

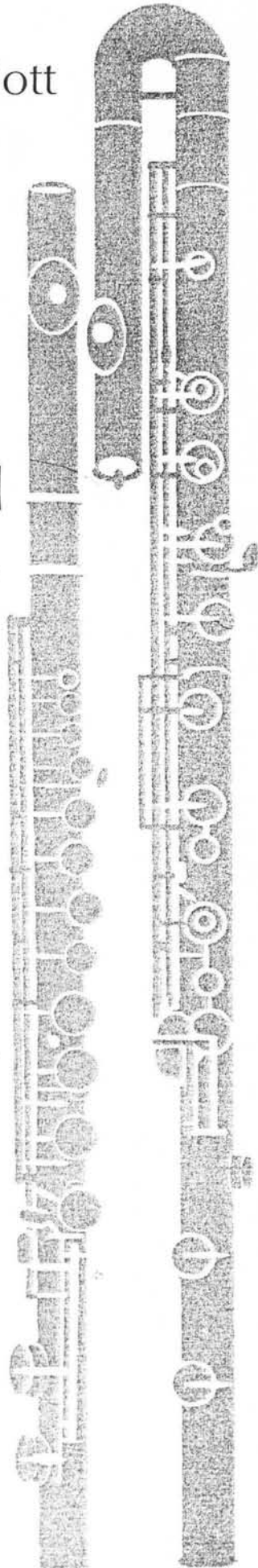
Carin Levine
Christina Mitropoulos-Bott

The Techniques
of Flute Playing II
Piccolo,
Alto and Bass Flute

Die Spieltechnik
der Flöte II
Piccolo,
Alt- und Bassflöte



Bärenreiter



3 *pp-ff*

3 *pp-p*

2 *pp-mf*

2 *mf*

2 *mf*

incl. COMPACT
disc DIGITAL AUDIO

Carin Levine
Christina Mitropoulos-Bott

The Techniques of Flute Playing
Die Spieltechnik der Flöte

II

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Christina Mitropoulos-Bott

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Die Spieltechnik der Flöte

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Piccolo, Alto and Bass Flute
Piccolo-, Alt- und Bassflöte



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Carin Levine · Christina Mitropoulos-Bott
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Die Spieltechnik der Flöte I

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Inhalt

I Einleitung	
1.1	Vorwort 7
1.2	Die Flötentypen 8
1.2.1	Tonumfang und Stimmung 9
1.3	Flötendiagramm-Griffmodell 9
2 Effekte, die den Klang erweitern	
2.1	Die 4. Oktave der Flöte 11
2.2	Flutterzunge 12
2.3	Flageolets 12
2.3.1	Doppelflageolets 13
2.4	Whistle Tones 14
2.4.1	Sonderformen von Whistle Tones 15
2.5	Jet Whistle 15
2.6	Trompetenansatz 16
2.7	Singen und Spielen 16
2.8	Mehrklänge 17
2.8.1	Mehrklang-Griffe 18
3 Perkussive Effekte	
3.1	Pizzicato 19
3.1.1	Lippenpizzicato 20
3.1.2	Zungenpizzicato 20
3.2	Klappengeräusch 20
3.2.1	Klappengeräusch mit Ton 20
3.2.2	Klappengeräusch ohne Ton 21
3.3	Tongue Ram 21
4 Vibrato	
4.1	Zungenvibrato 25
4.2	Lippenvibrato (smorzato) 25
5 Luftgeräusch	
5.1	Ton und Luft 27
5.2	Äolische Klänge 28
5.3	Sprechen und Spielen 28
6 Zirkularatmung	

Contents

I Introduction	
1.1	Foreword 7
1.2	Types of Flutes 8
1.2.1	Range and Tuning 9
1.3	Flute Diagram-Fingering Chart 9
2 Effects that Extend the Sound	
2.1	The 4 th Octave of the Flute 11
2.2	Flutter Tongue 12
2.3	Harmonics 12
2.3.1	Double harmonics 13
2.4	Whistle Tones 14
2.4.1	Special Forms of Whistle Tones 15
2.5	Jet Whistle 15
2.6	Trumpet Embouchure 16
2.7	Singing and Playing 16
2.8	Multiphonics 17
2.8.1	Multiphonic Fingerings 18
3 Percussive Effects	
3.1	Pizzicato 19
3.1.1	Lip Pizzicato 20
3.1.2	Tongue Pizzicato 20
3.2	Key Clicks 20
3.2.1	Key Clicks with Sound 20
3.2.2	Key Clicks without Sound 21
3.3	Tongue Ram 21
4 Vibrato	
4.1	Tongue Vibrato 25
4.2	Lip Vibrato (smorzato) 25
5 Air Sounds	
5.1	Tone and Air 27
5.2	Aeolian Sounds 28
5.3	Speaking and Playing 28
6 Circular Breathing	

7 Triller		
7.1	Triller der 4. Oktave	31
7.2	Klangfarbentriller / Bisbigliando	31
7.3	Tremolo	32
7.4	Trillerfiguren	33
7.5	Doppeltriller	34
7.6	Mehrklang-Triller	35

8 Glissando		
8.1	Ansatzglissando	36
8.2	Griffglissando	37

9 Mikrotonalität		
9.1	Die mikrotonale Skala	39

10 Flöte Plus		
10.1	Flöte und Tonträger	40
10.2	Flöte und Elektronik	41

11 Offene Notationsformen		
11.1	Grafische Notation	42
11.2	Space Notation	43

12 Anhänge		
12.1	Anhang 1 – Griffe der 4. Oktave	44
12.1.1	Piccoloflöte	44
12.1.2	Altflöte	45
12.1.3	Bassflöte	45
12.2	Anhang 2 – Triller der 4. Oktave	46
12.2.1	Piccoloflöte	46
12.2.2	Altflöte	46
12.2.3	Bassflöte	47
12.3	Anhang 3 – Bisbigliando-Griffe	47
12.3.1	Piccoloflöte	47
12.3.2	Altflöte	52
12.3.3	Bassflöte	57
12.4	Anhang 4 – Die mikrotonale Skala	63
12.4.1	Piccoloflöte	63
12.4.2	Altflöte	68
12.4.3	Bassflöte	74
12.5	Anhang 5 – Mehrklang-Griffe	80
12.5.1	Piccoloflöte	81
12.5.2	Altflöte	96
12.5.3	Bassflöte	111
12.6	Anhang 6 – Klangbeispiele	125
12.7	Anhang 7 – Diskographie	126

Über die Autorinnen

7 Trills		
7.1	Trills of the 4 th Octave	31
7.2	Timbral Trill / Bisbigliando	31
7.3	Tremolo	32
7.4	Trill Figures	33
7.5	Double Trill	34
7.6	Multiphonic Trill	35

8 Glissando		
8.1	Embouchure Glissando	36
8.2	Fingered Glissando	37

9 Microtonality		
9.1	The Microtonal Scale	39

10 Flute Plus		
10.1	Flute and Tape	40
10.2	Flute and Electronics	41

11 Open Forms of Notation		
11.1	Graphic Notation	42
11.2	Spatial Notation	43

12 Appendices		
12.1	Appendix 1 – Fingerings of the 4 th Octave	44
12.1.1	Piccolo Flute	44
12.1.2	Alto Flute	45
12.1.3	Bass Flute	45
12.2	Appendix 2 – Trills of the 4 th Octave	46
12.2.1	Piccolo Flute	46
12.2.2	Alto Flute	46
12.2.3	Bass Flute	47
12.3	Appendix 3 – Bisbigliando Fingerings	47
12.3.1	Piccolo Flute	47
12.3.2	Alto Flute	52
12.3.3	Bass Flute	57
12.4	Appendix 4 – The Microtonal Scale	63
12.4.1	Piccolo Flute	63
12.4.2	Alto Flute	68
12.4.3	Bass Flute	74
12.5	Appendix 5 – Multiphonic Fingerings	80
12.5.1	Piccolo Flute	81
12.5.2	Alto Flute	96
12.5.3	Bass Flute	111
12.6	Appendix 6 – Recorded Examples	125
12.7	Appendix 7 – Discography	126

About the authors

Einleitung

1.1 Vorwort

Neben der C-Flöte sind auch die Piccolo-, Alt- und Bassflöte durch ihre vielfältigen klanglichen Möglichkeiten für die Neue Musik besonders gut geeignet. In den letzten Jahren wurde viel mit Spieltechniken experimentiert und neue Notationsformen entwickelt.

Das vorliegende Buch wendet sich wie der erste Band von »Die Spieltechnik der Flöte« von Carin Levine und Christina Mitropoulos-Bott als praxisorientiertes Arbeitshandbuch an Studierende, Schüler, Lehrer und Komponisten¹. Während im ersten Band alle Spieltechniken am Beispiel der C-Flöte ausführlich erläutert sind, werden im zweiten Band die Übertragungsmöglichkeiten auf die Piccolo-, Alt- und Bassflöte² behandelt. Wo keine Abweichungen bestehen, wird auf das entsprechende Kapitel im ersten Band verwiesen. Für jedes Instrument sind darüber hinaus ausführliche Griffstabellen (Bisbigliando, mikrotonale Skalen, Mehrklänge etc.) im Buch enthalten. Außerdem sind gängige Notationsformen abgebildet. Die Kontrabassflöte und Subkontrabassflöte werden nicht separat behandelt. Die Spieltechniken sind weitestgehend analog zur Bassflöte auszuführen.

1 Aufgrund der besseren Lesart haben sich die Autorinnen für die männliche Formulierung der Berufsbezeichnungen entschieden. Alle Leserinnen mögen sich trotzdem respektiert und angesprochen fühlen.

2 Alle Flötentypen in diesem Buch sind Querflöten.

Introduction

1.1 Foreword

Because of their versatility in creating a wide array of sounds, the piccolo, alto and bass flutes are, like the C flute, also exceptionally well adapted to the challenges of new music. Recent years have seen the development of new forms of notation and experimentation with many new performance techniques.

Like the first volume, »The Techniques of Flute Playing« by Carin Levine and Christina Mitropoulos-Bott, the present book is also intended to serve as a practice-oriented handbook for students, teachers and composers. While the first volume focused on a detailed explanation of performance techniques with reference to the C flute, the present second volume discusses the application of those techniques to the piccolo, alto and bass flutes. Wherever there are no divergences, reference will be made to the corresponding chapter in the first volume. In addition, current forms of notation are illustrated and detailed fingering tables (for bisbigliando, microtonal scales, multiphonics, etc.) are provided for each instrument. The contrabass and subcontrabass flutes are not treated separately; their performance techniques are essentially analogous to the bass flute, though differences in range and tuning will be pointed out.

To demonstrate the effects, an accompanying CD with examples from all three instruments was recorded especially for this volume by Carin Levine.

Allerdings wird der Unterschied in Tonumfang und Stimmung aufgeführt.

Zur Demonstration der Effekte ist dem Buch eine von Carin Levine eingespielte CD mit Klangbeispielen für alle drei Instrumente beigelegt.

Die Struktur des Buches und den inhaltlichen Aufbau haben beide Autorinnen gemeinsam entwickelt. Von Carin Levine kommen die Idee und das flötistische Material.

Der Bärenreiter-Verlag und zahlreiche Personen haben uns zum Verfassen des zweiten Bandes ermuntert. In erster Linie danken wir dem Lektor Michael Töpel, der das gesamte Projekt von Anfang an unterstützt hat. Armin Schorsch danken wir für seine Programmierung – er hat auch in diesem Band wesentlich dazu beigetragen, dass wir die zahlreichen Griffe exakt darstellen konnten. Darüber hinaus danken wir Marita Emigholz für ihre wichtigen Anmerkungen zum Text und Laurie Schwartz für die gelungene englische Übersetzung. Lotte Thaler, Klaus-Dieter Hesse und der Südwestrundfunk haben die CD zum Buch ermöglicht – ihnen gilt unser besonderer Dank.

