nuro303

www.acidlab.de

Declaration of Conformity

Manufacturer:	Klaus Süßmuth Elektronik	
Manufacturer´s Address:	Karlsbaderstr. 7 D-83024 Rosenheim, Germany	$C\epsilon$

The manufacturer hereby declares that the product

Product Name: **Bassline, Miami, Bombass, Autobot**
Model Numbers: **all**
Product Options: **all**

complies with the following European directives:

2006/95/EC, Low voltage directive (LVD)
2004/108/EC, EMC-Directive

The applied standards certifying the conformity are listed below:

Electromagnetic Emission: EN 61000-6-3, EN 55011

Electromagnetic Immunity: EN 61000-6-1

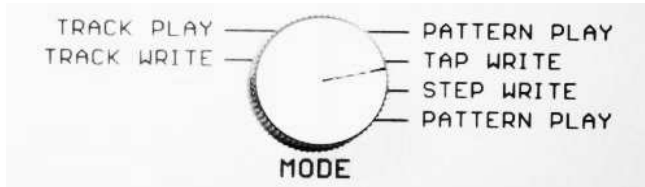*Safety (Low Voltage Directive) :*   EN 61010-1

June 29, 2011
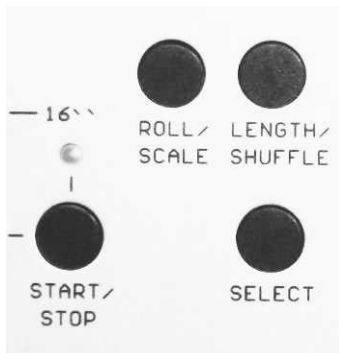
Rosenheim, Germany

Klaus Süßmuth

Sequencer

Modes

In all six modes the playing of the sequencer is guaranteed. You can change the modes, while the sequencer is running. Switching into another mode, takes place after the last step of the current pattern.
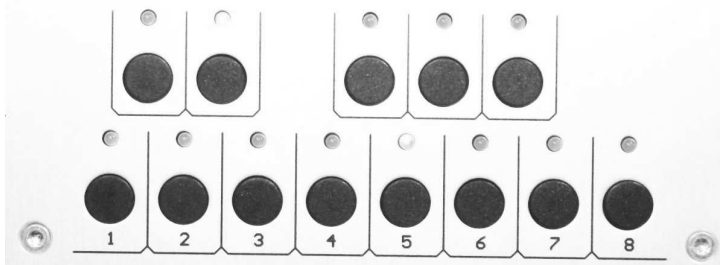
Start/Stop

Start/Stop works in each mode, and puts the pattern back to the starting point step 1 of the current pattern.

Pattern-Group

12 pattern groups are available. One pattern Group contains 8 patterns.

Pattern

The current pattern is indicated with the LEDS 1-8. A pattern consists of maximally 16 steps.

Altogether 96 patterns are available (12 pattern groups with 8 patterns each).

Relation: Note / Slide / Accent

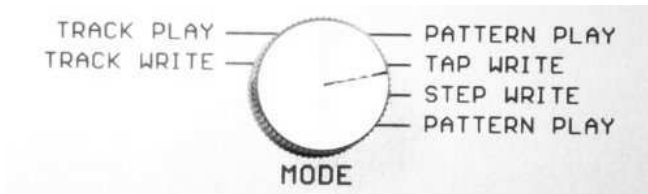*5 possible combinations:*
no Note/Break (Rest)
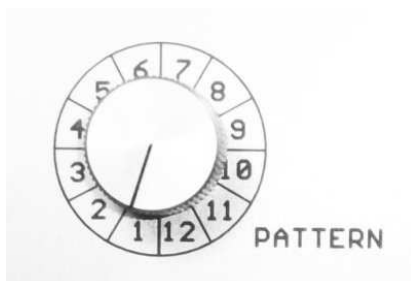Note
Note + Slide
Note + Accent
Note + Slide +Accent

*Slide and Accent can just be programmed together with a note!*

Pattern Play

In the Pattern Play mode, patterns are played. The active step lights up in the the upper LED row. The light shows the length of the Pattern (1-16), too.

The pattern is selected from one of the 12 pattern groups. You can change the pattern group at all times with the rotary switch, and the switching into the new pattern group takes place after the last step of the current pattern.

Each of the 12 pattern groups has 8 patterns to select. You select the pattern with the lower keyboard row.
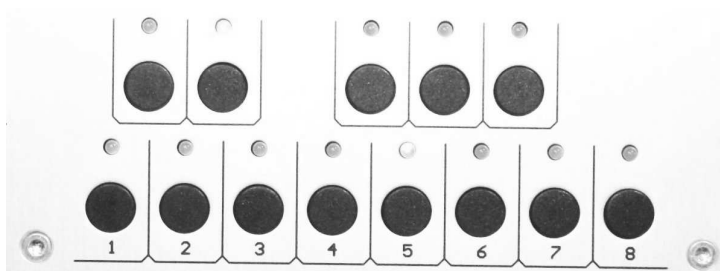
The active pattern is indicated with a flashing LED over the button. When pressing a new pattern, this LED lights continuously. After the pattern changed after the last step, to selected pattern, this LED flashes again.

Altogether 96 patterns are available (12 pattern groups with 8 patterns each).

Pattern Chaining

In the Pattern Play mode, it is possible to chain patterns from a pattern group:

If pattern 1 is active, and repeats, pattern button 1 is kept pressed again, and the pattern button 2 is pressed additionally. Both LEDs from Pattern 1 and from Pattern 2 light. Both are played repetitive. The LED of the active pattern flashes and the other one lights continuously. This chaining of two neighbouring patterns is possible with the patterns 1-2, 2-3, 3-4, 5-6 and 7-8.

