JJOS XL
SAMPLING BIBLE

The Complete Masterclass For Creative Sampling on JJOS 'XL'
JJOS2XL & JJOS-XL

BY ANDY AVGOUSTI (MPC-TUTOR)

MPC-SAMPLES
NO HASSLE. NO WAIT. JUST DIG - DOWNLOAD - CREATE

JJOS XL: The Sampling Bible
(for JJOS XL v3.x)

Written By Andy Avgousti (MPC-Tutor)
Copyright © Andy Avgousti 2013

Published by MPC-Samples.com 2013

All rights reserved. No part of this book, nor any of its associated tutorial files may be reproduced, resold, or transmitted in any form or by any means without prior written permission of the Publisher.

The Author and Publisher have made every effort to ensure the accuracy of the information herein. However, the information contained in this book is sold without warranty, either express or implied. Neither the Author nor Publisher, nor its dealers or distributors will be held liable for any damages to be caused either directly or indirectly by the instructions contained in this book, or by the software or hardware products described herein.

MPC-Samples.com is a trading name of Beat Box Digital LTD, a company registered in England & Wales, Company No. 6810062. Registered Office: 67/69 Dunkeld Road, Sheffield, S11 9HN, UK

Table of Contents

Introduction 6

001 Introduction to 'Destructive' Chop Mode 8

Overview 8
Loading the Break 8
Destructive Chopping Screen 9
Navigating in Chop Mode 10
A Basic Chop 10
The 'Shared' Edit Point 14
Creating your Slices 14
MONO vs POLY 15
'Equal Region' Experiments 16
Tempo Issues 20

002 Intermediate Destructive Chopping 21

Chopping Down to Individual Hits 21
'Dividing' Regions 22
AUTO Chopping 23
Fine Tuning Regions 25
Advanced Pad Preview Options 26
Speeding Up Your Chopping Workflow 28
Drumming With Your Slices 31

003 Advanced Destructive Chopping 35

Parameter Changes to Multiple Chops 35
Introduction to PgmMode 38
Building a Simple Kit 39
Packing Your Programs 41
Working with PAC Files 43
Destructive Instrument Chops 45
Sustain Looped Instrument Chops 45
Understanding Voices 48
Rapid 'Sustain Looping' Workflow 49
Looping Individual Drum Chops 51
Using Patched Phrase on Loops 54
Patched Phrase on Drum Hits For Pseudo Timestretching 56
Preserving Your 'Tempo Patches' 57

The Problems With Destructive Chopping 59

004 Non Destructive Chopping Drum Breaks 60

Accessing NDC Mode 60
Overlapping Regions 61
Isolating Individual Chop Regions 62
NDC Region Editing Options 64
Understanding the NDC Program 65
Selecting Your Best Chops 66
Rearranging Chops To Build a Finger Drumming Kit 68
Using PgmMode to Edit Chops in 'Real Time' 69
Example NDC Workflow Methods 70
More Advanced Finger Drumming Kit Set Up 75
Velocity Switching 75
Timbre Changes 76
Mute Targets & Mute Groups 77
Tidying Up & Small Tweaks 78
Lengthening an Open Hat 79
Extracting Chops With 'JJ Chop' 82

005 Using NDC on Songs & Musical Pieces 83

NDC Chopping a Musical Loop 83
Using NDC SLICE 84
Experimenting With Your Initial Chops 86
Fine Tuning Your Chops 87
How Musical Chops Differ To Drum Chops 89
Adding Layers 90
Using AUTO for Musical Chops 91
A Bit of House Cleaning 92
Working with the Program 93
Collecting Ideas 94
Recording Experiments 94
Chopping a Complete Song in a Different Time Signature 97
Where To Start? 98
Example Workflow 98
Assigning Chops to Q-links 101
Utilizing Selective POLY Playback in a MONO Program 102
Using Mute Groups to Create Monophonic Playback 103
Creating a 'Bridge' 104

006 Final Word 106

Appendix A: Terms Used in this Book 107

Appendix B: JJOSXL Install & Set Up Guide 111

Appendix C: JJOSXL Shortcuts 115

Appendix D: 5 Minute 'Essentials' Lowdown 118

Appendix E: JJOSXL Resources 125

Introduction

Thank you for purchasing 'JJOS XL: The Sampling Bible', and welcome to the exciting world of sampling on JJOSXL!

Throughout this book you will quickly learn many features of JJOS-XL/2XL through the use of practical, step-by-step projects. As JJOSXL is famous for its intuitive and brilliantly creative chopping features, I've written each project to initially start by teaching a specific chopping technique and then as the tutorial progresses we'll use the resulting sample chops to learn many other aspects of the OS, such as drum kit building, writing songs, sample editing, advanced program editing, looping and much, much more.

Due to the advanced and often technically complex nature of JJOSXL, I have assumed that you already have a basic working knowledge of core MPC functionality and are generally comfortable with the ways we can use an MPC in the studio. If you are only just entering the world of MPCs, I would recommend you first consider reading my '**Beat Making on the MPC1000/2500'** book as this is a very complete guide to all aspects of making music on MPCs (using the more simple free JJOS and/or Akai OS to illustrate everything). With that knowledge under your belt, the progression to JJOSXL will be much easier. You can find out more here:

http://www.mpc-samples.com/section.php/8/0/akai-mpc-tutorials/

Alternatively if you feel ready to jump straight in at the deep end, or just need a quick refresher of core MPC functionality, I have added a '5 Minute' guide to essential MPC features in **Appendix D** as the end of this book. There you will also find other appendices for beginners, such as an explanation of terms used in this book, a guide to installing JJOSXL and a list of helpful JJOSXL shortcuts.

Which JJOS version is this book for?

This edition of the book was written to be compatible with the JJOS '**XL**' operating system (3.x) – at the last revision of this book, the current version was 3.44.

Please note that (confusingly), this software is named differently depending on the MPC you are using. The MPC1000 version is called 'JJOS2XL', while the MPC2500 version is called 'JJOS-XL', but it's important to note that JJOS2XL and JJOS-XL operating systems are *essentially* **identical**, and as such this book is valid for both the MPC1000 and MPC2500 versions of the software. Therefore

throughout this book, I will simply refer to the software as **JJOSXL**. If you need help installing JJOSXL, please refer to the installation guide in **Appendix B** at the end of this book.

How to use this book

When you downloaded this book, there should be an accompanying folder called '**Tutorial Files**'. Just transfer this folder to your MPCs' hard drive or CF card – now as you read through the book, you are able to recreate all the examples in your MPC – nothing beats good old fashioned 'hands on' learning.

My advice is to simply work you way through the book from beginning to end as I've structured it in what I feel to be the most logical order possible, and on the whole, the topics covered get progressively harder the deeper you get into the book.

Finally, if you notice any errors in the book, please do let me know and I'll get them fixed as quickly as possible – just send an email to support@mpc-samples.com. Also if you have any suggestions or feedback, including any JJOSXL or general MPC topics you'd like to see covered in future tutorial books from me, please send them to the same email address. All feedback is very welcome ☺

Happy beat making!

Andy Avgousti, MPC-Tutor

001 – Introduction to Destructive Chopping

Overview

Dedicated chopping functions have been present in MPCs for some time now, and those familiar with Akai OS will be used to using the built in CHOP SHOP, which in JJOS XL is referred to as **'Chop Mode'** ('destructive' chopping). 'Chop mode' allows you to take a sample, slice it into regions, tweak the zone start and end points and then either export each individual slice or create a patched phrase sample.

However, JJOS XL introduces a radical new form of chopping called '**Non Destructive Chopping' (NDC),** which completely rewrites the rulebook for sample chopping in an MPC.

In this book I want to take an in-depth look at both chopping methods, with examples showing you to relative merits of each technique based on the end result you wish to achieve.

Loading the Break

What's a chopping tutorial without a cool break to chop up? Go to **LOAD** (MODE and pad 2) and on the right hand side, using the cursor keys to highlight the '**Tutorial Files'** folder. Press the right cursor to 'enter' this folder and locate the '**Chapter 1**' folder; again, right cursor on this folder to enter it. Scroll your data wheel to locate the '**BREAK_1_90**.**WAV'** file. To load the sound into memory, hit DO IT (F6).

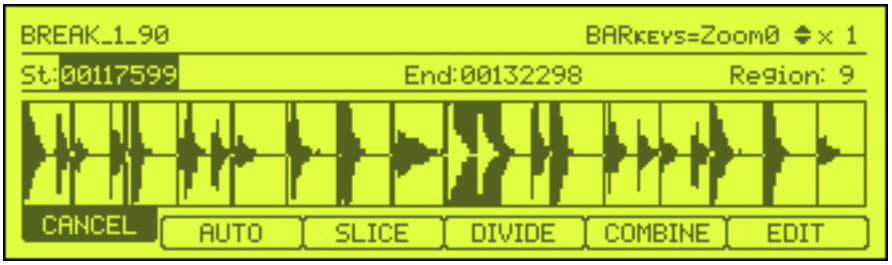
With our sample in memory, go to **TRIM** (MODE and pad 6).

This break sample has already been trimmed and looped and as you can tell from the sample name, its tempo is 90 BPM. First off, let's preview that sound. If you press pad 5 the break will continuously playback looped until you press the STOP transport key (or pad 1). Alternatively press and hold pad 1 for a 'NOTE ON' style play back.

> ***Detecting Tempo***
>
> Don't forget, a quick way to see the tempo of a looped break is to go to **EDIT > TIMESTRETCH > TEMPO (F2).** For perfect results, enter the time signature (1/4 for 4/4 beats) and the number of beats (8 in this case). Then press MANUAL (F5) – look at the '**Original tempo**' parameter.

The Destructive Chopping Screen

To start the destructive chopping process, press **CHOP** (F5):



Here, JJOS has chopped our break into many regions. Let's take a quick look at this new screen. Starting on the top row:

- **BREAK_1_90** – our sample name
- **BARkeys=Zoom0** – this tells us we can use the BAR keys to zoom into the sample (more about this later). It also tells us the *horizontal* zoom magnification of our waveform (how far we've zoomed in the waveform width). A value of 0 means we've not yet zoomed in.
- **x1** – this is the vertical zoom magnification (i.e. how much we've zoomed in on the waveform height). By default, this is a magnification of 1.

On the second row:

- **St: 00117599** – this is the start point of the *currently selected region*
- **End: 00132298 –** this is the end point of the currently selected region
- **Region: 9** – this is the currently selected region number (defaults to 9)

On the third row we haver the waveform itself, and on the fourth row we have a number of editing functions which we'll look at as we progress.

Navigating in Chop Mode

While you are in CHOP mode, you are not able to manually select the top row of the screen with your cursor, your cursors will only move around the second row in order to select start and end points and the 'Region' selector.

There's two ways to select a specific region in your chopped sample. You can use the cursor (arrow) keys to highlight '**Region:9'** at the right hand side of the screen and use the data wheel to scroll to the region number you require. As you change the region number, the waveform display changes to reflect the currently selected region (it will have a light waveform against a dark background).

If you scroll the region number clockwise as far as possible, it will stop at **16**. This represents the total number of regions that JJOS has chopped the break into.

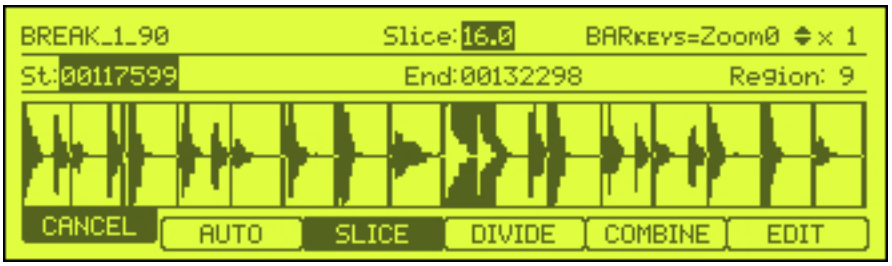
An alternative way to select regions is to *just* use the cursor keys. Simply cursor all the way to the right until the '**Region'** parameter is selected (as you did before) but then simply continue pressing the right cursor key. You'll see the region number increase with each cursor press. To select a lower region, just left cursor until you reach the '**St'** point and just continue pressing the left cursor key. I tend to use this 'cursor-only' method for most of my chopping sessions because generally speaking it fits better into my usual chopping workflow (as we'll see over the next three chapters of the book).

To perform a general 'ONE SHOT' preview of a region, press any of the pads on the second from bottom row (pads 5 to 8). You can perform a NOTE ON preview by pressing and holding pads 1 to 4. With the NOTE ON preview, the region only plays back for as long as you are holding down the pad (which is identical to the way a NOTE ON pad plays back in PROGRAM). I'll take a closer look at all the more advanced region-previewing options shortly.

A Basic Chop

Whenever you hit the CHOP button, the default chop is 16 'equal' regions – so for example, if your break was 16,000 samples long, you'd have 16 regions each 1000 samples in length. I'm going to revisit this default 16 region chop at the end of this chapter, but I first want to run through some basic concepts of destructive chopping and it will be easier to use a smaller, four region chop for this.

So first, let's 're-chop' this break into just four regions – to do this, press **SLICE** (F3):



You can now use the data wheel to select the new number of slices, via the '**Slice**' parameter at the middle top of the screen. To move in 'whole' numbers, hold down the **SHIFT** key while you scroll, otherwise you'll move in one tenth of a slice (we'll investigate this aspect in more detail in chapter 5).

Select **4** slices (**4.0**) and press the **SLICE (F3)** button again to return to normal chop editing. Use your cursor to preview your four new region, using any of the 'ONE SHOT' pads (5 to 8).

These four regions are set automatically, simply by looking at the length of the entire break and dividing that length by 4. As such you may find that the regions do not fall *exactly* at the very beginning of a drum hit – sometimes they be a bit early, sometimes they'll start too late. So normally this means we will need to edit the start and end points to make the region edits as tight as possible.

> ***Do not leave 'CHOP'!!***
>
> Once you enter the 'CHOP' screen, be aware that in 'Destructive' chopping mode, JJOS will never remember any custom edit points you create, and there is no way to save them. So don't start an editing session without the intent of completing a sliced program or patched phrase creation at the end of it. You can't even go back to the TRIM screen without losing your custom chops!

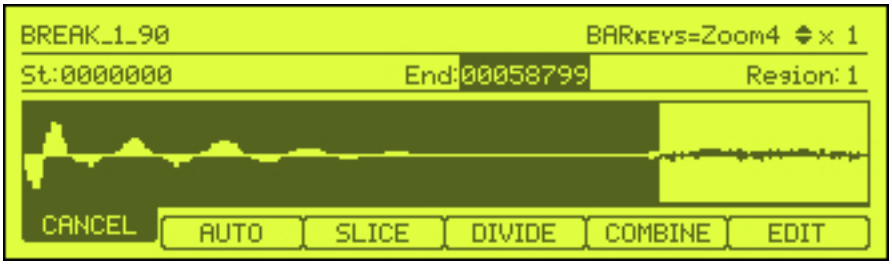
Editing the start and end points is almost identical to editing start and end points TRIM mode (except you cannot use the Q-Link sliders to change edit point values) so it's a case of using the data wheel in combination with the 'zooming' functions and cursor keys.

Press the left cursor key until region **1** is the currently selected region. You should see that the 'Start point (**St**)' is currently selected. Press **pad 5** to preview the region. Now press **pad 8** and notice how JJOS makes sure the '**end point**' of that region is now selected. Switching your preview pad between left side pads

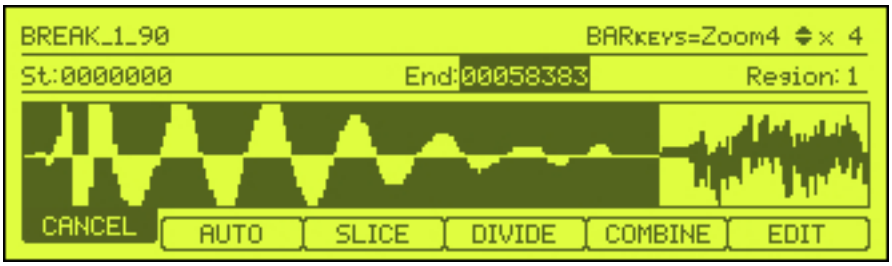
and right side pads will allow you to switch quickly between ‘start’ and ‘end’ point, speeding up your workflow (this works in TRIM as well) – we’ll be using this throughout the book. You can also use pad **6** for a ‘start point’ one shot preview, and pad **7** for an ‘end point’ one shot preview.

The same is true for the bottom row (pads 1 to 4) – except these are the NOTE ON equivalents (they require you to hold down the pad rather than just press it).

With region **1** selected, make sure the ‘**end’** point is currently highlighted (i.e. preview the region with pad 7 or 8). Zoom in to the end point of region 1 using either the right BAR key, or **SHIFT** and ‘**right’ cursor**. Zoom in a total of four times (it will say ‘**Zoom4’** on the top line of the screen) and you’ll see that when you examine the waveform, the region end is clearly chopping off the start of the hat at the beginning of region 2.

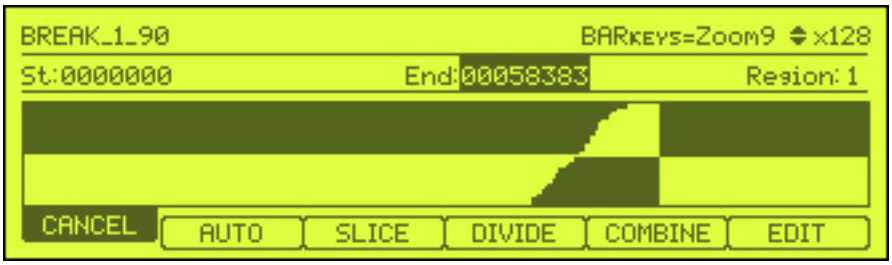


Now press the **up cursor** until the waveform height in the top right hand corner indicates ‘**x4’** – this has increased the waveform height magnification (vertical magnification). Now turn the data wheel to the left (anti clockwise) to set the end point to **00058383**. You can now see you’re positioned just before the start of the next ‘hit’ in your waveform.

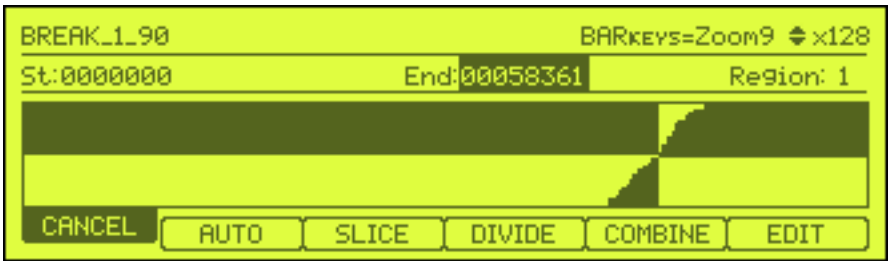


You can preview this using an ‘end point’ preview (pad 7 or 8) and it should sound fine, so you could leave it there. But I want to show you how to get as accurate as possible, because as we’ll see later, once you commit your edits in standard chop mode, there’s no going back to fix any inaccuracies.

So, zoom horizontally as far as possible using the right BAR key (until you reach **zoom9**) and use the up cursor to increase the waveform height to ‘**x128’**.



Set your end point to **00058361** using the data wheel. As you can see, this is the exact zero crossing before your next 'hit' begins and the perfect place for an accurate end point.



Repeat this process for the region 2 and region 3 end points – remember region 4's end point is actually the end point of the entire sample, so there's nothing to set there (this sample is already perfectly looped, so the end point of the last region and the start point of the first region should already be perfect). I set mine as follows:

Region 2 End Point: **00117666**
Region 3 End Point: **00176251**

Region 3 was tricky as it simply wasn't clear when the exact end point was; the MPC screen just isn't accurate enough, so we just make a good guess and check with our ears.

Does it really matter?

For tiny errors you'll get away with a slightly imperfect edit 90% of the time. The old adage '*if it sounds right, it is right*' will certainly mean you save yourself a lot of time making unnecessary edits to your samples. But often for the sake of a couple of extra minutes editing you can save yourself more hassle later on when you may find a sloppy edit is causing issues in your beat.

It's also worth pointing out that in 'Destructive Chopping', once we've exported our slices there's no easy way back to 'fix' things – if you've set

your start point too late or your end point too early, you'll have to start the whole chopping process all over again (at least for those regions).

Understanding the concept of a 'shared' edit point

Perhaps the most fundamental concept of destructive chopping is that adjacent regions within your break 'share' the same edit point. For example, the 'end' point of region 2 is also the 'start' point of region 3. So if you reduce the end point of region 2 by 10 points, you are also changing the start point of region 3 by 10 points.

This means you always have to be aware how your edits in one region may be affecting the edit point of another. I will look at this in more detail in chapter 2 when we look at the more advanced pad previewing options.

Creating Your Slices

With your regions now set, press **EDIT** (F6).

At this stage we now have three options. If you press **DO IT** (F5), JJOS will extract only the currently selected region and make a single sample from only that region. If you press **F2**, JJOS will create individual samples from each region and optionally assign each sample to a pad in a new program (**SLICED SAMPLES**). Finally if you press **F3**, you will create a **PATCHED PHRASE** sample. Patched phrase samples will be looked at later in this book (chapter 3).

So press F2 to bring up the following '**Convert**' screen:

The ‘**Release’** setting will ensure that the end of each region is not abruptly chopped; instead JJOS will add a little artificial decay to the end of the sample, which is similar to what the software Recycle does. This way each slice works must better as a standalone sample and will also play much more nicely when we use the slices in our own sequences. Without a little release added to the end of the sample, you’ll often hear clicks and pops when using your chops. A release of **30** should do the trick nicely.

Set ‘**Create new program’** to **YES** and hit **DO IT**. You’ll now see a new sample on screen; this is actually your fourth region, which JJOS has named ‘BREAK_1_90-**04**’. Scroll to the left and you’ll see three other new samples, each one being named after the relevant region they came from.

Also notice that if you select the original BREAK_1_90 sample, it is no longer within the ‘CHOP’ screen, and if you press CHOP, you are back at the default 16 regions, so there’s no returning to ‘tweak’ those four regions you originally set – you’d have to start all over again if you messed up!

Now go to **PROGRAM** (MODE and pad 7). Here you’ll find a new program called ‘**BREAK_1_90**’ and on pads A1 – A4 you’ll find your sliced regions already assigned.

Also notice that the program is set to **MONO** playback (top right of the PROGRAM screen).

MONO vs POLY Programs

Normally a DRUM program will have a default playback set to POLY. This is short for ‘polyphonic’ and simply means you can have multiple pads playing pack at the same time. So, if you press pad A1 and then press A2 before A1 has finished playing, you’ll hear the two pads overlap.

Destructively chopped DRUM programs in JJOS are set to MONO playback by default. This is short for ‘monophonic’ and means that only one pad can

be heard at any one time. So, if you press pad A1 and then press A2 before A1 has finished playing, A1 playback will end instantly and be replaced with the sound of pad A2. There is no overlapping of sound whatsoever. As we'll see throughout this book, each method has its uses!

Please note that MONO (monophonic) is in no way related to 'mono' (i.e. single channel sample compared to a stereo sample).

You can load up my version of this program from the chapter 1 sub-folder '**Chopped**' – it's called **BREAK_1_90.pgm**.

So that's the absolute basics of the destructive chopping process – so far we've learnt how to set the number of regions, how to tweak start and end points and also export our regions as unique slices assigned to pads in a program.

Now to be honest, chopping to four slices is hardly that inspiring, although it was a nice and simple example to show us these basics. In the next chapter I'm going to show you how to accurately and quickly chop drum breaks down to individual hits for the ultimate creative break building tool, but before we finish this chapter, let's take a look at how we can chop our break into smaller 'equal' regions and use the resulting program to seriously rearrange our original break.

Experimenting With 'Equal' Region Chopping

Let's go back to **TRIM** and select the **original BREAK_1_90** drum loop and hit **CHOP** (F5). As I mentioned before, the default chop in JJOS is an 'equal' 16 region chop, and this time I want to simply use those default 16 regions for some creative break rearranging.

Select region **1** and press pad **5** to preview it. Now start pressing the right cursor key and preview each chop. They all sound pretty good – now you could go through each region, zoom in and tweak the edit points, but that's not really necessary for this example – we'll have plenty of time in chapter 2 to learn the art rapidly and accurately chopping many regions.

Instead, let's leave the regions as they are (remember they all *sound* fine) and instead go straight to the **EDIT** (F6) screen. As before, hit **F2** (SLICED SAMPLES) and select a release of **30** and '**Create new program:YES**'.

This will now create a new program with 16 splices assigned to the 16 pads in bank A. Go to **PROGRAM** to see this sliced program. Be aware that it will have the exact same name as our previous 4 slice program, so you may wish to rename this program (select the program name in **PROGRAM**, hit **WINDOW**,

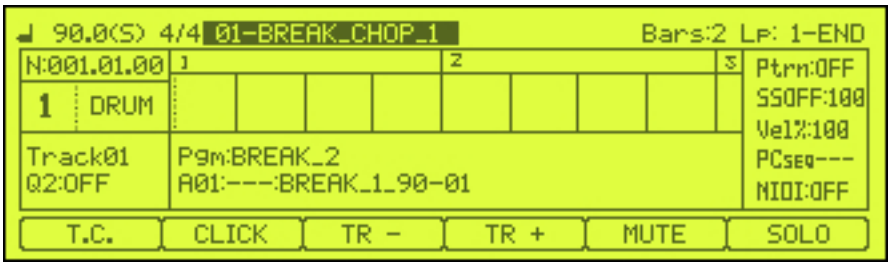
cursor down to the program name, and move the data wheel to activate the sample naming screen – please see the appendix for more details on how to rename files in JJOSXL). I called mine **BREAK_2**. You can load up my version from the **Chapter** 1 '**Chopped'** folder.

Preview all sixteen pads. As this was an 'equal' chop, each pad contains the same amount of audio and presents 1/16th of the original 2-bar length. So if you hit each pad in turn from A1 through to A16 at an even, steady pace, you'll be able to easily recreate the original beat.

Of course the fun starts when you begin to rearrange the pads into a different order! You can simply start hitting random pads to see what comes out, or you can actually try to remember the layout and try to play something more specific – or a combination of the two.

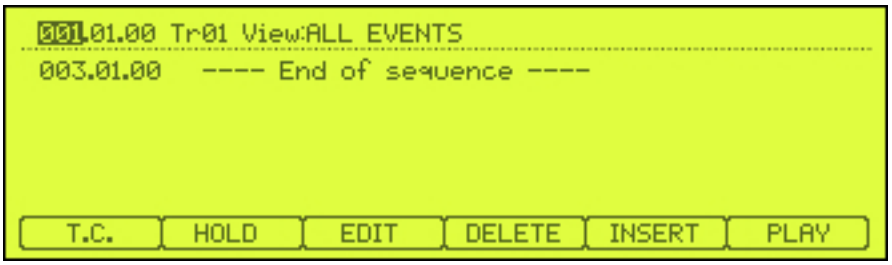
Using Your Chopped Program

The first thing you can do with your new program is recreate the break. Go to **MAIN** and select a blank sequence. Set the tempo to **90.0**, bars to **2**, '**Loop'** to '**Lp:1-END'** and on track **1**, assign your new **BREAK_2** program. Press the **FULL LEVEL** button so it is illuminated (this ensures each event you enter is entered at a full velocity of 127). For more information about setting up a sequence in MAIN, please refer to the appendix at the end of the book.

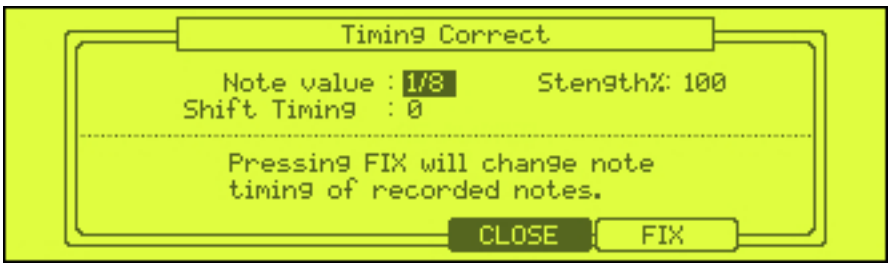


To recreate the break, you can record your events in real time (**RECORD** and **PLAY START**, but with an 'equal' chop, a great way is to use **STEP EDIT** or **GRID EDIT** with '**Auto Step Increment'** enabled. I'll show the STEP EDIT method and GRID EDIT later (you can find out a little more about these in the appendix).

Go to **STEP EDIT** (MODE and pad 14).



Press **TC** and hold (**F1**) and while holding, spin the data wheel so a quantize '**note value**' of **1/8** is set.



Now press **WINDOW** to reveal the '**Step Edit Options'** window and set '**Auto step increment:YES**' and leave '**Duration of recorded notes: AS PLAYED'**.

Press **CLOSE** (F4) and hit the **OVERDUB** transport key so that **STEP EDIT** is ready to record played event information from the pads. Now simply press every pad from A1 through to A16 and you'll see that each time you press a pad, an event for that pad is entered (at a velocity of 127) and the sequencer automatically jumps to the next 1/8th quantise point.

Press **PLAY START** to hear the recreation of the beat – it sounds virtually identical. To hear my version, load up the sequence file **BREAK_CHOP_1** from

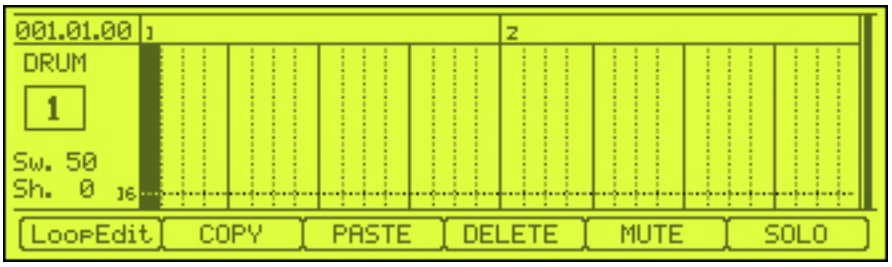
the chapter 1 '**Chopped'** sub-folder. Now it's time to create something more unique – hit the **MAIN** button to return to the main screen.

Let's create a new sequence to work with. Now, one option is select the next blank sequence (highlight the sequence 1 name on the top row and data wheel to the right, although you'd have to set up all the parameters again (tempo, program assignment, loop etc).

