

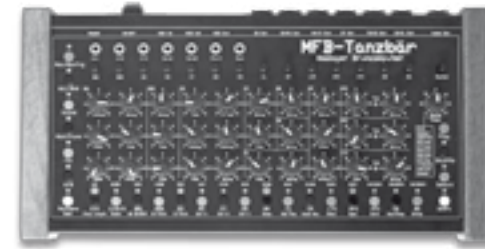


# MFB-Tanzbär

User Manual

# MFB-Tanzbär

## User Manual



---

### Content:

<b>Overview</b>			
What is Tanzbär...?	4	Scales and	
User Interface	6	Pattern Length	22
		Store Pattern	23
		Clear Pattern	23
<b>Setup</b>			
Backside	7	<b>MIDI</b>	
Frontpanel	8	MIDI Clock	24
		Step-Output	24
<b>Play Modes</b>		Drum Expander Mode	24
Manual-Trigger Mode	10	SysEx Data	25
Play-Mode	10	MIDI Controller	25
<b>Soundengine</b>		<b>CV/Gate, Sync</b>	26
Instruments	14		
		<b>Setup Functions</b>	28
<b>Record Mode</b>			
Modes Overview	17	<b>Appendix</b>	
Pattern Programming	18	MIDI Implementation	30
Synth-Tracks	21		

## OVERVIEW

MFB says „thanks“!

First of all we would like to thank you for purchasing the Tanzbär. We appreciate your choice very much and hope you will have lots of fun with your new instrument.

### What is Tanzbär (“Dancing Bear”)?

Tanzbär is a drumcomputer, featuring a real analogue soundgeneration and a very sophisticated, pattern based stepsequencer. It sports some advanced circuitry of the MFB drum-mies MFB-522 and MFB-503, as well as some features that are completely new to MFB instruments.

What's exactly going on inside Tanzbär? This is a brief overview of it's functionality:

#### Soundgeneration:

- 17 drum instruments with 1 to 8 tweakable and storable parameters.
- Level pots on all drum instruments plus master volume (not storable).
- Individual outs (in pairs except claps).
- Simple synthesizer for lead- and bass sounds with one parameter each.

#### Sequencer:

- 144 patterns (on 3 sets resp. 9 banks).
- 14 tracks triggering the drum instruments.
- 2 tracks for programming note events (output via MIDI and CV/gate).
- Combination of step number (1 to 32) and scaling (4) allows all kinds of beats.
- A/B pattern toggle
- Roll/Flam function (multiple triggering)
- Fill function (chaining patterns - not storable).
- Track mute function

The following functions can be programmed on each track (drum instrument):

- Track length (1 - 32 steps)
- Shuffle intensity
- Track shift (micro delay of entire track via MIDI controller)

The following functions can be programmed on each step (drum instrument):

- Step on/off
- Accent level
- Sound setting of current instrument
- Bend (pitch modulation - only DB1, BD2, SD, toms/congas)
- Flam (multi trigger = flam, rolls etc.)

- Additional sound parameter (on selected instruments)

The following functions can be programmed on each step (CV tracks):

- Step on/off(output via MIDI note-on and +/-gate)
- Pitch with 3 octave range. Output via MIDI-notes and CV
- Accent level (on bass track only)
- 2nd CV (on bass track only)

#### Operation Modes

Manual Trigger Mode

- Triggering instruments via step buttons and/or MIDI notes (with velocity).
- Access to sound parameters via knobs or MIDI controller.

Play Mode

- Pattern selection
- Access to sound parameters via knobs
- Access to play functions (A/B pattern toggle, roll-, fill-, and mute function and some more)

Record Mode

- Programming a pattern in one of three available modes (Manual-, Step- or Jam-Mode)

#### Synchronisation

- MIDI clock
- Sync signal (clock) and start/stop input or output; output clock divider

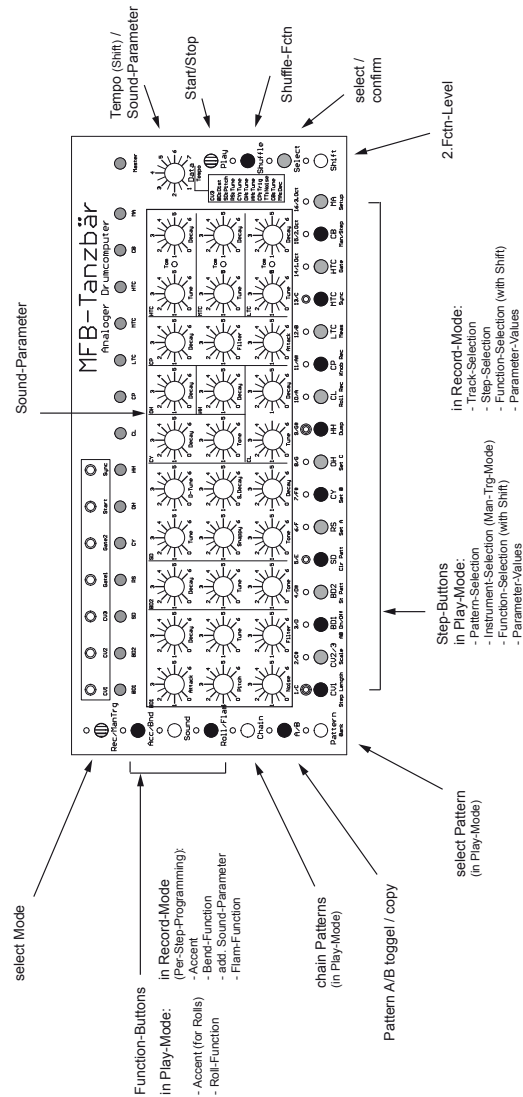
Not bad, uh? Of course it was not possible to place a dedicated knob or button for each function on the front panel. Sometimes a second function level and some button combinations have been necessary to access all features. To ensure that you and your Tanzbär will become friends as soon as possible, we really advice you to read this manual carefully. This will be the best and most easy way to explore your Tanzbär entirely - and there's pretty much to explore. So we beg you: please read (and understand) this f... manual.

## The User Interface

As just mentioned, most of Tanzbär's buttons cover more than one function. Depending on the selected mode, the functionality of the buttons may change. The following figure will show you which modes and functions are related to certain buttons.



Please note that this is just an overview. You may use it mainly as an orientation guide. The complete functionality and the necessary operating steps will be explained later in the text. Please feel free to read on.



