MUS112 WEEK 8

MIDI NOTE ENTRY & EDITING

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MIDI—flowchart

Semitone   Whole Tone

Whole Tone   Semitone

MIDI messages
over USB lead

numbers describing audio

Audio
interface

electrical signal describing audio

Computer running Logic
(Logic hosting software instruments)

interprets MIDI messages,
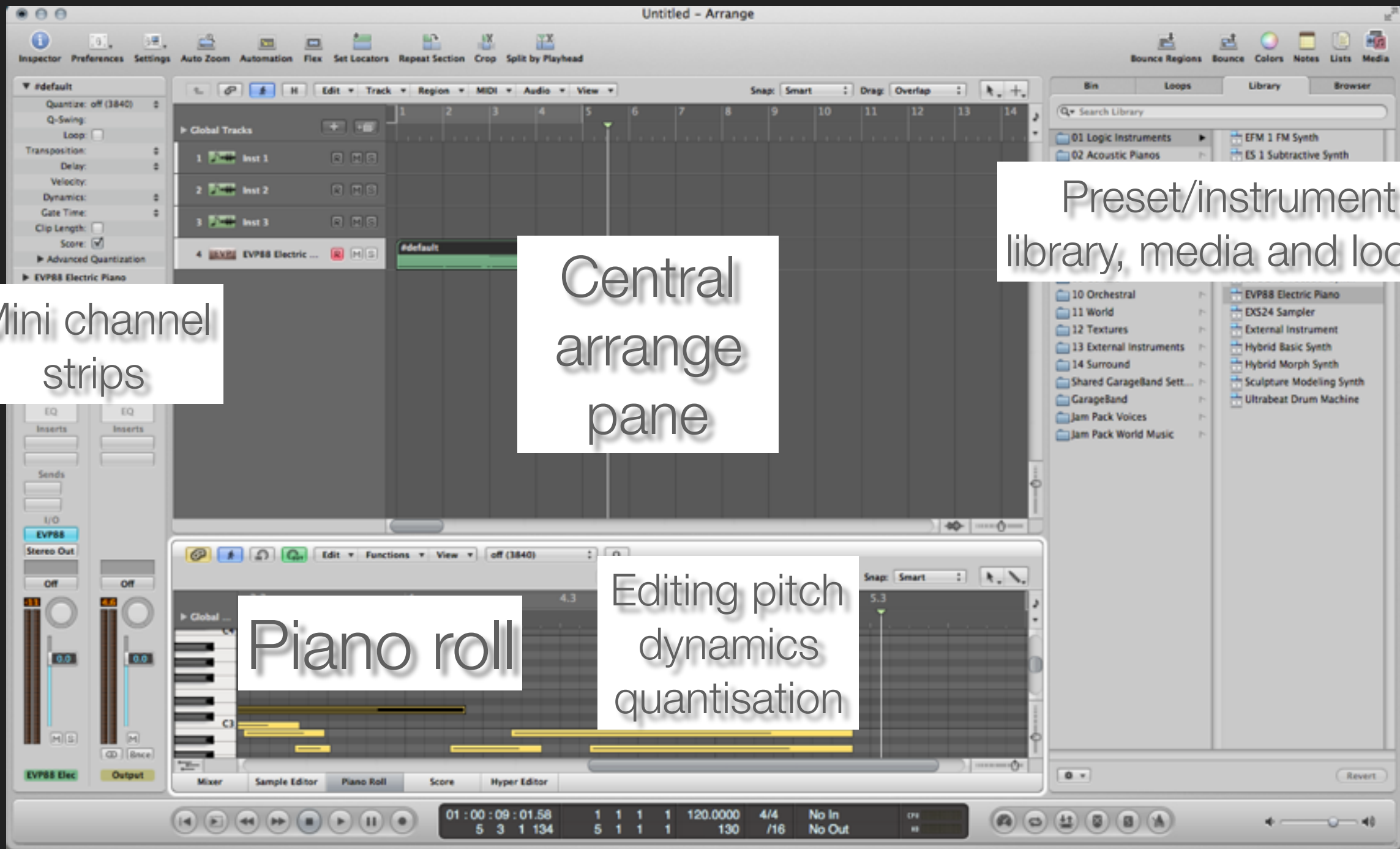sends to software instruments

MIDI structure: basics

- **Event messages with modifiers**

- **Play key**= **MIDI note number** from 0-127, **MIDI note velocity** in same range *(note on)*

- **Release key**= **same MIDI note no, MIDI velocity=0** *(note off)*

- e.g. send message from controller keyboard (*not synthesiser*) to software instrument (synthesiser) within Logic

- Q: Why design a MIDI message like this? Does it explain how a MIDI-related problem sometimes occurs when you stop playback in Logic?