Chaining of neighbouring patterns is possible up to all 8 pattern of the pattern group. Even the chaining over the last pattern to the first pattern is possible!

Possible pattern chainings:

2-3, 4-6, 3-7, 1-8....., 7-3

All pattern LEDs between the two pressed pattern buttons lights up continuously, and and the LED of the active pattern flashs.

The pattern chain repeats continuously, after the last selected pattern:

Chain of 4 pattern:

Selected buttons: 2-5   patterns: 2, 3, 4, 5; 2, 3, 4, 5....

Chain from 2 Pattern:
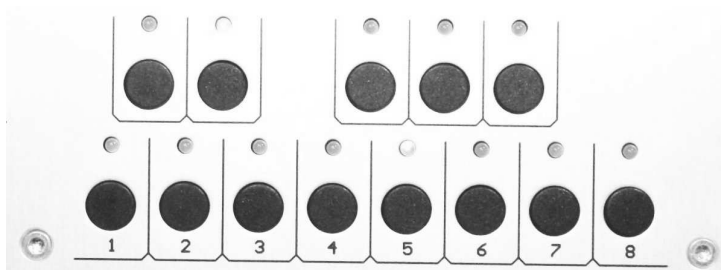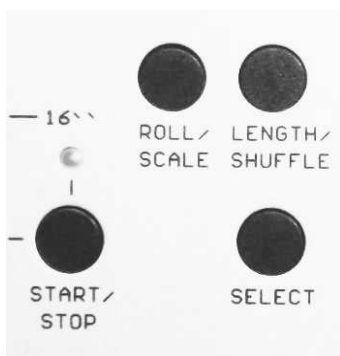
Selected: 7-8   patterns: 7, 8; 7, 8...

Pattern Copy + Paste (Pattern Play Mode)

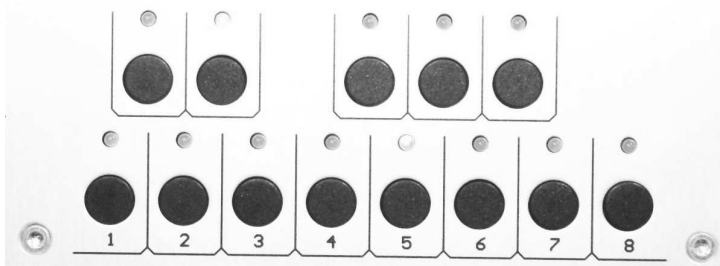In Pattern Play Mode, it is possible to copy patterns.

Copy Function

To copy a pattern, press one of the pattern buttons (1-8) while holding down the Select- button. The pattern is now saved to the buffer memory and will remain there until another pattern is selected.

Paste Function

To paste a pattern, press one of the pattern buttons (1-8) while holding down the Write/Next button. This pattern will be overwritten with the pattern from the buffer memory.
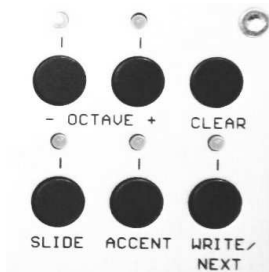
Patterns can also be copied to another Pattern Group. To do so, select the new group with the rotary switch and then use the Paste Function.
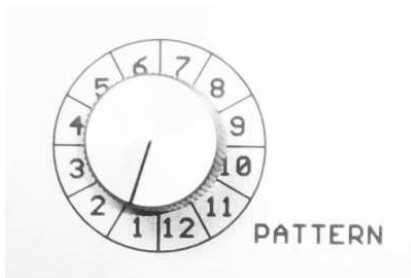
Manual Slide and Accent (Pattern Play Mode)

In Pattern Play Mode, it is possble to add Slide and Accent manually, with the pressing of the Slide or Accent buttom.

The pattern from the buffer memory will not be overwritten.

Pattern Write

The memory of a new Autobot is empty, and new patterns must be programmed!

There are two Pattern Write modes:

Pattern Write Step and Pattern Write Tap

Switching from the Pattern Play mode in the Pattern Write Tap or Pattern Write Step mode, is possible during operation. Selected chains from the pattern Play mode, are transferred in the Pattern Write Tap mode, and are played repetitive. The whole pattern chain can be edited in the Pattern Write Tap mode. With a change in the Pattern Write Step mode, only the last active pattern repeats and can be edited.

E.g. if the chain 5-7 is just playing the pattern 6 in the Pattern Write Tap mode, and it is switched into the Pattern Write Step mode, then the Pattern 6 is selected for the Pattern Write Steps mode, and can be edited.

The selection of the pattern, that should be changed, always takes place in the Pattern Play mode! In the Pattern Write mode, the pattern can be edited.

Pattern Write Tap mode can edit singel pattern and a chain of pattern! Pattern Write Step mode can only edit singel pattern!

