MFB

Dominion I

MFB Analogue Synthesizer

Operating Manual

DISCLAIMER

MFB will not assume any responsibility for errors which may occur in this manual. The content of these instructions is subject to change without prior notice. When this manual was created, good care was taken to exclude any mistakes and contradictions. MFB will not accept any guarantees for this manual except those provided by commercial law.

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GENERAL SAFETY INSTRUCTIONS

Please carefully read these safety instructions, before start using the device. They comprise basic rules for the use of electronic devices. Please read all the notes.

Suitable location
- Only operate the device in closed rooms.
- Never operate the device in humid environments
- Do not operate the device in dusty or dirty environments.
- Ensure unhindered air supply to all sides of the device.
- Do not place the device in proximity of heat sources.
- Do not expose the device to direct sunlight.
- Do not expose the unit to heavy vibration.

Mains connection
- Only use the supplied connection cable.
- If the supplied mains connector does not fit into your socket you should consult a qualified electrician.
- Disconnect the mains connector from the socket if you do not use the device for a longer period of time.
- Never touch the mains connector with wet hands.
- When disconnecting, always pull the connector and never the cable.

Operation
- Never place any vessels containing liquids on top of the device.
- Ensure that the device cannot move during operation.
- Ensure that no objects can get inside the device. Should this happen, switch the device off and disconnect it from the mains. Then, contact a qualified technician.

Maintenance
- Do not open the device. Any repair or maintenance should only be done by qualified tech personnel. There are no parts inside the device that could be maintained by the user. You will also lose your right to claim warranty if you open the device.
- Only use a dry, smooth cloth or brush for cleaning the device. Do not use any alcohol, solvents or similar chemicals. These will damage the surfaces.

Proper use
This device is exclusively intended for creating audio signals and creating and processing control signals according to the MIDI and CV/Gate (1V/Oct.) standards. Any other use is not permitted and will exclude any warranty claims towards MFB.

Disposal
This device has been manufactured RoHS-conforming in compliance with the requirements of the European parliament and council and thus is free from lead, mercury, cadmium and chromium.
Nevertheless, this product is special waste and must not be disposed in ordinary household waste.
For disposal, please contact your local dealer, MFB's local distributor or www.mfberlin.de.

Table of Contents

Note: We have included schematic views of the described sections for better understanding. All names of controls, switches and jacks are printed bold and exactly spelled as labeled on the unit.

General

Dominion I is a monophonic analogue synthesizer. Among its most important characteristics are a threefold oscillator section that can be played paraphonically with up to three voices, a new designed multimode filter with twelve operational modes, 128 memory locations, step sequencer and arpeggiator, versatile MIDI and CV/Gate-control as well as a three octave keyboard with two ribbon elements for pitch and modulation.

Setup

Dominion I is powered by an internal power supply. Connect the provided power chord to the corresponding socket on the unit's rear panel. Find the corresponding on/off switch alongside.
Make sure to connect the unit's **AUDIO OUT** to a mixing console, an audio-interface or an amplifier before switching on. Toggle the aforementioned switch to turn Dominion I on and off.

In case Dominion I is not played using its keyboard, the unit is addressed via its MIDI or CV/Gate connectors. Connect the **Midi IN** input to the MIDI output of a keyboard or a computer MIDI-interface. Alternatively, use inputs **CV VCO1** (as well as **VCO2** and **VCO3**) and **GATE** to connect to an analogue sequencer or CV/Gate keyboard.

Note: Dominion I uses analogue circuits. It is therefore recommended to "warm up" the unit for 5 to 10 minutes to ensure solid tuning.

OSCILLATORS
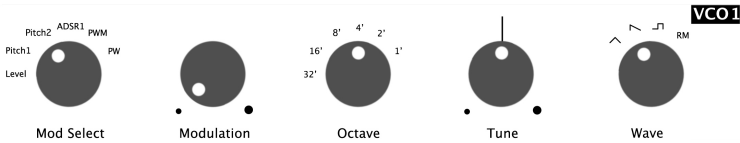
Dominion I utilizes three voltage controlled oscillators (VCO) with almost equal functions. Differences are to be found for the **Tune** controls and ring modulation. All described functions are valid likewise for **VCO1**, **VCO2** and **VCO3**.

Use the four-stage selector **Wave** to choose the waveform. Available choices are triangle, saw tooth, square and ring modulation resp. XOR. When set to **Ring/XOR**, the oscillators modulate each other as follows:

VCO1 – VCO1 <> VCO2 (resp. external signals **RM X/Y In**)
VCO2 – VCO2 <> VCO3
VCO3 – VCO3 <> VCO1

Oscillator 1 offers an analogue ring modulator, while oscillators 2 and 3 each utilize a digital ring modulator with so called XOR wiring which offers a rough sounding character.
To be able to hear the ring modulation of **VCO1**, you have to turn up **RM Y In** in the mixer section. In alternative to **VCO2** and/or **VCO1**, external audio signals can be fed into the connectors **RM X In** and **RM Y In** on the unit's top panel (see page 32).

The **Tune** control for **VCO1** sets the general tuning for all three oscillators. The available range is approx. ±6 semi tones.
The **Tune** controls for **VCO2** and **VCO3** set the tuning for the respective oscillators. The range is approx. ±13 semi

tones, allowing detuning by a little more than a full additional octave.

Use the four-stage selector **Octave** to adjust the octave range for each oscillator. Select between **32'**, **16'**, **8'**, **4'**, **2'** and **1'**.

