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MachineDrum Notes #2

Introduction

This document is the second in the “MachineDrum Notes” series. I try to explain a few of the sound design tricks I use when doing patterns on the MachineDrum. The first document described a few of my very first techno patterns on the MachineDrum, while this one describes my latest, made a year later. I made a lot of patterns during this time (about 200), and performed a fair number of gigs, which definitely influenced the way I built sounds and patterns.

I recently empty reset my MachineDrum, getting rid of all the “baggage” the old patterns represented, and loaded a few new wave files (courtesy of opuswerk, check the pack out at <http://www.defeq.com/wp/2008/09/08/analog-waveform-sampling-project-by-3ot-and-opuswerk/> . This was a big step, as I didn’t switch any of my samples since I first got my MachineDrum. I obviously kept my “signature” chord sample, but incorporated two new very short samples: a waveform of a Juno bass sound, and a waveform of a Kurzweil triangle synth. I previously had complete synthesizer hits, with an already existing filter envelope and amplitude envelope, while these waveforms are just “raw” sounds. While both sounds are loaded into the same ROM machines, the way of working with them is completely different, and both are very useful. Using the raw waveforms, you can produce “real” synthesizer sounds, controlling the filter envelope yourself (using a TRIG LFO on the filter for example). The amplitude envelope is also completely under your control. This allows me to do deep controlled sub bass sounds, or “synthesizer”-like sounding melodies, where I can also control sweeps and things like that.

Having complete sampled hits in a ROM machines makes it much harder to precisely control the amplitude envelope, as the sounds usually cannot be extended in their length. Same goes for the filter envelope, which is already present in the base sample. However, using START and END point modifications, you can vary the amplitude and filter envelopes much more easily (using only one or two parameters) than when using a looped waveform (where you have to modify HOLD, DEC and the LFO settings). Tweaking START and END point is a very easy way to create “reverse” effects, or reversing the envelopes on either volume or filter (which would require inverting the LFO waveform when using a looped waveform). Both approaches have their validity, but I find it much easier to do controlled bass sounds with a looped waveform.

House, the funk and the dancefloor

These patterns are much rather “house” than techno patterns. I’ve been thinking a lot about the sound direction I want to choose, and discovered I definitely have a big big place in my heart for melodies, minor chords and disco basslines. The three patterns I’m going to present all started from the same kit, and have a lot of similar sounds. They all have the same kind of round sub-bass, sounding a bit similar to a real electric bass played in disco music. The minor chord is the same chord I have been using for all my dub and techno things, but this time has a much sharper filter envelope to make it more percussive. Then there are a host of percussion elements: hihat, snare, shaker, bassdrum (of course). I discovered while listening to professional records that I had a tendency to hide my rhythmic elements in the background, and making them more complicated than they should have been. So one of the things I focussed on in these patterns was to make the rhythmic elements real obvious, real simple and definitely up in front. The simple elements (four on the floor bassdrum, snare/clap on 2 and 4 and offbeat hihat) are however completed by some more “squishy” sounding percussion (shaker, maracas, enveloped noise) which kind of “fades” into the big upfront rhythmic sound. These elements are usually on the offbeat 16th, and thus get shuffled by the swing (which is at 64% in all the patterns). There is a big number of different “squishy” sounding percussion element,

and bringing them in and out of the mix allows to play a lot with the energy of the track. They are not very obvious, but they can lift the other elements up.

Basslines are built out of what I learned playing disco basslines on the electric bass: usually very simple, often solidly grounded on the downbeats and 8th notes, with a very static and round sound. Usually following the root note, or arpeggiating the main chord of the pattern. Sadly having only 2 bars on the machinedrum makes a lot of clever sounding turnarounds impossible, as they sound to busy when they are played every 2 bars. However, to break the monotony of a simple looping bassline, it is complemented by a number of different “bassy” sounds, usually EFM-BD or a single synth note hit, which is arranged in a “rhythmically” indistinctive fashion, usually hitting at a polyrhythm (3 against 4 usually).

Another thing I discovered when listening to “professional” tracks is that they are usually very frank about their rhythmic elements. Claps clap right in your face, hihats are very sharp and present in the higher-frequency region, the bassdrum is loud and deep. I usually tried to hide these elements, in order to make them more interesting and being able to pull some subtle sounds more into the front. However, after playing a few times in clubs with big PAs, I noticed how important it is to have these elements smack you right in the chest, and thus turned them up in my patterns :)

Pattern A07

Track 1: Bassdrum

This is the bassdrum I use on every pattern in this MachineDrum tips, and I actually used Opuswerk settings. It's based on TRX-B2 with a slight amount of tick to have some high frequency content. It's deeper and a bit more banging than the TRX-BD I used before, mostly because it has a longer decay. The bassdrum is used implicitly as a root note in every bass line.

LFO 01-BD													
LEV	PTCH	DEC	RAMP	HOLD	AMD	RNF	EQF	EOG	DIST	UOL	PAN	DEL	
52	71	29	8	0	0	15	84	0	78	64	0		
TRACK: PARAM SHP1 SHP2													
01-BD: PTCH													
UPDTE: SPEED: DEPTH: SHMIX													
TRIG													

HIT: 17	S: DER												
01-BD													
TRX-B2													

As always, the volume of the bassdrum is set pretty low to allow more dynamics in the pattern. If you start setting everything loudly, you quickly run into limitations and you can't push some elements more into the background. An easy trick to adjust the overall pattern level afterwards is to use the OUTG parameter of the compressor.

Track 2: Offbeat Hihat

The second track is an offbeat hihat, sounding pretty "natural" as it's based on a sampled tambouring. The pattern is a bit more complicated than just a hit on the offbeats, and gives the whole pattern a kind of housey shuffle feel. I do this by adding ghost hits before the offbeats (on the second 16th note of the pattern). Ghost hits are just a smaller DEC. Sometimes I add more ghost notes after the hihat hit on the offbeat to make the whole thing a bit more varied.

LFO 02-5D													
LEV	PTCH	DEC	HP	HPQ	AMD	RNF	EQF	EOG	DIST	UOL	PAN	DEL	
65	96	0	0	0	0	64	64	0	78	64	0		
TRACK: PARAM SHP1 SHP2													
02-5D: PTCH													
UPDTE: SPEED: DEPTH: SHMIX													
TRIG													

HIT: 17	S: DER												
02-5D													
E12>TR													

When you use shuffle, a very simple way to funk is to just add some chains of short hits, as this reinforces the underlying swing.

Track 3: Sine Melody

This is the "hook" of the pattern. It's a simple melody done using GND-SN. Pitching the GND-SN is a bit complicated, as it doesn't match tempered tuning very well, but this gives it all a more "human" weird feel. The melodic hits have a short DEC, and are sent slightly into reverb to make it more aerial. I tried to do "simple" kind of

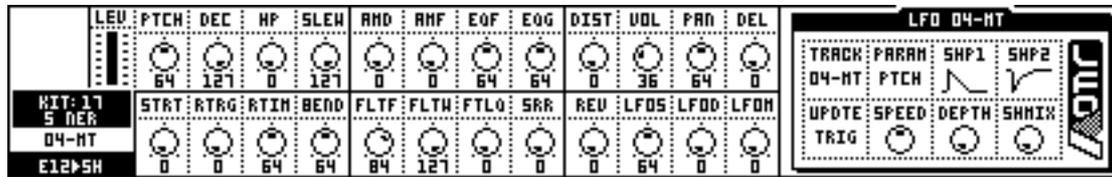
LFO 03-HT													
LEV	PTCH	DEC	RAMP	RDEC	AMD	RNF	EQF	EOG	DIST	UOL	PAN	DEL	
67	69	0	0	0	0	75	41	113	78	43	0		
TRACK: PARAM SHP1 SHP2													
03-HT: DEL													
UPDTE: SPEED: DEPTH: SHMIX													
FREE													

HIT: 17	S: DER												
03-HT													
GND>SN													

hook-line melodies in these patterns, so the melody is usually a sequence of regular simple notes, for example here the hook is the downward melody line in the second bar. Again I used many short DEC "ghost" notes to reinforce the underlying swing.

Track 4: Single Shaker Hit

This is a very simple sound, a single shaker hit on the first offbeat every bar. This is another trick of mine to accent certain “important” notes (for example the snares or some offbeats) by adding one single additional sounds. This way, I don’t need to focus so much on param-locking some of the other patterns, and can bring variation in and out by muting/unmuting these single hit tracks. Also, when playing live you can send these single hits into the delay or



the reverb and make them longer to achieve a kind of buildup effect.