Die Autorinnen wollen mit diesem Buch die Besonderheiten der unterschiedlichen Flöten aufzeigen und hoffen, dass der Reiz der Instrumente und das nun vorliegende zweite Arbeitshandbuch die Zusammenarbeit zwischen Interpreten und Komponisten inspiriert.

1.2 Die Flötentypen

Für dieses Buch wurden Instrumente mit geschlossenen Klappen, ohne H-Fuß sowie Piccoloflöten aus Holz verwendet. Erhältlich sind auch Alt- und Bassflöten mit Ringklappen. Da diese aber so unterschiedliche Bauweisen aufweisen, können für diese Flöten keine allgemeingültigen Griffe vorgeschlagen werden. Auf Basis der hier angegebenen Griffe für geschlossene Klappen sollte jeder Flötist die Möglichkeit nutzen, selbstständig neue Griffe zu entdecken.

»The Techniques of Flute Playing, Volume 2« was conceived by Carin Levine who is also responsible for providing the technical materials including fingering charts, scales, etc. The form and organization of the book is the result of the collaborative effort of both authors.

Many people, including our publisher, Bärenreiter Verlag, encouraged us to write this second volume. We would most of all like to thank our editor, Michael Töpel, who supported the project from its inception. We thank Armin Schorsch for developing the computer program – he is responsible for the fact that, also in this volume, we were able to represent the numerous fingerings precisely. In addition, we would like to thank Marita Emigholz for her important comments on the text and Laurie Schwartz for the excellent English translation. Lotte Thaler, Klaus-Dieter Hesse and Südwestrundfunk made the accompanying CD possible – they have our special gratitude.

With this book, the authors wish to illuminate the particularities of the different flutes and hope that the appeal of the instruments combined with the information contained in the present second volume will inspire new collaborations between interpreters and composers.

1.2 Types of Flutes

For this book, instruments with closed holes and without a B-foot joint as well as piccolo flutes made of wood were utilized. Alto and bass flutes are also available with open holes, however, since these exhibit such wide variations in construction, no generally applicable fingerings can be suggested. On the basis of the fingerings provided here for closed hole flutes, each flutist should take the opportunity to discover new fingerings for himself.

1.2.1 Tonumfang und Stimmung | 1.2.1 Range and Tuning

	Stimmung*/ Tuning*	Tonumfang/ Range	Notierung/ Notation
Piccoloflöte/ Piccolo Flute	in C	d ² -d ⁵	d ¹ -d ⁴
Altflöte/ Alto Flute	in G	g-a ³	c ¹ -d ⁴
Bassflöte/ Bass Flute	in C	C-e ^b ³	c ¹ -e ^b ⁴
Kontrabassflöte/ Contrabass Flute	in G	G-a ²	c ¹ -d ⁴
Subkontrabassflöte/ Subcontrabass Flute	in C	C ₁ -e ^b ²	c ¹ -e ^b ⁴

*transponierend

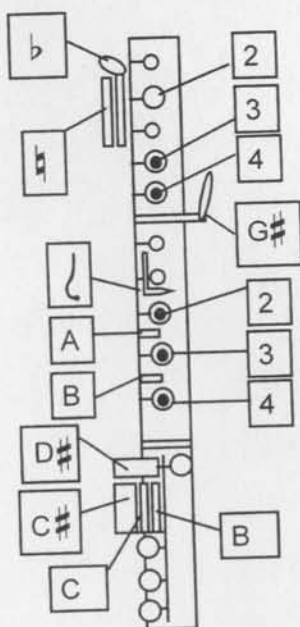
Die im weiteren Textverlauf genannten Tonbezeichnungen sind transponierend notiert.

*transposed

References to pitches in the subsequent text are transposed.

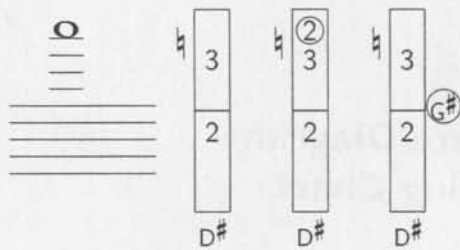
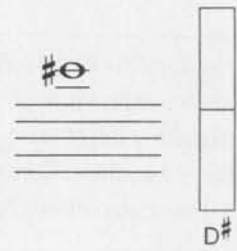
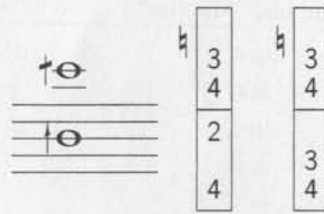
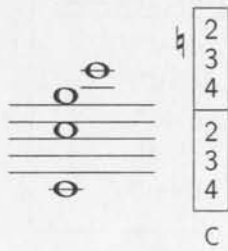
1.3 Flötendiagramm-Griffmodell

1.3 Flute Diagram-Fingering Chart



Die in diesem Buch verwendeten Griffbilder sehen demnach wie folgt aus:

The fingering diagrams used in this book are presented as follows:



2

Effekte, die den Klang erweitern

2.1 Die 4. Oktave der Flöte

Die 4. Oktave der Piccoloflöte ist nur sehr bedingt ausbaufähig. Im Anhang 2, »Triller der 4. Oktave«, S. 46, finden sich Griffe bis d^4 (klingend d^5). Da bei der Piccoloflöte häufig schon die Ausführung der 3. Oktave schwierig ist, wird ausdrücklich empfohlen, auch die Griffangaben aus den Bisbigliando- bzw. mikrotonalen Skalen zu Rate zu ziehen.

Auch die 4. Oktave der Altflöte ist eingeschränkt: Im Anhang finden sich Griffe bis d^4 (klingend a^3). Da die Intonation in der 3. und 4. Oktave der Altflöte problematisch ist, weisen die Autorinnen auch hier wieder auf Griffmöglichkeiten aus den Bisbigliando- bzw. mikrotonalen Skalen hin. Für die Bassflöte finden sich Griffe bis f^4 (klingend f^3) im Anhang aufgeführt.

Erläuterungen und Übetipps sind in Band 1, S. 11, zu finden.

Effects that Extend the Sound

2.1 The 4th Octave of the Flute

The 4th octave of the piccolo flute can be employed only within certain limits. In the appendix 2, »Trills of the 4th Octave«, p. 46, fingerings are provided until d^4 (sounding: d^5). Since the 3rd octave is often difficult to execute on the piccolo flute, the authors highly recommend consulting the fingering charts for bisbigliando and microtonal scales.

The 4th octave of the alto flute is likewise restricted: in the appendix, fingerings are indicated until d^4 (sounding: a^3). Since the intonation of the 3rd and 4th octaves of the alto flute is problematic, the authors recommend, in this case also, consulting the fingering possibilities for bisbigliando and microtonal scales. For the bass flute, fingerings are provided until f^4 (sounding: f^3) in the appendix.

Explanations and practice tips are found in Volume 1, p. 11.

Notationsbeispiel

Musical example



»FluFlu« (Piccoloflöte / piccolo flute), Dror Feiler, Manuscript

2.2 Flatterzunge

Die Flatterzunge ist auf allen drei Flötentypen wie auf einer C-Flöte zu erzeugen. Erläuterungen und Übetipps sind in Band 1, S. 12f., zu finden.

2.2 Flutter Tongue

The flutter tongue can be produced on all three types of flutes just as it is on the C flute. Explanations and practice tips are found in Volume 1, pp. 12f.

Klangbeispiele

Recorded examples



Notationsbeispiele

Musical examples

2x7

Flöte Flzg.
Stimme Gliss.

»Entführung« (Piccoloflöte / piccolo flute),
Karlheinz Stockhausen, Stockhausen-Verlag

flutt.

»Bone ++« (Bassflöte / bass flute),
Keiko Harada, Manuscript

2.3 Flageoletts

Die Flageoletts sind auf allen drei Flötentypen wie auf einer C-Flöte zu erzeugen. Viele Töne der 3. und 4. Oktave können wegen Intonation und Ansprache auch durch Flageolett-Griffe ersetzt werden.

Erläuterungen und Übetipps sind in Band 1, S. 14, zu finden.

2.3 Harmonics

Harmonics can be produced on all three flute types just as they are on the C flute. Many tones of the 3rd and 4th octaves – where intonation and response are problematic – can often be replaced by harmonic fingerings.

Explanations and practice tips are found in Volume 1, p. 14.

Klangbeispiele

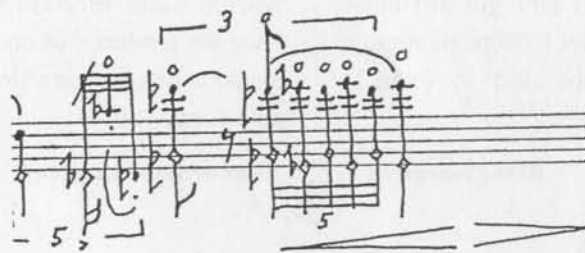
Recorded examples



2

2

Notationsbeispiele | Musical examples



»Plainte ... lieber spaltet mein Herz ... II« (Altflöte / alto flute),
Klaus Huber, Ricordi



»Reigaku« (Altflöte / alto flute),
Joji Yuasa, Manuscript

2.3.1 Doppelflageolets

Doppelflageolets sind auf allen drei Flötentypen wie auf der C-Flöte zu erzeugen. Erläuterungen und Übetipps sind in Band 1, S. 14f., zu finden.

2.3.1 Double harmonics

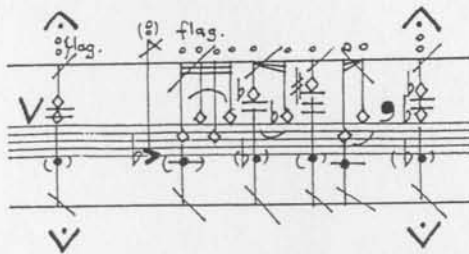
Double harmonics can be produced on all three flute types just as they are on the C flute. Explanations and practice tips are found in Volume 1, pp. 14f.

Klangbeispiele
3



Recorded examples
3

Notationsbeispiel | Musical example



»Eclat 03022002« (Bassflöte / bass flute),
Peter Köszeghy, Edition Juliane Klein

2.4 Whistle Tones

Whistle Tones funktionieren sehr gut auf allen Flöten. Sie werden wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 15f., zu finden.

2.4 Whistle Tones

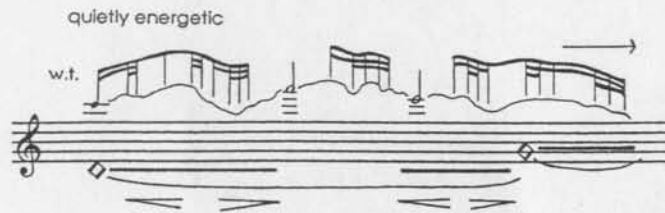
Whistle tones function very well on all flutes. They are produced as on the C flute. Explanations and practice tips are found in Volume 1, pp. 15f.

Klangbeispiele
4

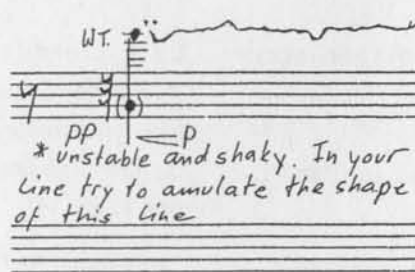


Recorded examples
4

Notationsbeispiele | Musical examples



»the tides« (Bassflöte / bass flute), Laurie Schwartz, Manuscript



»While liquid amber« (Piccoloflöte / piccolo flute), Chaya Czernowin, Schott

2.4.1 Sonderformen von Whistle Tones

Die Sonderformen der Whistle Tones lassen sich auf allen Flöten sehr gut realisieren. Sie werden wie auf der C-Flöte erzeugt.