VCO – Modulation
Each VCO can individually be modulated. The **Modulation** control adjusts the respective modulation intensity whereas the modulation target depends on the setting of the **Mod Select** selector.

The six-stage selector **Mod Select** allows choosing a specific modulation path for the corresponding oscillator. The choices available are:

Level – pre-mixer level modulation by **LFO1**
Pitch1 – pitch modulation by **LFO1** (up to ± 2 octaves)
Pitch2 – pitch modulation by **LFO2** (up to ± 2 octaves)
AD– pitch modulation by envelope **AD**
PWM – modulation of waveform symmetry by **LFO1**
PW – manual modulation of waveform symmetry by **Modulation** control

Note: With **Mod Select** being switched to a new position from **PW**, the former **Modulation** setting (waveform symmetry) is being preserved. This allows to modulate a narrow square wave (e.g.) in volume and pitch. Even with a pitch modulation being selected, e.g. by a LFO, the symmetry can still be manually altered or modulated. However, with **Mod Select** being set to **PWM** the pulse width will always be modulated starting from a 50% position.

Note: When switching **Mod Select**, the new function will be activated after having moved the **Modulation** control.

Note: Although this function has been labeled **PW** resp. **PWM**, meaning pulse width (modulation), the parameter modifies the symmetry of all VCO waveforms. Using the **Modulation** control, the curves change as follows when turned from left to right:

Wave Triangle – triangle to sine
Wave Saw tooth – saw tooth to triangle
Wave Square – 50 to 95% pulse width (center ≈ 75%)

VCO – Synchronization

All three oscillators of Dominion I can be hard-synced. Here, the main oscillator will dictate its pitch to the synced partner. Changing the tuning of the synced oscillator using **Tune** or **Modulation** will lead to drastic timbral changes.
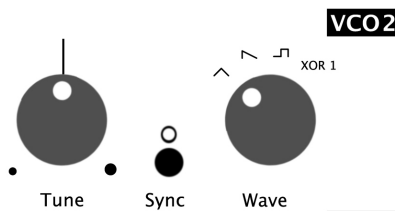
The best settings for typical sync-sounds are **Pitch1** resp. **2** and **AD** selected for the modulation path (using **Mod Select**). **VCO1** always acts as main oscillator. However, an external signal fed into input **Sync In** may replace its signal (see page 31).

Use the two **Sync** buttons for oscillators 2 and 3 to individually enable the sync function. The corresponding red LEDs will then be lit.

VCO – Frequency Modulation (FM)

FM

VCO1 VCO2
OFF   VCO1+2

LFO2 ADSR1 ADSR2
LFO1   AD
Manual

FM Destination   **FM Mod**   **FM Mod Select**
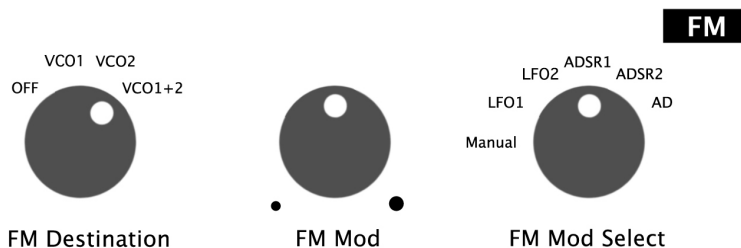
Use the frequency modulation section to modulate **VCO1** and **VCO2** in pitch by **VCO3**. Depending on the settings and intervals, this leads to metallic and atonal sounds. Use the four-stage selector **FM Source** to set the modulation target:

OFF – no frequency modulation
VCO1 – is being modulated by **VCO3**
VCO2 – is being modulated by **VCO3**
VCO1+2 – are being modulated commonly by **VCO3**

FM Mod sets the amount resp. intensity of the frequency modulation.

Use the six-stage selector **FM Mod Select** to set a modulator for the FM-intensity. When set to **Manual**, the FM-intensity is being manually controlled by the **FM Mod** control.
With **LFO1**, **LFO2**, **ADSR1**, **ADSR2** or **AD** being selected, **FM Mod** will adjust the modulation amount of the selected modulation source.

In lieu of **VCO3**, an external signal being fed into the **FM In** jack (see page 31) can be used as modulator.

MIXER

Mixer

VCO1

VCO2

VCO3   RM Y In
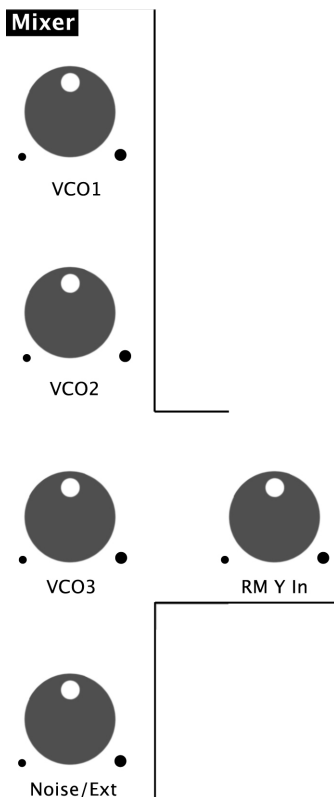
Noise/Ext

Controls **VCO1**, **VCO2** and **VCO3** set the oscillators' output level, prior entering the filter stage. With all controls set to full level, the filter input will be slightly overdriven.

Noise/Ext adjusts the level of the internal noise generator (white noise).

With the input labeled **Ext In** being used, the noise generator will be replaced by an audio signal being fed in here.
The corresponding **Noise/Ext** control will then set the level for the external audio signal.