Alternatively, simply copy sequence 1 to sequence 2 using the PARAMS function (this copies the sequence parameters, but not the track event data). To do this,

- highlight the current sequence name on the top line of the MAIN page
- hit **WINDOW**
- **COPY** (F5)
- **PARAMS (F3)** - you are now in the new sequence, and all parameters are copied over.

Again you can record your data in real time or program it via STEP EDIT as you did previously. However for variation, this time I'm going to use GRID EDIT. To enter **GRID EDIT**, press **MAIN** twice, or press **MODE** and **pad 15** (again, more about using GRID EDIT in the appendix).



As before, press **WINDOW** to ensure '**Auto Step Increment**' is enabled (the pop up window looks a little different this time) and press the **OVERDUB** button to put the sequencer into 'step' record mode. Now simply start hitting your pads and as with STEP EDIT - your events are entered and the sequencer automatically moves you along each time. You can see little blocks representing your events.

Try to vary the notes you are entering – remember that your snare hits are all in the third column of your pads (A3, A7, A11, A15), so you'll most likely want to place them at the second and fourth beat of each bar (001.02.00, 001.04.00 etc). Beyond that it's really just a case of experimenting until you create something that works for you. To delete any mistakes, use the data wheel to scroll back to the event and hit **DELETE** (F4).

To hear my version, load up the project file **BREAK_CHOP.prj** from the chapter 1 '**Chopped'** sub-folder, where you'll find three sequences already loaded into

memory – **BREAK_CHOP_1** (the recreation of the original drum break), **BREAK_CHOP_2** (my new break) and (**BREAK_CHOP_3**) which contains some ghost notes which I added using real time recording in OVERDUB mode.

Tempo Issues

Pick any of those three sequences, go to the tempo field in the sequence and drop the tempo down to **50BPM (50.0)** and hit PLAY START. As you can hear, the problem with using large chops like this is that each chop is still tempo dependant as it contains a sequence of hits played at a specific tempo. So when you drop the tempo of your sequence, the regions are triggered at 50BPM, but each region is playing at 90BPM. It sounds pretty bad. The same is true if you increase the BPM – try it at **120 BPM (120.0**). This time the regions are triggered so quickly the previous region is still playing when the next region is triggered or at best the timing sounds all over the place (because it is!).

There are workarounds – you could timestretch your chops to the new tempo, but timestretching is notoriously rubbish when dealing with large tempo changes (we'll use timestretch later in the book for a different sample). Another option is to tune your samples up or down to try to match the new BPM, but this would affect how each pad sounds, so it's not always desirable to dramatically change the pitch of your drums.

So this type of chopping is nice when you want to keep your chopped sequence at the same tempo as the original break. If you wish to take matters further, you'll need to chop your breaks into much smaller regions – in fact, it's simply best to chop right down to the individual drum kits, and we'll look at this in the next chapter.

002 – Intermediate Destructive Chopping

Chopping Down To Individual Hits

So, even a basic chop can produce something a little different and more interesting compared to a standard repeating loop. But we can of course go further and chop the break right down to the individual hits. By doing this we can isolate the individual 'standalone' drum sounds themselves (e.g. kick, hat, snare etc) which we can then use to create our own original breaks.

There are many different ways to chop a break down to individual hits, and every beat maker will have his or her own unique way of doing things. What I am going to describe are two methods I tend to use and you can obviously adapt these to suit your own way of working.

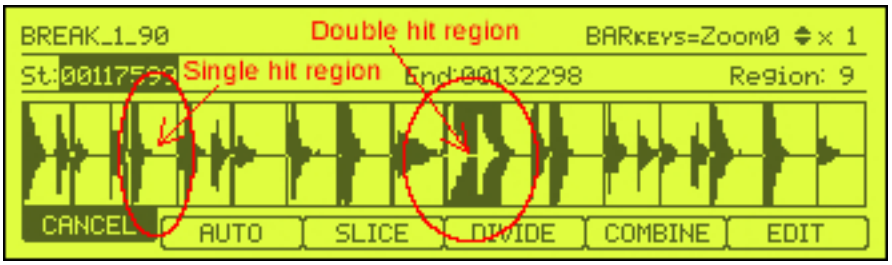
Roughly Isolating the Hits

To chop a break into individual hits, my first step is typically a very quick region chop whose sole purpose is to *roughly* isolate each individual hit within the break. Quite simply, all I do at this stage is to ensure that each region contains only one hit rather than two or more hits.

Once you've created these rough regions, you can then concentrate on fine tuning the start and end points of each region more accurately.

Load up the original **BREAK_1_90** sample (there's a copy in the Chapter 2 folder), go to **TRIM** and hit **CHOP** (F5). We're back at the original 16 equal slices; select and preview each region using the cursors and any pad on the second row (5 to 8).

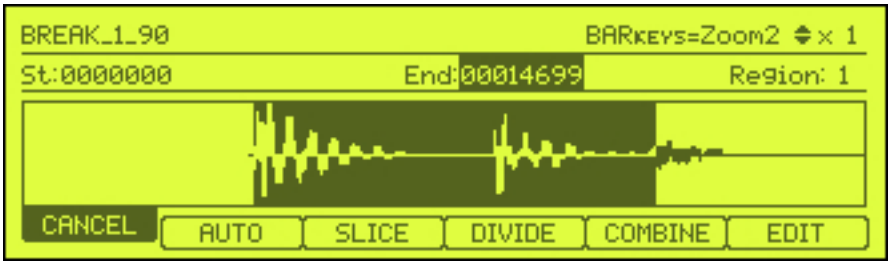
You can see and hear that some of these regions already contain individual hits, such as region 3, while others contain two hits, such as regions 1 and 2. Clearly, there are more than sixteen individual hits here, so our first job is to isolate each individual hit and make sure only that hit is the only hit within a region.



To do this, I prefer one of two methods; the first uses the '**DIVIDE**' function.

Option 1: 'Dividing' Regions

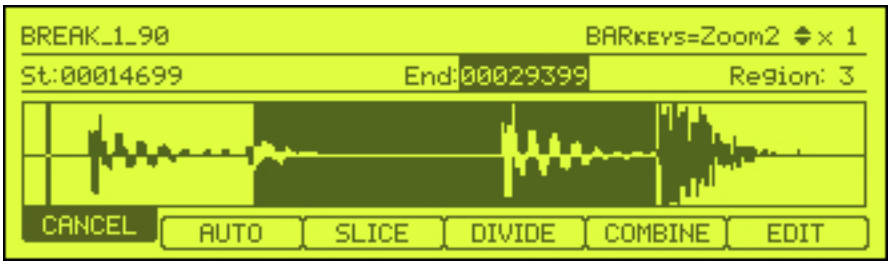
Scroll to region **1, select the end point ,** and zoom in a little using the right BAR key. This is clearly a double hit (two kicks), so it needs converting into two single kick regions.



So with region 1 still selected, simply hit **DIVIDE** (F4) and you'll see region 1 is now split in half, with the original double kick now split over two regions (and also note, you now have a total of 17 regions, not 16). As you selected the 'End' point before hitting DIVIDE, you are automatically taken to the 'new' region 2.

At this point you *could* fine edit the start and end points for the two new regions and then move onto the next divide. However, I prefer to first deal with all the dividing and *then* go back and fine tune the start and end points, it's just much more efficient that way, because you are not continually changing your finger motions, it's simply a very repetitive, fluent action: divide, right cursor, divide, right cursor etc. That's much better than 'divide, select end point, scroll, zoom, scroll, zoom out, right cursor, divide…..etc'!

So, after dividing region 1, and now begin in the new region 2, simply press the right cursor to select region **3**:



This is clearly a 'double', so hit DIVIDE, then right cursor. And so on for all the other regions, just keep pressing right cursor and 'dividing' whenever you hit a double region. There should be **23** regions in total.

Note that at no point do I preview the audio, there's no point and it wastes time – you can easily get by using only your eyes. Remember this is just a rough chop to make sure each region contains a single hit – we'll fine tune later.

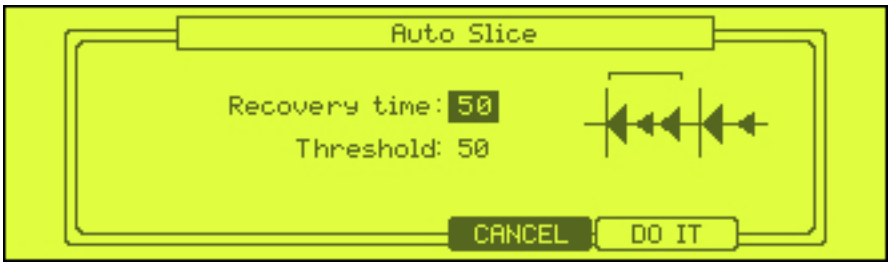
Combining

Sometimes you'll have the opposite problem; you may find that a single hit spans across two slices. In this case, you'll need to COMBINE the two regions. So simply select the first region, hit **COMBINE** (F5) and the first region will 'combine' with the next region (e.g. select region 5, hit COMBINE and regions 5 and 6 will join together).

COMBINE is also useful if you accidentally divide a single hit into two regions and want to join those two regions back together again.

AUTO Chopping

An alternative and in most cases, a much quicker method, is to use the **AUTO** function. First, press **CANCEL** (F1) to return to the TRIM screen. Hit **CHOP** to return to the default 16 region chop and this time click the **AUTO** button (F2):

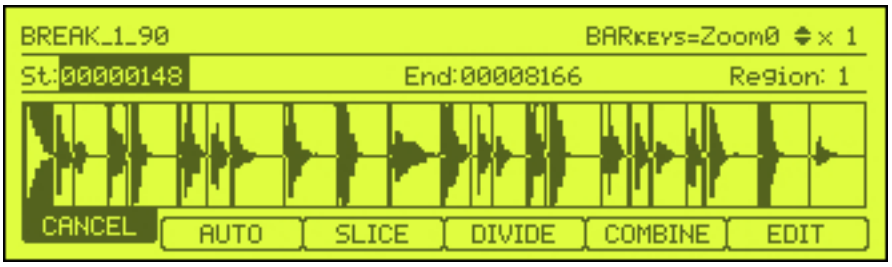


This is like the type of automatic slicing you'll see in Recycle. JJOS will look for peaks in the waveform and place slice points automatically in the correct place.

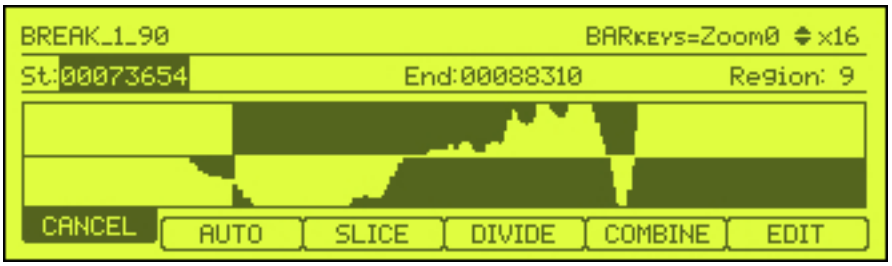
‘**Threshold’** is an indication of how high the peaks need to be to register as an ‘attack peak’, and this usually needs to be set fairly low to ensure you catch the ghosts notes – however if it’s too low it will often think background hiss and noise are also ‘peaks’, so it has to be set above the ‘noise floor’.

The ‘**Recovery Time’** is used just after detecting a peak, and tells JJOS how long it must wait after before it is allowed to look for the next peak. Setting this too long means that with a quick succession of peaks, only the first peak will be picked up. However, too short and decay tails with levels still above the threshold level will register as attack peaks.

So, not an exact science – but try the default settings of ‘**50’** for each and take it from there – hit **DO IT**.



JJOS has now created 23 regions – we know from the ‘DIVIDE’ method that 23 was indeed the correct number of regions to cover all our individual hits. Right cursor through your 23 new regions and preview each one in turn. As with the dividing method, it’s clear some additional editing is still required on many of the regions. For example, here’s region 9 close up – you can see AUTO doesn’t get it entirely right:



You could start again and try some different ‘recovery’ and ‘threshold’ settings, but in my experiments I could find nothing that nails the correct zero crossing, so you’re really left with manually fixing this (a limitation found in Akai OS as well!). It’s also worth pointing out that sometimes, AUTO gets it *really* wrong, no matter what threshold or recovery settings you go with – it depends on the sample you are trying to chop and how well defined the individual hits are.

So both these hit isolating methods are pretty quick at giving us the exact number of regions we need, but both require a bit more tweaking of the start and end points. AUTO is probably the quickest overall and tends to be the most accurate, but if dealing with a sample with less well defined hits, you will probably have better results using the divide method.

Re-Slicing?

You could use the SLICE function to roughly slice your break, either by counting the number of potential regions and manually setting slice to this number or you can slowly turn your data wheel in 0.1 slice units until your regions seem to 'fit' nicely into individual hits.

However this can be quite convoluted and normally not too successful with drum breaks, but is a technique I'll take a closer look at in the non destructive chopping chapters later in this book.

Fine Tuning Your Regions

With your regions roughly set, it's time to tighten up the start and end points. There's really two options here. Firstly, you can whizz through and perform a *fairly* accurate chop, or you can take a little more time and nail those edit points perfectly. It's really up to you, because in many cases even a rough chop can actually *sound* perfectly fine, even if the edit points are nowhere near perfect – and often, how the hits sound is far more important than the technical perfection behind them.

But whatever you do just remember that the moment you create your sliced sample export, your original sample reverts to its normal state and all your custom region markers are lost, so you cannot go back to 'tweak' all your region edit points without starting the entire chopping process from the very beginning.

Now some glitches are not a problem – for example, where your sample needs either the start or the end point further reducing. In this case these can be tweaked on the extracted standalone sample at a later date.

However if any of your regions have start or end points that have already been over-reduced (e.g. the start or end of the sample is 'cut off'), then you cannot fix this without re-chopping the original break.

So when 'destructively' chopping, I do prefer to set my edit points with a fair bit of care to ensure I'm not committing something that may not be easily fixable. But

that's not to say that reasonably accurate editing cannot be fast. So far, we've looked at zooming in and previewing your regions using rows 1 and 2 of your MPC pads. However in order to improve both the speed and quality of your region edits, let's take a look at the advanced previewing options JJ has set up on row 3 of the pads.

Advanced Pad Preview Options

In chapter 1 we looked at using rows 1 and 2 on the MPC to listen to our regions while we were editing, and these ultimately are just a way to preview the currently selected region. What they do not let you do is easily listen to how your existing edit points are affecting the regions *either side of the currently edited region.*

Select region **2** of your roughly chopped break. Now, when you change the *start* point of region **2** you are also changing the *end* point of region **1** – it's a shared edit point (and this is the big limitation of destructive chopping). So after making changes to this shared edit point, it would actually make sense to be able to check both region 2 *and* region 1 to see how *both* have been affected by the changes.

Now one way to do this would be to select region 2, edit the end point, then manually cursor over to region 3, preview it, tweak it's start point, then return to region 2 to check that the region 2 end point is still okay... you get the picture! It's doable, but long winded.

Row 3 of your pads fixes this problem beautifully. With region 2 selected, hit **pad 9** – what are you hearing here? Well instead of previewing region 2, JJOS is actually previewing the *end of region 1*, right up to the shared edit point (remember: region 1 end point = region 2 start point).

So without having to go the trouble of switching regions, you can edit region 2 start point, quickly check region 1 is still okay, and if it isn't, simply stay in region 2 and continue tweaking the shared edit point until all is fine in both regions.

And when editing the *end* point of region 2, you can make sure the start of region 3 is sounding okay by pressing **pad 12**. This simply plays from the start of region 3.

Pad 10 is simply a full preview of the current region which also selects the 'start point' for you (as you'd expect of any 'left side' pad). **Pad 11** previews the end of your current region, while also selecting the end point – now, I'm not sure why this isn't simply just a full region preview, so I usually just use pad 7 or 8 instead, as both of these preview the entire 'current' region, and select the end point.

Here's a list of all the pad preview options available, including the top row previews that are brought over from the Akai OS:

Chop Mode Pad Previews

Full Region Previews:

Pads 1 – 4: NOTE ON style previews (hold and play) that play the currently selected region from start to end. Pads 1 and 2 will also select the start point, pads 3 and 4 auto select the end point.

Pads 5 – 8: ONE SHOT previews that play the currently selected region from start to end. Pads 5 and 6 will also select the start point, pads 7 and 8 auto select the end point.

Akai OS Previews (top row, as indicated in text above pads):

Pad 13 will play the region in a continuous loop while you hold down the pad (PLAY LOOP),

Pad 16 will play the entire sample from start to finish (PLAY ALL).

Pad 14 will play a portion of audio up to the currently selected start/end point (PLAY TO)

Pad 15 will play a portion of audio from the currently selected start/end point (PLAY FROM)

Specialist Previews:

Pad 9 plays a short section of audio up until the end point from the preceding region to the one currently selected.

Pad 10 plays the currently selected region in full

Pad 11 plays a short selection of audio before and up to the current region's end point.

Pad 12 plays a portion of audio from the start point of the next region to the one currently selected.

Now at first, these may seem a little confusing and you might feel they'll simply slow down your workflow, but as you practice you'll find the more advanced preview pads make region editing fast and accurate.

'Scrubbing' The Audio

If you hold down a pad while turning the data wheel, you can 'scrub' the audio, which simply means you get live feedback on how your edit point sounds. Some people love scrubbing, I personally don't use it because, as you'll see throughout this book, I prefer to use more visual editing methods combined with more precise pad previewing when needed. However, go with whatever you prefer – so try it out and see what you think – but if you scrub, I still feel you need to take your finger off the preview pad and retrigger the pad to hear exactly what the edit point sounds like.

Speeding Up Your Chopping Workflow

So, armed with a multitude of pad previewing options, there should be enough functionality to help speed up the workflow of most choppers, no matter what unique chopping technique you tend to use.

As I have already described, I prefer to first create my rough chops using either the DIVIDE or the AUTO method. Once this is completed, I return to region 1 in order to begin the fine tuning of the shared edit points, which is typically focused on adjusting the **end point** of the currently selected region (which as we know, will also be the start point of the next region).

So, my technique is basically the following:

1. Get the region 1 start point out of the way

Select region 1 and check/fix the start point – this is the only start point we'll have to edit in the whole session, so we just get it out of the way quickly. Often the start point needs no editing as the original sample is often perfectly looped and trimmed already, so the start point will already be perfect. Otherwise zoom in and fix it. **00000148** did the trick for me.

2. Select the end point for region 1

Press pad 7 or 8 to select the end point of region 1, while also giving us an audio preview of this region.

3. Zoom In

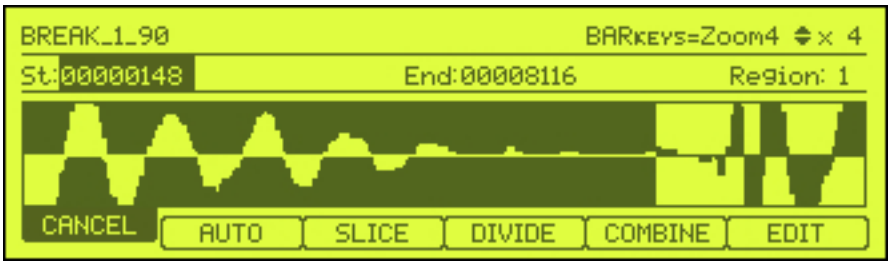
Zoom in using the right BAR key. Now, this is where you have to make a decision. Basically the further you zoom in, the more accurate your edit will be, but as the screen becomes more cluttered this greater accuracy will be at the expense of speed because you'll be continually zooming in and out to get a clearer understanding of exactly where you are in the break.

However, if you simply limit your horizontal zoom to a magnification of 4 or 5, it is likely that the majority of region edits will not require any further adjustment of the zoom. At this magnification, your edits may not be completely 'sample accurate', but they'll be pretty close. And if you do encounter a tricky edit point, you can then adjust the zoom if you need to.

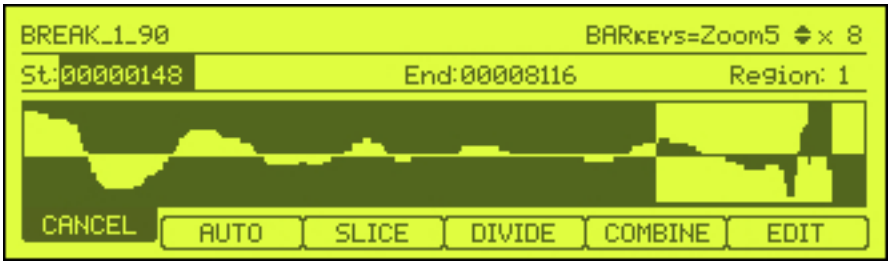
The same goes for the vertical zoom (waveform height). A magnification of x4 gives a good general magnification that should yield fairly accurate results without cluttering the screen, so should suffice for most edits without having to continually change it.

So again, this is up to you – if you want to whizz through, simply set a mild magnification both vertically and horizontally of approximately x4, but accept it won't be perfectly sample accurate. But if high accuracy is important for this session, be prepared to be continually zooming in and out and just accept it will take a little longer. But don't forget that really sloppy edits cannot always be fixed after slicing (not without re-chopping from scratch).

Here's what my screen looks like with a x4 magnification both horizontally and vertically – it's very comfortable to see the 'desired' region end point, but hopefully at the same time should provide enough accuracy:



Here's the same region but at a slightly higher magnification (x5 horizontally, x8 vertically)



This time, it's still pretty comfortable, and accuracy is clearly going to be better. So I'd probably go for this type of magnification throughout the session.

4. Set the End Point

Now spin the data wheel and set your end point. I set mine to **00008470**.

5. Perform An Audio Preview

At this point, let's check how the end point of the current region sounds. Hit pad 11, as this is the pad specifically designed for this task. It should end cleanly, with no click.

Now, as this is a shared edit point with region 2, let's check the *start* of region 2. To do this, hit pad **A12**, which previews the audio from the new start point of region **2**. This should also sound clean and the kick should not sound 'cut off' at the start of its attack.

6. Select the Next Region

Press the **right cursor key** twice to select the next region and then press the **left cursor key** to re-select the **end** point.

Now you can repeat this four step process for the other slices. Of course, you should choose a magnification level that suits you, and if you have to change the zoom level at some point in the session, so be it!

Also keep in mind that often an audio preview is completely unnecessary as in a nice, well defined break like this, it's obvious that your visual edit points are going to be fine. This is obviously something you get a feel for over time, but I often chop breaks without performing a single audio preview.

Divide & Conquer?

There's a variation of the DIVIDE technique popularised by MPC-Forums.com guru **Nym**, which he calls 'Divide & Conquer' – this method involves initially dividing your entire break into two half regions and then continually dividing each region in half and fine tuning edit points as you move along. I'm not going to describe it in any more detail here, as Nym does a great job himself in his own You Tube video:

http://www.youtube.com/watch?v=2K3sfXO6ySY

This video is for JJOS2, but the technique is the same regardless. It's similar to the dividing method I employ, but I just prefer to along the break and divide each region in turn from start to finish. From the video, it looks like Nym fine tunes edit points as he goes along, while I prefer to roughly divide all regions first and then go back and fine tune. This underlines the fact that we all have our own ways of approaching these tasks, so you do have to develop a method that suits you.

Don't forget that if you have such clearly defined drum breaks it's worth first trying AUTO to perform much of the initial chopping work for you.

Drumming With Your Slices

So via whichever region editing method you chose, your beat should now be chopped down to 23 perfectly edited individual hits. Press **EDIT** and **F2** to create **SLICED SAMPLES**. Release '**30'**, '**Create new program:YES**'. DO IT.

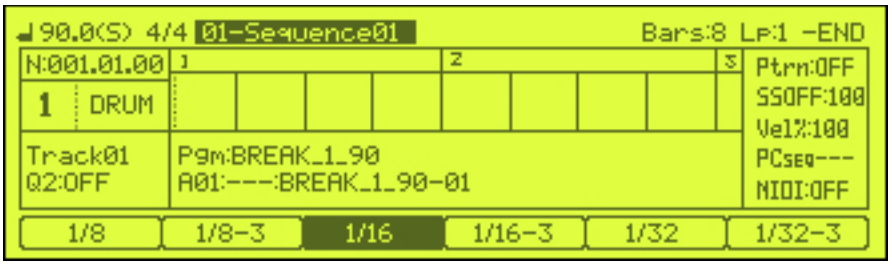
Which Release Setting?

The release setting adds a little decay to the end of each chop, basically smoothing out the end of the sample. Too little release and your sample will stop too abruptly or even have a click at the end. Too long a release and the chop sounds a bit odd with a metallic tinge at the end. I find release times of 10-30 work well for drums.

Go to your new program and preview all your new slices on pads A1 to B7. As you can hear, each pad contains a single ‘hit’, there’s no pad which contains, for example, a kick followed by another kick, so unlike our original 4 or 16 region slice programs, all our slices are now completely tempo independent – it really is just a collection of individual kick, hat and snare sounds.

At this point, you could take out all the best samples and make your own custom drum kit with an optimised pad layout – but I’ll be doing that in detail later in this book during the ‘Non Destructive’ chopping chapter (4). What I wanted to show you now was how we can use the automatically generated ‘slice’ program to not only recreate the original break but to also start creating our own unique breaks.

Go to **MAIN**, select a blank sequence and set a tempo of **90.0** and a length of **8** bars. Hold down **NOTE REPEAT** and select a TC (quantize) of **1/16** (F3). Assign the newly sliced program to track **1**.



What is ‘TC’/Quantize?

The sequencer in your MPC is said to have a resolution of 96 parts per quarter note (96 PPQN). In 4/4 music this means that within each ‘beat’, there are 96 places (‘ticks’) where a sequencer event can be placed (there are 4 beats in each bar). With TC set to OFF, when you play a sound, your sequencer will choose the nearest of the 96 sequencer ticks to place your event.

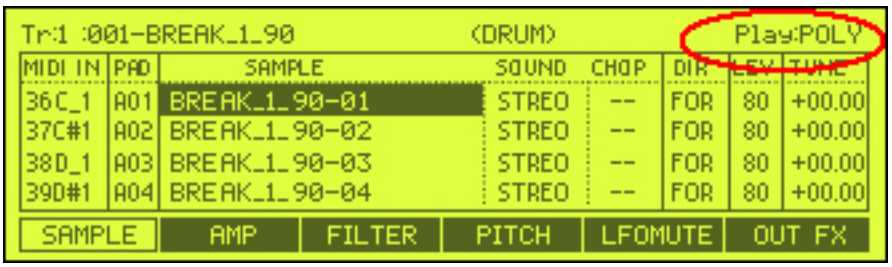
However if you select a TC of 1/16, you are actually reducing the resolution of your sequencer from 96 to 24 PPQN, so now there are only 24 ‘ticks’ where your event can be placed. Your MPC will again choose the nearest available tick, but with the reduced resolution, your playing will become more ‘structured’ and rigid and will become ‘quantized’ (or ‘quantised’ if you are from the UK!).

Set a TC value to suit the type of music you are playing. A piano performance should really be TC:OFF, while a drum beat can, on the whole, benefit from TC:1/16, but often ghost notes and rolls require TC:OFF or at least TC:1/32 (but these can be added after the initial 1/16 recording).

Experienced finger drummers can leave TC set to OFF - quantize is basically a fix for sloppy drummers ☺

Return to **PROGRAM** (MODE and pad 7). In the top right you'll see that '**Play'** is set to **MONO** (monophonic). This means that whenever you hit a pad, any pad currently playing will be instantly muted by the new pad. MONO is fine when you are dealing with hits of certain types of instruments where notes don't tend to overlap each other (e.g. bass guitar, monophonic synth etc), but if we're going to be playing individual hits and throwing in ghost notes and fills, it's important that we can have those sounds play over each other (except in the case of open and closed hats, but we'll cover that in a later chapter). The ability to play more than one sound at once is referred to a polyphonic – POLY.

So at this point, change the program play mode from MONO to **POLY**.



Examine the program by playing each pad in turn. Remember the whole program runs from pads A1 to B7, however in all practicality, all the notes we need run from A1 to A11, which represents the first bar of the loop – it is obviously a lot easier if we stick to bank A. Before you record anything, try to get a feel for the timing of the loop and how you can recreate that first bar using those 11 pads.

Remember, the order in which you play the slices is already laid out for you – you just start on A1 and work your way through to A11 – the tricky bit is working out the timing, because unlike 'equal' chopping, we've created chops all of varying lengths, so you have to adjust your individual pad timing accordingly.

After practicing your beat, return to **MAIN**, hit **REC** and **PLAY START** and record it into your sequence on track 1. You may not play it perfectly, but your 1/16 TC should fix the mistakes for you - you can also dive into STEP EDIT or GRID EDIT to fix any mistakes.

Try this a few times and eventually you'll find yourself adding fills and ghost notes. You might need to turn off quantize to capture some nice groovy feel as while a TC of 1/16 works for the 'bread and butter' of most beat structures, the little ghost notes normally sound better if they fall outside of such a rigid quantize.

To set **TC** to '**OFF'** either hold **NOTE REPEAT** and press the currently highlighted **TC** value (in this case, **1/16**) or press **F1** and set '**Note Value:OFF'**.

At this point, feel free to load up my version of the above exercise by loading the project file '**INDIVIDUAL_HITS.prj** from the **chapter 2** folder and playing back sequence **1 (HIT_CHOP_1)**. As you can hear this is pretty much identical to the original break, but with the easy option of changing tempo and groove as it's completely sequenced using nothing but individual drum hits. Try both increasing and decreasing the tempo. If you feel comfortable with STEP EDIT, go in and have a look at the events I recorded.

Sequence 2 (**HIT_CHOP_2**) contains a similar beat but this time I added some additional ghost notes to spice it up a little. Ghost notes are simply additional snares, kicks and hats that enhance the groove and feel of a beat.

Sequence 3 (**PROGRAMMED**) is a completely different beat at a different tempo. I programmed this 'step by step' fashion in GRID EDIT using chops taken from various pads in the program.

Sequence 4 (**KIT_LIKE**) was recorded in real time, and this time I used the program more like a drum kit, with my left hand playing the kick (A13) and snare (A10), and my right hand playing the closed hat (A8) and open hat (A11). It's not a particularly comfortable finger drumming kit, but later in this book we'll learn how to create a more organised, and functional finger drumming kit from our chops.

