

MAP1
MIDI Arpeggiator
User's Manual

M A M
MUSIC AND MORE

► Index

Features	Page	2
Overview of Controls	Page	3,4
Right Arrow Button	Page	3
Up Arrow Button	Page	3
Down Button	Page	3
Up Button	Page	3
Store Button	Page	4
Preset Button	Page	4
Tempo Button	Page	4
Run Button	Page	4
Setting Up and Connecting Equipment to the MAP1	Page	5
Arpeggio Functions	Page	6
Styles	Page	6,7
Octave	Page	7
Steps	Page	7
Chord	Page	8
Split Point	Page	8
Arp Side	Page	8
Run Note	Page	8
Stop Note	Page	9
Velocity	Page	9
Legato	Page	9
Hold	Page	9
Random	Page	9
MIDI In	Page	9
MIDI Out	Page	10
MIDI Clock	Page	10
Program	Page	10
System Exclusive Dump	Page	10
Safety instructions	Page	11

► **Features**

The **MAP1** (MIDI Arpeggiator) is a MIDI arpeggiator which, in addition to the "classical" arpeggios (playing a series of notes either upwards or downwards), also features so-called "styles" which enables its use as an automated accompaniment unit. The **MAP1**'s compact design makes it easy to place the unit on top of a master keyboard or synthesizer. All of the external connection points are conveniently located on the rear of the unit.

The **MAP1** arpeggiator plays several notes which it receives at once (i.e. a chord) one after the other.

It can be configured to play the notes in a certain order (e.g. from the lowest note to the highest, or vice versa), or to change the dynamics, tempo or note length, and can also vary the region where the arpeggio is played. All of these configuration parameters can be stored in one of the **MAP1**'s memory locations, and loaded when needed.

The **MAP1** has 64 preset memories, which can be selected via MIDI program change commands. Each preset in the **MAP1** can be individually configured to accept or reject MIDI program change messages.

The presets can be stored via MIDI system exclusive to a sequencer or MIDI file player, and loaded back into the **MAP1** later.

All MIDI data received via the **MAP1**'s MIDI IN port, including data which is not altered by the **MAP1**, are sent out again via the unit's MIDI OUT port (e.g. pitch bend, modulation, volume, etc.).

The **MAP1**'s MIDI THRU port retransmits all of the data received via the MIDI IN port without alteration.

The **MAP1** can play arpeggios either to the left or right of a selectable split point, or over the entire keyboard range.

The arpeggio **Start** and **Stop** functions can be assigned to a MIDI note or controller (e.g. a sustain pedal).

The **Hold** and **Legato** functions can be controlled via MIDI controller messages.

The dynamics of the arpeggios can be controlled via a MIDI keyboard, or generated randomly by the **MAP1**.

The length of the notes varies in certain arpeggio styles.

The **Chord** function allows a mixture of notes and normal chords to be played, dependent on which **Style** is selected in the **MAP1**.

The **MAP1** can be configured to extend an arpeggio by octaves up to plus or minus three octaves.

The number of note steps per measure can be set to "uneven" values via the **Step** function.

The **MAP1**'s tempo generator can be synchronized to an external MIDI clock, or act as a MIDI clock source.

► Overview of controls



Figure 1: *Front Panel*

The following is a description of the **MAP1**'s switches and controls.

Right Arrow Button:

This button moves the active LED one step to the right in the horizontal row of LEDs. The active LED "wraps around" to the leftmost LED in the row after reaching the end.

Up Arrow Button:

This button moves the active LED one step upwards in the vertical column of LEDs. The active LED "wraps around" to the LED at the top of the column after reaching the bottom.

i Note: The active LEDs in the row and column should be thought of as the endpoints of an x/y axis. For example, if the third LED from the left in the row of LEDs is lit, and the second LED from the top of the column is lit, then **MAP1** is set to their intersection, the function **Run Note**. When powered on, the **MAP1** is set to the default function **Arp Style**.

Down Button:

This button decrements the value in the **MAP1**'s display. In most cases, holding this key pressed will cause the value to continuously decrement the value (autorepeat).

Up Button:

This button increments the value in the **MAP1**'s display. In most cases, holding this key pressed will cause the value to continuously increment the value (autorepeat).