Erläuterungen und Übetipps sind in Band 1, S. 17, zu finden.

2.4.1 Special Forms of Whistle Tones

Special forms of whistle tones can be realized easily on all flutes. They are produced as on the C flute.

Explanations and practice tips are found in Volume 1, p. 17.

Klangbeispiele
5



Recorded examples
5

Notationsbeispiel

Musical example



»ALL'AURE IN UNA LONTANANZA« (Bassflöte / bass flute),
Salvatore Sciarrino, Ricordi

2.5 Jet Whistle

Der Jet Whistle wird wie auf der C-Flöte ausgeführt. Zu erwähnen ist jedoch, dass der Jet Whistle auf der Piccoloflöte nicht so kräftig wie auf den anderen Flöten klingt.

Erläuterungen und Übetipps sind in Band 1, S. 17f., zu finden.

2.5 Jet Whistle

The jet whistle is produced as it is on the C flute. It should be noted, however, that the jet whistle on the piccolo flute does not sound as strong as it does on the other flutes.

Explanations and practice tips are found in Volume 1, pp. 17f.

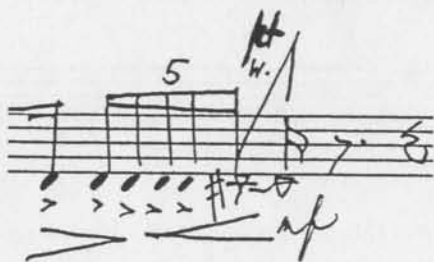
Klangbeispiele
6



Recorded examples
6

Notationsbeispiel

Musical example



»Abysses« (Bassflöte / bass flute),
Helena Tulve, Manuscript

2.6 Trompetenansatz

Der Trompetenansatz wird bei allen drei Flötentypen wie auf der C-Flöte erzeugt und funktioniert sehr gut.

Erläuterungen und Übetipps sind in Band 1, S. 18f., zu finden.

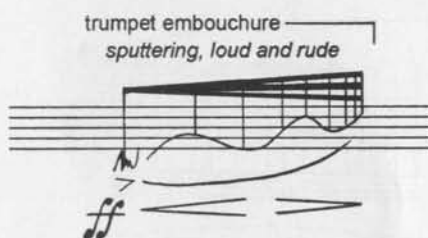
2.6 Trumpet Embouchure

Trumpet embouchure can be brought into play with all three flute types just as it is on the C flute and functions very well.

Explanations and practice tips are found in Volume 1, pp. 18f.

Klangbeispiele 7  Recorded examples 7

Notationsbeispiel | Musical example



»blowing in the wind« (Bassflöte / bass flute),
Laurie Schwartz, Manuscript

2.7 Singen und Spielen

Singen und Spielen ist bei allen drei Flötentypen möglich und wird wie auf der C-Flöte ausgeführt. Erläuterungen und Übetipps sind in Band 1, S. 19ff., zu finden.

Hinweis für Komponisten: Die Vokalstimme sollte immer in C notiert werden.

2.7 Singing and Playing

Singing and playing is possible on all three flute types and is executed as it is on the C flute.

Explanations and practice tips are found in Volume 1, pp. 19ff.

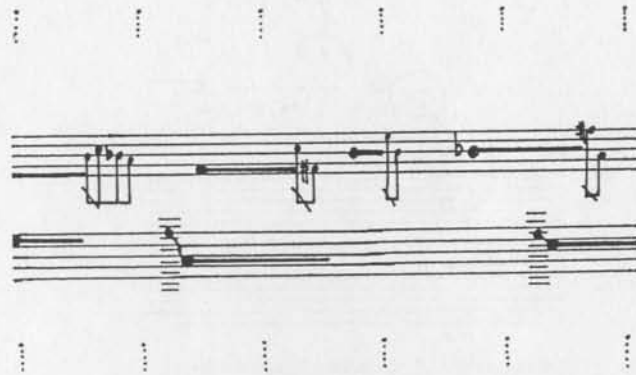
Note to composers: The voice should always be notated in C.

Klangbeispiele 8  Recorded examples 8

Notationsbeispiele | Musical examples



»Quartett No. 1« (Altflöte / alto flute), Dieter Mack, Manuscript



»Monolith« (Piccoloflöte / piccolo flute), Vinko Globokar, Edition Peters

2.8 Mehrklänge

Mehrklänge sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Durch die fehlenden Ringklappen fällt die Anzahl der Mehrklänge jedoch wesentlich geringer aus. Erläuterungen und Übetipps sind in Band 1, S. 22f., zu finden.

2.8 Multiphonics

Multiphonics are possible on all three flute types and are produced as on the C flute. Due to the absence of open holes, however, the number of multiphonics is considerably smaller.

Explanations and practice tips are found in Volume 1, pp. 22f.

Klangbeispiele

9



Recorded examples

9

Notationsbeispiel

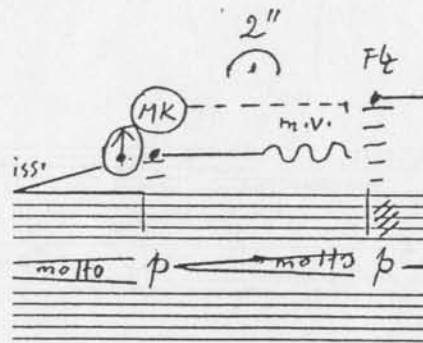
Musical examples



»Waters, earth and air« (Bassflöte / bass flute), Charlotte Seither, Bärenreiter



»Atemaj« (Piccoloflöte / piccolo flute), Uros Rojko, Ricordi



»Segmente« (Piccoloflöte / piccolo flute),
Adriana Hölszky, Breitkopf & Härtel

2.8.1 Mehrklang-Griffe

Ausführliche Tabellen mit Mehrklang-Griffen finden sich im Anhang 5, »Mehrklang-Griffe«, S. 80ff. Alle Griffe sind transponierend notiert.

2.8.1 Multiphonic Fingerings

Complete tables of multiphonic fingerings are found in Appendix 5, »Multiphonic Fingerings«, pp. 80ff. All fingerings are transposed.

3

Perkussive Effekte

3.1 Pizzicato

Pizzicati sind bei allen drei Flötentypen möglich und sind wie auf der C-Flöte zu erzeugen. Durch die verschiedenen Rohr-Volumina entstehen große Klangfarbenunterschiede. Bei der Piccoloflöte wirken die Pizzicati eher spitz, bei der Alt- und Bassflöte dagegen sehr resonanzreich.

Erläuterungen und Übetipps sind in Band 1, S. 24, zu finden.

Hinweis für Komponisten: Der Pizzicato-Effekt lässt sich am effektivsten in der ersten Oktave der Flöten erzeugen.

Percussive Effects

3.1 Pizzicato

Pizzicati are possible on all three flute types and are produced as on the C flute. The different volumes of the tubes result in wide timbral varieties. With the piccolo flute, the pizzicato has a rather pointed effect, while with the alto and bass flutes, it is very rich in resonance.

Explanations and practice tips are found in Volume 1, p. 24.

Note to composers: the pizzicato is most effective on the first octave of the flute.

Notationsbeispiele

Musical examples

The image shows a musical notation example for the piece 'Kaum einen Hauch' by Günter Steinke. It features a staff with a treble clef and a key signature of one flat. The notation includes a series of notes with a wavy line underneath, indicating a pizzicato effect. Above the staff, there are two diagrams: the first shows a rectangular box with a dot inside, and the second shows a similar box with a horizontal line through it. An arrow points from the first diagram to the second. To the right of the second diagram, the letters 'T.R.' are written. Below the staff, there is a drawing of a flute with a wavy line underneath it, and the dynamic marking 'mf' is written below the drawing.

»... Kaum einen Hauch« (Altflöte / alto flute),
Günter Steinke, Boosey & Hawkes

The image shows a musical notation example for the piece 'Little i' by Marco Stroppa. It features a staff with a treble clef and a key signature of one flat. The notation includes a series of notes with a wavy line underneath, indicating a pizzicato effect. Above the staff, there are two diagrams: the first shows a rectangular box with a dot inside, and the second shows a similar box with a horizontal line through it. An arrow points from the first diagram to the second. To the right of the second diagram, the letters 'T.R.' are written. Below the staff, there is a drawing of a flute with a wavy line underneath it, and the dynamic marking 'mf' is written below the drawing.

»Little i« (Altflöte / alto flute), Marco Stroppa, Ricordi

3.1.1 Lippenpizzicato

Lippenpizzicati sind bei allen drei Flötentypen möglich und wie auf der C-Flöte zu erzeugen. Erläuterungen und Übetipps sind in Band 1, S. 25, zu finden.

Klangbeispiele
10



3.1.1 Lip Pizzicato

Lip pizzicati are possible on all three flute types and are produced as on the C flute. Explanations and practice tips are found in Volume 1, p. 25.

Recorded examples
10

3.1.2 Zungenpizzicato

Zungenpizzicati sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 25f., zu finden.

Klangbeispiele
11



3.1.2 Tongue Pizzicato

Tongue pizzicati are possible on all three flute types and are produced as on the C flute. Explanations and practice tips are found in Volume 1, pp. 25f.

Recorded examples
11

3.2 Klappengeräusch

3.2.1 Klappengeräusch mit Ton

Klappengeräusche mit Ton sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 26f., zu finden.

Klangbeispiele
12



3.2 Key Clicks

3.2.1 Key Clicks with Sound

Key clicks with sound are possible on all three flute types and are produced as on the C flute. Explanations and practice tips are found in Volume 1, pp. 26f.

Recorded examples
12

Notationsbeispiel | Musical example

»Coincidentia Oppositorum« (Altflöte / alto flute),
Claus-Steffen Mahnkopf, www.claussteffenmahnkopf.de

3.2.2 Klappengeräusch ohne Ton

Klappengeräusche ohne Ton sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Einen großen Einfluss auf das Klangergebnis hat der jeweilige Rohrresonanzkörper: je größer die Flöte, desto stärker die Klappengeräusche.

Erläuterungen sind in Band 1, S. 27, zu finden.

3.2.2 Key Clicks without Sound

Key clicks without sound are possible on all three flute types and are produced as on the C flute. The resonating body of each respective tube has a significant effect on the acoustic result: the larger the flute, the louder the key click.

Explanations are found in Volume 1, p. 27.

Klangbeispiele
13



Recorded examples
13

Notationsbeispiele

Musical example

03 — 0 04345

6 1 2 6 1 6 2- 2- 2 2- 2- 2 6

6 6 6 6

»La faulx de l'été« (Bassflöte / bass flute), Annette Schlünz, Boosey & Hawkes

3.3 Tongue Ram

Tongue Rams sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Tongue Rams auf der Piccoloflöte fallen klangschwächer aus und sind daher nicht unbedingt auf weite Entfernungen oder in groß besetzten Ensembles deutlich hörbar. Alt- und Bassflöte eignen sich aufgrund des großen Resonanzkörpers dagegen besonders gut. Wie bei der C-Flöte (mit H-Fuß) klingt die Altflöte eine große Septime tiefer als der gegriffene Ton. Auf der Piccoloflöte klingt der Tongue Ram eine kleine None tiefer, auf der Bassflöte eine kleine Septime tiefer als der gegriffene Ton.

Erläuterungen und Übetipps sind in Band 1, S. 28, zu finden.