- *The structure of these messages will become important when you work with Interactive Music Systems in year 3*

RECAP: INTERFACE AND KEY FUNCTIONS
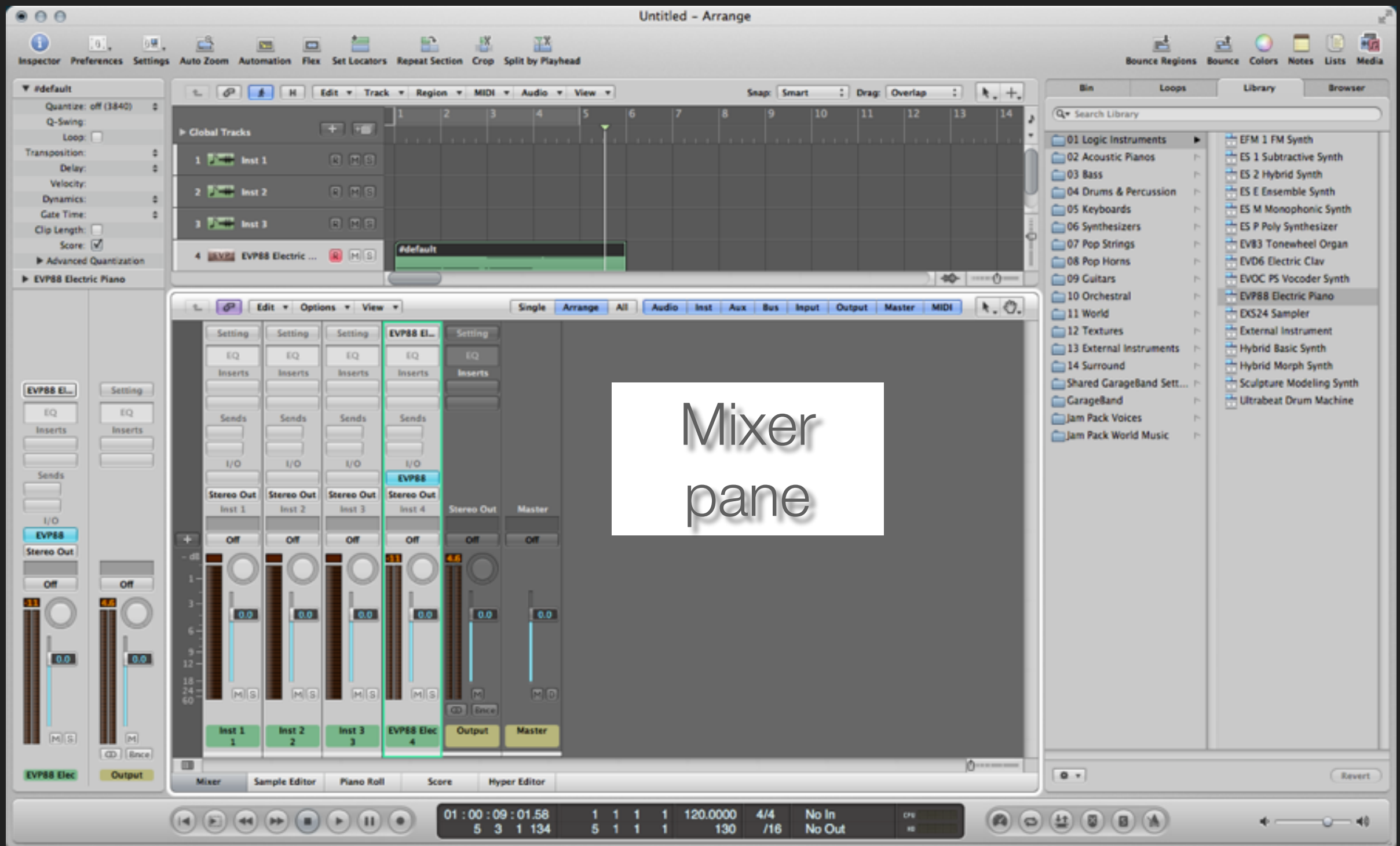
Logic's interface: recap

