XBase09

Long ago, drummers like Phil Collins started the first vintage-drumcomputer-hype.
After some 'dark' years of all-pervasive drum samples in the 80ies, those magnificiant artefacts were rediscovered by the Hiphop-scene. The evergrowing Techno movement finally declared them to absolute cult-objects.



Technical Specifications
technical specifications

Instruments:
Bass Drum
completely true analog generated, digital parallel controlled parameter
Tune, Pitch, Decay, Harmonics, Pulse, Noise, Attack, EQ
Snare Drum
completely true analog generated, digital parallel controlled parameter
Tune, Snappy, Decay, Detune, Noise Tune
HiHat-Section 6 bit-samples, noise, true analog processed, digital parallel controlled parameter
OH Deca CH

Today, analog sound stands for 'punchy, powerful and intuitive acces'.
There is hardly no Pop-production, that does not life from a tight analog bassdrum.
The JoMoX XBase09 finally continous the long range of real and unique drum machines.
Based on the well-desired Roland TR-machines, the XBase09 sets new standarts.
The XBase09 offers modern handling and connects the ultimate vintage sound with modern studio- and live-surroundings.

OH Decay, CH Decay, OH Tune, CH Tune, OH/CH Balance
sample selection (open/closed HH, Rim, Clap, Crash, Ride), reverse function,
analog noise
LFOs 2, sync function, 4 waveforms, each assignable to 6 destinations
Metronome on mix-out, headphone-out, switchable
User interface 23 knobs, 5 cherry keys, 26 lighted buttons, 13 LEDs
Display LED 3x7 segment
Drum Kits 100 ROM, 100RAM
Patterns 64 pattern-memories
Songs 10 song-memories
Outputs 1 mono-mix-out, 3 individual-outs, headphone-out
Output-level approx. +4dBu
Midi in, out, thru
Synchronisation send: midi-clock, DIN-trigger, clock 24 ticks/quarter recieve: internal, midi-clock
Power supply external, 12V AC/AC
Case iron steel, wooden side panels
Dimensions 30mm x 235mm x 90mm
Weight 3,5 kg

Seven Instruments
The sound generation of Bass- and Snare Drum is completely true analog, combined with digital (i.e. recallable) midi control of all parameters. In order to reduce unwanted side effects of digital control (e.g. stepped ranges) nearly to zero, all digital-to-analog-converters are specially adapted to the parameters they control. They have been discretely built right into the sound generation circuits. Because of this, the respond of sound control parameters to instrument-triggers is superfast.
The BassDrum itself is a complete instrument. Extremely hard and punchy BassDrums are also possible as deepest subbasses down to 25 Hz. Tonal effects like walking bass sequences are also no problem.
The hihat section uses original vintage 6-bit samples with true analog sound processing. This means powerful and cutting electronic-percussion instead of polished hifi-sound.

23 knobs
All parameters have direct acces by their own control knob on the frontpanel. So the XBase09 is the ideal live-tool. Besides that, every parameter can be recorded and remote-controlled via midi.

LFOs
The XBase09 features 2 assignable LFOs. They can modulate e.g. tunings and other sound parameters, exactly synced to the sequencer tempo.

Sequenzer
The built-in pattern/song sequencer turnes the XBase09 into the ideal live-performance tool. Patterns are programmed with a row of 16 lighted buttons. Live recording is as easy and fast as programming stepwise. Every programming function can be accessed while the sequenzer is running. Two linked patterns create a 32step pattern.
Maybe the XBase09 most outstanding innovation is the capability to give every single step on every track a completely different sound-setting! And practically without any timing delay because all 23 parameter settings are working parallel. This means much faster acces and thighter timing then serial midi-control could ever be.

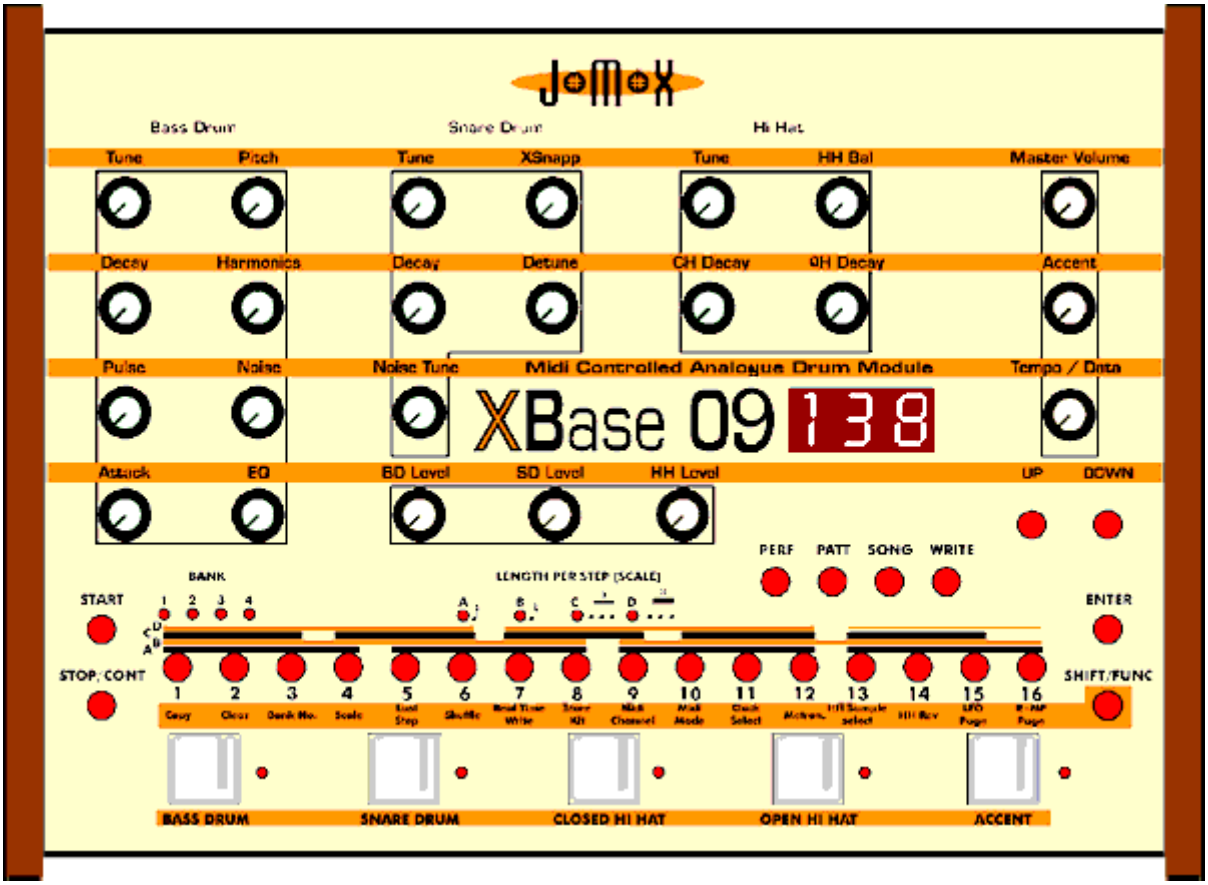
Another important feature is the 'Micro-Groove/Shuffle'-Function. It makes it possible to shift each step by a maximum of +/- six 96ths of a bar.The finest resolution is one 192th. In combination with the accent function, you have nearly unlimitted possibilities in programming tight and dynamic grooves.

Besides theDrum Tracks, each pattern has 3 additional sequencer tracks. Their data is sent out via midi-out-socket. Each track can have its individual midi channel.You can set steps, edit note and length and programm slides. So you can control up to three different midi sound sources directly from the XBase09.

There is midi in, out and thru and a Sync-out socket to sync e.g. Roland TB303 and TR-machines.

Beside its place in the studio, the XBase09 features all capabilities to become the central unit of a very compact and powerful live-setup.

XBase 09 Manual Software Version 2.00



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Dear Musician!

First of all we want to thank you for choosing the XBase09 Analogue Drum Module. You can now program drum grooves on an instrument that not only matches the sound quality and character of its predecessor, but surpasses it by opening an even larger scope of sound potential, adding modern control technology to honest to goodness punchy old-time analog sound generation

We combined our experience from many modifications of the TR 909 and other drum computers and our MIDI interface know-how to develop this new product you now have in front of you. The Xbase09 is more than just a drum machine because it is capable of closing the gap that seperates "noisy" percussive sounds from more "tonal" sounds.

Among its most interesting features are:

3 instruments or rather monophonic sound generators, namely bass drum, snare drum and hihat with greatly enhanced sound forming parameters. Crazy kick drums, nasaly noisy snares and hihat modulations (including reversed playback) that the TR 909 could never have done are now possible .