3.3 Tongue Ram

Tongue rams are possible on all three flute types and are produced as on the C flute. Tongue rams on the piccolo flute are much weaker and thus not always clearly audible at a distance or within large ensembles. Because of their large resonating bodies, however, alto and bass flutes are very well suited for this effect. As on the C flute (with B-foot), the alto flute sounds a major seventh lower than the fingered tone. On the piccolo flute, the tongue ram sounds a minor ninth lower, on the bass flute, a minor seventh lower than the fingered tone.

Explanations and practice tips are found in Volume 1, p. 28.

Klangbeispiele
14



Recorded examples
14

Notationsbeispiel | Musical example



The image shows a musical score for a bass flute. It consists of two staves. The upper staff is in the treble clef with a key signature of one flat (B-flat) and a time signature of 16/8. The lower staff is in the bass clef with a key signature of one flat and a time signature of 4/4. The notation includes various rhythmic values such as eighth and sixteenth notes, rests, and dynamic markings. A prominent dynamic marking is *sfz sempre* located below the lower staff.

»Air« (Bassflöte / bass flute), Bernfried Pröve, Manuscript

4

Vibrato

Vibrati sind bei allen drei Flötentypen möglich und in allen Registern gut zu hören. Sie werden wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 30ff., zu finden.

▶ »vibrato lento« (langsames Vibrato)

Vibrato

Vibrati are possible on all three flute types and are clearly audible in all registers. They are produced as on the C flute. Explanations and practice tips are found in Volume 1, pp. 30ff.

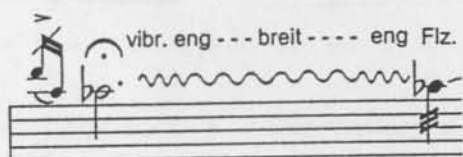
▶ »vibrato lento« (slow vibrato)

Klangbeispiele
15



Recorded examples
15

Notationsbeispiel | Musical example



mf > *p* < *mp* < *mf*

»Im alten Kloster« (Bassflöte / bass flute), Younghi Pagh-Paan, Ricordi

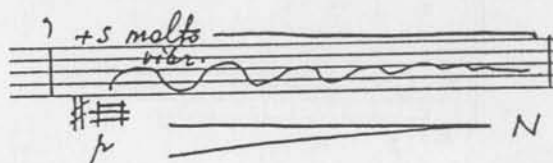
▶ »molto vibrato« (schnelles Vibrato) | ▶ »molto vibrato« (fast vibrato)

Klangbeispiele
16



Recorded examples
16

Notationsbeispiel | Musical example

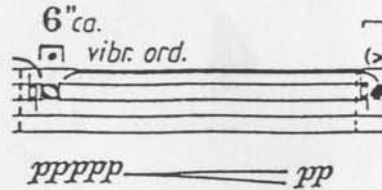


»Abysses« (Altflöte / alto flute), Helena Tulve, Manuscript

▶ »vibrato normale/ordinario« | ▶ »vibrato normale/ordinario«

Klangbeispiele 17  Recorded examples 17

Notationsbeispiel | Musical example




»Mnemosyne« (Bassflöte / bass flute),
Brian Ferneyhough, Edition Peters

▶ Übergänge | ▶ Transitions

Klangbeispiele 18  Recorded examples 18

Notationsbeispiel | Musical example

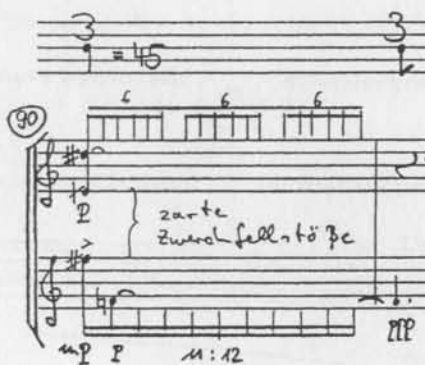


»A Fifth Circle« (Altflöte / alto flute), Hanna Kulenty, Donemus

▶ Zwerchfell-Akzente | ▶ Diaphragm accents

Klangbeispiele 19  Recorded examples 19

Notationsbeispiel | Musical example



»ins weite ...« (Altflöte / alto flute),
Jörg Birkenkötter, Breitkopf & Härtel

4.1 Zungenvibrato

Zungenvibrato ist bei allen drei Flötentypen möglich und wird wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 32, zu finden.

4.1 Tongue Vibrato

Tongue vibrati are possible on all three flute types and are produced as on the C flute. Explanations and practice tips are found in Volume 1, p. 32.

Klangbeispiele
20



Recorded examples
20

Notationsbeispiel | Musical example

»Flötenstücke« (Altflöte / alto flute), Robert HP Platz, Breitkopf & Härtel

4.2 Lippenvibrato (smorzato)

Lippenvibrato ist bei allen drei Flötentypen möglich und wird wie auf der C-Flöte erzeugt. Bei der Bassflöte ist zu bedenken, dass aufgrund des großen Kopfstückes die Ausführung dieser Technik für den Flötisten sehr anstrengend ist. Erläuterungen und Übetipps sind in Band 1, S. 33, zu finden.

4.2 Lip Vibrato (smorzato)

Lip vibrati are possible on all three flute types and are produced as on the C flute. One should take into account, however, that because of its large head joint, the execution of this technique on the bass flute is very strenuous for the flutist. Explanations and practice tips are found in Volume 1, p. 33.

Klangbeispiele
21



Recorded examples
21

Notationsbeispiele | Musical examples

»Mnemosyne« (Bassflöte / bass flute), Brian Ferneyhough, Edition Peters

»gereist in feldern durch zeit« (Piccoloflöte / piccolo flute), Reinhard Fuchs, edition 21

5

Luftgeräusch

Luftgeräusche sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Durch die unterschiedlichen Klangkörper heben sich die verschiedenen Flöten im Klangresultat deutlich voneinander ab. So fällt z.B. das Luftgeräusch der Piccoloflöte im Vergleich zur Alt- und Bassflöte wesentlich schlanker aus.

Erläuterungen sind in Band 1, S. 34, zu finden.

Air Sounds

Air sounds are possible on all three flute types and are produced as on the C flute. Because of the diverse resonating bodies of the various flutes, the resulting sounds are very different from one another. Thus, for example, the air sound of the piccolo flute is significantly thinner in comparison to that of the alto and bass flutes.

Explanations are found in Volume 1, p. 34.

Klangbeispiele
22



Recorded examples
22

Notationsbeispiele

Musical examples

The notation shows a staff with a treble clef and a key signature of one sharp (F#). It features a trill (tr.) with a wavy line above it, labeled (sim.) and (tr. ul. s.). Below the staff, dynamics are indicated: PPP, p, pp, mf, and pp. An arrow points from the (sim.) section to the (tr. ul. s.) section.

«Spleen II» (Bassflöte / bass flute), Olga Neuwirth, Ricordi

when needed.

Handwritten musical notation for piccolo flute. The staff has a treble clef and a key signature of one sharp. The notation includes a trill with a wavy line above it, labeled 'caduaty become trem spasms'. Below the staff, dynamics are indicated: p, d., and fff. There are also some circled numbers (3, 7, 7) above the notes.

«While liquid amber» (Piccoloflöte / piccolo flute), Chaya Czernowin, Schott

5.1 Ton und Luft

Einen Klang mit Luft zu gestalten, ist bei allen drei Flötentypen möglich und wird wie auf der C-Flöte erzeugt.
Erläuterungen und Übetipps sind in Band 1, S. 35, zu finden.

5.1 Tone and Air

Sculpting a sound with air is possible on all three flute types and is carried out as on the C flute.
Explanations and practice tips are found in Volume 1, p. 35.

Klangbeispiele
23



Recorded examples
23

Notationsbeispiele | Musical examples

A musical score for bass flute. The top staff shows a melodic line with various dynamics: *f*, *mp*, *pp*, and *ppp*. There are slurs over groups of notes, including a sixteenth-note run marked with '6' and a triplet marked with '3'. The bottom staff shows a bass line with a *f* dynamic.

»Atem-Lied« (Bassflöte / bass flute), Toshio Hosokawa, Schott

A musical score for bass flute focusing on dynamics. The top staff shows a melodic line starting with a *p* dynamic and ending with a *pp* dynamic. A large slur covers the entire phrase. Below the staff, a horizontal line indicates a dynamic change from 40% to 0% G.

»Languido« (Bassflöte / bass flute), Dieter Schnebel, Schott

A musical score for piccolo flute. The top staff shows a complex melodic line with sixteenth-note runs. There are slurs over groups of notes, including a sixteenth-note run marked with '6' and a group of notes marked with '5'. The bottom staff shows a bass line with a *f* dynamic.

»Das Konvolut, Vol. 1« (Piccoloflöte / piccolo flute), Michael Hirsch, Selbstverlag / Published by the author

5.2 Äolische Klänge

Äolische Klänge sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen und Übetipps sind in Band 1, S. 36, zu finden.

5.2 Aeolian Sounds

Aeolian sounds are possible on all three flute types and are produced as on the C flute.

Explanations and practice tips are found in Volume 1, p. 36.

Klangbeispiele

24



Recorded examples

24

Notationsbeispiel

Musical example

»again and against« (Altflöte / alto flute), Isabel Mundry, Breitkopf & Härtel

5.3 Sprechen und Spielen

Sprechen und Spielen ist bei allen drei Flötentypen möglich und ist mit der Technik der C-Flöte identisch.

Erläuterungen und Übetipps sind in Band 1, S. 37f., zu finden.

5.3 Speaking and Playing

Speaking and playing is possible on all three flute types; the technique is identical to that of the C flute.

Explanations and practice tips are found in Volume 1, pp. 37f.

Klangbeispiele

25



Recorded examples

25

Notationsbeispiele

Musical examples

»ariche« (Bassflöte / bass flute), Harald Muenz, Manuscript

A musical staff with a treble clef and a key signature of one sharp (F#). The staff contains a melodic line with a dynamic marking of *mf*. Above the staff, phonetic symbols are written: [s] followed by a dashed line, then [h]; [i] followed by a dashed line, then [y]. Vertical dashed lines connect the first and last notes of the staff to the phonetic symbols above.

»Contra-Flow« (Bassflöte / bass flute),
Christopher Fox, Manuscript

A musical score for two staves. The top staff is for an alto flute, showing a melodic line with a dynamic marking of *mf* and a crescendo leading to a dynamic marking of *sf*. The bottom staff is for a vocal line, with lyrics: ta té ko to kî ta té ko to kî. The lyrics are aligned with the notes in the vocal staff.

»Del aura al suspira« (Altflöte / alto flute), Mauricio Sotelo, Universal Edition

6

Zirkularatmung

Zirkularatmung ist bei allen drei Flötentypen möglich. Die Technik ist dieselbe wie bei der C-Flöte.

Erläuterungen und Übetipps sind in Band 1, S. 39f., zu finden.

Circular Breathing

Circular breathing is possible with all three flute types. The technique is the same as for the C flute. Explanations and practice tips are found in Volume 1, pp. 39f.

Notationsbeispiel

Musical example

A musical notation example for circular breathing on bass flute. It features a single staff with a treble clef and a bass clef. The notation starts with a square box containing the letter 'A'. Below the staff, there is a dynamic marking 'ppp' and a series of horizontal lines representing the breath stream. The notation includes a quarter note followed by two eighth notes, each with a circular breathing symbol (a circle with a vertical line through it). A bracket above the two eighth notes is labeled '±13 sek.'.

»Eclat 03022002« (Bassflöte / bass flute), Peter Köszeghy, Edition Juliane Klein

7

Triller

Trills

7.1 Triller der 4. Oktave

Erläuterungen siehe Kapitel 2.1, »Die 4. Oktave der Flöte«, S. 11. Trillergriffe siehe Anhang 2, »Trillergriffe der 4. Oktave«, S. 46f. Alle Griffe sind transponierend notiert.

