



ESO-RES

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Chapter 1. Sound, Notes, and Tonality

Music theory names patterns you already hear so you can reproduce them intentionally. For producers, the goal is practical: choose notes and chords that create clear expectation, tension, and release inside a loop or song.

Tonality is the idea that a piece of music is organized around a central “home” note (the tonic). Other notes and chords feel stable or unstable depending on how strongly they pull back to the tonic. This tonal gravity is the engine behind functional harmony across genres.

Producer translation: if your progression feels like it never resolves, you are either (1) avoiding tonic function, (2) looping a dominant pull, or (3) writing in a modal / static harmony context.

Chapter 2. Scales and Key-Building

A scale is an ordered set of notes that acts as your “note map.” Most tonal music is built from 7-note (diatonic) scales. The major scale is the reference model.

Major scale degrees: 1-2-3-4-5-6-7. In C major: C-D-E-F-G-A-B.

Scale	I	II	III	IV	V	VI	VII
C Major	C	D	E	F	G	A	B
C Natural Minor	C	D	E \flat	F	G	A \flat	B \flat
C Harmonic Minor	C	D	E \flat	F	G	A \flat	B
C Melodic Minor (asc)	C	D	E \flat	F	G	A	B

Key signatures and the Circle of Fifths: moving clockwise adds sharps; counterclockwise adds flats. Closely related keys share most notes, which is why modulations often move to neighbors on the circle.

Chapter 3. Diatonic Chords in Every Key (Triads)

Build diatonic chords by stacking every other scale note (thirds). In major keys, the triad quality pattern is: I (major), ii (minor), iii (minor), IV (major), V (major), vi (minor), vii° (diminished).

Degree	Roman	Chord	Chord tones (1-3-5)
1	I	C	C - E - G
2	ii	Dm	D - F - A
3	iii	Em	E - G - B
4	IV	F	F - A - C
5	V	G	G - B - D
6	vi	Am	A - C - E
7	vii°	B°	B - D - F

Piano-roll idea: keep the chord register consistent across keys so you learn shapes, not just note names. Root notes align horizontally; chord tones stack in thirds.

C Major: I-ii-iii-IV-V-vi-vii° triads (conceptual)

C# / Db											
D											
D# / Eb											
F											
F# / Gb											
G# / Ab											
A											
A# / Bb											
B											

Chapter 4. Functional Harmony and the Circle of Fifths

Functional harmony treats chords as roles, not just stacks of notes. The three primary functions are: Tonic (rest/home), Pre-dominant (motion), and Dominant (tension).

Function	Common roman numerals	Feeling / job
Tonic	I, iii, vi	stable, home, resolution
Pre-dominant	ii, IV	movement, setup for dominant
Dominant	V, vii°	tension, pull back to tonic

Cadence is a functional ending gesture. The classic one is V to I. In loops, you may imply cadence without fully ending by using V to vi (deceptive motion) or by delaying I.

Circle of Fifths practical uses: (1) find closely related keys for smooth key changes, (2) build secondary dominants, (3) borrow chords from parallel major/minor for color.

Chapter 5. Seventh Chords, Extensions, and Secondary Dominants

Adding a 7th makes a chord's function clearer. The dominant seventh (V7) intensifies the pull to I. Pre-dominant sevenths (ii7, IV7) add smoothness and voice-leading options.

Example (G major): V7 is D-F#-A-C.

V (D major triad)

C							
C# / Db							
D# / Eb							
E							
F							
G							
G# / Ab							
A# / Bb							
B							

V7 (D7)

C# / Db							
D# / Eb							
E							
F							
G							
G# / Ab							
A# / Bb							
B							

Secondary dominants: temporarily treat a diatonic chord as a tonic and precede it with its own V (or V7).
 Notation: V/ii means "the dominant of ii." This adds forward motion without changing the key center permanently.

Chapter 6. Modes (Functional View)

Modes are rotations of the major scale. In production, modes work best as colors over a stable harmony, not as a replacement for understanding key and function.