Finally sequence 5 (**STUTTER**) is a little experimental idea. This started as a copy of sequence 1, but I then went into STEP EDIT and deleted random events from the sequencer. The result is a 'stuttered' chop that still retains the structure of the original beat. An alternative idea is to keep the original sequence intact, but actually silence random pads in the actual program itself (or a copy of the program). To silence pads, one way is to set the **'LVL'** column to '**0'** (this way you can easily re-activate it when required).

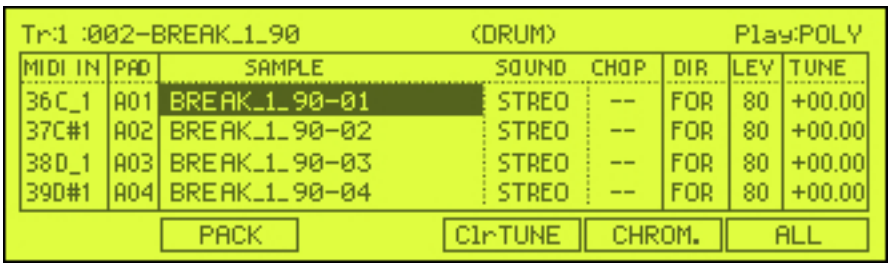
Obviously when it comes to sequencing your beats, there's a huge number of possibilities, but that's beginning to deviate too far from the topic of chopping, so we'll leave advanced sequencing to a future book. Anyway, it's now time to discover some more advanced uses of chopping!

003 – Advanced Destructive Chopping

In this chapter we'll take a look at some of the more advanced features of destructive chopping in JJOS XL. But first, let's just take a quick look at some of the wholesale changes we can make to our chop program using the features found in PROGRAM mode.

Making Parameter Changes to Multiple Chops

With your chops assigned to a program you are free to apply your normal program parameter changes as you would with any program – tuning, ADSR, filters, LFO etc. In addition to changing a single pad, you can also change multiple pads or even all pads in a program simultaneously. This functionality is accessed in PROGRAM mode by holding down **SHIFT**.



- **Editing Multiple Consecutive Pads** – select **pad A5**, hold down **SHIFT** and cursor down 4 times – now pads A5 to A8 are selected and any parameter changes you make will be applied to all of these pads.
- **Editing all pads simultaneously** – hold down **SHIFT** and press **ALL** (F6). To deselect all pads, press **UNDO SEQ**.

Here's some changes that work well across *entire* chopped programs. First, load up the project file **Parameters.prj** form the chapter 3 '**Parameters'** sub folder.

Change the tonal 'feel' of your drums

To instantly change the vibe of your chops, you can either tune all chops up or down simultaneously. Hold **SHIFT** and hit **ALL** (F6). Tune all your chops down to -03.00. This gives your drums a deeper, grungier feel. To hear this in action, check out sequence 1 (**GRUNGE**) in the currently loaded project. It simply uses the original break sequence we created from individual chops in chapter 2, with a copy of the original individual hit BREAK_1_90 program (now called **GRUNGE**) with all pads tuned down.

Now tune up **to +03.00**; this gives a more Drum & Bass or Dubstep feel. Listen to this in sequence 2 (**TIGHT**). As you can hear, it's the same sequence, but the difference in tuning leads to a massive difference in 'feel'.

Remove Background Noise, Hiss & Excessive Reverb

With all pads selected, go to **AMP** (F2) and change the **D** value to **18**, **S** to **24** and **R** to **0**. This removes any natural ambience and makes the chops just sound a lot tighter and dry . This is a great way to remove background noise from your chops (e.g. vinyl crackles and hiss etc). Select sequence **3** (**DRY**) to hear this.

Adjust Brightness & Low End

The next two are **MPC1000 only** (the MPC2500 doesn't have **EQH** and **EQL** filters):

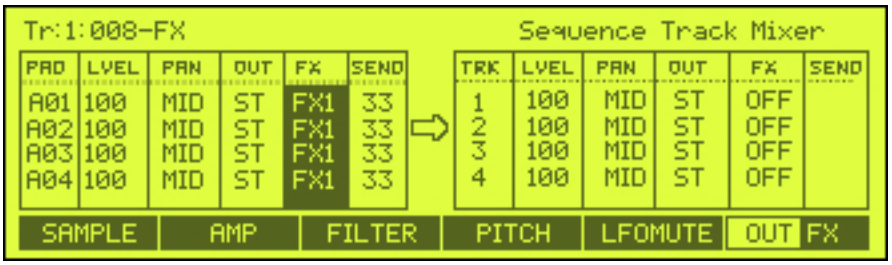
With all pads selected, go to **FILTER** (F3), change the filter **TYPE** to **EQH** (high EQ) and increase the value to **+85** or more. Your drums now sound brighter with more 'air'. (sequence **4**, **AIR**)

Change the **Filter** to **EQL** (low EQ) and take the value down below **-85** to take all the bass out of the sounds, giving a thinner more distant feel. (sequence **5**, **THIN**).

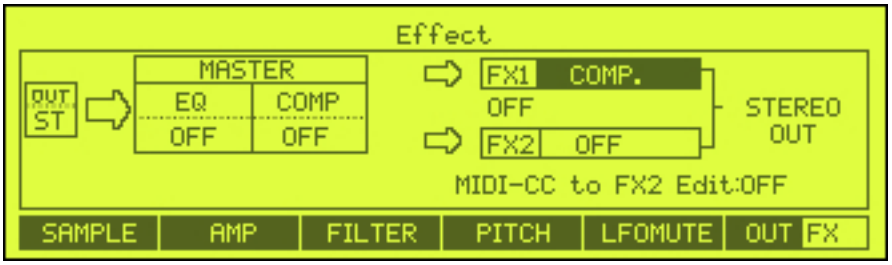
This one works on both MPC1000 and MPC2500: change the filter to **LPF** (low pass filter) and take the value to around **80** for a fatter, deeper, filtered low end. (sequence **6** - **FAT**)

Applying Effects to your entire program

There are a few ways to apply effects to your chops. First is the more traditional MPC method of assigning effects to each pad individually. Go to the **OUT** screen (F6) - you can assign effects to pads on the left hand side box. In our case, we can use **SHIFT** and **ALL** to select all the pads in the program, go to the **OUT** column and set to **ST** (stereo out) - at which point the **FX** column becomes active. Now you can set this to **FX1**.



Now go to the **FX** screen (press **F6** again, or just press the right cursor until you enter the FX screen).



Change the **FX1** parameter on the top right hand side to '**COMP.**' and hit **WINDOW** to adjust the specific effect settings. Try the following for an aggressive compression:

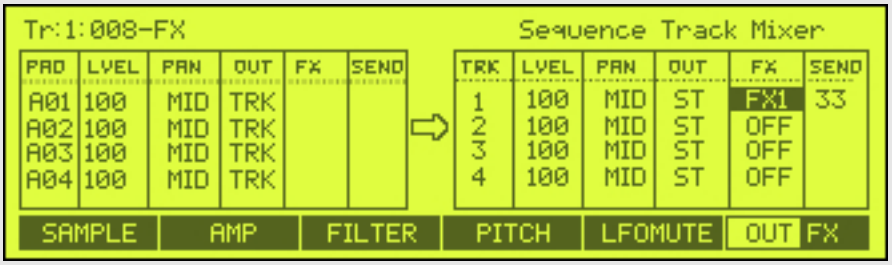
Select sequence **7** (**FX**) to hear my version.

Applying effects to a track

There is another way of doing this, and that is to simply apply the effect to the entire track. To do this, go to **OUT** (F6) and navigate to the '**Sequence Track Mixer**' section on the right hand side – you should be aware though that this is a global track mixer and is not sequence or program specific – any effects you set here will be applied to track 1 in all sequences (which is why I needed to go for the individual pad option, as this only affects the current program).

All the drums are on track 1, so locate the '**TRK**' **1** row and change the **FX**

column from **OFF** to **FX1** (ignore the SEND column as we are adding an insert effect).



If your drums had been recorded to multiple tracks, you could have also enabled FX1 here to all the relevant tracks.

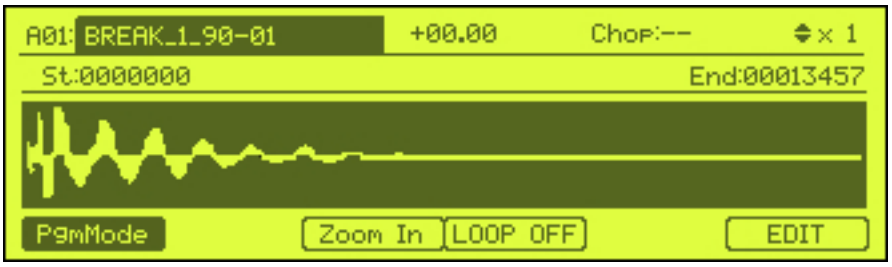
Chromatic Tuning of the entire program

This one is more of a quirky effect. In **PROGRAM**, tap on pad **A01**, hold down **SHIFT** and hit **CHROM** (F5). This simply tunes the pads in your program to run chromatically. Hit PLAY START to here this effect.

JJOS will actually tune your program differently depending on the pad you select before hitting CHROM. For example, press **A16** and then **SHIFT > CHROM** and you'll see that A16 is now at +00.00, while all the pads before it are tuned down. So, which ever pad you want to not be tuned, select that first before hitting CHROM. Select sequence **9** (**CHROMATIC**) for my version, which was tuned around pad **A9**.

Introduction to Trim 'PgmMode'

Go to the **chapter 3** sub folder '**Basic Kit**' and load up the project file '**Basic_Kit.prj**'. Go to **PROGRAM** to ensure the original chopped break program, **BREAK_1_90.pgm** is selected and press pad **A1**. Now go to **TRIM** (MODE and pad 6) and hit **PgmMode** (F1):



Now press all the pads from A1 to A16 and unlike normal TRIM mode where the same sample remains available to edit, in PgmMode you are able to quickly access and edit the samples assigned to each pad in the currently selected program, simply by hitting the corresponding pad. So to quickly edit the sample assigned to pad A7, just hit pad 7. To edit pad B1, press the PAD BANK B button and press pad 1.

Now the most immediately obvious benefit to PgmMode is that you can rapidly select specific samples and quickly make trim edits. So just hit pad, make an edit, hit another pad, make the edit. It simply speeds up your workflow, with less button/jog wheel movements, plus instant clarification over which pad it is you're editing the sample from.

Let's take advantage of PgmMode to quickly build a simple finger drumming kit from our chops.

Building a Simple Drum Kit

With your new chops, you have a collection of individual drum hits from which you can select the best versions to create your own easy-to-play finger drumming kit. I'll be delving into advanced drum kit creation techniques in a separate book, but let's just have a quick look at how we can use our chops to make a simple drum kit.

Firstly it's important to understand that not all individual hits are created equal. Listen to pad **A1**; it actually consists of a kick *and* a closed hat layered on top of each other. I call these 'impure' sounds. While these are fine for the type of chopped break performance we looked at in the previous chapter, they won't really cut it for a proper drum kit, we need to isolate samples that just contain a single, lone drum sound.

Take a listen to pad **A2**. This is more like it; this is a kick and nothing else. I call these 'pure' sounds and they are ideal for drum kits.

Listen to pad **A3**, this is a 'pure' closed hat, so we can use this. **A4** is a pure kick, **A5** is our pure snare, **A6** is impure, **A7** is another pure kick and so on. Stop at pad **A11**, which is a pure open hat.

With the pure sounds isolated, you can take a closer listen *and* look at your 'pure' chops. So go to **TRIM** and hit **F1** to select **PgmMode**. Now you can view the waveforms of all your pure sounds and quickly see which ones need further editing and most importantly you can both aurally and visually identify and remove any duplicate sounds.

Take for example the kicks on pad **A2** and pad **A7**; if you listen these two kicks sound identical. If you then examine the waveforms in PgmMode, you can *see* they are *pretty much* identical, basically the start point of A2 has just been edited back slightly during the chopping process, but the waveforms are pretty much the same. Therefore there's no need to use both of these samples, so when it comes to building our kit, we'll just pick one and remove the other. On the other hand the snares on pads **A5** and **A10** not only sound very different, the waveforms are clearly different, so you can either select your favourite, or use both.

Now I want to quickly build a finger drumming kit. One option is to create a new program and assign my kick, snare and hats to blank pads. That's fine, but often when I'm working I just want to move quickly around the existing program, so often I'll just move the sounds around within the current program itself. And to do this, I use the very useful JJOSXL shortcut:

Essential Shortcut: Copying pad parameters

If you want to copy any parameter from one pad to another, simply select the original pad (e.g. pad **A1**), highlight the parameter you wish to copy (e.g. **TUNE**), hold down **UNDO** and while holding it, hit the pad you wish to copy to (e.g. **A7**). The TUNE parameter of A1 will now be copied to A7. This works for **any** single parameter, from sample name through to filter settings – basically anything in PROGRAM mode.

If you wish to copy **everything** from one pad to another (i.e. clone one pad to another), simply highlight the pad number in the '**PAD'** column and repeat the above procedure.

This technique not only works in PROGRAM, but also in TRIM PgmMode, as we'll see next.

So make sure you are still in PgmMode in TRIM. I want to first assign my main kick, snare, closed hat and open hat to pads A1 to A4 respectively. So let's start with the kick. As we've already seen, we have two identical kicks on A2 and A7, so let's select A2 as our main kick.

I like to have my kick on pad A1 – now currently the existing sample on A1 is an 'impure' sound (kick and hat), so I definitely don't want that. So let's use the pad copying feature to copy the sample from A2 to A1. With pad A2 selected, cursor up to the top line and highlight the sample name ('**BREAK_1_90-02'**) and hold down the **UNDO** button. While still holding it down, hit pad **A1**. The pure kick from A2 is now assigned to A1.

I now want a snare on pad A2. I like the snare on A10, so again, press pad **A10**, highlight the sample name on the top line (**BREAK_1_90-10**), hold down **UNDO** and press pad **A2**. The A10 snare is now on **A2**.

Pad **A3** is already a closed hat so I'm happy to leave that where it is.

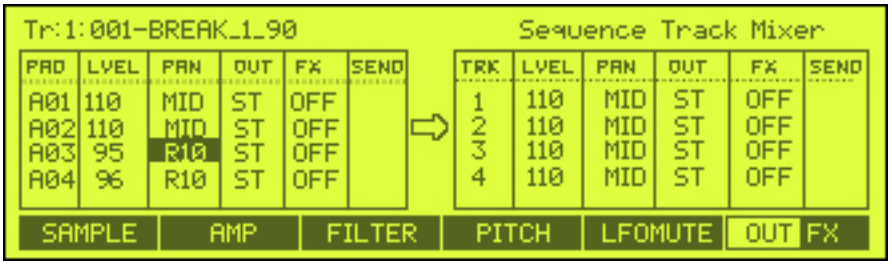
Finally, I want to move the open hat from pad **A11** to pad **A4**. So, select the sample name on **A11**, hold down **UNDO** and press **A4**.

It's also worth remembering that in pgmMode, you can also reassign a pad simply by using the data wheel to select a new sample. So an alternative method for assigning the open hat to A4 would be to select A4 and turn the data wheel until the assigned sound is **BREAK_1_90-11** (the open hat).

So that's a nice and basic kit layout. Now, if you need to perform further editing on any of these four chops, you can easily do that now in PgmMode. For example, you could adjust start and end points for any chops that are not quite 'tight' enough (although the chops in this program is already pretty tight). If you do chance any edit points, you can go to **EDIT > DISCARD** to remove any unwanted empty space either side of the new edit points.

And as this is no longer a 'chopped kit' but instead a stand alone drum it (which we could in theory add other percussion samples to at a later date), it's also worth 'normalizing' each of these four chops to maximise their amplitude – this process of tightening start (and end) points, and then normalizing is often referred to as 'topping and tailing'. Repeat the topping-and-tailing process for all four chops. Remember you can hold down **SHIFT** and hit **F1** for **DISCARD** and **F4** for **NORMALIZ**.

Finally for our basic kit, let's apply a little mixing in **PROGRAM**. Go to **PROGRAM** (MODE and pad 7) and hit **F6** so the **OUT** screen is selected:



Under the left hand side **PAN** column, set a pan value of **R10** for the hats on pads **A3** and **A4**. Also adjust the **LVEL** column for these hats so they sit more comfortably with the kick and snare.

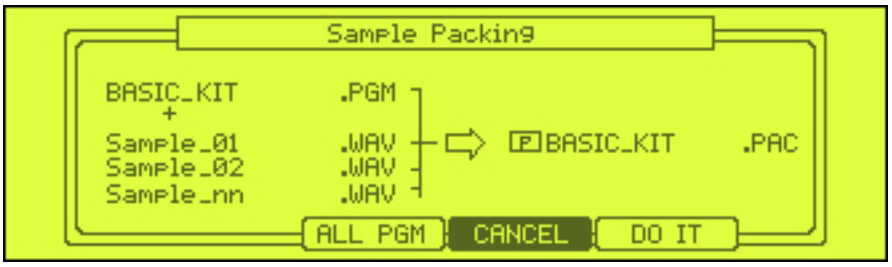
So there you go, a *very* basic drum kit made from a destructive chop. To hear my version of this kit, go to **PROGRAM** (MODE and pad 7) and select the program **BASIC_KIT**. Obviously it currently contains lots of other chops that we are not currently using, but we'll deal with that later. Also in chapter 4, where I'll look at non-destructive chopping, I'll set up a more advanced 'finger drumming' drum kit with mute groups/targets, effects and timbre variations.

Packing Your Programs

A fantastic feature of JJOS XL is the ability to save a program and its sounds (or multiple programs and sounds) into a single '**PAC**' file. This file is a little like a zip archive because it 'packs' all the samples and the program file into a single 'archive' file on your disk. While placing your sounds and program into a PAC file does not reduce the total file size of the program, it does mean that your chopped programs are much less unwieldy; by placing your program into a PAC file, all the programs and sounds simply require that single file sitting on your disk. Then when you load it, JJOS extracts all the sounds out of the PAC file and places them back into memory.

One big advantage here is when chopping, you often create programs with dozens of chops within them, but invariably only eventually use a handful of those sounds. So while you are still working through that program, you can save it as a PAC and not worry about dealing with dozens of little samples getting in your way on your disk – it just tidies up your system and speeds up workflow.

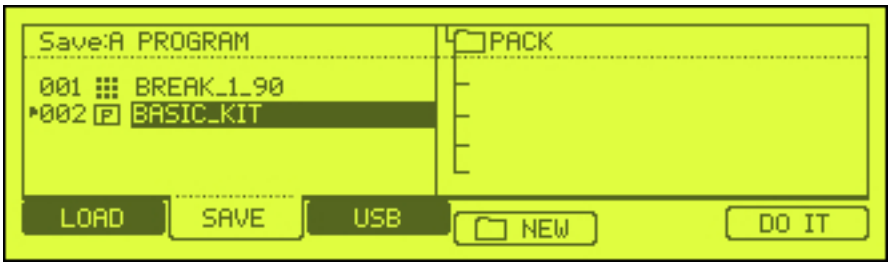
So how do we pack a program? With the '**BASIC_KIT**' program currently selected, hold down **SHIFT** and press **PACK** (F2):



To pack this program and all its sounds, simply hit **DO IT** (F5) and you'll be taken back to the PROGRAM screen with your new **BASIC_KIT.PAC** program selected.

Alternatively if you are working on multiple chopped programs and wish to pack them all, simply hit **ALL PGM** (F3) and DO IT, this method will create individual PAC files for each program individually.

After creating your PAC file **BASIC_KIT.PAC**, go to **SAVE** (MODE and pad 3). Create a new folder (**F4**) and call it **PACK**. On the left, go to '**Save: A PROGRAM'** and select the **BASIC_KIT** pack file, as denoted by the '**P**' icon:



Hit **DO IT** to save your PAC file. As you can see, only the PAC file has been saved – there are no programs or samples to be seen. Hit LOAD (F1) and you'll see that the PAC file is 1MB in size – that's all the samples inside it taking up that storage space. Hit **DO IT** to load the PAC into memory, but press **CLEAR** (F2) so you are wiping the entire memory first. Now go to **PROGRAM** to see your PAC program with all the samples.

Please note that you don't have to save your PAC file in a separate folder – I just did this to show you more clearly how it only saves the single file. Of course once you've created a packed program, you are free to delete the individual

Working with PAC Files

With the PAC program loaded, go to **TRIM** (MODE and pad 6). Where did all the samples go? Well just like a zip file, in order to edit the sounds inside a PAC archive, you first need to extract them. So after loading your PAC, go to **PROGRAM**, hold down **SHIFT** and press **UNPACK** (F2) and **DO IT**. As you can see, the program is now back to a standard DRUM program again and all the samples are back in TRIM for editing.

It's also important to understand that you cannot add additional samples to a packed program – to add new samples to the pads in a PAC program, you have to first 'unpack' it (and then re-pack when you're done).

You can however edit program parameters with the program still 'packed' – that also includes reassigning pads and any other parameter change – you just cant add additional samples to a packed program.

So in a nutshell, PAC programs tidy up your project folders by chopped programs only requiring a single file. To work with them you load them, unpack them, do your edits, repack and re-save. Following this method means your packed program will never require more than one single file on your disk.

Tidying Up Your Drum Kit

At this point we have our kit set up, but we have a bunch of pads with additional, unrequired sounds on them (in the current program, pads A5 to B7). You can either leave them there or remove them – removing them will of course save memory so is usually the best option, but of course once removed from the PAC program and eventually deleted from the disk, they are gone, so perform this next step wisely!

First, if you've packed your kit, unpack it using the techniques described above. Now there are a few ways to remove the unwanted sounds. One way to do this would be to hit each pad and scroll the data wheel to the right until there was no sample assignment.

Another way would be to hit **A5**, select the sample name, hold down **SHIFT** and then **cursor downwards** until all the pads from **A5** to **B7** are selected – then scroll the data wheel to the left until all the pads are blank.

Another way would be to select a blank pad such as **B8**, hold down **UNDO** and 'copy' this blank pad to the pads you no longer need.

> ***Creating a new program?***
>
> Of course, another option would be to just create a new blank program and assign the 4 wanted chops to this new program! Obviously this isn't always ideal, because you'll also have to recreate any custom program parameters which could be a pain, especially if you have many pads to contend with.

Once you've cleaned up the pads, don't forget to use **PURGE** to free up some memory while you continue working (in the PROGRAM screen, highlight any sample name on any pad, hit WINDOW, F1, DO IT). Note that PURGE is not available while a program is 'packed'.

You can now save your program either as a standard DRUM program (in which case your samples and program file will all be saved individually to disk) or as a PAC. If you want it as a PAC, as before, just hold down **SHIFT > PAC (F2)** and then resave, and you'll notice your PAC file has greatly reduced in size.

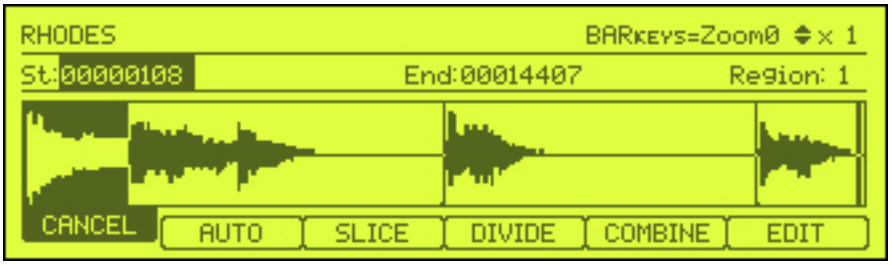
Back in the root of the '**Basic Kit'** folder you can load up my own version of the optimised PAC file – '**BASIC_KIT_OPT.PAC'** – as you can see in the LOAD screen, it's only 285k, compared to the original 1MB.

Chopping Songs & Instrument Samples

You can of course chop much more than just drum breaks in CHOP mode, in fact you can chop any type of audio you please, be it sections from songs, instrument loops and riffs or even vocals or sound fx. I'm going to chop a complete song later in this book using 'Non Destructive Chopping', but at this point I wanted to take a quick look at chopping a short Rhodes riff and utilizing region looping to help extend the length of each chop.

Destructive Instrument Chops

Load up the sample '**RHODES.wav'** from the chapter 3 sub folder '**Instruments**' - this is a one bar long Rhodes riff that's already been topped, tailed and looped. Hit **CHOP** (F5), **AUTO** (F2), **DO IT**.



As you can see, AUTO has missed a region, so select region 2 and hit **DIVIDE** (F4) and then adjust all your edit points using the techniques we've already discussed. Once edited, press **EDIT** (**F6**), **F2** (**SLICED SAMPLES**), select a shorter **release** of **10** (long release times do not work so well with instrument chops), and set '**Create new Program'** to **YES**. Hit **DO IT**. Now go to **PROGRAM** to see the new chopped **RHODES** program – your chops are placed on pads A1 to A5.

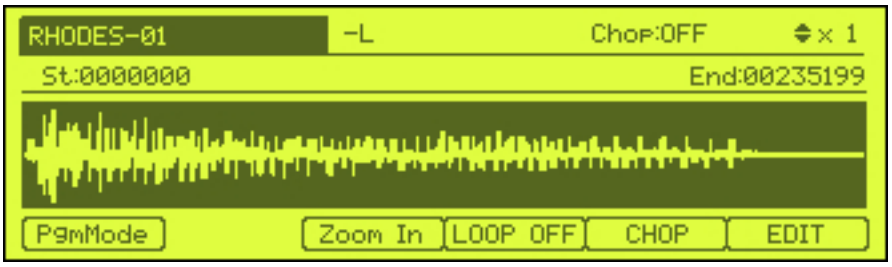
This is obviously a good starting place for either a 16 levels experiment, or a simple multisample program – just be aware that some of the chops are actually chords containing 2 or 3 notes played together – only chops 1 and 3 are single notes (the same note though).

I'll leave that to you to experiment with as multisampling is beyond the scope of this book (the principles are covered in my Akai OS 'Beat Making on the MPC1000/2500' books).

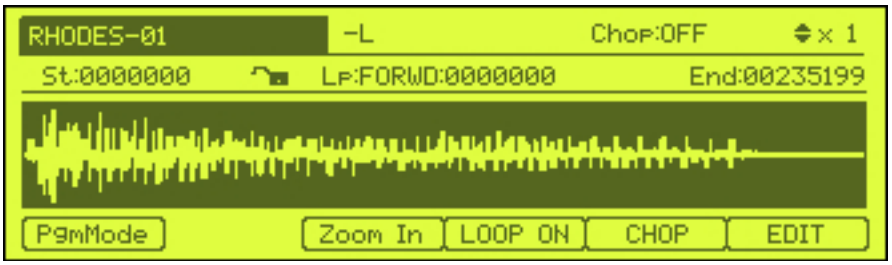
Creating Sustain Looped Instrument Chops

I actually want to look at how we can use a very basic sample loop to help extend the length of these chops and to also give us a unique sound in incorporate into your music. So first, go to **AMP** (F2) and set the **PLAY MODE** column for our five pads to **NOTE ON** - you can do this one at a time, or as we've seen before, use SHIFT and down cursor to select the five pads first, or just set the entire program to NOTE ON using SHIFT & F6 to select 'ALL' pads. Setting to NOTE ON will ensure the pad plays our looped samples in full loop mode.

So, hit pad **A1** and go to **TRIM** (MODE and pad 6) so we can edit the slice **RHODES-01**.



Press F4 to turn the sample **LOOP ON**.



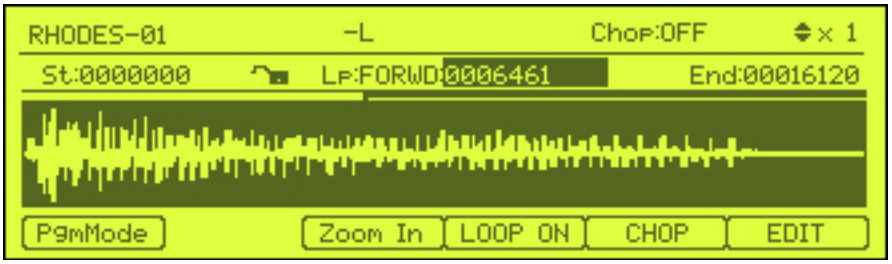
Press and hold pad 1 to hear the sample loop. As you can see on the second row of the screen, an additional parameter has appeared - '**Lp:FORWD**'. This allows us to set a custom 'loop start point' for this sample.

What is a loop start point? Well, when you play your sample, it initially plays from the *trim* start point ('**St**'). It would then normally just play all the way through to the '**End**' point.

With **LOOP:ON**, when your sample reaches the end point, it immediately jumps back, but not to the 'St' point, instead it jumps back to the '**Lp**' point, then continues playing to the end point, jumps back to the Lp point and so on.

By default the Lp and St are the same, which is how you would normally loop a drum break. However, we can set the 'Lp' point to be anywhere in the sample.

For example, cursor over to '**Lp**', past '**FORWD**' and highlight the numbers '**00000000**'. Turn your data wheel (or use the Q1 slider) to select a loop start point somewhere in the sample where the waveform starts to be fairly uniform in height, around **00006461**.



Press and hold pad 1 to hear the sample now loop. You can see the play head now loop between the '**Lp**' point and the **end** point. Now highlight the end point and set it to the area just before where the sample is beginning to tail off, at approximately **00011766**. When we loop instrument notes in this way, we often refer to them as 'sustaining loops'.

> ***Using your Q Link Sliders***
>
> Don't forget in TRIM (not CHOP though), you can also use the Q Link sliders to change edit points. Use **Q2** to change the end point of a sample – just press **AFTER** and move the slider. **Q1** can similarly change either the '**St**' point or the **Lp** point.
>
> For looped samples, to change the '**St**' point with Q1, you must first highlight the **St** point with your cursor keys, as the default Q1 action for looped samples is to change the '**Lp**' point. For un-looped samples, Q1 will always immediately change the 'St' point (you don't have to highlight the 'St' point first)

Press and hold pad 1 to preview the new loop. So yes it sounds 'glitchy', but we can fix that later. The key thing to realise is that now, the sample initially plays the audio from the '**St**' point, so you get the initial attack portion of the Rhodes note, it then plays all the way through to the end point and then jumps back and continually loops between the **Lp** and **End** points for as long as you hold down pad 1.