The **RM Y In** control adjusts the level of the ring modulated signal of **VCO2** resp. an audio signal being fed into the **RM Y In** jack.

Note: In order to hear any ring modulation results, the **VCO1** mixer control needs to be turned on. **RM Y In** will be inactive without having selected **VCO1** for **RM** (see page 7).

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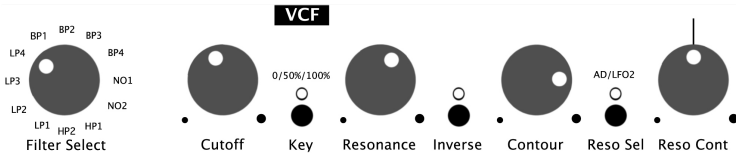
FILTER

The filter section has been greatly expanded compared to the MFB Dominion X. It now offers twelve different filter modes based upon the SED circuit (Single Ended & Discrete).

Use **Filter Select** to choose between the filter modes:
LP1 – 24 dB low pass
LP2 – 18 dB low pass
LP3 – 12 dB low pass
LP4 – 6 dB low pass
BP1 – band pass with 18 dB low pass and 6 dB high pass
BP2 – band pass with 12 dB low pass and 12 dB high pass
BP3 – band pass with 6 dB low pass and 6 dB high pass
BP4 – band pass with 6 dB low pass and 12 dB high pass
NO1 – notch combining 6 dB low pass and 6 dB high pass
NO2 – notch combining 6 dB low pass and 6 dB high pass
　　　　 and additional 6 dB low pass
HP1 – 6 dB high pass
HP2 – 12 dB high pass

Cutoff controls the filter's cutoff frequency.

Resonance adjusts the filter's resonance which can reach self-oscillation in all modes.

Pressing **Key** will activate the key-follow-function where the cutoff frequency will follow the played notes' pitch:

LED off – key-follow amount 0%
LED lit slightly– key-follow set to 50%
LED fully lit– key-follow amount 100%
Press **Inverse** to apply negative envelope modulation. The LED is lit is in this mode (see note on page 14).

The **Contour** control sets the modulations intensity of **ADSR 1** towards the cutoff frequency.

The filter's resonance can either be modulated by **LFO2** or envelope **AD**. Use the **Reso Sel** switch to toggle between both modulation sources. With the LED being lit, **LFO2** is used as modulation source.

VCF – Modulation

In parallel to the manual control of the cutoff frequency using the **Cutoff** control and envelope **ADSR1** modulation, up to four other sources may also be used to modulate the cutoff parameter.

LFO1 LFO2 VCO2 VCO3

Mod Select

Use the four-stage selector **Mod Select** to set the modulation source for **Cutoff**. Available sources are **LFO1**, **LFO2**, **VCO2** or **VCO3**.

The **Modulation** control located underneath sets the amount of modulation.

Modulation

ENVELOPES

ADSR1				ADSR2				AD	
Attack	Decay	Sustain	Release	Attack	Decay	Sustain	Release	Attack	Decay
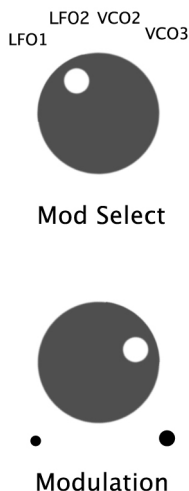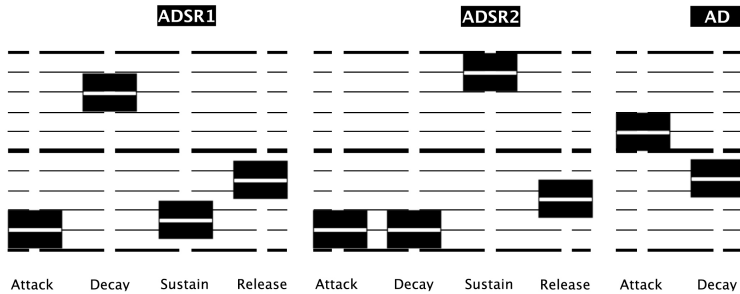
Dominion I offers two ADSR envelopes and one AD envelope. **ADSR1** is permanently connected to control the filter's cutoff frequency with its modulation intensity being controlled by the **Contour** knob. In addition, this envelope can also be used to modulate oscillators 1 and 2 by setting the VCO > **Mod Select** switch respectively.

Note: With **Inverse** being activated (located next to the **Contour** control), the inversion of the envelope also applies to the oscillators' modulation.

Envelope **ADSR2** mainly controls the **VCA** and therefore sets the output volume of Dominion I. However, it may also serve to support FM Mod (see page 10).

Envelope **AD** can modulate oscillator 3 and the filter's resonance (see page 13).

Note: The envelopes' speed can be switched between a normal and slower mode that reduces all times by a factor of four (see page 25).

Note: The three envelopes' control signals can additionally be tapped from the respective PATCH PANEL jacks and used for parallel modulation of external equipment (see page 32).

LFOs

LFO1 and **LFO2** offer equal functions. The **Rate** control sets the speed within a range of approx. 0.1 Hz to 100 Hz.
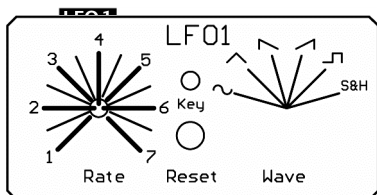
Note: Just as for the envelopes, the LFOs can be switched to a slower mode (see page 25). Here, the speed approx. ranges from 40 seconds to 25 Hz.

