Dominion 1
MFB Analogue Synthesizer
Operating Manual
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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.
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**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.
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 semitones.

The Tune controls for VCO2 and VCO3 set the tuning for the respective oscillators. The range is approx. ±13 semitones.
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
- Saw tooth – saw tooth to triangle
- 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)

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.
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).
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 12 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 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.

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.
ENVELOPES

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**

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.

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
- OAR – 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

**CRA** – 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.
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 **00 00 00 00** 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 **00**.

**Note:** With velocity curve **00** being selected (see page 23), the routing settings will not apply to the modulation targets.
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 (0000 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 (1) 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)
- l-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 (Pb 1 to Pb 3). Selecting Pb 1 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 01n 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

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.
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
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.O.). 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\(^{\text{th}}\). The initial setting is 16\(^{\text{th}}\).

**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**

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 000 000 000 000. 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.

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 3, 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

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

**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.