Sustain Looping Types

The default loop type is **FORWD** (forward), and works in the way I've just described. But highlight **FORWD** and data wheel to the right to select **ALTER**

(alternate). This works slightly differently – when it reaches the 'End' point, rather than jump back to the Lp point, the sample plays back *in reverse* from the end point to the Lp point! Then when it reaches the Lp point, it plays forward to the end point and so on. Try it out – it's giving a pulsating type of loop.

Now change ALTER to the final option – **XFADE** (cross fade). This is a standard forward loop but with a 'crossfade' applied, which will smooth out minor glitches and small variances in amplitude between the Lp and End point s you've set. Try it out to see how it improves the loop.

Now crossfading is really a 'fix' for when you just cannot find a decent sounding FORWD loop, and it does use additional 'voices' within your sampler, so use it wisely. But it is a great way to loop an instrument sample more quickly!

Understanding Voices

The MPC2500/1000 have a polyphony of 32 voices – if you try to play more than 32 voices, some audio will not play, to make room for the other sounds. A stereo sample already has two voices, a mono has one voice. A crossfaded stereo loop will have 4 voices (i.e. double), so you can see how it may be possible to quickly deplete available voices if you are using many crossfaded samples.

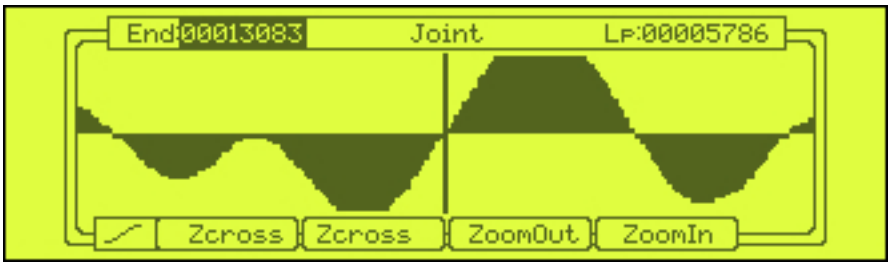
You can monitor how many voices you are using in the **OTHER** screen (MODE and pad 10).

If you do have to use a crossfade, consider destructively converting your crossfade sample back to a normal looped sample by pressing the 'X to' button (F5). This will permanently incorporate the cross fade into the waveform of the sample and let you revert back to having it as a standard loop. But this is not a reversible process.

The best way to live preview your loops is to press and hold a 'note on' preview pad such as A1 – by doing this you can hear your loop change in real time as you tweak the edit points with your data wheel. You can also do this in real time with an XFADE loop (although with XFADE it's advisable to 're-trigger' the preview pad after each edit point change as sometimes the audio preview doesn't change automatically).

Also in LOOP mode, you can zoom in just as you do in the CHOP screens – so for horizontal zoom: F3 (**Zoom** In) or F2 (**Zoom** Out), or the **BAR** keys, or **SHIFT** and **left/right cursor**, while vertical zoom is up or down cursor.

A nice tool is the '**Joint'** screen, which simultaneously shows you the waveform at both the 'end' and 'lp' point so you can make sure they 'follow' each other at the exact 'mirrored' point. With either the '**Lp'** or '**End'** point selected, hit **WINDOW**:



Here in the above example, you can see how the Lp and End point 'follow on' each other pretty much perfectly as if they were just a seamless join in the normal waveform.

Looking For Perfection?

If you've ever looped a drum break on an MPC (where the 'Lp' point is actually the same as the 'St' point, '0000000'), you'll know you can get perfect results every time with little or no effort. This is because the loop point in a drum loop is usually very clearly defined – it's the zero crossing point just before a large waveform peak (typically the first kick of the bar).

Sustaining instrument loops on the other hand are a completely different challenge. The ideal loop point is much harder to find as there are no immediately obvious places to look. Also the MPC sample engine has never seemed to be particularly accurate enough to locate the edit points correctly – or at least, it's not able to play them back correctly. Often I've imported a perfectly sustain looped sample from a computer audio editor that plays back with a prominent 'click' at the loop point in the MPC.

JJOSXL is certainly better in these respects as it offers crossfade looping which as I've mentioned, is a great way to 'fix' a glitchy loop point, although in an ideal world we wouldn't rely on such a process.

Now, this book is ultimately about chopping, not looping, so I really don't want to spend the next 50 pages covering the intimate intricacies of sample looping, especially as I'm still not convinced the MPC is the best option for people looking to create perfect sustained instrument loops. Instead I want to show you a method that quickly produces sustained instrument loops that still sound great (certainly for the purpose I'll be using them), but are in no way 'perfect'.

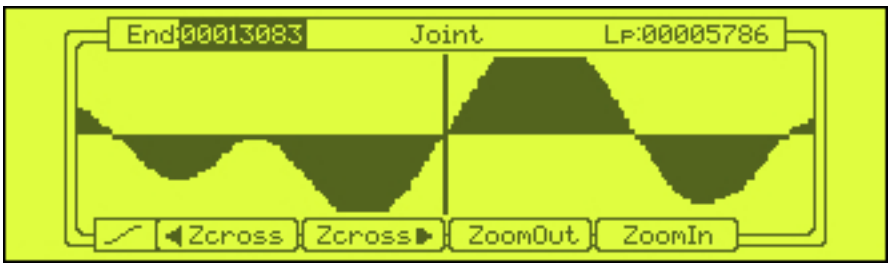
Rapid 'Sustain Looping' Workflow

Here's a quick way to find a reasonably good, workable sustain loop:

1. Set a rough **end point** just before the sample amplitude 'tails' off.
2. Set a **Lp** point as close to the start of the sample where the amplitude of the waveform is similar to the amplitude of the end point you set (i.e. the looped portion is all very similar in amplitude)
3. Set your loop type to **FORWD**.
4. Press **WINDOW** to bring up the '**Joint**' window and zoom in, making sure the waveform height is also zoomed.
5. With the **End** point selected, press one of the **Zcross** buttons (F2 or F3) – this will move your loop point exactly on a zero crossing point nearest the loop point (**F2** will pick the next zero crossing point to the **left**).
6. Press and hold **A1** to begin the preview.
7. Highlight the **Lp** point and again, press **F2** or **F3** to locate the next zero crossing point.
8. Continue doing this until you find a reasonable sweet spot – you can change either edit point, but you are probably best to *increase* the **Lp** point and *decrease* the **End** point to ensure the amplitude remains fairly constant at the loop point.
9. Make sure you re-trigger the preview pad each time you change an edit point, as unfortunately the preview it gives automatically is not always a true representation of how the new edit point actually sounds.
10. If you're getting nowhere using FORWD, switch to **XFADE** to see what the results are. Just be aware that an XFADE will not work on short loops, your loop needs to be at least 4,410 samples long (I assume this is related to the 44.1kHz sample rate of most MPC format samples)

For example, I started with an **End** of **00012000**, and a **Lp** point of **3000**, hit **WINDOW** and modified both the **Lp** and **End** point using the **Zcross** buttons, but was having difficulty finding anything using FORWD. So I switched to **XFADE** and very quickly found a good loop at **Lp: 00006786** and **End: 00013083**.

Here's what the edit points look like close up in the **Joint** screen:



To save voices, I'll convert this XFADE loop to a normal (FORWD) loop. However it's worth noting that the conversion process is not always entirely successful, and the resulting FORWD loop can often sound a little different to the original XFADE version – unfortunately the conversion process cannot be undone. To allow for the possibility that the converted sample is poor, make a copy of your XFADE looped sample – so, **SHIFT** and **up cursor** to get to the top line of the TRIM screen, **WINDOW**, **COPY**, **DO IT**.

Now you can convert your XFADE loop to a FORWD loop, either on the copy or the original chop. Hit the '**X to'** F5 key and **DO IT** to convert this crossfaded loop back to a normal loop. Surprisingly in this instance, the loop actually sounds better now it has been converted!

Return to the **PROGRAM** screen and press and hold pad **A1** to hear your new looped **RHODES-01** note in action. You can now attempt the same process of some of the other slices. Hint for **RHODES-02** - I used an **XFADE** loop at **Lp: 00005799** and **End:00011202**, which I then converted back to a **FORWD** loop. For RHODES-04 it was a converted XFADE from **Lp:00002086** to **End: 0007700** (this one was tricky as it's so short, so it's always going to sound a little odd).

Load the **RHODES.prj** project file to have a listen to a version I created. I've left the samples on the same pads and I've added some filters to most of them – to see my filter settinfgs, go to **PROGRAM > FILTER (F3)**. I've left the chop on pad 3 'unlooped' as it was as I thought it sounded interesting as it was. I actually used an **XFADE** loop on chops 1, 2 and 4 (converted back to a FORWD loop to save voices), but for chop 5 I used an **ALTER** type loop to create a more pulsating looping effect.

Finally I added an **FX1 delay** to all chop pads via **PROGRAM > OUT(F6)** and **FX (F6),** using a same method I added compression to the program at the start of this chapter. Play **sequence 1** to hear a basic loop I made from these samples.

So as you can see, using the tools available we've made some pretty great sounding sustained sounds using chops taken from a Rhodes loop - the key point here is that rather than spend an afternoon trying to create five perfectly natural sounding Rhodes multisamples (probably not even possible given the source material), I've instead utilised sustain looping in conjunction with various other program parameters to create more unique sounding, bespoke samples and in turn have made a foundation hook for a new song.

Looping Drum Chops

Interesting and unique effects can be created by looping drum chops. Load up the ready-chopped 'packed' program '**chopped_23.PAC**' from the **chapter 3** sub

folder ‘**Drums’** – this is the same auto-chopped break we’ve been using throughout this book. Go to **PROGRAM** and unpack the program (**hold SHIFT, F2**).

Go to **TRIM**, **PgmMode** (F1). Select pad **A10**, which is a snare. Now press **F4** to set **LOOP ON**. Preview pad A10. If you listen carefully you’ll hear a feint echo after hitting the pad – let’s work on that. Go to **PROGRAM** (mode and pad 7), **AMP** (F2) and set the ‘Release’ **R** value to **50**.

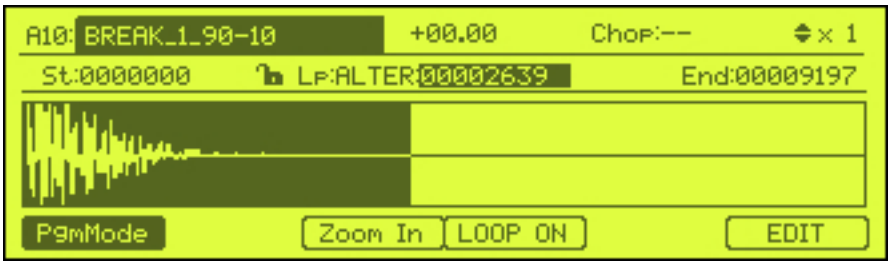
Preview pad **A10** now and you’ll hear the echo much more clearly. All that is happening here is that the entire sample is being looped from start to finish and the release value (R) is extending the playback of that loop and fading it out. The higher the release value, the longer the echo effect is. Please note that unlike the sustaining loops we made previously, the ‘**PLAY MODE’** of the pad is set to **ONE SHOT** rather than NOTE ON.

Lower the **sustain (S)** to **50** to make the echo less pronounced. Now start to mess with the **decay** (D). The higher you set this, the longer the echo effect lasts and the less ‘fading’ occurs. I set mine to **15**.

Now the **attack (A)**. Set this to **40** – as you’d expect, this fades the beginning of the sample, however, the loops that follow have no attack at all. This produces a really unique effect.

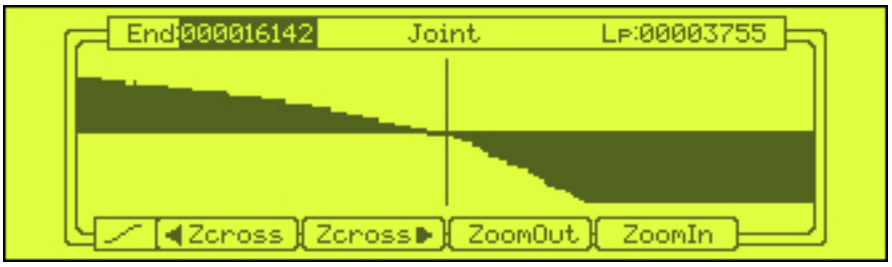
Go back to **TRIM** – let’s adjust the loop points a little. Select the ‘**End’** loop point, shorten it to approximately **00015717** and play back pad **A10**. The echo is now quicker, as the length of the loop has been shortened. Now select ‘**Lp:FORWD**’, change this to **ALTER** and preview again. This alternates the loop between forward and reverse play, and again, a great and unusual effect – you can shorten the end point to speed this one up – set the end point to **9197**. Try hitting pad A10 rapidly a few times for a very dynamic echo effect.

Finally, select the loop start point, ‘Lp:ALTER:**000000’** and change this to **00002639**:

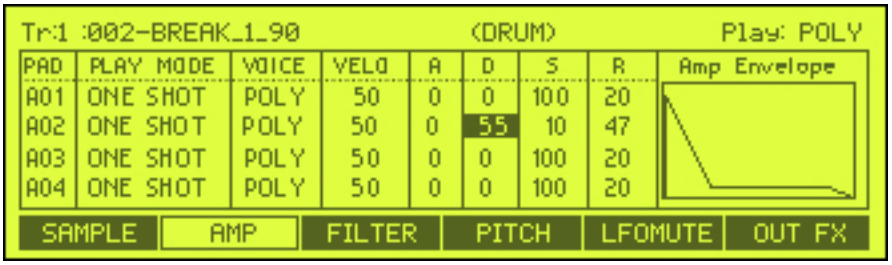


Again, hitting pad 10 rapidly a few times can create a really interesting effect. You can tweak this all day until you find something that works for you. One common tweak would be to have your sequence playing in the background so you can edit your loop points to make the echoes match the tempo of your beat.

Alternatively, try creating much shorter extended loops. Select the kick on pad **A2**, turn **LOOP:ON** and set the loop '**forward'** point to **00003755** and the end point to **0006142**. If you hit **WINDOW** you can check the '**Joint'** window to see that I've just set up the loop points at mirrored zero crossings:



Now set the ADSR for pad A2 to 0, 55 10, 47 respectively:



These settings give the kick an extended 'boom' – experiment with the ADSR to create different results, particularly the sustain setting (S). Here of course, echo timing would not be an issue like it was with the snare sample, as the loop repeats are very short so tempo is not an issue.

Load up the **looped.PAC** program - on pads A1 – A4 I've set up four different looped drum chops. Now play **sequence 1** to hear some of the unique sounds we can pull out of these looped chops.

Patched Phrase

A '**PATCHED PHRASE**' is a special type of looped sample that can automatically change its tempo to match the BPM of the sequence it's currently playing within. So, play it within a 70BPM sequence, and the break will play at 70BPM. Stick it into a 120BPM sequence, and the break will play at 120BPM – you don't have to do anything, and there's no time stretching involved. Let's look at an example to help illustrate it more clearly.

Load up the original **BREAK_1_90** sample and press **CHOP** (F5) to get back into the chop screen. Press **AUTO** (F2) and using the standard settings of **50** for both '**Threshold**' and '**Recovery Time**', hit **DO IT** to recreate the **23** region slice we used in the previous chapter.

Now press **EDIT** (F6) but this time select F3 (**PATCHED PHRASE**):

Set a small **release** of **10** and set the '**Original Tempo**' to '**90.0**', which we know to be correct (both from the file name, and from checking it in the **TIMESTRETCH** screen). Hold down **SHIFT** while turning your data wheel to change the **BPM** in whole numbers. Hit **DO IT** to create our patched phrase sample.

Hold down **pad 1** to preview the sample. It sounds virtually identical to the original loop (although it may be at a different tempo – don't worry, see the grey box below!). Note however that this sample is no longer in stereo; JJOS has converted it to mono. Unfortunately, this is a limitation of the patched phrase process (ironically, Akai actually 'fixed' this in the latest OS for the 1000/2500 as part of their CHOP SHOP 2.0 update, however processing is incredibly slow).

Does the tempo sound different?

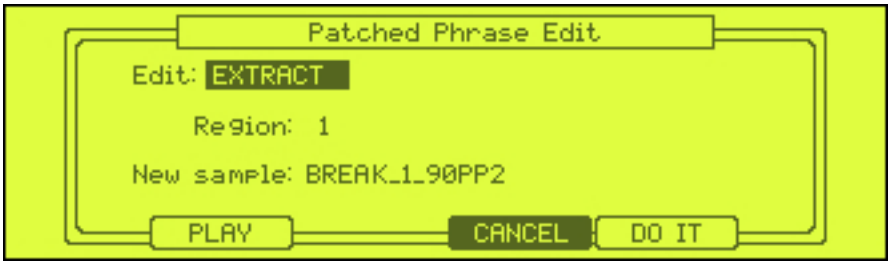
Upon previewing your patched phrase in TRIM, you may notice it has sped up or slowed down from the original tempo. The reason for this is that JJOS will play back your patched phrase at the tempo of the currently selected sequence in MAIN. So if that sequence is the 'default' blank sequence of 120 BPM, your patched phrase will play back at 120 BPM – of course, this dynamic tempo change is the whole point of patched phrases, so it's not a problem.

To hear patched phrase in action, create a new DRUM program and assign the **BREAK_1_90PP** patched phrase sample to pad **A1**. Now select a blank sequence, **90.0** BPM, 2 bars, '**Lp:1-END'**, and assign this new program to **track 1**. Go to **STEP EDIT** (MODE and pad 14), press the **OVERDUB** transport key and hit pad **A1** to insert one instance you're your patched phrase loop at **001.01.00.**

Press **PLAY START** to hear your sequence. Now while it is playing, navigate over to the sequence tempo field in the top left of the screen and start spinning your data wheel left and right to increase and decrease the sequence tempo. The Patched Phrase changes tempo in real time with your sequence.

So this is definitely some kind of solution to the tempo issues we looked at in chapter 1 and 2, because now we have a single break that will match the tempo changes of our sequence – however, there is no option to rearrange the order of our chops within the loop, so it's still quite limited, especially considering we are sacrificing stereo for mono. I'm not a fan, but I know some people swear by them, but the mono limitation just kills it for me.

Finally go back to the patched phrase sample in **TRIM** and press **EDIT**.



You have two 'Edit' options here. Firstly, you can perform an **EXTRACT** on any region you wish, so the default is region 1; press **PLAY** (F2) to hear the region, edit '**New Sample**:' to give it a new name if you wish, and hit **DO IT**. At this point, JJOS returns you to the original patched phrase sample, so move the data

wheel to the right to find your extracted region (remember that this extracted region is no longer stereo).

Return to the patched phrase sample, press EDIT and this time select '**Edit:RESTORE**'. This function simply attempts to revert your patched sample back to a standard sample. Trust me, it's not so great but you can always experiment with it. One thing you can do is set a new tempo so the resulting loop is fixed at a lower or higher tempo than your original. However I find the resulting loops sound pretty poor, and of course, you are still back in mono.

Experiment: Patched Phrase on Single Hits

Patched phrase can of course be used on any type of sample, it doesn't have to be a drum break – it can be an instrument loop or even a single hit sample.

From the '**Patched'** folder, load up the sample '**SNARE'** and go to **TRIM**. Press **CHOP**, **SLICE** and set the number of regions to **24.0**. Press **EDIT**, **F3** (**PATCHED PHRASE**), set a release of **0** and the **original tempo** set to **90.0**. Hit **DO IT**.

The resulting **SNAREPP** file is a patched phrase file (again converted from stereo to mono). And as before, its playback speed will depend on the tempo of the currently selected sequence. Go to the program you created previously and assign the **SNAREPP** sample to pad **A6**. You could also assign the original snare to A10 so we can perform easy comparisons.

Return to **MAIN**, highlight the tempo field and while continually hitting pad A6, change the tempo using your data wheel.

At tempos in the region of **60-80** BPM the snare sounds very loose and grimy, like it's had its bit depth heavily reduced. At **90** BPM (the original tempo), it sounds similar to the original (on pad A10) but still with an element of grime. At tempos higher than 90 BPM, the snare simply gets tighter and tighter sounding until it just becomes too short to sound anything like a snare.

Finally, try **30** BPM – the snare is in complete 'stutter' mode.

This really is a great technique to use to make your own unique drum sounds, with the added bonus that changing the sound of the snare is simply a case of changing the tempo in your sequence.

Some things to be aware of:

- **24-26 slices** seems to be the most you can get away with, after that you get a horrible glitch at the end of the sample. Patched phrases cannot be trimmed or have any other sample edit functions applied (other than EXTRACT), so the only way to remove this from play back is to employ a bit of ADSR (mostly R!) to smooth the end out.
- Most of these patched samples seem to have a bit of a glitch at the beginning, but it isn't usually audible
- A **release** of **0** seems to give the smoothest results – there's a lot more artefacts when using longer release values
- The '**Original Tempo'** parameter isn't actually a necessity as these are just single hits, but it does provide a reference point for the 'unstretched' BPM. So you could put a really high value in there and this would actually allow you to stretch it down to ridiculous levels.

Try patch phrasing the other individual drum sounds in the '**Patched'** folder with **24** slices – **KICK**, **C_HAT**, **O_HAT**. However the kick is difficult to patch phrase with 24 slices without the glitch at the end, so **16** slices seemed to be fine, with a glitch that was not actually audible {(certainly not once assigned to a pad).

Preserving Your Favourite 'Tempo Patches'

Obviously your experiments here only work while your sequence is set to a specific tempo. You may wish to create a standalone sample of your favourites, and really there's two options for this.

1. 'Restoring' Your Sample

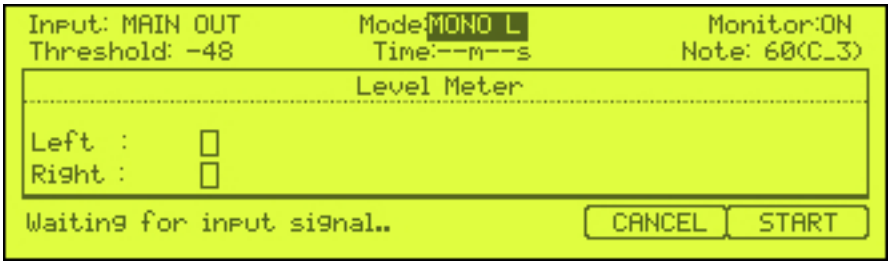
Try restoring your patched phrase back to a normal sample. Hit **EDIT > RESTORE**, and instead of restoring using the 90 BPM tempo that you used to create the patched phrase, set the tempo to match the sequence tempo that created the desired effect you wanted. So if 60 BPM was giving you a nice grimy snare, set a 'Tempo' of **60** in the **'Patched Phrase Edit'** screen and hit **DO IT**.

Just be aware that restoring a patched phrase overwrites the original patched phrase, so it's best to 'restore' a copy so you have the original to continue experimenting on.

Now be warned - results vary! You'll definitely get some funky clipping at the end of the sample, but this time you can trim it off. But I've found tempos like 30 BPM can often give very odd results.

2. Recording Your 'Tempo Patches'

For a guaranteed clone of your individual patch phrase experiment, simply record the audio from your MAIN OUTs in the RECORD screen. So in **MAIN** set a tempo that gives you the sound you are looking for, then go to RECORD (MODE and pad 5), set '**Input: MAIN OUT**', **Mode: MONO L** (remember patched phrases are mono), **F6** to 'arm' the sampler and then just hit the pad you wish to record.



Then press **STOP** (F6) and **KEEP** (F5).

You may find the recorded volume a bit low, so before recording, go to **OTHER** (MODE and pad 10) and set the '**Master Level'** to **-6dB** or **0dB**. However after recording, you should set it back to **-12dB**, otherwise you run the risk of distorting playback when playing sequences with many sounds playing back simultaneously.

Record as many different tempo variations as you wish, then go to TRIM and 'top and tail' your recordings.

Both methods produce a load of standalone drums for you to load into any program or beat you wish. You can of course use this on instrument notes as well!

Load up the project file '**PATCHED.prj'.** In sequence **1** (**PATCHED**) I've recorded the original patched drum break with a sequence that increases tempo over the 2 bars. In sequence **2** (**TEMPO_HITS**), I've recorded my stretched single hits, again using a sequence that gradually increases tempo (from 30 – 150 BPM) – in fact, you could use this sequence to RECORD your different 'tempo patches' – just have this sequence selected, go to **RECORD** as set up previously, arm, and press PLAY START in the sequencer. The resulting sample can then be normalised and chopped into individual regions using '**CHOP'**.

Finally in sequence **3** (**STRETCHED**), I've taken the '30 BPM' standalone tempo patches, and placed them on pads A9-A12 and written a short 'stretched' sounding break at **75 BPM**.

Tempo Changes in a Sequence?

This is a bit off topic for this book, but in case you are wondering, you can insert '**TEMPO CHANGE'** events into a sequence track which dynamically change the tempo of the entire sequence. To do this, go to **STEP EDIT**, **INSERT** (F5) and select **TEMPO CHANGE**. You can then adjust the **%** value to increase or decrease the 'master' BPM set in MAIN. To view existing tempo change in the sequences from the PATCHED project file, in STEP EDIT on the top line change '**View: ALL EVENTS**' to **View:TEMPO**.

Note: to select the top line in STEP EDIT, you have to 'left cursor' all the way to the left hand side of the screen and then hit left cursor one more time.

The Problems with Destructive Chopping Techniques

One problem with destructive chopping is that your region markers are not remembered once you leave the chop screen, so editing regions 'after the fact' is limited or requires starting the whole process again – a patched phrase does remember regions, but doesn't allow you to go back in and tweak them.

Also as we've seen a few times in the past three chapters, the edit points between two regions are shared, so changing the end point of region 2 will affect the start point of region 3, and this can complicate region edits when dealing with less than ideal breaks especially where individual hits are not clearly defined).

These problems are all solved with **Non Destructive Chopping (NDC)**, a method which also has a number of additional features that make it an essential tool in their day-to-day workflow. Let's take a detailed look at NDC in the next chapter!

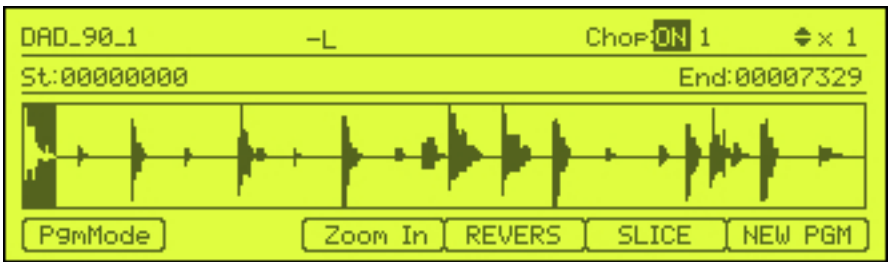
004 - Non Destructive Chopping (NDC)

In this chapter I'm going to introduce you to one of the most exciting features present in JJOS XL; ***non-destructive chopping (NDC)****. It's actually a hard one to explain in one paragraph, but incredibly easy to explain by running through a practical example - so let's get cracking.*

Accessing NDC Mode

Go to **LOAD** and load the drum loop '**DAD_1_90.WAV**' into memory. This is a live drum break taken from the MPC-Samples.com sample pack, 'Dirty Drum Breaks Vol 1'. This is a nice break to chop as most of the individual sounds are well defined.

Return to the **TRIM** screen and select this newly loaded break. To begin a 'non-destructive chop', we simply change the '**Chop:OFF**' at the top of the TRIM screen to read '**Chop:ON**'.



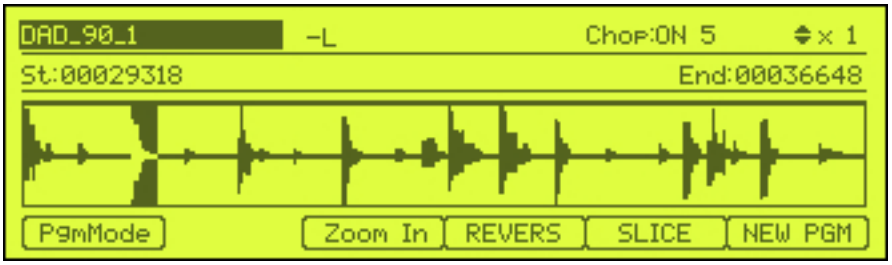
Now navigate with the right cursor to highlight the '**1**' next to '**Chop:ON'**. This is the region selector; start scrolling to the right to view all the regions in the sample; there's **32** in total. While you have the region selector highlighted, pressing any pad will preview that particular region.

Now cursor so the '**End'** point is highlighted. When the region selector is no longer highlighted, you can use the pads to select a region. So this time start pressing the pads beginning at pad A1 all the way to pad A16. You'll see that when the region selector is not highlighted, each pad corresponds to a region in the sample. And as there's 32 chops, the other 16 regions are found in bank B, so press the **'B' PAD BANK** button, and continue previewing the other 16 chops.

Overlapping Regions

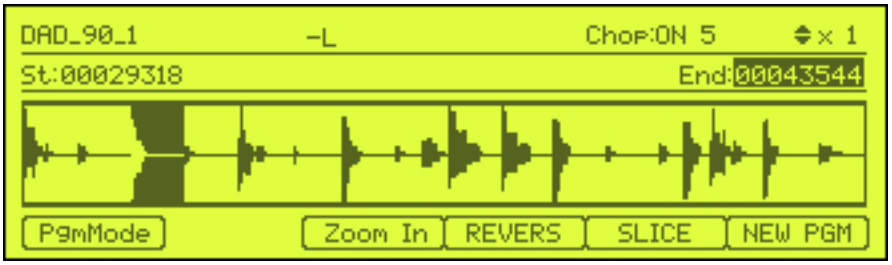
Now, a non-destructive chopped break will always have 32 unique, equally spaced chops, at the time of writing we cannot change that. As we saw in the destructive chopping chapter, it's often the case that some regions contain samples split down the middle. For example, the chops on pads **A5** and **A6** are really a single snare hit split in two, so it's clear we have to adjust things a little.