7.1 Trills of the 4th Octave

For explanations, see the chapter 2.1, »The 4th Octave of the Flute«, p. 11. For trill fingerings, see Appendix 2, »Trills of the 4th Octave«, pp. 46f. All fingerings are transposed.

7.2 Klangfarbentriller/ Bisbigliando

Klangfarbentriller sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Detaillierte Griffstabellen finden sich im Anhang 3, »Bisbigliando-Griffe«, S. 47ff. Erläuterungen sind in Band 1, S. 41f., zu finden. Alle Griffe sind transponierend notiert.

7.2 Timbral Trill/ Bisbigliando

Timbral trills are possible on all three flute types and are produced as on the C flute. Detailed fingering charts are found in Appendix 3, »Bisbigliando Fingerings«, pp. 47ff. Explanations are found in Volume 1, pp. 41f. All fingerings are transposed.

Klangbeispiele
26



Recorded examples
26

Notationsbeispiele

Musical examples

»Tanzmusik III« (Piccoloflöte / piccolo flute), Bernd Asmus, Manuscript

so schnell wie möglich
 [P]
mp sub.

»Rezital« (Piccoloflöte / piccolo flute), Robert HP Platz, Ricordi

»Pfad« (Piccoloflöte / piccolo flute), Wolfram Schurig, Manuscript

»Little i« (Altflöte / alto flute), Marco Stroppa, Ricordi

7.3 Tremolo

Tremoli sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt.

Erläuterungen sind in Band 1, S. 42f., zu finden. Bei der Piccoloflöte gibt es abweichend von der C-Flöte keine Limitierung, für Alt- und Bassflöte gelten folgende Einschränkungen:

- c¹-d^{#1} (gegriffen)
- c^{#1}-d^{#1} (gegriffen)

7.3 Tremolo

Tremoli are possible on all three flute types and are produced as on the C flute.

Explanations are found in Volume 1, pp. 42f. For the piccolo, in contrast to the C flute, there are no limitations; for the alto and bass flutes, the following restrictions apply:

- c¹-d^{#1} (fingered)
- c^{#1}-d^{#1} (fingered)

Klangbeispiele
27

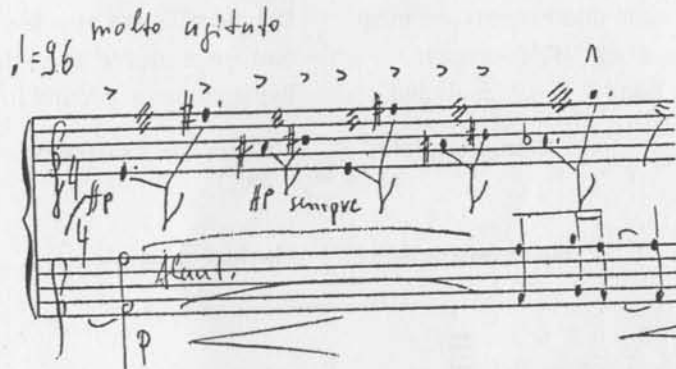


Recorded examples
27

Notationsbeispiele | Musical examples



»König Wiedehopf« (Piccoloflöte / piccolo flute),
Klaus Hinrich Stahmer, edition modern



»Tübingen Jänner« (Bassflöte / bass flute), Johannes Kalitzke, Edition Gravis

7.4 Trillerfiguren

7.4 Trill Figures

Trillerfiguren sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen sind in Band 1, S. 43, zu finden.

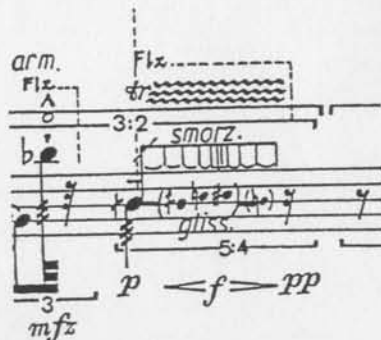
Trill figures are possible on all three flute types and are produced as on the C flute. Explanations are found in Volume 1, p. 43.

Klangbeispiele 28



Recorded examples 28

Notationsbeispiele | Musical examples



»Mnemosyne« (Bassflöte / bass flute), Brian Ferneyhough, Edition Peters



»Blur« (Altflöte / alto flute), Karlheinz Essl, Manuscript

7.5 Doppeltriller

Doppeltriller sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen sind in Band 1, S. 44, zu finden.

7.5 Double Trill

Double trills are possible on all three flute types and are produced as on the C flute. Explanations are found in Volume 1, p. 44.

Klangbeispiele
29



Recorded examples
29

Notationsbeispiel

Musical example



»Mnemosyne« (Bassflöte / bass flute), Brian Ferneyhough, Edition Peters

7.6 Mehrklang-Triller

Mehrklang-Triller sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Erläuterungen sind in Band 1, S. 44f., zu finden.

7.6 Multiphonic Trill

Multiphonic trills are possible on all three flute types and are produced as on the C flute. Explanations are found in Volume 1, pp. 44f.

Klangbeispiele
30



Recorded examples
30

Notationsbeispiele | Musical examples



»Tübingen Jänner« (Bassflöte / bass flute),
Johannes Kalitzke, Edition Gravis



»L'Apparenza Reale« (Piccoloflöte / piccolo flute),
Fabrizio Casti, Manuscript

8

Glissando

Glissandi sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Zu beachten ist jedoch, dass aufgrund der fehlenden Ringklappen die Möglichkeiten beschränkt sind. Erläuterungen sind in Band 1, S. 46, zu finden.

8.1 Ansatzglissando

Ansatzglissandi sind bei allen drei Flötentypen möglich und werden wie auf der C-Flöte erzeugt. Dem Ansatzglissando kommt bei Flöten ohne Ringklappen eine höhere Bedeutung zu, da die Möglichkeit des langsamen Öffnens und Schließens von Tonlöchern fehlt.

Erläuterungen sind in Band 1, S. 46, zu finden.

Glissando

Glissandi are possible on all three flute types and are produced as on the C flute. One must be aware of the fact, though, that because of the absence of open keys, possibilities are limited.

Explanations are found in Volume 1, p. 46.

8.1 Embouchure Glissando

Embouchure glissandi are possible on all three flute types and are produced as on the C flute. The embouchure glissando becomes more important for flutes without open holes since it is not possible to open and close the sound holes slowly on these flutes.

Explanations are found in Volume 1, p. 46.

Klangbeispiele
31



Recorded examples
31

Notationsbeispiele | Musical examples

»in die Ferne, ins Leben« (Piccoloflöte / piccolo flute),
Benjamin Schweitzer, Hubert Hoche-Musikverlag



»A Fifth Circle« (Altflöte / alto flute),
Hanna Kulenty, Donemus

8.2 Griffglissando

Der Einsatz von Griffglissandi ist durch das Fehlen von Ringklappen stark eingeschränkt. Nahtlose Tonübergänge, allein durch Öffnen und Schließen von Klappen, sind eigentlich nicht möglich. In der Praxis wird unterstützend mit dem Ansatz gearbeitet, so dass dann ein quasi nahtloses Glissando simuliert werden kann.

Erläuterungen und Übetipps sind in Band 1, S. 46f., zu finden.

8.2 Fingered Glissando

The use of fingered glissandi is highly restricted due to the absence of open holes. Seamless transitions, only by opening and closing the keys are, in fact, not possible. In practice, slight changes in the embouchure are required so that an almost seamless glissando can be simulated.

Explanations and practice tips are found in Volume 1, pp. 46f.

Klangbeispiele
32



Recorded examples
32

Notationsbeispiel

Musical example



»Round Robin« (Piccoloflöte / piccolo flute), Cathy Milliken, Manuscript

9

Mikrotonalität

Mikrotonalität ist bei allen drei Flötentypen möglich. Es sollte berücksichtigt werden, dass sie durch das Fehlen von Ringklappen eingeschränkt sein kann. Dies bedeutet eine reduzierte Anzahl von Griffen. Wie bei den Glissandi wird auch hier der Ansatz bzw. Anblaswinkel zur Erreichung der gewünschten Tonhöhe vermehrt eingesetzt.

Analog zu Band 1, S. 48, werden hier noch einmal die erweiterten Akzidenzien wiedergegeben.

Microtonality

Microtonality is possible with all three flute types. One must take into account that, because of the absence of open holes, possibilities might be limited, signifying a reduction in the number of fingerings. As with glissandi, here too, the embouchure, i. e., angle of the air stream is often brought into play to achieve the intended pitch. Analogous to Volume 1, p. 48, the expanded accidental symbols are once again reproduced here.

↑	↑
etwas höher	somewhat higher
↓	↓
etwas tiefer	somewhat lower
↑	↑
Viertelton höher	quarter-tone higher
↓	↓
Viertelton tiefer	quarter-tone lower
♯	♯
Drei Viertelton höher	three quarter-tone higher
♭	♭
Drei Viertelton tiefer	three quarter-tone lower

Notationsbeispiele

Musical examples

The musical examples consist of two staves. The first staff shows a sequence of notes with various accidentals (sharps, flats, and double sharps) and dynamic markings (ff and mf). The second staff shows a sequence of notes with various accidentals (sharps, flats, and double sharps) and dynamic markings (ff and mf).

»Pfad« (Piccoloflöte / piccolo flute), Wolfram Schurig, Manuscript

APPENNA PIÙ MOSSO (♩ = 72 ca)

pppp

pacifling

gliss.

»Little i« (Altflöte / alto flute), Marco Stroppa, Ricordi

9.1 Die mikrotonale Skala

Detaillierte Griffskalen finden sich im Anhang 4, »Die mikrotonale Skala«, S. 63ff. Alle Griffe sind transponierend notiert.

9.1 The Microtonal Scale

Detailed fingering charts are found in Appendix 4, »The Microtonal Scale«, pp. 63ff. All fingerings are transposed.

Klangbeispiele
33



Recorded examples
33

10

Flöte Plus

Flute Plus

10.1 Flöte und Tonträger

10.1 Flute and Tape

Die Kombination von Flöte und Tonträger ist mit allen drei Flötentypen möglich. Erläuterungen sind in Band 1, S. 50, zu finden.

The combination of flute and tape is possible with all three flute types. Explanations are found in Volume 1, p. 50.

Notationsbeispiele

Musical examples

The image shows a musical score with seven staves. Above the staves, time markers are placed: 00:00, 00:30, 1:00, 1:30, and 2:00. The staves are labeled on the left as follows: OSC 1, OSC 2, PICCOLO, FLUTE, ALTO FLUTE, BASS FLUTE, and CONTRA BASS FLUTE. The notation includes various symbols: OSC 1 has a treble clef and notes with accidentals (sharps and flats) and a '3va' marking; OSC 2 has a bass clef and notes with accidentals; PICCOLO has a treble clef and a note with a flat and a '3va' marking; FLUTE has a treble clef and notes with accidentals; ALTO FLUTE has a bass clef; BASS FLUTE has a bass clef and a note with a sharp; CONTRA BASS FLUTE has a bass clef and a note with a sharp.

»Almost New York«, Alvin Lucier, Manuscript

»Languido« (Bassflöte / bass flute), Dieter Schnebel, Schott

10.2 Flöte und Elektronik

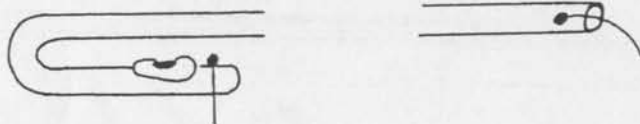
Die Kombination von Flöte und Elektronik ist mit allen drei Flötentypen möglich. Erläuterungen sind in Band 1, S. 51, zu finden.