Store Button:

This button is used to either store to one of the **MAP1**'s preset memory locations, or to initiate a MIDI SysEx dump. Pressing the key causes the **Store** LED to blink, while the **Preset** LED is either blinking, meaning that one of the current preset's parameters has been edited, or is steadily lit, meaning that nothing has been changed. The display shows the current preset number, which can be changed via the **Down/Up** buttons. Pressing the **Store** button a second time will cause the displayed preset to be overwritten with the **MAP1**'s current configuration. The **Store** operation can be cancelled by pressing either of the **Arrow** keys. In this case, although the configuration will not be written to a preset location, the edited data will still be active. Alternatively, the **Store** operation can be cancelled by pressing the **Preset** button, which will cause the currently edited data to be overwritten by the contents of a preset memory location.

i Note: If the **MAP1** is playing an arpeggio during the **Store** operation, then loading this preset later will cause the arpeggio to begin playing immediately.

If the **MAP1** is displaying "555." in the display (as selected via the function Prog./SysEx), then pressing the **Store** button will initiate a MIDI system exclusive data dump of all 64 of the **MAP1**'s presets via the MIDI OUT port.

Preset Button:

Pressing this button causes the current preset number, "P.1" to "P.64" to be displayed. The **Down/Up** buttons can be used to increment or decrement the preset number, respectively. Pressing the **Preset** button a second time will load the configuration data of the displayed preset location into the **MAP1**'s active memory area. If this button is pressed accidentally, then a press on one of the **Arrow** keys will cancel the preset loading operation, and the display will return to its previous value.

Tempo Button:

When the **Tempo** button is active, then the display shows the current arpeggio tempo in beats per minute (BPM). The **Down/Up** buttons can be used to change the tempo value over a range from 20 BPM to 240 BPM. Pressing **Tempo** again returns the display to its previous state.

Run Button:

When the **Run** button is pressed, the **Run** LED lights, the **MAP1** sends a MIDI start command through its MIDI OUT port, the **Tempo** LED begins to blink in the current tempo, and the unit transmits arpeggios and MIDI clocks via the MIDI OUT port.

A second press on the **Run** button causes the **MAP1** to stop transmitting arpeggios and MIDI clocks, and to send a MIDI stop command. The **Run** LED is extinguished, and data received at the MIDI IN port is sent out via the MIDI OUT port without alteration.

▶ Setting up

Note:

Please be certain to only use the original voltage adaptor with the **MAP1**. Using another adaptor can permanently damage the unit!

Connect your master keyboard, synthesizer or sequencer to the **MAP1**. The MIDI OUT port of the keyboard should be connected to the **MAP1**'s MIDI IN port, and the **MAP1**'s MIDI OUT port should be connected to the keyboard's MIDI IN port. You can, of course, connect a MIDI IN port of an expander module or other piece of MIDI equipment to the **MAP1**'s MIDI OUT port instead of the keyboard.

Please first turn the keyboard on after making the MIDI connections. After the keyboard has finished "booting," you may then connect the **MAP1** to its voltage adaptor. When powered on, the **MAP1** immediately transmits MIDI "all notes off" and "reset all controllers" messages, in order to clear any hanging notes or controllers, and it also sends a MIDI "local off" message to the keyboard, since the **MAP1** will be generating note data itself and sending it to the keyboard.

Of course, if you're not using the keyboard's MIDI IN, then it doesn't matter in which order you turn the equipment on.

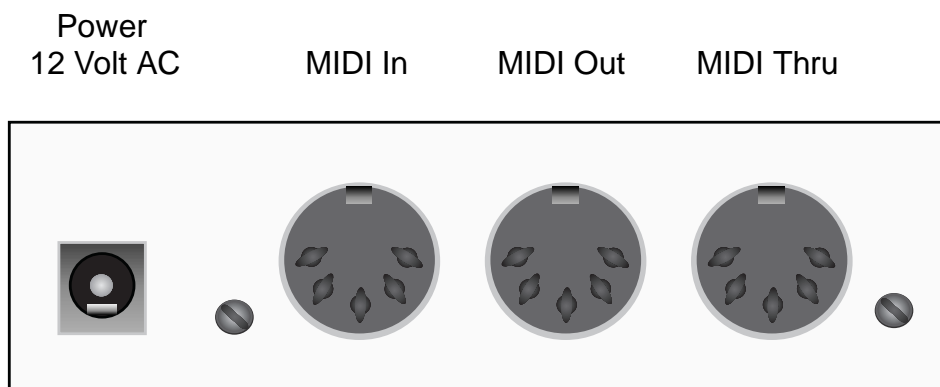


Figure 2: *Rear connections on the MAP1*

» Arpeggio functions

i Note: The **MAP1** has 26 different Arpeggio Styles. These can be selected with the **Down/Up** keys. After the last **Style** ("Rt.B"), the list is repeated, with the addition of a period in the first position of the name in the display. The period is an indicator that in addition to the arpeggios, the keys currently pressed in the arpeggio region are also emitted. In order to keep the **MAP1** in its convenient compact form, it was necessary to abbreviate the display in this fashion, but you'll find that this "shorthand" notation soon becomes almost second nature.