Pattern Write Tap

In the Pattern Write Tap mode, it is possible it to change the programming of pitch, note, Slide and Accent "live". The selection of the pattern or the pattern chain that should be edited, takes place in the Pattern Play mode. The upper LED row indicates the active step, as in the Pattern Play mode. The lower 8 buttons of the keyboard indicates the active pattern with a flashing LED, as in the Pattern Play mode. The LEDs of the keyboard indicate the pitch of the playing notes:
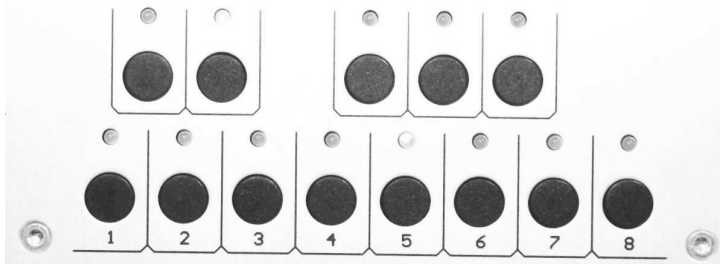
With the pressing of a button of the keyboard, you set a note with the corresponding pitch on the step. By continuous pressing of a button, this corresponding note is programmed on several steps. You can add Accent, Slide and Octave Up/Down with the corresponding buttons to the programmed notes.
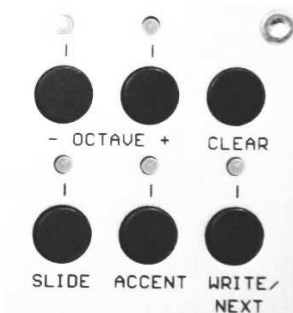
The LEDs over the buttons indicate the programming of Slide, Accent, Oktave Up/ Down on the active note.

Octave Up/Down, Accent and Slide can only be programmed, if notes are present!

If a note is unwanted, it can be deleted with Clear in its active moment. Accent, Slide and Octave Up/Down are deleted too. If the button Clear is kept pressed over several steps, then all notes of this steps are deleted.

If the button Clear is kept pressed for a whole cycle, the whole pattern or the whole pattern chain is deleted.

If you change the pitch of a programmed note by pressing a button of the keyboard, the programmed Octave Up/Down, Slide and Accent are kept. Only the pitch is overwritten with the new value. When pressing the buttoms Slide and Accent, the previous programming changes (toggles). The Octave Up/Down buttom add or subtract a octave.

buttom	Zustand LED		Octave-Offset
	- Octave	+ Octave	
Octave +	off	flashes	+ 2 Octaves
Octave +	off	constant on	+ 1 Octave
---	off	off	----
Octave -	constant on	off	- 1 Octave
Octave -	flashes	off	- 2 Octaves

As described in the table, it is possible to shift the pitch of each note with the buttoms Octave Up/Down between the 5 octaves. Without the Octave Up/Down buttons it is always programmed in the middle octave (no LED lights).

Programming Pattern Length (Pattern Write Tap Mode)
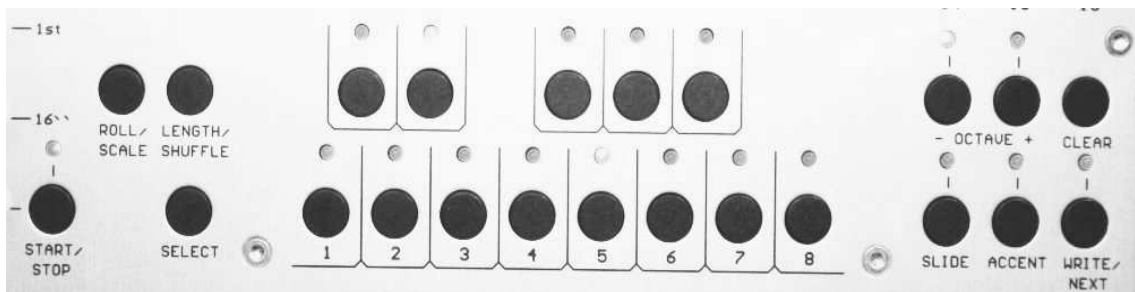
When you press the buttom Lenght, the LEDs 1-8 of the row light. Now you can select the last step 1-8, and the pattern length of your active pattern. You press one buttom 1-8 of the keyboard, and this step is selected as the last step of the pattern. E.g. step 3. Now the Pattern repeats after the third step, and is 3 steps long. Press the buttom Length twice, and the LEDs 9-16 lights. Now you can select the pattern length between 9-16. The programmed pattern length is transferred to the other modes. The not played steps stay in the memory.

Programming Scale (Pattern Write Tap Mode)

Press the Roll/Scale buttom while holding down the Select button.
Now you can select the step 1-4, and the pattern scale of your active pattern.
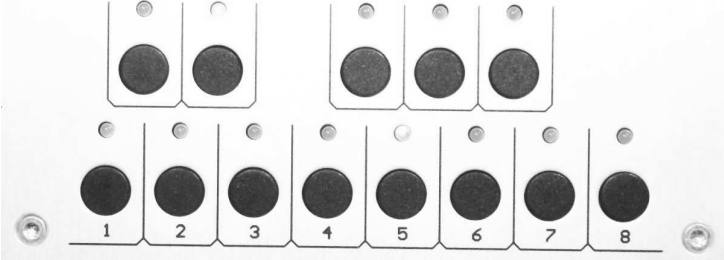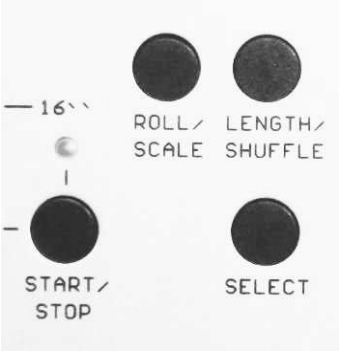
The Scale of the active pattern will be saved to the buffer memory.
Shuffle can just be changed when the LED of Step 1 lights (4/4-Scale).