Notationsbeispiele

Amplification:

2 very small condenser microphones are required:

one is positioned to the right of the mouthpiece (directed away from mouth),
the other is positioned inside the open end of flute (ca. 3-4 cm. from outer edge)



»the tides« (Bassflöte / bass flute), Laurie Schwartz, Manuscript

10.2 Flute and Electronics

The combination of flute and electronics is possible with all three flute types. Explanations are found in Volume 1, p. 51.

Musical examples

»morendo – double/echo« (Bassflöte / bass flute), Bernhard Lang, Zeitvertrieb

II

Offene Notationsformen

II.1 Grafische Notation

Grafische Notationen können von allen Instrumenten realisiert werden. Erläuterungen und Übertipps sind in Band 1, S. 52ff., zu finden.

Notationsbeispiele

Open Forms of Notation

II.1 Graphic Notation

Graphic notation can be realized by all instruments. Explanations and practice tips are found in Volume 1, pp. 52ff.

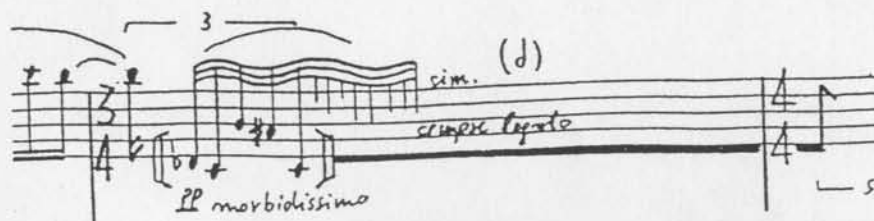
Musical examples

A musical score for two staves. The top staff has a treble clef and contains several dynamic markings: *p*, *mf*, and *mp*. The bottom staff has a bass clef and contains dynamic markings: *pp possible*, *pp*, *mp*, *p*, and *mf*. The notation is sparse, with many rests and some wavy lines, indicating a focus on dynamics and timbre over specific pitches.

»Le double silence« (Altflöte / alto flute), Violeta Dinescu, Manuscript

A musical score for two staves. The top staff has a treble clef and contains a series of notes with the instruction "GEPIFFEN ODER GESWIRT" above it. The bottom staff has a bass clef and contains a series of notes with a wavy line below it. The notation is more traditional but includes graphic elements like wavy lines and specific phrasing.

»Winter, Blumen« (Altflöte / alto flute), Gerhard Stäbler, Insel Verlag



»Per il vuoto dell'assenza« (Bassflöte / bass flute), Valerio Sannicandro, Edizioni Suvini Zerboni

II.2 Space Notation

Space Notation kann von allen Instrumenten realisiert werden. Erläuterungen sind in Band 1, S. 54, zu finden.

Notationsbeispiele

II.2 Spatial Notation

Spatial notation can be realized by all instruments. Explanations are found in Volume 1, p. 54.

Musical examples



»Noces Danses« (Piccoloflöte / piccolo flute), Rainer Rubbert, Manuscript



»König Wiedehopf« (Piccoloflöte / piccolo flute), Klaus Hinrich Stahmer, edition modern

12

Anhänge

Appendices

Alle Griffe sind transponierend notiert.

All fingerings are transposed.

12.1 Anhang I Griffe der 4. Oktave

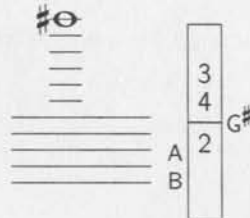
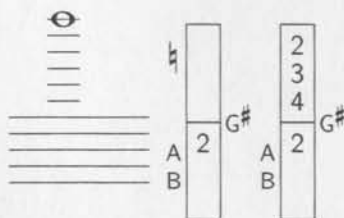
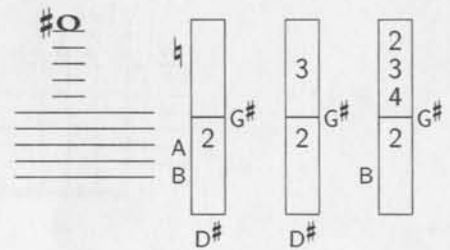
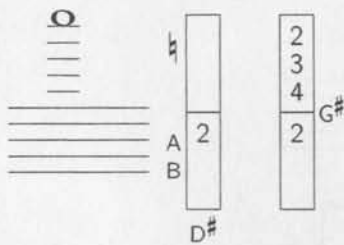
12.1 Appendix I Fingerings of the 4th Octave

Die Erläuterung der Griffbilder findet sich in Kapitel 1.3, »Flötendiagramm-Griffmodell«, S. 9f., die Erläuterung der Tonhöhenangaben im Kapitel 9, »Mikrotonalität«, S. 38.

An explanation of the fingering chart is found in Chapter 1.3, »Flute Diagram-Fingering Chart«, pp. 9f., an explanation of the accidentals in Chapter 9, »Microtonality«, p. 38.

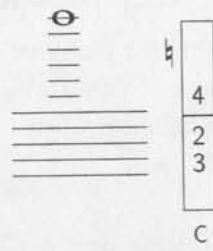
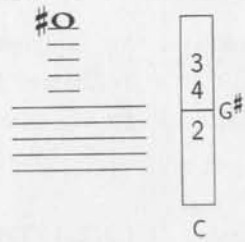
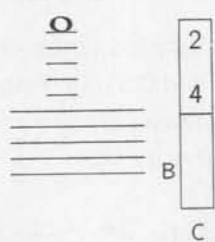
12.1.1 Griffe der 4. Oktave Piccoloflöte

12.1.1 Fingerings of the 4th Octave Piccolo Flute



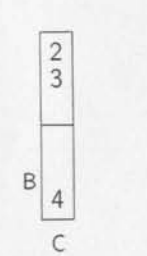
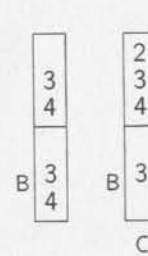
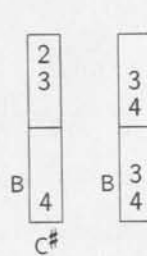
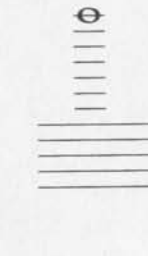
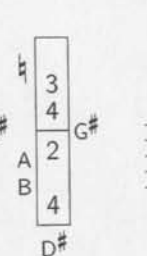
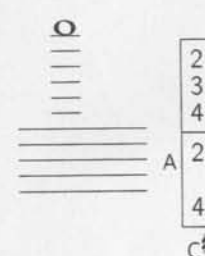
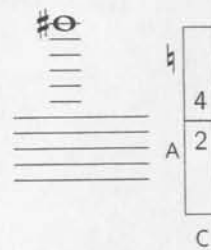
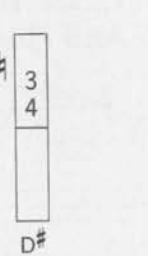
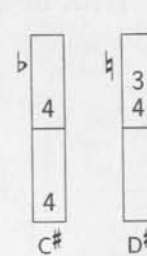
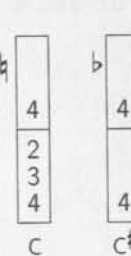
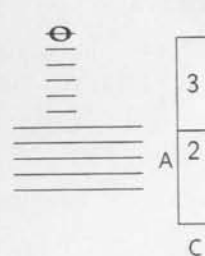
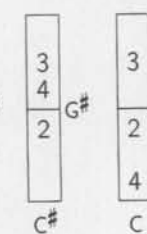
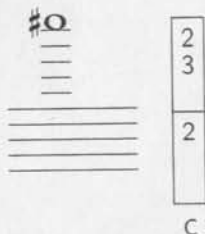
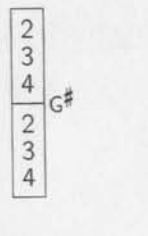
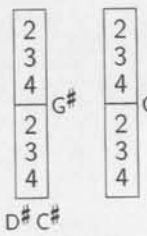
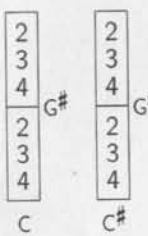
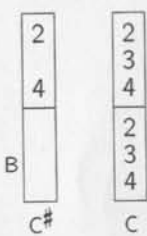
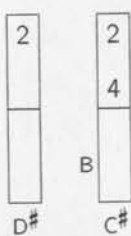
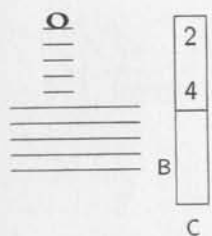
12.1.2 Griffe der 4. Oktave Altflöte

12.1.2 Fingerings of the 4th Octave Alto Flute



12.1.3 Griffe der 4. Oktave Bassflöte

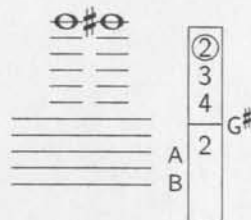
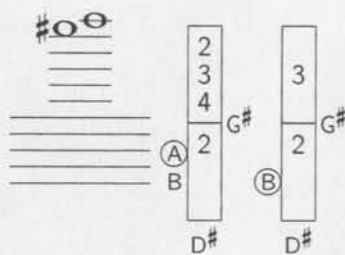
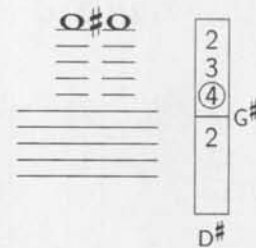
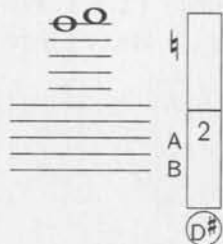
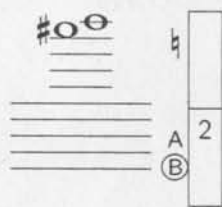
12.1.3 Fingerings of the 4th Octave Bass Flute



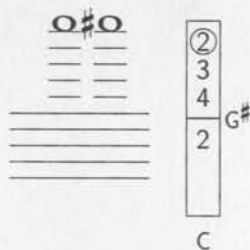
12.2 Anhang 2 Triller der 4. Oktave

Die Erläuterung der Griffbilder findet sich in Kapitel 1.3, »Flötendiagramm-Griffmodell«, S. 9f., die Erläuterung der Tonhöhenangaben im Kapitel 9, »Mikrotonalität«, S. 38.

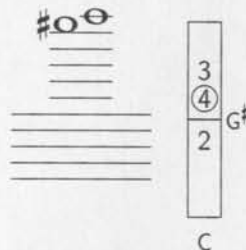
12.2.1 Triller der 4. Oktave Piccoloflöte



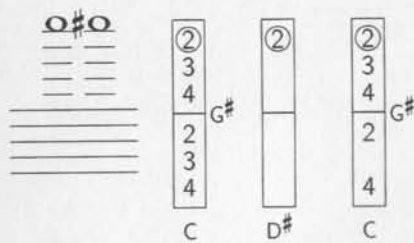
12.2.2 Triller der 4. Oktave Altflöte



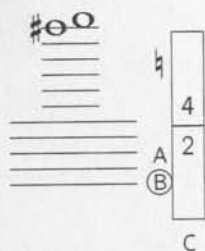
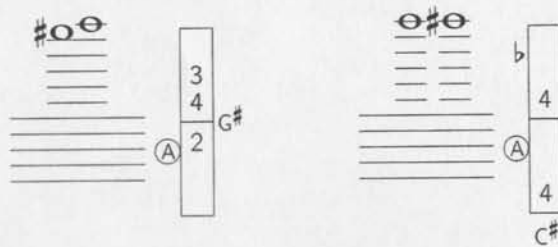
12.2.2 Trills of the 4th Octave Alto Flute



**12.2.3 Triller der 4. Oktave
Bassflöte**



**12.2.3 Trills of the 4th Octave
Bass Flute**



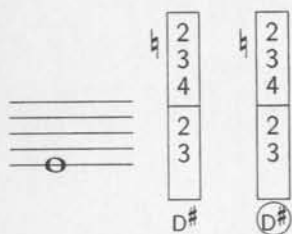
**12.3 Anhang 3
Bisbigliando-Griffe**

Die Erläuterung der Griffbilder findet sich in Kapitel 1.3, »Flötendiagramm-Griffmodell«, S. 9f., die Erläuterung der Tonhöhenangaben im Kapitel 9, »Mikrotonalität«, S. 38.