Original 909 analog sound generation with storable digital Midi control of ALL parameters. In order to preserve the "analogness" of sound generation as well as of sound control, all parameters are controlled by specially adapted and discretely built digital to analog converters. This measure requires extra hardware, but enables practically immediate response to control messages. Great care has been taken to preserve the analog feel of control voltages in the Xbase09ís MIDI control of sound parameters. For most parameters, the range of control has been greatly increased.

All sound forming parameters have a dedicated physical knob on the unit that sends the respective MIDI controller. In PERFORM-MODE the Xbase09 can send MIDI controllers and receive them at the same time.

100 ROM drum kits are already programmed for immediate access.

100 of your own custom drum kits can be stored in the RAM-Section.

64 patterns are stored in 4 memory banks containing 16 patterns each.

10 Songs can be stored. These can be comprised of 64 patterns and can repeat every pattern 255 times per song step. 100 song steps are allowed per song, each of which may run at its own tempo

The on-board step sequencer allows for extensive direct access, even in a live concert situation. All sound-forming parameters are programmable for every step by simply turning the control knobs. This is the decisive feature of the XBase09.

Depending on the used mode, it is possible to program completely different sounds for every single step in a pattern.

Also possible are continous soundchanges over several steps and these features can be used for bass-, snare- and HiHat-track individually.

Software-Version 2.0 :

There are also three additional Sequencer-Tracks. Their data is putted out via Midi to control up to three different outboard soundsources. Notes and length is controlled easily by the knobs on the

XBase09 front panel. (See V2-Update!)

The internal sequencer enables sound and tone control for each instrument in each step without the timing delays that MIDI controllers and note-on messages would produce. This is the reason why the Xbase09 grooves so tightly when running on its own, much tighter than if it played the same pattern in MIDI remote control mode.

2. CONNECTING THE XBASE 09

Before you connect the Xbase09 to any other device, you should always switch off all the involved devices.

2.1 Back Panel

You will find the following connections on the Xbase09's Back Panel: 12V~AC IN ON/OFF MIDI IN MIDI OUT MIDI THRU DIN SYNC HH OUT SD OUT BD OUT MIX OUT

2.2 Power Supply

Insert the power supply unit shipped with the Xbase09 into a power outlet and connect it to the power supply socket labelled 12V~ AC IN on the Xbase09's back panel. Should you for some reason not use the original power supply unit, make sure you are using one that provides alternating current (AC/AC) with 12 volts and at least 1 ampere.

NEVER use an AC/DC power supply unit, as this can permanently damage the Xbase09.

2.3 Audio Connections

Switch off the Xbase09 and your mixer. The Xbase09 has a MIX output which carries the audio signals of all instruments provided there are no plugs inserted into one of the individual outputs.

Individual outputs are provided for the bass drum, the snare drum and the hihat section. As soon as a jack plug is inserted into one of these individual outputs, that instrument is no longer played back through the Xbase09's MIX output. Connect the required outputs to your mixer's inputs with 1/4" jack plug cables.

2.4 MIDI Connections

2.4.1 MIDI In

The Xbase09 can be controlled by (and synchronize to) MIDI devices (keyboards, computers, sequencers, tape recorders) connected to the MIDI in socket.

Connect the Xbase09 ís MIDI In to the other deviceís MIDI Out with a standard MIDI cable.

2.4.2 MIDI Out

The Xbase09 transmits MIDI data to other MIDI devices such as keyboards, computers and sequencers via MIDI Out. Connect the XBase09's MIDI Out socket with the other device's MIDI In socket by means of a standard MIDI cable.

2.4.3MIDI Thru

MIDI data received at the XBase09's MIDI In is echoed unchanged at the MIDI Thru socket.

You can connect additional MIDI devices to MIDI Thru.

2.5. DIN Sync Out

The Xbase09 features a DIN Sync Out socket. This enables you to sync a TB or TR machine to the Xbase09. The clock triggers are very precisely aligned to the Xbase09's internal timing.

You can synchronise sequencers, drum machines etc. that support the DIN sync protocl (e.g. Roland TR808,TB303, Korg Rythm 55b, KPR77) to the XBase09 by connecting them to DIN Sync Out.

Connect the XBase09's DIN Sync Out with the Syn In socket of the device you want to synchronize to the XBase09. Make sure that the device is set to external sync mode.

The XBase09 outputs the following signals via DIN-Sync-Out :

Start/Stop (Pin 1)

Clock Trigger with 24 Ticks/Quarter Note (Pin 3)

Ground (Pin 2)

Signal level is 5 volts

Make sure that your cables actually connect the abovementioned pins. Some specialized MIDI cables don't, becaus these pins are not used for MIDI transmission.

3.0 Quick start guide

Turn unit on (back panel)!

Turn up the master Volume control (upper right of the machine).

Turn up the individual volumes (BD Level, SD Level and HH level at lower center).

3.1 To listen to sample patterns already programmed into the XBase-09

Hit the Pattern button (labeled "Patt", on the right of the machine).

Use the Up/Down keys to scroll down to Pattern 1 (LED display will read "P01").

Hit the Start button (on the left of the machine).

Use the Tempo/Data knob (on the right of the machine) to adjust tempo to your liking.

Using the Up/Down buttons you can change patterns while the machine is in play.

To learn more about how the Xbase is making the sounds it is, you can "solo" the Bass, Snare or HiHat channel by turning down the individual volumes of the other two channels.

If you hear interesting "swooshing sounds" in some of the Patterns, these sounds are being generated by one of the two onboard LFO sections (which can run "free", be triggered on each hit or sync'ed to Midi).

You may come across Patterns that are long enough to occupy two Pattern spaces. To move past these Patterns once you've listende to them, hit the Stop button, then the Patt button and you can once again use the Up/Down keys to scroll past these special Patterns.

3.2 To play with the sounds in the XBase-09

Hit the Pattern button (labeled Patt) and use the Up/Down keys to scroll until the display reads "P01". Now hit the Peformance button (labeled Perf). You can hit any of the Instrument pads at the bottom of the front panel and turn the appropriate controls above (for the Bass Drum, turn the Bass Drum controls, etc.). Twiddle the knobs! Have fun! The controls are highly interactive, so be prepared to hear a lot of different sounds as you turn knobs.

If you'd like to hear the Bass Drum playing without having to hit the pad, simply hit the "Start" button (on the left of the machine). If you want, you can "solo" the Bass Drum by turning down the Snare and HiHat volumes. If you'd like to adjust the tempo, turn the Tempo control (on the right of the machine). You can still play with the knobs now!

Now, turn down the Bass Drum volume and "solo" the Snare by turning up its volume. Play with the Snare controls. Try the Hat section, as well. The Clap, Rim, Crash, Ride and Noise Samples, and the Reverse versions of all of those are best explored within the Pattern context described below.

While the machine is playing, you can hear different pre-programmed "drum kits" by simply hiting the Up/Down keys. Also, while the machine is playing, sou can change the Pattern you are listening to simply by hitting one of the buttons labeled 1 to 16. To switch "drum kits" while hearing this new pattern, simply hit the Up/Down keys. There are 100 ROM kits preprogrammed in the machine. They are stored in the memoryslots **r00** to **r99**.

3.3 To Programm patterns into the XBase-09 (the real fun!)

Here's where the real fund begins:

Make sure the machine is in Pattern mode (Patt light is on). Make sure the Bass Drum, Snare Drum and Hi Hat volumes are up, and the Master Volume control is up.

Hit the "Start" button.

(If you follow the directions carefully, you should never(!) have to hit the "Stop" button!)

Using the Up/Down keys, scroll to a Pattern number where this is no data... you'll know when you've reached an empty Pattern when you hear no sound (brilliant!). Try above Pattern 30 to find an empty one.

Hit the Write button (Write button will light up). Notice that the Bass Drum pad is blinking. This means you're ready to Programm the pattern of the Bass Drum.

By pushing the various 16 red "Note Buttons 1, 5, 9 and 13 will give you a Bass Drum hit on every quarter note. For our Pattern, choose 1, 5, 8, 9, 11, 14 and 16.

Now hit the Snare Drum pad (the lights blinks next to it, telling you the machine is ready to Programm where the snare will play). Now hit the Note Buttons where you would like the snare to play. (Tor this pattern, push Notes 1, 3, 4, 5, 7, 8, 9, 11, 13, 14, 15 and 16)

Hit the Closed Hi Hat pad (light blinks), and Choose where you want it to play (try 7, 11, 15),

Now that the Kick, Share and Hat are playing, adjust their individual volumes to your taste.

NOW... hit the Snare Drum pad again. Hit the Accent pad (accent button flashes along with snare button light). Notice that all of the Note lights disappear. This is because you have not yet chosen any snare notes to be "accented" (louder volume). For a note to be Accented, it must already be chosen to play normally.

To remember which Snare notes you've previously chosen to play normally, simply hit the Accent pad again (accent light goes out) and the Note buttons will light up where you have normal snares programmed. Hit the Accent pad again (Accent light flashing).