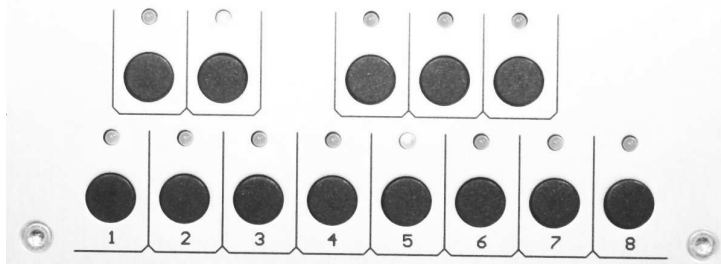## Programming Shuffle (Pattern Write Tap Mode)

The Autobot has two kinds of Shuffle:

- The first kind of shuffle delays the even numbered steps (2, 4, 6, ...).

    This is similar to the common shuffle found on the 909.

- The second kind of shuffle delays steps 3, 7, 11 and 15. This second kind of shuffle is similar to the one on the CR-8000.

    Both shuffles can be applied simultaneously.

    Each of the two shuffles can be adjusted over a range of 4 degrees.

    To do so, press the Select and the Length/Shuffle buttons at the same time.

LEDs 1-4 of the step buttons will now indicate the shuffle setting of the first kind of shuffle.

LEDs 5-8 indicate the shuffle setting of the second kind of shuffle.

Keeping the Select and Length/Shuffle buttons held, you can now press the corresponding Step buttons 1-4 or 5-8 to adjust the shuffle.

When shuffle is set to step 1 and step 5, no shuffle is present.

If the Scale is changed, the shuffle settings return to the default setting (no shuffle)!

Pattern Write Step

With the mode rotary switch you switch into the Pattern Write Step mode, without stopping the equipment. In contrast to the Pattern Write Tap mode, only a single pattern can be played and edited. The pattern is taken with the time of switching. As in the Pattern Play mode, a flashing LED of the lower 8 buttons of the keyboard indicates the active pattern. As in the Pattern Write Tap mode, pitch, Octave Up/Down, Accent and Slide, can be edited, but only for a selected step individually. In addition there is the possibility of the function Roll in the Pattern Write Step mode. With Roll, you can shift the starting point of the pattern (also with shortened pattern). The pattern length that is programmed, and changes of the function Roll are taken in the Pattern Play mode and in the Pattern Write Tap mode.

Step Selection

When you switch in the Pattern Write Step mode, step 1 is selected. The Pattern keeps running.

Forward:

Press the buttom Write/Next, and the second LED of the LED row flashes. The programming of step 2 is shown on the keyboard.
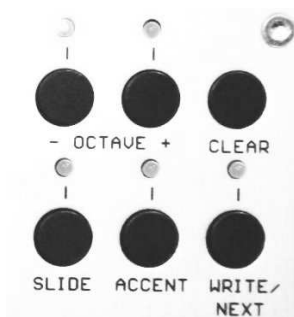

Press the buttom Write/Next again, and the step 3 is shown, etc.. After the last step of the patterns (dependent on the pattern length programming) the cursor jumps back on step 1.

Backward:

Keep the Select buttom held. Now press the Write/Next buttom, and the step selection jumps back to the previous step.

A second possibility to select the step (direct step-selection)

Press the buttom Select continuously, and the first LEDs of the row light.
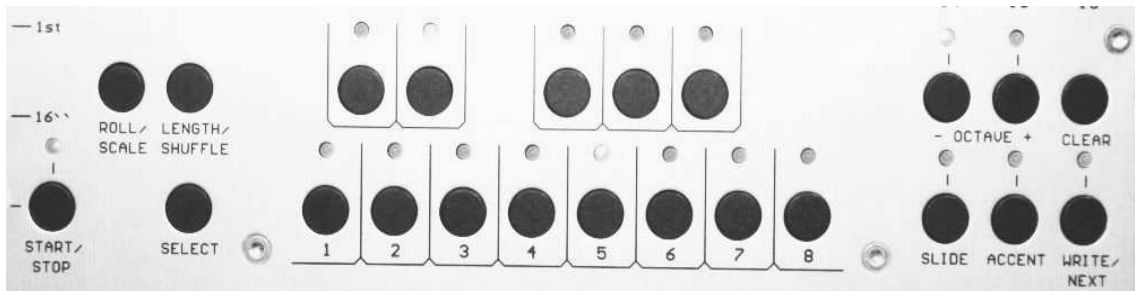
With pressing one of the buttoms 1-8 of the keyboard, the step is directly selected e.g. the step 7. Now this step can be changed.

With pressing the buttom Select twice and holding, the upper eight LEDs 9-16 lights, and with the buttoms 1-8 of the keyboard, the steps 9-16 can be selected directly.

The LED in the upper LED row, shows the active step.

Step programming

The LED row always indicate the active step, with a flashing LED. The played step is shown with the LED running from the left to the right.

The pitch of a programmed note on this step is shown continuously on the keyboard. When there is no note programmed, no LED lights continuously (just the flashing LED indicates the selected pattern 1-8).
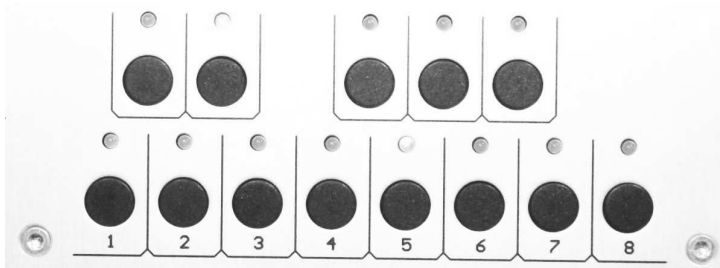
With the buttoms Accent, Slide, Octave Up/Down, you can change or add these to the programmed notes.