The following is a description of each of the **MAP1**'s various arpeggio styles:

Style: LUP / Ldn / LUd (latch up, latch down, latch up and down)

The latch mode can "memorize" up to eight notes and the order in which they were played. If a split point has been set (see Page 8), then the latched notes are also controlled by the notes played on the non-arpeggiated side of the split point.

For example, suppose the arpeggio is active on the right of a split point set at C4, and the **Hold** function is activated. Now, in order to start an arpeggio, the root note of the chord to be arpeggiated must be pressed and held. To input a C Major chord, we would press and hold the root tone of C, and then press E and G, which we would not need to keep pressed down. Now, if we play a note of C to the left of the split point, the **MAP1** will play a C Major arpeggio. If we now change the note to the left of the split by playing say, an A, the **MAP1** will change the arpeggio from C Major to A minor. In other words, the **MAP1** is able to distinguish between Major and minor key arpeggios.

"LUP" (latch up) means that the arpeggio is played from the lowest note to the highest note and then begins again at the lowest note (keeping in mind that there might be an additional "octaved" arpeggio to be played).

"Ldn" (latch down) is the opposite of "LUP" in that the arpeggio is played from the highest note to the lowest.

"LUd" is a combination of "LUP" and "Ldn", in which the arpeggio is first played from the lowest to the highest note, and then back down from the highest note to the lowest, after which the entire process begins again.

Style: UP / dn / Udn / Udr (up, down, up and down, up and down rhythmic)

These are the "classic" arpeggio styles, as found in older synthesizers. "UP" plays an arpeggio from the lowest note to the highest note, "dn" from the highest note to the lowest, while "Udn" alternates between "UP" and "dn". The **Style "Udr"** is like "Udn" with the change that the pauses between the notes in the arpeggio varies.

Style: UP. / dn. / Udn. / Udr. (up, down, up and down, up and down rhythmic)

When a period is displayed in the last position of the display, that the notes of the arpeggio have variable lengths. The lengths are generated randomly by the **MAP1**. Also, when an arpeggio of this type is held via the **Hold** button, the arpeggio does not cease immediately when the **Hold** function is released, but instead plays until the last note of the arpeggio. Otherwise, these styles are the same as the UP/dn/Udn/Udr styles described above.

Style: UP2 / dn2 / Ud2 / rnd (up, down, up and down, random)

In these styles, the sequence of notes in the arpeggio is somewhat different. For example, if the C Major chord C4-E4-G4-C5 is played in **Style "UP2"**, the **MAP1** will produce the arpeggio C4-E4-G4-E4-G4-C5-G4-C5. In "**dn2**", the same chord will produce the arpeggio C5-G4-E4-G4-E4-C4-E4-C4, while the **Style "Ud2"** would produce C4-E4-G4-E4-G4-C5-G4-C5-G4-E4-C4-E4-C4. The **Style "rnd"** is similar to "**Ud2**", with the difference that change from note to note varies in length.

Style: UP2. / dn2. / Ud2. (up, down, up and down, up and down)

As before, a period is displayed in the last position of the display indicates that the notes of the arpeggio have variable lengths. The lengths are generated randomly by the **MAP1**. Also, when an arpeggio of this type is held via the **Hold** button, the arpeggio does not cease immediately when the **Hold** function is released, but instead plays until the last note of the arpeggio before stopping. Otherwise, these styles are the same as the UP2/dn2/Ud2 styles described above.

Style: At1 / At2 / ... / At7 / At8 (Autotrigger modes 1 through 8)

The autotrigger styles repeat a played chord with varying note lengths and dynamics.

i Note: The autotrigger styles "**At.1**" through "**At.8**" have factory installed dynamic patterns, and to hear the different, factory programmed dynamics the **Velocity** should be set to the value 127 with these styles.