Use the six-stage selector **Wave** to choose the modulation waveform. Available are sine, triangle, descending saw tooth, ascending saw tooth, square as well as sample & hold.

Press **Reset** to determine whether the LFO-waveform is restarted by every incoming MIDI-note:

LED off – free running LFO
LED green – free running LFO (LED pulses in sync)
LED red/green – the LFO waveform cycle starts with each incoming MIDI-note (LED changes color for each beat)
LED red – LFO works in one shot mode

Note: In one shot mode, the selected waveform is only being completed once for each note played. This mode is indicated by a green LED that lights up upon triggering.

The **Key** button will change the LFO speed in dependency of the incoming pitch. Higher notes will produce higher LFO speeds.
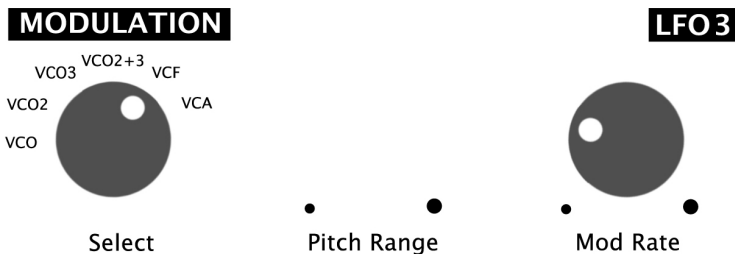
LED off – no key follow
LED slightly lit – 50% key follow
LED fully lit– 100% key follow

Note: At 100% key follow, the LFO speed doubles with each octave. Hence, the maximum speed increases to approx. 1.2 kHz.

MODULATION / LFO3

The third LFO in Dominion I utilizes a triangle waveform and works in dependence of the ribbon **MODULATION** control respectively MIDI controller CC#1 (of an external MIDI source). The more the ribbon is being used on its vertical axis, the higher the modulation intensity.

This ribbon works equally to a common modulation wheel, meaning it will remain at a certain position when the finger is being removed from the ribbon. Activity is displayed by a corresponding LED. This LED extinguishes with the modulation being moved down to zero.

Use the six-stage selector **Select** to set the modulation target for **MODULATION / LFO3**:
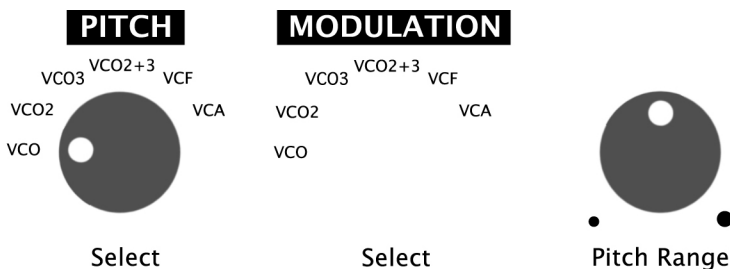
VCO – pitch of all three oscillators
VCO2 – pitch of **VCO2** (e.g. for sync)
VCO3 – pitch of **VCO3** (e.g. for XOR)
VCO2+3 – pitch of both **VCO2** and **VCO3**
VCF – filter cutoff frequency
VCA – output volume

The **Mod Rate** control sets the LFO speed which is visualized by a rhythmic blinking LED. When set fully left, no LFO modulation is applied. However, the ribbon can still be used to manually control the targeted parameter. The LED is lit red in this case.

Note: The settings for **MODULATION / LFO3** are not being saved with the presets. They are meant as performance tools only.

PITCH

Select   Select   Pitch Range

This ribbon works equally to a common pitch wheel, meaning it will "jump" back to its original position as soon as the finger is being removed from the ribbon.

Use the six-stage selector **Select** to set the target for the **PITCH** modulation**:**

VCO – pitch of all three oscillators
VCO2 – pitch of **VCO2**
VCO3 – pitch of **VCO3**
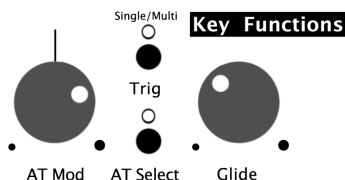**VCO2+3** – pitch of both **VCO2** and **VCO3**
VCF – filter cutoff frequency
VCA – output volume

The **Pitch Range** control adjusts the ribbon range. The maximum range is one octave.

Key Functions - Aftertouch

The keyboard's channel-aftertouch function can be used to add punctual control to different parameters.

Single/Multi

Key Functions

Trig

AT Mod   AT Select   Glide

The bipolar **AT Mod** control sets the amount of modulation. When turned right from its center position, the modulation is positive. When turned left from center, the modulation is inverted. There is no aftertouch modulation with this control in center position.

The modulation target is selected by **AT Select** and the program section. Press the **AT Select** button and the corresponding LED will be lit red while the display changes.
Use the **Value** control to select a modulation target that is enabled by pressing **Enter**. The display will now read **On** while the **AT Select** LED will turn off. Available choices are pitch, VCO-Modulation and the filter's cutoff frequency.

OAP – pitch of all three oscillators
O1P / **O2P** / **O3P** – pitch of oscillator 1, 2 or 3
OAA – common modulation of all three oscillators,
          according to **Mod Select** and **Modulation** settings
O1A / **O2A** / **O3A** – modulation of oscillator 1, 2 or 3,
                       according to **Mod Select** and
                          Modulation settings

Note: With all oscillators' **Modulation** controls being set to null, this modulation is being virtually activated by using aftertouch. Here, the modulation depth for **AT Mod** is the decisive factor. With any modulation depth being preset for the oscillators, the **AT Mod** modulation will be added.