Choose some of the Snare notes to accent. Try 5, 8, 13, 14, 15 and 16. Adjust the Accent level

by using the Accent volume control (upper right of the machine). Hit the Accent pad to come out of Accent mode.

You may hit either the Bass Drum pad or the Closed Hat pad, then hit the Accent pad so that the Accent light is flashing and set either Kick notes or Closed Hat notes to be accented also.

... Now, are you ready for the next level?

Now let's edit the sounds in this pattern.

"Solo" the Bass Drum by turning down the Snare and Hat volume controls.

Push the Bass Drum pad and -while holding it down- push the "Write" button (both Bass Drum pad and Write button are blinking). Perhaps the sound of the Bass Drum has now changed... this is because the Bass Drum sound knobs have been activated.

Now start turning the Bass Drum sound controls (labeled Tune, Pitch, Decay, etc). Keep turning until you find a sound you like. That sound is now being written into the Pattern. Hit the "Write" button once to deselect it. Hit it once again so the Write light is on, but not blinking. We do this so that we can now change the sound of INDIVIDUAL Bass Drum notes, as opposed to ALL of them.

Push the Bass Drum pad and -while holding it down- push the "Note #1" button once to deselect it then once again so that it is in "record" (Note #1 light flashing). Notice that the Kick sound on Note #1 is different. Again use the controls to alter the sound of the Kick on Note #1. Try lenghening the decay, for instance. Once you have found a sound you like, hit the "Note #1" button once to deselect it from recording, then hit it again so that it is playing, but it is not in record.

You may follow this procedure for any of the other instruments as well.

... Let's get crazy!

Now let's edit the snare sound, changing it over the course of the whole bar.

"Solo" the sanre Drum by turning down the Bass and Hat volume controls.

Push the Snare Drum pad and -while holding it down- push the "Write" button (both Snare Drum pad and Write button flash).

Now start turning the snare Drum sound controls. Keep turning until you find a sound you like. That sound is now being written into the Pattern.

... Now for some real fun:

While you are still in this mode (Snare pad and Write lights blinking), turn the Snare tune knob all the way counter-clockwise (Snare is at lowest possible pitch). You may choose to slow the tempo down to make this next move. Here we go... keep your hand on the Snare Tune knob, and when the bar begins, move the knob clockwise (turning up the pitch of the snare) so that at the end of the bar, the snare is near ist highest pitch. You can practice this

until you get a good "preformance". Once you have a good performance of tuning up the pitch, hit the "Write" button at the end of the bar, before the bar starts over so that you come out of the "record" mode! Your "performance" will now be stored with the Pattern! (If you don't like your performance, hit the Write button, then push the Snare Drum pad again and -while hoding it down- push the Write button again and try again).

You will notice when you hit the Write button at the end of that last move, its light went out. Hit the Write button to activate the write mode again. Hit the Snare Drum pad so that ist light blinks. Now, while holding down the Snare pad, hit Note button 9 twice and then Note button 11 twice. These two Note buttons should be blinking. Turn the Snare Tune knob all the way up, turn XSnapp, Dacay, Noise Tune and Detune knobs all the way down. Now the snare sounds like a cowbell! Hit Note button 11 twice to take it "out of record", turn the Snare Tune knob down so that Note 9 will have a different pitch than note 11. Now hit Note button 9 twice to take it out of record. If you want, hit the Accent pad and select Notes 9 and 11 to increase the volume of those cowbell hits.

... Let's get crazier !

Now let's look into the HiHat section:

"solo" the Hi Hat by turning down the Bass and Snare volume controls.

Hit the Closed Hi Hat pad. At this point, Notes 7, 11, 15 are lit. Make sure the Write light is lit, but not blinking.

Now select Notes 9 and 10 by hitting those Note buttons.

Hit the shift button (lower right) and the Note button 13 (notice that below this Note button it says "HH sample select"). Using the Up/Down buttons, scroll to where the display says "CLP". now select Note buttons 9 and 10 and hit the "Enter" button. Those notes change to a 909 Rim sound.

Now hold down the Closed Hi Hat pad and -while holding it down- hit Note buttons 9 and 10 twice... both Note Buttons 9 and 10 should be blinking. Now turn the Hi Hat Tune knob and select a pitch for the Rim. Once you've got a good pitch, hit buttons 9 and 10 twice each again to take them out of record. If you'd like either of those, hit louder, hit the Accent pad and select 9 and/or 19. Hit the Accent button again to come out of Accent mode.

Now, push the Open Hi Hat pad. Select Note buttons 1 and 13. Press Shift, and while holding it down, hit Button 13 again. Use Up/Down to scroll to "CLP". Hit Button 13 to light it, then hit the Enter Button. Note 13 becomes a Clap. By hitting the Accent mode, you can choose Button 13 to make the claps louder. (Remember to hit the Accent pad again to come out of Accent). Now hold down the Open Hi Hat pad and hit button 13 twice. Use the Hi Hat Tune knob and the OH Decay knob to find a clap sound you like. Once you've found it, hit button 13 twice to deselect it from recording.

Now push the Shift button, hold it down and hit Note button 13 again. Use the Up/Down keys to scroll until the display reads "CrH", then hit Note button 1 and "Enter". There is now a crash cymbal on Note 1. **... Turn up the Bass and Snare Drum volumes, sit back and listen to what you've created so far! ... On to new frontiers!**

Hit the "Shift" button, hold it down and hit Note button #6 (Shuffle). Use the Down button to make the display read "2", which will swing the notes we choose to be a little late to the beat. Hit the Note buttons 2, 4, 6, 8, 10, 12, 14, 16. Hit the "Enter" button. Notice that the "feel" of the track has changed. If you like that sound, move to the next paragraph, or to change it back to "straight time", hit the "Shift" button, hold it down and hit Note button 6 (shuffle). Use the Up/Down buttons to make the display read "0", then light all of the unlit note buttons and hit "Enter".

Hit the "Write" button twice so that it is lit.

Solo the HiHat by turning down the Bass Drum and Snare drum volumes.

Hit the Shift button, hold it down and select Note button 15 (LFO Page).

Turn the Bass Drum Decay (LFO Intensity) control so the display reads "000 or 001".

Turn the Bass Drum Tune (LFO Waveform) control so the display reads "tri".

Turn the Bass Drum Pitch (LFO Destination) control so the display reads "Htu".

Turn the Bass Drum Harmonics (LFO Speed) control so the display reads "004".

Turn the Bass Drum Pulse (LFO Sync) control so the display reads "SYn".

Now, turn the Bass Drum Decay (LFO Intensity) control so the display reads "010".

Hit the "Enter" button.

Hit the "Stop" button and then hit the "Write" button so that ist light goes out.

Turn up the Bass Drum and Snare Drum levels. **... Now, kick back, hit "START" and listen to your creation !**

4. Detailed description

4.1 The Controls

4.1.1 Diagram

Sound control knobs (light green)

Global knobs (light beige)

Up / Down (red)

Mode select (red)

Enter (red)

Step buttons1..16 (red)

Shift (red)

Start / Stop (red)

Instrument buttons (light grey)

4.2 Functions of buttons and knobs

4.2.1 Sound control knobs

The sound control knobs adjust the sound of the three sound sources, namely bass drum, snare drum and hihat in Perform and Pattern mode.

When a knob is turned, the Xbase09 displays the current parameter value. In PERForm mode. the values are processed additively. This means that the parameter value is loaded from the performance memory and added to (or subtracted from) the value generated by the control knob. This process is started by turning a sound control knob.

It can therefore happen that a parameter value canít be set to maximum (127) by turning a knob fully clockwise, as is the case when the value stored in performance memory is small and the knob's starting point is in the last third of its range. If you want to set a higher value in this case, turn the knob all the way down and then set the desired value. Apply the opposite of this procedure if you canít directly set a level low enough.

All knob movements are transmitted as MIDI controllers. When receiving these MIDI controllers, the Xbase09 responds as though its own control knobs have been turned. The same applies for "Track Record" and "Step Editt" modes. This means that sound editing in the Xbase09's internal sequencer can also be made via MIDI. See the MIDI implementation chart to find out which controller is mapped to a given parameter. This mapping is fixed and canít be changed.

Note: The hihat section is a monophonic sound generator that can play one of six samples (closed hihat, open hihat, crash cymbal, ride cymbal rim shot and clap) or analog noise. This is what is meant by "hihat section" in this manual. Although it carries the name, the hihat section does not always produce the sound of a hihat!

4.2.1.1 Bass Drum Parameter

TUNE controls the pitch envelope amount on the bass drums VCO, just as on the TR 909. The range of control has been increased.

PITCH ranges from 25 Hz subbass to relatively high tones. This is the actual VCO tuning parameter as opposed to TUNE.

DECAY controls the bass drums decay, just as on the TR 909. The range has been increased to allow for "walking bass" sounds with a maximum decay of 2.5 seconds.