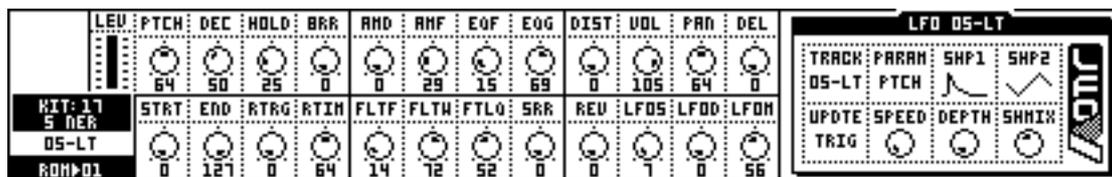
They are not usually noticeable when the full pattern is playing, but they are a very good way of bringing variation and interest into a pattern when building it up (for example starting with only bass, kickdrum and a few single hits).

You can also notice how I use FTLF and FLTW as a quick way to EQ out the bottom of these “percussion” elements, so they leave the lower frequency region open for bassdrum and sub bass.

Track 5: Sub Bass

This is the basis for the sub bass in every pattern in this document. It is a sampled Juno synthesizer waveform out of Opuswerk’s sample pack. It’s a great sound to do full on straight subs. It is quite noisy in the higher frequency region, and there is not much interest in playing with the filter. For me it’s a one-purpose great sound for subs. I filter out the high-end noise of the sample using FLTW, adding some root note reinforcement with FLTQ and setting FTLF to approximately the root note.

I built the sub lines in these patterns by following some “rules” I discovered when playing disco bass lines on electric bass. It’s a mixture of “straight” (on downbeats or 8th) elements, mixed we a few syncopations (sound great when



using higher notes). The hook of this bassline is the long low root notes hits on step 1 and step 3, and the funky interest is added by the higher notes around beat 3. Again, I tried to restrict myself to a few notes. The basic pattern on the electric bass is octave lines, which I tried to take over to the sub patterns on the MD as well.

Track 6: Snare Roll

This a dry snare sound done using EFM-SD. It is very low in the mix, and is just there to reinforce the last clap in the pattern by underlying the swung 16th. This is a good track to make more prominent in the mix in a breakdown. A



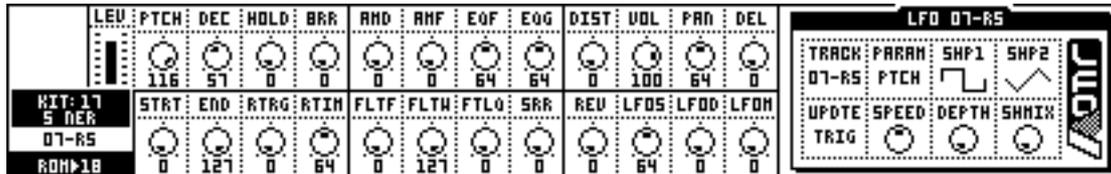
good way to do this is to open up the noise decay (using NDEC) and sending the track into the reverb and delay.

Very minimal as well :)

Again the lower frequency content is filtered out using FTLF, and a bit more mid-range is added using the boost on the EQ.

Track 7: Single Synth Accents

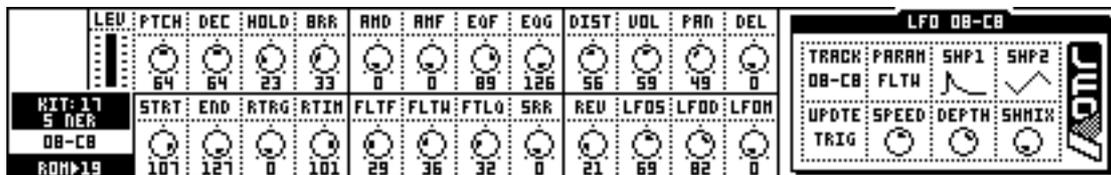
This track uses a short synth hit as sample to accent the bassline. The hits are on the 16th offbeats, syncopating against the linear bassdrum. The sample is a full note hit, so the frequency content of the track can be modified by



moving the START parameter up. Also, the hits can be inverted (by setting START to a higher value and END to 0) to add a kind of swoosh effect that leads into the following bassdrum hit. As with other single hit pattern, this one tends to be unnoticeable in the full pattern, but is a good way to buildup.

Track 8: House Chords

Another very important part of the “house” sound is the parallel minor chords. One of my main problems with previous patterns was that I would use the same chord on the same root note (namely C minor) all the time. I still use the same chord sample in these patterns, but tried to play the chords a bit like a melody. Using a complete chord swell as a sample allows much flexibility with tweaking the sound. It can be made into a swell (the basic chord), a reverse smooth swell by inverting START and END, into a short hit by using a short DEC, or into any kind of combination of these. This makes the swell sample one of the biggest “tricks” to achieve a kind of human sound on



the MD, as you can quickly input a lot of variation into the basic sound by just param locking the START point and the DEC.

In these patterns, I wanted a more synthesizer-like sounding chord sound, and more rhythmic (it’s usually easier to work with higher SWING when you have short hits). I added a filter envelope using the LFO in TRIG mode. The FLTW is set pretty low, and is opened on each hit by the LFO. This one is set to a quick speed, allowing more variation. For example, turning down the SPEED will make the filter open for a longer amount of time, allowing the brighter harmonics of the base sample (and those added by the BRR setting) to shine through. The short percussive sound of the chord is also done by this quick LFO, the sound itself is quite long (23 as HOLD). Thus, the length of the hits can also be controlled using the LFO settings. Moving the LFO over to the second waveform completely changes the sound of the chord, allowing it to wobble in the background.

Like in MachineDrum Tips #1, I have to say this is my favorite sample to tweak, and using the MidiCommand to control the delay buildups, it’s my main tool when playing live. I’m glad I managed to get some kind of higher-resonance synthesizer like oomph out of this sample to make it a bit more funky and housey.

Track 9: Clap

LEV	PTCH	DEC	CLPS	CDEC	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 09-CH				
	62	37	8	85	0	0	43	98	0	99	64	0	TRACK: 09-CH	PARAM: DEC	SHP1: [WAVE]	SHP2: [CHECK]	JMC
KIT: 17 5 DER 09-CH EFM>CP	HOD	HFRQ	HDEC	HPF	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE: FREE	SPEED: [G]	DEPTH: [G]	SHNIX: [G]	
	73	22	107	61	0	127	0	0	29	64	0	0					

This is the basic clap sound I use in most of these patterns. It's quite up front and in your face. I don't use a lot of rhythmic variation on this sound, it's just a brutal honest clap on the 2 and 4. The added REVERB gives it a bit more impact. I love EFM-CP because you can do weird rolls with it using the CLPS and CDEC parameters, but I don't use this very much in these patterns.

Track 10: Offbeat Hihat

This is my favourite "housey" sounding hihat, the E12-CH. Using a bit longer DEC, you have this TR-xOx kind of hihat with which you can do nice rolls as well. I try to be careful with rolls on the hihat, because the 2 bars of my MachineDrum mk1 make those sound boring very quickly. The roll in this pattern is on the last offbeat of the 2 bar

LEV	PTCH	DEC	HP	HFO	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 10-OH				
	70	77	70	0	0	0	64	64	0	99	64	0	TRACK: 10-OH	PARAM: FLTH	SHP1: [WAVE]	SHP2: [CHECK]	JMC
KIT: 17 5 DER 10-OH E12>CH	STRY	RTRG	RTIM	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE: FREE	SPEED: [G]	DEPTH: [G]	SHNIX: [G]	
	0	0	64	64	64	127	0	0	0	64	0	0					

pattern, and leads into the big clap on the first 2. As with most other hihat sounds, the bottom end is filtered out using FTLF. Together with Track 1 (kickdrum) and Track 9 (clap), this is the basic oonz oonz groove beneath the pattern. It doesn't change very much on the other patterns either.

This is the foundation against which the sub bass and other single hits work against to take on their meaning.