Cut – modulation of the filter's cutoff frequency

CuA – amount of **Modulation** for the parameter selected by the filter's **Mod Select**

Exit this menu without any changes applied by pressing the **AT Select** button.

Single-/Multi-Trigger

The **Trig** button toggles between single- and multi-triggering. When using multi-triggers (LED lit red), the envelopes will be retriggered by every new note, even when played legato (i.e. while the first key is still being held).
In normal mode (LED off), single trigger mode is active.

Glide

The **Glide** control sets the duration for the portamento effect. This value is valid for all three oscillators commonly (also see Glide Settings on pages 22 and 23).
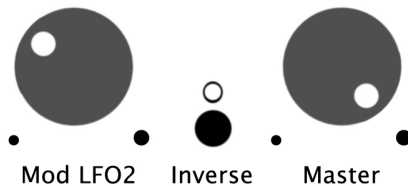
VCA

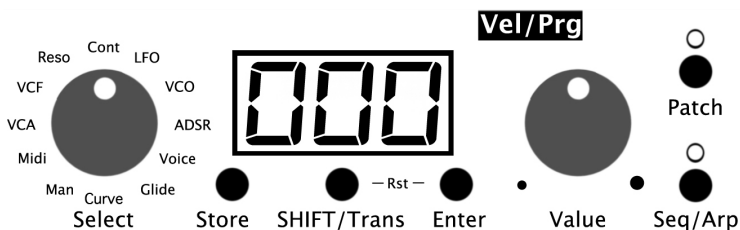The **Master** control sets the overall output level of Dominion I.

The **Mod LFO2** control introduces a variable amplitude modulation (Tremolo) by LFO2 that can be inverted by pressing the **Inverse** button.

VELOCITY/PROGRAMMING

The **Vel/Prg** section fulfills several tasks. Here, system settings as well as the routing of the keyboard's velocity towards one or several parameters can be set.

The procedure is as follows: Select a modulation target resp. a system function using the **Select** selector. Choose between possible sub functions by pressing **Enter**. These are visualized by three dots at the lower display border. Enter the desired values using the **Value** control.

VELOCITY – Routing

The keyboard's velocity can address up to seven modulation targets. These are the selector's positions **VCA** to **ADSR**. All modulations are available simultaneously but with individual modulation amounts. With a value of □□ being displayed, no modulation is applied. Positive values add to the modulation targets' parameter control settings, while negative values subtract from these. All settings are being stored with a preset. When changing the target parameter using **Select**, the current value is being displayed. Consequently, the use of the **Value** control may result in parameter value jumps.

By pressing **SHIFT** and **Enter** (**Rst**) commonly, all velocity routings will be set to □□.

Note: With velocity curve □ being selected (see page 23), the routing settings will not apply to the modulation targets.

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VCA – affects the output volume (**-63** to **63**)

VCF – affects the filter frequency (**-63** to **63**)
The sub menu (**Enter**) allows for a filter calibration: Key Follow (middle LED dot) and Resonance (right LED dot) may be calibrated for increased tonality. Here, the values are being displayed in hexadecimal numbers (**000** to **FF5**). Since analogue sound generation is subject to tolerances, we recommend adjustments by ear.

Reso – affects the filter's resonance (**-63** to **63**)

Cont – affects the modulation amount of the **Contour** parameter, i.e. the filter modulation by **ADSR1** (**- 15** to **15**)

LFO – affects the LFOs' speeds (**-63** to **63**). Use **Enter** to toggle between **LFO1** (left LED dot), **LFO2** (middle LED dot) and **LFO3** (right LED dot) in the sub menu.

VCO – affects the VCO-waveforms' symmetry (**Mod Select** > **PM**) (**-63** to **63**).
Use **Enter** to toggle between **VCO1** (left LED dot), **VCO2** (middle LED dot) and **VCO3** (right LED dot) in the sub menu.

ADSR – affects Attack, Decay and Release of the envelopes (**- 15** to **15**).
Use **Enter** to toggle between **ADSR1** (left LED dot), **ADSR2** (middle LED dot) und **AD** (right LED dot) in the sub menu.

Note: This modulation works inverted, meaning that higher values will shorten the envelope phases with increasing velocity. In combination with a filter-modulation, you may imitate an accent function, comparable to the one found in Roland's TB-303.

SYSTEM SETTINGS

The selector switch's positions **Voice** to **Midi** are dedicated to Dominion I's system settings.

Voice – toggles between a monophonic (**I**) and a paraphonic mode with three voices (**3**)
For paraphonic mode, the sub menu (middle LED dot) selects whether the filter's key follow function uses the lowest note (**LO**) or highest note (**HI**) as reference.

Note: In paraphonic mode, all three VCOs work in unison as long only one note is being played. For each additional note played, an oscillator is being subtracted from the unison sound.

Glide – type (left LED dot)
t-C – the glide time is independent from the interval being played and has a given duration (time constant)
I-C – the glide time is dependent upon the interval being played. Larger intervals lead to longer glide times.

Glide – mode (middle LED dot)
Std – the glide effect is triggered for each note
LEG – the glide effect is only being triggered by notes played legato

Glide – curve (right LED dot)
The display visualizes the curves' shapes:
logarithmic – linear – exponential

Curve – settings for the velocity curve and pitch ribbon
Sub menu 1 (left LED dot) selects the velocity curve (**0** to **3**). Selecting **0** disables velocity. In this case, the modulation routings for the velocity (see page 20) are noneffective.