HARMONICS changes the harmonics of the bass drumís VCO. The original sine wave is gradually distorted by a diode limiter which makes for a harder, timpani-like sound.

PULSE controls the pulse component of the attack

NOISE controls the noise component of the attack.

ATTACK controls how much of the PULSE and NOISE mix is added to the bass drum sound, just as on the TR 909. PULSE is a square wave impulse, while NOISE generates a noisy clap-like sound. It is possilble to set both PULSE and NOISE to 0, emabling bass drum sounds completely without attack or with PULSE or NOISE components only.

EQ smoothes the bass drum sound with a gently sloping filter. Use this for creating soft TR 808 like kick drum sounds.

4.2.1.2 Snare Drum Parameter

TUNE Just as on the TR909, TUNE controls the pitch of the two percussion oscillators, but with an extended range of control.

XSNAPP controls the proprtion of noise in the snare sound and is actually filtered noise, just as in the TR909, but with an extended range of control.

DECAY controls the snareís noise decay time, just as "TONE" does on the TR909, but with an extended range of control.

DETUNE detunes the snare drum oscillators

NOISE TUNE tunes the snare drumís noise filter. If NOISE TUNE is set to 0, the noise signal is turned off, leaving only the two oscillators sounding. Using the TUNE parameter you can generate various percussion instruments with sounds similar to rim shot, cow bell or tom tom.

4.2.1.3 Hihat Parameters

The Xbase09īs hihat section is essentially a monophonic sound generator that can play any of six selectable samples or noise. "Monophonic" means that you canít play Closed Hihat and Open Hihat at the same time, (just as on a real hihat).

As in the original TR909, "Open Hihat" and "Closed Hihat" samples are six bit samples

You can substitute the "Open Hihat" and "Closed Hihat" samples with other onboard samples. These are: Rim shot, Clap, Crash Cymbal and Ride Cymbal.

The Crash and Ride samples can be played back with the short "Closed Hihat" envelope. Noise can be assigned as sound source instead of a sample All samples can be played back backwards excepting "Ride Cymbal".

Sample assignment is arranged in the following order:

HH Sample Select	**HH**	**CLP**	**CrH**	**rid**	**noi**
C H	Closed Hi Hat	Rim Shot	Crash short	Ride short	Noise short
O H	Open Hi Hat	Hand Clap	Crash long	Ride long	Noise long

C H Reverse	Closed HH Rev	Rim Shot Rev	Crash short Rev
O H Reverse	Open HH Rev	Hand Clap Rev	Crash long Rev

The samples played by either CH or OH are processed by a VCA working as a dynamic expander that controls the volume envelope.

OH DECAY controls the decay time of the analog volume envelope that is laid over the OH sample, just as on the TR909.

CH DECAY does the same for the sample assigned to CH.

HH BAL controls the volume balance between the samples assigned to OH and CH. Use this to adjust the volume of different samples in pattern mode

TUNE defines the pitch i. e. the playback speed of the sample in a fairly wide range

All samples are processed by the VCA envelope. This VCA envelope is however not reversible, which means that the DECAY parameter may need to be turned all the way up for the envelope not to cut off the end part of a sample.

4.2.2 Tempo/Data Control

In PATTERN, SONG and SONG-PLAY modes, this knob controls the sequencerís tempo. In some functions, it serves to set the value of the parameter shown in the display.

Turning the knob counter clockwise reduces the value, turning it clockwise increases it. The data knob can set tempo changes only in steps of two. To fine-set a BPM value, press the ACCENT button and scroll through the values with the UP/DOWN buttons in single steps. It is not possilbe to set fractions of BPM.

4.2.3 UP/DOWN buttons.

Use the UP/DOWN buttons to increase/decrease the values shown in the display in single steps. It is possible to reverse the response of these buttons to what suits you better. Press the SHIFTand UP buttons at the same time. You can now choose between the assignments Ud (Up Down) and dU (Down UP). Press ENTER to select or SHIFT to abort.

4.2.4 Instrument Volume Control

BD Level, SD Level, HH Level

Use this to set the basic volume level of the individual instruments. These knobs also control

the level at the individual outputs.

4.2.5 Master-Volume Control

Use this to set the volume of the MIX output. For best sound quality, keep this knob turned up all the way.

4.2.6 Accent Control

Depending on the ACCENT mode selected, this knob serves to set the global maximum accent.

4.2.7 WRITE

This button switches between Pattern-Write, Perform-Write or Song-Write modes. Pressing the button once activates the respective write mode which is indicated by the write button lighting up . Pressing this button again switches the unit back into play mode, at which point the write button's light turns off.

All mode functions can also be switched while the sequencer is running without timing glitches. An interesting feature is switching from Perform to Pattern mode, since both modes use the same patterns but with differing treatment of instrument sound parameters. This can be useful in live performance.

4.2.8 STEP / PATTERN / FUNCTION buttons

START button

Start the Xbase09's sequencer by pressing the START button.

STOP/CONT button

To stop the sequencer, press the STOP/CONT button. To continue playing the sequencer, press the STOP/CONT button again.

1 . . . 16 buttons

The 16 step buttons select patterns and steps directly. Press the shift button to access additional functions (copy, clear, bank number, scale, last step, shuffle...).

ENTER button

Use the ENTER button to confirm the various SHIFT functions.

SHIFT button

After pressing the SHIFT button (which then lights up) you can select the functions as shown by the step buttonís labels. The selected SHIFT mode is displayed by the respective step button and the shift button blinking until a data entry has been made. You can abort the function by pressing the SHIFT button again.

4.2.9 INSTRUMENT Buttons.

BASS DRUM, SNARE DRUM, CLOSED HI HAT, OPEN HI HAT

The instrument buttons serve to select or to monitor the respective instrument. In Song mode, special SONG - WRITE functions are assigned to these buttons! The LED next to each button indicates the selected instrument depending on which mode is currently active.

ACCENT / TEMPO FINE

In Pattern and Perform - Write mode, the ACCENT button serves to select the ACCENT track of the currently active instrument. This is indicated by simultaneous blinking of both the ACCENT LED and the LED of the respective instrument. Pressing the ACCENT button again switches back into the instrument track. Pressing an instrument button while ACCENT is active also switches ACCENT off again. ACCENT intensity is is globally controlled by the ACCENT knob in all PLAY modes (PERFORM, PATTERN, SONG) and is valid for all instruments.

Setting the tempo with the ACCENT button:

Hold down the ACCENT button. Now you can increase or decrease the tempo with the UP/DOWN buttons in steps of a single BPM.

Using the Accent button to make the Xbase09 display an absolute parameter value

Hold down the ACCENT and turn the desired knob. You thereby obtain the absolute value corresponding to the knobs position (full left: 0, full right: 127), as opposed to the knob's additive value.

Bank LEDs

The bank LEDs indicate which Pattern bank is active. There are 4 banks, each containing 16 patterns.

Scale LEDs

The scale LED indicates the note length of a step (scale) of the current pattern.

4.2.10 Mode select buttons PERF, PATT, SONG, WRITE

The mode buttons serve to select the Xbase09's various operating modes (see next chapter !).

5. PERFORM MODE

Press the PERF button to switch into Perform mode. In Perform mode you can select and edit drum kits and patterns, in a way similar to many "vintage" drum machines. In Perform mode, sound parameter changes ARE NOT recorded and played back as in Perform Write mode (see below). The Xbase09's speciality is programming patterns in Pattern Write mode.

5.1 Perform Play Mode (Pattern playback)

You can select from 64 patterns that are arranged in four banks with 16 patterns each.

To select a bank, press SHIFT/Bank No. and set the desired bank number with the UP/DOWN buttons. One of the four bank LEDs will display which bank you have selected.

To select a pattern within that bank, press one of the 16 step buttons. The respective patterns step button will light up.

Patterns can be selected while the sequencer is running.

Pressing the START button causes the sequencer to play the pattern from its beginning. To stop the sequencer, press STOP/CONT. Pressing STOP/CONT again will make it continue playing back from the point where STOP/CONT was last pressed.

5.2 Selecting Drum kits

Pressing the UP/DOWN buttons selects a drum kit. In the ROM-section are 100 already programmed drumkits stored. The display reads r00 to r99.

By stepping over r99, hitting the UP-button, you reach the RAM-section. The display now reads f00. When you are on kit r00 (ROM 00), you reach RAM-kit 99 by hitting the DOWN-button (now display reads f99).

You can select a new drum kit while the sequncer is running.

The Hihat sample - select function (see pattern functions) can be used here to trigger other samples for closed or open hihat and for editing the hihat section's sound parameters.

5.3 Creating and storing your custom drumkits

Select a drum kit you want to edit or an empty drum kit memory slot and set the parameters for bass drum, snare drum and hihat.