## CONNECTIONS AND INITIAL OPERATION

### Connections on Backside

#### Power

Please connect the 12V DC wall ward here. Power up/down Tanzbär with the ON/OFF switch. Please pull the power supply off the wall if you do not use the Tanzbär for longer. Please use only the included power supply or one with exact the same specifications - no exceptions, please!

#### MIDI In1 / MIDI In 2 / MIDI Out

Please connect MIDI devices here. MIDI keyboards and drum pads should be connected to MIDI In 1. MIDI In 2 handles MIDI clock data exclusively. Via MIDI out, the Tanzbär sends out note data of all tracks.

#### Audio Outs

Tanzbär features one main audio out and six additional instrument outs. The latter are stereo jacks which send out two instrument signals each - one on each channel (except the clap – this is a stereo sound). Please hook up the outputs with insert cables (Y-cables). On clap, please use a stereo cable.

If you plug in a cable on an instrument out, the sound is erased from the main out. Please connect Tanzbär's main out to an audio mixer, soundcard or amp, before you power Tanzbär up.

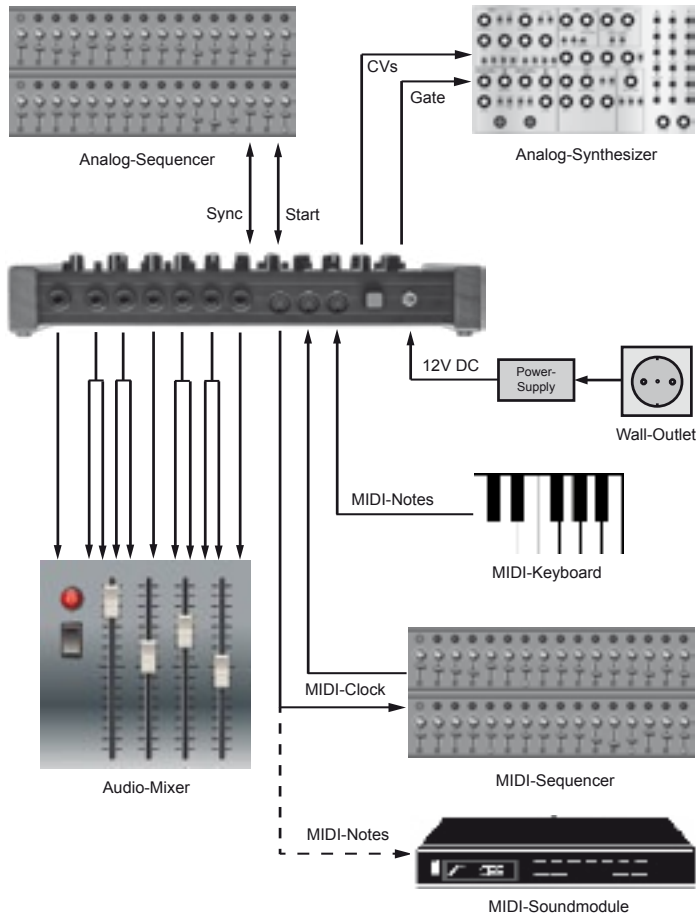
- BD Out left: Bassdrum 1, right: Bassdrum 2
- SD/RS Out left: Snaredrum, right: Rimshot
- HH/CY Out: left: Open/Closed Hihat, right: Cymbal
- CP/Clap Out: the attack-transients are spread over the stereo field
- TO/CO Out: three Toms / Congas spread over the stereo field
- CB/CL Out: left: Clave, right: Cowbell

**Connections on panel top**

On Tanzbär's top you will find it's CV/gate interface. It puts out control voltage (CV)- and gate signals of both note tracks. Next to this, a start/stop signal and a clock signal is sent or received here.

- CV1: Output of pitch-CV track 1 (lead synthesizer)
- CV2: Output of pitch CV track 2 (bass synthesizer)
- CV3: Output of filter-control CV track 3 (bass synthesizer)
- Gate1: Output of gate signal track 1 (lead synthesizer)
- Gate2: Output of gate signal track 2 (bass synthesizer)
- Start: Sends or receives start/stop signal
- Sync: Sends or receives clock signal

To explore most of Tanzbär's features, you will simply need the power connection and the main audio out.



**PLAY/MANUAL TRIGGER MODE**

First of all we want to check out some demo patterns to give you an idea of Tanzbär's capabilities. At the same time we will learn how to "perform" with the Tanzbär, meaning playing patterns, modify them and tweak sounds.

To play back and tweak preprogrammed sounds and patterns, we need the PLAY/MANUAL TRIGGER MODE. To programm patterns we will go into the Record Mode which we will explore later on.

The following figure shows an overview of the Play Mode and it's functions.



*Please note that this is just an overview. You may use it mainly as an orientation guide – all the necessary operating steps are covered in detail in the following text. So please read on carefully.*

Step/Instrument	1	2	3	4	5	6	7	8	(Button)
Track-Mutes	Acc/Bnd (for Roll-Frict)	Sound	Roll/Frict	Fill	A/B	Shuffle	Select	Knob-Rec	Function
Pattern-Selection	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	as above (cases Selection)	Function
triggers Instruments	Accent-Level (when triggered)	no	no	no	no	no	no	no	Function
Enables PLAY-MODE (see above)									

Function	1	2	3	4	5	6	7	8
1. Pressing the Step/Instr-Button mutes Tracks resp. Instruments (red LED = Mute).								
2. Repeatedly pressing Acc/Bnd toggles between three Accent-Levels (LED off/green/red). Accent affects Roll/Frict.								
3. Starts Knob-Record-Frict: - Enable with Shift+Step11. Press Select. Function is available if desired. Now record knob movements: - Hold Sound + press Instr to select Instrument. - Press Sound + press Instr to start recording. The LED flashes up to the next "1" and lights continuously during the next following bar. - Ask parameter knobs during one bar. (- Store Pattern if required)								
4. Switches Roll-Frict on/off. Press Instr-taster to generate Roll. Select resolution: - Hold Roll/Frict + press Step 1-4 (10th, 8th, 4th, 1/2 Note).								
5. Switches Pattern Chaining on/off: - Press Roll/Frict + press Step 1-4 (10th, 8th, 4th, 1/2 Note). - Pattern Chain is temporarily stored. - Press Fill to playback Pattern Chain.								
6. A/B Pattern Toggle: - Press A/B to toggle Pattern. LED colour displays A- resp. B-Part. - Enable automatic toggle with Shift+3.								
7. Enables Shuffle Selection - Press Shuffle (all Step-LEDs flash). - Select Shuffle-intensity with Step 1-16. - Press Shuffle to confirm and leave function.								
8. Recalls stored Parameter Values of the current Pattern.								