- Setting up instrument tracks

- Arrange page panes (including mixer)

- Browsing for presets and Apple loops

- File management

- Bouncing

Logic's Arrange Window: overview (NB: images from Logic 9; minor variations in Logic X)

Preset/instrument library, media and loops

Mini channel strips

Central arrange pane
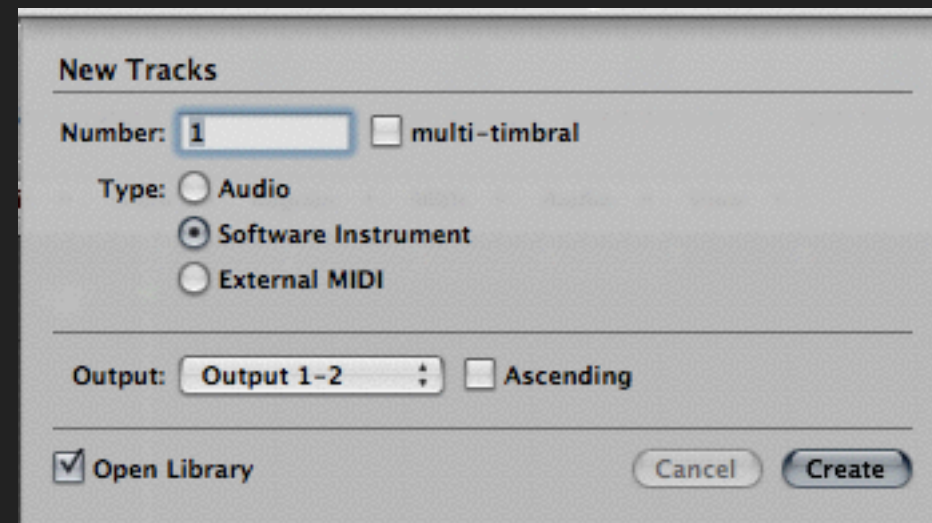
Piano roll

Editing pitch dynamics quantisation

Logic's Arrange Window: overview

Recap: creating project and setting up tracks

- Set up **software instruments** to play with Logic's internal synths

- (External MIDI for external synthesiser: we won't use this here)

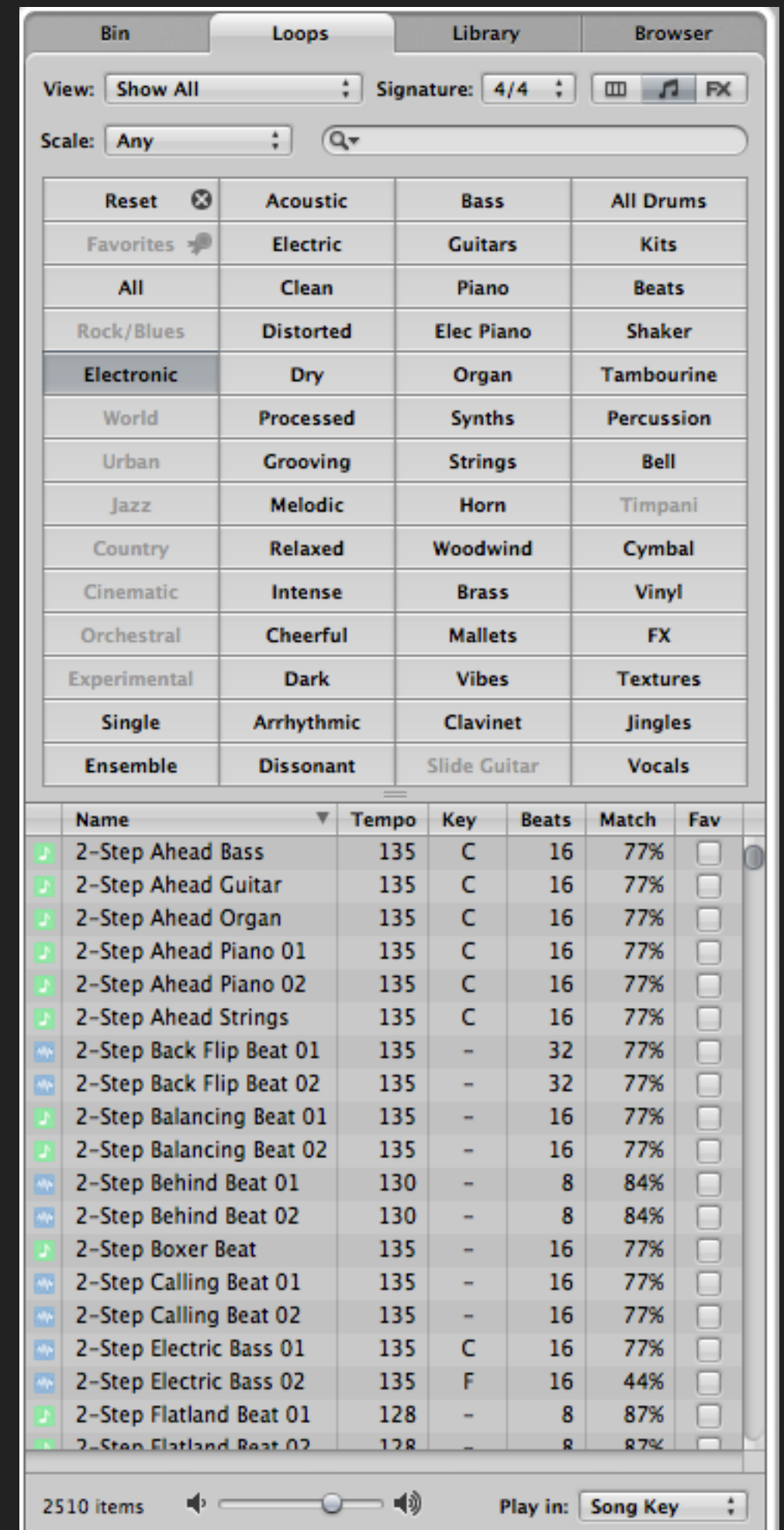- Audio tracks (for digital audio recordings made in Logic or imported into Logic)