The LEDs over the keys indicate the programming of Octave Up/Down, Slide, Accent, of the note.

Oktave UP/DOWN, Accents and Slides can be only programmed, if a note is programmed!

If a note is unwanted, it can be deleted with Clear. Accent, Slide and Octave Up/Down are deleted too. When pressing the buttoms Slide and Accent the programming changes the previous programming (toggles). The buttom Octave Up/Down adds or subtracts a octave.

buttom	LED		Octave-Offset
	- Octave	+ Octave	
Octave +	off	flashes	+ 2 Octaves
Octave +	off	constant on	+ 1 Octave
---	off	off	----
Octave -	constant on	off	- 1 Octave
Octave -	flashes	off	- 2 Octaves

As described in the table, it is possible to shift the pitch of each note with the buttoms Octave Up/Down between the 5 octaves. Without the Octave Up/Down buttons it is always programmed in the middle octave (no LED lights).

In the Pattern Tap Write mode, only one step is edited and indicated!

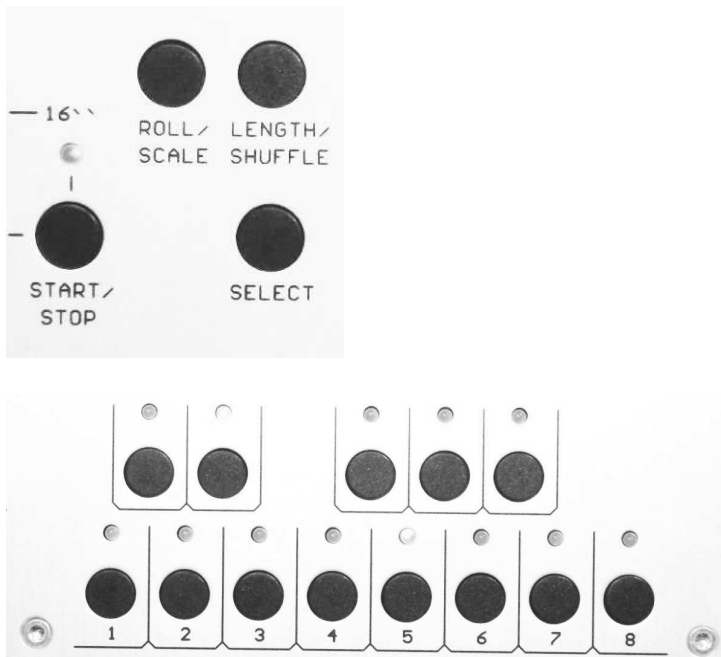## Programming Pattern Length (Pattern Write Step Mode)

When you press the buttom Lenght, the LEDs 1-8 of the row light. Now you can select the last step 1-8, and the pattern length of your active pattern. You press one buttom 1-8 of the keyboard, and this step is selected as the last step of the pattern. E.g. step 3. Now the Pattern repeats after the third step, and is 3 steps long. Press the buttom Length twice, and the LEDs 9-16 lights. Now you can select the pattern length between 9-16. The programmed pattern length is transferred to the other modes. The not played steps stay in the memory.

The Pattern length programming is as in the Pattern TAP Write mode!

Programming Scale (Pattern Write Step Mode)

Press the Roll/Scale buttom while holding down the Select button.

Now you can select the step 1-4, and the pattern scale of your active pattern.

The scale of the active pattern will be saved to the buffer memory.

Shuffle can just be changed when the LED of Step 1 lights (4/4-Scale).

The Scale programming is as in the Pattern TAP Write mode!

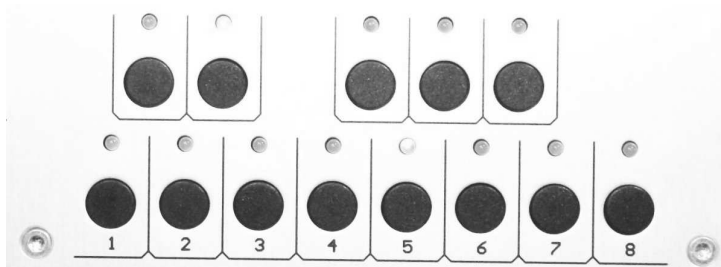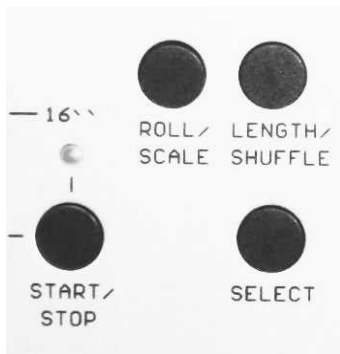## Programming Shuffle (Pattern Write Step Mode)

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   Both shuffles can be applied simultaneously.

   Each of the two shuffles can be adjusted over a range of 4 degrees.

   To do so, press the Select and the Length/Shuffle buttons at the same time.

LEDs 1-4 of the step buttons will now indicate the shuffle setting of the first kind of shuffle.

LEDs 5-8 indicate the shuffle setting of the second kind of shuffle.

