

— CORSYNTH —

C103 FREQUENCY DIVIDER / MULTIPLIER MKII



USER MANUAL

C103 FREQUENCY DIVIDER / MULTIPLIER MKII

The C103 Frequency Divider / Multiplier MKII includes two frequency dividers and two frequency multipliers. It generates four new signals which frequencies are one / two octaves higher / lower than the original input.

This new MKII version, adds a lot of functionality to the original design. It has four built in mixers, new individual outputs and new voltage controlled distortion circuit with independent output. Additionally each divider and multiplier stage has his own level potentiometer.

Thanks to these new additions the divider and multiplier circuits can be used independently. For example a VCO can be connected to the divider to use it as suboctave generator and a LFO can be connected to the multiplier to get synchronized modulations.

The C103 Frequency Divider / Multiplier MKII can be used in many different ways :

- As suboctave Generator
- To create complex and rich sounds from a simple waveform.
- To create synchronized modulations
- As a clock divider
- As frequency multiplier
- To create complex modulation signals
- As pattern generator

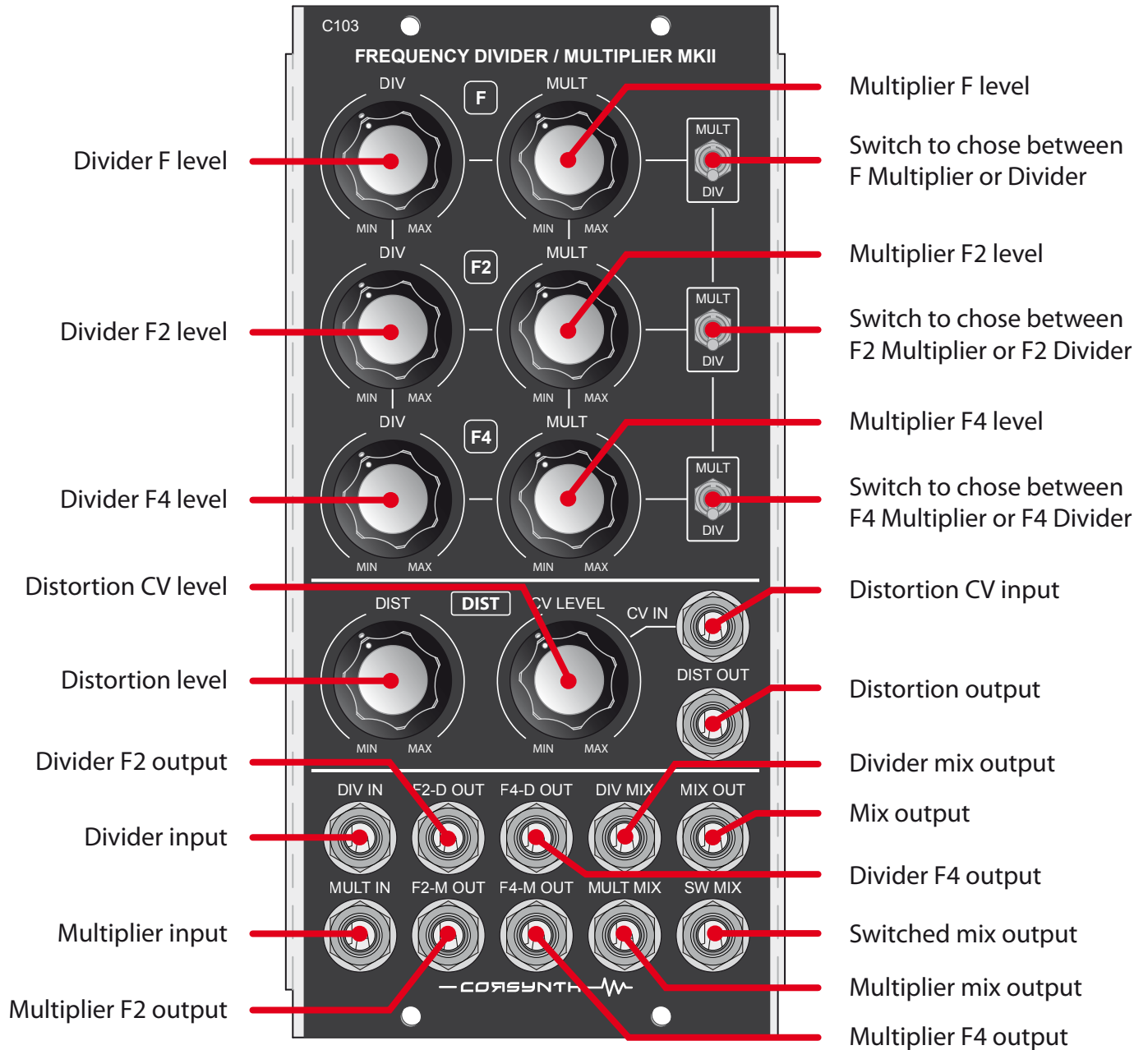
and more...