PLAY-MODE (LED green) → Pattern → LED an → MANUAL-TRIG MODE (LED red) → Pattern → LED an → RECORD-MODE (LED red) → Step/Instr-Button (Access via Rec/ManTrg + Step/Instr-Button)

11/A# → Knob-Rec  
 Shift → Knob-Rec  
 Press Shift-Button to open Sub-Functions of Step-Buttons

**Manual Trigger Mode**

**Audition of sounds**

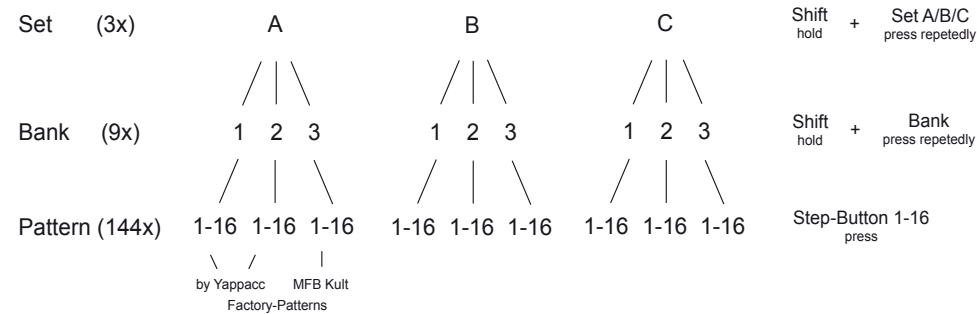
Right after powering up, Tanzbär's MANUAL TRIGGER MODE is active. The LED "Rec/ManTrig" lights constantly green. Now you can trigger the sounds with the Step/Instrument buttons. You can also tweak all sounds with their dedicated parameter knobs.

**Play Mode**

**Pattern Memory**

Tanzbär's pattern memory uses 3 sets (A, B and C) with 3 banks each. Each bank contains 16 patterns which makes 144 patterns in total.

Set A is packed with factory patterns. Banks 1 and 2 contain great beats made by the Berlin based techno wizzard Yapacc, Bank 3 sports the original patterns of the "MFB Kult" drummachine. Sets B and C are ready for your own great creations. If desired, the content of Set A can be overwritten.



**Pattern Selection**

To select patterns, PLAY MODE or MANUAL TRIGGER MODE has to be active. The LED Rec/ManTrig should be OFF or constantly GREEN (please refer to fig. on page 9).

- Hold **Shift** + press **Set A** button. Set A is selected.
- Hold **Shift** + press **Bank** button. The Bank button toggles between Bank 1 (green), 2 (red) and 3 (orange).
- Press **Step** button. If you press Step 1, pattern 1 is loaded etc. Red Step LEDs show used patterns. The currently loaded pattern lights orange.

When the sequencer is running, a pattern change is always performed at the next "1" of the following bar.

**Pattern Playback**

Start/stop the sequencer

- Press **Play**. The sequencer starts. Press Play again and the sequencer stops. This also works when Tanzbär is synced to MIDI-clock.



Please note: After powering up, Tanzbär has to be set to PLAY MODE in order to playback patterns (press **Rec/ManTrig**, LED has to be **OFF**). Then select a pattern (press **Pattern**, **Step** button, please see above).

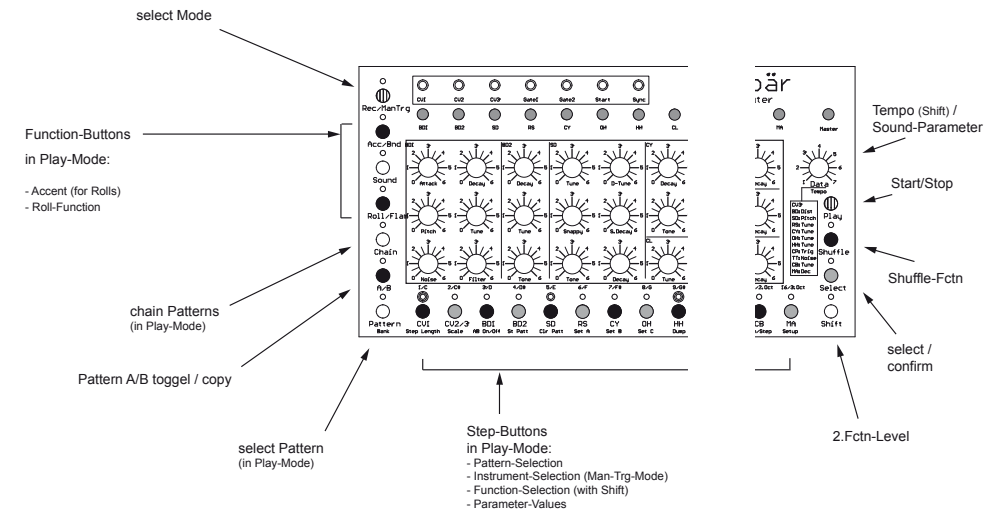
**Adjust Tempo**

- Hold **Shift** + move the **Data** knob.

To avoid tempo jumps, the tempo change is performed right at the moment, when the knob position matches the previous tempo setting.

As soon as you release the Shift button, the new tempo is saved. There is no tempo read-out on Tanzbär. The values range of the knob covers approx. 60 BPM to 180 BPM.

In Play Mode (Rec/ManTrig LED OFF) you cannot only playback existing patterns, you can also tweak them "live" in several ways. In this mode, Tanzbär's buttons open up certain appropriate functions. The following figure shows the functions of all relevant buttons. In the following text, these functions will be explained in detail.



**1. Mute Function**

In PLAY MODE, all instruments can be muted via their corresponding **Step/Instrument** button (e.g. Step 3 = BD 1, Step 7 = Cymbal etc.). The LED of a muted instrument lights up red. If the patterns is stored, active mutes will also be stored. The store function is covered on page 23.

