Range
45	MIX Square Osc Amount
46	MIX Saw Osc Amount
47	MIX Sub Osc Amount
48	MIX Noise Amount
49	MIX Sub Osc Mode
54	TCO Pulse Mode
55	TCO Pulse Amount
67	TCF Mod Amount
70	TCF Cut-off Amount
71	TCF Resonance Amount
72	TCF Env Amount
73	TCF Key Follow Amount
75	TCA Attack Time
76	TCA Decay Time
77	TCA Sustain Level
78	TCA Release Time
90	Master Tune
91	Pitch Bend Range
93	TCO Mod Amount
95	TCA Drive Amount
97	TCA Env Mode (Env/Gate)

Other MIDI messages received:

- Pitch Bend
- All Notes Off
- Program change



TECHNICAL DATA

General Information

Polyphony	Monophonic
Oscillators	1 TCO (independent levels for saw, square, & sub-oscillator)
TCF	LPF with Resonance, Modulation via EG, LFO & Keyboard Tracking
TCA	ADSR, Modulation by EG or gate
LFO	Triangle & Square
Keyboard	37 keys (Virtual) with Velocity
Front Panel Options	PowerCore 01 is available in Fire, Water, Stone and Ashes