Octave: -3o. / -2o. / -1o. / oFF / 1oc. / 2oc. / 3oc. (-3 octaves to +3 octaves)

If the **Octave** mode is active, then the **MAP1** extends an arpeggio with a copy of the same arpeggio, one two or three octaves above or below the chord being input. Note that octaves which fall within the non-arpeggiated side of an active split point will not be played. For example, if the arpeggio is active to the right of a split point, then it would be better to use the octave settings +1, +2 and +3. No additional octaves are played in the setting "**oFF**".

Step: St.1 / St.2 / ... / St.8 (note steps 1 through 8)

The note step subdivides the range of notes in an arpeggio. Small values make an arpeggio faster, large values slow an arpeggio down. In the setting "**St.4**", an arpeggio has eight notes per measure.

Chord: on / oFF

If Chord mode is activated, then the **MAP1** emits the notes of an "arpeggio" according to the current style. For example, in the autotrigger styles with **Octave** mode activated, all of the notes are played simultaneously, and in other styles, chords alternate with single arpeggio notes.

Split Point: oFF / 'c-1 / ... / 'F9 (split point off / MIDI note C1 though F9)

It is possible to set a split point over the entire range of the keyboard, from the lowest C# to the highest F#. If it is desired that the **MAP1** plays arpeggios over the entire range of the keyboard, then it is possible to set the split point to "oFF". However, if a split point is set, then the range on one side of the split point (including the split point itself) will be arpeggiated, while the other side will be played back normally. The **Arp Side** parameter, described below, determines which side of the split point will be arpeggiated.

ARP Side Lft. / rht. (arpeggio side left / right)

This simple parameter determines which side of a split point is to be arpeggiated. "Lft." means that arpeggios are to be played in the region to the left of the split point, and "rht." means that they are to be played in the region to the right.

Run Note: oFF / SUS. / ALL / c-1 / ... /G9 (start note off / sustain / all notes / C1 to G9)

The **Run Note** function makes it possible to configure the **MAP1** to start an arpeggio when a certain key on the keyboard is pressed, or when a MIDI sustain pedal message is received. For example, if the **Run Note** is set to "c4" then pressing the C4 key on the attached MIDI keyboard will start the arpeggiator. After the arpeggio has started, then the key assigned to be the **Run Note** can be played normally.

If **Run Note** is set to "SUS." then pressing the sustain pedal will start the arpeggiator. In this mode, the sustain pedal also takes on the role of the **Hold** function after the arpeggio has started. If **Run Note** is set to "ALL", then pressing an arbitrary MIDI key will start the arpeggiator.

Stop Note: oFF / SUS. / ALL / c-1 / ... / G9 (start note off/sustain / all notes / C1 to G9)

In analogy to the **Run Note** function, the **Stop Note** setting allows the setting of a MIDI key to stop a running arpeggio. After the arpeggio has stopped, then the key assigned to be the **Stop Note** can be played normally. If **Stop Note** is set to "**SUS.**" then pressing the sustain pedal will stop the arpeggiator. As before, the sustain pedal also takes on the role of the **Hold** function after the arpeggio has stopped. If **Stop Note** is set to "**ALL**", then pressing an arbitrary MIDI key will stop the arpeggiator.

i Note: If the same key is assigned to be both the **Run Note** and the **Stop Note**, then it follows that this key cannot be played normally, since it both starts and stops the arpeggiator. Similarly, setting both **Run Note** and **Stop Note** to "**SUS.**" means that the sustain pedal cannot be used for the **Hold** function.

Velocity: rnd / dYn / 1 / ... / 127 (random / dynamic / 1 through 127)

The **Velocity** setting is for all MIDI notes transmitted by the **MAP1**. This includes not only arpeggios, but also "normal" notes in the case where a split point has been set. The setting "**rnd.**" generates random velocity values, "**dYn.**" transmits the velocity as was played, and "**1**" through "**127**" set a fixed velocity. Note that the fixed velocity values can still be influenced by the **Random** function described below. Note that the autotrigger **Styles** "**RL. 1**" through "**RL.8**" have factory installed dynamic patterns, and that **Velocity** must be set to the value "**127**" with these styles.

Legato: on / oFF

Normally, before the arpeggiator plays a note, it sends a MIDI note off message for the preceding note. If the **Legato** function is turned on, the **MAP1** first turns off the preceding note after a note on message for the current arpeggio note has been sent. With a polyphonic sound, this setting will generally produce the familiar legato style of playing. In the case of a monophonic sound, the usual effect is that the new note won't cause the instrument to generate a new ADSR-envelope. This is, of course, dependent on the architecture and/or programming of the given synthesizer or sound module to which the arpeggiator is being applied.

