

# Chromatic Triads (trichords)

- Each chromatic tonality is based around a specific intervallic relationship built from the twelve triads.
- Triads are presented in their IPF (intervallic prime form) meaning its most compact version, and measured in semitones.
- Of the twelve triads, 5 are symmetrical, and 7 are asymmetrical- (labelled as major (M) or minor (m))
- Organized based on smallest intervallic distance to largest
- Triads are labelled by their Roman Numeral Hour and as minor or major if asymmetrical.
- Ex- C Major triad labelled as **4+3** (4 semitones (C-E) + 3 semitones (E-G) or **XIM**

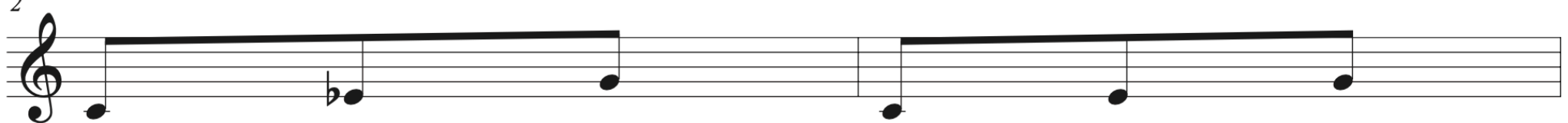


# Minor Vs Major versions

A **minor** triad can be changed to a **major** by switching the intervallic order and vice versa. eg: 4+3 (C major) becomes 3+4 (C minor). The minor triad is **always** the intervallic prime form.

XIm XIM

2

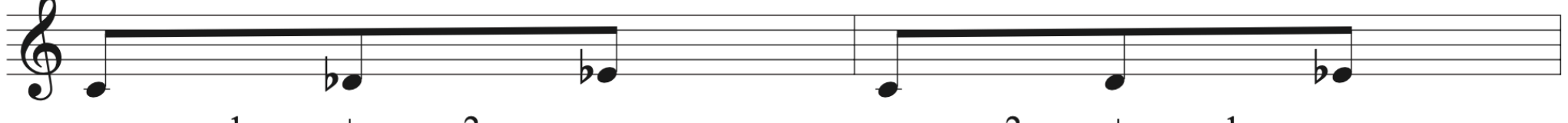


3 + 4 4 + 3

Detailed description: This block shows two musical staves. The first staff, labeled 'XIm' and '2', shows a triad with intervals of 3, a plus sign, and 4. The second staff, labeled 'XIM' and '2', shows a triad with intervals of 4, a plus sign, and 3. Both staves have a treble clef and a single sharp (F#) on the staff.