Mode	Scale-degree change vs major	Common harmonic identity
Ionian	none (major scale)	major tonic; functional harmony
Dorian	b3, b7	minor tonic with major IV; soulful / modern minor color
Phrygian	b2, b3, b6, b7	dark, tense; b2 against minor tonic
Lydian	#4	bright, floating; #4 over major tonic
Mixolydian	b7	major tonic with b7; dominant/blues/rock color
Aeolian	b3, b6, b7 (natural minor)	minor key baseline
Locrian	b2, b3, b5, b6, b7	unstable; diminished tonic

Quick test: if your harmony is moving ii-V-I style, you are in functional territory (Ionian/Aeolian). If your harmony is static (one or two chords) and the vibe comes from a characteristic scale tone (#4, b7, b2), you are using modal color.

Chapter 7. Melody Writing: Chord-Tone Targeting

Melodies feel connected to harmony when they hit chord tones on strong beats and use scale tones as passing or neighbor notes on weak beats. This approach works in pop, trap, EDM, and cinematic writing.

Chord function in progression	Strong-beat targets (degrees)	Weak-beat motion notes
Tonic (I / vi)	1-3-5 (or 6-1-3)	2, 4, 5 as passing/neighbor
Dominant (V)	5-7-2	6 as passing/approach
Pre-dominant (ii / IV)	2-4-6 or 4-6-1	1, 3, 5 as motion

Workflow: (1) write a simple skeleton melody using only chord tones; (2) add passing notes; (3) add rhythm and phrasing (rests, pickups, syncopation); (4) repeat with variation to create motifs.

Chapter 8. 12-Key Melody Walkthroughs (I-V-vi-IV)

Below are practical 4-bar examples in all 12 keys using the common pop progression I-V-vi-IV. Each example shows: chord names, strong-beat targets (scale degrees), and a DAW-ready piano-roll sketch.

How to use: program the chords first. Then program the melody as quarter notes. After it loops cleanly, add passing notes, rhythm variation, and register moves.

C Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	C	C - E - G
2	V	G	G - B - D
3	vi	Am	A - C - E
4	IV	F	F - A - C

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C# / Db															
D															
D# / Eb															
E															
F															
F# / Gb															
G															
G# / Ab															
A															
A# / Bb															
B															

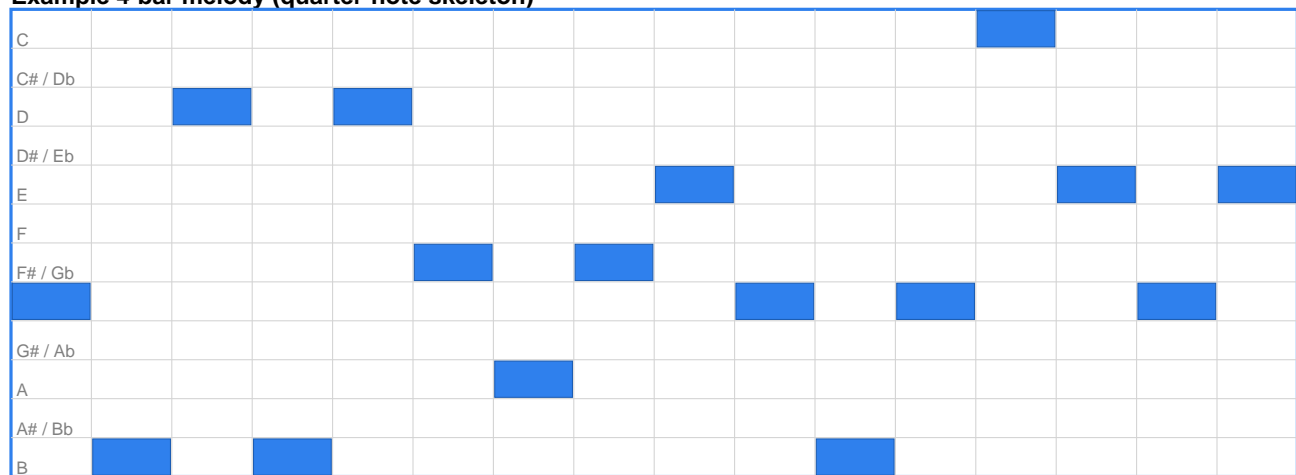
Melody (note names): C E G E | G B D B | A C E C | F A C A

G Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	G	G - B - D
2	V	D	D - F# - A
3	vi	Em	E - G - B
4	IV	C	C - E - G

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)



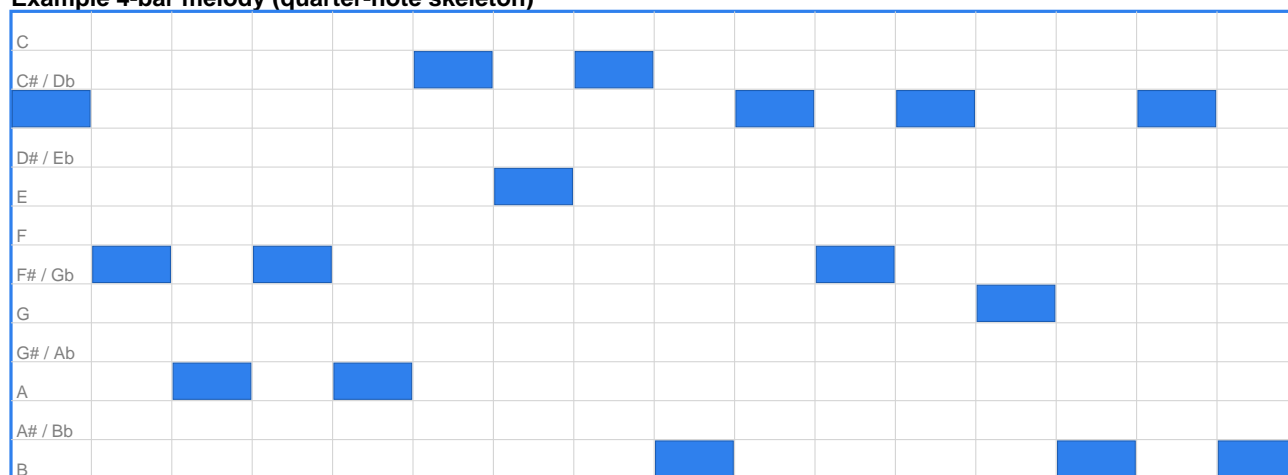
Melody (note names): G B D B | D F# A F# | E G B G | C E G E

D Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	D	D - F# - A
2	V	A	A - C# - E
3	vi	Bm	B - D - F#
4	IV	G	G - B - D

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)



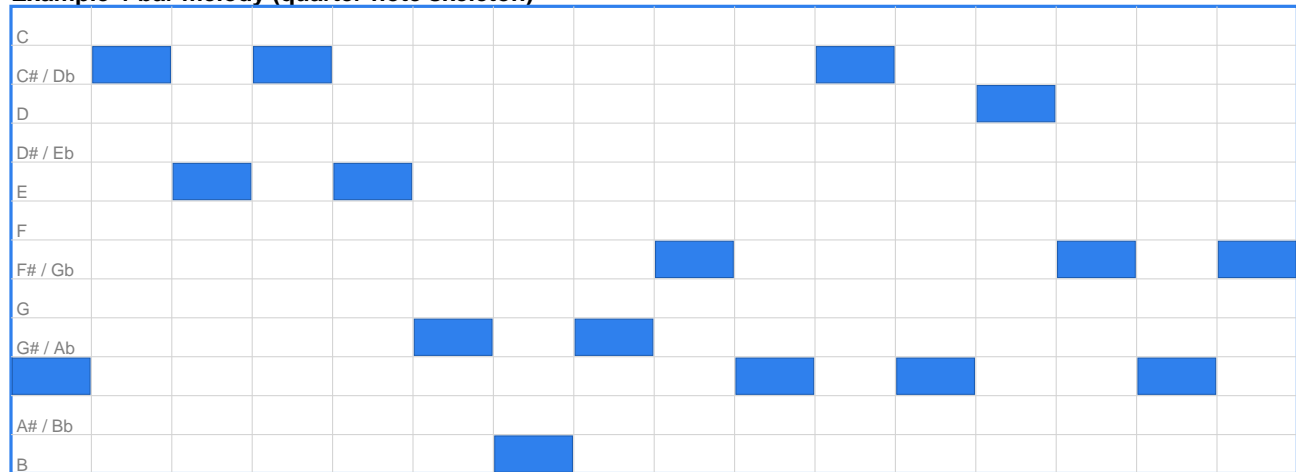
Melody (note names): D F# A F# | A C# E C# | B D F# D | G B D B

A Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	A	A - C# - E
2	V	E	E - G# - B
3	vi	F#m	F# - A - C#
4	IV	D	D - F# - A

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)



Melody (note names): A C# E C# | E G# B G# | F# A C# A | D F# A F#

E Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	E	E - G# - B
2	V	B	B - D# - F#
3	vi	C#m	C# - E - G#
4	IV	A	A - C# - E

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
D# / Eb															
E															
F															
F# / Gb															
G															
G# / Ab															
A															
A# / Bb															
B															

Melody (note names): E G# B G# | B D# F# D# | C# E G# E | A C# E C#

B Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	B	B - D# - F#
2	V	F#	F# - A# - C#
3	vi	G#m	G# - B - D#
4	IV	E	E - G# - B

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)



Melody (note names): B D# F# D# | F# A# C# A# | G# B D# B | E G# B G#

F# Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	F#	F# - A# - C#
2	V	C#	C# - E# - G#
3	vi	D#m	D# - F# - A#
4	IV	B	B - D# - F#

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
D# / Eb															
E															
F															
F#															
G															
G# / Ab															
A															
A# / Bb															
B															

Melody (note names): F# A# C# A# | C# E# G# E# | D# F# A# F# | B D# F# D#

Db Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	Db	Db - F - Ab
2	V	Ab	Ab - C - Eb
3	vi	Bbm	Bb - Db - F
4	IV	Gb	Gb - Bb - Db

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
D															
D# / Eb															
E															
F															
F# / Gb															
G															
G# / Ab															
A															
A# / Bb															
B															

Melody (note names): Db F Ab F | Ab C Eb C | Bb Db F Db | Gb Bb Db Bb

Ab Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	Ab	Ab - C - Eb
2	V	Eb	Eb - G - Bb
3	vi	Fm	F - Ab - C
4	IV	Db	Db - F - Ab

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
D# / Eb															
E															
F															
F# / Gb															
G															
A															
A# / Bb															
B															

Melody (note names): Ab C Eb C | Eb G Bb G | F Ab C Ab | Db F Ab F

Eb Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	Eb	Eb - G - Bb
2	V	Bb	Bb - D - F
3	vi	Cm	C - Eb - G
4	IV	Ab	Ab - C - Eb

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
E															
F															
F# / Gb															
G															
G# / Ab															
A															
A# / Bb															
B															

Melody (note names): Eb G Bb G | Bb D F D | C Eb G Eb | Ab C Eb C

Bb Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	Bb	Bb - D - F
2	V	F	F - A - C
3	vi	Gm	G - Bb - D
4	IV	Eb	Eb - G - Bb

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
D# / Eb															
E															
F															
F# / Gb															
G															
G# / Ab															
A															
B															

Melody (note names): Bb D F D | F A C A | G Bb D Bb | Eb G Bb G

F Major

Bar	Roman	Chord	Chord tones (1-3-5)
1	I	F	F - A - C
2	V	C	C - E - G
3	vi	Dm	D - F - A
4	IV	Bb	Bb - D - F

Strong-beat melody targets follow the pattern: I: 1-3-5, V: 5-7-2, vi: 6-1-3, IV: 4-6-1 (use passing tones between as needed).