The dot in the display indicates that the selected drum kit has been edited and not yet stored.

To store an edited kit, press the SHIFT button and select the "Store Kit" function (step button 8). Select the memory slot where you want to store the kit by using the UP/DOWN buttons. Press ENTER to store the kit to that memory slot. Press SHIFT to abort. To edit ROM-kits you don`t

like, you have to copy the kit you want to change into the RAM-section like described above.

5.4 Recording patterns in Perform Write mode

To get into PERFORM WRITE mode, press the WRITE button while in PERFORM mode (PERF is lit).

In perform write mode you can record patterns. You can either step - program patterns or play and record instruments in real time with the aid of the real time write function (see REAL TIME WRITE).

Sound parameter changes can NOT be recorded in PERFORM WRITE mode!

You can set the patternís time signature by setting its scale and length (Last Step). See also "Pattern functions".

All empty patterns default to scale = 16, last step = 16. This means that the pattern has the time signature 4/4 and consists of 16 steps each with a length of 1/16th note.

Patterns that are longer than 16 steps occupy two or more pattern memory slots. To edit the steps after 16 in a 24 step pattern, increase the pattern number by 1 with the UP/DOWN buttons. Decreasing the pattern number by 1 with the UP/DOWN buttons changes back to the first 16 steps.

Select the instrument you want to play or edit by pressing one of the instrument buttons labelled BASS DRUM, SNARE DRUM, CLOSED HIHAT ans OPEN HIHAT. BASS DRUM is selected automatically when the WRITE button is pressed.

The 16 step buttons light up at the steps where the selected instrument is playing. Pressing a lit step button switches its light off and mutes the selected instrument at that step.

You can press any step button while the sequncer is running to switch it on or off. Use the instrument buttons to quickly switch between the three instrument tracks.

If you press the ACCENT button, the 16 step buttons will indicate at which step the selected instrument is played with an accent. Press the step buttons to switch the accentuation of individual steps on or off. Press the ACCENT button repeatedly to switch between an instrument track and its accent track. The ACCENT knob adjusts the strength of the accent (see also sound generation).

Note: There is only one ACCENT track for the hihat section, because open hihat and closed hihat can never sound at the same time.

In this mode you have direct control over each instrumentís sound by means of the sound control knobs. The pattern sequencer serves only to trigger the selected Perform kits 0 - 99. The selection is displayed as "F xx" (xx = Perform Kit number). For further details see "Perform Mode" section

6. PATTERN MODE

You get into Pattern mode by pressing the PATT button. You can program and play patterns in Pattern mode just as in Perform mode, the big difference being that you can store and play back all instrument sound parameters for every single step.

Drum kits cannot be recalled or edited in Pattern mode.

6.1 Pattern Play Mode (Pattern Playback)

Pattern playback functions are the same as in Perform mode. The UP/DOWN buttons select a new pattern number.

6.2 Pattern WRITE mode (Recording patterns)

The basic recording functions are the same as in Perform mode. The UP/DOWN buttons select a new pattern number.

6.3 Recording Sound Changes in Pattern Write Mode

6.3.1 Individual Step Edit

This function lets you assign new sound parameter values to one or more steps by turning a sound control knob.

To switch a step into edit mode, hold down the instrument button (BASS DRUM, SNARE DRUM, CLOSED HI HAT or OPEN HI HAT) of the instrument you want to edit and press the step button (1-16) you want to edit. The step button light will start blinking.

It is possible to edit multiple steps at the same time.

NOTE: If the step you want to edit is already selected (step button is lit), the first button press will deselect it, also if the instrument button is held down. In this case you should press the step button a second time to switch it into edit mode.

Now turn the sound programming knobs of the selected instrument to until you have reached a satisfactory setting.

To switch off edit mode for a particular step, press the respective (blinking) step button as often as is necessary to switch its light off.

6.3.2 Track Record Mode

With the Track Record mode function all steps of the current pattern can be edited.

Hold down the button of the instrument you wish to edit and press the WRITE button to activate the Track Record mode functions. The WRITE button starts blinking.

Now turn one of the sound control knobs of the selected instrument. This replaces that knobís parameter values in all the steps it passes over with new values.

If you want to record continuous sound parameter changes, do the following:

After completing a successful pass through the pattern, immediately press the WRITE button again to exit Track Record mode., because a renewed run through the pattern would overwrite the settings you just recorded..

6.4 Pattern functions

To select the following functions, press SHIFT and then press the step button bearing the name of the function.

6.4.1 Copy

In Perform mode: Copies the soundparameter data from Perform mode into all the steps of the selected pattern. The display reads: F-P

Use this function to assign the settings of a Perform mode drum kit (F) to all steps of a pattern. In this wise you can copy existing drum kits and create static patterns (i.e. patterns played by drum kits whose sounds are not continuously changing) in Pattern Write mode.

The individual steps can be edited later (see Pattern Write mode).

Select a pattern to which you want to copy the sound data.

Activate the Copy function by pressing SHIFT and COPY. Both buttons will start blinking.

Use the UP/DOWN buttons to select a drum kit (F00-99) whose sound data you wish to copy.

Press ENTER to copy or SHIFT to abort.

In Pattern mode: Copies whole patterns. The display reads: P - P

While in Pattern mode or in Pattern Write mode, select the pattern you wish to copy.

Activate the Copy function by pressing SHIFT and COPY. Both buttons will start blinking.

Use the UP/DOWN buttons to select the pattern memory slot number where you wish to copy the pattern to.

Press ENTER to copy or SHIFT to abort.

6.4.2 Clear

Clear deletes patterns

Select the pattern you wish to delete.

Activate the Clear function by pressing SHIFT and Clear. Both buttons will start blinking.

Press ENTER to clear or SHIFT to abort.

6.4.3 Bank No.

Bank No. lets you switch between pattern banks.

Activate the Bank No. function by pressing SHIFT and Bank No. Both buttons will start blinking.

Use the UP/DOWN buttons to select one of the four banks. The respective Bank LED will light up.

In Perform and Pattern Play modes, the 16 step buttons always correspond to the 16 patterns in the selected bank. Bank selection does not have to be confirmed by pressing ENTER. Press ENTER or SHIFT to quit "Bank No".

6.4.4 Scale

Activate the Scale function by pressing SHIFT and Scale. Both buttons will start blinking.

Set the step length with the UP/DOWN buttons. The possible settings are:

1/16, 1/32, 1/8 Triplets or 1/16 Triplets

The four scale LEDs show the selected scale.

Directly above the step buttons you will find four sets of stripes in two colours, labelled A,B, C and D respectlively. These stripes indicate where the strong beats (quarter notes) are to be found in the four different scalings.

In a pattern with a 32th scaling, the first beat is on step 1, the second beat on step 9, exactly where the corresponding orange stripes begin on the left.

The same applies for the other scalings. In order for the scale settings to make sense, the variable "last step" , which determines the last step of a pattern, is set automatically.

The combination of the settings "Scale" and "last step" determines the time siganture and tempo.

You canít convert a 4/4 pattern into a triplet pattern simply by changing the scale. The programming of the individual steps has to be adapted.

Patterns programmed in scales B (32th) and D (16th triplets) extend into the next higher numbered pattern. This should be borne in mind when you edit them. For further information, read the following section "Last Step".

Press ENTER to select the new scale or SHIFT to abort.

6.4.5 Last Step

Activate the "Last Step" function by pressing SHIFT and LAST STEP. Both buttons will start

blinking.

Use the UP/DOWN arrows to set the pattern length (number of steps). Possible values are 1 to 255.

Press ENTER to set "Last Step" or SHIFT to abort.

If the number of steps is greater than 16, the selected pattern will occupy two or more consecutive pattern memory slots that are played back consecutively but which have to edited individually.

If, for example, you set the last step for pattern 05 to 32, selecting pattern 05 in perform/pattern play mode will cause the step buttons 5 and 6 to light up together, These patterns will always be played back together, 05 after 06.

With this function you can create nearly all musical time signatures. The default setting after clearing a pattern is 16, which means 4/4 time.

Changing the last step to 12 will give you 3/4 time in 16th note resolution. During playback, the step light will jump to the first step after reaching step number 12.

Further examples:

Last Step = 6 gives you 3/4 time in 8th note resolution at double speed

(relative to 16th note resolution.)

Last Step = 14 gives you 7/8 time in 16th resolution

Last Step = 20 gives you 5/4 time in 16th resolution

Last Step = 10 gives you 5/4 time in 8th resolution and double speed realative to 16th resolution

You can chain together multiple 16th patterns by setting Last Step as a multiple of 16. Setting Last Step to 64 (= 4x16) will cause 4 patterns always to be played one after the other. The Last Step information is contained only in the first of the four consecutive patterns.

The other patterns can have Last Step information of their own which is displayed by the pattern LED. In this wise, you can very flexibly generate short multi-measure sequences by selecting patterns in combination with programmed Last Step values that can be switched during live performance. Neat, huh?