Now in the previously discussed 'destructive' chopping, when you adjust the **end point** of region **5**, this means the **'start' point** of region **6** is also affected by the same amount. However in non-destructive chopping each region remains *completely* independent of all other regions. To explain this, let's quickly adjust region 5, i.e. the chop on pad **A5** – so press **A5** to select that chop:

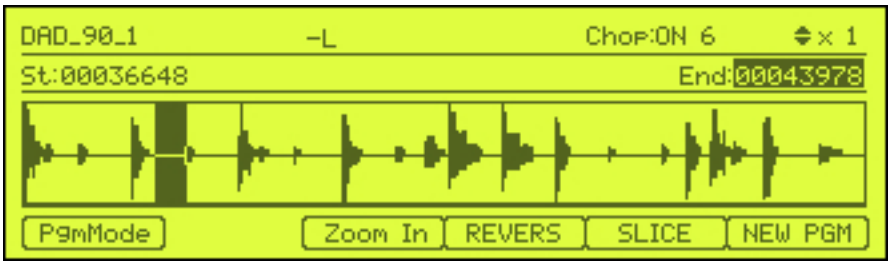


By default, the pad **A5** chop starts on **0029318**, and has an end point of **00036648**. Let's just roughly change the pad A5 end point.

With the end point highlighted, turn the data wheel until you can visually see region 5 reach the start of the hat in region 6. Just use your eyes, don't worry about being sample point precise yet. Stop at **00043544**, and have a listen. Pad A5 is a now a nice snare chop.



Now press pad **A6**.



Notice something odd? Unlike 'Destructive Chop' where adjusting the end point of region 5 would change the start point of region 6, non-destructive chopping has kept chop A6 completely untouched. In fact, you could set pad A5 to have an end point taking the chop to the very end of the *entire* sample, and all the other regions would still be completely accessible. Try it – change the end point of pad **A5** to something like **00130996**; the A5 chop is now over 2 seconds long, but all the chops on pads A6 to A16 remain unaffected.

So here you see the first advantage of NDC:

> ***NDC Advantage #1***
>
> Each region in NDC is completely independent of all other regions – there are no 'shared edit points' between adjacent regions. This means you can create completely overlapping chops without impacting any other existing region.

Locating Individual Chop Regions

The default chop in NDC is an 'equal' chop over 32 regions. To ensure each region contains just a single drum hit, we'll have to take a little time adjusting our regions, just like we did in chapter 2. Again, I initially look to simply create 'rough' regions that each only contain a single drum hit, and then deal with fine tuning it later.

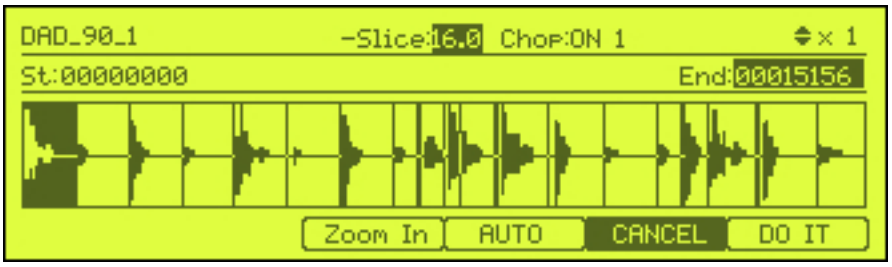
Now, in 'destructive' chopping I showed you '**AUTO'** and often this is the quickest way to start chopping most drum breaks down in NDC.

> ***Chopping Options in NDC***
>
> You can initially slice your samples in NDC using a number of different methods. For drums, the **AUTO** option is identical in function to the 'destructive' AUTO and works well with most breaks.

SLICE is also similar to the non-destructive SLICE, where you turn the data wheel to select a new number of regions, and we'll look at that in more detail in the next chapter. You can of course manually set each region one by one – this is done by what I call a basic '**speed edit'** and we'll look at this method later in this chapter.

Just be aware there are no '**DIVIDE'** or '**COMBINE'** options, so the dividing method we learnt about in chapters 2 and 3 cannot be used.

AUTO is accessed by hitting the **SLICE** button (**F5**) and then **F4** (**AUTO**). As before, we have threshold and recovery time to set, but let's leave these to the default **50** and hit **DO IT**.



That's pretty good going. Preview each new region using your pads; most regions seem fairly well set already, but pad **A10** and **A11** are obviously an issue, as they both cover a single kick. Go **to BANK B** and continue previewing and you'll see that our regions stop at pad **B3**, so we currently have 19 slices.

At this point though we are still in the SLICE screen and cannot leave it until you hit **DO IT** (F6) to commit your new slices.

Return to **BANK A** and preview all your regions again. Now before we hit DO IT, our slices ended at B3. However you should see that B4 leaps back to a point earlier in the sample, and you actually have regions now assigned to pads B4 to B16 – i.e. 32 slices again.

So what gives? Well, NDC requires 32 slices (I don't know why) so in this current example, JJOS simply uses the *original* slices that existed on pads B4 to B16 *before* you AUTO chopped. It's no big deal, and at this point all we care about are the 19 'auto' chops we just set, as these are all our individual hits.

Apart from A10 and A11 of course, so we'll need to fix that – let's look at the region editing options available to us in NDC mode.

NDC Region Editing Options

Editing in NDC mode is a slightly different workflow experience, especially when it comes to the editing options available.

Firstly, audio previews are a very simple affair. Basically you just get a standard 'ONE SHOT' preview – there's no NOTE ON type preview.

There's no other 'advanced' previewing options either, although as there are no 'shared edit points' in NDC, there's not really any need for most those advanced pad previewing functions we get on pads 9 to 12 in 'destructive' chopping. There's also no 'start point' and 'end point' selecting pads either so you've have to manually cursor over from start to end point.

Another difference is that we can quickly move to the next region in NDC just by hitting the relevant pad, i.e. region 6 = pad A6 (assuming you are in standard TRIM mode – we'll look at the alternative PgmMode later). As we saw in 'destructive' chopping, we have to manually right cursor to select the next region (and then cursor back to select the end point again).

Zooming functions though are identical and you can change the edit points in the same way as destructive – i.e. data wheel, Q links and the numeric key.

Use the cursor to highlight the '**End'** point and hit pad **A10**. As you can see, A10 currently ends at **00122395**, which is also the start point of A11.

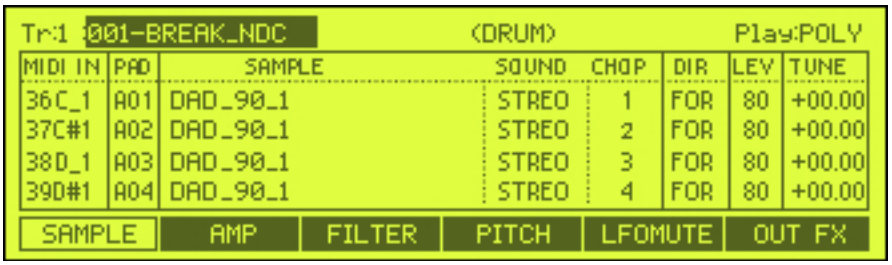
Now (with **A10** selected) scroll the data wheel to the right until you visually see region A10 consist entirely of our kick drum. For the moment, set the end point to approximately **00132614**.

So what about A11? Well hit A11 and you'll see that (as expected) A11 has not even slightly changed – its start point is still **00122395**. Preview **A12**, and that clearly has the next region (another kick) 'covered', so at this point we will simply ignore A11 – it serves no purpose – we'll also ignore the regions on pads B4 to B16.

Creating Your NDC Program

So, how can we start using these samples? Click **NEW PGM (F6)**:

As the screen says, a new program is going to be made using the 32 chops you've already set in your sample. Give it a name if you wish (I called it **BREAK_NDC**), hit **DO IT** (F5). Now go to **PROGRAM** (MODE and pad 7).



JJOS has created a standard DRUM program out of your chops. And as in the CHOP screen, each pad reflects the pad that was assigned to it in the Chop screen. So, press all the pads A1 – B16 to preview the chop assignments.

From the first listen it seems no different to a standard 'chop shop' style extract, where your sample is chopped and each chop is made into a new unique sample, then assigned to its own pad. But this is different, as each pad in the program is assigned *the same sample; our **DAD_90_1** sample.*

In fact, JJOS has not 'created' any new samples at all. There's still just the single **DAD_90_1** sample in memory. What gives?

Well, a look at the '**CHOP'** column should make it clear. Each instance of our **DAD_90_1** sample is assigned a different numerical entry in the CHOP column. That entry corresponds to the region number in the CHOP screen. So pad **A1** plays back chop region **1**, pad **A2** plays chop region **2**, and so on. Basically all JJOS has done is embed hidden data into our original DAD_1_90 sample which sets the 32 region markers – then in your program, the CHOP column tells JJOS which 'region' is to be played back on that pad.

NDC Advantage #2

When you chop a sample in NDC, you do not create any additional individual 'chop' samples – your entire chopped program just uses your original sample

only and uses hidden region markers to play back different 'sections' of that original sample depending on the CHOP value in your program.

Not only does this save memory (one 'master' sample instead of one 'master' and 32 additional samples), it is also easier to manage a single sample instead of 33 different samples.

And yes, you can change the default assigned CHOP value for each pad, so we'll use this to arrange our individual hits in any order we like. For example, you may prefer to have a kick on A1, a snare on A2, a closed hat on A3 and an open hat on A4 – that's easily done simply by reassigning the 'chop' number assigned to each pad.

NDC Disadvantage #1

It's not all good news; you may have noticed there's no 'Release' option when creating the NDC program, so your samples do stop abruptly without the nice additive 'smoothed out' end that destructive chopping can create. You can of course use ADSR later to smooth the ends of your chops out, but this is a subtractive method, it takes more audio off the end, so it's not quite as ideal as the destructive method.

What's also very cool is that your chops are all permanently saved in your sample, so you can return to your sample and recall all your chops and make changes whenever you wish – something you cannot do with standard 'Chop'.

And it gets better. When chopping breaks in NDC mode, you really don't have to worry about initially getting your chops perfect *at all,* because your regions remain permanently editable *even after 'extracting' and creating a sliced program*. This means you can instead concentrate all your initial efforts on locating the best chops for your beat and worry about fine tuning the chops at a later date. Let's crack on with selecting the best chops.

Selecting the Best Chops

So at this point I want to through and pick out all the best sounds and if required, fine tune the edit points on these selected chops only.

Now, as I discussed in chapter 3, when I've just chopped a break down to the individual hits, the first thing I tend to do is sort my sounds into the '**pure'** and '**impure'** samples, and generally speaking, I'll only want to deal with the 'pure'

ones. I'll also want to locate the sounds that are not particular great samples, e.g. ones with glitches and so on.

Removing Duplicates

Often in some drum breaks you may find some of the hits are actually identical – this is often the case with sequenced breaks. There's no point in using four different snare chops that are actually the same snare sample, so we'll simply remove them and keep the only unique one. Identifying duplicates is where **PgmMode** excels – instead of relying on your ears to detect identical sounds, you can instantly compare the actual waveforms of two samples just by looking at them.

For example, let's visually compare the samples assigned to pads A2 and A13. Just keep alternating between these two pads – it's clear they sound very similar, but what about the visual waveforms? You should be able to see that the waveforms are pretty much identical – yes, there are some very minor differences - but that's most likely down to different background noise. These are identical samples, so you can safely get rid of one. The kick on A7 is also identical, the only difference appears to be it's been sliced at a slightly different point so the entire waveform is nudged slightly to the right

If you listen to all the chops we originally set (A1 to B3), you'll hear that most of them are actually pure. The first impure sound is A10, as his is a kick with a hat on top. Then of course A11 is not needed as this was the 'limbo' region that we discarded earlier. The next 'impure' sound is B1, as this is a kick with an open hat.

So that's quite a few pure sounds to play with. What I want to do now is isolate the sounds by type – a kick, a snare, a closed hat and an open hat, and I will simply do this by ear.

Primary pure **kick** sounds are on: A1, A5 and A12
Primary **snares** are on: A3, A7, A13, A16 and B2
Primary **closed hats** are on A2, A4, A6, A8, A14 and A15
Primary **open hat**: B3
Soft **kick**: A9

Now while the open hat is a little short, all these sounds are pretty decent. If you have a listen on headphones you can normally pick up a few issues (e.g the hats on A8 and A15 are quite brief with no decay tail), but as we've not yet fine-tweaked the start and end points of each region, don't be massively concerned.

However there's plenty of regions that already sound great, so at this point, simply pick one of these for each instrument. I picked the following:

Kick: A1 (CHOP 1)
Snare: A3 (CHOP 3)
Closed Hat: A2 (CHOP 2)
Open Hat: B3 (CHOP 19)
Soft Kick: A9 (CHOP 9)

Notice how I've listed the 'CHOP' value – this is actually very important…

Rearranging Your Chops

To bring your chops into a more intuitive drum kit, we'll need to do a little reorganising. As I mentioned in chapter 3, my basic kit consists of a kick on pad 1, a snare on pad 2, a closed hat on pad 3 and an open hat on pad 4. I also want to put a dedicated soft kick on pad A5. Soft kicks like this are great to use as ghost notes as they have a much softer timbre and less attack compared to one of the harder kicks. Having a soft kick on its own pad is great when you are playing with FULL LEVEL turned on, as it gives you a guaranteed softer, more quiet kick without having to control how hard you hit the pad.

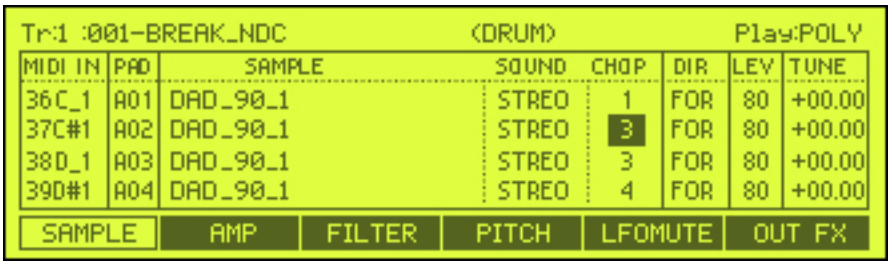
What is timbre?

This simply refers to the different ways an instrument can sound depending on how and where it is hit (or played). Obvious timbre changes occur when comparing soft and hard hits or hits near to the edge compared to hits near the middle of the drum. However even if you try hitting in the same place at the same velocity 10 times straight, it would most likely sound slightly different each time.

Now with a standard program you simply reassign the correct 'samples' to pads A1 to A5. With an NDC program, we only have one 'sample', so instead we rearrange the 'chops' – to do this, we simply change the value in the CHOP column.

So, **A1** is our kick – no work needed.

A2 needs to be the snare chop, which is chop **3**. So highlight the CHOP column, hit pad A2 and change the CHOP value from 2 to **3**.



Pad **A3** needs to be the closed hat (chop **2**) so change the chop value from **3** to **2**. Pad **A4** needs to be the open hat (chop **19**), so change the CHOP column to read **19**.

Pad **A5** is to be our soft kick from chop 9, so change the CHOP column on pad **A5** to read **9.**

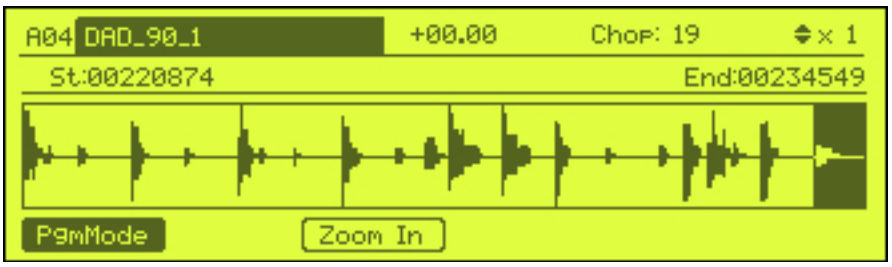
What about 'pad copy'?

Of course, don't forget that instead of manually changing the CHOP value, you could perform a standard pad copy using the UNDO button (we used this in previous chapters). For example you could have either highlighted the A9 '**PAD'** column parameter, held down **UNDO** and now hit **A5**; A5 is now the soft kick from A9 (or you could just copy the CHOP parameter). Either method works – I think in this case, just manually changing the CHOP parameter is actually easier though.

That was pretty simple – now with the basic kit set, we just have five regions to work with compared to the original 32 chops. Hopefully you can now see why it's usually a good idea to leave any edit point 'fine tuning' until after you've selected your best chops!

Using PgmMode To Tidy Up the Chosen Chops

Return to the **TRIM** screen (MODE and pad 6) and press pad **A4**. As you can see, in normal TRIM mode, pressing A4 simply selects the original A4 'chop region' in our sample. Now select **PgmMode** (F1) and press **A4**.



You can see that the waveform has jumped to the open hat as the end of our original AUTO chop (chop 19). So in PgmMode, each pad press brings up whichever chop is assigned to that particular pad in the currently selected program.

This is incredibly useful in NDC because once you've organised chops into a useful order in your program (i.e. pads A1 to A5 in our current example), it lets you easily and intuitively select the exact chop you want to edit further without any extra thought required – very quick for your workflow, while still allowing you to edit accurately.

NDC Advantage #3

As an NDC program consists entirely of one single sample with invisible markers placed inside that single master sample, you can freely return to TRIM mode at any time and tweak any region's start and end points. Basically no region is every fully 'committed', unlike 'destructive chopping'.

Example NDC Workflow Methods

Now is probably a good time to quickly talk about 'fine tuning' the edit points for the chosen chops. As I've already mentioned, by whittling down the number of chops from 32 to 5, this has already dramatically reduced the amount of region editing we need to perform. However it's really worth underlining the fact that even though these regions have not yet been carefully edited, they all *sound* absolutely great. If a chop already sounds good, with no clicks and a clean initial attack, then do you really have to carry on fine tuning the edit points?

I think the answer lies in what your ultimate goal is. For example, if you are chopping this break to produce a professional drum sample kit, then of course at some point you really need to edit these sounds as accurately as possible. Equally, if you have any intention of 'extracting' the individual sounds out of this NDC break, i.e. as stand alone samples, then you'll probably want to perform a more accurate edit, simply because when the sound is no longer 'non destructive', it becomes harder to fix any problems (we'll look at extracting NDC regions at the end of the chapter).

And of course, you may just prefer to be as complete and accurate as you can, regardless of what you intend doing with the chops, and there's definitely nothing wrong with that attitude!

Of course, fine tuning edit points takes time and remember currently this is only a five chop kit – you could have up to 32 regions to edit (i.e. 64 edit points). Many producers hate this kind of work, especially when all the chops already sound fine, it can seem pretty pointless and they'd rather get on with writing their new song/beat.

So in my opinion, there are three different workflows you could consider:

1. **The 'sample accurate' workflow** - zoom right in and edit every edit point to an exact zero crossing point, right down to an individual sample point resolution.
2. **The 'sounds right, is right' workflow** – if the chops sound okay, then you could just leave them as they are.
3. **The 'speed edit' workflow** – somewhere in-between the previous two, this workflow is really just a quick visual check at a low resolution zoom to tidy up edit points without fussing too greatly about high sample accuracy and zero crossing points. 'Speed' is definitely the main advantage. It's also perfect for initially manually setting chop regions when AUTO is unsuccessful or not appropriate. In fact, we already performed a basic speed edit when we fixed chop 10 earlier in this chapter – here I simply didn't zoom in at all, I just quickly set CHOP 10 quite roughly by looking at the waveform from distance (I knew I was going to edit it better later)

So for me, if AUTO chop has worked well, a 'sounds right, is right' is good enough for me, unless I actually *need* sample accuracy. If AUTO chop is unsuccessful, or I have a sample that simply needs manual region editing from the very beginning, then the 'speed edit' is definitely the one I'd go for.

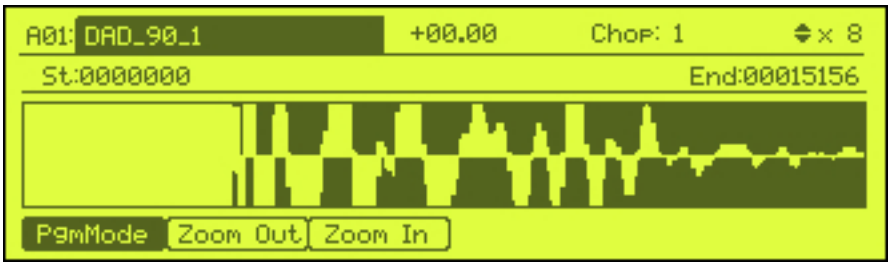
In the end, I'm producing something that needs sample accuracy, I'd rather spend my time writing music than pointlessly editing regions to single sample accuracy when they already sound fine!

Checking the Edit Points on your Chosen Chops

Okay, let's quickly run through the three different preview options. Make sure you are in **TRIM > PgmMode**, with pad **A1** (chop 1) selected and the '**St'** point selected.

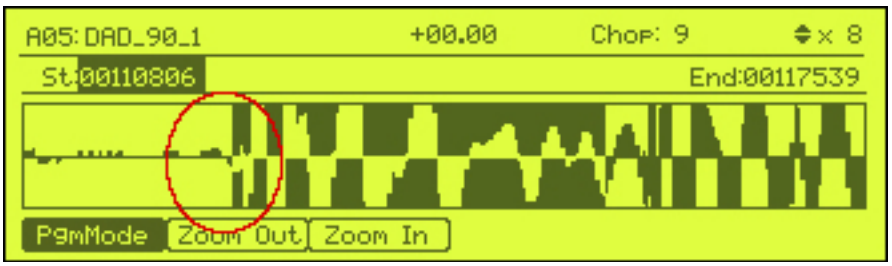
First the '**sounds right, is right'** method. This is easy – just play back pads A1 to A5 and listen carefully for any problems. Use headphones for the most accurate testing. It all sounds pretty good to me - so you could just leave your edit points as they are and get on with other tasks. However, let's see what happens if we try to be a little more accurate.

So, the '**speed edit**'. Zoom in by pressing the right BAR key or **Zoom In** (F3) four times. Now go to a **x8** height magnification (up cursor three times). This is what I'd call a 'medium' zoom level.

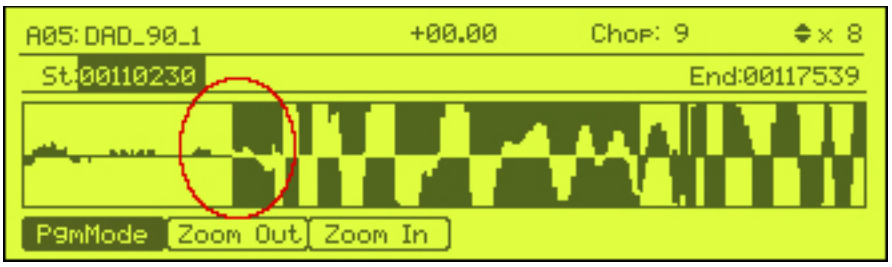


Now just use your eyes to check the waveform – no need to adjust the zoom level. Pad **A1** seems fine – now, rather than now selecting the end point, simply hit pad **A2** (the snare, chop 3) and look at the '**St'** point for this region. Looks fine. Now pad A3 (fine), A4 (fine), and finally A5.

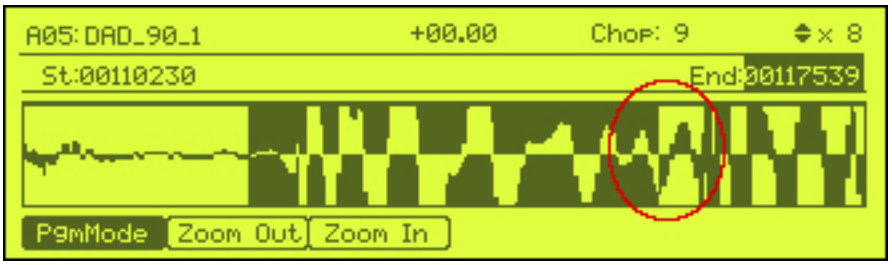
At **A5**, we can see there may be a little problem:



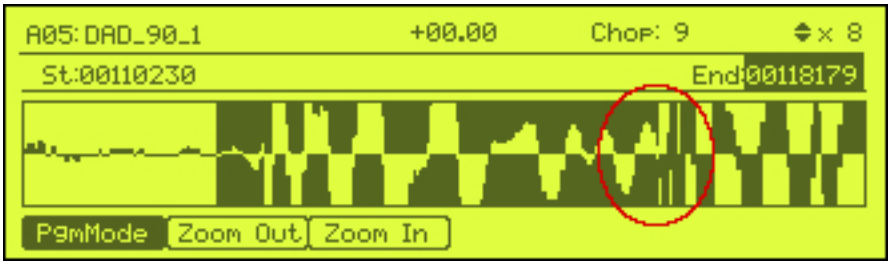
Looks like we need to back up a little on the start point, so turn the data wheel to the left until you reach **00110230**.



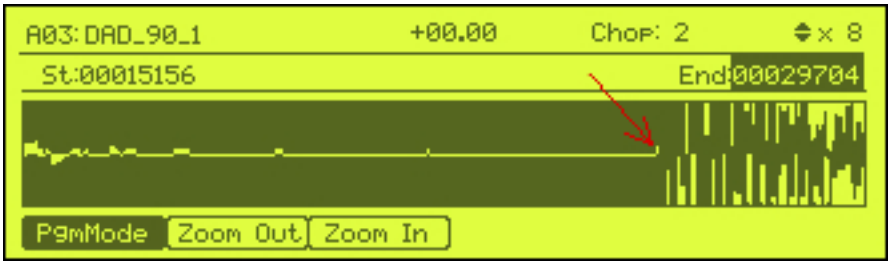
Now highlight the end point and again – the A5 end point is looking a little suspect:



Move the end point to **00118179**.



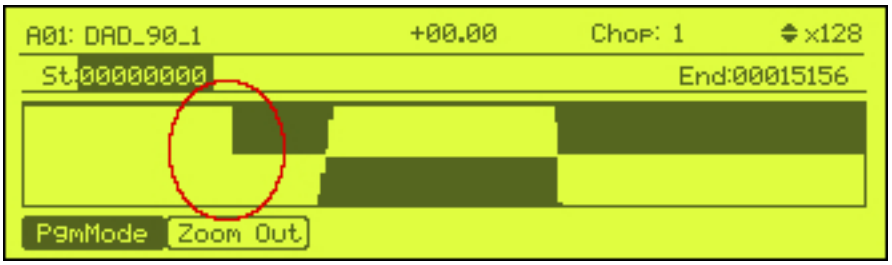
Now, as the end point is currently selected, check the end points for the other four chops on A1 to A4. In my opinion, they could all do with reducing by a single anti-clockwise turn of the data wheel, for example, pad **A3** is currently on **00029704**:



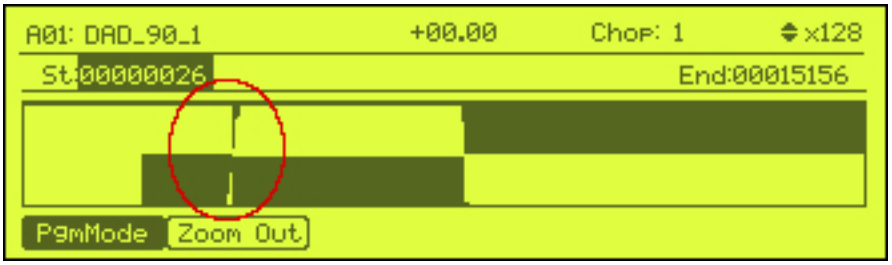
That little light square seems to indicate the end point is a little too long, so set it one turn left to **00029640**.

So that was pretty painless and quick. There's minimal button pushing with this method, especially if you check all the start points first, and *then* check the end points.

Finally, let's perform a 'sample accurate' edit. Select the **A1** '**St**' point. Now zoom in as far as you can go both horizontally and vertically.



You can see the actual start of the sample bisects a waveform trough, so adjust the start point to **00000026**.



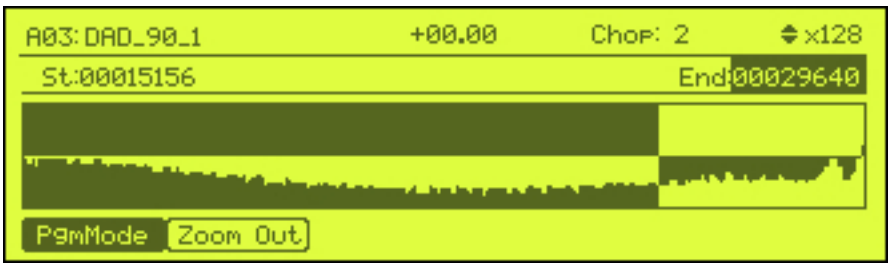
You can now repeat this sample accurate edit for all start points for all five chops.

A2: **00029696**
A3: **00015156**
A4: **00220867**
A5: **00110228**

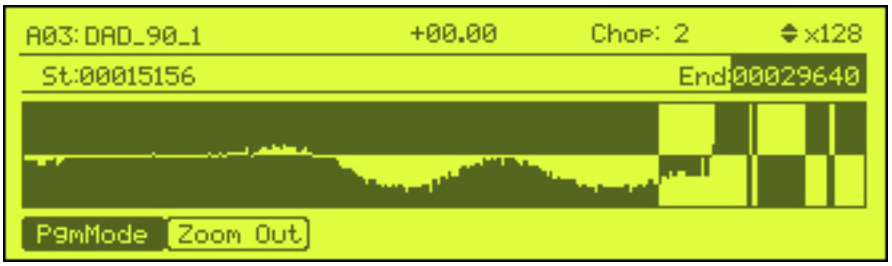
And then the end points:

A1: **00015057**
A2: **00044791**
A3: **00029697**
A4: **00234549**
A5: **00118381**

Now you should see that sample accurate editing is much slower, especially when you are faced with a screen that looks like this (Pad A2):



It's very hard to see exactly what's going on here, so there's no choice but to zoom back out a little to get your 'bearings' (it's just a reduction in horizontal zoom here):



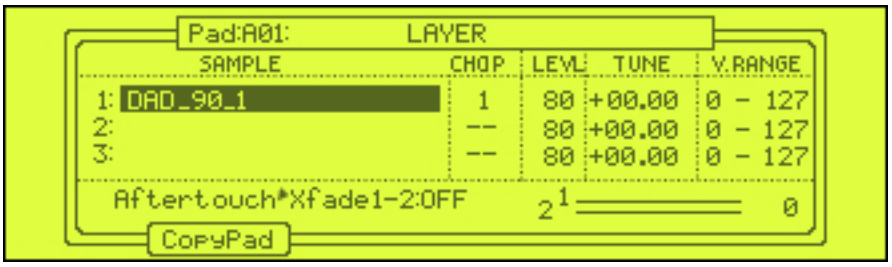
Once you've done that, you can move the end point to 00029696 and then zoom back in again – I settled on **00029697**. I had the same problem with pad A5.