Track 11: Weird 16th Rattle

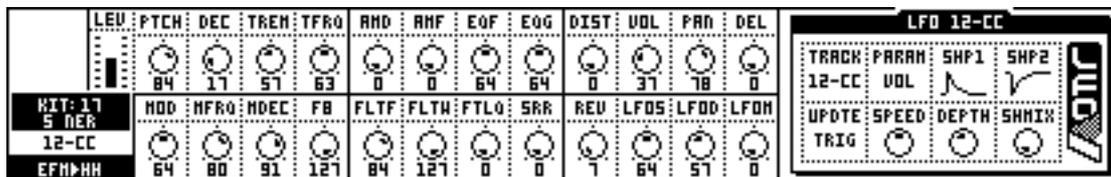
Another component of the basic groove is the 16th hat. This sound is a subtle and modified version of the 16th hit. The maracas hits on every 16th, and is brutally high-pass filtered, making it into a subtly rhythmic noise background (a bit similar to some vinyl cracks and pops) that serves both as a kind of 16th note rhythmic pattern and a noisy background pad. It doesn't have much significance, but it fills a region of the sonic spectrum (the extreme high-end)

LEV	ATT	SUS	REV	DAMP	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 11-RC				
	16	0	127	100	0	0	64	64	0	32	42	14	TRACK: 11-RC	PARAM: PAN	SHP1: [WAVE]	SHP2: [CHECK]	JMC
KIT: 17 5 DER 11-RC TRX>HR	RATL	RTYP	TONE	HARD	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE: TRIG	SPEED: [G]	DEPTH: [G]	SHNIX: [G]	
	64	64	64	64	119	127	84	0	106	94	0	0					

and occupies the ear. This is a good track to introduce after a bigger buildup, as it lifts up the energy of the track. Also, when moving down the high-pass, it becomes much more rhythmic and present and lends itself well to produce big swelling buildups as well when send into the delay.

Track 12: Syncopated Hihat Ghost Notes

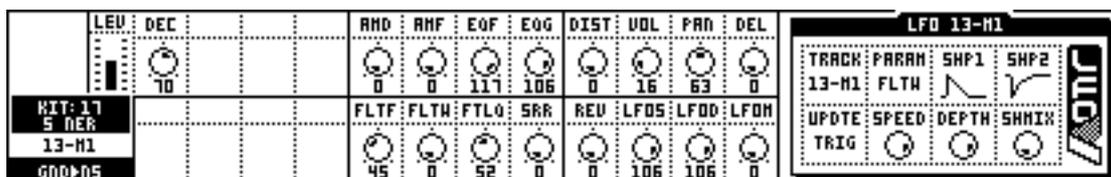
This is a simple hihat sound, with very short DEC, located in the higher frequency region, and pretty low in the mix. It's a track that adds swung ghost notes to the standard offbeat hihat pattern. It just adds a bit of the shuffle to the



basic offbeat groove. Any kind of short DEC sound will do.

Track 13: Filtered 16th Shuffle

This is a much more present version of the 16th note pattern that is also present on track 11. This one is done using the GND-NS machine with a filter envelope. The filter envelope is implemented using the LFO in TRIG mode, and with FTLW on 0. The resonance is turned up to have a synthesizer like sound. I'm a bit annoyed by the fact that the GND-NS has no real "envelope", missing an attack knob for example, as it makes it a bit hard to control. Even with the filter envelope, there are noticeable pops on the onset of the sound, and adding an amplitude envelope with a



second LFO would lead to similar problems. However, it's a very nice machine to do noise buildups (a standard techno trick), as it can run for a very long time when DEC is turned up. Using the filter and the DEL and REV sends, you can quickly turn a rhythmic pattern like this one into a gigantic noise swell. Be careful with the GND-NS, because it is very loud. I usually turn the volume way down, like in this pattern where it is set to 16. It also has a decent amount of bass frequency content, so be sure to filter this out if you don't want to muddy up the bottom.

Track 14: Rhythmic Midrange Synth

This sound is a second kind of "hook", and doesn't work very well when track 3 with the Sinewave melody is unmuted. This one is much more atonal and rhythmic, and is quite syncopated. It is done using another waveform by Opuswerk, which lends itself very well for sub kind of sounds, but sounds a bit flappy and muddy in the pitch range I'm using it in this pattern. I will probably replace it with a more "honest" standard waveform, as I'd rather have



it a bit "cleaner" and less flappy. It is build around a simple 2 note melody, built following the fake 3-against-4 polyrhythm concept I described in the first MachineDrum Tips document.

Pattern A08

Track 1: Bassdrum

LEV	PTCH	DEC	RAMP	HOLD	AMD	RNF	E0F	E0G	DIST	VOL	PAR	DEL	LFO 01-BD			
52	71	29	8	0	0	0	15	84	0	78	64	0	TRACK	PARAM	SHP1	SHP2
KIT: 16 S DR 01-BD TRW>B2													TRACK: PARAM SHP1 SHP2 01-BD: PTCH   UPDTE: SPEED: DEPTH: SHNIX TRIG:  			
TICK	NOIS	DIRT	DIST	FLTF	FLTH	FTLQ	SRR	REV	LF05	LF0D	LF0H					
1	0	0	0	21	94	98	0	0	110	0	0					

This is exactly the same bassdrum as in pattern A07, no need to change a working system :)

Track 2: Single Hat Roll

This is a very simple one-hit tambourine roll used to reinforce the second clap hit on beat 4. As with other one-hit tracks, it's a simple additional accent for one of the "important" hits of the basic groove. Good for using in buildups. The E12 machines are great for adding small rolls and weird rhythmic grooves (because RTIM can be calibrated so

LEV	PTCH	DEC	HP	HPQ	AMD	RNF	E0F	E0G	DIST	VOL	PAR	DEL	LFO 02-50			
64	65	0	0	0	0	0	64	97	0	78	64	0	TRACK	PARAM	SHP1	SHP2
KIT: 16 S DR 02-50 E12>TR													TRACK: PARAM SHP1 SHP2 02-50: PTCH   UPDTE: SPEED: DEPTH: SHNIX TRIG:  			
STRY	RTRG	RTIM	BEND	FLTF	FLTH	FTLQ	SRR	REV	LF05	LF0D	LF0H					
0	8	64	64	0	127	0	0	0	64	0	0					

that it works a bit against the general tempo of the pattern). This makes a pattern sound more human, rather than just quantized.

Track 4: Shaker

This shaker pattern is a mixture of a one-hit pattern and a full-on squishy background. It syncopates against every second offbeat hihat hit, and adds a lot of funk. The shaker sound is very squishy, leading in and out of the hihat.

LEV	PTCH	DEC	HP	SLEW	AMD	RNF	E0F	E0G	DIST	VOL	PAR	DEL	LFO 04-HT			
100	99	70	127	0	0	0	64	64	0	57	64	0	TRACK	PARAM	SHP1	SHP2
KIT: 16 S DR 04-HT E12>SH													TRACK: PARAM SHP1 SHP2 04-HT: PTCH   UPDTE: SPEED: DEPTH: SHNIX TRIG:  			
STRY	RTRG	RTIM	BEND	FLTF	FLTH	FTLQ	SRR	REV	LF05	LF0D	LF0H					
0	0	64	64	76	127	0	0	0	64	0	0					

Also, it is not a very "precise" sound, so it adds a human touch because it is a bit out of sync with the other sounds. Also, as it is on the 16th offbeats, it underlines the underlying swing of the whole pattern. I think this kind of shaker pattern is one of the basic ingredient to have funky housey sounding percussion on the MachineDrum.

Track 5: Sub Bass

Again, the Juno sub waveform is used to make a solid roof-shaking sound. Again, this bass pattern is rooted in disco, with a strong hit on the 8th offbeats. The bassdrum provides the actual root note and makes the sub bass jump out. A few syncopated higher octave hits are added to have some funk. The nice thing about this kind of offbeat sub-bass pattern is that muting the bassdrum will shift the 1 by an 8th, as the sub-bass kind of replaces the

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 05-LT			
55	64	13	0	0	29	15	69	56	99	64	0	TRACK: PARAM SHP1 SHP2 05-LT PTCH [waveform] [waveform] UPDTE SPEED DEPTH SHMIX TRIG [knob] [knob] [knob]				
HIT: 16 5 NR	STR	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM				
05-LT	0	127	0	64	14	78	45	0	0	1	0	56				
ROH>01																

bassdrum. Bringing the bassdrum back in provides a simple way to turn the beat around on the MachineDrum (which is not very easy to do in another way).