Sub menu 2 (middle LED dot) adjusts the reset speed for the pitch ribbon (**Pb1** to **Pb3**). Selecting **Pb1** will lead to immediate resets to the neutral position.

Man – in this setting, Dominion I will fully reflect the current knob positions.

Midi – settings for channel, local on/off and dumps
Sub menu 1 (left LED dot) – MIDI channel (**1** to **16**)
Sub menu 2 (middle LED dot) – decoupling of keyboard and sound engine (**LOn** / **LOF**).

Note: Local off, for instance, is recommend with the internal sequencer being active. Here, you may play an external synthesizer using Dominion I's keyboard at the same time.

Sub menu 3 (right LED dot) – MIDI-dump of preset data (**0 In** to **ALL**). Press **Store** to transfer the selected preset bank (1 to 16) or the complete memory contents.

Note: To reload MIDI dump data into Dominion I, simply play back the dump file. Dominion I will automatically switch to receive the data.

Selecting Presets

Dominion I offers 128 memory locations being organized in 16 banks of eight sounds each.

To call up a preset, **Patch** mode needs to be active which is visualized by a corresponding LED. Use the **Value** control to select a preset bank *0 In* to *16n* from the display. Next, select and call up a preset using switches **1** to **8.** The preset will immediately be loaded.

Saving Presets

After having created an individual sound (preferably in **Select** menu **Man**), it can be stored to any of the 128 memory locations. To do so, press and hold **Store**, choose a preset bank-using **Value** (when needed) and select a memory location by pressing one of the buttons **1** to **8**. The preset is stored upon release of the **Store** button.

Program Changes

Dominion I sends and receives MIDI program change commands 001 to 128 in order to remotely select presets.

SHIFT – Functions
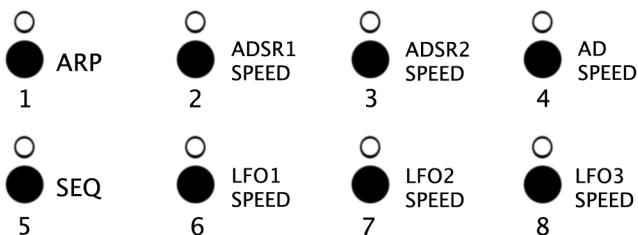
All elements being printed in capitals on Dominion I's surface can be reached by pressing the **SHIFT** button.

Transposition

The keyboard can be transposed in semitones over a range of ±1 octave. Pressing **SHIFT/Trans** will display the current transposition (*-12* to *12*). Press and hold **SHIFT/Trans** to transpose the keyboard by a certain value using notes C1 to C3.

Function buttons 1 to 8

○	○	○	○
● ARP	● ADSR1 SPEED	● ADSR2 SPEED	● AD SPEED
1	2	3	4
○	○	○	○
● SEQ	● LFO1 SPEED	● LFO2 SPEED	● LFO3 SPEED
5	6	7	8

In combination with the **SHIFT** button, the preset selector switches **1** to **8** serve to activate different functions. Press and hold the **SHIFT** button to display which function is currently activated.

Buttons **1 ARP** and **5 SEQ**
If Dominion I's mode has been changed using the **Seq/Arp** button, these two buttons select the arpeggiator (**1 ARP**) or sequencer (**5 SEQ**). These are the only two function buttons to be mutually exclusive.

Buttons **2**, **3** and **4** (envelope speeds)
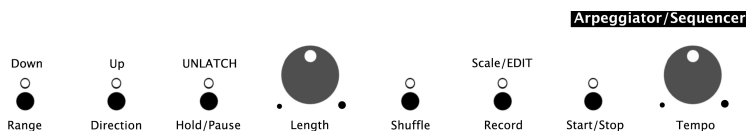The envelopes **ADSR1**, **ADSR2** and **AD** may be slowed down by a factor of four individually using the corresponding buttons. The slowdown applies to envelope phases attack, decay and release likewise.

Buttons **6**, **7** and **8** (LFO speeds)
The speeds of **LFO1**, **LFO2** and **LFO3** may be slowed down by a factor of four individually using the corresponding buttons.

ARPEGGIATOR

Down	Up	UNLATCH			Scale/EDIT		
Range	Direction	Hold/Pause	Length	Shuffle	Record	Start/Stop	Tempo

By pressing the **Seq/Arp** button, Dominion I changes into a mode where either the arpeggiator or the sequencer can be started. Use **SHIFT** + button **1 ARP** to select the arpeggiator.

Start/Stop - pressing this button enables the arpeggiator. Note and chords being played will now be arpeggiated.

Hold/Pause – acts like a sustain pedal. With **Hold** being active (LED lit), the arpeggio will continue with keyboard notes being released.

Note: Pause is inactive in arpeggiator mode.

UNLATCH – with **UNLATCH** being disabled, every new note is being added to the arpeggio in **Hold** mode. With **UNLATCH** being enabled using the **SHIFT** function, a new chord will replace the previous arpeggio.

Direction (> **Value**) – the arpeggio's direction can be set here. The settings are being displayed as:

UP – ascending arpeggio
dO – descending arpeggio
UdE – ascending and descending without first and last
          notes being repeated
UdI – ascending and descending with first and last notes
          being repeated
rnd – randomly selected notes
OrG – notes being played back in same order as
          originally being entered

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The same arpeggio directions are available for three additional modes. With the left LED dot lit (e.g. **U.P**), every note is repeated twice. With the left and middle LED lit, every note is repeated three times (e.g. **d.0.**). With all LED dots being lit (e.g. **r.n.d.**), every note is repeated four times.