So there's a few distinct editing options which can be used at any stage of the chopping process, from initial 'rough' region setting, right through to the final tweaking stages. Pick a method that suits you, or suits your needs at the time, or simply develop your own method!

So with our basic NDC kit set up, let's look at how we can enhance this kit to make it an effective 'finger drumming' kit.

Velocity Switching a Pad

If you play with FULL LEVEL turned off, you can also set pad A1 to 'velocity switch' between the hard kick and the softer kick from chop 5. First, turn off FULL LEVEL. Now hit pad **A1** and highlight the **PAD** column. Hit **WINDOW**:



Here are your three sample layers for this pad. By default layer 1 is the 'primary layer you see in the normal SAMPLE screen in PROGRAM. This is the 'hard kick' and I only want this to play if I hit the pad with a velocity greater than 80. So right cursor over to the **V.RANGE** column and set the range to **81 – 127**. Remember to hold down SHIFT at the same time to move in increments of 10.

Now cursor down to layer 2 and, as you are already in the V.RANGE column, set the range to **0 - 80**. This means that if you hit the pad with a velocity of 80 or less, you'll fire off *layer 2 only*.

So we need a chop assigned here, so first assign the **DAD_90_1** sample to this layer (left cursor to the **SAMPLE** column and use the data wheel to select the **DAD_90_1** sample. At this point, very lightly hit pad **A1** again and you'll hear your entire break play! This is because you've not set a CHOP value yet, so in this instance, the entire sample is played back.

Highlight the **CHOP** column and select **CHOP 9**, which was our soft kick (which has already been 'sample accurate' edited). Try hitting the pad now, sometimes softly, sometimes hard and you should hear it switching. As the soft kick is already quiet, you could increase the LEVL for layer 2 to **100** to compensate so your soft hits are still audible. Press **WINDOW** to leave the 'Layer' screen.

Editing 'Edit Points' For Chops in Velocity Layers

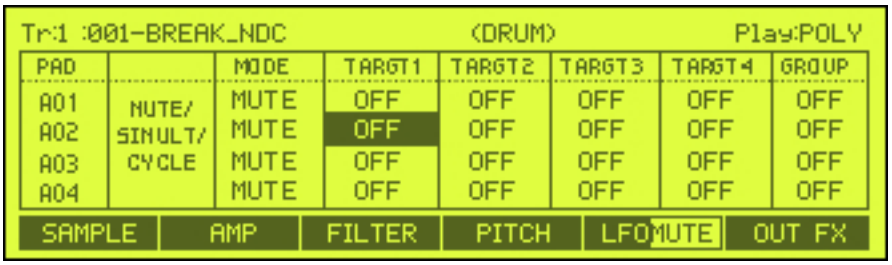
It's worth pointing out that while you are in PgmMode, you are only able to edit start and end points on the chop assigned to layer 1 on any pad. So in the current example, chop 9 is not editable by hitting A1 (only chop 1 can be edited as that is the 'primary' sample for that pad). To edit chop 9, you can edit it by selecting pad A9, or even pad A5 as we assigned it here previously.

However if have no pad with the chop you wish to edit on layer 1, to edit that chop,, you'll either have to manually assign it to layer 1 on an unused pad, or leave PgmMode to edit it (remember in standard TRIM mode, each chop is accessed by hitting its corresponding pad number, so chop 15 is on pad A15, chop 9 is on A9, chop 17 is on B1 etc).

Adding Timbre Changes on a Pad

JJOSXL has the ability to randomly play back multiple timbres of the same instrument just from hitting the same pad, giving a much more realistic play back. As we saw previously there are a few different timbres available for kick, snare and closed hat. Let's look at how we can set up random cycling on the snare on pad **A2**.

Select **A2** and press **LFOMUTE** (F5) twice – this button is a dual screen, the first page is LFO settings, the second page are the pad mutes and cycles.



Change **MODE** for pad **A2** to read **CyclRnd**. This means 'Random Cycle' and it will simply play a random selection from the pads we assign to the four '**TARGT'** columns, which are currently set to **OFF**. So now if you play **A2**, you'll hear nothing, it won't even play the sample you actually assigned directly to A2. Highlight the column **TARGT1** and assign **A2** to this column using your data wheel. Now start hitting A2 repeatedly – you'll sometimes hear nothing, and infrequently hear A2 play. This is because random cycle doesn't care if any of the TARGT columns are OFF, it will play them anyway – hopefully that will be changed in a future update. But for the moment, we have to assign a pad to each TARGT column for random cycle to work fully.

So we have to find or create some dedicated snare pads. We could use some of the existing ones in bank A, but I like to set up my 'cycle food' pads in bank D, completely out of the way, on the assumption that eventually all 16 pads in BANK A will contain various sounds and samples that I need quick and specific access to.

So select **BANK D** and hit **D1**. Press **F1** to select the SAMPLE page. Assign the sample **DAD_90_1** to pad **D1** and highlight the **CHOP** column. Now start scrolling to the right with your data wheel, previewing each chop until you find a snare chop. The first one is **chop 3**, so leave it set to that. Now select pad **D2**. Assign **DAD_90_1** again,, highlight **CHOP** and keep scrolling until you reach the next snare – **chop 7**.

Repeat the process on pads **D3** and **D4**, using **chops 13** and **18** – ignore 16 as this snare is quite short and cut off.

Play back the entire row and you'll hear that while this is the same snare, each pad is playing a slightly different timbre.

Return to **BANK A**, pad **A2** and hit **F5** to return to the MUTE screen. Under each **TARGT** column, set **D1**, **D2**, **D3** and **D4** respectively (you could always leave **TARGT1** as **A02** if you wish).

Now start playing **A2** continuously and you'll hear that each time, JJOS is playing back a random pad from D1 to D4.

Editing Velocity Switches

Don't forget that these 'velocity switch' chops may need further 'fine' editing, so it's probably worth checking the start and end points of these edits now and perform any 'fine tuning', while you remember they exist!

Mute Targets & Mute Groups

While you are in the MUTE screen, we can set up the closed hi hat on A3 to mute the open hat on A4, which replicates the way a real hi hat functions. You can do this via **MUTE TARGT** or MUTE **GROUP**. We looked at mute groups in chapter 3, so this time I'll set this up using mute targets.

Hit **A3** and set **TARGT1** to **A04**. Now rapidly play between **A4** and **A3** and you'll hear that A3 instantly cuts out the playback of A4 every time.

Mute target or Mute Groups?

A mute target allows you to set up a 'one way' mute – in this case, A4 is muted by A3, but A3 cannot be muted by the open hat. With mute groups, either sample will mute the other. I find that sometimes mute groups don't always sound perfect, so I tend to prefer using mute targets where possible.

It's worth noting that currently it is not possible to combine the use of random cycle and mute targets/mute groups on a single pad. This unfortunately means that random cycling of the hi hat is not possible if you also want it to mute the open hat. I've attempted all sorts of workarounds, but I can't find any that work.

So if you value random cycling on your hats over open hat mutes, just set up your hat on A3 to random cycle four hi hats assigned to pads in bank D (e.g. assign chops 2, 4, 6 and 14 to pads D5 to D8 and random cycle these on pad A3).

An alternative, which requires some more dexterity when playing, is to have a different closed hat chop assign to pad A7 and/or A8, which you can alternate between while playing – if you do this, remember to set up the A4 mute target on these pads as well.

Removing Unwanted Pads

Once you've set up your kit, you can clean it up by clearing the unwanted pads. The quickest way to do this is to locate a blank pad, such as **C1**, hold down **UNDO** (this will copy the blank pad) and with that still held down, select **BANK B** and begin hitting all the pads in BANK B, then (while still holding down the UNDO button), press the **BANK A** button and press all the unwanted pads in BANK A.

Small Tweaks

There's a few optional tweaks you could consider. If you are making a drum kit, then you might want to normalize each individual chop. In **TRIM** > **PgmMode**, select your individual region, hold down **SHIFT** and hit **NORMALZ** (F3).

You might want to change the panning info on some sounds to your own liking (typically hats, cymbals, percussion etc) via the MIXER screen. If you have sampled a stereo break (which will already contain panning information), you can easily override this. In **PROGRAM** > **SAMPLE** (F1), change the **SOUND** column to read **L** (or **R**) for each pad. This will mean only the 'left' channel will play back (through both outputs, so dual mono). Mixer settings can then be used to set your own panning and mix levels.

The default envelope 'release' setting for each chop is 20 – if you want to further smooth out each chop or a specific chop, go to the **AMP** screen and adjust the '**R**' setting – to change all pads simultaneously, hold down **SHIFT** and hit **F6** (**ALL**). To change specific pads simultaneously, hold down **SHIFT** and cursor up or down. I used a release of 35.

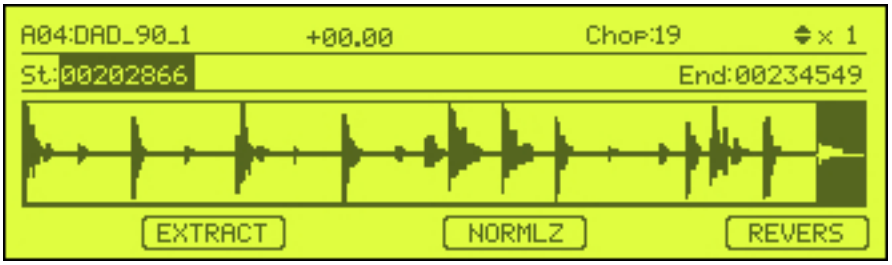
At this point, you can load up the program **BREAK_NDC_FINAL.pgm** from the Chapter 4 folder, which contains my 'pure' NDC finger drumming kit (it uses the NDC sample **DAD_90_NDC**.

Lengthening the Open Hat?

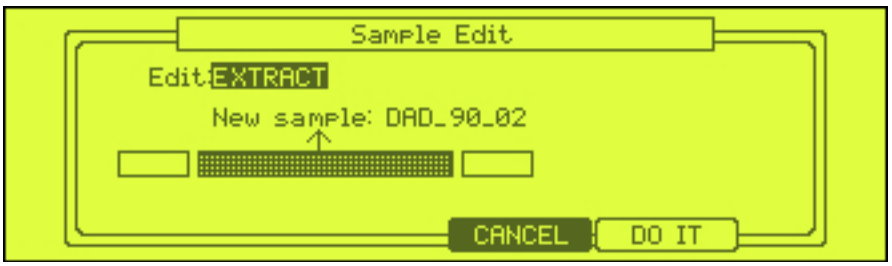
Before we finish this look at building an NDC finger drumming kit, I wanted to introduce you to the idea of mixing your NDC chops with dedicated 'standalone' samples.

Listen to the open hat on pad **A4** and you'll spot it's actually pretty short, so it would be nice to lengthen it a little. Tuning down pad A4 would 'slow down' the open hat and make it last longer, but this would sound a little odd and isn't normally recommended (but if you did, then I suggest you tune down the closed hat as well).

One way to lengthen the open hat is to time stretch it – but we cannot time stretch NDC chops, so we'll have to 'extract' this sample away form our NDC break. Go to **TRIM**, **PgmMode** (F1) and select pad **A4**, the open hat – however, you'll see there's no F button for 'EDIT'. Instead, EDIT is initially accessed by holding down **SHIFT**:



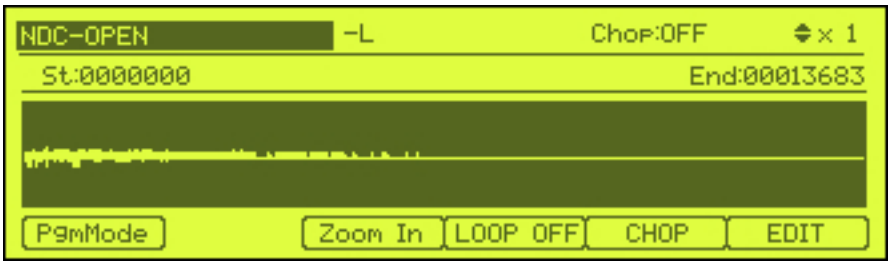
As you can see, there's only three editing options – EXTRACT (F2), NORMALIZ (F4) and REVERSE (F6). Now pressing any of these buttons actually just pulls up the standard 'Sample Edit' screen – try holding down **SHIFT** and pressing **F2** (**EXTRACT**)



So in theory you can scroll and select any editing function here. However unless it's normalize, extract or reverse, you'll find that the results are not what you were hoping for, it will not actually affect the region you want it to. A future feature perhaps, but at the time of writing, not possible.

So how do we timestretch our open hat? Well, first we have to EXTRACT the open hat region and create a new 'standalone' sample from it. So with the EXTRACT window open, rename the sample **NDC_OPEN** and hit **DO IT**

Now, leave **PgmMode** (F1) – this is important, otherwise JJOS will assign this new extracted sample to pad A1 on your program (not entirely sure why – however if you do forget, simply 'reassign' the original DAD_90_1 sample back to A1). Once back in standard TRIM mode, highlight the current sample name and scroll the data wheel to select your new open hat sample.



Hit **EDIT** (F6) and select **TIME STRETCH** – set up as below:

The '**original tempo'** field doesn't have to be accurate, after all, this is just a single sample, not a loop. The key requirement is that the 'New' tempo is lower than the 'Original tempo', this means the timestretched sample will be longer, which is what we require. So I arbitrarily picked a value of 60 compared to the 74 my system picked as the 'original tempo'. Please note that the 'original tempo' field may be different on your system, if so, simply select a lower tempo for the 'New' parameter (nothing is 'final' here, you'll have a change to preview the timestretched sample before committing).

For '**Preset'** a **PERCUSSION** preset seems appropriate, where '**C**' indicates the highest quality (slower processing but it doesn't matter with such a short sample). Hit **DO IT**.

Now hit **PLAY** to hear the new timestretched version. Sounds pretty good to me – you can of course try again by hitting **RETRY** which will take you back to the main TIMESTRETCH screen where you can lower the BPM to try to get the open hat even longer (before horrible artefacts creep in).

You can now hit **OVER W** to overwrite the original hat, or **KEEP** to just place the new sample in memory while keeping the original. If you hit OVER W, JJOS will automatically assign your new timestretched open hat to the correct pad **A4**.

You can load up my version from the chapter 4 folder, '**BREAK_NDC_OPEN**'.

Extracting All Your Chops with 'JJ Chop'

Now, if you've got a very long sample that you've chopped NDC-style, but have only taken a few small chops out of it, and are 100% happy with all the editing you've made, you may prefer to convert all these chops to standalone samples, as this will not only save you some memory, but it means you have a few additional options when it comes to applying further editing and processing to these slices (for example, you may wish to export them to your computer for processing with a specific plugin).

Now, while you can extract any individual slice from the current NDC sample (SHIFT and F2), you'll have to repeat his process individually for each slice you wish to extract, as there is no 'batch' extract option. I believe most JJOSXL users would love to see the EXTRACT screen offer a button that says 'EXTRACT ALL', which would just extract all 32 chops to a folder.

So while not in JJOSXL, there does exist a multi-platform application than can perform this task (as well as a few others) . It's called JJ Chop, and can be found here:

http://webs.ono.com/rcastilla/jjchop/Overview.htm

It appears to now be abandoned, and still in beta, and to be honest it seems quite glitchy on my Mac (I believe it was originally written for PCs). However, it's an interesting piece of software with support for JJ NDC files, import of MIDI and slices from Recycle and the ability to edit slices and export back into JJ NDC format.

005 - Using NDC on Songs & Musical Pieces

Non Destructive Chopping really comes into its own when it comes to chopping songs and musical pieces sampled from vinyl. As we'll see in this chapter, it not only saves you a ton of memory space, it really speeds up your workflow and most importantly allows for plenty of unique, creative experimentation.

Sampling Musical Pieces

I'm going to go through three different examples in this chapter that highlight various approaches to chopping songs and music loops. In the first example I'll be taking a specific loop from an old 12 bar song blues song which I'm going to chop into (pretty much) equal segments for a very simple rearrangement, just to get a basic feel of musical chopping. In the second example I'm going to take the exact same blues loop but this time perform a more involved chop and also explain a bit more about methods to experiment with our chops.

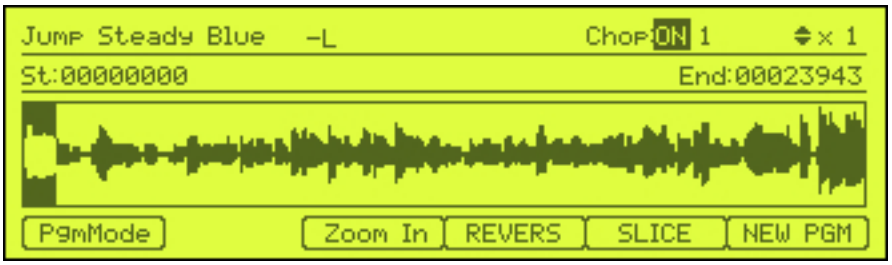
In the final example I'm going to take a much longer instrumental classical piece in an odd time signature and loose tempo and use NDC to pull out some obscure excerpts and phrases and generally twist and turn it to an instrumental beat.

NDC Chopping A Musical Loop

For this example, I'm using an old 12 bar blues song called '**Jump Steady Blues'** written and performed by **Clarence "Pine Top" Smith**. As with all examples in this chapter, this is listed as a piece of public domain music. I sourced this particular track from http://www.openmusicarchive.org/.

I cleaned up the original recording a little, although it's still quite a poor quality recording, but for this tutorial it's still perfect to explain all the concepts I wish to cover. The original song is a few minutes long, but I've just pulled out a single 12 bar section which I have trimmed and looped already.

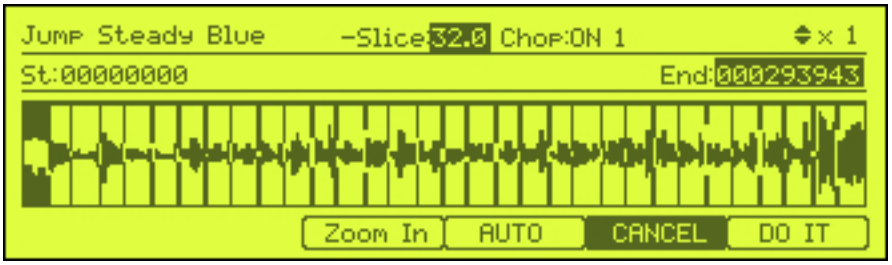
So load up the project file '**JUMP_NDC.prj'** from the **chapter 5** sub folder, '**NDC Loop**'. Go to **TRIM** and locate the sample '**Jump Steady Blue.wav**'. Preview the loop (it's very old, and hissy!) and turn '**Chop:ON'** to enter non-destructive chopping mode.



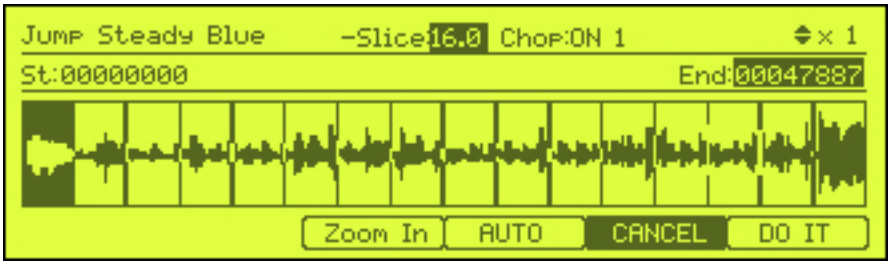
How a listen to some of the 32 chops. Now for this particular NDC chop I really want to keep things simple, so I just wanted to locate some nice, phrases to re-arrange into a simple 4/4 beat. However as it stands, the default chops are in no way beneficial to that way of working, as the edit points are falling in the middle of phases, so we need to rethink all the regions. I think the best course of action is to reduce the number of regions and see what results this can produce.

Using NDC SLICE

So, let's revisit the **SLICE** function, as it's perfect for this type of 'equal' chopping. So hit **SLICE** (**F5**)



As we know, the default 32 chops isn't massively working for us, so let's reduce the number of slices, making each individual slice a bit bigger. Let's try **16** slices – remember to hold down **SHIFT** and turn the data wheel to change the slices in whole numbers.



Preview the first few slices, as you should hear this is getting much better, but the regions still need to be bigger. So simply begin reducing the number of slices until each region pretty much contains a nice phrase in its own right. Try using the visual of the first region we tried setting up in the 'manual editing' section

previously – that's the type of region we're trying to isolate throughout the entire loop.

12 slices is *nearly* perfect. Now you'll discover the benefit of the 'Slice' parameter allows for 'fractions' of slices (with decimals) – this time, don't hold down SHIFT and instead turn the data wheel to the left so you get **11.9** slices. As you can see, this simply enlarges each slice just a little. At this point, I'm very happy with the content of each region – and as this is an NDC chop we'll be able to fine tune any of these regions at a later date.

Hit **DO IT** to commit our new slice points. We now have 12 regions on pads A1 to A12, while the remaining twenty regions (up to B16) are still the original regions 13-32 of the default 32 region chop.

This is a great foundation and at this point, I want to get these chops added to a program. You can do this by hitting **NEW PGM** (F6), but at this point, let's switch over to my version which is already in memory - go to the **PROGRAM** screen and locate **JUMP_NDC**.

As this is quite a simple chop, it's worth considering changing the tonal nature of our chops, just to help 'remove' them a little more from the original loop. If you go the '**TUNE'** column, you'll see I've tuned down all pads to **-02.00**, giving everything a more lazy, deeper sound – remember this is quickly done across all pads using **SHIFT > ALL** (F6)

Take a listen and start to get some ideas about which chops you want to start playing with.

POLY or MONO?

By default, NDC programs are polyphonic (POLY). Often I find MONO (monophonic) works better with instrument chops, however for this example I want to leave it as POLY, and instead use a monophonic program for the second example in this chapter (simply because there's an issue we have to deal with when using MONO programs, and I'd rather keep this first example

more simple).

Now listening to these chops, the ones that immediately stood out where the chops on pads **3, 4, 7, 8** and **9** so I decided to concentrate on these. As you can hear, they all seem to already fit together nicely, so it's a case of finding a nice order to place them in.

Experimenting With Your Initial Chops

Before I start experimenting further with these chops, let's get some drums loaded so we can play along with a drum break sequence. I'm just going to use the **BREAK_NDC_FINAL** kit we created in the previous chapter, and this has already been loaded up as part of the NDC_LOOP project file including a ready-made drum sequence – go to sequence 1 (**NCD_SEQ1)** , which is a 90 BPM drum break recorded onto on **track 1** (**Drums**).

Track 2 is already named '**Chops'** – make sure the **NDC_LOOP** program is assigned to it.

With track **2** selected, try playing and alternating between pads **A7** and **A8** to get a rough idea of the sort of tempo the drums need to be – literally play pad A7 and as it finishes, play pad A8, and repeat. Remember these are short phrases, so they will dictate the natural tempo that you need to set your sequence to.

Start tapping your feet at the same tempo and stop playing the pads – now start hitting the TAP TEMPO button to the same tempo as your feet tapping – you'll see the tempo of the sequence begins to match the tempo you are tapping out at.

Tap Tempo Accuracy

You'll probably find that TAP TEMPO produces quite erratic tempo readings in your sequence, you can reduce this by going to **OTHER** (MODE and pad 10) and **MISC** (F2). Here set '**Average'** (third line) from '**2**' to '**4'**. This means your tempo is taken from the average of your last four TAP TEMPO hits, instead of 2.

A tempo of 75 BPM sounds like a good approximation, so now highlight the tempo parameter in the top left of your sequence and set it manually to **75.0** using the data wheel.

Select track **2** (**CHOPS**) and press **PLAY START**. With the drums playing in the background you can begin playing some of your chops. As mentioned previously, I was really focussing on the chops on pads 3, 4, 7, 8 and 9.

Now it quickly became clear that 75.0 BPM was a little too fast for the natural timing of the chops, so I started to drop that to fit was fit more naturally. **73.0** seems to be a much better fit, but we can further tweak that later if need be.

After playing for a while, I decided on the following pad order:

A7, A8, A7, A8, A9, A4, A7, A8

That's eight evenly spaced pads over 4 bars, so to lay these down to track 2, I could program these in via STEP EDIT or GRID EDIT at intervals running every 2 beats like so:

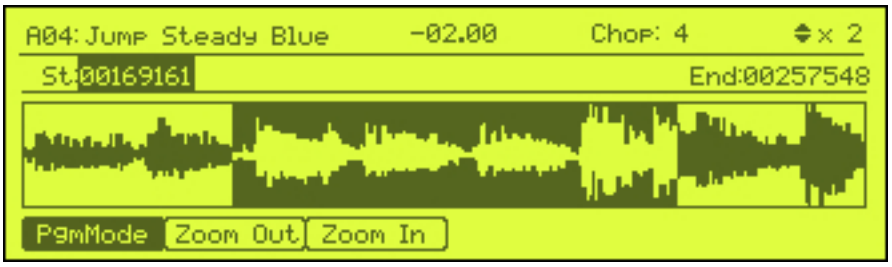
001.0**1**.00 (pad 7)
001.0**3**.00 (pad 8)
002.0**1**.00 (pad 7)
002.0**3**.00 (pad 8)

And so on. Or, just set a TC note value of 1/8 or 1/16 and record it in real time. Have a listen and take a look at my version – sequence 2 (**NDC_SEQ2**).

Play back this sequence and it should be clear that there are some small problems. For example, the instance of pad A4 at 03.03.00 is clearly out of time, it comes in too late. So how do we fix that?

Fine Tuning Your Chops

Well, first let's have a listen to just that pad – I'm going to go back to **TRIM** first, and then hit **PgmMode** (F1) – select pad **A4** and zoom in three times:



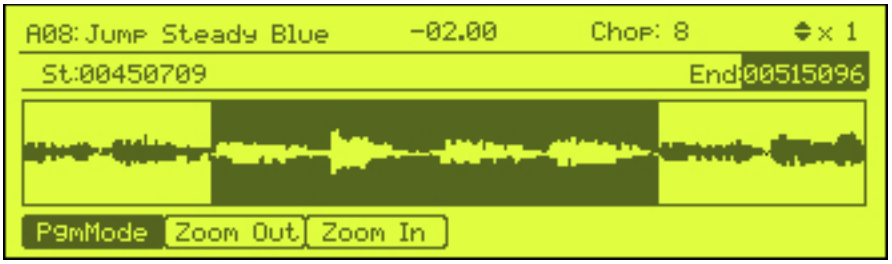
It should be fairly clear that the start of this region comes in a little too late, while the end is perhaps too short. That's easily fixed – first I suggest you perform a quick **speed edit** at the current magnification, just to quickly fix the obvious.

So adjust the start point to **00196233**. Now change the end point so the last note in the chop extends as long as possible, so keep playing the pad and adjusting the end point until the note at the end is as long as possible before the next note begins to play – initially try **00265740**.

> ***If it sounds good....***
>
> I know I keep mentioning the old adage 'if it sounds good, it is good', but this is never more true than when you are chopping music like this. Technically speaking, according to the visual waveform, you would appear to be encroaching quite far into the next note – however by using your ears, you can hear that the next not isn't actually audible yet, so it's giving you a little bit extra leeway to remove gaps.
>
> The fact that the MPC is not able to play this chop correctly just means working around what is probably a technical limitation of the MPC sample engine, but if it works, go for it! ☺

Press **PLAY START** to see if that's helped - yep, it sounds great. Now if we want, we can perform a more accurate 'sample accurate' edit now, but it's sounding fine and I really want to get on with writing the beat while the creative juices are flowing. So instead, I just want to quickly adjust any obvious problems with the other chops so we have something sounding pretty good everywhere in the beat.

You should hear that the chop on pad **A8** has a gap at the end, so we'll need to extend that chop as well. Select this chop in **PgmMode**:



This already seems fairly well set at the end point, but we'll try extending it a little more first – basically ignore the waveform and just use your ears to set the end point as far as possible before we hear the next note begin to play – try **00519192**.

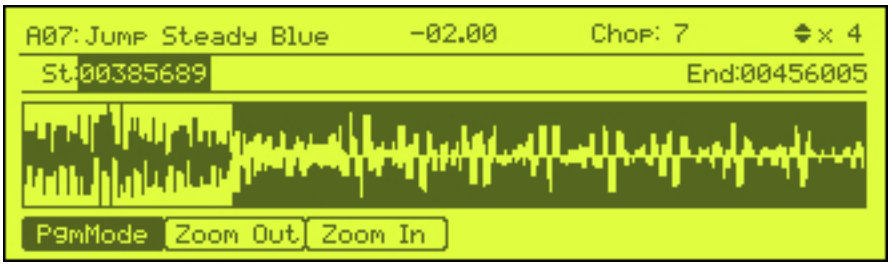
Hit PLAY START to hear how it sounds. Now hit **SOLO** on **track 2** so only the music is playing – this is the only way you can be 100% sure your chops are blending nicely with no gaps. It's still clear that the other chops need some work – chop **A3** is a little cut off at the beginning and ends with a gap, and chop **A9** ends with a gap, so at this point make sure you adjust those region's edit points in a similar style to what we've done with chops A4 and A8.

> ***Real-time Editing***
>
> One thing you can do here in PgmMode is have the sequence playing in the background so you can quickly hear how your edits are fixing the gaps in the sequence. So simply hit PLAY START and continue editing.

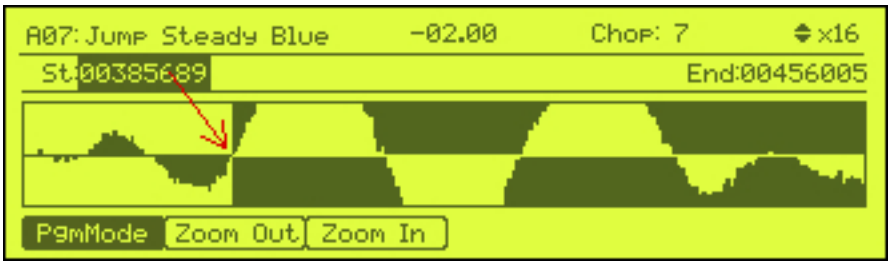
How Musical Chops Differ To Drum Chops

Now the problem with adjusting start points is that it affects the timing of that chop, so if we bring the start point of A3 back too far, it's going to make the chop come in later and possibly out of time with the beat, so you really have to be careful. The other thing to watch out for is clipping the beginning of the chop. When chopping music, you'll often find that note changes are not clearly defined in the waveform, it's difficult to see when one note ends and the other begins, so you really have to try a few positions out until something *sounds* good, then I would definitely suggest performing a sample accurate edit to ensure your start point is at a zero crossing point.