**2. Accent Function**

Sets accents on three different levels. The **Acc/Bnd** button toggles between the three levels (LED off/green/red). In Play Mode, The Accent level affects the Roll function (see below).

### 3. Tweak sounds / knob record function

In PLAY MODE (LED Rec/ManTrig off) all sound parameters can be edited with their dedicated knobs. As soon as a pattern is loaded from memory, the current parameter setting differs from the current knob setting.

If desired, you can record knob tweakings within one bar into the sequencer. This is done with the Knob Record function. It is enabled with **Shift + Step 11** and can be used when desired in PLAY MODE.

To record knob movements:

- Hold **Shift** + press **CP/KnobRec** to enable Knob Record function.
- Press **Play** to start sequencer.
- Hold **Sound** + press **Instrument** button to select an instrument.
- Press **Sound** again. The Sound LED flashes until the "1" of the next bar is reached. Then it lights up constantly over the length of one pattern-playback.
- While the pattern is running, tweak the desired **Parameter** knobs. The movements are recorded over one bar/pattern-playback.
- If another take is needed, simply press **Sound** again and tweak the knobs.
- If you would like to record the parameters of another instrument, please hold **Sound** + press an **Instrument** button to select the new instrument. Then press **Sound** to start the recording. You do not have to stop the sequencer at any time.

To save your knob performance permanently, you have to save the pattern (please see page 23).

*You do not have to engage the knob record function for each new "take" and instrument by hitting Shift + CP/KnobRec. Once enabled, you may use it over and over until you disable the function.*



*If you turn a knob longer than one bar while "knob recording", the previous recording will be overwritten. If you don't like the result, simply reload the parameter setting, stored in the pattern by hitting **Select**. This helps always when you are not happy with a knob record "take".*

### 4. Roll Function

Play Rolls:

No, we are not talking about role playing... Please enable PLAY MODE, if you not already did. Press **Roll/Flam** to enable the Roll function. Start the sequencer since the effect will only be audible when the sequencer is running. If you now press a **Step/Instrument** button, the corresponding instrument is multi-triggered. This function is also popular as "note repeat".

The resolution of the triggers can be set to four different values. They depend on the Scale setting (please refer to page 22). To change the resolution, please hold **Roll/Flam**. The Step buttons 1 - 4 start to flash. Press one of the **Step** buttons to select the roll resolution.

Roll Record:

This a kind of "add on" feature to the Roll function. If Roll Record is enabled, a roll is played again in each new pattern loop, even when you release the Step/Instrument button. By holding down Shift and the corresponding Instrument button, the rolls are erased again.

To enable the Roll Record function:

- Hold **Shift** + press **Roll Rec (Step 10)**.
- Press **Roll Rec (Step 10)** again. The button toggles between Roll Record off (LED green) and Roll Record on (LED red).
- Press **Select** to confirm and close the function.

Steps recorded with the Roll Record function can be edited in Step Record Mode just like any other steps (please see page 18).

### 5. Fill function (chain patterns)

Chain up to 16 patterns "live" with the Fill function:

- Hold **Fill** + **Step** buttons to select the desired sequence of patterns. Please note that there is no LED checkback at this moment.
- Press **Fill** again to enable / disable the Fill function. The LED lights up red, if Fill is active.

### 6. A/B Pattern Toggle

Press the **A/B** button to "fire up" a second pattern part (if available). The LED changes it's colour. Patterns with more than 16 steps contain necessarily a B-part.

To enable automatic toggle between both parts, please hold **Shift + Step 3 (AB on/off)**.

### 7. Shuffle Function

Hold **Shuffle** + press one of the **Step** buttons to select one of the 16 available shuffle intensities. In Play mode, shuffle affects all instruments in the same way.

### 8. Select Button

Sets edited parameter values back to the values that are stored within the current pattern.

If you use the functions 1 to 8 while the pattern selection is active (Pattern LED lights) the corresponding function will be performed according to the way described above. In some cases the pattern selection will be closed. Please see figure on page 9. The same goes for access of these function in MANUAL TRIGGER MODE.

## SOUNDENGINE

In this chapter, we would like to introduce the sound generation and it's parameters.

### Instruments

All drum sounds can be edited directly with the knobs of each instrument. Next to this, the Data knob shares an additional parameter for most of the instruments. It can be accessed as soon as the instrument is selected.

#### **Hidden Parameter "Sound"**

In Record Mode (and only in Record Mode) some instruments feature another "hidden" parameter that can be accessed via Sound button and Step buttons. If this parameter is available on an instrument, the Sound-LED flashes after Rec/ManTrg has been pressed. More on this later in the chapter Record Mode.

#### **BD 1 Bassdrum 1**

- Attack Level of attack-transients
- Decay Volume decay time
- Pitch Time and modulation intensity of pitch envelope
- Tune Pitch
- Noise Noise level
- Filter Sound of noise signal
- Data Distortion level
- Sound Selects 1 of 16 different attack-transients

#### **BD 2 Bassdrum 2**

- Decay Time of volume decay (up to steady tone)
- Tune Pitch
- Tone Level of attack-transients

#### **SD Snaredrum**

- Tune Pitch of tone 1 and tone 2
- D-Tune Detune of tone 2
- Snappy Noise level
- S-Decay Decay time of noise signal
- Tone Blends signals of tone 1 and tone 2
- Decay Volume decay time of tone 1 and tone 2
- Data Modulation intensity of pitch envelope

#### **RS Rimshot**

- Data Pitch

#### **CY Cymbal**

- Decay Volume decay time
- Tone Blends both signals
- Data Pitch / sound colour

#### **OH Open Hihat**

- Decay Volume decay time
- Data Pitch / sound colour of OH and HH

#### **HH Closed Hihat**

- Decay Volume decay time
- Data Pitch / sound colour of OH and HH

#### **CL Claves**

- Tune Pitch
- Decay Volume decay time

#### **CP Claps**

- Decay Decay time of "reverb" tail
- Filter Sound colour
- Attack Level of attack-transients
- Data Number of attack-transients
- Sound 16 different attack-transients

#### **LTC Low Tom / Conga**

- Tune Pitch
- Decay Time of volume decay (up to steady tone)
- Sound Step button 12 toggles between Tom and Conga. Step button 13 enables a noise signal.
- Data Noise level, simultaneously for all three toms/congas.