Hold: on / oFF

If **Hold** is turned on, then the **MAP1** will play an arpeggio continuously (that is, it isn't necessary to hold a chord pressed down manually). If **Hold** is turned "**oFF**", then an arpeggio will either be stopped immediately when the chord is no longer being pressed down. When **Hold** is turned off in certain arpeggio **Styles**, the arpeggio is first played to its conclusion before the arpeggiator stops.

Random: on / oFF (random value generator on / off)

The **Random** setting generates random velocities, MIDI notes or orders of arpeggio playback, dependent on which arpeggio **Style** is active.

MIDI In: 1 / 2 / ... / 16 / oni. (MIDI in channel 1 through 16 / omni mode)

All MIDI data received on the channel set in the MIDI In parameter, with the exception of system data, are routed out through the **MAP1**'s MIDI OUT port on the configured MIDI Out channel. In omni mode ("oni"), the **MAP1** "listens" to all 16 MIDI channels.

MIDI Out: 1 / 2 / ... / 16 (MIDI out channel 1 through 16)

The MIDI Out parameter determines which MIDI channel is used for data sent through the **MAP1**'s MIDI OUT port. This is independent of which MIDI in channel the data was received on. Note that if the **MAP1** is sending note data at the time that the MIDI Out channel is changed, that the data sent on the old output channel are cancelled (via note off messages), and are then resent via the new MIDI Out channel.

MIDI Clock: int. / Etn. (MIDI clock internal / external)

If the MIDI Clock parameter is set to "int." then the **MAP1** sends MIDI clock impulses along with the other data through the MIDI OUT port.

If MIDI Clock is set to "Etn." then the **MAP1**'s tempo generator must be provided with a MIDI clock stream via its MIDI IN port.

MIDI start, stop and continue commands are sent out by the **MAP1** regardless of the MIDI Clock setting, and can be received as well.

Program: on / OFF / SYS. (MIDI program change on / off / system exclusive dump)

The Program parameter determines whether the **MAP1** responds to / sends MIDI program change messages. This parameter can be set for each individual preset, and always influences both the MIDI in and MIDI out.

System Exclusive Dump

If the function "SYS." is selected via the **Up** button, the **Store** LED will begin to blink, which means that pressing the **Store** button will initiate a MIDI system exclusive dump from the **MAP1**. The **MAP1** sends each of its 64 presets as an individual dump via its MIDI OUT port. During an active dump, the **MAP1**'s display will show only two dashes. Upon completion of the dump, the **MAP1** returns to whatever preset was currently loaded when the dump was started.

i Note: ~~Alle Einstellungen sind pro Preset individuell speicherbar, um größtmögliche Flexibilität zu bekommen.~~

Wichtige Sicherheitsanweisungen

1. Lesen Sie alle Anweisungen, bevor Sie das Gerät benutzen.
2. Benutzen Sie das Gerät niemals in der Nähe von Wasser, z.B. neben einer Badewanne, einem Waschbecken, einem Küchenabfluß, in einem feuchten Keller oder neben einem Swimming Pool.
3. Das Gerät sollte so aufgestellt werden, daß eine ausreichende Frischluftzufuhr immer gewährleistet ist.
4. Das Gerät sollte nicht in der Nähe von Wärmequellen, z.B. Heizkörpern, Öfen oder anderen hitzeentwickelnden Geräten aufgestellt werden.
5. Das Gerät darf nur an genormte Steckdosen angeschlossen werden.
6. Plazieren Sie das Gerät so, daß keine Gegenstände, Flüssigkeiten oder Staub in das Geräteinnere dringen können.
7. Wird das Gerät über einen längeren Zeitraum nicht benutzt, ziehen Sie das externe Steckernetzteil aus der Steckdose.
8. Das Gerät sollte von einem qualifizierten Fachpersonal gewartet werden, wenn:
 - das externe Netzteil beschädigt ist oder
 - Gegenstände oder Flüssigkeiten in das Gerät eingedrungen sind oder
 - das Gerät im Regen war oder
 - das Gerät infolge eines Sturzes beschädigt wurde oder
 - das Gerät in seiner normalen Funktionsweise gestört sein sollte.
9. Nehmen Sie Reparaturen nicht selbst vor, sondern lassen Sie diese von einem qualifizierten Techniker durchführen.

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