Keeping the Select and Length/Shuffle buttons held, you can now press the corresponding Step buttons 1-4 or 5-8 to adjust the shuffle.
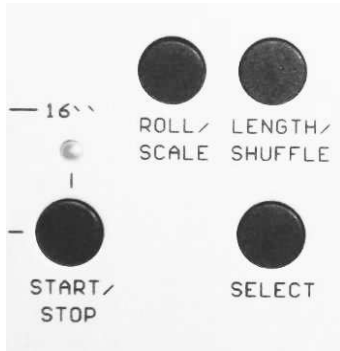
When shuffle is set to step 1 and step 5, no shuffle is present.

If the scale is changed, the shuffle settings return to the default setting (no shuffle)!

The Shuffle programming is as in the Pattern TAP Write mode!

Programming Roll

With the roll function the starting point of a Pattern is shifted. The Pattern length remains unaffected.

The selected step and its cursor is shifted to the left when you press the buttom Roll.

Roll and a pattern with 16 steps:

the starting step sequence: 1,2,3,...15,16 (1 is the original starting point)

press Roll once: 2,3,4,5.......16,1 (2 is the new starting point)

press Roll again: 3,4,5,6......16,1,2 (3 is the new starting point)

Roll and a pattern with 3 steps: (the steps in parentheses are not played)

the starting step sequence: 1,2,3 (4.5.6.7.... 16) (1 is the original starting point)

press Roll once: 2,3,1 (4.5.6.7.... 16) (2 is the new starting point)

press Roll again: 3,1,2 (4.5.6.7.... 16) (3 is the new starting point)

pattern length is increased to 5-Steps: 3,1,2,4,5 (6.7.... 16)

press Roll once: 1,2,4,5,3 (6.7.... 16)

press Roll again: 2,4,5,3,1 (6.7.... 16)

Roll changes the step sequence just in over the programmed pattern length!

Not played steps, with pattern lengths lower than 16, are not shifted in their position.

Track Play Mode

The memory of a new Autobot is empty, and new patterns and tracks must be programmed:

A track is a chaining of different and transposed patterns from a pattern group.

In the Track Write mode the chained patterns are chained to one track 1-12, that can be selected with the rotatory switch.
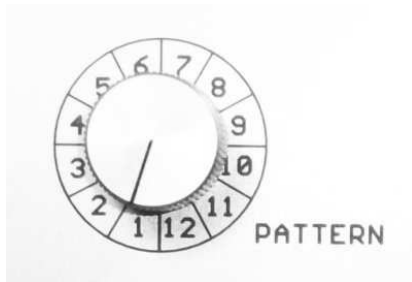
For each pattern group, one track is available. A change to another new track finishes the current pattern and starts the new track with its first pattern.

When you switch in the Pattern Play mode, the pattern 1 of this pattern group is played.

In the Track Play mode you can only select and play the 12 programmed tracks.

With a Start/Stop the track starts again with the first pattern of the track.

Track Write Mode

In the Track Write mode, different pattern from one pattern group are selected, transposed and chained, and form the tracks, that can be played in the Track Play mode. The track that should be programmed or changed is selected in the Track Play mode. With switching into the Track Write mode, the previous track is deleted, and a new track can be programmed.

The selection of the patterns is the same as in the Pattern Play mode.

In one pattern group, there are 8 pattern to select. You select the pattern with the lower buttoms of the keyboard.

The active pattern is indicated with the LED over the buttom and is played repetitive.

Press Write/Next and the current pattern becomes the first pattern of the track.
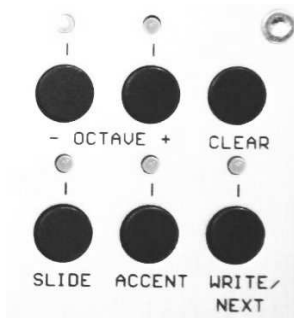
Then a new Pattern can be selected. Press the Write/Next buttom, and the second Pattern is fixed in the TRACK. The selected Pattern is sequentially repeated as in the Pattern Play mode. As in the Pattern Play mode you can chain several Pattern and be written with a Write/Next completely in the track.

For example:

Select Pattern 1   press Write/Next buttom

Select Pattern 1   press Write/Next buttom

Select the chained Patterns 5-8   press Write/Next buttom

In the Track memory, the following Patterns are written:

1,1,5,6,7,8

Switch to the Track Play mode and exactly these six patterns are repeated sequentially, as the Track of this pattern group:

1,1,5,6,7,8;1,1,5,6,7,8; ....

In the Track Write mode, there is the possibility of transposition.

Transposition (Track Write Mode)

The selected and repeating pattern can be transposed. A pitch offset (within a oktave) can be added. While the Pattern 1 repeats, press the Select buttom continuously, and press at the same time one of the 12 possible pitch offsets of the keyboard.
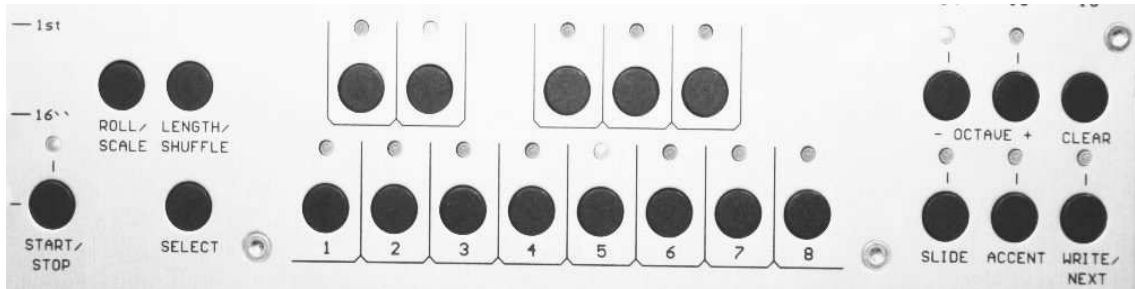
Now the entire pattern is transposed by the pitch offset that has been added.