#### **MTC Mid Tom / Conga**

- Tune Pitch
- Decay Time of volume decay (up to steady tone)
- Sound Step button 12 toggles between Tom and Conga. Step button 13 enables a noise signal.
- Data Noise level, simultaneously for all three toms/congas.



**HTC High Tom / Conga**

- Tune Pitch
- Decay Time of volume decay (up to steady tone)
- Sound Step button 12 toggles between Tom and Conga.  
Step button 13 enables a noise signal.
- Data Noise level, simultaneously for all three toms/congas.

**CB Cowbell**

- Data 16 different tunings
- Sound Time of volume decay

**MA Maracas**

- Data Time of volume decay

**Bass Synthesizer/CV 3**

- Data Filter cutoff or CV 3 value

In addition to the above mentioned parameters, each instruments has a volume knob that cannot be programmed. The same goes for the master volume knob. Just in case you might wonder why the volume knobs might run a bit stiffy – this is an easy way to avoid unwanted level changes.

**RECORD MODE – PROGRAMMING PATTERNS**

Finally, it's time to create your own patterns. The capabilities are vast and partly pretty complex. So we still ask for your attention.

**The different Record Modes**

The sequencer features three different modes to programm patterns. They all have different functionality:

**Manual Mode**

Manual Mode will not record any sound parameters. They always have to be tweaked by hand.

**Step Mode**

Step Mode (factory setting) allows programming of different sound parameter settings per step.

**Jam Mode**

Jam Mode is basically the same as Step Mode. In contrast to the Step mode, you can alter a parameter's value on all steps of an instrument/track "live" and simultaneously without changing or leaving the Record mode. In Step mode, you would first have to select all steps with the Select button to do the same.

In case that live programming and editing at the same time might be your goal, the Jam Mode will do a good job. Usually, the Step Mode is the first choice to create patterns.

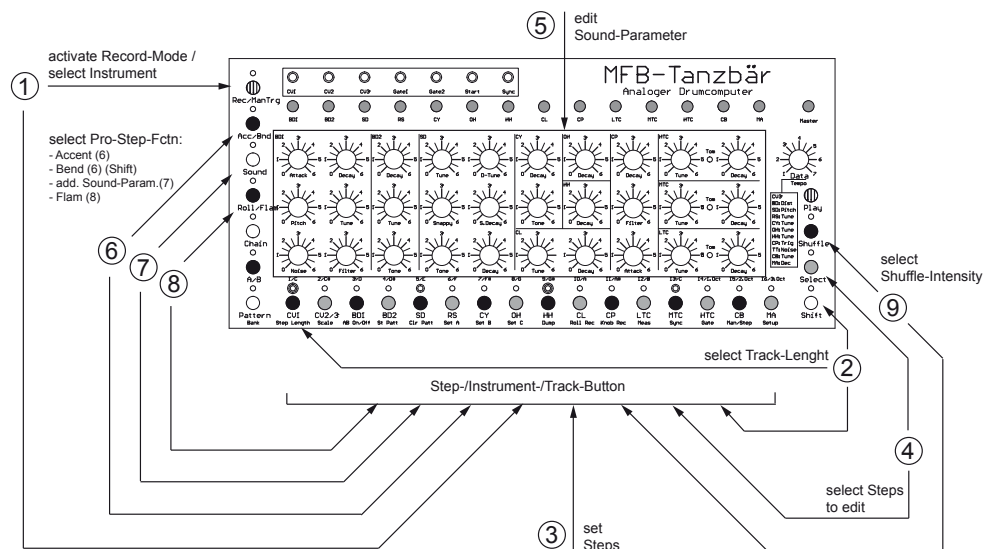
**Record mode selection:**

To select the Record Mode of your choice:

- Hold **Shift** + press **Step 15** button (CB - Man/Step). The button toggles between:
  - Manual mode (LED = green)
  - Step Mode (LED = red)
  - Jam Mode (LED = orange).
- Press the flashing **Select** button. The selected mode becomes active.

The programming procedure is the same in all Record modes.

The following figure on page 18 shows a brief overview of all Step Record Mode functions. The numbers show one possible and useful way to create a full featured pattern. Please note that this figure is just an overview. You may use it as an orientation guide – all required programming steps will be covered in detail in the following text section.



After selecting the suitable Record Mode – Step Record Mode in this case – we will start

## Programming a Pattern

First, please select an empty pattern (please see page 10). Then let's go:

### Select instrument and set steps:

- **Hold** Rec/ManTrg button + press **Instrument** button.  
This enables Record Mode and selects the desired instrument/track.  
The instrument/track LED lights up green.
- Press **Step** buttons to set steps. Their LEDs light up red. Hitting a selected step again, disables the step. If you set a step corresponding with the instrument/track button (green LED), the step lights up orange. So you can still identify the selected instrument.
- To enable another instrument/track, please hold **Rec/ManTrg** again and press another **instrument** button.

### Individual sound parameter settings per step

Enhance your pattern with individual sound parameter setting per step.



*This feature is not available in Manual Mode. Here, all steps have identical soundsettings, corresponding with the current knob settings. Individual accent levels and flams/rolls can be programmed. Please see below.*

We'll describe now in detail, how to program individual sound settings per step in Step- or Jam Mode:

### Step selection and step programming:

We are currently watching a track with several active steps (red LEDs), e.g. BD 1 (green BD 1 LED).

- Hold **Select** + press **step(s)** (if not already selected). The step LED(s) flash(es).
- Turn **parameter** knob(s) of the selected instrument (here BD1).
- Press **Select** to confirm parameter changes (step LED(s) light up continuously again).
- To create different sound settings on other steps, simply repeat the procedure.

To save the settings permanently, save the edited pattern (please see page 23).

### Copy steps

To keep things fast and easy, you may copy the settings of one step to other steps:

- Hold **Select** + press a **step**. The sound setting of this step is copied.
- Set more **steps**. The new steps will have the same sound settings.

### Using the hidden sound parameter

The instruments BD 1, Toms/Congas as well as Cowbell offer one more sound parameter that can only be accessed in Step/Jam-Record Mode.

Is Record mode enabled and one of the instruments BD 1, Toms/Congas or Cowbell is selected, the Sound LED flashes. To change the parameter value:

- Press **Sound** (LED lights constantly).  
Some step buttons will flash green. Every step visualises a parameter value.
- To select a value, press one of the flashing **step** buttons (colour changes to red).
- Press **Sound** to confirm value entry.  
The Sound LED starts to flash again.