Track 6: Rhythmic Chord Hits #1

The actual housey chord hits in this pattern are split on two different tracks, Track 6 and Track 8. They are located in slightly different positions in the stereo field, and the first track is lower than the second. Again, the chord hit sound is enveloped by using a TRIG LFO. This track has added delay, which rubs against the underlying swing (delay on 3-16th is not swung), and provides some nice rhythmic friction. The rhythmic pattern is based on a fake 3-against-4 polyrhythm, and interacts with the second chord pattern on track 8 by “filling in the blanks”. Track 6 plays

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 06-CF			
49	71	10	39	0	0	89	126	56	85	92	35	TRACK: PARAM SHP1 SHP2 06-CF FLTH [waveform] [waveform] UPDTE SPEED DEPTH SHMIX TRIG [knob] [knob] [knob]				
HIT: 16 5 NR	STR	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM				
06-CF	107	43	0	101	29	23	38	0	0	105	107	0				
ROH>19																

when Track 8 is not playing, and due to their different notes and positions in the stereo field, it sounds like one chord is answering the other. This makes for a very lively, bouncy and interesting kind of feel. As both patterns are rhythmically offset and syncopate against the bassdrum and one another, it is something the listener doesn't tire of very quickly (even if the pattern is just two bars). The reverb on both tracks makes the whole track sound a bit warmer as well.

A good way to build up these kind of “answer-response” track combinations is to introduce one of the tracks, and once it is firmly inserted into the current groove, do a breakdown and introduce the second one. This completely changes the feel of the first track, and gives the track a lot of new energy.

Track 7: Syncopated Synth Single Hit

This is the same sound as on pattern A07, and is a syncopated synth single hit that accents the sub bass. When adding these kind of single hit patterns, it's usually useful to put them in a space that is not occupied by another sound. As I described in MachineDrum Tips #1, one way to make a moving and fast pattern is to try to fill every 16th of the 2 bars with a different sound, like in linear drumming on a real drumkit. A simple way to do this on the

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 07-R5			
116	50	0	0	0	0	60	91	127	92	64	0	TRACK: PARAM SHP1 SHP2 07-R5 PTCH [waveform] [waveform] UPDTE SPEED DEPTH SHMIX TRIG [knob] [knob] [knob]				
HIT: 16 5 NR	STR	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM				
07-R5	0	127	0	64	0	127	0	0	0	64	0	0				
ROH>18																

MachineDrum is to group percussion tracks (that are not part of the standard oonz oonz beat), and then in EDIT mode to use the scroll wheel to go from track to the next and see which hits are still empty, and try to put different notes in there. The melody in A09 was built this way, as were the answer-response and single hit synth of this pattern.

Track 8: Rhythmic Chord Hits #2

This is the other rhythmic chord track that answer the first line on Track 6. The sound is similar, but the filter envelopes is not as pronounced on this one, and it has much more reverb, providing a bit of a different feel in order

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 08-CB			
	64	71	10	33	0	0	89	126	56	64	41	35	TRACK	PARAM	SHP1	SHP2
HIT: 16 5 DER	STR	END	RTRG	RTIN	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	08-CB	FLTH		
08-CB	107	43	0	101	29	8	32	0	42	90	85	0	UPDTE	SPEED	DEPTH	SHMIX
ROM>19													TRIG			

to make the identifications of the parts of the answer-response more easy.

Track 9: Clap

LEV	PTCH	DEC	CLPS	CDEC	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 09-CH			
	62	37	21	85	0	0	43	98	0	99	50	0	TRACK	PARAM	SHP1	SHP2
HIT: 16 5 DER	MOD	MFRQ	MDEC	HPF	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	09-CH	DEC		
09-CH	73	22	107	61	0	127	0	0	0	64	0	0	UPDTE	SPEED	DEPTH	SHMIX
EFM>CF													FREE			

This is a frank clap on the 2 and 4, similar to the one used in pattern A07. Not much to say about this one, except that it has to be there :)

Track 10: Offbeat Hihat

LEV	PTCH	DEC	HP	HPQ	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 10-OH			
	78	76	70	0	0	0	120	119	0	85	64	0	TRACK	PARAM	SHP1	SHP2
HIT: 16 5 DER	STR	RTRG	RTIN	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	10-OH	FLTH		
10-OH	0	0	64	64	64	127	0	0	0	64	0	0	UPDTE	SPEED	DEPTH	SHMIX
E12>CH													FREE			

Similar to the no-frills clap on Track 9, this is a no frills offbeat hihat. I added a lot of higher end boost using the EQ in order to make it very sharp and on top of the mix. It is mixed in quite loudly as well.

Track 11: Fan Sound

This is kind of sound I call “fan sounds”, because they sound like a rotating fan. This is usually achieved using a free running triangle LFO on either the FTLW or the volume. The underlying pattern is a maracas hit on every 8th note, with a long SUSTAIN. The FLTQ is turned up quite high to have a more present sound and make the filter sweep

LEV	RTT	SUS	REV	DAMP	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 11-RC			
	16	105	127	0	0	0	64	64	0	68	69	14	TRACK	PARAM	SHP1	SHP2
HIT: 16 5 DER	RATL	RTYP	TONE	HARD	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	11-RC	FLTH		
11-RC	98	127	57	0	58	35	84	0	50	8	19	0	UPDTE	SPEED	DEPTH	SHMIX
TRW>HR													FREE			

more obvious. It is very cool to add these kind of sounds as a rhythmic squishy kind of background that adds a lot of funk to a pattern. Also, tweaking SPEED and DEPTH of the LFO allows one to do crazy sci-fi sounds and buildups when playing live. Also it can be used as a single element reinforcing the basic beat when the LFO is turned down, and the standard 8th note pattern starts to appear.

These kind of fan sounds can usually be created with pretty every machine that produces a bit of high-frequency content. You can also use bassdrums like the TRX-B2 (which has GRIT and DIRT) or the EFM-BD (which can be very MachineDrum Notes #2

noisy when the FM feedback is turned up). Adjust FTLF and FTLW to taste so that it fits into the mix frequency-wise, and off you go :)

Track 12: Shuffled Syncopated Hihat Shaker

This is a mixture of a squishy hihat roll pattern and some added ghost notes for the no-frills hihat on track 10. It is again the EFM-HH with a very short DEC, but the squishy hihat rolls are done by turning up the DEC and using the

	LEV	PTCH	DEC	TREM	TRFQ	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 12-CC				
		84	18	57	63	0	0	64	64	0	37	78	0	TRACK: 12-CC	PARAM: UOL	SHP1: [WAVEFORM]	SHP2: [WAVEFORM]	JMC
HIT: 16 5 DER	MOD	MFRQ	MDEC	FB	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	UPDTE	SPEED	DEPTH	SHMIX		
12-CC	64	80	91	127	84	127	0	0	7	64	57	0	TRIG					
EFM>HH																		

TREM and TRFQ setting of the hihat. This rubs against the quantized sound, and gives the whole pattern a much more human feel. The rolls also accent the claps and the “normal” offbeat hihat hits.

Track 13: Squishy Noise Accents

This is the same noise machine as in track A07, but used here to add some squish to the bassdrum. It is a pattern I use very often, adding a squish sound to the fourth 16th in every beat. This pattern has an added longer squish on

	LEV	DEC				AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 13-M1				
		70				0	0	117	106	0	22	64	0	TRACK: 13-M1	PARAM: FLTH	SHP1: [WAVEFORM]	SHP2: [WAVEFORM]	JMC
HIT: 16 5 DER						FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	UPDTE	SPEED	DEPTH	SHMIX	
13-M1						45	0	52	0	0	106	106	0	TRIG				
GND>NS																		

the last downbeat of the second bar to reinforce the clap on that downbeat and to lead into the next kickdrum. The filter combined with the noise oscillator is very effective at doing these kind of squishy leading sound. These squishy sounds are one of the most important groove tricks I discovered in the last few month, and they help a lot at making the MachineDrum not sound so digital.

Track 14: Hook Melody

This is the hook melody of the pattern. I try to write “simple melodies” by using a few notes out of the minor scale, and then laying the individual hits out by using a fake 3-against-4 polyrhythm (lots of notes every three 16th notes). I then add some quick accents by adding lower or higher notes next to the main melody notes. The sound itself is a

	LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 14-M2				
		64	63	0	0	0	0	64	64	0	72	85	0	TRACK: 14-M2	PARAM: PAN	SHP1: [WAVEFORM]	SHP2: [WAVEFORM]	JMC
HIT: 16 5 DER	STR	END	RTRG	RTIN	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	UPDTE	SPEED	DEPTH	SHMIX		
14-M2	0	127	0	64	15	79	58	0	70	15	98	0	HOLD					
RDH>DS																		

triangle waveform out of a Kurzweil synthesizer (the waveform can be found in Opuswerk’s sample pack). The DEC is kept pretty short to make it pretty percussive, but it can easily be turned up to make the melody smoother and add some energy / pad-like sounds when playing live. A good way to modify the sound of the melody as well is to turn the filter down to mute it and make it more midrangey. The reverb also plays an important part in this sound, adding some kind of ghostly tail after each note.