So for chop A3, I finally settled on **00385689** – as you can see at a mild magnification, it's very hard to see where one note ends and the other begins



So using my ears was the best way. If you zoom in, you can see I've ensured the final edit point is on a zero crossing:



Adjusting Release

You may find that you are not able to remove a gap from the end of a chop. If this is happening, remember that your chops already have a default **release** of **20** applied to them in **PROGRAM** > **AMP**. This fades out the end of your chop a little, so playing around with this setting can help your chop blend in with the next chop in the sequence. So for example, if the 'raw' chop is clearly playing a little bit of the next note, you can 'fade' that out a little more in PROGRAM > AMP by increasing the 'R' value a little.

Finally, let's revisit the tempo – to my ears, the beat was just very slightly too fast for the chops. You can of course adjust the tuning of the chops (by increasing the tuning very slightly) but that's going to affect the sound of the chops, so I preferred to drop the BPM just a little to **72.8**.

So at this point, I'm happy with the 'foundation' of my new beat. Take a listen to sequence 3 (**NDC_SEQ3**).

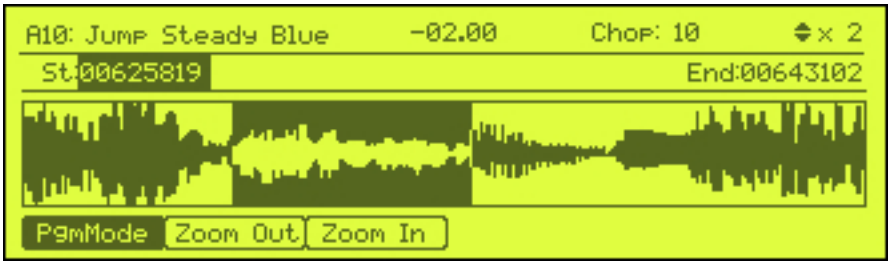
Adding Layers

A layer is simply when we play another chop on top of our 'foundation' chops. It helps give it more depth and let's us customise and personalise the beat further.

Go to **TRIM** and ensure **PgmMode** is selected. Press PLAY START to let your sequence loop and now simply start playing the existing chops over our beat so see if anything is sounding promising. As this program is POLY (polyphonic) we can do this without any problem (a monophonic program on the other hand presents a challenge when it comes to layers, but well see later how we can overcome this by various methods).

When you find a chop that might eventually sound great as a layer, start adjusting the start and end points to isolate the hook you're looking for. This could simply be a case of making the region smaller, or expanding the region to isolate a hook or riff that is currently split over multiple regions.

The pad that grabbed my attention was pad A10. This had elements of a nice piano roll, so with **A10** selected, I began to adjust the start and end points to discover and isolate the entire roll. This is at a **4x** horizontal zoom and a **2x** vertical zoom:



Here you can see I settled on a start point of **00625819** and an end point of **00643102**.

After playing with this new chop, I found it went really well just before the end of certain bars, in fact it fit well before the end of every bar except bar 2. So using a live overdub, I added an instance of pad **A10** at **01.04.48**, **03.04.48** and **04.04.48**.

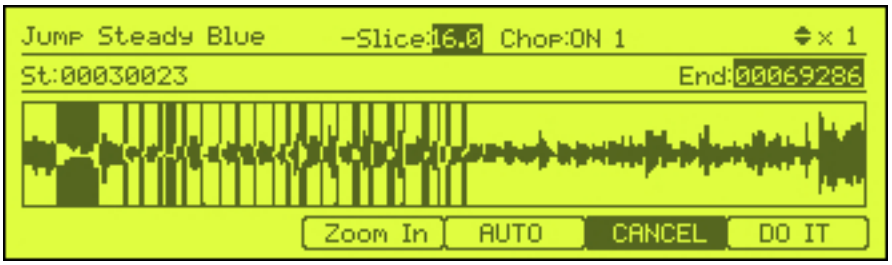
You can hear the final version in sequence **4** (**NDC_SEQ_4**). Now this is only supposed to be a starting point for a new beat, but hopefully this simple example shows you the fundamental principles in chopping a musical loop to make something new from it.

Using AUTO For Musical Chops

In the previous example we simply split our loop into essentially 'equal' regions and it's given us a simple introduction to non destructively chopping musical pieces. What I want to look at now is using the AUTO function on the same loop to see if it can take us in a different direction to what slicing did. We'll also take a closer look at ways to find interesting combinations of our NDC chops.

Load up the project file **AUTO.prj** from the chapter 5 '**NDC Auto'** sub folder. This will load up a bunch of files, but go to **TRIM** and locate the original '**Jump Steady Blue.wav**' file and turn **CHOP:ON**.

Hit **SLICE** (F5), **AUTO** (F4) and as we've done previously, leave the default '**50'** settings and hit DO IT.



Okay, so it looks pretty mad, and there's some weird stuff going on at the end, but hit **DO IT** to commit the AUTO slices and let's have a proper look and listen.

If you have a listen to the slices in bank A, it's clear that generally speaking, most of the original loop has been chopped into individual notes – a lot of it is not perfect at all, but you can definitely pull out many pads that contain single notes almost immediately, such as pads **9 to 16**.

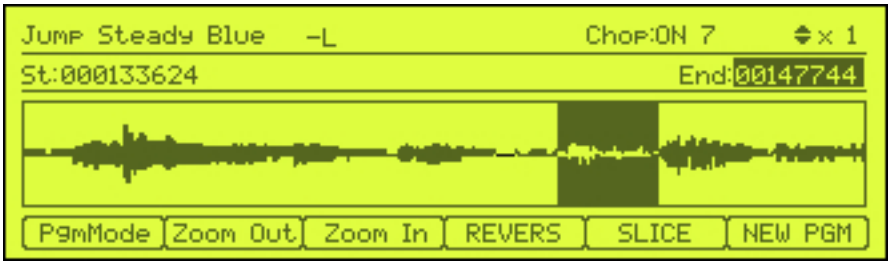
So you can see how you've got a pseudo 'multisample' program at your fingers, where rather than playing whole phrases like we did previously, we can hit individual notes and begin creating our own unique phrases. Obviously this is not in any way organised chromatically like a true multisample program, but I don't think that's important because the randomness will help you come up with something more unique, simply because it forces you to work outside of your normal constraints.

Plus you can be pretty confident that all the notes you play will 'work' together, as they are all in the same musical scale and key.

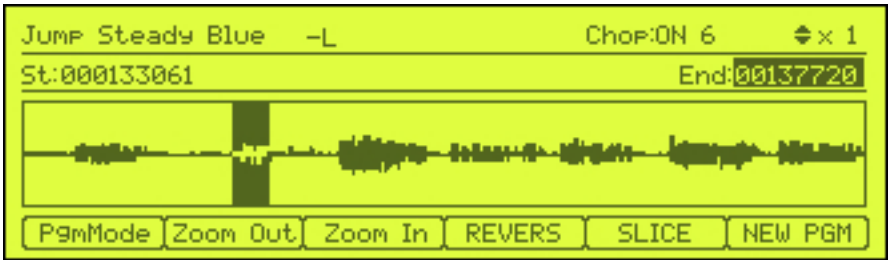
So what I suggest you do first is to perform a cursory tweak of some of the chops to make them sound a little better – we may use them, we may not!

A Bit of House Cleaning

For example pads 6 and 7 actually seem to be the same note both split over two pads. If we were in 'destructive' mode, we'd probably just 'COMBINE' region 6 with region 7 but as here's no COMBINE in NDC, so we can either extend region 6 or take the start point of region 7 back. I'll change pad **A7** first - just zoom in a little and quickly set the start point to **133624** and the end point to **147744**



I actually like pad 6 being that little ‘stab’ note, even though it’s really just a shorted version of pad 7 now, so I’ll keep that as it is with just a minor tweak of the start and end points.



And that’s the beauty of NDC, because here we’ve made two regions from the same note, with one region really just being a smaller edit of another region. You simply cannot do that with ‘destructive’ chopping, unless you first extract the slices, physically copy region 7 and re-edit it as a new sample.

Similarly with region **8**, this is simply the ‘tail’ of region 7, but it still sounds like a usable sound. As region 8 was seriously clipping at the beginning, I just zoomed in a bit more and changed the start point so it was at a zero crossing point, **00139480**.

But as we’ve already covered, sample accurate editing can usually wait – it’s often better to get on with creating the beat and go back later for the finer tweaks.

I also made tweaks to a number of other regions mainly to improve start points. So now it’s time to start experimenting with the chops…

Working With The Program

You can hit **NEW PGM** (F6) to create your new NDC program, but let’s use my version of the program, which is called **NDC_AUTO** – this also uses my own ‘auto’ NDC version of the Jump Stead Blues loop, called ‘**JSB_3’**.

To show just how different things can sound with this different chopping method, let’s even use the exact same drums and break sequence from earlier in this chapter, even at the same tempo!

This break can be found in sequence **1** (**NDC_AUTO**) of the currently loaded project. Now make sure my **NDC_AUTO** program is assigned to track **2**, and then go to **PROGRAM**.

Play a few pads and have a listen. You can probably hear, I've tuned down all the chops again using **SHIFT**, **ALL** (F6), but this time taking the **TUNE** value down to **-04.00** for all pads.

I've also set the program to play back monophonically, by setting '**Play:MONO'** in the top right of the screen. Now no pad can overlap any others, and this will keep my random chop playing nice and clean.

Collecting Ideas

As we did earlier in this chapter, the easiest way to start getting ideas for a beat is to simply get stuck in and start playing the pads in front of you. First try playing without any drums, and just look for cool sounding combinations of pads. Then try playing the drum sequence in the background and see if those pads fit well.

Just keep experimenting until you hit on something. This is a hard skill to teach, especially as much of it is down to pot luck, especially with chopped up music.

But the main thing I would concentrate on at this stage is avoiding too many pads running in their original order and try to create something that pulls from various different regions around the NDC program. You want to create something new and different to the original break!

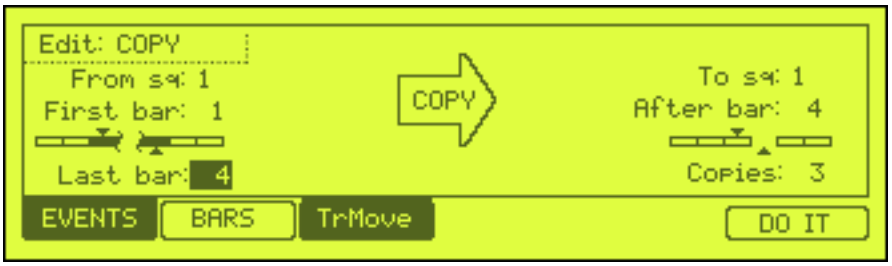
Now with sixteen of the chops in bank B, it's normally a bit of a pain to keep switching between banks, so invariably you'll find yourself concentrating on either bank A or bank B. In which case, don't be afraid to swap out some of the chops – very soon you'll realise that certain chops 'don't cut the mustard', so you could replace them with good ones from bank B. You can either just reassign the '**CHOP'** value to that pad, or perform a pad copy (highlight the **PAD** column for the pad you wish to copy, hold down **UNDO**, press the pad you wish to move it to).

Recording Experiments

A method I've often used since I got my first MPC many years ago, is to record my experiments directly into the sequencer – basically this way every little idea is there in my MPC and can be listened to again *and* easily copy/pasted or edited later on.

For example by extending your drum sequence to something longer, say 16 or even 64 bars, you can simply sit there noodling away and recording *everything* you play for those 64 bars. You can then listen back over it and pull out the best bits.

Let's just set up a sequence of 16 bars of drums so we can record some 'noodling'. To set this up, go to sequence **1** (**NDC_AUTO**) and then go to **SEQ EDIT** (MODE and pad 13). Hit **BARS** (F2) and set it up as follows:



Hit **DO IT** and your sequence will now contain 16 bars of drums to play over. Alternatively, select sequence **2** (**NDC_AUTO_2**) which is already set up for you.

Go to track **2,** make sure your **NDC_AUTO** program is assigned, and set the **TC** to **OFF** – this way all the nuances will be recorded pretty much as they were played. If you set this to a specific quantise resolution you'll probably regret this

> ***Applying Quantise After Recording***
>
> Remember you can always apply a quantise 'grid' after you've recorded with no quantise (TC:OFF) - i.e. hit **T.C**. (F1) in **MAIN**, change the '**Note Value'** to a qunatise setting, e.g. **1/16** and press **FIX** (F5), this will move all the notes to the nearest 1/16 quantise point.
>
> This way you can freely record your experiments and capture the original feel, but then if you prefer it to be more quantised, apply the TC fix later.

Make sure **FULL LEVEL** is turned on – you can always tweak individual levels later on in STEP EDIT if you need to, but generally speaking I'll still with FULL LEVEL when playing chops unless I haver something very specific in mind.

Now that you are ready hit **REC** and **PLAY START** and being experimenting!

You can hear my 16 bars of experimentation by selecting sequence **3** (**NOODLING**). Even in this relatively short sequence there's quite a few ideas floating around, and it was the idea at the end that really appealed to me, so I decided to specifically work on that.

So at this point, with your idea forming, you can continue recording your 'noodling', but this time based only around that specific idea. Or if you feel you've

already nailed it, you could copy and paste the section of the track you just recorded to another track in the same sequence, or to a track in a new sequence. These types of edits can be done in **SEQ EDIT** (MODE and pad 13), using the **EVENTS (F1) > COPY** screen (just plug your own relevant numbers in).

You can then tweak via **STEP EDIT,** or simply **OVERDUB** in real time.

However I often prefer to re-record the hook from scratch, it's often quicker than fiddling around copying and pasting!

Remember to retain the original track **2** data as you may be able to pull something else from it – and just **MUTE** it while you work on a different track.

Finally once you've started getting something down more 'permanent' remember you can still revisit the original chops in **TRIM > PgmMode** to tweak them further.

My edited version of this new 'hook' is found on sequence **4** (**NDC_AUTO_MAIN**), and this is simply a 4 bar loop which can be used as the foundation for building the song arrangement later.

A further idea I had for a 'chorus' style section for the beat is on sequence **5** (**NDC_AUTO_CHORUS**).

Finally sequence **6** (**NDC_FILTER**) was just a random experiment that worked quite well. I created a copy of the NDC_AUTO program called **NDC_AUTO_TF** (it uses the same JSB_3 NDC sample, just assigned to a different program). With this program, I tuned all the pads *massively* down further to **-21.00**. I then added a whole load of low pass filter to everything in **PROGRAM > FILTER**. The sequence itself is actually just the original **NDC_AUTO_MAIN**, but it sounds very different with a completely different vibe. This could be used for a different beat, or just a different 'tangent' to the existing beat (it could make a good outro).

Obviously these are fairly basic, two track beats, so need much more work, including other instruments, samples, layers, fx etc, but certainly as far as the chopping aspects go, that's basically the way I go about building beats from chops like this - chop it, 'noodle' away over some drums while recording, pull out the best bits, then further experiment and tweak region edits point if needed.

Once I have a bunch of sequences set up, I take advantage of the **NEXT SEQ** button (under the BANK C button) and start experimenting with the arrangement until I'm ready to build the final beat in SONG mode. I hope to cover JJOSXL sequencing and arrangement techniques in another book.

Now as a final look at non-destructive chopping, let's chop up and get creative with a two minute classical piece which is in an odd time signature!

Chopping from a complete song in a different time signature

Typically when sampling from complete songs on older MPCs, you will find yourself making decisions on which element of the song you wish to sample *while sampling*. The previous beat in this chapter was an example of this as I had already selected a specific portion of the song to work with.

Now memory usage is always a problem with most MPCs, although as long as you've upgraded your RAM you should have no problem loading a complete song into an MPC1000 or MPC2500. However, once a song is loaded into memory, the act of destructively chopping it meant you quickly used up significantly more memory, plus you had the hassle of dealing with loads of separate samples in memory.

NDC instantly solves this problem, because after loading up your long WAV sample any chops you create from it take up no additional memory at all as they are all self contained within the 'master' sample. And as we are already seeing, as everything is handled within a single sample, sample management is a lot easier.

Load up the project file '**NDC_SONG.prj'** from the **chapter 5** sub folder '**NDC Song**'. This will load up my **NDC_BREAK** drum kit program as well as a drum sequence I created from this kit (**NDC_BEAT**). Select sequence **1** (**NDC_BEAT**).

Memory Alert!

I have tried to keep this size of this project a small as possible, however as I need to have two versions of the main Faurepiece sample in memory (to help explain the edits made to the sampl in the tutorial) this project is approximately 24MB.

If you only have 16MB of memory in your MPC, you can load up a smaller version of this project in the sub folder '**NDC Song'** sub folder, '**Reduced'**. However this does not load up the original 'Faurepiece' sample, so just use this project as a follow-through guide to see/hear what the finished beats sound like.

This project also loads up the sample '**Faurepiece.WAV'**. Go to **TRIM** and preview this sample. This is an excerpt from a classical work 'Pièce for Oboe and Harp, by Gabriel Fauré,', performed by Kathleen Walsh, bassoon, and Amy Crane, piano. (Released under a Creative Commons share-alike licence).

It's a beautiful piece, consisting of bassoon and piano. Now while the drum track I've recorded is in 4/4 time, this sample is definitely not in 4/4, but as we'll see this doesn't matter at all as we'll be chopping this up and messing around with it until it fits into our beat very nicely!

In order to reduce the overall size of this project, I've used a slightly shortened mono version of this song (just over 2 minutes long, 11.5MB) but you can always download the full stereo version from the link above.

In TRIM, set **Chop:ON**. As is always the case with NDC, we have 32 equal regions already chopped for us. Preview all your chops on pads A1 to B16.

Click **NEW PGM** (F6) and **DO IT** to create your chop program. However, you can use my version which is already in memory (**FP_NDC**). Go to **PROGRAM** to view the new 'Faurepiece' NDC program for this sample. Have a play with the pads to see what has happened. Basically you've got a 2 minute song chopped into 32 equal regions, some sound nice, some sound odd, either way, roll your sleeves up and prepare for some creative editing.

Where to Start?

With a whole 2 minutes of chopping material, there's virtually infinite options with regards to pulling out regions to use in your beat. So where do you start?

Well often you may already have a specific section of the song you want to pull out, such as a small riff or melody line, so locating that would be the first task. Using the default 'equal' 32 chops will mean that one of these chops will be close by, so when you discover the nearest region, simply adjust the start and end points of this region to cover your desired section. Remember with NDC, this will not impact any other region, so you don't have to worry about overlapping or generally 'encroaching' on other regions.

You could of course split your song into more manageable chunks in the first instance, for example but doing a 'destructive chop' of certain sections and then performing a non destructive chop of each individual chunk. So then you'll be in a similar position as you were with the blues loop we used earlier in this chapter.

Beyond that, simply follow the approaches listed in the first example in this chapter – just go through each region manually, to discover something cool or try

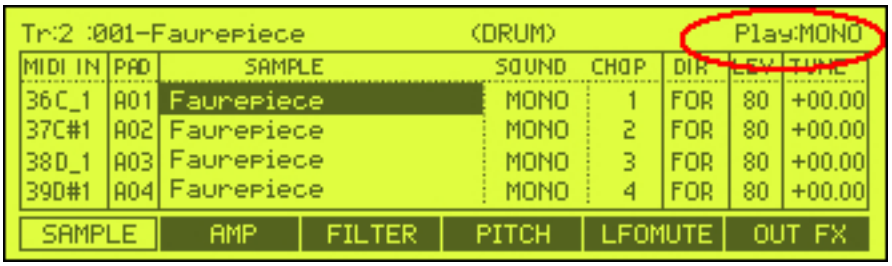
re-slicing for some inspiration – you can try multiple different re-slicing attempts each time using different whole number or fractions, and it's all in real time so it's easy to experiment with.

Dealing With Program 'Play'

As we've seen before, program 'play' mode sets whether pads play back polyphonically (pad sounds can overlap each other and play simultaneously) or monophonically (only one pad can play at a time). In the first example in this chapter, I set the program to POLY just for simplicity when it came to adding additional layers, but generally speaking when chopping entire songs like this 'monophonic' playback works best otherwise if you have all pad hits overlapping each other it will get messy very quickly – mono also allows for some rather interesting single pad playback options.

So in this example I want to see how we get on with the program set to monophonic playback and when it comes to layering sounds, we'll use some clever workarounds.

So first job is to set the entire program to '**Play:MONO**' in the top right of the PROGRAM screen. Now when you play each pad, it only plays until you hit another pad (or the same pad in succession).



Get Your Drums Ready

Select sequence **1** (**NDC_BEAT**). Press PLAY START to hear a 4 bar break I wrote on **track 1** (**DRUMS**). We're going to play this in the background while we work on the chops. I have already set this to **74.0 BPM**.

Adjusting Beat Tempo

While you play, you'll soon start to get a feel for the correct tempo to set your drums to, so simply adjust the tempo of sequence 1 accordingly. If your sampled song was originally 90BPM, you'd probably want to set your drums to the same tempo. Alternatively, you can adjust the tempo of your song, but

either time stretching the original sample, or by tuning your entire chop program up or down.

However the sample we are using here isn't in 4/4 so the tempo of this piece is pretty much irrelevant when we're trying to use its chops on top of a 4/4 break, so we're just going to wing it and see what happens while we play.

Go to **track 2** (already named '**CHOPS'**) and make sure the **FP_NDC** program is assigned. Press PLAY START to begin playback of your drums.

Go to **TRIM** > **PgmMode**. Here we can directly edit the actual region assigned to each specific pad. So when we hear something that works, we can tweak the start/end points in real time without breaking up the workflow.

Begin Building

So at this point, start working your way through the existing regions until you find something you like. There's probably no need to zoom in, just roughly tweak start and end points and continue moving through the next regions until you find something else you like, and so on. By the end of this process you should have many different sweet regions to work with. Try to work quickly so that your creativity takes over and remember, you can always come back later to rework or fine tune regions or rediscover new regions.

Try to pull out short phrases as well as individual notes. And as we asaw in the last example, remember you can have an entire phrase on one region nd then use another region (or two regions) to hold that same phrase chopped down into smaller single notes.

For me, It immediately became clear that the beginning of pad **A7** had the making of a 'sweet' chop, in particular the first two notes of that region. Equally pad **A11** seemed to contain elements of another sweet chop, but both needed some work in regard to the start and end point to ensure I was pulling out the best bits.

To hear my initial idea, select sequence **2** '**NDC_IDEA'** - just be aware that at this point we're using my own 'NDC' version of the original Faurepiece sample (**FP_NDC**) and my own custom program for it (**FP_NDC**) - this way you can continue to work on the untouched 'Faurepiece' sample separately while comparing what I've done.

Press **PLAY START** to have a listen to sequence **2**. This is the basic framework, consisting of a melody played between pad **A7** and pad **A11**.

On pad **A7** I simply fixed the start point to begin exactly at the start of the first note (**01077388**). And in **PROGRAM > AMP**, I smoothed the beginning a little by setting an **attack** of **19**.

On pad **A11**, I also trimmed the start point so the pad begins playing exactly at the beginning of the first note in that phrase (**01797468**) and again, shaved off some attack to enhance the smooth bassoon feel.

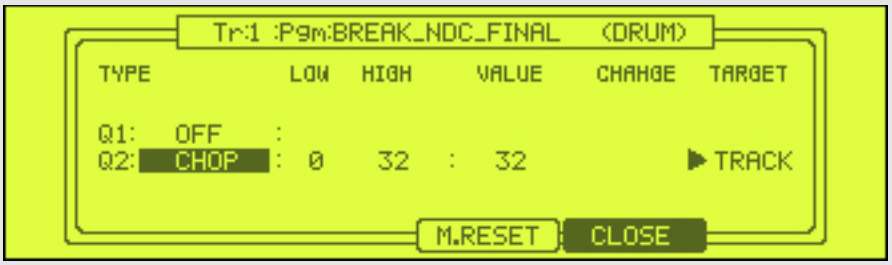
You'll spot that I haven't paid any attention to the end of these chops, I've let them extend much further than I actually intend using them. I can do this because we are using a monophonic program and as you can probably hear from sequence **2**, the chops are being 'silenced' by other pads in time with the music, so these excessive ends are never heard. This is a one of the big advantages of MONO programs.

Finally at the end of bar 4 and 8, I once again took advantage of the monophonic playback by hitting pad A7 three times in succession so only the first note of that chop plays each time.

It's worth pointing out that this is very much a 'choppy' style, we're not necessarily trying to make people believe this is a natural bassoon/piano performance, especially by the use of repeating pads – this definitely has the feel of a monophonic program (i.e. nothing overlapping). That's not to say that we couldn't spend more time perfecting each chop so it was more natural – but you'd probably need to extract those chops as new standalone sample and perform further editing on them.

Assigning Chops to the Q Links

An interesting way to stumble upon interesting chop combinations can be found in the **SLIDER** page (MODE and pad 1):



Select any Q Link, and select **TYPE: CHOP** and **Target:TRACK** . Now when you move the Q Link it overrides the CHOP value of the pad currently being

play on the current track.

This could be used 'manually' by continually hitting the same pad while you adjust the Q Link, or you could pre-record a sequence on that track, press PLAY START and move the Q Link while the sequence is playing (you can of course overdub the Q Link movements).

It's a bit random, but you never know what could happen!

Don't forget what I mentioned in the previous tutorial – try to record all your 'noodlings' onto sequencer tracks, even multiple tracks from which you can pull out all the best bits using SEQ EDIT.

Adding More Depth

I discussed the concept of layers earlier in this chapter - these are the additional sounds and harmonies we can add to the framework to make it more interesting. Have a listen to sequence 3 (**NDC_LAYERS**) and initially you should hear an additional harmony enter near the end of the 4th bar.

To locate this chop head over to **bank B** and listen to **B12** (chop **28**). Again, this isn't too dissimilar to the default chop there, just a tweak of the start point. What I did add was some low pass filter (**PROGRAM > FILTER**), shaved off some attack, and in the **OUT** screen (F5), panned it fairly hard left.

The most interesting point here is looking at how we've managed to overlay sounds from the same chop program, when the program itself is supposed to be monophonic! Let's take a closer look to see how that was done…

Utilizing Selective POLY in a MONO Program

Unfortunately when an entire program is set to play 'MONO' it's not possible to set individual pads to play back polyphonically – the program MONO setting overrides the 'VOICE' setting in the AMP screen (which is already set to POLY anyway). However there are two types of workaround we can employ, so you can use any of these to achieve localised polyphonic playback, with each one suited to a different workflow.

Workaround 1: Using Multiple Tracks

One workaround is to place your 'layers' on separate tracks, as MONO program playback only applies for notes assigned to the *same track*. Take a look at the current sequence **3** (**NDC_LAYERS**). Go to **MAIN** and select track **3** and you'll see that I've named this **LAYERS** and have assigned the same **FP_NDC**

program to this track as is assigned to track 2. Go to **STEP EDIT** (MODE and pad 14) and you'll see I've added **B12** events to this track at **04.01.46** and **08.01.46**.

As you can hear when the entire beat is playing, by putting these events on a separate track, we don't get monophonic playback across the tracks, so any note played on track 3 will not cut off any note playing on track 2.

This method is perfect when you are experimenting with different sounds to hear how they 'work' with your existing beat, because it's quick to set up and instantly let's you overlap sounds without disrupting the main program.

Just remember that any events on track 3 will still mute *each other* (which may be the desired effect).

Of course, you could instead make a copy of the **FP_NDC** program and assign this to track 3 – in which case this copied program could be switched to POLY or changed any way you wish without affecting the primary FP_NDC program – just remember any changes to the actual sample itself will be reflected in both the original and copied program, so try to stick to changing actual program parameters.

Workaround 2: POLY with MUTE GROUPS

This method creates a monophonic program using an entirely different method. Go to sequence **4** (**NDC_LAYERS_MUTE**) and press PLAY START. This sounds identical to sequence 3 – however, you'll notice track **3** (**LAYERS**) is 'OFF' – all layering information is on track 2, along with the main 'theme'.

This time, instead of setting '**Play:MONO'** in the top right of the PROGRAM screen, I set it to **Play:POLY**. Then in the **MUTE** screen (F5 twice), I navigated to the **GROUP** column, held down **SHIFT** and select **ALL** (F6) and set all the pads to be in the same mute group (e.g. **mute group 1**).

Try hitting your pads and you'll hear that the program is still fully monophonic. However if you wish any particular pad to be fully polyphonic, simply set its particular **MUTE GROUP** to any number other than 1 (or **OFF**).

In **MUTE** (F5) you'll see that most pads are assigned to mute group **1**. The only exception is **B12** (the main overlay) as I want this to act in a polyphonic fashion, so with it set to mute group **2** it will now no longer be muted by any other pad unless that pad is also assigned to mute group **2**.

Now if you play this pad it will play over any other pads without cutting them off – i.e. it will act polyphonically.

If you wish consecutive hits of your POLY pad to act monophonically only with itself, go **AMP** (F2) and set its **VOICE** to **MONO**. Now if you play just this pad continually it will never overlap itself, but it will still overlap other pads.

Finally if you want your new **POLY** pad to cut out certain other pads, simply go back to the **MUTE** screen and set up **Mute Targets** for any pad it needs to act monophonically with. For example if A1 is now POLY and you want it to cut off A5 only, set TARGT1 on A1 to be A5. Alternatively, set A5 to be on the same mute group at A1 – e.g. set them both to mute group 2.

This method is perfect for live performances as it allows you to have only a single program on a single track to deal with.

(Note that I have only 'copied' the original FP_NDC program so I could have both in memory for the sake of this tutorial – normally, there would be no need to have two programs for this particular method).

Creating the Bridge

In the previous tutorial, I made a main 'verse', 'chorus' and even a possible 'outro'. Another element of a song or a piece of music is the 'bridge' – this is the part of a song that often changes the usual chord progression, quite often giving a different vibe, and is used to add a bit of a break from the normal 'verse-chorus' structure.

While I was playing with the chops, I stumbled across something that immediately felt like 'a bridge', and I've put that down in sequence **5** (**NDC_BRIDGE**). This is nothing but the original chop on pad A1 – so what did I do here? Well first I changed the chop direction from '**FOR'** to '**REV'** - it just worked really well! I then added some low pass filter in the **PROGRAM** > **FILTER** screen.