### Programming additional Functions per Step

Use the following functions to enhance your pattern even more.

We are still working on a track, e.g. BD 1 (green BD 1 LED) with some setted steps (red LEDs). The sequencer is still running.

**Accent**

Each step in a track can have one of three accent levels:

- Press **Acc/Bend** button. The function toggles between the three accent levels (LED off = soft, green = medium, red = loud).
- Press an already active **step** to apply the selected accent level (step LED off).
- Press **step** again to enable step again (step LED lights up red again).

If you want to apply the same accent level to several steps at once:

- Select several **steps** (see „Select Steps“).
- Press **Acc/Bend** button to select accent level.
- Press **Select** again to confirm function.

**Bend**

This function "bends" the pitch of an instrument up or down. As well as the accents, it can be applied to individual (active) steps of an instrument. It generates e.g. typical D&B bass drums. The effect might only be audible with longer decay settings. Bend works on BD 1, BD 2, SD, LTC, MTC and HTC.

- Hold **Shift** + press **Acc/Bnd** to enable the Bend function. The LED flashes (This is a sub-function, accessed via shift button).
- Press desired (already active) **step**. The step-LED goes off.
- Adjust Bend intensity with **Data** knob. *Please note: effect is not yet audible!*
- Press desired **step** again to apply the function. It becomes audible now. (LED lights up red again).
- Go for more steps if desired: press **Step**, turn **Data**, press **Step** again.  
If you like the result:
- Hold **Shift** + press **Acc/Bnd** to close function.

**Flam**

This function creates flams resp. rolls on individual (already active) steps.



*Please note: This function is not available on the tracks "Clap", "CV 1" and "CV 2/3".*

- Hold **Roll/Flam** (step LEDs flashing green) + press **Step** button to select one of the 16 flam patterns.
- Press (already active) **Step(s)** (green LED). The colour changes to orange and the flam pattern becomes audible.
- To select another flam pattern, again hold **Roll/Flam** button (step LEDs flashing green) + **Step** button to select another flam pattern.
- Press again (already active) **Step(s)** to apply the new flam pattern.  
If you like the result:
- Press **Roll/Flam** to close function.

**Programming Synth- resp. CV/Gate Tracks**

On tracks CV1 and CV2/3 you can programm note events. These notes are sent out via MIDI and Tanzbär's CV/gate interface. Next to this, both tracks "play" two very simple synthesizer voices. They are a good help to monitor the note tracks without the need of external equipment.

**This is how to programm the CV1 track (CV2/3 works the same way):**

- Hold **Rec/ManTrg** + **Instrument/track** button **CV1** to select track.
- Set **Steps**. The internal lead synthesizer plays the steps with identical length and pitch.

**To programm notes on the CV1 track:**

- Hold **Rec/ManTrg** + press **Instrument/track** button **CV1** to select track.
- Press **Sound** button (LED red).
- Press **Step** buttons **1 - 13**. They select notes between "C" and "c".
- Press **Step** buttons **14 - 16**. They select the octave range.  
Each time you press steps 1 to 13 subsequently, the sequencer moves on one step further. A 16th note sequence is generated.
- **A/B** sets a silent step.
- **Select** connects several steps to longer note values.
- **Pattern** moves one step forward.
- **Shift** moves one step backwards.

**Accents and CV 3 on Bass Track:**

The bass track (**Rec/ManTrg** + **CV2**) is programmed the same way. In addition you can apply accents. They are programmed the same way as on the drum tracks (see above).

With CV 3 you can control the filter cutoff of a suitable synthesizer. To programm CV 3 values, please select **steps** on track CV 2 and use the **Data** knob to enter values. It works the same way as the stepwise parameter programming on the drum tracks.

**Shuffle function**

When using the shuffle function in Record Mode, each track can have its individual shuffle intensity:

- Hold **Rec/ManTrg** + press **Instrument/track** button to select instrument/track.
- Press **Shuffle** (Step LEDs light up green).
- Press **Step 1 - 16** to select shuffle intensity.
- -Press **Shuffle** again to close shuffle function.



*When used in Play mode, the shuffle function works globally and affects all tracks in the same manner.*

**Step Length (Track Length)**

The track length is determined in Record Mode. Each track can have its individual track length between 1 and 16 steps. This is a cool way to generate polyrhythmic grooves.

- Hold **Rec/ManTrg** + press **Instrument/track** button to select instrument/track.
- Hold **Shift** + press **Step Length** (Step LEDs flashing green).
- Press **Step 1 - 16** to select track length.
- Press **Select** to confirm setting.

**Scaling and Pattern Length**

Up to now, we have been programming patterns with 16 steps and 4/4 scales. With the help of the following functions, you will be able to create triplets and other "odd" rhythmical scales.

Usually, these settings should be done before you start programming steps, but since they are a bit more special, we have placed their description in this chapter.



*These functions are global settings, meaning they affect all tracks in the same way. Since the Record Mode affects individual tracks, we have to make these settings in PLAY MODE. The Rec/ManTrg LED has to be OFF.*

**Scale**

Selects the rhythmical scaling. Available values are 32th, 16th-triplet, 16th and 8th-triplet. This determines the number of beats within a bar resp. a pattern length of 32, 24, 16 or 12 steps. On patterns with 24 or 32 steps, a B-part is automatically created. Since the time, needed to playback one bar is the same in all scale settings, the sequencer runs at a scale setting of 32 exactly twice as fast as at a scale setting of 16.

To program the scaling:

- Hold **Shift** + press **Scale** (Step LEDs 1 - 4 flashing green).
- Press **Step 1 - 4** to select scale (Step 1 = 32th, Step 2 = 16th-triplet, Step 3 = 16th, Step 4 = 8th-triplet). Step flashes orange.
- Press **Select** to confirm setting.

**Measure**

Here you can determine the step number of the pattern.



*This function has to be programmed after the scale setting.*

By using step numbers different from the scale parameter (e.g. scale = 16th-triplet and measure = 14) you can create all kinds of „odd“ beats. To create e.g. a 3/4 beat, use scale = 16 and measure = 12.

To program the measure value:

- Hold **Shift** + press **Meas** (Step LEDs 1 - 16 flashing green).
- Press **Step 1 - 16** to select the step number. The step flashes orange.
- Press **Select** to confirm setting.