Recapitulation:

The Xbase09 has 64 single patterns each with a maximum of 16 steps.

A "Last Step" can be programmed for each pattern. The highest possible "Last Step" number is 255. This enables a single pattern to spread over a maximum of 16 consecutively numbered patterns.

6.4.6 Shuffle

Activate the Shuffle function by pressing SHIFT and Shuffle. Both buttons will start blinking.

The Shuffle function can push or delay selectable steps inside a selected scale in order to create all kinds of grooves. Any step can be played back up to 6/192ths earlier or later.

The 16 step buttons indicate which steps are shifted by the number of 192ths shown in the display.

The default setting all steps of a pattern will light up when the display reads "0".

Use the UP/DOWN buttons to make the display read -6 to 6.

" 0" means no shift.

"-1" means a predelay of 1/192th, -6 means a predelay of 6/192ths.

" 1" means a delay of 1/192th, 6 means a delay of 6 1/192ths.

Pressing a step button will cause that step to be shifted by the displayed amount.

The steps shifted in this way will light up.

Pressing ENTER programs the shift, SHIFT aborts the shuffle function.

NOTE: If you want to shift some steps by -1 and other steps by 2, perform the -1 shift by pressing ENTER and then perform the 2 shift in a second pass by calling up the shuffle function again, making the settings and confriming these by pressing ENTER again.

6.4.7 Realtime Write

Realtime Write lets you record the Xbase09's instruments in real time.

Activate the Real Time Write function by pressing SHIFT and Real Time Write. Both buttons will start blinking.

The display now reads "rEC". Press ENTER. The WRITE LED and the "rEC" display will begin to blink.

Start the sequencer. You will hear the sound of the metronome playing 1/4 notes. Now play the instrument buttons. The metronome is automatically switched off after the sequencer has been stopped.

Confrim your recording by pressing ENTER or abort by pressing SHIFT.

6.4.8 Metronome

Press SHIFT and Metronome to turn the Metronome On or Off.

A click is running through Mix out all the time.

6.4.9 Hihat Sample select

Selects samples for the Closed Hihat and Open Hihat buttons.

Press SHIFT and HH Sample select. Use the UP/DOWN buttons to choose one of the following settings that are shown in the display:

HH: The step buttons indicate which steps are assigned to the hihat sample. The default setting is: "All steps".

CLP: The step buttons indicate which steps are assigned to the rim shot or the clap sample

CrH: The step buttons indicate which steps are assigned to the crash cymbal sample

rid: The step buttons indicate which steps are assigned to the ride cymbal sample

noi: The step buttons indicate which steps are assigned to the noise signal.

(see also the table in the introduction, desciption of sound parameters.)

Select a sample and determine where it should sound in place of the hihat sample by pressing the appropriate step button.

Confirm this selection by pressing ENTER. You can also select a new sample to assign and confirm all edits with ENTER later or you can abort by pressing SHIFT.

NOTE: This function only determines which sample is to be played when the respective step is set to play a sound. If the step where you want to play a certain sample is not set in either the closed hihat or the open hihat track, no sample will be played in the HH Sample select function. It is therefore advised that you program an open Hihat for the step you want to assign the clap sample to in HH Sample select.

The samples "crash", "ride" and noise can be played back by the open and the closed hihat instrument tracks. This lets you program closed and open crashes. The only exceptions are the "rim shot" and "clap" samples which can be triggered only by the closed hihat and the open hihat instrument track respectively.

NOTE: After activating the step edit function in pattern mode you can adjust the volume level of the various hihat samples and noise by means of the HH Balance knob.

6.4.10 HH Reverse

HH Reverse reverses playback of the HiHat-, Crash- and Rim-Samples in the hihat section. Ride- and Clap are not reversible.

To reverse the sounds, first you have to select the samples and the steps you want to reverse (described in6.4.9).

Activate the "HH Reverse" function by pressing SHIFT and HH Rev. Both buttons will start blinking. The display reads "rEV"

The 16 step buttons now indicate which of the steps in the hihat track are being played backwards. Press a step button to determine wether that step is to be played backwards (step button is lit) or forwards (step button is not lit).

Confirm your edit by pressing ENTER, press SHIFT to abort.

Use the sound control knobs in step edit mode to edit the sound to suit your taste.

6.4.11 LFO Page

Xbase09 software versions 1.23 and higher provide two LFOs (Low Frequency Oscillators) for sound modulation.

The LFOs are designed to modulate the three instrumentís sound parameters. When the LFO function is active, the first five sound control knobs of the bass drum and snare drum section control the parameters for LFO 1 and LFO 2. instead of instrument sound parameters.

LFO parameter settings must always be made while the sequencer is running, because the absolute LFO frequency is always dependant on the sequencer tempo.

The effect the LFO settings have on an instrumentís sound are only audible when the sequencer is running. The LFOs are inactive when the sequencer is stopped.

Activate the LFO function by pressing SHIFT and LFO Page. Both buttons will satrt blinking.

The first five knobs of the bass drum and the snare drum control the parameters for LFO 1

and LFO 2.

LFO parameters are assigned as follows:

LFO 1 Controls (Bass Drum Controls)

Tune = LFO 1 Waveform

Pitch = Modulation target

Decay = LFO 1 Intensity

Harmonics = LFO 1 Frequency

Pulse = LFO 1 sync/free

LFO 2 Controls (Snare Drum)

Tune = LFO 2 Waveform

XSnapp = Modulation target

Decay = LFO 2 Intensity

Detune = LFO 2 Frequency

Noise Tune = LFO 2 sync/free

LFO - Waveforms

This determines the waveform generated by the LFO. Turning the knob selects the waveform. The available waveforms are shown in the display

SuP = saw up

Sdo = saw down

tri = triangle

rCt = rectangular

LFO Modulation target

This determines the parameter the LFO will modulate. Turning the knob will select one of the possible targets. Both LFOs can modulate one of the following parameters:

BD Pitch, Snare Tune, Xsnapp, Noise Tune, Hi Hat Tune .

Furthermore, LFO 1 can modulate LFO 2's frequency and vice versa.

Modulation targets are displayed as:

bPi = Bass Drum Pitch

Stu = Snare Drum Tune

SSn = Snare Drum Xsnapp

Snt = Snare Drum Noise Tune

Htu = Hi Hat Tune

LF2 = LFO 2 Frequency (LFO 1 only)

LF1 = LFO 1 Frequency (LFO 2 only)

LFO Intensity

LFO Intensity determines the intensity with which the LFO will modulate its target. LFO intensity is displayed as a numeric value between 0 and 127.

To switch off an LFO, set the value to 0.

Should you not be able to set the value to 0, hold the ACCENT button pressed and turn the knob counterclockwise until the display reads 0.

LFO Frequency

LFO Frequency sets the frequency (relative to the sequencer tempo) i. e. the LFO speed. The frequency is displayed as a numeric value between 0 and 127.

NOTE: The absolute LFO frequency depends on the current sequencer tempo. In this wise, it is also possible to generate modulations with a free running LFO.

LFO Synchronisation

This parameter determines wether the LFO restarts at every programmed instrument step or if it freewheels past the instrument triggers.

The display reads:

FrE = freewheeling LFO

SYn = beat synchronized LFO

Select a setting by turning the "pulse" or "noise tune" knobs.

To store your LFO page edits, press ENTER. This stores all LFO settings for the currently selected pattern.

LFOs are active in Pattern and in Perform modes.

Abort by pressing SHIFT.

In this mode you select the patterns with different instrument control settings for each step. These are displayed as "P xx" (pattern number 1-64) The instrumentís sound control knobs influence the sound of the individual steps indirectly in the various Pattern Edit modes. For further details, see "Perform Mode" section.

6.4.12 Ramp Page

The RampPage contents three further sequencertracks. Their data is sended out via Midi-Out

socket to control external Midi-soundgenerators directly from XBase09 internal sequencer.

Every track can have its individual Midi-channel. Notenumber and -length is adjustable for every single step. Even accent-setting is possible.

So up to three different melodielines or chords up to three notes can be programmed.

Programming the steps is the same procedure like programming drumtracks, described in Pattern- Mode (chapter 6.3, P.18).

When sequencertracks are added to existing drumpatterns, the drumpatterns will not be changed in any way.

To edit Midichannel, Notenumber and -length, the first four knobs of every instrument-section

(BD, SD, HH) have a ëpage twoí-function :

Tune = Note 2. Pitch = Octave

3. Decay = Midichannel 4. Harmonics = Notelength

The knobs of Snaredrum- and HiHatsection are changing in the equal way.