IIm IIM

4

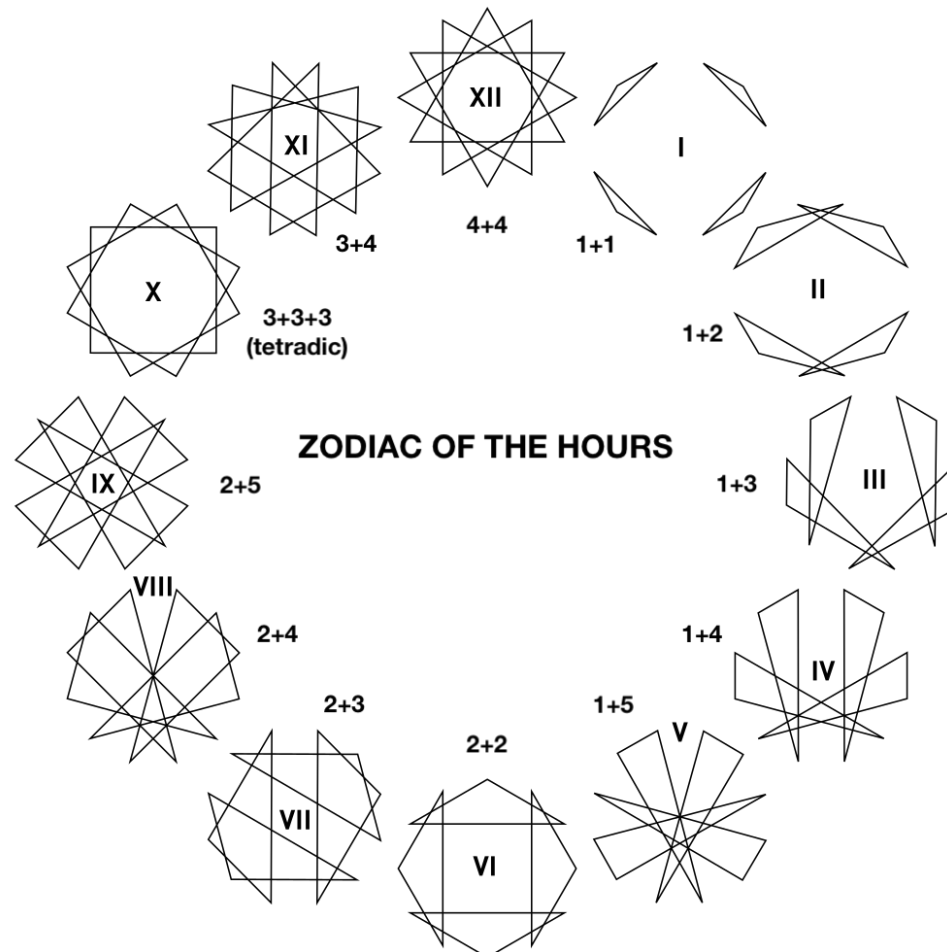


1 + 2 2 + 1

Detailed description: This block shows two musical staves. The first staff, labeled 'IIm' and '4', shows a triad with intervals of 1, a plus sign, and 2. The second staff, labeled 'IIM' and '4', shows a triad with intervals of 2, a plus sign, and 1. Both staves have a treble clef and two sharps (F# and C#) on the staff.

# Hours

Schat organized the twelve chromatic tonalities around a clock module and labelled each of as 'Hours', signified with a Roman Numeral.



# The 12 Hour Triads and their Harmonic Character

**Chromatic**

Hour I <1+1>

**Scalar/Modal/Octatonic**

Hour II <1+2>

**Atonal/Hexatonic**

Hour III <1+3>

**Major**

Hour IV <1+4>



**Atonal/Octatonic**

Hour V <1+5>

**Diatonic/Whole Tone**

Hour VI <2+2>

**Pentatonic/Minor**

Hour VII <2+3>

**Lydian**

Hour VIII <2+4>



**Quartal**

Hour IX <2+5>

**Diminished**

Hour X <3+3>

**Major/Minor**

Hour XI <3+4>

**Augmented**

Hour XII <4+4>



# Steering and Harmonic Fields

- A form of compound transposition where a cell (in this case, the triad) is transposed by a larger sequence of notes called 'Steering-Notes'.
- In the example below, the white notes indicate the steering notes, and the black notes are the nested inner shape.
- The top numbers <1+2> indicate the interval-class of the **Hour II** triad, while the bottom number <2+4+2> indicates the interval-class of steering group **Hour VIII<sup>m4</sup>**.

II/VIII<sup>m4</sup> [C]

Ⓐ m <1+2>

Ⓑ M <2+1>

Ⓒ m <1+2>

Ⓓ M <2+1>

2 + 4 + 2

# All 12-Note Triadic Tone-Clock Tonalities from [C]

The image displays 12 musical staves, each representing a different 12-note triadic tone-clock tonality. Each staff is labeled with a Roman numeral and a chord symbol, and the number of transpositions from the previous staff is indicated above the staff.