For this particular sequence, I also spiced up the drums with some extra snare fills.

Other Considerations

Once you've isolated some choice regions to work with, you'll probably find those regions are scattered around banks A ands B of your pads. You could use the pad copying feature to move all these pads to a single bank, preferably in some kind of logical order. Remember all you have to do is highlight the '**PAD'** column in PROGRAM, press the pad you want to copy, hold down **UNDO**, select the

target bank and while holding down UNDO, press the target pad to perform the copy.

Remember you have many program parameters, filters, LFO and effects at your disposal to further mangle and customise your chops – you'll see that I've added some reverb and delay to some of the pads

Also don't forget that (as we saw in chapter 4) any region in your NDC chop can be edited using a limited number of **TRIM** > **EDIT** functions by holding down **SHIFT** in the **TRIM** screen – **EXTRACT**, **NORMLZ** and **REVERS**.

And if there's any particular chop you want to perform more complex sample editing work on, **EXTRACT** it, edit it, and then you can bring it back into your **FP_NDC** program as a standalone sample.

Arranging The Beat

Go to sequence 6, **NDC_SONG** for a more structured 'beta' version of the beat which includes intro, verse, bridge and at the end of the sequence I have added pad **A10**, which was trimmed, filtered and a delay effect added to get that echo at the end of the beat. From here you could further develop each sequence, adding more sounds, changes, fills and fx so that eventually you have a more complete, 3-4 minute song.

As I mentioned in the previous tutorial, there are many was to build your beat/song, but I tend to work on separate unique sequences after which I experiment with the arrangement using the **NEXT SEQ** screen, before piecing it all together in **SONG** mode.

So there we have three different approaches to chopping songs or musical loops using non-destructive chopping. Remember these are just examples for how the process can be approached, and no doubt you'll now have your own ideas and preferences on how to go about matters. Whatever process you take, just do whatever seems right and *sounds* right – and remember to have fun!

006 – Final Word

Well, that's JJOSXL Chopping! I hope this book has helped you fully understand not only the technical aspects of chopping sounds in JJOSXL, but also to appreciate just how powerful and integral the chopping process is to creative beat making in any MPC running this advanced operating system.

All feedback is welcome, and I'd love to know about any other books you'd like me to cover – just fire off an email to support@mpc-samples.com.

And don't forget about MPC-Forums.com, an entire community set up in 2002 solely for MPC owners with a busy sub-forum completely dedicated to JJOS users. If you have any technical questions, bug reports, feature suggestions, or just want to hang out with tens of thousands of fellow MPC heads, jump in and create your free account now. The JJOS forum is here:

http://www.mpc-forums.com/viewforum.php?f=25

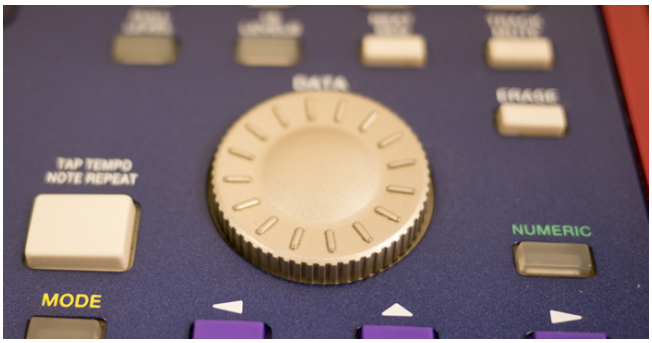
And if you're feeling confident, don't forget to show us your chopping skills over at the MPC-forums Battle forum!

http://www.mpc-forums.com/viewforum.php?f=40

Appendix A - Terms & Concepts Used in this Book

Throughout the book, I will refer to the various buttons and dials on the MPC and it's important that you know exactly what I am referring to. Here's a rundown of the essentials:

Data Wheel



Also known as the 'jog wheel' or 'scroll wheel', the data wheel lets you rapidly change values in most screens of your MPC, from scrolling through lists of names, to setting edit points in samples. I will typically tell you to scroll your data wheel to the left or right, or clockwise/anti-clockwise

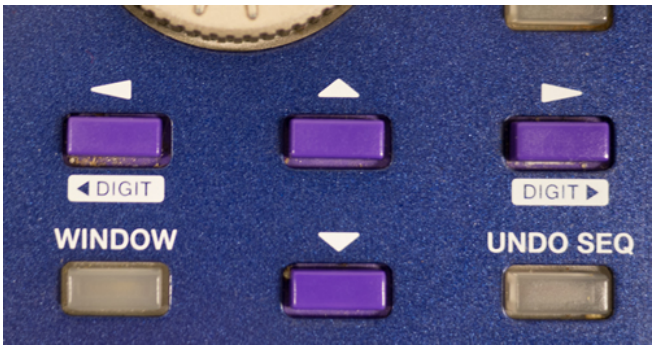
UNDO

The **UNDO** button is actually called the UNDO SEQ button the MPC1000 – I simply refer to this button universally as the UNDO button.

Numeric Keys

This is either the dedicated number pad on the MPC2500, or the combination of pressing the NUMERIC button on the MPC1000 followed by pressing the relevant rubber pads which all have a number in the top right corner.

Cursor Keys



Also known as ‘arrow keys’, another set of essential navigational tools used in most screens. Often used to navigate to different areas of the currently selected screen. I’ll refer to these specifically as ‘up cursor’, ‘down cursor’, ‘left cursor’, ‘right cursor’.

Highlight/Select/Navigate

I sue ‘highlight’ or ‘select’ to refer to the act of using the cursor keys to navigate to a specific parameter on the MPC screen.

MODE key

Each rubber pad is used to access the main sections of the OS. To do this, you must first press the MODE key. So, to access TRIM, you must press (MODE and pad 6).

Screens

Rather than referring to the actual MPC LCD screen, when I talk about ‘screens’ I’m referring to the various different pages/sections in the MPC that you access via the MODE key and a pad, dedicated buttons, or the Function (F) keys.

Function Keys

Most ‘sections’ or ‘screens’ in the MPC OS have multiple sub pages containing additional features and functions. To access these (and to perform a number of other tasks), we use the appropriate white function keys, or ‘F’ keys, immediately below your screen.

SHIFT Key

Used for many navigation and functional tasks. Referred to as SHIFT.

Q Links

The two sliders (and in the case of the MPC2500, two further dials) which can be used to modify a number of different parameters in real time when recording or playing back a sequence. For example, you could use the Q Link to gradually increase the tuning of a sample, making it sounds increasingly higher pitched. Q Links can also be used to assist with editing of samples.

Transport Keys

The ‘transport keys’ are the buttons which control the playback of your sequencer, for example PLAY, PLAY START, REC and OVERDUB. In addition to these, you also have the BAR and STEP keys, which allow you to navigate through the time line in your sequence. On the MPC1000, the STEP keys are accessed by holding down SHIFT and pressing the relevant BAR key.

Loading/Saving Assumptions

While both the MPC2500 and MPC1000 can both have internal hard drives installed, for simplicity I’m simply going to use the CF card (MEMORY CARD) option in all my examples of loading/saving files. If you prefer to use the hard drive, simply substitute ‘HARD DISK’ in any reference to MEMORY CARD.

Appendix B – JJOSXL Install & Set Up Guide

If you've not yet installed JJOSXL in your MPC, here's the definitive set up guide, in plain English!

What Your Need To Know

The 'XL' OS for the MPC1000 is called OS 2XL, while the version for the MPC2500 is called OS-XL. I refer to both versions as OS XL. They are effectively identical, except the MPC2500 version has to account for the extra Q Links (and some other very minor differences)

1. Download JJOS (Free Version)

To install JJOSXL, you first need to install the free JJOS. So first, get yourself over to the official JJO S web site for your model of MPC and download the latest version of the free JJOS from the table at the top of your screen.

MPC1000:

http://www7a.biglobe.ne.jp/~mpc1000/

'Free' version at the time of writing was 3.15 (**mpc1000_jv315.bin**).

Name	Version	File name	Size	Available	Upload day
Free	3.15	mpc1000_jv315.bin	729KB	Download	Aug 13, 2012
Please install OS2XL from the load screen of free JJ OS Ver3.15.					
OS2XL	3.26	mpc1000_xl326.os2	1348KB	Download	Jan 05, 2013

While you are here, you should also download the OS2XL trial (at the time of writing, **mpc1000_xl326.os2**).

MPC2500:

http://www7a.biglobe.ne.jp/~mpc1000/mpc2500/

'Free' version for the MPC2500 at the time of writing was 3.10 (**mpc2500_jv310.bin**).

Name	Version	File name	Size	Available	Upload day
Free	3.10	mpc2500_jv310.bin	867KB	Download	May 20, 2010
Please install JJ OS-XL from the load screen of free JJ OS Ver3.10.					
OS-XL	3.26	mpc2500_xl326.osx	1461KB	Download	Jan 05, 2013

While you are here, you should also download the OS-XL trial (**mpc2500_xl326.osx**).

2. Transfer the OS files to your MPC CF card

Pop your normal MPC CF card in your MPC memory card slot, make sure it is pushed in all the way. Connect your MPC USB port to your computer's USB port using a standard USB cable.

In your MPC, go to **LOAD** (MODE & pad 2), and press **USB** (F3). Your MPC CF card should now appear as a removable drive in your computer.

Drag and drop the free OS file and the JJOSXL OS file to your CF card (remember, only transfer the ones specifically for your MPC model). Windows users should now click the 'Safely Remove Hardware' icon in their taskbar, while Mac users should 'Eject' the MPC disk (e.g. via the left hand 'Device' bar in Finder). Disconnect the USB cable from the back of the MPC.

3. Load the Free JJOS File

Press **LOAD** (F1), use the data wheel to select the free JJOS 'bin' file (not the os2 or osx file) and hit DO IT. The flash memory will be erased and the new OS is loaded onto it. **When prompted** by the on screen message, turn off your MPC – do NOT turn off your MPC before this point as you may 'brick' your MPC.

4. Re-Initialize Your MPC

Turn off your MPC, hold down the ERASE key and turn your MPC on. Keep holding the ERASE key until you see the first boot up message. This is a one time necessity which ensures there are no corrupt settings as a result of the OS change. Only do an 'ERASE' boot up after switching OS.

At this point you can install JJOS 'XL'.

5. Install JJOS 'XL'

Go to the LOAD screen and this time select the JJOSXL file for your MPC model. Hit DO IT and as before with the free OS, when promoted switch your unit off and on again – but remember, do not turn off until you see the on screen prompt to do so!!

6. Re-Initialize Your MPC

Again, turn off your MPC, hold down the ERASE key and turn your MPC on to reinitialize the OS. Before you can use JJOS correctly, it is advisable to perform the following 'tweaks'.

7. Adjust your Contrast

If the screen contrast seems too dim or too dark, adjust the contract by holding down STOP and turning the data wheel until you reach the desired setting.

8. Fix the data wheel (MPC1000)

If you notice that your data wheel turns are not registering every 'click' correctly, go to OTHER (MODE and pad 10) and using your arrow cursors, change your '**Data Wheel Type'** to either 1 or 2 (it will vary depending on which hardware version MPC you run). So if you are already data wheel type 1, you'll need to be type 2, etc.

8. Change the pad sensitivity

While you are still in the OTHER screen, press PAD (F4) and you'll see the pad sensitivity settings. I would suggest you leave these alone unless you are specifically having problems with the pad sensitivity of JJOSXL. I've never really had any problems myself, the default settings work well for me most of the time.

9. Activating JJOS XL

The free trial of JJOSXL does not allow you to save your work. To activate the full version of OS XL, go to the **SAVE** screen (MODE and pad 3) and make a note of your MPC's unique on-screen serial number. Now go to the JJOS web site, purchase the OS XL operating system and enter your MPC code when requested. You will receive your activation code via email, normally within 24 hours. Go back to the **SAVE** screen and enter this code, and JJOS XL will be fully and permanently activated in your MPC, even if you temporarily change OS.

10. Switching OS

Once OS XL is loaded into your MPC, you are able to easily switch between the free OS and XL simply by holding down the TAP TEMPO button while booting up.

11. Going Back to Akai OS

If you are insane and wish to go back to the Akai OS, simply download the relevant OS file from the Akai web site and load it up via the LOAD screen like you do with the JJOS operating system files.

You can go back to JJOS at any time, and your OSXL password is always remembered, so don't worry about it being erased.

12. Using Other JJOS Versions

You can also load full versions of JJOS1 or JJOS2 into your MPC, as the OS XL password activates these also. Again, you can switch between the last two JJ operating systems you loaded into memory by holding down TAP TEMPO during boot up. So for example, if you install OS XL, then OS2 then OS1, you will be able to switch between OS2 and OS1 at boot time until you reinstall OS XL.

Appendix C – JJOS Shortcuts

Please note that this is not a definitive list of all JJOSXL shortcuts, as new ones are discovered all the time. This list mainly consists of all the shortcuts used in this book, but I also added a few others for good measure!

General

Jump to Top – to jump to top row in any screen, hold down SHIFT and 'up cursor'.

Faster data wheeling - Hold down SHIFT or TAP TEMPO (NOT REPEAT) while data wheeling to increase the unit value for each 'click' tenfold.

Screen shortcut 1 – If you find yourself regularly going to a particular screen (e.g. TRIM), you can assign that screen to the MAIN key, so hitting the MAIN key twice will send you direct to that screen. For example to set TRIM as the favourite, hold down the MAIN key and hit pad 6. Now the MAIN key will alternate between MAIN and TRIM. Also shows that 'MAIN & pad' can be used instead of MODE & pad.

Screen Shortcut 2 – MODE & pad 10, F5 – set to MODE CHANGE. This gives you a second shortcut key that allows you to alternate between two of your favourite screens. To set, hold down the NUMERIC key, press the pad relating to the screen you want to 'favourite'. Release NUMERIC and hold down again and hit the pad relating to the second favourite screen. Now you can alternate between the two by pressing NUMERIC.

Change Full Level Setting – To change the velocity that FULL LEVEL will produce when you hit a pad, hold down FULL LEVEL and use the data wheel to select a new velocity. So set it to 60, and each time you hit a pad when FULL LEVEL is turned on, a note with a velocity of 60 will register, instead of 127.

Take screenshots – MODE and pad 9, F6, set to ON. Now if you press UNDO, JJOS will create an image of the current screen and save it automatically to the root of the current disk. UNDO will therefore no longer 'undo' anything until you switch screenshots off.

Programs

Sample scrolling – In the PROGRAM > SAMPLE screen, with the SAMPLE column highlighted, the Q1 slider will scroll through the samples just like the data wheel does.

Copy pad parameters - using the cursor, highlight *any* parameter on any pad, hold down UNDO SEQ and hit a different pad – the parameter is copied. If you keep UNDO held down, you can also change banks.

Copy an entire pad – as above, but highlight the pad number in the 'pad' column and the entire pad and all parameters is copied over

Sequences (MAIN & GRID)

Universal track selection - In most screens where track numbers involved, hold down MODE and scroll the data wheel to select new track – there's no need to have the track parameter highlighted.

Quick Track Selection – Hold down AFTER (for Q2) and hit a pad to select the track with the same number as that pad (e.g. pad 6 will select track 6).

Universal sequence selection - Hold next sequence and scroll data wheel to scroll through sequences without having to highlight the top row sequence name.

Go to end of sequence - SHIFT and PLAY

Go to start of sequence - SHIFT & PLAY START

Quick TC set – Hold down NOTE REPEAT to set TC value using the F keys. To turn TC 'OFF', repeat by 'deselecting' the currently selected TC.

Turn TC: OFF – NOTE REPEAT, press the highlighted TC.

Move in single 'ticks' in GRID EDIT – Hold down shift and scroll the data wheel to move current time in single ticks rather than in TC value.

Jump to end of sequence GRID EDIT – SHIFT and BAR

Change F1 in MAIN – Hold down SHIFT and hit F4 (F1MODE) to change F1 assignment from TC to LOOP

Change MAIN view – hold down SHIFT and F3 (VIEW) to change the entire MAIN page view, depending on your preference.

Sample Editing (TRIM & CHOP)

Change waveform height – Use the up and down arrow cursors to adjust the waveform height magnification

Horizontal Zoom in/out – Zoom in/out using either the left/right BAR keys, SHIFT and left/right arrow cursors, or F3/F2

Q sliders for trimming – hold down Q1 AFTER and move the slider to change the start point. Do the same with Q2 for the end point.

Sample Edit shortcuts – Hold down SHIFT to directly access sample edit screens such as 'Normalize' and 'Extract' (hence no need to hit EDIT and scroll). Different edit options available in TRIM and CHOP.

Note On Preview – Pads 1 to 4 give a 'note on' preview, where you control the duration of the preview by holding down the pad.

One Shot Preview – Pads 5 to 8 give a one shot preview, so the region will play back from start to end without having to continue holding down the pad.

Specialist Pad Previews – in standard CHOP (F5) only, assuming region 5 selected:

- **pad 9** plays the end of region 4 up to the start point, of region 5 (good for checking to see if region 4 has clicks at the end)
- **pad 10** is a full region 5 preview
- **pad 11** plays the end portion of region 5
- **pad 12** plays from the start of region 6 (to check region 6 start still sounds okay)

File Management (LOAD)

Load samples directly into memory – in the LOAD screen, hit WINDOW and set 'Sample assign to pad Window: OFF'

Appendix D – 5 Minute 'Essentials' Lowdown

While this book is very much about the 'sampling' aspects of JJOSXL (especially chopping) there are times when you'll need to understand the absolute basics of other certain screens or functionality. I assumed many people reading this book will already have at least a general understanding of MPC workflow, be it from the Akai OS or from the free JJOS, however I also appreciate some of you may be leaping into JJOSXL with no previous knowledge of MPCs whatsoever.

If that's the case, I hope the following will be of some help. However, these are just quick reference guides and do not cover any screens not specifically required for this book – for more detailed explanations of MPC concepts you might want to consult my original 'Beat Making on the MPC…' series of books for the MPC1000 and MPC2500 – these were written specifically for Akai OS and free JJOS so screenshots and button actions may differ, but all the concepts hold true whichever MPC you use.

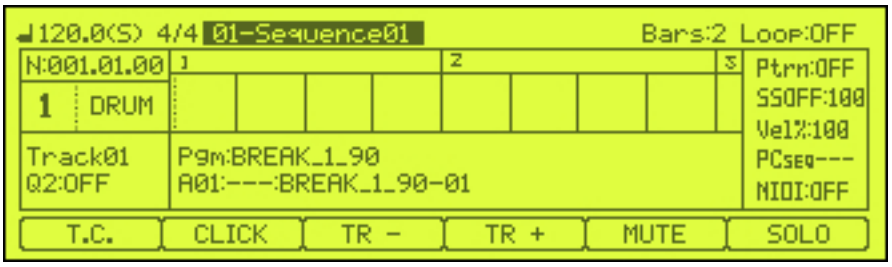
http://www.mpc-samples.com/section.php/8/0/akai-mpc-tutorials/

Sequencing

Sequencing is the act of recording or programming 'events' into the MPC sequencer, which when played back, will reproduce your original performance. These events can be used to trigger samples (which are assigned to pads in a program), or MIDI events (used to control external MIDI instruments).

A sequence in an MPC has a tempo, a length (in bars) and consists of a number of tracks. Each track can be set to play back sounds from a program, or a MIDI instrument, or even more specialist types.

The traditional MPC sequencing screen is **MAIN** – press the **MAIN** once to enter the main screen:



Let's run through some of the most commonly used parameters on screen:

- **120.0** – the tempo of your sequence in beats per minute (BPM).
- **4/4** – the time signature of your sequence
- **01-Sequence01** – The sequence number (01) and name (Sequence01). Highlight and data wheel to select a different sequence
- **Bars:2** – The length of the sequence in bars
- **Loop**:**OFF** – whether the sequence is set to stop at the end of the set number of bars (OFF) or to continuously loop between two specific points (1-END, or 1-1, etc).
- **N:001.01.00** – the position you are currently placed in the sequence, measured in 'Bars:Beats:Ticks'
- **1 –** number of the currently selected track
- **DRUM –** the track 'type'. DRUM is a standard sample track, MIDI is designed for MIDI instrument control, plus other types available including 'AUDIO', ARP and CHORD.
- **Track01 –** the track name
- **Pgm:BREAK_1_90 –** the name of the program currently assigned to this track (this is the program events will trigger)
- **MIDI:OFF** – sets optional MIDI output for this track to trigger external MIDI instruments (e.g. 1A means MIDI event data sent over MIDI channel 1 out of port A).
- **TC (F1)** – sets the quantize (Note value), which places events within a rigid set of available 'points' to ensure rock solid beats – events you play are automatically moved to the nearest quantize point during recording. Set to OFF for a more natural feel to your performance.
- **CLICK (F2)** – controls metronome playback and count in (default values work well)
- **TR-/TR+** (F3,F4) - change active track
- **MUTE (F5)** – mutes the entire track
- **SOLO (F6)** – solo's the track (mutes all others)

There are other functions, and much more available to play with, but that's beyond the scope of this quick lowdown!

So here's the simplest way to 'real time' record a 4/4 sequence for the default DRUM type track:

1. **Set a tempo** – either highlight the tempo field and data wheel to the desired tempo, or tap the 'tap tempo' button
2. **Set the number of bars and loop type** – you can record a specific number of bars, or leave LOOP:OFF and the sequence will continue recording for as long as you let it play.

3. **Assign a sample program to the track** - this can be any program in memory – just highlight the current program assignment and data wheel to the program you want.
4. **Set a TC** – hit **F1** (**TC**) and set Note Value to **1/16** and hit **CLOSE** (F4). 1/6 is a good quantise to work with until you are more confident with playing without any quantise.
5. **Record your performance** - Press and hold REC and press PLAY START. After the four beat count in, begin recording. When you finish hit STOP. Or if your beat is looping, you can overdub additional events after the first loop.
6. **Don't like it?** Wipe over it with a new performance (REC and PLAY START), or press UNDO to wipe it.
7. **It's okay but needs more work?** Press OVERDUB and PLAY START to add additional events, or go to STEP EDIT (MODE and pad 14) to manually change certain events.
8. **Record more tracks -** Once happy, select the next track and repeat the process using other programs or MIDI if required.

If you prefer to program your beats, the main way to do this has always been the **STEP EDIT** screen (MODE and pad 14).

Here your events are represented numerically. On the top row:

- **002.01.00** – the current sequencer time
- **Tr01** – the current track being edited
- **View**:**ALL EVENTS** – controls which type of events can be seen (for example, you can choose to only see TRACK MUTE data)

On the middle part of the screen (this can look different on different track types – this is for a DRUM track)

- **001.03.48** – the time of the entered event
- **PAD:A06 (41)** – the pad entered and its assigned MIDI note
- **OFF** – allows you to manually set Q link control data (TUNE, filters etc)
- **D: 9** – the duration of the note (entered in sequencer ticks)
- **V:127** – the velocity of the entered note (i.e. how hard it must be played)

You can enter each event manually by navigating to the desired sequence time (top left), pressing the **OVERDUB** transport key, and playing the desired pad. You can then manually change any of the entered values by highlighting that value with the cursor keys and turning the data wheel to change the value – press **PLAY** (F6) to hear just the resulting event.

Alternatively, you are free to record in real time with the STEP EDIT screen active (REC and PLAY START etc, just as you do in MAIN).

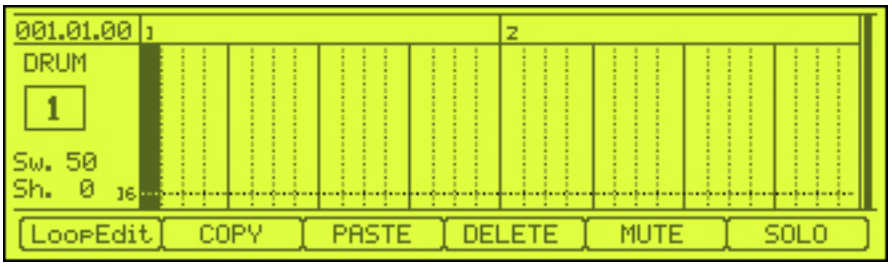
For non 'pad events' such as track mutes and program changes etc, you use the **INSERT** (F5) option and select the event type you wish to enter, and then manually tweak the resulting event to taste.

As with MAIN, you can set your quantize and swing via **TC** (F1). You can copy, paste and move events by holding **EDIT** (F3) to bring up the editing sub menu.

When entering events manually, with a set quantize, you can utilise the '**Step Edit Options**' menu by pressing **WINDOW**:

With '**Auto step increment'** set to '**YES'**, each time you enter an event, the sequencer will automatically move onto the next quantize point, saving you the trouble of manually moving along using the STEP buttons. 'Duration of recorded notes' can be used to automatically set the duration of each event you enter, as a percentage of the TC value – just change it from 'AS PLAYED' to TC VALUE%:100' and set the desired percentage. So set this to 50% and each note you enter will automatically take up half the time between each quantise point.

The **GRID EDIT** screen is a more visual way of step editing. To access it go to **MODE** and **pad 15**, or press the **MAIN** screen twice:



Here you can record your performances in real time or program your events in a step style fashion. To program performances, press the **OVERDUB** key and simply press the pads you wish to enter. Each event is displayed as a dark block on the grid. To change events, scroll to the event with your data wheel and use the copy, paste and delete functions (F2 – F4). To change TC value, highlight '**Sw.50**' and hit **WINDOW**.

To zoom in and out, hit **SHIFT** (to being up a new set of function options) and then **F5** or **F6**.

There's obviously significantly more to all these screens and I'm clearly only touching the surface here, but this basic explanation is all you need to know to perform any of the sequencing tasks in this book ☺

How to Rename Stuff

If you want to change the name of a sample, a sequence, a track or any other name that is user-editable, the process is as follows:

First, bring up the 'Rename' strip pop up:

1. Select the name you wish to change – the WINDOW key should light up
2. Hit WINDOW
3. Check the F1 button options – if there's a 'RENAME' option, press that.
4. No rename option? Usually you have to highlight the name again in the current WINDOW screen and then turn the data wheel one click.

You should now see a strip across the screen with the alphabet and numbers. At this point, you can use this strip to select the desired characters, or use your pads.

To use the strip:

1. Scroll the data wheel to the letter you wish to enter and press the right cursor key to enter this character. This will also move you on one step. Continue doing this for all the letters/numbers you wish to enter.
2. For lower case, press the down cursor, and up cursor to go back to upper case (or press F3).
3. F1 (DELETE) deletes the currently selected character, INSERT inserts blank space.
4. Press and hold **C&P** (F5) to select either COPY or PASTE. This is very useful if you want to rename a bunch of files with similar names as the clipboard is remembered even if you leave this current screen.

5. Press **ENTER** (F6) to commit your new name.

Alternatively, use the classic ‘pad’ method:

1. Locate the pad that has the desired character you wish to enter (top side left of each pad).
2. Press once to enter the top letter, press twice to enter the bottom letter.
3. If you then hit a different pad, the new letter is automatically placed after the last one you entered. But if you wish to enter a letter on the same pad, press the right cursor first to advance it manually
4. Numbers can be entered by holding NUMERIC and pressing the corresponding pad (unless you previously re-assigned NUMERIC to a different function).
5. Everything else is the same as the strip option above.

Finally you can of course combine the two methods!

Loading & Saving Sounds

Thankfully the disk management section of JJOSXL is a breeze to use and anyone familiar with using a computer should have no problem understanding.

Hit **LOAD** (MODE and pad 2) to enter the load screen:

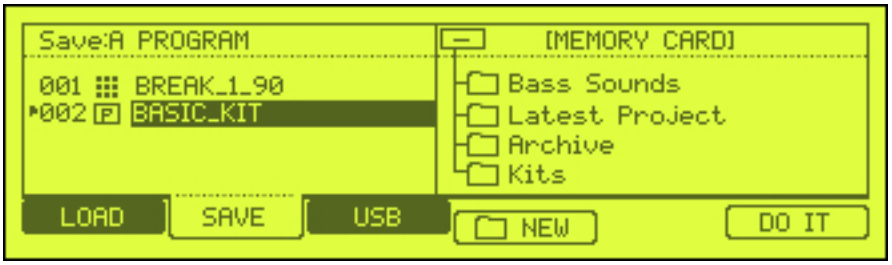
On the left you’ll see something similar to **Load:MEMORY CARD** – select the source to load from, typically either your CF card or an internal hard disk (if you have one installed).

On the right you have the list of folders and files in the ‘root’ (first and default) directory of your disk. To enter a folder, right cursor to select it and press right cursor again.

To load a file or entire folder, highlight the file/folder using your cursor (or scroll with the data wheel). Hit **DO** IT (F6). Or hit **DELETE** (F5) to delete it.

To preview a sound before load, highlight it and press the **PLAY** transport button.

Go to **SAVE** (MODE and pad 3, or **F2** from the **LOAD** screen):



This time both the source disk and the file/folder is selectable on the right of the screen. Use your cursor to highlight the source disk (data wheel to select) and then cursor down to select the folder you wish to save your files in to.

To create a new folder, hit **NEW** (F4). To enter a folder, right cursor into it.

On the left hand side you can select the file and file type you wish to save. So to save an individual sample, select '**Save: A SAMPLE'** and then cursor down and scroll to the sample you wish to save.

To save your entire project, simply select '**Save: ENTIRE MEMORY-1**' (standard memory save) or **ENTIRE MEMORY-2** (advanced save, not necessary for this book).

Appendix E – Useful JJOSXL Resources

JJ's MPC1000 Web Site: http://www7a.biglobe.ne.jp/~mpc1000/
JJ's MPC2500 Web Site: http://www7a.biglobe.ne.jp/~mpc1000/mpc2500/

JJOS forum @ MPC-Forums: http://www.mpc-forums.com/viewforum.php?f=25

JJOS Sounds & Tutorials @ MPC-Samples: http://www.mpc-samples.com/section.php/66/0/jjos-tutorials-sounds-samples/

'Beat Making on the MPC…' Books (Akai OS & Free JJOS) - http://www.mpc-samples.com/section.php/8/0/akai-mpc-tutorials/

JJOS Resources @ MPC-Tutor: http://www.mpc-tutor.com/jjos-tutorials/

JJChop: http://webs.ono.com/rcastilla/jjchop/Overview.htm

Large Screen JJOS128 Upgrades from MPC Stuff:
http://www.mpcstuff.com/akmpcxllalcd.html