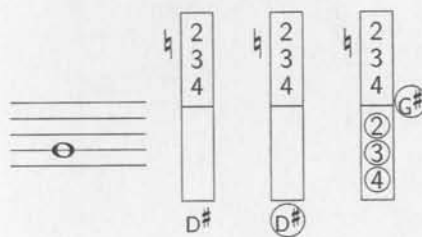
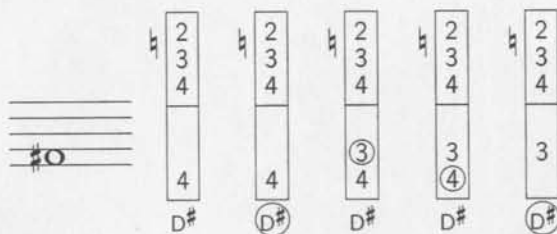
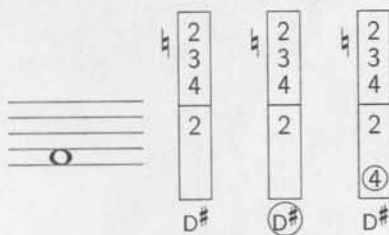
**12.3 Appendix 3
Bisbigliando Fingerings**

An explanation of the fingering chart is found in Chapter 1.3, »Flute Diagram-Fingering Chart«, pp. 9f., an explanation of the accidentals in Chapter 9, »Microtonality«, p. 38.

**12.3.1 Bisbigliando-Griffe
Piccoloflöte**



**12.3.1 Bisbigliando Fingerings
Piccolo Flute**



Two musical staves are shown. The first staff has a G# note on the second line. The second staff has a D# note on the second line. To the right of each staff are two vertical boxes representing fingering. The first box contains the numbers 2, 3, 4 from top to bottom. The second box contains 2, 3, 4, with a circled 3 below the 4. A G# symbol is placed to the right of each box. Below the first box is a D# symbol, and below the second box is a circled D# symbol.

A musical staff with a D# note on the second line. To the right are four vertical boxes, each with a flat symbol (b) above the number 2. The boxes contain the following numbers from top to bottom: 2; 2, 4 (with 4 circled); 2, 3 (with 3 circled); 2, 2 (with 2 circled). Below each box is a D# symbol.

A musical staff with a D# note on the second line. To the right are five vertical boxes, each with a flat symbol (b) above the number 2. The boxes contain the following numbers from top to bottom: 2; 2, 4 (with 4 circled); 2, 3 (with 3 circled); 2, 3; 2, 3, 4 (with 3 and 4 circled). Below each box is a D# symbol.

A musical staff with a D# note on the second line. To the right are five vertical boxes, each with the number 2 above the top line. The boxes contain the following numbers from top to bottom: 2; 2, 4 (with 4 circled); 2, 3 (with 3 circled); 2, 4 (with 4 circled); 2, 3, 4 (with 3 and 4 circled). Below each box is a D# symbol.

A musical staff with a D# note on the second line. To the right are six vertical boxes. The first five boxes have the number 2 above the top line and contain the following numbers from top to bottom: 2; 2, 4 (with 4 circled); 2, 3 (with 3 circled); 2, 4 (with 4 circled); 2, 3, 4 (with 3 and 4 circled). Below each of these boxes is a D# symbol. The sixth box has a flat symbol (b) above the number 2 and contains the numbers 2, 4 (with 4 circled) above the top line, and 3, 4 (with 3 and 4 circled) below the top line. Below this box is a D# symbol.

Two fingerings for D#5:
 Fingering 1: 3, 4, 2, 3, 4
 Fingering 2: 4, 3
 Both labeled D#.

Three fingerings for D#6:
 Fingering 1: 3, 4, 2, 3, 4
 Fingering 2: 2, 3, 4, 2, 3, 4
 Fingering 3: 2, 3, 4, 2
 Fingering 2 labeled D#
 Fingering 3 labeled D#

Three fingerings for D#4:
 Fingering 1: 2, 3, 4, 2, 3
 Fingering 2: 2, 3, 4, 2, 3
 Fingering 3: 2, 3, 4, 2, 3
 Fingering 1 labeled D#
 Fingering 2 labeled D#

Three fingerings for D#5:
 Fingering 1: 2, 3, 4, 2
 Fingering 2: 2, 3, 4, 2
 Fingering 3: 2, 3, 4, 2
 Fingering 1 labeled D#
 Fingering 2 labeled D#

Three fingerings for D#6:
 Fingering 1: 2, 3, 4, 4
 Fingering 2: 2, 3, 4, 4
 Fingering 3: 2, 3, 4, 4
 Fingering 1 labeled D#
 Fingering 2 labeled D#

Two fingerings for D#5:
 Fingering 1: 2, 3, 4
 Fingering 2: 2, 3, 4
 Both labeled D#.

Four fingerings for G#5:
 Fingering 1: 2, 3, 4
 Fingering 2: 2, 3, 4
 Fingering 3: 2, 3, 4
 Fingering 4: 2, 3, 4
 Fingering 1 labeled G#
 Fingering 2 labeled G#
 Fingering 3 labeled G#

Four fingerings for D#5:
 Fingering 1: 2, 3
 Fingering 2: 2, 3
 Fingering 3: 2, 3
 Fingering 4: 2, 3
 Fingering 1 labeled D#
 Fingering 2 labeled D#
 Fingering 3 labeled D#

Seven fingerings for D#4:
 Fingering 1: 2
 Fingering 2: 2
 Fingering 3: 2
 Fingering 4: 2
 Fingering 5: 2
 Fingering 6: 2
 Fingering 7: 2
 Fingering 1 labeled D#
 Fingering 2 labeled D#
 Fingering 3 labeled D#
 Fingering 4 labeled D#
 Fingering 5 labeled D#
 Fingering 6 labeled D#

Three fingerings for D# on the piccolo flute. Each fingering is shown in a vertical box with the notes D# (circled), E, F, G, and A on the staff. The fingerings are: 2-3-4, 2-3-4, and 2-3-4.

Three fingerings for G# on the piccolo flute. Each fingering is shown in a vertical box with the notes G# (circled), A, B, C, and D on the staff. The fingerings are: 3-4, 3-4, and 3-4.

Three fingerings for D# on the piccolo flute. Each fingering is shown in a vertical box with the notes D# (circled), E, F, G, and A on the staff. The fingerings are: 3, 2, 3, 2, 3, 2.

Three fingerings for A on the piccolo flute. Each fingering is shown in a vertical box with the notes A (circled), B, C, D, and E on the staff. The fingerings are: 2, 2, 2.

Two fingerings for A on the piccolo flute. Each fingering is shown in a vertical box with the notes A (circled), B, C, D, and E on the staff. The fingerings are: 2, 2.

Two fingerings for G# on the piccolo flute. Each fingering is shown in a vertical box with the notes G# (circled), A, B, C, and D on the staff. The fingerings are: 2, 2.

One fingering for D# on the piccolo flute. The fingering is shown in a vertical box with the notes D# (circled), E, F, G, and A on the staff. The fingering is: 2.

12.3.2 Bisbigliando-Griffe
Altflöte

12.3.2 Bisbigliando Fingerings
Alto Flute

D# D# C#

D# D# C# D# C

D# D# C# C D#

D# C# C C# C

D# C# C

D# D# D#

D# D# D# D# D# D#

Diagram 1: Fingerings: 2 (top), (2) (middle), (3) (bottom). Label: D#.

Diagram 2: Fingerings: 2 (top), (2) (middle), (3) (bottom), (4) (bottom). Label: D#.

Diagram 3: Fingerings: 2 (top), 2 (middle), 3 (bottom), 4 (bottom). Label: C#.

Diagram 4: Fingerings: 2 (top), 2 (middle), 3 (bottom), 4 (bottom). Label: C.

Diagram 5: Fingerings: 2 (top), 2 (middle), 3 (bottom), 4 (bottom). Label: C.

Diagram 1: Fingerings: 2 (top), 4 (middle), 4 (bottom). Label: D#.

Diagram 2: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: C.

Diagram 3: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: C.

Diagram 4: Fingerings: 2 (top), 4 (middle), 4 (bottom), 4 (bottom). Label: C.

Diagram 1: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: D#.

Diagram 2: Fingerings: 2 (top), 4 (middle), 4 (bottom), 4 (bottom). Label: D#.

Diagram 3: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: D#.

Diagram 4: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: D#.

Diagram 5: Fingerings: 2 (top), 4 (middle), 3 (bottom), 4 (bottom). Label: D#.

Diagram 1: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 2: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 3: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 4: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 5: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: C#.

Diagram 1: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 2: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 3: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 4: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

Diagram 5: Fingerings: 3 (top), 4 (middle), 2 (bottom), 3 (bottom), 4 (bottom). Label: D#.

3
4
2
3
4

 D#

②
3
4
2
3
4

 D#

3
4
2
3
4

 D# C#

②
3
4
2
3
4

 D# C#

③

 B D#

2
3
4
2
3

 D#

②
3
4
2
3

 D#

2
3
4
2
3

 D# C#

2
3
4
2
3

 D# C#

2
3
4
2
3

 D# C#

2
3
4
2
3

 B D#

2
3
4
2

 D#

2
3
4
2
④

 D#

2
3
4
2
④

 B D#

2
3
4
2
④

 C#

2
3
4

 D#

2
3
4
3
④

 D#

2
3
4
4
④

 C#

2
3
4
3
④

 B D#

2
3
4

 D#

2
3
4

 C

2
3
4
②
③
④

 C

2
3
4

 D#

2
3
4
G#

 D#

2
3
4
②
③
④

 G# C

2
3

 D#

2
3
②

 D#

2
3
③

 D#

2
3
③
④

 D#

2
3
②
③
④

 C#

b D^\flat

Diagram 1: Fingerings for D^\flat (2)

Diagram 2: Fingerings for D^\flat (2, ③, ④)

Diagram 3: Fingerings for D^\flat (2, ③)

Diagram 4: Fingerings for D^\flat (2, ④, G^\sharp)

Diagram 5: Fingerings for D^\flat (2, ④)

D^\sharp

Diagram 1: Fingerings for D^\sharp (2)

Diagram 2: Fingerings for D^\sharp (2, ④)

Diagram 3: Fingerings for C (2, ④, ③)

Diagram 4: Fingerings for D^\sharp (2, ④, ②, ③)

C^\flat

Diagram 1: Fingerings for D^\sharp (2)

Diagram 2: Fingerings for C (2, ③, ④, ②, ③, ④)

Diagram 3: Fingerings for D^\sharp (2, ④)

C^\sharp

Diagram 1: Fingerings for D^\sharp (empty)

Diagram 2: Fingerings for C^\sharp (2, ③, ④, ②, ③, ④)

Diagram 3: Fingerings for C^\sharp (2, ③, ④, ②, ③, ④)