If you like the original C103, this new version retains the same functionality using the Switched mixer but it goes one step further. Thanks to the new level potentiometers, the divider and the multiplier of each stage can have different signal levels.

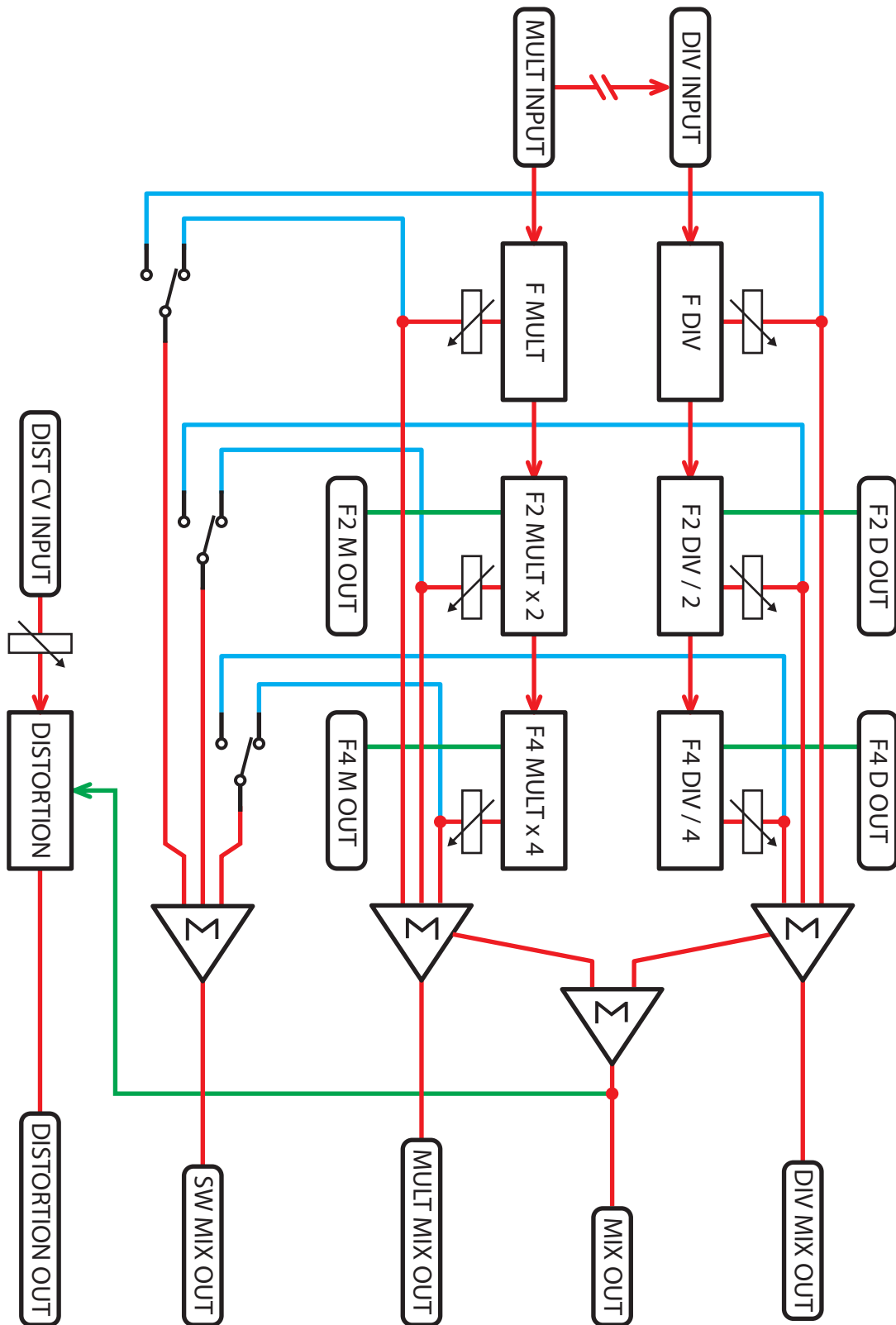
The frequency divider input is normalized to the multiplier input, If nothing is connected to the divider input, it will take the signal connected to the multiplier input as its input signal.