**Copy A-Part to B-Part**

As soon as you have created a pattern with a length of 16 steps at maximum, you may copy this "A"-part onto the, yet empty "B"-part. This is an easy way to create variations of existing patterns.

To copy the A-part onto the B-part, simply press **A/B** button in Record Mode.

**Store Patterns**

Patterns can be stored within the currently selected bank.



*Please note: There is no undo function. So please be careful and think twice...*

- Hold **Shift** + press **St Patt**. The current pattern is shown by a green flashing LED. Used pattern locations flash red. Empty pattern locations have a dark LED.
- Press **Step** button to select pattern location (LED lights up constantly red).
- Press **Shift** to abort the store function.
- Press **Select** to confirm the store function.

**Clear Current Pattern**

- Hold **Shift** + press **Cl Patt**. The currently active pattern will be cleared.



*Please note: There is no undo function. So please be careful and think twice...*

## MIDI FUNCTIONS

The three MIDI sockets are used to connect MIDI devices to Tanzbär. MIDI keyboards, controller and drumpads should be connected to MIDI In 1. MIDI In 2 is mainly for MIDI synchronisation (MIDI clock).

Tanzbär's MIDI channel settings are fixed and cannot be altered. Track CV 1 sends and receives on channel 1, track CV 2 sends and receives on channel 2 and all drum tracks send and receive on channel 3.

### Synchronisation with external devices via MIDI clock:

MIDI clock is allways sended and received. No additional settings have to be done.



*Synced to an external MIDI clocksource, Tanzbär can allways be startet and stopped with it's Play button. It starts/stopps exactly at the "1" of the next following bar without loosing it's sync.*

### Output of sequencer steps as note commands

The note output can be enabled globally. You'll find this function in the setup menu.

- Hold **Shift** + press **Setup (Step 16)**. The setup menu is active now. The flashing LEDs 1 - 10 visualise the available sub menus.
- Press **Step 8** button. Note output is enabled.
- Pressing **Step 8** again toggles between on (green) and off (red).
- Press **Select** to confirm the function.

### Receiving MIDI notes and velocity to trigger drum instruments

#### Drumsound expander function

Tanzbär has to be set into MANUAL TRIGGER MODE (Rec/ManTrg LED green) to work as a drumsound expander.

MIDI note numbers and a MIDI channel (from #3 to #16) can be applied to drum instruments by a learn function. Starting at step 3 (BD 1), an instrument-LED flashes, when waiting for an incomming MIDI note. A MIDI note, now sended to Tanzbär, will be applied to the instrument. Tanzbär automatically switches over to the next instrument (BD 2). As soon as all instruments are applied to a MIDI note, the Select LED flashes. Press **Select** to confirm and store the data entry and close the function. Leave the function without saving the data entry by pressing **Shift**. In this case, the setting is only active until Tanzbär is powered down.

When all drum instruments are applied to MIDI notes resp. a MIDI channel this way, Tanzbär can be played as a drumsound module by using a keyboard, a sequencer or drumpads. In Play Mode, you may drum "live" to a programmed pattern.

### Real Time Record

Is also Roll Record enabled, the incomming MIDI notes are recorded into Tanzbär's sequencer. This way you may record patterns in realtime. The Roll Record function is described on page 12.

### Send and receive MIDI SysEx dumps

The pattern content of the current bank can be transfered as MIDI dump.

- Hold **Shift** + press **Dump (Step 9)** to start the dump transfer.

Receiving SysEx data is always possible without enabling any function. If SysEx data is received, the current pattern bank will be overwritten. In case of SysEx malfunction, all step buttons flash red.

We advice the following SysEx transfer applications: MidiOx (Win) and SysEx Librarian (Mac).



*MidiOx users please note: The dump sended to MidiOx must have exactly the sice of 114848 Bytes, otherwise MidiOx shows an error message.*

### MIDI Controller

Tanzbär receives MIDI controller data for most of it's functions and parameters. You'll find a MIDI controller list in the appendix of the manual (page 30).

To receive MIDI controller data, MIDI channel 10 is always used.

### Track Shift

Tracks can be micro shifted resp. delayed in fractions of ticks by using MIDI controllers. This may create interesting rhythmic effects. Please use MIDI controller 89 to 104 to programm the track shift.

## CV/GATE-INTERFACE / SYNC

Thanks to it's CV/gate and sync interface, Tanzbär is compatibel to many vintage synthesizers, drumcomputers and sequencers.

Sequences, programmed on tracks CV 1 and CV 2/3 are sent out via Tanzbär's CV/gate sockets.

### Inverting Gate Signals

The outputted gate signals (Gate 1 and Gate 2) can be independently inverted:

- Hold **Shift + Gate (Step 14)**. Step 1 and Step 2 flash green.
- Press **Step 1** or **Step 2** to invert the gate signals of track 1 resp. track 2 (red LED = inverted).
- Press **Select** to confirm the function.

### Sync/Start Sockets

These sockets send or receive an analogue clock resp. start signal to synchronise Tanzbär with vintage drumcomputers and sequencers.

Please note, that the clock signal generated by Tanzbär is sent out with the programmed shuffle intensity. A pretty unique feature as far as we know.

Because of technical reasons, gate, clock and start/stop signals have a voltage level of 3V. So they might not be compatible to all vintage machines.

### Sync/Start In and Output

This function determines, if the sockets start/stop and clock work as inputs or outputs.

- Hold **Shift + Sync (Step 13)**. Step 13 flashes green.
- Press **Step 13** to configure these sockets as inputs or outputs (red LED = input).
- Press **Select** to confirm the function.



*Please note: If these sockets are configured as inputs, Tanzbär will be synchronised resp. "slaved" to an external clock source. The **Play** button is out of function.*

### Clock Divider

Tanzbär's clock output features a clock divider. It's settings can be accessed via the Setup menu. Flashing LEDs 1 to 10 show it's sub functions.

- Hold **Shift + press Setup (Step 16)**. The Setup menu is enabled. Flashing LEDs 1 to 10 show sub functions.
- Press **Step 5**. The function toggles between:
  - "divider off" = LED green (clockrate = 24 ticks / 1/4 note / DIN-sync)
  - "divider on" = LED red (divider value = selected scale value; page 22).
- Press **Select** to confirm the function.