New Tracks

Number: 1   ☐ multi-timbral

Type: ○ Audio
○ Software Instrument
○ External MIDI

Output: Output 1–2   ☐ Ascending

☑ Open Library   Cancel   Create

Arrange Window and Instruments

Record light

Timeline/Grid

Software instruments

(empty 'slots' for synthesisers)

Main output

Virtual audio output for software instrument track

Apple Loops

- What is the difference between the two types of Apple Loops? Why is it useful to have these two types of Apple Loops? Have you experienced any problems with one or the other?

- Green Apple loops: software instrument loops (based on MIDI data)

- Blue Apple loops: audio loops (specially treated with beat detection so that they respond to tempo changes)

	Bin	Loops	Library	Browser

View: Show All   Signature: 4/4   FX

Scale: Any

Reset	Acoustic	Bass	All Drums
Favorites	Electric	Guitars	Kits
All	Clean	Piano	Beats
Rock/Blues	Distorted	Elec Piano	Shaker
Electronic	Dry	Organ	Tambourine
World	Processed	Synths	Percussion
Urban	Grooving	Strings	Bell
Jazz	Melodic	Horn	Timpani
Country	Relaxed	Woodwind	Cymbal
Cinematic	Intense	Brass	Vinyl
Orchestral	Cheerful	Mallets	FX
Experimental	Dark	Vibes	Textures
Single	Arrhythmic	Clavinet	Jingles
Ensemble	Dissonant	Slide Guitar	Vocals

Name	Tempo	Key	Beats	Match	Fav
2-Step Ahead Bass	135	C	16	77%	
2-Step Ahead Guitar	135	C	16	77%	
2-Step Ahead Organ	135	C	16	77%	
2-Step Ahead Piano 01	135	C	16	77%	
2-Step Ahead Piano 02	135	C	16	77%	
2-Step Ahead Strings	135	C	16	77%	
2-Step Back Flip Beat 01	135	–	32	77%	
2-Step Back Flip Beat 02	135	–	32	77%	
2-Step Balancing Beat 01	135	–	16	77%	
2-Step Balancing Beat 02	135	–	16	77%	
2-Step Behind Beat 01	130	–	8	84%	
2-Step Behind Beat 02	130	–	8	84%	
2-Step Boxer Beat	135	–	16	77%	
2-Step Calling Beat 01	135	–	16	77%	
2-Step Calling Beat 02	135	–	16	77%	
2-Step Electric Bass 01	135	C	16	77%	
2-Step Electric Bass 02	135	F	16	44%	
2-Step Flatland Beat 01	128	–	8	87%	
2-Step Flatland Beat 02	128	–	8	87%	