This transposed pattern repeats and can be changed with the repeated pressing of the Select buttom and a new pitch offset again. This new, transposed pattern, can be programmed like the other patterns, with the Write/Next buttom into the Track.

For example:

Select Pattern 1   press Write/Next buttom

Select Pattern 1   press Select buttom and the e-note buttom of the keyboard

Press Write/Next buttom and switch in the mode Track Play mode:

Pattern 1,

Pattern 1 transposed with 4 half-tones,

Pattern 1,

Pattern 1 transposed with 4 half-tones, ...

Is played, and is written in the Track memory.

The programmed Track of a Pattern Group is deleted with switching into the Track Write mode!

Synchronisation

Midi-Clock to Sync out:

If the synchronisation switch is in the position Midi in, a Midi Clock of a Midi-master synchronises the bassline.

At the Sync socket there is a Sync Out signal that can be used to synchronise other gear with Sync In.

Sync-Slave:

If the synchronisation switch is in the position Sync In, an external Sync Master synchronises the bassline.
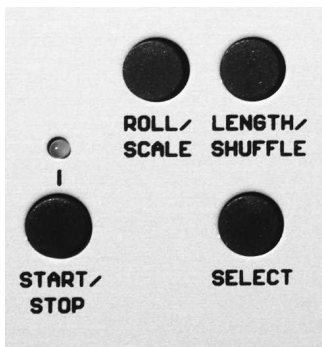
Sync-Master:

If the synchronisation switch is in the position Sync Out, the bassline is the Sync masters and used the internal clock generator.

At the Sync socket a Sync Out signal can be used to synchronize other gear with Sync In.

With Tempo, the speed of the internal clock generator is controlled.

Start and stop with the Start/Stop buttom.

The Sync cable must have all pins connected. Some Midi cables do not have all pins connected, and do not work as a Sync cable!

Midi Mode

The Autobot can also be controlled using MIDI Note Data.

The Bassline must be connected with a Midi-cable on its Midi In, to the Midi Out of the Midi-master (Midi-sequencer, laptop, …).

To use the Bassline3 in Midi Mode, switch off the Bassline using the On-Off slide switch on the right side of the rear panel. Now hold the the Write/Next [Midi] button and switch the Bassline back on with the On-Off slide switch.

You can see that you are in MIDI Mode when the LEDs of Step 1-4 are illuminated.

Repeat the same process to resume using the internal sequencer!

By pressing the Select button and the Write/Next [MIDI] button simultaneously, the Midi-Learn-Mode is activated and will be indicated by the 4 blinking LEDs of Step 1-4.

The first received midi-note sets the midi-channel (1-16) and the four LEDs stops blinking. The midi-channel will be saved untill a new Midi-Learn-Mode is activated.

Note length – Gate

The Midi-note on/off`s received by the Autobot are converted to a gate-signal.

Velocity values of `0´ are equal to a note-off and reset the gate-signal

Pitch - CV

The Midi-information of the pitch is converted to a controll-voltage CV (0-5 Volt; `C´=65,4 Hz).

Slide

When a second Midi-note is received, while the first is playing, the Slide-function is activated.

The pitch changes to the new pitch of the second note.

Accent

Velocity values > 100 will put an accent!

Slide

With the Slide you change the Slide-time.

In the middle position you get the slide-time of a 303.
In the left position, the slide time is as short as possible and is the same to not programmed slides.
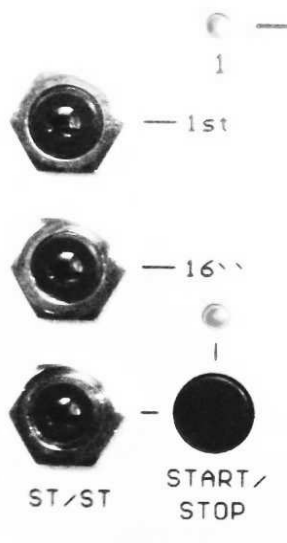In the right position the slide-time is 8 times longer than of a 303.

CV-, Gate- und Accent-Outputs:

Over the sockets CV Out and Gate Out (3.5 mm, mono) compatible synthesizers can be played. CV Out is a 1V/Oktave control voltage for the pitch, and Gate Out and Accent Out are +12V impulses with the note length information.
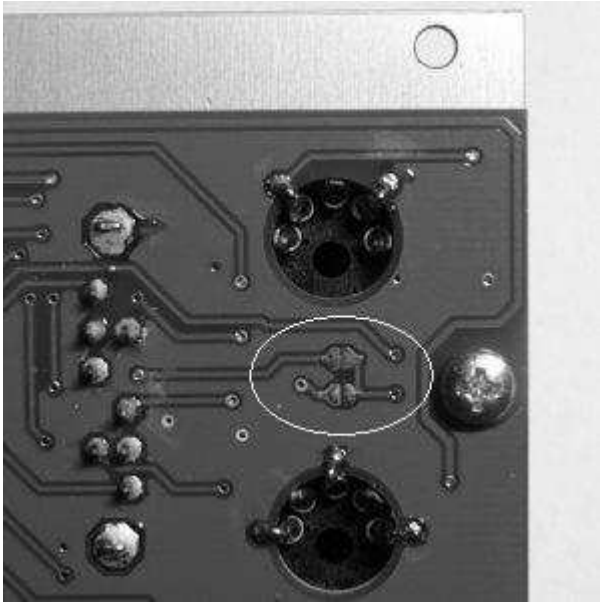
Trigger-Outputs:

1st Trigger Out:

The 1st Trigger Out gives out a 12V impuls (10ms) at the first step of a pattern.