Turning up the DELAY also adds a lot of rhythmic interest to the line, as every 16th note starts to fill up. Combining this with accents tweaked into the line with the FLTW or the SRR adds a lot of dynamics to pattern and makes the melody less boring (it’s just 2 bars looped, after all). Also noticed how the melody interacts with the chord patterns, a

bit similarly to the answer/response, but also using the chords (which are more midrangey than the melody) as bouncing ground.

The LFO adds a bit more variety in the stereo field placement of the melody, making it swirl around on every hit (the UPDTE is set to HOLD).

Pattern A09

This is the last pattern I did with the sounds in the kit, and it kind of ties together all the exploration before in a very straightforward and effective package. The one thing I tried with this one is to come up with a complex, but not boring or irritating melody split on two tracks. The rest is very straightforward and features a very bouncy disco bassline, some squishy hats, a syncopated snare, and the standard backbeat.

Track 1: Bassdrum

LEU	PTCH	DEC	RAMP	HOLD	AMD	AMF	EOf	EoG	DIST	UOL	PAN	DEL	LFO 01-BD				
52	11	29	0	0	0	0	15	84	0	63	64	0	TRACK: 01-BD	PARAM: PTCH	SHP1: [WAVE]	SHP2: [WAVE]	
KIT: 15 5 NER 01-BD TRM>B2													UPDTE: 0	SPEED: 0	DEPTH: 0	SMIX: 0	JUC7
TICK	NOIS	DIRT	DIST	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	TRIG: 0					
7	0	0	0	21	94	98	0	0	0	110	0	0					

Same bassdrum once again, nothing has changed :)

Track 2: Syncopated Hihat

This is the E12-TA based hihat, used this time as a syncopation around the basic offbeat hihat (on track 10). It is

LEU	PTCH	DEC	HP	HPQ	AMD	AMF	EOf	EoG	DIST	UOL	PAN	DEL	LFO 02-SD				
65	96	0	0	0	0	0	64	64	0	78	64	0	TRACK: 02-SD	PARAM: PTCH	SHP1: [WAVE]	SHP2: [WAVE]	
KIT: 15 5 NER 02-SD E12>TA													UPDTE: 0	SPEED: 0	DEPTH: 0	SMIX: 0	JUC7
STRT	RTRG	RTIM	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	TRIG: 0					
0	0	64	64	0	127	0	0	0	0	64	0	0					

played on the offbeats, with a few ghost notes, to make the straight hihat sound a bit squishier and to underline the swing of the pattern (again 64%).

Track 3: Syncopated Clave

This is the sinewave based clave, this time pitched a bit lower and with a slightly longer envelope. It plays a typical straight/syncopated pattern with only 2 hits. The first hit is on the 8th offbeat of the first beat, while the second hit is

LEU	PTCH	DEC	RAMP	RDEC	AMD	AMF	EOf	EoG	DIST	UOL	PAN	DEL	LFO 03-HT				
56	64	0	0	0	0	0	75	41	113	92	50	0	TRACK: 03-HT	PARAM: DEL	SHP1: [WAVE]	SHP2: [WAVE]	
KIT: 15 5 NER 03-HT GND>SN													UPDTE: FREE	SPEED: 0	DEPTH: 0	SMIX: 0	JUC7
FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	TRIG: 0									
71	127	0	0	33	9	0	120										

syncopated on the second 16th of beat four. This reinforces both the “straight” groove and the shuffle. Also the woody round sound of the sinewave adds a bit of warmth to the whole pattern, while still sticking out in the mix.

Track 4: Squishy Shaker

This is a squishy shaker pattern outline the offbeats around every second hit of the offbeat hihat. It also adds a pretty

LEU	PTCH	DEC	HP	SLEW	AMD	AMF	EOf	EoG	DIST	UOL	PAN	DEL	LFO 04-HT				
64	127	0	127	0	0	0	64	64	0	51	64	0	TRACK: 04-HT	PARAM: PTCH	SHP1: [WAVE]	SHP2: [WAVE]	
KIT: 15 5 NER 04-HT E12>SH													UPDTE: TRIG	SPEED: 0	DEPTH: 0	SMIX: 0	JUC7
STRT	RTRG	RTIM	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	TRIG: 0					
0	0	64	64	84	127	0	0	0	0	64	0	0					

nervous roll done with the RTRG on the last beat of the pattern, adding some forward motion into the next clap and

kick.

Track 5: Disco Subbass

Again using the Juno sub sample for a sub bass kind of sound, this is the most blatantly disco basslines of all the patterns presented here. It is a simple “mounting” octave base lick, with the bass playing octaved 8ths while playing root, 2nd and 3rd of the c minor scale. The last beat has a slight offbeat dead note, adding to the groove. This is

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 05-LT				
	64	50	7	0	0	29	15	69	0	89	64	0	TRACK: PARAM	SHP1	SHP2	JUNO	
HIT: 15 5 DER	STR	END	RTRG	RTIN	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	05-LT	PTCH			
05-LT	0	127	0	64	14	72	52	0	0	7	0	56	UPDTE	SPEED	DEPTH		SHNIX
ROH>01													TRIG				

really the prototypical disco bassline, but it works exceedingly well for house music. The house is almost the same as a muted electric bass, and this gives the pattern some warmth as well.

Track 6: Syncopated Snare

This is a gentle syncopated snaredrum, underlying the swing of the pattern. It is very subtle and low in the mix, and

LEV	PTCH	DEC	NOIS	NDEC	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 06-CP				
	64	40	63	66	0	0	60	92	0	32	68	0	TRACK: PARAM	SHP1	SHP2	JUNO	
HIT: 15 5 DER	MOD	MFRQ	MDEC	HPF	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	06-CP	PAN			
06-CP	0	0	0	0	0	0	0	0	0	0	0	0	UPDTE	SPEED	DEPTH		SHNIX
EFM>50	101	67	65	42	64	127	0	0	0	7	0	0	FREE				

just adds some bit of rhythmic background when the main elements of the beat are there (namely offbeat hihats).

Track 7: Single Bass Hit

This is a syncopated single bass hits adding a lot of forward motion to the pattern, as it's on the second 16th of every second beat. The sound is very short and is the same as the single bass hits in the other patterns. Play around

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 07-R5				
	105	48	1	0	0	0	60	98	0	73	79	0	TRACK: PARAM	SHP1	SHP2	JUNO	
HIT: 15 5 DER	STR	END	RTRG	RTIN	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFOM	07-R5	PTCH			
07-R5	0	127	0	64	0	127	0	0	0	64	0	0	UPDTE	SPEED	DEPTH		SHNIX
ROH>18													TRIG				

with the placement of these single bass hits, trying out different combinations inside a single beat. Don't try to fill the bar, just add one or two looping hits and see how they feel. There is so much to discovered inside the simple backbeat framework of techno/house (the oonzz tssk clap tssk oonz tssk clap tssk). My trick/goal is to find the simplest combination of hits that sound the most interesting. There is something very hypnotic to try to build the least boring 1-beat pattern, where you only have 4 choices for every sound.

Track 8: Chord Melody

This is a simple melody done with parallel minor chords, using a very soft piano kind of sound, that is quite heavily sent to the reverb. It adds a slight melody working well together with the bassline. It is not very present in the pattern,

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EOf	EOG	DIST	UOL	PAN	DEL	LFO 08-CB			
													TRACK	PARAM	SHP1	SHP2
KIT: 15 5 DER	49	84	6	28	0	0	73	117	56	42	84	38	08-CB	FLTH		
08-CB	STR	END	RTRG	RTIN	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SHNIX
ROM>19	99	21	0	101	31	22	39	0	64	74	43	0	TRIG			

but adds some background warmth, and some funk as well as it features a short percussive dead note.

Track 9: Clap

This is a very simple straightforward clap, again done with EFM-CP. Hits on 2 and 4, and works with the slight dead

LEV	PTCH	DEC	CLPS	CDEC	AMD	AMF	EOf	EOG	DIST	UOL	PAN	DEL	LFO 09-CH			
													TRACK	PARAM	SHP1	SHP2
KIT: 15 5 DER	62	37	8	85	0	0	43	98	0	77	64	0	09-CH	DEC		
09-CH	HOD	HFRQ	HDEC	HPF	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SHNIX
EFM>CP	73	22	107	61	0	127	0	0	0	64	0	0	FREE			

notes provided by track 6 (the syncopated snare)..