Now, we describe the programming procedure of a sequencertrack :

hit PATT button patternmode active LED ligths up

hit UP/DOWN or 1-16 buttons choose pattern display shows patternnumber

hit SHIFT,then RAMPPAGE button sequencer active display shows ë trC í for ëtrackí

hit WRITE button sequencer ësharpí LED ligths up

hit INSTRUMENT-button select track BD=1,SD=2,CH=3 LED lights up

move knob 3 select midichannel display shows midich.-number

move knob 4 select notelength display shows ë Stac ë or ë Leg ë

-Staccato: every step is triggert

-Legato: following steps are connected

hit STRART button sequenzer started

set steps described in chapter 6.3 P.18

Use Induvidual Step Mode (6.3.1) to assign different notes to individual steps.

Use Track Record Mode (6.3.2) to assign same note to all steps. By moving knobs

1 and 2 , you can change your melodies in realtime. To get ëmusicalíresults this way,

you might need some practice.

move knob 1 and 2 assign notes and octave display shows note and trackno.

when sequencer is running and reaching a step ë E - 1í

Happy with your first track ???

hit WRITE button Trk.Rec.Mode off LED stops flashing

hit WRITE, then INSTRUMENTbutt. select next track

move knob 3 select midichannel

and so on... programm new track like above .

Happy with all your tracks ???

hit ENTER button pattern is stored, RampPage left

For every sequencertrack exists an individual accenttrack. Accents are programmed the same way drumaccents are programmed (chapter 5.4, P.17). When accent is setted, a velocity of 127 is

putted out via Midi, without accent a velocity of 64.

Maybe at first, it will take a bit of getting used to programm the sequencer but after a short practicetime you will be familiar with it.

7. SONG MODE

In Song mode prerecorded patterns are chained together and played back as complete songs. To get into Song play mode, press the SONG button

7.1 Song play mode.

Use the UP/DOWN buttons to select one of ten available song memory slots.

Press the START button to start playback of the selected song. At every song step, the display will show the pattern number and then switch the display to show how often that pattern will still be played.

7.2 Song Write mode.

While in Song mode (Song button is lit) press the WRITE button to get into Song Write mode.

Pattern chains are programmed by setting song step numbers, pattern numbers and the number of pattern reptitions.

Use the instrument buttons to program pattern chains.

7.2.1 Song-Step (BASS DRUM button)

Press the BASS DRUM button. The display reads "Ste".

A song step comprises a pattern number and the number of run-throughs of this pattern.

A song always begins with step 001. The maximum number of song steps per song is 100 (001 - 100).

Use the UP/DOWN buttons and the DATA knob to select the song step you wish to edit. Confirm your choice by pressing ENTER.

Pressing ENTER will automatically switch to the next song step.

7.2.2 Pattern Nr. (SNARE DRUM button)

Press the SNARE DRUM button. The display reads "PAt".

Use the UP/DOWN arrows to choose the pattern you want to assign to the current song step. Press ENTER.

7.2.3 Repeat (CLOSED HI HAT button)

Press the CLOSED HIHAT button. The Display reads "rPt"

Use the UP/DOWN buttons or the DATA knob to set how often the pattern should be played.

Confirm your edit by pressing ENTER.

7.2.4 Song End

The end of a song is set by programming a pattern with "0" repeats after the last pattern.

7.2.5 Store Song Step (OPEN HI HAT button)

To store the settings for the song step you have just edited, press the OPEN HIHAT button (the display reads "Sto") followed by ENTER.

7.3 Song functions

7.3.1 Copy Song

Use this function to copy whole songs.

While in Song mode or Song Write mode, select the song you wish to copy.

Press SHIFT and COPY (SHIFT and COPY buttons will start blinking). Use the UP/DOWN buttons to select the song memory slot number where you wish to copy the selected song.

Confirm your action by pressing ENTER. Press SHIFT to abort the copy process.

7.3.2 Clear Song

In Song mode, the clear function deletes songs.

Selct the song you wish to delete. Then press SHIFT and Clear. (Both SHIFT and Clear will start blinking). Confirm your action by pressing ENTER. Pressing SHIFT will abort the clear function.

8. Saving and Restoring the Xbase09's data via MIDI dump

8.1 Saving the Xbase09ís memory to an external MIDI data recorder

You can save the Xbase09's memory contents (patterns, kits and songs) to an external MIDI device (datadisk, sequencer, keyboard etc.) This data can be transmitted back to the Xbase09 later, which allows you to clear its memory for new drum kits, patterns and songs.

Saving data to an external MIDI device

Press SHIFT and the Midi Mode button. Press the UP button until the display reads "dMP" (dump).

Make sure your external MIDI device is ready to receive MIDI SysEx data.

Press ENTER on the Xbase09. This will start MIDI SysEx data transmission from the Xbase09 to the MIDI recording device. While this is in progress, the display will read "bSY" (busy).

After about 20 seconds, the display will read "rDY" (ready) which indicates that all data has been transmitted.

8.2 Loading Xbase09 data from an external MIDI data player.

To load back externally stored Xbase09 data into the Xbase09's memory, press SHIFT and the Midi Mode button. Press the UP button until the display reads "Ld" (load).

Press ENTER to make the Xbase09 ready to receive data.

Start data transmission on the external MIDI device (could also be another Xbase09...) The display will read "rCV" (receive) to indicate that it is receiving data.

If MIDI data reception has been successful, the display will read "fin" (finished) after a few seconds.

9. Controlling the Xbase09 via MIDI

Playing the Xbase via MIDI

To control the Xbase09 from a MIDI keyboard or a MIDI sequencer, connect the Xbase09's MIDI In port with the controlling device's MIDI out port.

You can now play the Xbase09's sounds and synchronize it to a MIDI sequencer.

If you play the Xbase09's instruments from a MIDI keyboard that transmits key velocity data, velocity will always influence the accent.

Each instruments volume is independantly adjustable and can be controlled individually via controllers or globaly with MIDI volume (controller 7).

We would like to call to your attention that the Xbase09 has to process all MIDI data received via MIDI In, even when nothing appears to be happening.

All incoming MIDI data has to be checked for channel information or function, which always costs processing time. If no MIDI filters are in use, the amount of data can be considerable.

Timing-wise, the Xbase09's internal sequencer is given priority. One should nevertheless, unless absolutely necessary, disconnect MIDI In or at least reduce the amount of MIDI data transmitted to the Xbase09's MIDI In. This will avoid timing problems caused by"clogging" the MIDI bus with MIDI controllers, MIDI time code or SysEx data that is not even intended for the Xbase09.

We consider timing to be a crucial factor for an instrument like the Xbase09. We have therefore gone to great lengths to test and optimize timing performance in many "worst case" tests to ensure that timing problems do not arise.

9.1 MIDI channel

Press SHIFT and "Midi Channel" . Use the UP/DOWN buttons to set the MIDI channel on which you want the Xbase09 to receive and transmit MIDI data.

Confirm your setting by pressing ENTER. Press SHIFT to abort.

9.2 MIDI modes

Press SHIFT and MIDI mode. Use the UP/DOWN buttons to select one of the modes

decribed below: Confirm your selection by pressing ENTER. Press SHIFT to abort.

SM1 (Split mode 1)

In this mode, every sound (including Crash, Ride, Clap/Rim, Noise) is triggered by a single MIDI note (i.e. a single key on your MIDI keyboard). In Split mode 1 each sound's pitch is controlled by a MIDI controller.

See the MIDI implementation chart for the exact key assignment.

SM2 (SplitMode 2)

In this mode the Xbase09's three instruments are spread over the whole keyboard. In split mode 2, instrument pitch changes are determined by MIDI note number and not via MIDI controllers.

See also the MIDI implementation chart

10 SYNCHRONIZATION WITH OTHER DEVICES

10.1 MIDI Clock

The Xbase09 as slave

The Xbase09 can be sync'ed to external devices via MIDI clock. The MIDI clock signal has a resolutiion of 24 ticks or pulses per quarter note (24ppq). This equals 96 ticks over the length of a bar in 4/4 time. Therefore the Xbase09's rhythmic resolution is only half as fine when it is synchronized to MIDI clock (the resolution of the Xbase09's internal sequencer is 48 ppq).

This means that uneven shuffle settings are quantized to even settings. This can lead to a finely set groove scheme sounding different when played back by the Xbase09 syncing to MIDI clock.

Clock select

To activate the Clock select function, press SHIFT and the clock select button. Use the UP/DOWN buttons to select between MIDI and internal clock.

"Mid" - the Xbase09 will synchronize to external MIDI clock and has to be started and stopped externally.

Synchronizing with the Xbase09 as master

The other way to synchronize the Xbase 09 with an external device is to synchronize the external device to the MIDI clock signal always present at the Xbase09's MIDI out port.

In this case, nothing needs to be set on the Xbase09. The other device must however be set to synchronize to MIDI clock.

10.2 DIN-SYNC

All devices that support the Roland DIN Sync format can be synchronized to the Xbase09 regardless of the Xbase09's clock setting.