- Staff 1:  $I/X^4$  (3 transpositions),  $II/VIII^4$  (6 transpositions),  $III/Vm^4$  (6 transpositions)
- Staff 2:  $III/VII^4$  (12 transpositions),  $III/X^4 [C]$  (12 transpositions),  $IV/VI^4$  (12 transpositions)
- Staff 3:  $IV/VIII^4$  (6 transpositions),  $IVm/X^4$  (3 transpositions),  $IVM/X^4$  (3 transpositions)
- Staff 4:  $V/II^4$  (12 transpositions),  $VI/Vm^4$  (6 transpositions),  $VI/X^4$  (3 transpositions)
- Staff 5:  $VII/VIII^4$  (6 transpositions),  $VIII/II^4$  (12 transpositions),  $VIII/III^4$  (12 transpositions)
- Staff 6:  $VIII/IV^4$  (12 transpositions),  $VIII/XIM^4$  (12 transpositions),  $IX/II^4$  (3 transpositions)
- Staff 7:  $IX/VIII^4$  (3 transpositions),  $IXm/X^4$  (3 transpositions),  $XI/VI^4$  (12 transpositions)
- Staff 8:  $XI/VIII^4$  (12 transpositions),  $XII/I^4$  (0 transpositions),  $XII/II^4$  (0 transpositions)
- Staff 9:  $XII/VII^4$  (0 transpositions),  $XII/VIII^4$  (0 transpositions),  $XII/X^4$  (0 transpositions)

# Practical Applications in Jazz/Improvised Music

- **1) Free improvisation:** Improvising in a completely open setting without predetermined compositional elements
- **2) Contemporary composition for improvising musicians:** Compositions which involve improvisation, free or otherwise, that don't adhere to the general formal, stylistic, or harmonic conventions associated with the jazz tradition.
- **3) Improvisation over traditional jazz harmony:** improvisation in music that clearly meets the stylistic definition of 'jazz,' and broadly prioritises tonal considerations.
- **4) Composition in a contemporary jazz setting:** Composition of music for category 3.

# Common-Tone Network for all Sets in II/VIII<sup>m</sup>4 [C] Through 'Deeper-Level' Steering

II/VIII<sup>m</sup>4 [C]    A    1+2    B    2+1    C    1+2    D    2+1

2 + 4 + 2

**Set A**  
[C, Db, Eb]  
IIm/IIM/IIm [A] CT [C] CT [Db] CT [Eb]

**Set B**  
[D, E, F]  
IIM/IIm/IIM [B] CT [D] CT [E] CT [F]

**Set C**  
[F#, G, A]  
IIm/IIM/IIm [D#] CT [F#] CT [G] CT [A]

**Set D**  
[Ab, Bb, B]  
IIM/IIm/IIM [F] CT [Ab] CT [Bb] CT [B]



# Example of Harmonic Fields Generated by Steering Hours II, IV, and VII by a C7

In this example, we will use the notes of a C7 as our steering group, or 433 in TC terms

433 [C]

The steering group 433 [C] is shown on a single staff with a treble clef. It consists of four notes: C4 (quarter), E4 (quarter), G4 (quarter), and Bb4 (quarter). Below the notes are the numbers 4, +, 3, +, 3, indicating the intervals between notes.

① II<sub>m</sub>/433 [C] (1+2/433)

The first harmonic field, II<sub>m</sub>/433 [C] (1+2/433), is shown on a single staff with a treble clef. It consists of four chords: A (1+2), B (1+2), C (1+2), and D (1+2). Each chord is a dyad of notes from the steering group. Below the notes are the numbers 4, +, 3, +, 3, indicating the intervals between notes.

② IV<sub>m</sub>/433 [C] (1+4/433)

The second harmonic field, IV<sub>m</sub>/433 [C] (1+4/433), is shown on a single staff with a treble clef. It consists of four chords: A (1+4), B (1+4), C (1+4), and D (1+4). Each chord is a dyad of notes from the steering group. Below the notes are the numbers 4, +, 3, +, 3, indicating the intervals between notes.

③ VII<sub>m</sub>/433 [C] (3+2/433)

The third harmonic field, VII<sub>m</sub>/433 [C] (3+2/433), is shown on a single staff with a treble clef. It consists of four chords: A (3+2), B (3+2), C (3+2), and D (3+2). Each chord is a dyad of notes from the steering group. Below the notes are the numbers 4, +, 3, +, 3, indicating the intervals between notes.

# Future Research

- The analysis and application of Schat's and McLeod's compositional techniques and their potential creative application to jazz
- The viability of Tone-Clock Theory as a new framework for harmonic analysis
- Musicological research into Tone-Clock Theory's impact on contemporary jazz practices