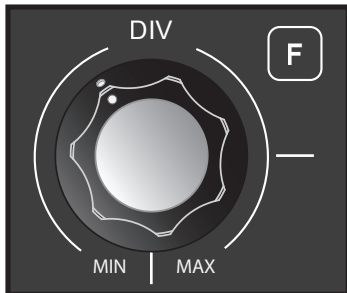
C103 Frequency Divider / Multiplier MKII



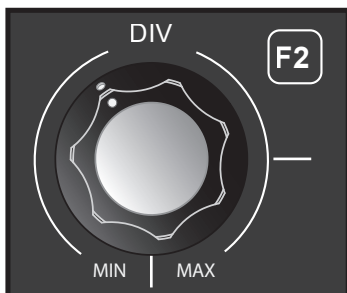
C103 MKII BLOCK DIAGRAM



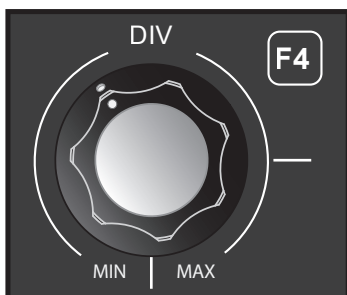
CONTROL DESCRIPTION

**DIVIDER F LEVEL**

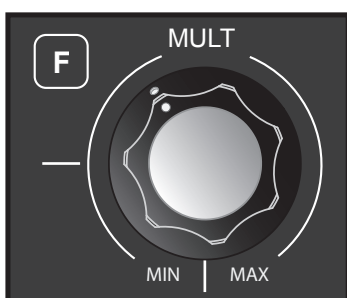
This potentiometer sets the level of the divider input. This level affects to the **Mix out** , **Divider Mix out** and **Switched Mix out**.

**DIV F2 LEVEL**

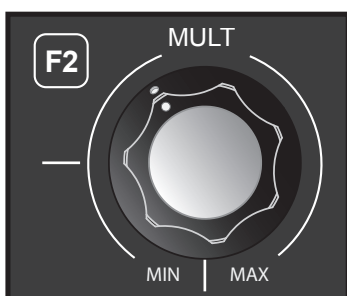
This potentiometer sets the level of the first suboctave, generated from the the divider input. This level affects to the **Mix out** , **Divider Mix out** and **Switched Mix out**.

**DIVIDER F4 LEVEL**

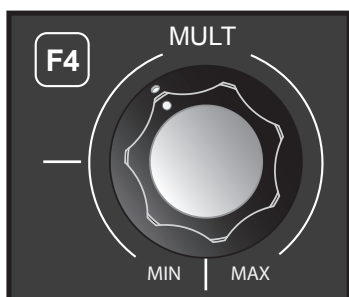
This potentiometer sets the level of the second suboctave, generated from the the divider input. This level affects to the **Mix out** , **Divider Mix out** and **Switched Mix out**.