Track 10: Offbeat Hihat

This is a completely straightforward offbeat hihat. The tracks 1 (kickdrum), 5 (sub disco bass), 9 (clap) and 10 (hihat)

LEV	PTCH	DEC	HF	HFO	AMD	AMF	EOf	EOG	DIST	UOL	PAN	DEL	LFO 10-OH			
													TRACK	PARAM	SHP1	SHP2
KIT: 15 5 DER	70	62	70	0	0	0	64	64	0	92	64	0	10-OH	FLTH		
10-OH	STR	RTRG	RTIN	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SHNIX
E12>CH	0	0	64	64	64	127	0	0	0	64	0	0	FREE			

form a typical disco beat without much soul. The soul is added by all the squishy little hats and of course the melody (on tracks 13 and 14).

Track 11: Stereo Scratch

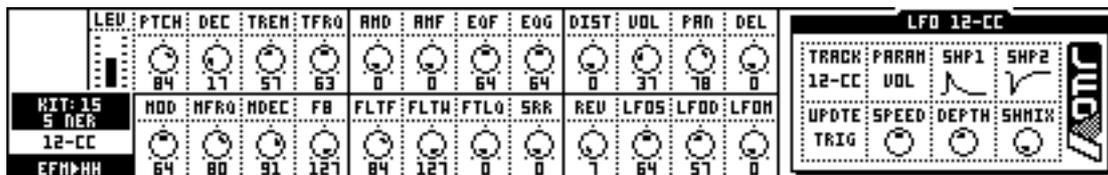
Again a very simple stereo scratch done using the TRX-MA with FLTF turned way up high. The stereo effect is done

LEV	ATT	SUS	REV	DAMP	AMD	AMF	EOf	EOG	DIST	UOL	PAN	DEL	LFO 11-RC			
													TRACK	PARAM	SHP1	SHP2
KIT: 15 5 DER	46	0	127	98	0	0	64	64	0	74	60	14	11-RC	PAN		
11-RC	RATL	RTYP	TONE	HARD	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SHNIX
TRX>MA	64	64	64	49	120	127	84	0	0	94	92	0	TRIG			

using the random LFO on PAN. The maracas is pretty long due to the turned up ATT, and hits on the second 16th of every beat, giving the whole pattern a slightly off-center offbeat scratch which works well with the standard offbeat hihat to give the pattern more funk.

Track 12: 8th Hihat

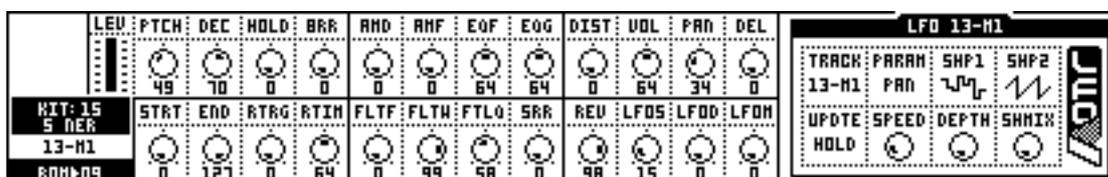
This is another track adding to the standard beat. This is a simple 8th note hihat without any variation. Adding it to the offbeat hihat completely changes the groove of the pattern into something much more linear. It can be a good



way to add or remove intensity while playing the pattern live.

Track 13: Melody #1

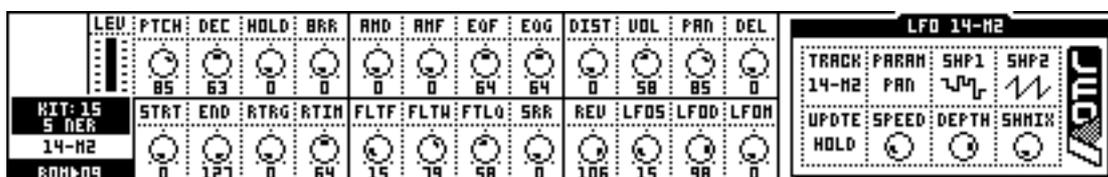
Both melody machines (on track 13 and track 14) are done using the triangle waveform. Both melodic lines work in an answer/response way, with track 13 on the left and being slightly lower in the note pitches than track 14. The



melody is built out of the c minor scale, using a very simple ascending and descending motif which was then made more complex by adding lower and higher notes in syncopation. The melody works a lot with 3 16th notes spacings again. It works in answer/response with track 14, so both tracks usually don't hit at the same time. A few times however they play dyads (two notes hitting at the same time), which gives the track an additional harmony to that provided by the chord melody on track 9. Both melodies work on their own, and they can also be muted / unmuted rhythmically to change them. Playing with the synth sound is very easy, you can open up DEC or HOLD, add some LFO (turns it into an atonal melody), you can vary the sound using AMD and AMF, or add some high frequency content with SRR (makes the sound much more percussive as well, be careful). Sadly, RTRG doesn't work very well on sounds made with looping waveforms (basically, STRT, END and RTRG are not of much use with looped waveforms, which is a bit sad).

Track 14: Melody #2

This is the second part of the melody. The sound of this triangle is slightly different, with more reverb than the previous one, and with a stereo LFO (on random). This melody is higher pitched than the one on track 13, and is

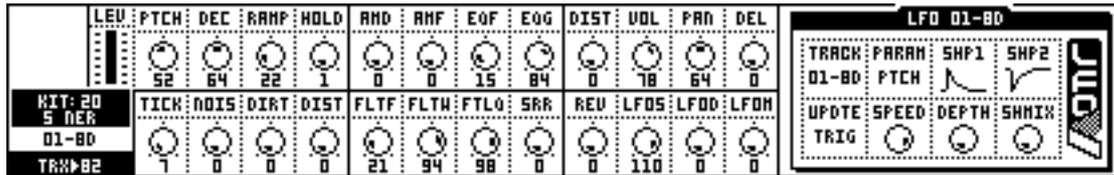


built on a simple repeating pattern and an ascending motif. It works well to introduce this one (higher up) after the melody #1 has already looped a few times. Although the melodic pattern is very short (2 bars only), the answer/response makes it quite complex, so that it doesn't sound too looped. Using answer/response is a good way to make complex melodies more easy to understand or at least to follow for the listeners, as he can focus on one of the voices, and make out a structure out of the answer / melody part.

Pattern A03

This pattern is more chilly and deep than the three other patterns presented in this document. It is however still based on the same kind of sounds (with a few variations). It is a bit busy, as it has a lot of elements where I was experimenting with ideas. I decided to describe this pattern in this document as well to kind of show the kind of patterns I am going through when I am exploring things. It doesn't have the focused funk of the first three patterns, but I think it has more interesting sounds. I often go back to these kind of exploratory patterns to extract some sounds or ideas out of them and put them to use in more "straightforward" patterns.

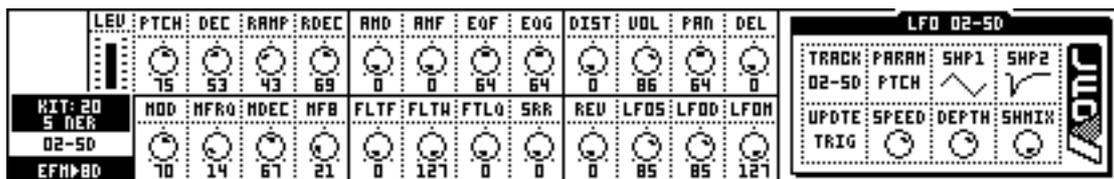
Track 1: Bassdrum



This is the same bassdrum as in A07, A08 and A09. Not much to say here :)

Track 2: Syncopated Midrange Synth

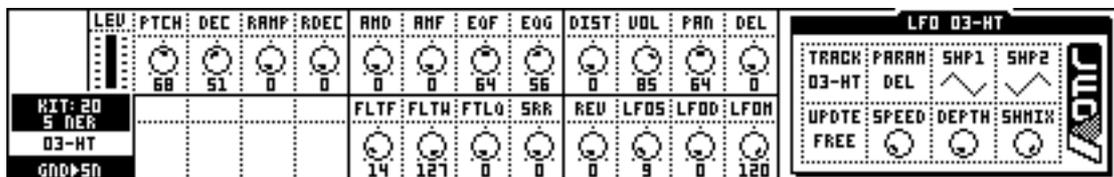
This is a simple syncopated pattern interacting with the subline and the kickdrum. It's a midrangey sound produced



with EFM-BD, which allows for a lot of weird pitch and enveloped FM sounds when turning up MOD and turning down MFB. This adds some rhythmic interest to the bassdrum pattern. The bad thing about EFM-BD is that although it is a very flexible machine, it is hard to tweak live, as changing a knob value can quickly change its frequency content and muddy up the sound, or make it very piercing. I usually tweak it right and then let it sit as is in the pattern. It's good to do weird out-of-sync basslines as well, as the different pitch and frequency envelopes make it a very lively sound.