Scale/EDIT (> **Value**) – Sets the resolution between **2** to **32**th. The initial setting is 16th.

Note: EDIT is inactive in arpeggiator mode.

Range (> **Value**) – sets the octave range
rA0 – the arpeggio notes will only played once in the octave being played on the keyboard
rA1 to **rA4** – the arpeggio notes will additionally be repeated in one to five higher octaves

Confirm edits by pressing **Enter**.

Shuffle (> **Value**) – shuffle factor
Set a shuffle value for the arpeggio in the display (**000** to **127**). This value is a global parameter, not being saved with the presets.

Length
The **Length** control can edit the note length for the arpeggio.

Tempo
Use the **Tempo** control to adjust the arpeggio speed in BPM (**30** to **280**).
With a MIDI clock and MIDI start command being present at the **Midi In** input, the arpeggiator/sequencer will also start (at a tempo determined by the MIDI clock). The sequencer can be stopped by pressing **Start/Stop**. It can manually be restarted upon the next eighth note.

SEQUENCER
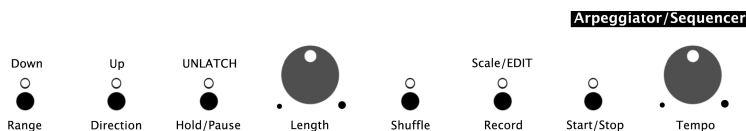
Down	Up	UNLATCH				Scale/EDIT		
Range	Direction	Hold/Pause	Length		Shuffle	Record	Start/Stop	Tempo

By pressing the **Seq/Arp** button, Dominion I changes into a mode where either the arpeggiator or the sequencer can be started. Use **SHIFT** + button **5 SEQ** to select the sequencer.

Playing Sequences

Press **Start/Stop** to manually start the sequence. Use the **Tempo** control to adjust the speed in BPM (**30** to **280**). The **Scale** and **Shuffle** functions work as described for arpeggiator mode (see page 27).

Creating Sequences

To create an individual sequence, press the **Record** button once first. The display will now show the current resolution (initial setting **Scale 16**), which can be changed to your needs. Press **Record** once more to record-enable the sequencer. The display will show **000**.

Notes can now be entered from the keyboard. Every note entered will advance the sequence by one step which is reflected by the display.
Prior entering each note, the **Length**, **AT Mod** and **Glide** (for tied notes) controls and the **Modulation** ribbon may be re-adjusted. This new setting will be recorded for the respective step.

Note: With **Voice** being set to three voices (see page 22), the sequencer may also record two or three notes per step. You may press a chord or alternatively hold the first note and add another one or two notes. Upon release of the first note, the step is being saved.

The **Hold/Pause** button allows recording longer notes and insert rests. Pressing this button shortly and the note of the previous step will be extended by a 1/16th note. Pressing and holding **Hold/Pause** until the display advances to the next step, will insert a rest for that step.

Up to 128 steps may be programmed. With the sequence being completed to your needs, exit record mode by pressing **Record**. The sequence can now be played back by pressing **Start/Stop**.
In order to transpose the sequence in real time, use **SHIFT/Trans** and the keyboard notes C1 to C3.

Editing Sequences
Existing sequences may be edited later. Enter edit mode by pressing **SHIFT** and **Record** (**Scale/EDIT**). The display will first show the scale resolution. By pressing **Record** (**Scale/EDIT**) again, the display changes to **000**. You may now navigate through the sequence steps by pressing the **Down** (**Range**) and **Up** (**Direction**) buttons. Each step can be modified by re-entering a new keyboard note.

Saving sequencer- and arpeggiator settings
To save a sequence or the arpeggiator's settings, press **Seq/Arp** first (even with the corresponding LED being already lit). The display will now show the bank setting **0 In**. Select a memory location by pressing **Store** and one of the buttons **1** to **8**.

Note: A new sequence can be loaded during playback. The sequence change will be carried out once the currently active sequence has been completed.

PATCH PANEL CONNECTIONS

The connections on Dominion I's upper side allow the unit to be used with analogue control voltages (CV) and gate signals. Suitable products to control Dominion I are MFB's step sequencer URZWERG PRO or the functional expansion MEGAZWERG. In addition, Dominion I is compatible to all common Eurorack compatible module synthesizer systems.

CV2 Out	CV3 Out	Gate Out	LF01 Out	LF02 Out	LF02 In	ADSR1 Out	ADSR2 Out	AD Out	Rib1 Out	Rib2 Out	Master
CV VCO2	CV VCO3	Gate In	FM In	Sync In	Ext In	CV VCF	CV VCA	VCF Out	Mix Out	RM X In	RM Y In
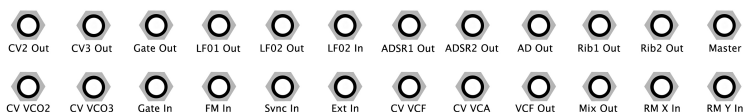
CV VCO1 / CV VCO2 / CV VCO3 – these inputs allow control over all three VCOs using control voltages conforming to the 1V/Oct. standard. With only one input being connected, the signal will be distributed to the following VCOs. By this, connecting a single CV to input **VCO1** allows control over all three oscillators' pitches simultaneously.

CV1 Out / CV2 Out / CV3 Out – these outputs allow control/play of external VCO modules or synthesizers using the Dominion I keyboard or its arpeggiator/sequencer. With **Voice** mode being set to Ǝ, outputs **CV2** and **CV3** carry separate voices when playing polyphonically.