Clock trigger and Start/Stop signals are transmitted independant of the play modes as long as the sequencer is running. This means that they are also transmitted when the Xbase09 is syncing to MIDI clock.

This is an additional "MIDI to DIN Sync" interface that can be used at all times.

11. Midi Implementation

11.1 Sound Parameters

BASS DRUM	Controller No.	value area	internal resolution
Tune	100	0..127	256
Pitch	101	0..127	256
Decay	102	0..127	64
Harmonics	103	0..127	64
Pulse	104	0..127	16
Noise	105	0..127	16
Attack	106	0..127	16
EQ	107	0..127	8

SNARE DRUM			
Tune	108	0..127	128
Xsnapp	109	0..127	64
Decay	110	0..127	64
Detune	111	0..127	64
Noise Tune	112	0..127	64
HI HAT			
Tune	113	0..127	256
HH Balance	114	0..127	16
CH Decay	115	0..127	64
OH Decay	116	0..127	64
BD Level	117	0..127	255

SD Level	118	0..127	255
HH Level	119	0..127	255
Midi Volume (Global)	7	0..127	255

11.2 Note Messages

Instrument	Split Mode 1	Split Mode 2	**Split Mode 3
	Note Number	Note Number	Note Number
Bass Drum	C1 36	C1..D#2	C1..C6 Basic Ch.
Snare Drum	E1 40	B2..G3	C1..G3 Basic Ch. +1
Closed Hi Hat	F#1 42	G#3..B4	C3..B3 Basic Ch. +1
Open Hi Hat	G#1 44	C5..C6	C4..B4 Basic Ch. +1
Rim Shot (HH Sample)	C#1 37	G#3..B4*	C3..B3 Basic Ch. +1*
Hand Clap (HH Sample)	D#1 39	C5..C6*	C4..B4 Basic Ch. +1*
Crash short	C#2 49	G#3..B4*	C3..B3 Basic Ch. +1*

Crash long	D2 50	C5..C6*	C4..B4 Basic Ch. +1*
Ride short	D#2 51	G#3..B4*	C3..B3 Basic Ch. +1*
Ride long	E2 52	C5..C6*	C4..B4 Basic Ch. +1*
Noise short	A#1 46	G#3..B4*	C3..B3 Basic Ch. +1*
Noise long	B1 47	C5..C6*	C4..B4 Basic Ch. +1*

*: depending on the current setting of the HH Sample Select in PERForm Mode

11.3 System Exclusive Data

The only type of Sys-Ex data the Xbase09 supports is a hex-dump of its complete memory content. MIDI control of sound parameters is achieved by MIDI controllers.

The Sys-Ex format is as follows:

$F0(SysEx Begin), $31(JoMoX-Manufacturerís code), $7F(Command Sys Ex Dump), $55(Header), $00(Header),XX(Data0),XX(Data1),..., $F7(End of SysEx)

The figures of the SysEx-Sequences are, as usual, presented in hexadecimal code.

11.4 Memory Clear

Switch off the Xbase09. Hold down the step buttons 1, 3 and 8 and switch the Xbase09 back on.

CAUTION: This erases and initializes all drum kit, pattern and song memory slots.

11.5 Software Version Display

Hold down all four instrument buttons (Bass Drum, Snare Drum, Closed HH and Open HH). The display will show the three digit version number of the units firmware.

12. Technical Data

Instruments Bass Drum, Snare Drum, Open / Close Hi Hat

A choice of 6 Samples + Noise

Sound production completely analog with digital control of sound parameters, in the HH

Section digital 8 Bit Sample with analogue VCA-Envelope

Perform Memories 100

Pattern Memories 64

Song Memories 10

Tempo from 38 BPM to 292 BPM in discreet steps

Output level ca. +4 dBu

Beat resolution 192 tick resolution in 16th Step Pattern

Display 3 digit red LED 7-segment display

Buttons 5 Instrument Trigger buttons

16 illuminated Step-buttons,

10 illuminated control buttons

CPU High Performance 8/16-Bit Risc Controller

CPU Speed 16 MHz

Power supply external 12V AC/AC connectable power supply unit

Casing steel sheet body with varnished side panels made of alder wood

Measurements 330mm x 240mm x 75mm

Weight 4.5 k

Service, Updates, tips & tricks

You can get it by your local dealer or distributor or by contacting JoMoX GmbH

via Internet http://www.jomox.de

postal adress JoMoX GmbH / Wrangelstr. 4 / 10997 Berlin / Germany

per FAX +49 - (0)30 / 61 70 25 74

via E-Mail info@jomox.de

We warmly recommend the users of our products, to register to register in the above-mentioned ways.

We will then automatically inform customers as regards subsequently released updates, specific features, of tips and tricks, that are reported us from other users.

We wish you lots of fun, creativity, and succes while working with the XBase 09, and thank you in advance for incomming feedback and messages.

Berlin, may 1999

XBase09

The three Midi-Sequenzer-Tracks don't work well. What's wrong?

Here once again the most important programming-steps:
Here once again the most important programming-steps:
- Activate Pattern-Mode
- Select Pattern
- Activate Track-Mode by hitting SHIFT and TRACK-PAGE (Ramp-Page on older machines). Display shows 'trC'.
- Select track with Instrument-keys (BD, SD, CHH)
- Now (!) select MidiChannel and Legato/Staccato

!!! NOTE: Every track has ist own knobs. Don't try to use the BD-knobs for all tracks !!!
- Set steps
- Edit notes by:

>selecting Track-Record-Mode (hit desired Instr.-resp. Track-button and WRITE the same time)
(all selected steps get the same note and can now be edited in realtime by tweaking the two knobs)
!!! NOTE: The display shows the current note only when the running sequenzer reaches its step !!!
or
>select Individual-Step-Edit-Mode (hit Instr.-resp. Track-button and Step-button(s) the same time).
!!! NOTE: Previously selected steps have to be hitted twice to be selected or entered for Ind.-Step-Editing !!!
>and edit notes by tweaking the knobs.
!!! NOTE: To change from Track-Rec.-Mode in Ind.-Step-Edit-Mode and vice versa, you have to leave the Write-Mode and enter it again by hitting WRITE twice !!!
- Is the track recorded in your desired way, leave the Write-Mode and stop programming/store by hitting ENTER.

Is it possible to programm slides?

Yes! Select the same MidiChannel for two tracks. Select Legato and set some of the same steps on both tracks. E.g. on track1 legato-steps 1,2,3 - on track2 step2. Then your synth will slide on (if it is able to slide, of course).
What else can I do with the Accents?
A selected accent does not have nessecarilly a velocity of 127. With the accent-knob, you can control the intensity of the accent while the sequenzer is running. The accent-data of the three sequenzer-tracks is sent out via Midi, and so you can controll e.g. the filter of a connected Midi-synth, live by tweaking the accent-knob.

How can I use the LFO's when my Xbase is only running as Midi-expander?

You can't sync the LFOs directly to Midi. Nevertheless there is an easy trick to use them with correct timing:
Sync the XBase09 to your Midi-sequencer(programm). That means, the Sequenzer has to send Midi-Clock and the Xbase's Clock-Select-Func. has to be set on 'Mid'.
Now select an empty pattern. Start your Midi-Sequencer/Computer. Activate the LFO-Page and select e.g. 'Bpi' (BassDrum-Pitch) as modulation target. Check around a bit with the parameters.
Note the Sync-Parameter. The LFO frequency is then synced to the Master-Tempo, no matter if it is internal or external.

In Patter-Mode, you can change patterns via Midi-Pgrm-Change. So you can switch around from one LFO setting to another.

AiRBase99

My AiRBase99 sometimes misses Clap- and Rim-Sounds.

This problem appeared only sometimes on very few units. New AiRBases are equipped with some new parts, that have smaller tolerances. So this problem will not effect new machines.
If your own machine is affected, please contact us or your local distributor/dealer. We can solve the problem easily.

Can I change the stereo-panorama on the main-out?

The stereo-panorama is hardware-controlld and not editable. To create your individual panarama, please use the instrument-outs.

The BassDrum Tuning drops after a while and the sound misses power.

This problem has also been solved by the use of some new parts that are more stabil and smaller tolerated. New machines are free from this problem.
If your unit is affected, our advice is to 'warm up' the machine for about ten minutes bevor you start working on serious recordings. When the AiRBase has it's working-temperature, everything will stay stabil.
Another good thing is to keep one R.U. above and below the AiRBase free to avoid high temperatures.

How to change kits via programm-change and bank-select-orders?

At the moment, the AiRBase does not respond perfectly to all these orders. We are working on an update to solve this problem.
Besides that, all parameters (inc. sample-select, -reverse, etc) will be accessed via Midi-Controller or Sysex.
Registered users will be informed.

The mixermaps on the disc don't work or my Mac crashes when I load them.

We are checking the compatibility to MacOS. In connection with the above mentioned update, you will get new mixermaps.