Track 3: Syncopated Clave

This is a very simple clave like sound done using the GND-SN with a very short dec. It gives it a kind of woody



sound. The pattern itself is very simple, and is just two syncopated hits that complete the bassdrum and the midrangey bass on track 2.

Track 4: Midrangey Syncopated Hits #2

This is another instrument of EFM synthesis family used to make a midrangey kind of sound. The basic concept of this pattern was to make a complex linear drumming kind of midrangey bassline by combining different tracks. This track completes the pattern made by bassdrum, EFM-BD and wooden clave. The syncopations underline the swing

of the pattern (again 64%). The last hit of EFM-XT is on the last offbeat, providing a more simple bounce to go into the next one. As with the disco subbasses, this is again built out of a mix of syncopation and more linear (non-

LEU	PTCH	DEC	RAMP	RDEC	RND	RNF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 04-MT																																																											
127	44	57	77	38	4	88	106	0	0	127	64	0	TRACK: 04-MT	PARAM: PTCH	SHP1	SHP2	JMC																																																							
<table border="1"> <thead> <tr> <th>HIT: 20</th> <th>5</th> <th>NER</th> <th colspan="15"></th> </tr> </thead> <tbody> <tr> <td>04-MT</td> <td></td> <td></td> <td>HOD</td> <td>MFRQ</td> <td>MDEC</td> <td>CLIC</td> <td>FLTF</td> <td>FLTH</td> <td>FTLQ</td> <td>SRR</td> <td>REV</td> <td>LFOS</td> <td>LFOD</td> <td>LFON</td> <td>UPDTE</td> <td>SPEED</td> <td>DEPTH</td> <td>SMIX</td> </tr> <tr> <td>EFM-XT</td> <td></td> <td></td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>45</td> <td>85</td> <td>77</td> <td>0</td> <td>0</td> <td>18</td> <td>100</td> <td>127</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													HIT: 20	5	NER																04-MT			HOD	MFRQ	MDEC	CLIC	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX	EFM-XT			0	0	0	0	45	85	77	0	0	18	100	127								
HIT: 20	5	NER																																																																						
04-MT			HOD	MFRQ	MDEC	CLIC	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX																																																						
EFM-XT			0	0	0	0	45	85	77	0	0	18	100	127																																																										

shuffled) elements. However in this bassline, the focus is more on syncopation and not on straight, which provides a more broken kind of beat. The linear background is provided by the subbass on track 5.

Track 5: Sub

This is the subbass, as in the other patterns done by using the Juno sub waveform. The sub pattern has a very solid

LEU	PTCH	DEC	HOLD	BRR	RND	RNF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 05-LT																																																											
64	50	17	100	0	29	15	85	42	100	64	0	0	TRACK: 05-LT	PARAM: PTCH	SHP1	SHP2	JMC																																																							
<table border="1"> <thead> <tr> <th>HIT: 20</th> <th>5</th> <th>NER</th> <th colspan="15"></th> </tr> </thead> <tbody> <tr> <td>05-LT</td> <td></td> <td></td> <td>STRT</td> <td>END</td> <td>RTRG</td> <td>RTIM</td> <td>FLTF</td> <td>FLTH</td> <td>FTLQ</td> <td>SRR</td> <td>REV</td> <td>LFOS</td> <td>LFOD</td> <td>LFON</td> <td>UPDTE</td> <td>SPEED</td> <td>DEPTH</td> <td>SMIX</td> </tr> <tr> <td>ROM-01</td> <td></td> <td></td> <td>0</td> <td>127</td> <td>0</td> <td>64</td> <td>14</td> <td>43</td> <td>51</td> <td>0</td> <td>0</td> <td>0</td> <td>7</td> <td>0</td> <td>56</td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													HIT: 20	5	NER																05-LT			STRT	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX	ROM-01			0	127	0	64	14	43	51	0	0	0	7	0	56							
HIT: 20	5	NER																																																																						
05-LT			STRT	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX																																																						
ROM-01			0	127	0	64	14	43	51	0	0	0	7	0	56																																																									

longer hit on the first downbeat, providing a solid background against the syncopation of track 2, 3 and 4. It has a slight higher octave syncopation completing the pattern of EFM-XT on the last offbeat in the bar.

Track 6: Reverb Single Hit

This is a single hit with a lot of reverb on the four in the first bar. It provides a background ambience and reinforces the clap that is going to come on this beat. It is done using a EFM-BD (which can also be used to make melodic content), with a quite high highpass filter using FTLF, and quite some slow RAMP (big RDEC, medium RAMP). There is a lot of very nice sounds to be found exploring the EFM-BD. Using a reverse amplitude envelope (using TRIG LFO)

LEU	PTCH	DEC	RAMP	RDEC	RND	RNF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 06-CP																																																											
106	38	78	127	56	20	64	64	0	0	47	78	0	TRACK: 06-CP	PARAM: PTCH	SHP1	SHP2	JMC																																																							
<table border="1"> <thead> <tr> <th>HIT: 20</th> <th>5</th> <th>NER</th> <th colspan="15"></th> </tr> </thead> <tbody> <tr> <td>06-CP</td> <td></td> <td></td> <td>HOD</td> <td>MFRQ</td> <td>MDEC</td> <td>MFB</td> <td>FLTF</td> <td>FLTH</td> <td>FTLQ</td> <td>SRR</td> <td>REV</td> <td>LFOS</td> <td>LFOD</td> <td>LFON</td> <td>UPDTE</td> <td>SPEED</td> <td>DEPTH</td> <td>SMIX</td> </tr> <tr> <td>EFM-BD</td> <td></td> <td></td> <td>22</td> <td>15</td> <td>66</td> <td>3</td> <td>57</td> <td>36</td> <td>0</td> <td>0</td> <td>57</td> <td>12</td> <td>0</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													HIT: 20	5	NER																06-CP			HOD	MFRQ	MDEC	MFB	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX	EFM-BD			22	15	66	3	57	36	0	0	57	12	0	4								
HIT: 20	5	NER																																																																						
06-CP			HOD	MFRQ	MDEC	MFB	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX																																																						
EFM-BD			22	15	66	3	57	36	0	0	57	12	0	4																																																										

for example, you can do very nice ghostly kind of swells with it, tweaking them into a noisy flash using the MFB parameter.

Track 7: Pad Swell

This track uses my standard chord swell, this time really as a chord swell, starting early (low STRT) in the sample. It has quite a lot of delay and REV, and due to the filter sweep it provides a nice rhythmically wobbling deep ambience to the whole pattern. Swells are also very useful because they lead into a specific hit. They also very useful live

LEU	PTCH	DEC	HOLD	BRR	RND	RNF	EoF	EoG	DIST	UOL	PAN	DEL	LFO 07-RS																																																											
49	75	43	8	0	0	85	99	0	99	64	72	0	TRACK: 07-RS	PARAM: PTCH	SHP1	SHP2	JMC																																																							
<table border="1"> <thead> <tr> <th>HIT: 20</th> <th>5</th> <th>NER</th> <th colspan="15"></th> </tr> </thead> <tbody> <tr> <td>07-RS</td> <td></td> <td></td> <td>STRT</td> <td>END</td> <td>RTRG</td> <td>RTIM</td> <td>FLTF</td> <td>FLTH</td> <td>FTLQ</td> <td>SRR</td> <td>REV</td> <td>LFOS</td> <td>LFOD</td> <td>LFON</td> <td>UPDTE</td> <td>SPEED</td> <td>DEPTH</td> <td>SMIX</td> </tr> <tr> <td>ROM-19</td> <td></td> <td></td> <td>28</td> <td>127</td> <td>0</td> <td>65</td> <td>35</td> <td>127</td> <td>0</td> <td>0</td> <td>52</td> <td>64</td> <td>0</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>													HIT: 20	5	NER																07-RS			STRT	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX	ROM-19			28	127	0	65	35	127	0	0	52	64	0	0								
HIT: 20	5	NER																																																																						
07-RS			STRT	END	RTRG	RTIM	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFON	UPDTE	SPEED	DEPTH	SMIX																																																						
ROM-19			28	127	0	65	35	127	0	0	52	64	0	0																																																										

because you can tweak them into a big pad very easily by turning up the delay feedback.