Gate In – apply a 5 volts gate signal here to trigger the envelopes. With **Reset** and/or the one-shot-function being active for one or both LFOs (see page 15), the external gate signal will also trigger these functions.

Gate Out – this jack outputs a gate signal being generated by Dominion I's keyboard or its arpeggiator/sequencer. It may be used to trigger an external envelope.

FM In – an external signal applied to this input will replace **VCO3** as the source of frequency modulation for oscillators 1 and 2 (see page 10). The settings for **Select** and **Freq Mod** will remain valid. Inserting a cable here will interrupt the internal FM-connection.

Sync In – an external signal applied to this input will replace **VCO1** as the sync reference (see page 9). The setting for the **Sync** selector will remain valid. Inserting a cable here will interrupt the internal sync-connection.

Ext In – use this input to feed an audio signal into the **Mixer**, replacing the noise generator (see page 11). The corresponding level is set using the **Mixer** control **Noise/Ext**. The internal noise generator is being deactivated as soon as a cable is inserted into this jack.

CV VCF – this CV-input allows modulation of the filter frequency with a control voltage. This modulation is added to existing modulation signals of the envelope, LFO and ribbon.

CV VCA – this CV-input addresses the VCA by a control voltage. This signal may open the **VCA** even if no note is being played on the keyboard.

VCF Out – this jack outputs the signal after passing through the filter section (but prior to the **VCA**). This signal may be fed into a modular system for example.

Mix Out – this jack outputs the oscillators' signal after the **Mixer** stage (but prior to the **VCF** and **VCA**). This signal may be fed into a modular system for example.

RM X In / RM Y In – these two input jacks allow one or two external signals to be fed into the analogue ring modulator. A signal being fed to **RM X In** replaces the signal of **VCO1**, while a signal being fed to **RM Y In** replaces the signal of **VCO2**. Both signals can be controlled in level using the **VCO1** and **RM Y** controls in the **Mixer** section.

LFO1 Out / LFO2 Out – these jacks carry the waveform outputs of both LFOs for a possible modulation of external targets.

LFO2 In - this input jack allows modulation of **LFO2**'s speed using an analogue control voltage.

ADSR1 Out / ADSR2 Out / AD Out - these jacks carry the signals of all three envelopes for a possible modulation of external targets.

Rib1 Out / Rib2 Out - these jacks carry the signals of both ribbon controllers for a possible modulation of external targets.

Master – this jack outputs the same signal as the **Audio OUT** jack on the rear panel. This output may serve for a connection to Eurorack modules.

REAR PANEL CONNECTIONS

Power – attach the supplied power chord to this connector. Use the adjacent switch to switch Dominion I on and off.

Midi IN / Midi OUT / Midi THRU – these three connectors allow integration of Dominion I into a MIDI setup.

Sustain FSW – connect a hold pedal (closing type) to this jack.

Audio OUT – this jack carries the monophonic output signal of Dominion I to be connected to a mixing console, an audio-interface or an amplifier.

MIDI IMPLEMENTATION

Model: MFB Dominion I, Version: 1.0, Date: 6/26/2014

Function		**Value/Remark**
Basic Channel		T/R: 1-16, stored, TX = RX
Mode[1]	Default	T/R: 4
	Messages	T/R: x
	Altered	T: ***, R: x
Note Number		T/R: 36-127 [2]
	True Voice	T: ***, R: 36-127 [3]
Velocity	Note On	T: 9nh, 1-127, R: 1-127
	Note Off	T/R: x
Aftertouch	Channel	T/R: o
	Key	T/R: x
Pitch Bender		T/R: o, 7 bit resolution
Control Change	1, 64	T/R: o, Mod Wheel, Sustain
Prog Change		T/R: 0-127
System Exclusive		T/R: o
System Common	Song Pos	T/R: x
	Sel	T/R: x
	Tune	T/R: x
System Realtime	Clock	T/R: x
	Commands	T/R: x
Aux Messages	Local On/Off	T: x, R: o
	All Notes off	T: x, R: o (123)
	Active Sense	T/R: x
	Reset	T/R: x
	All Sound Off	T/R: x

Index: o: Yes, x: No, T: Transmitted, R: Recognized

Notes:
[1] Modes: 1(Omni on/Poly), 2(Omni On/Mono), 3 (Omni Off/Poly), 4 (Omni Off/ Mono)
[2] also transmitted with active arpeggiator, transposed keyboard range limited to 36–96
[3] limited by VCOs' octave and tune settings

Declaration of Conformity
CE Information (Europe)
This product has been tested and found to comply with the following Harmonised European Standards:
EN 55013: 2003, CENELEC EN 55020: 2003, EN61000-3-2: 2000 and EN 61000-3-3: 1995 + corr. 1998
This product complies with the radio frequency interference requirements of the Council Directive 89/336/EC.

FCC Information (U.S.A.)
1. Important: Do not modify this unit! This product, when installed as indicated in this manual, meets FCC requirements. Modifications not expressly approved by MFB may void your authority, granted by the FCC, to use this product.
2. Important: When connecting this product to accessories and/or another products use shielded cables. Cable/s supplied with this product must be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. Note: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class „B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in this manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit „Off" and „On", please try to eliminate the problem by using one of the following measures: Relocate this product or the device that is being affected by the interference. Utilize power outlets that are on branch (circuit breaker or fuse) circuits or install AC line filter/s. In case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, try a coaxial type cable. If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. The statements above apply only to products distributed in the USA.