2510 items   Play in: Song Key

MIDI NOTE ENTRY, PROGRAMMING AND EDITING

MUSICAL TYPING: COMMAND+K

EXTERNAL MIDI KEYBOARD

PIANO ROLL EDITOR
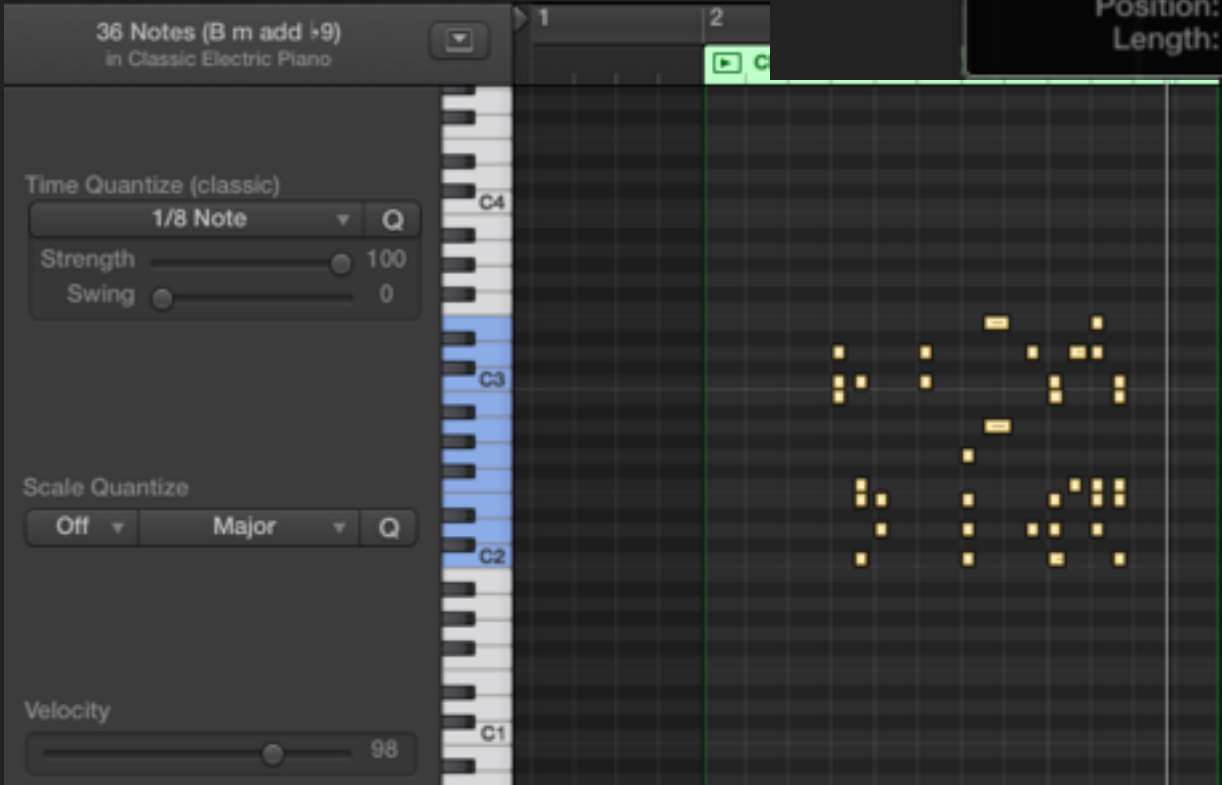
MIDI EDITING

NOTE: MAKE SURE YOUR TIMING FITS THE QUANTISE NOTE DURATION CHOSEN

MIDI NOTE EDITING TOOLS

QUANTISE: FIX TIMING DURATION

Q BUTTON: QUANTISE!