### Start/Stop Impuls/Level-configuration

Some drumcomputer and sequencers send or require a short voltage pulse to start and stop (e.g. Urzweg, SEQ-01/02), others a constant voltage level (e.g. TR-808, Doepfer). Tanzbär's start/stop socket can be configured to these needs. The settings can be accessed via the Setup menu:

- Hold **Shift + press Setup (Step 16)**. The Setup menu is enabled. Flashing LEDs 1 to 10 show sub functions.
- Press **Step 9**. The function toggles between:
  - "impuls" = red LED and
  - "level" = green LED.
- Press **Select** to confirm the function.

## SETUP FUNCTIONS

The Setup menu is located "under" the Step 16 button. Here you'll find some functions to configure your Tanzbär. Some of them you already know, the others are described here.

To open up the Setup menu:

- Hold **Shift** + press **Setup (Step 16)**. The Setup menu is enabled. Flashing LEDs 1 to 10 show sub functions.

To select Setup functions:

- Press **Step** buttons **1 - 10**. The corresponding LED flashes, which shows an enabled setup function.

To enter values:

- Press flashing **Step** button. The function toggles between up to three different values, showed by LED = off, red or green.

To cancel function:

- Press **Shift**.

To confirm the function:

- Press flashing **Select** button. The value is saved and the Setup menu closed.

**The following Setup functions are available:**

### **Step button 1: Midi Trigger Learn**

Please refer to page 24.

### **Step button 2: Tuning the internal synthesizer**

When this function is enabled, the internal synthesizer plays a steady tone with a pitch of 440 Hz. You can tune it with the **Data** knob. The tuning affects both voices (lead and bass).

### **Step button 3: Lead Synth on/off**

Disable the internal lead synthesizer e.g. if you use the CV/gate track 1 to control external synthesizers.

### **Step button 4: Bass Synth on/off**

Disable the internal bass synthesizer e.g. if you use the CV/gate track 2/3 to control external synthesizers.

### **Step button 5: Sync Clock Divider**

Sync clock divider:

- LED off = divider disabled (24 ticks per 1/4th note = DIN sync),
- LED on = Scale (16th, 8th triplets, 32th. etc.).

### **Step button 6: Mute Group**

This function is related to the mute function in Play Mode. If active, both bassdrums are muted as soon as you mute on of them.

- LED off = function off
- red = BD 1 mutes BD 2
- green = BD 2 mutes BD 1

### **Step button 7: Clear current Pattern Bank**

Press **Step 7** twice to clear the current active pattern bank.



*Attention, there is no undo function!*

### **Step button 8: MIDI-note send on/off**

The sequencer sends out MIDI notes on all tracks.

### **Step button 9: Start/Stop Impuls/Level**

The function toggles between

- "impuls" = red LED (e.g. Urzweg, SEQ-01/02) and
- "level" = green LED (e.g. TR-808, Doepfer).

### **Step button 10: Factory Reset**

Sets Tanzbär back to it's factory settings. First, the Step button flashes green, Press **Step 10** again to confirm the function. Hit **Select** to save the factory settings permanently.



*This function affects only the global settings, not the pattern memory. User patterns will not be overwritten or deleted. If you wish to reload the factory patterns, you have to transfer them via MIDI-dump into the Tanzbär. The factory patterns can be downloaded from the MFB website.*

# APPENDIX

## MIDI-Implementation

### MIDI-Controller Assignments

Midi Implementation	Control Change	No	VALUE	Note On	Note	Velocity		
<b>Control Change</b>	<b>No</b>	<b>VALUE</b>	HTC_TUNE	19	0..127	CV1	36..72	-
			HTC_DECAY	20	0..127	CV23	36..72	0..127
BD1_ATTACK	2	0..127	HTC_NOISE_ON_OFF	78	0..127			
BD1_DECAY	64	0..127	HTC_TOM_CONGA	79	0..127	BD1	36	0..127
BD1_PITCH	65	0..127				BD2	37	0..127
BD1_TUNE	3	0..127	MTC_TUNE	21	0..127	SD	38	0..127
BD1_NOISE	4	0..127	MTC_DECAY	22	0..127	RS	39	0..127
BD1_FILTER	5	0..127	MTC_NOISE_ON_OFF	80	0..127	CY	40	0..127
BD1_DIST	6	0..127	MTC_TOM_CONGA	81	0..127	OH	41	0..127
BD1_TRIGGER	66	0..127				HH	42	0..127
			LTC_TUNE	23	0..127	CL	43	0..127
BD2_DECAY	8	0..127	LTC_DECAY	24	0..127	CP	44	0..127
BD2_TUNE	9	0..127	LTC_NOISE_ON_OFF	82	0..127	LTC	45	0..127
BD2_TONE	10	0..127	LTC_TOM_CONGA	83	0..127	MTC	46	0..127
						HTC	47	0..127
SD_TUNE	11	0..127	TOM_NOISE	84	0..127	CB	48	0..127
SD_D-TUNE	12	0..127				MA	49	0..127
SD_SNAPPY	13	0..127	CB_Tune	85	0..127			
SD_SN_DECAY	67	0..127	CB_Decay	86	0..127			
SD_TONE	14	0..127						
SD_TONE_DECAY	68	0..127	MA_Decay	87	0..127			
SD_PITCH	69	0..127						
			Set Select	0	0..2			
RS_Tune	88	0..127						
			Track Delay CV1	89	0..127			
CY_DECAY	70	0..127	Track Delay CV23	90	0..127			
CY_TONE	15	0..127	Track Delay BD1	91	0..127			
CY_TUNE	71	0..127	Track Delay BD2	92	0..127			
			Track Delay SD	93	0..127			
OH_DECAY	72	0..127	Track Delay RS	94	0..127			
HH_TUNE	73	0..127	Track Delay CY	95	0..127			
HH_DECAY	74	0..127	Track Delay OH	96	0..127			
			Track Delay HH	97	0..127			
CL_TUNE	16	0..127	Track Delay CL	98	0..127			
CL_DECAY	17	0..127	Track Delay CP	99	0..127			
			Track Delay LTC	100	0..127			
CP_DECAY	75	0..127	Track Delay MTC	101	0..127			
CP_FILTER	18	0..127	Track Delay HTC	102	0..127			
CP_ATTACK	76	0..127	Track Delay CB	103	0..127			
CP_TRIGGER	77	0..127	Track Delay MA	104	0..127			

## Imprint

MFB – Ingenieurbüro Manfred Fricke  
 Neue Str. 13  
 14163 Berlin, Germany  
 www.mfberlin.de





Tanzbär