**MULTIPLIER F LEVEL**

This potentiometer sets the level of the multiplier input. This level affects to the **Mix out** , **Multiplier Mix out** and **Switched Mix out**.

**MULTIPLIER F2 LEVEL**

This potentiometer sets the level of the multipliers first stage. The signal is generated using the multiplier input. This level affects to the **Mix out** , **Multiplier Mix out** and **Switched Mix out**.



MULTIPLIER F4 LEVEL

This potentiometer sets the level of the multipliers second stage. The signal is generated using the multiplier input. This level affects to the **Mix out** , **Multiplier Mix out** and **Switched Mix out**.



F SWITCH SELECTOR

This switch allows to select the input for the first channel of the **Switched Mixer**. The signal is selected post-fader. The signals available are **DIV F** and **MULT F**



F2 SWITCH SELECTOR

This switch allows to select the input for the second channel of the **Switched Mixer**. The signal is selected post-fader. The signals available are **DIV F2** and **MULT F2**



F4 SWITCH SELECTOR

This switch allows to select the input for the third channel of the **Switched Mixer**. The signal is selected post-fader. The signals available are **DIV F4** and **MULT F4**



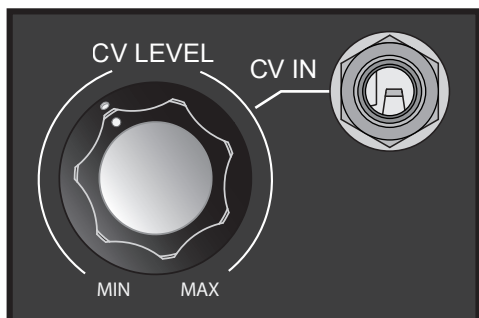
DISTORTION LEVEL

The distortion circuits takes the signal directly from the **Mix Output**. This potentiometer sets the amount of distortion. Depending on the level of the input signal, the circuit can start to distort even with the potentiometer at minimum.



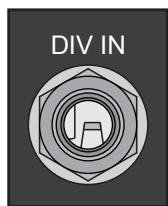
DISTORTION OUT

Output of the the distortion circuit.



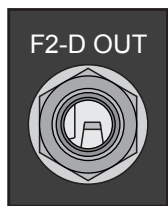
DISTORTION CV

Distortion CV input. The potentiometer **LEVEL** sets the amount of modulation sent to the distortion circuit.



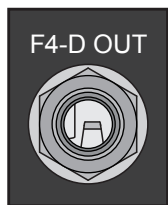
DIVIDER INPUT

Frequency divider input. This input accepts any kind of basic waveform (square wave, triangle wave, saw wave, sine wave...). If nothing is patched to this input , it is internally connected to the multiplier input. This connection breaks when a jack is inserted.



F2 DIVIDER OUTPUT

Output of the first stage of the divider circuit. The output is a square wave with a frequency one octave below the frequency of the divider input signal.



F4 DIVIDER OUTPUT

Output of the second stage of the divider circuit. The output is a square wave with a frequency two octaves below the frequency of the divider input signal.



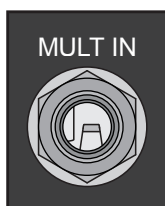
DIVIDER MIX OUTPUT

This is the output of the Divider Mixer. The level of each stage is set by the **DIV** potentiometers.



MIX OUTPUT

This output is the sum of the Divider Mixer and the Multiplier Mixer. The level of each channel is set by the **DIV** and **MULT** potentiometers.



MULTIPLIER INPUT

Frequency multiplier input. The frequency multiplier works well with sine, triangle or similar waveforms. If a saw wave is connected to this input it will be converted to a triangle wave (with the same frequency of the original) at the F2 output.



F2 MULTIPLIER OUTPUT

Output of the first stage of the multiplier circuit. The output is waveform with a frequency one octave higher than the frequency of the multiplier input signal.