SELECT GROUPS OF NOTES

CAN MAP SCALES ALSO

SCALE VELOCITY (SELECTED GROUPS)

Time Quantize (classic)
1/8 Note   Q
Strength   100
Swing   0

Scale Quantize
Off ▾   Major ▾   Q

Velocity
98

Classic Electric Piano

1   2   3   4

C3

C2

C1

✓ ▶ Pointer Tool
  ✎ Pencil Tool
  ✐ Eraser Tool
  👆 Finger Tool
  ✂ Scissors Tool
  🖌 Glue Tool
  M Mute Tool
  Q Quantize Tool
  V Velocity Tool
  🔍 Zoom Tool
  ➤ Automation Select Tool
  ➤ Automation Curve Tool
  🖌 Brush Tool

MIDI EFFECTS PLUG-IN: ARPEGGIATOR PLUG-IN

ARPEGGIATORS ARE PERHAPS ONE OF THE SIMPLEST AND MOST AUDIBLY RECOGNISABLE SEQUENCING TOOLS AVAILABLE. IN ESSENCE AN ARPEGGIATOR IS A VERY BASIC REAL-TIME SEQUENCER DESIGNED TO TAKE A CHORD AS AN INPUT AND TURN IT INTO AN ARPEGGIO: A SERIES OF 'BROKEN CHORDS' OF SET NOTE DURATIONS

PARAMETER AUTOMATION

▸ Occasionally, you may wish to record the changes you make to controls as the track plays

▸ Channel strip/mixer channel controls allow you to select various different automation modes

▸ Read: Plays back all automation that exists on the track. You can't change the value of the chosen automation parameter by moving controls when in Read mode.

▸ Touch: Plays back automation in the same way as Read mode. You can modify the value of the chosen automation parameter by moving controls in Touch mode. After the fader or knob is released, the parameter follows existing automation on the track.

▸ Latch: Works like Touch mode, but after the fader or knob is released, the new parameter value replaces existing automation on the track.

▸ Write: RARELY USED: Erases existing automation on the track as the playhead passes over it. Records the new control movement or deletes the existing data if you do nothing.

▸ https://support.apple.com/kb/PH13172?locale=en_GB

To view automation on tracks, press A

ADDING DRUMS: 1

▸ Green loops: MIDI

▸ Blue loops: sliced audio

🌊	2-Step Back Flip Beat 01	32	☐	135	-
🌊	2-Step Back Flip Beat 02	32	☐	135	-
🎵	2-Step Balancing Beat 01	16	☐	135	-
🎵	2-Step Balancing Beat 02	16	☐	135	-
🌊	2-Step Behind Beat 01	8	☐	130	-
🌊	2-Step Behind Beat 02	8	☐	130	-
🎵	2-Step Boxer Beat	16	☐	135	-
🌊	2-Step Calling Beat 01	16	☐	135	-

LOOP BROWSER

TO EXTEND A LOOP
HTTPS://SUPPORT.APPLE.COM/KB/PH13039?LOCALE=EN_GB

1. Place the pointer over the upper-right edge of the region.

The pointer becomes a Loop pointer.

Loop pointer
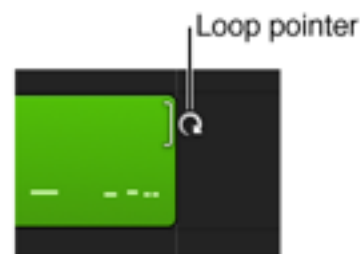
ADDING DRUMS 2: DRUM MACHINE DESIGNER