This Trigger can be used to reset counters or LFOs(Reset In).

16`` Trigger Out:

The 16`` Trigger Out gives out a 12V impuls (10ms) on every 1/16 and can be used to trigger and synchronise counters.

The timing is independent from the shuffel-settings.

You can invert this trigger by changing the jumpersetting on the backside of the PCB-board.

ST/ST Trigger Out:

The ST/ST Trigger Out gives out a singel 12V impuls (10ms) at the starting of the sequencer.

This Trigger can be used to reset counters or LFOs(Reset In).

<u>Voltage Supply</u>

The Autobot has to be connected with the delivered 2x8 ribbon-cable to the +/-12V-powerbus (e.g. Doepfer).

The secound 2x8 multi-pin-connector on the PCB-board can be used for a flying-bus-wiring.

The lowerpin is connected to the –12V.
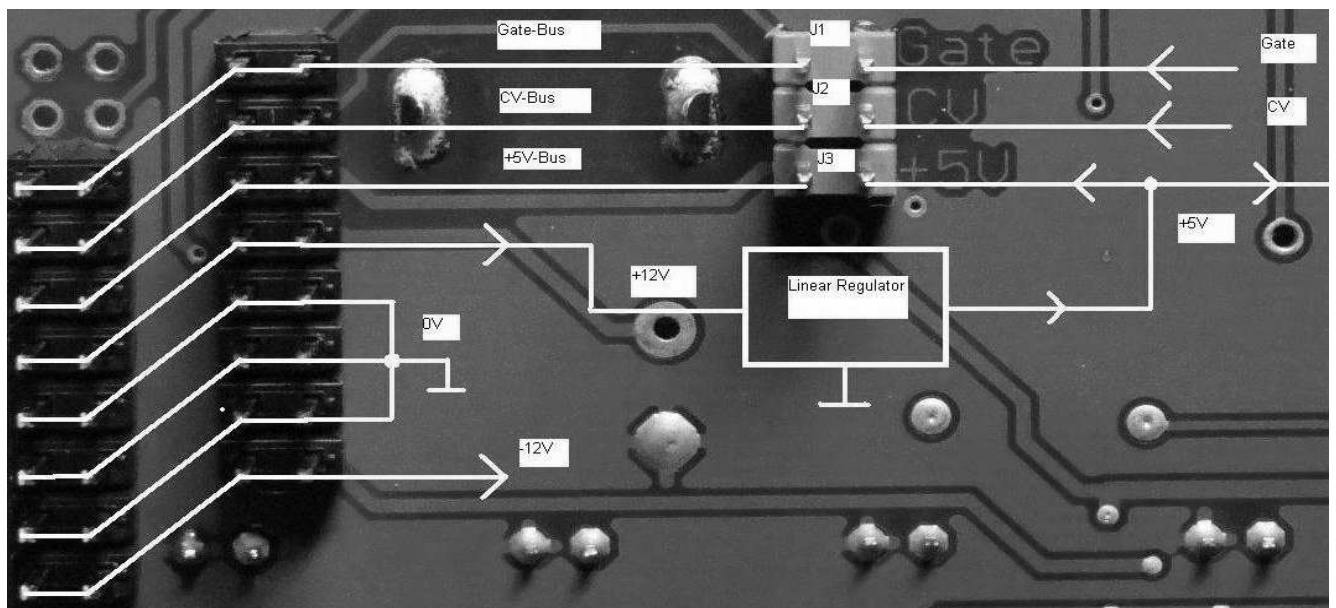
It is not necessary to supply the Autobot with a +5V.

The Autobot generates a +5V out of the connected +12V.

The maximum supply current is +12V/80mA and –12V/20mA

<u>+5V-Bus:</u>

If the +5V-Bus of your power-bus is not in use, it is possible to supply this +5V-Bus from the +5V of the Autobot.

The +5V-jumper J3 must be set.

The +5V supply of the Autobot can be loaded up to 200mA.

Please do not set the jumper J3, if there is no modul in the need of the +5V-supply.

CV-, Gate-Bus

If there is no CV-Gate-source connected to the CV-/Gate-Bus, then the CV-/Gate-Out of the Autobot should be connected.

Jumper J1 and J2 must be set.

Now it is possible to control modules (e.g. VCOs or ADSRs) with the CV-/Gate-Bus.

Please do not set the jumper J1 and J2, if there is no modul in the need of the CV-/Gate-Bus.

Warranty

The manufacturer grants a warranty of two years starting from the purchase date on the product, in accordance with the condition described here. If defects are founded within this time, then these will be repaired. Potentiometers, switches and sockets apply with this product are excluded from this regulation. The decision over the warranty claim meets the manufacturer. When determined foreign modifications or mechanical damages any warranty claim expires. Products without warranty authorization are liable to pay the costs repaired. In order to clarify the warranty claim, the manufacturer is to be contacted in each case before sending back. Except the manufacturer, no third is justified to assure or implement guaranteeings. Within the warranty term the warranty is transferable to further buyers. Further requirements because of consequential damages are impossible.

acidlab

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