F4 MULTIPLIER OUTPUT

Output of the second stage of the multiplier circuit. The output is waveform with a frequency two octaves higher than the frequency of the multiplier input signal.



MULTIPLIER MIX OUTPUT

This is the output of the Multiplier Mixer. The level of each stage is set by the **MULT** potentiometers.



SWITCHED MIX OUTPUT

This is the output of the Switched Mixer. This mixer has three channels with two inputs each. The active input is selected using the **F**, **F2** and **F4** switches. The level of each channel is set by the **DIV** and **MULT** potentiometers.

Power connectors

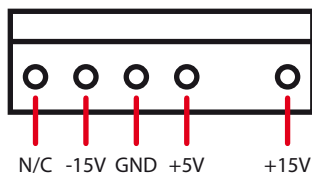


IMPORTANT !!!!

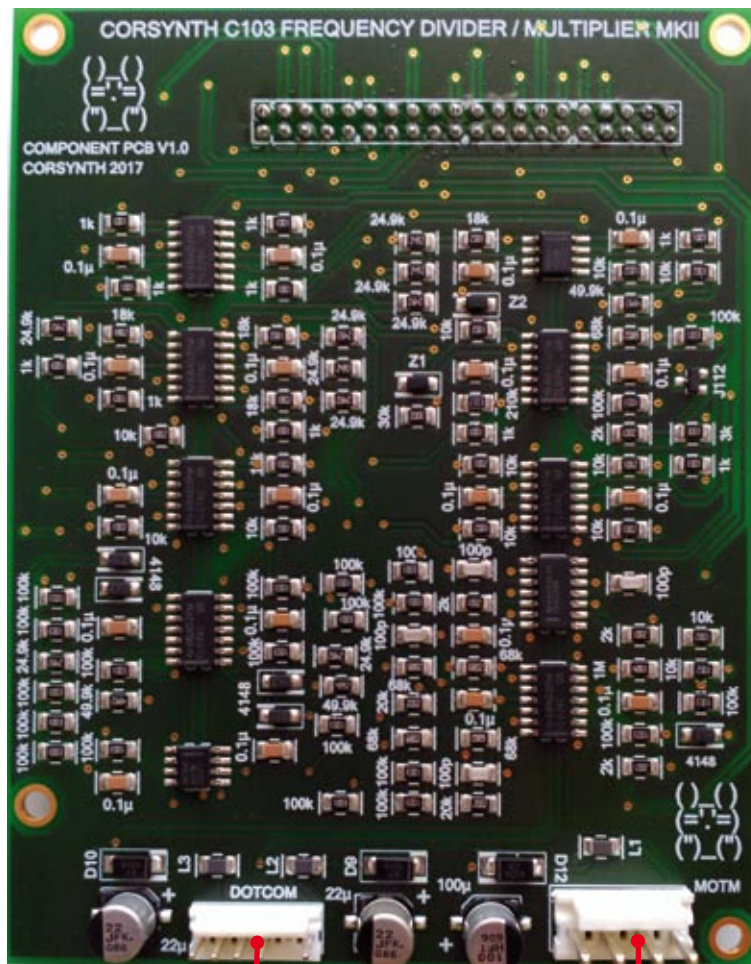
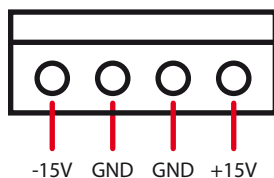
This module has two power connectors (Synthesizers.com and MOTM). Only one is needed to power the module. (Synthesizers.com or MOTM).

Never connect both at the same time.

Synthesizers.com



MOTM



Synthesizers.com
power connector

MOTM
power connector

TECHNICAL DATA

Module Format : 5U, MU format (Synthesizers.com, Moog)

Module Width : 2 MU (Moog unit)

Module Depth : 52 mm (2,05 inches)

Power : +15V@75mA , -15V@80mA

Power connectors : Synthesizers.com , MOTM (4 pin)