This chord swell is I think what makes the pattern “deep”, it is very atmospheric.

Track 8: Chord Melody

This is a simple chord melody, with the same sample as the chord swell on track 7. It is however modified to provide a kind of smooth chord hit, with a decent amount of reverb. It plays a little simple melody, and is backed up by the chord swell on track 7 (notice how both lines don’t hit at once, but provide some kind of simple answer-response

LEV	PTCH	DEC	HOLD	BRR	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 08-CB			
55	80	3	0	0	0	72	92	56	68	65	0	TRACK: 08-CB PARAM: PTCH SHP1: [Sawtooth] SHP2: [Square]				
KIT: 20 5 DER				STR	END	RTRG	RTIH	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	JMC
08-CB				96	127	0	65	57	105	46	0	42	64	0	0	
RDH>19																

pattern). The lower frequency of the chord sample is removed by using a pretty high FTLF. The mid range is boosted a bit using EQF/EQG.

There is a short accent on the last 16th of the pattern, which is done by setting a much lower DEC (15), and advancing the start point in the sample (thus providing more high frequency content because the pad swell progressively opens the filter).

Track 9: Complex Snare Pattern

This is a pretty complex snare pattern done using E12-SD. It has a roll leading into the four of the first bar, which is further accented by sending the snare into the REVERB, turning it into a big atmospheric hit. In hindsight, I think this snare pattern is a bit too complex and would benefit from being turned into a simpler “two and four” kind of pattern.

LEV	PTCH	DEC	HP	RING	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 09-CH			
64	67	0	0	0	0	64	64	0	86	64	0	TRACK: 09-CH PARAM: DEC SHP1: [Sawtooth] SHP2: [Square]				
KIT: 20 5 DER				STR	RTRG	RTIH	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	JMC
09-CH				0	0	64	64	56	127	0	0	0	64	0	0	
E12>50																

It is a bit awkward when it is played on its own, and takes meaning only when the offbeat hat is added. I was trying to do some kind of busy 808-snare pattern as it is present in a lot of minimal, but it kind of fell short.

Track 10: Offbeat Hihat

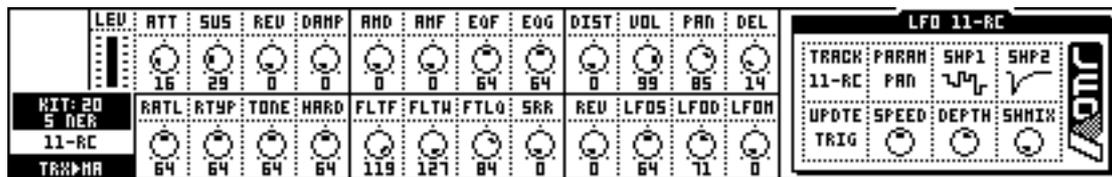
This is a standard offbeat hihat with a few dead notes thrown in (with short DEC). This hihat is the “natural” sounding E12-CH, but with a lot of the lower frequency content removed, so it is pretty light (it usually is pretty hard hitting). I

LEV	PTCH	DEC	HP	HPQ	AMD	AMF	EQF	EQG	DIST	VOL	PAN	DEL	LFO 10-OH			
70	67	70	0	0	0	0	64	64	0	127	64	0	TRACK: 10-OH PARAM: FLTH SHP1: [Sawtooth] SHP2: [Square]			
KIT: 20 5 DER				STR	RTRG	RTIH	BEND	FLTF	FLTH	FTLQ	SRR	REV	LFOS	LFOD	LFDM	JMC
10-OH				0	0	64	64	64	127	0	0	0	64	0	0	
E12>CH																

removed the lower frequency content with both the HP and the FTLF parameters.

Track 11: Single Scratch

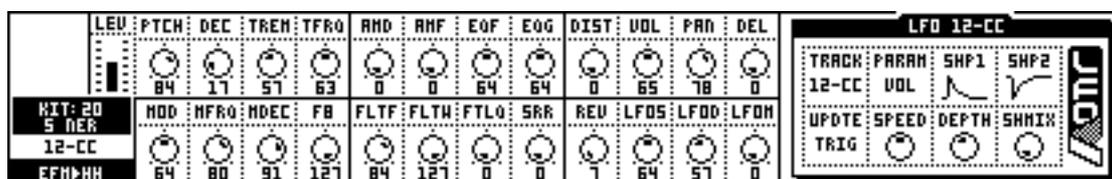
This is a simple squishy single hit that leads in the third downbeat of every bar. It is done with a very high-pass filtered maracas. A trick I got from Opuswerk is to add a fast random LFO on the PAN (with a decent DEPTH). This



spreads the squishy sound over the stereo field, making it seem to come from both sides at once.

Track 12: Syncopated Hi-hat with Reverb

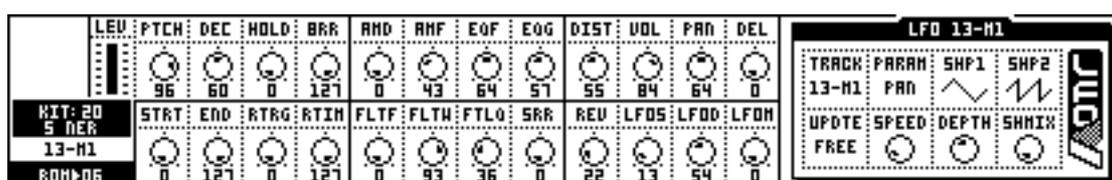
This is a second hi-hat complementing the standard offbeat hi-hat pattern. Despite its short DEC, this doesn't sound like it is ghost notes to the first hi-hat because this hi-hat is positioned at a different side in the stereo field. Another big



REVERB accent is done by sending this hi-hat into the reverb on the first downbeat of the second bar. This complements the other REVERB hit of the snare, adding to the "atmosphere" of this pattern.

Track 13: Weird Syncopated Synth

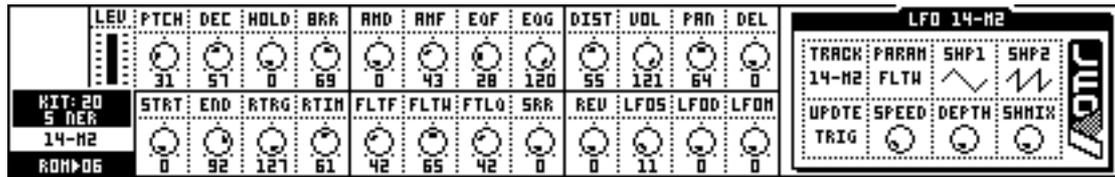
When I loaded the new waveforms into the MachineDrum, I didn't know yet how to use them, so one thing I tried was to put them to use as a kind of midrangey percussion synthesizer. This complex "melodic" pattern was a follow-up to a few experiments I did on the monomachine, trying to come up with weird klanky FM melodies that would work as "hooks" but not be melodic in the conventional sense. This works with a very simple standard melody of three notes, laid out rhythmically according to my "fake 3-against-4" theory, and with a few dead notes (very short DEC) thrown in. It kind of bounces off the rhythmic line on track 14, but is more melodic, more high-freq (while track 14 is pretty bassy), and kind of whirls around in the stereo field (which is emphasized by the slight amount of reverb



on it). It is pretty busy however, and clashes a bit with the chords. All in all, it's not very noticeable and doesn't add a lot of energy to the pattern, it is however neat to bring it to the foreground when jamming with the pattern.

Track 14: Weird Syncopated Synth #2

This is another try to put the waveform to work as a kind of synthesizer sound. This is much bassier than the previous track (which is based on the same waveform sample). It is a very simple 2 note melody, solidly grounded on the 8th of the pattern, with a few syncopation thrown in (I tried to make it sounds a bit disco). This is a very nice pattern to play on its own, it also supports a fair bit of the bass. Due to its 2 notes and slight syncopations, it is a



quite hypnotic sounding pattern. However I still think the waveform is a bit too “flappy” to be very useful. Also, tweaking the filter is not very effective, and can quickly lead to a muddied sound (either in the lower mid range, or to a very noisy higher range).