MIX VIEW: CLICK AT TOP OF DRUM MACHINE DESIGNER

DRUM SYNTH VIEW: CLICK ON INDIVIDUAL DRUM TYPE

THEN, PLAY IN A PATTERN USING A MIDI KEYBOARD OR DRAW IN USING PIANO ROLL EDITOR

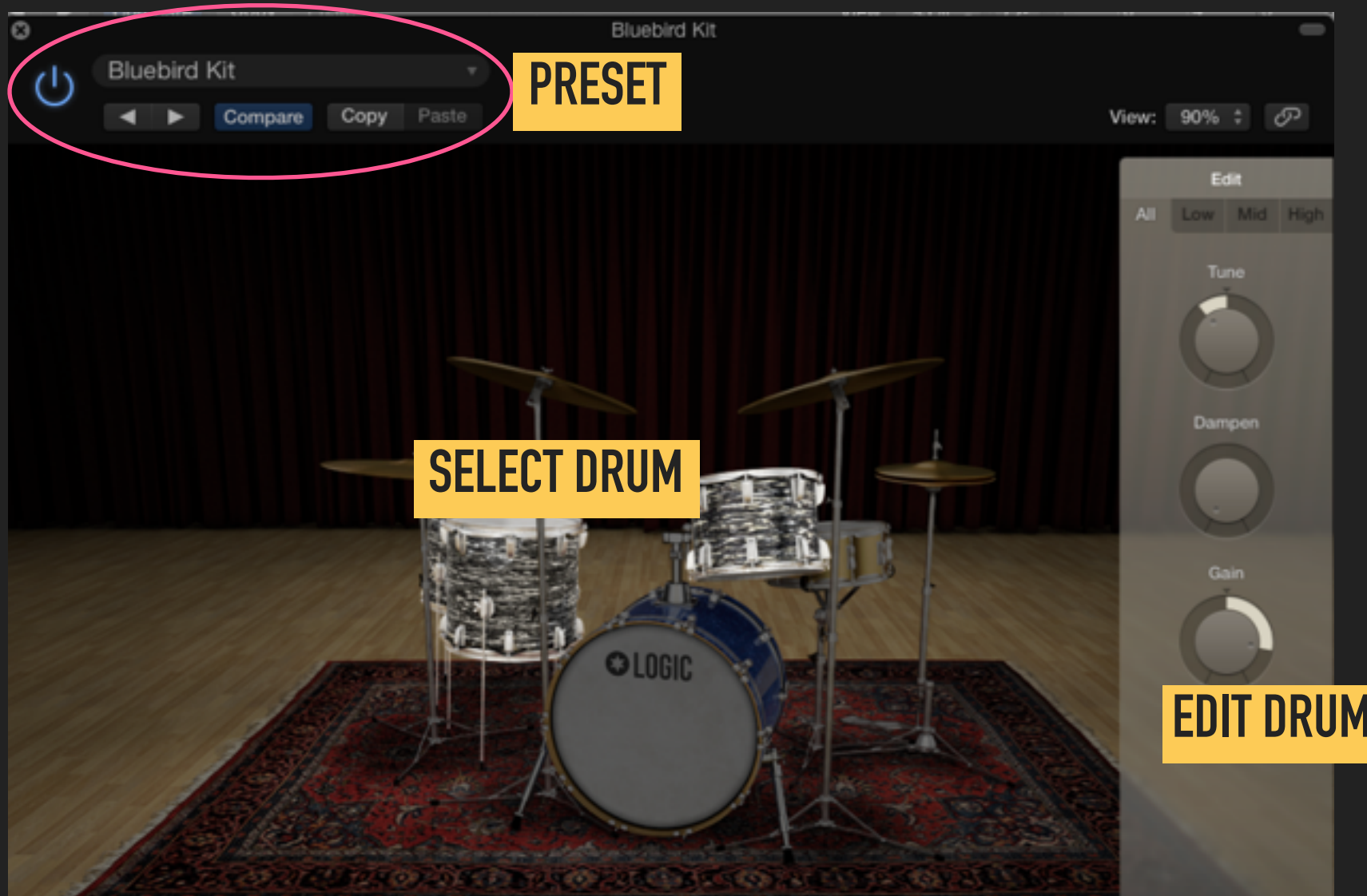# ADDING DRUMS 3: MORE ADVANCED...ULTRABEAT

MIXER/SELECTOR

DRUM SYNTHESIS

PLAYBACK CONTROLS

SEQUENCER

HTTP://
WWW.SOUNDONSOUND.COM/
TECHNIQUES/UNDERSTANDING-
ULTRABEAT-PART-1-BASICS

HTTPS://MANUALS.INFO.APPLE.COM/MANUALS/
1000/MA1652/EN_US/
LOGIC_PRO_X_INSTRUMENTS.PDF

ADDING DRUMS 4: MORE ADVANCED...DRUM KIT DESIGNER

PRESET

SELECT DRUM

EDIT DRUM

ACOUSTIC-STYLE DRUM KITS

BASED ON SAMPLES

1.   SELECT PRESET (TOP LEFT)
2. SELECT DRUM AND EDIT
3. PLAY IN RHYTHMIC PATTERNS

SUMMARY AND CONCLUSION

▸ Logic has a wide range of MIDI editing functionality, alongside the ability to use loops (sliced audio and MIDI)

▸ As you change a Logic project's tempo, loops and MIDI data will match the project's new tempo (audio which has been recorded in is a trickier matter…it can match tempo, but at a cost in terms of quality…but we're not recording audio for now)

▸ Pay attention to the note divisions your musical part uses aas you quantise

▸ If you're stuck for musical ideas (1) try the arpeggiator (2) try loops

▸ Remember: if in doubt about a particular function, try the in-application help