



[www.muon-software.com](http://www.muon-software.com)

## CM303 USER MANUAL



### 1. Introduction

CM303 is a simple, fun software synthesiser which combines elements of a classic analogue bassline synth with the convenience of a VST Instrument Plug-in. CM303 gets its fantastic sound from Muon Software Ltd's advanced 64-bit Analogue Modelling technology.

Don't forget that e-mail support for this product is available. Send a message to [cm303@muon-software.com](mailto:cm303@muon-software.com) if you have any problems at all with the software.

*The Muon Team*

## 2. Control Panel Basics



CM303's controls are (clockwise from bottom left):

### Wave

This control selects the waveform that is output CM303's single VCO (Virtual Computerised Oscillator). The VCO is the main sound generating component in the synthesiser. You can select either a sawtooth wave (top position) or a square wave (bottom position). The sawtooth is bright and brassy, whilst the square wave is more reed-like or hollow sounding.

### Tune

This pair of controls determines the pitch the CM303's VCO generates in response to a MIDI message. You can set the transpose shift (in semitones) and the fine detune (in cents).

### Cut

CM303 contains an 18db/octave low pass VCF (Virtual Computerised Filter). This is the synthesiser's main sound modifying component. By changing the cut off frequency of the VCF you control the brightness of the output sound. When the cut off control is fully to the left the sound is very dull and heavily filtered. When the cut off is fully to the right the filter is a lot more open and more of the brightness of the oscillator wave is passed through

## **Res**

The Res (resonance or Q) knob controls how much of the filter's output is fed back to the input. This creates a peak effect at the VCF's cut off frequency which causes filter sweeps to become pronounced and "squelchy" or "twangy". The key to driving, acidic bass riffs is lots of Q and lots of cut off movement!

## **Env**

CM303 contains a very simple Attack/Decay envelope generator that is used to modulate (change) the filter cut off automatically when a note is triggered. The envelope control is used to feed more of the envelope signal in so that the modulation becomes more pronounced.

## **Decay**

The envelope generator used in the VCF modulation has an adjustable decay time. Set fully right, the envelope will close very slowly and produce a slow, filter sweep (the depth and strength of the sweep effect will be determined by a combination of the envelope modulation, cut off and Q controls). Short decays (with the control more to the left) are good for "plucked" bass sounds.

## **The Virtual Keyboard**

The single-octave keyboard on CM303 can be used to audition sound parameter settings with the mouse. It also flashes in response to MIDI note messages within the default range. You can use the virtual keyboard to test your MIDI/Audio system to make sure your equipment is connected and functioning correctly. The virtual keyboard does not send MIDI note messages however and cannot be used to make a recording or play an external synth.

## **Glide**

CM303's single VCO can be made to smoothly slide from one note played to the next. The Glide control determines how long the slide takes - it is active when the red light next to the control is lit. To activate a slide, simply play a note, and whilst keeping it held down play another. CM303 will smoothly pitch bend from the first note to the second in the time determined by the Glide control.

## **Retrig**

CM303 does not re-trigger its single envelope generator each time a note is played when the glide function is active. This can mean that subsequent notes can sound "dull" even if the glide time is so fast a pitch bend is not heard. You can use the re-trigger control to make sure that the filter envelope is started off again for every new note. This also disables the glide function.

### 3. MIDI Control

CM303 has a comprehensive MIDI implementation, and can be controlled with MIDI continuous controller (CC) messages.

MIDI CC messages are numbered from 1-127. CM303 responds to CC's 75 onwards. Please note though that CM303's controls cannot SEND CC values. It can only receive them.

The default parameter map is as follows:-

<b>Parameter</b>	<b>CC</b>	<b>Range</b>
VCO Waveform	75	0=Saw, 127=square
VCO Transpose	76	0-127, 64=centre (no transpose)
VCO Detune	77	0-127, 64=centre (no detune)
VCF cutoff	78	0-127
VCF resonance	79	0-127
VCF envmod	80	0-127
VCF decay	81	0-127
Glide Time	84	0-127
MasterVolume	85	0-127

## **4. Getting Help**

CM303 is designed to make creating new sounds easy and quick. For some though all that power can be daunting -just mail us at [CM303@muon-software.com](mailto:CM303@muon-software.com) and we'll do our best to answer your questions quickly and courteously.

Best of luck!!

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[www.computermusic.co.uk](http://www.computermusic.co.uk)

[www.muon-software.com](http://www.muon-software.com)

## UPGRADE YOUR CM303 TODAY!



The **Muon Tau Bassline Mk2** is an easy, low cost upgrade for your CM303. Tau Bassline Mk2 features the same high quality sound, but with a super-slick GUI and assignable MIDI controllers.

Tau Bassline Mk2 also features the incredibly important Accent feature – modelled closely on the original analogue bassline, this feature is essential to obtaining utterly authentic acid basslines!

- Incredible 64-bit waveform oscillator with authentic warm analogue style sawtooth and square waveforms - without noise or digital artefacts.
- Superb lowpass resonant filter, with 18dB/octave response and classic tone
- Full MIDI control. Fully assignable MIDI CCs mean you can just right click on the user interface and link up to your hardware controller straight away

Tau Bassline Mk2 also ships with **the Muon M-Drive distortion unit**. This tiny FX unit is capable of warm, valve-like fuzz or nuclear digital overload - you choose!

Now available to purchase at only US\$20 from  
[www.muon-software.com](http://www.muon-software.com)

## UPGRADE YOUR CM303 TODAY!



The **Muon Tau Pro** is bursting with character and individuality, packing everything you need to create storming lead riffs and bass lines. We've taken the classic mono synth design of the Tau, added a second oscillator, PWM, sync, ring modulation and a fantastic effects engine to bring it bang up to date.

Two incredible 64-bit waveform oscillators with a choice of ten waveforms each (plus sine), pulse-width modulation, sync and ring modulation mean that the Tau Pro seriously delivers - without noise or digital artefacts.

- Superb low pass resonant filter, with 18dB Classic, 24dB Hi-Q and 36dB Phat modes.
- Built-in FX unit for warm overdrive, chorus, flange and vintage-style delay effects.
- Full MIDI control. Draw cut off curves right in your sequencer or use a hardware controller!

The Tau Pro is more than just an acid bass line synth. Its flexibility means that it is equally happy delivering seriously chunky lead riffs, deep junglist sub-bass or dubby textures. Whichever kind of electronic music you make prepare to need one!

**Now available to purchase at only US\$35 from  
[www.muon-software.com](http://www.muon-software.com)**

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