Example 4-bar melody (quarter-note skeleton)

C															
C# / Db															
D															
D# / Eb															
E															
F# / Gb															
G															
G# / Ab															
A															
A# / Bb															
B															

Melody (note names): F A C A | C E G E | D F A F | Bb D F D

Chapter 9. Motifs, Phrasing, and Variation Techniques

A motif is the smallest repeatable melodic idea. Strong motifs are rhythmically distinctive and harmonically clear. Development is repetition with controlled variation.

Technique	What it does (simple)	Producer use-case
Repetition	Reuse it exactly.	Hooks feel recognizable.
Sequence	Repeat it starting on a new scale degree.	Lift across chord changes.
Rhythmic displacement	Move it earlier/later in the bar.	Groove + surprise.
Inversion	Flip the melodic direction (up becomes down).	Call-and-response answers.
Fragmentation	Use only part of the motif.	Fills and transitions.

Phrase shape: most phrases are 2, 4, or 8 bars. A common contour is rise (tension), peak (climax), then release (resolution). Plan your highest pitch and strongest rhythm near the climax bar, then resolve to a stable scale degree (often 1, 3, or 5).

Motif + sequence example (2 bars)

C# / Db							
D							
D# / Eb							
E							
F							
F# / Gb							
G							
G# / Ab							
A							
A# / Bb							
B							

Chapter 10. Bass-Line Construction by Genre

Bass lines define harmony, rhythm, and groove. They outline roots, connect chords with approach notes, and lock to the drum grid. Keep register clean so bass does not mask low chord tones.

Rule	Explanation
Root emphasis	Roots on strong beats establish the harmony.
Approach notes	Step or chromatic notes lead into new chords.
Rhythmic lock	Align bass rhythm with kick pattern or groove grid.
Register control	Avoid muddy overlap with chords and sub energy.

Genre	Bass characteristics
Pop	Root-fifth motion, octave jumps, simple rhythms.
Trap	Sustained 808 roots, slides; often i-VI-VII style loops.
Jazz	Walking bass: chord tones on beats with passing tones.
EDM	Sidechained roots, off-beat pulses; static loops.
Film	Pedal tones, slow harmonic rhythm; supports emotional pacing.

Chapter 11. Voicing Libraries and Voice Leading

Voicing is how you distribute chord tones across octaves. Good voicing keeps the progression smooth (minimal motion between chords) and avoids frequency masking with the bass.

Context	Go-to voicing (degrees)	Notes
Pop / EDM pads	1-5-8 (octave doubling)	Wide, stable, easy to layer.
Pop pre-dominant color	1-3-5-7	Add 7ths for movement without density.
Dominant impact	1-3-5-b7	Dominant 7th color; pulls to tonic.
Jazz shell	3-7 (+9/13 optional)	Leaves room for bass and melody.
Cinematic spread	1-5-9 (+3/7 as inner voices)	Open intervals; avoid mud.

Voice-leading check: keep common tones when possible, and move other voices by step. If two chords share a note, keep it in the same voice to glue the progression together.

Chapter 12. Arrangement and Energy Flow

A strong loop becomes a song through controlled change. Arrangement is where you manage density, register, rhythm, and expectation over time.

Section	Typical energy moves (producer checklist)
Intro	Thin instrumentation, establish key and motif; filter or register-limited chords.
Build / verse	Add groove layers; introduce counter-melody or bass motion; increase rhythmic detail.
Pre / lift	Increase harmonic rhythm or add dominant tension (V7, secondary dominant); rise in melody range.
Drop / chorus	Full register; strongest hook; bass + drums lock; simplify harmony if needed.
Bridge	Contrast: mode mixture, new chord, or texture reset; then return.
Outro	Remove layers; resolve to tonic or fade with stable loop.