Diagram 4: Fingerings for D^\sharp (2, ③, ④, ②, ③, ④)

D^\flat

Diagram 1: Fingerings for D^\flat (3, 4)

Diagram 2: Fingerings for D^\flat (②, 3, 4)

Diagram 3: Fingerings for D^\flat (②, 3, 4, 2, 3, 4)

Diagram 4: Fingerings for D^\flat (3, 4, ②, ③, ④)

Diagram 5: Fingerings for D^\flat (3, 4, ②, ③, 4)

D^\sharp

Diagram 1: Fingerings for D^\sharp (2, 3, 4, 2, 3, 4)

Diagram 2: Fingerings for D^\sharp (②, 3, 4, 2, 3, 4)

Diagram 3: Fingerings for D^\sharp (③, ④, A, B)

Diagram 4: Fingerings for D^\sharp (④, A, B)

C^\flat

Diagram 1: Fingerings for D^\sharp (2, 3)

Diagram 2: Fingerings for D^\sharp (2, 3)

Diagram 3: Fingerings for D^\sharp (2, 3, A)

2
4
2

2
4
2

2
4
2

2
4
2

D# C D# D#

2
4
4

2
4
4

2
4
4

D# D# C# C#

2
3
4

2
3
4

2
3
4

D# D# C

3
4

3
4

3
4

D# D# D#

3
2

3
2

3
2

3
2

D# D# C# D#

2
A

2
A

2
A

2
A

2
A

D# D# D# D# D#

2
4

2
4

2
4

2
4

B B B B

D# D# D# D#

2
4

2
4

B B

C C

3
4
2

3
4
2

C C

12.3.3 Bisbigliando-Griffe
Bassflöte

12.3.3 Bisbigliando Fingerings
Bass Flute

Diagram 1: Three vertical boxes representing fingerings for D#, D#C#, and D#C. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section contains 2, 3, 4. The boxes are labeled D#, D#C#, and D#C below them.

Diagram 2: Three vertical boxes representing fingerings for D#, D#, and D#C#. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section contains 2, 3. The boxes are labeled D#, D#, and D#C# below them.

Diagram 3: Five vertical boxes representing fingerings for D#, D#, C#, C, and D#. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section contains 2. The boxes are labeled D#, D#, C#, C, and D# below them.

Diagram 4: Seven vertical boxes representing fingerings for D#, D#, D#, C#, C, C#, and C. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section contains 4, 4, 4, 4, 3, 3. The boxes are labeled D#, D#, D#, C#, C, C#, and C below them.

Diagram 5: Three vertical boxes representing fingerings for D#, C#, and C. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section is empty. The boxes are labeled D#, C#, and C below them.

Diagram 6: Five vertical boxes representing fingerings for D#, D#, D#, D#, and C#. Each box has two sections: the top section contains the numbers 2, 3, 4 and the bottom section contains G#, 2, 3, 4, 4. The boxes are labeled D#, D#, D#, D#, and C# below them.

Diagram 7: Six vertical boxes representing fingerings for D#, D#, D#, D#, D#, and D#. Each box has two sections: the top section contains the numbers 2, 3 and the bottom section contains 2, 3, 4, 4. The boxes are labeled D#, D#, D#, D#, D#, and D# below them.

Diagram 1: A musical staff with a flat key signature (B-flat) and a note on the second line (D#). To its right are six vertical boxes representing fretboard diagrams. Each box is divided into two sections. The top section contains the number '2' with a flat symbol (b) to its left. The bottom section contains various fingerings: 1) empty; 2) circled '4'; 3) circled '2' and '3'; 4) circled '2', '3', and '4'; 5) '2', '3', and '4'; 6) '2', '3', and '4'. Below each box is a label: D#, D#, D#, D#, C#, and C#.

Diagram 2: A musical staff with a natural key signature (no sharps or flats) and a note on the second line (D#). To its right are five vertical boxes. Each box is divided into two sections. The top section contains the number '2' with a natural key signature symbol (no sharp or flat) to its left. The bottom section contains: 1) empty; 2) circled '4'; 3) circled '4'; 4) '4' and circled '3'; 5) '4' and circled '4'. Labels below are: D#, D#, C, C, C.

Diagram 3: A musical staff with a natural key signature and a note on the second line (D#). To its right are seven vertical boxes. Each box is divided into two sections. The top section contains the number '2'. The bottom section contains: 1) empty; 2) circled '2'; 3) circled '2'; 4) circled '2' and '3'; 5) '2' and circled '2'; 6) '2', circled '2', and circled '3'; 7) '2', circled '2', circled '3', and circled '4'. Labels below are: D#, D#, C, C, D#, D#, D#.

Diagram 4: A musical staff with a sharp key signature (F#) and a note on the second line (D#). To its right are seven vertical boxes. Each box is divided into two sections. The top section contains: 1) empty; 2) circled '3'; 3) circled '3' and '4'; 4) circled '3' and '4' with a circled G# to its right; 5) circled '2'; 6) circled '2' and '3'; 7) circled '2', circled '3', circled '3', and circled '4' with a circled G# to its right. Labels below are: D#, D#, D#, D#, C#, C#, D#.

Diagram 5: A musical staff with a sharp key signature (F#) and a note on the second line (D#). To its right are five vertical boxes. Each box is divided into two sections. The top section contains: 1) '3' and '4'; 2) circled '2', '3', and '4'; 3) circled '2'; 4) circled '3'; 5) '2' and '3'. The bottom section contains: 1) '2', '3', and '4'; 2) '2', '3', and '4'; 3) 'A'; 4) 'A'; 5) 'A' and circled '4'. Labels below are: D#, D#, D#, D#, D#.

Diagram 1: Musical staff with a whole note G#4. Five fingerings are shown in vertical boxes:

- Fingering 1: 3 4 / 2 3 4 / D#
- Fingering 2: ② 3 4 / 2 3 4 / D#
- Fingering 3: 3 4 / 2 3 4 / D# (C#)
- Fingering 4: ② 3 4 / 2 3 4 / D# C#
- Fingering 5: 2 ③ / B / D#

Diagram 2: Musical staff with a whole note G4. Six fingerings are shown in vertical boxes:

- Fingering 1: 2 3 4 / 2 3 / D#
- Fingering 2: ② 3 4 / 2 3 / D#
- Fingering 3: 2 3 4 / 2 3 / D# (C#)
- Fingering 4: 2 3 4 / 2 3 / D# (C#)
- Fingering 5: 2 3 4 / 2 3 / D# (C)
- Fingering 6: 2 3 4 / 2 3 / D# (B)

Diagram 3: Musical staff with a whole note G4. Four fingerings are shown in vertical boxes:

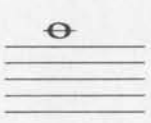
- Fingering 1: 2 3 4 / 2 / D#
- Fingering 2: 2 3 4 / ④ 2 / D#
- Fingering 3: ② 3 4 / ④ 2 / C# (A)
- Fingering 4: 2 3 4 / 2 / C#

Diagram 4: Musical staff with a whole note G#4. Six fingerings are shown in vertical boxes:

- Fingering 1: 2 3 4 / 4 / D#
- Fingering 2: 2 3 4 / ③ 4 / D#
- Fingering 3: 2 3 4 / 3 ④ / D#
- Fingering 4: 2 3 4 / ③ 4 / D# (B)
- Fingering 5: 2 3 4 / 4 / C
- Fingering 6: 2 3 4 / ② ③ ④ / D#
- Fingering 7: 2 3 4 / ④ / C

Diagram 5: Musical staff with a whole note G#4. Six fingerings are shown in vertical boxes:

- Fingering 1: 2 3 4 / G# / D#
- Fingering 2: 2 3 4 / ③ G# / D#
- Fingering 3: 2 3 4 / ④ G# / D#
- Fingering 4: 2 3 4 / ③ ④ G# / D#
- Fingering 5: 2 3 4 / ② ③ ④ G# / C
- Fingering 6: 2 3 4 / ④ G# / C#



2
3

2
3
②

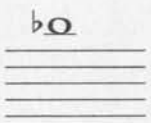
2
3
③

2
3
③
④

2
3
②
③
④

G#

D# D# D# D# D#



2

2
②

2
②
③

2
④
2
3
4

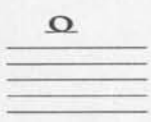
2
2
3
4

2
④
2
3
4

2
4
2
3
4

G#

D# D# D# D# D# D# C#



2

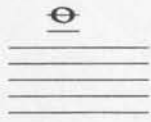
2
④

2
④

2
③

2
④

D# D# C C C



2

2
③

2
4
②
③
④

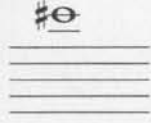
2
④

2
②

2
②
③

2
3
4
2

D# D# D# D# C C D#



②
3
4
2
3
4

2
3
4
②
3
4

2
3
4
2
③
4

②
③

D# C# C# C# C#

Diagram 1: Musical staff with a whole note $D^\#$. Fingerings: $\begin{matrix} 3 \\ 4 \end{matrix}$, $\begin{matrix} 3 \\ 4 \\ \textcircled{2} \\ \textcircled{3} \\ \textcircled{4} \end{matrix}$, $\begin{matrix} 2 \\ \textcircled{3} \end{matrix}$, $\begin{matrix} \textcircled{3} \\ 4 \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$, $D^\#$. The second and fourth boxes have an 'A' above them.

Diagram 2: Musical staff with a whole note $G^\#$. Fingerings: $\begin{matrix} 2 \\ 3 \\ 4 \\ 2 \\ 3 \\ 4 \end{matrix}$, $\begin{matrix} \textcircled{2} \\ 3 \\ 4 \\ 2 \\ 3 \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ 3 \\ 4 \\ 2 \\ 3 \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ 3 \\ 4 \\ \textcircled{2} \\ \textcircled{3} \\ \textcircled{4} \end{matrix}$, $\begin{matrix} \textcircled{3} \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$, $D^\#$, $D^\#$. The first three boxes have a $G^\#$ above them. The fifth box has 'A B' above it.

Diagram 3: Musical staff with a whole note $D^\#$. Fingerings: $\begin{matrix} 2 \\ 3 \end{matrix}$, $\begin{matrix} 2 \\ 3 \end{matrix}$, $\begin{matrix} 2 \\ 3 \end{matrix}$, $\begin{matrix} 2 \\ 3 \\ \textcircled{2} \\ \textcircled{3} \end{matrix}$. Labels: $D^\#$, $D^\#$, C , $D^\#$.

Diagram 4: Musical staff with a whole note $D^\#$. Fingerings: $\begin{matrix} 2 \\ 4 \\ 2 \end{matrix}$, $\begin{matrix} 2 \\ 4 \\ \textcircled{4} \end{matrix}$, $\begin{matrix} 2 \\ \textcircled{4} \\ 3 \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ \textcircled{3} \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$, $D^\#$.

Diagram 5: Musical staff with a whole note $G^\#$. Fingerings: $\begin{matrix} 2 \\ 4 \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ 4 \\ \textcircled{3} \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ 4 \\ 3 \\ \textcircled{4} \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$.

Diagram 6: Musical staff with a whole note $D^\#$. Fingerings: $\begin{matrix} 2 \\ 3 \\ 4 \end{matrix}$, $\begin{matrix} 2 \\ 3 \\ 4 \\ \textcircled{2} \\ \textcircled{3} \\ \textcircled{4} \end{matrix}$, $\begin{matrix} \textcircled{2} \\ 2 \\ 3 \\ 4 \end{matrix}$. Labels: $D^\#$, C , C .

Diagram 7: Musical staff with a whole note $G^\#$. Fingerings: $\begin{matrix} 3 \\ 4 \end{matrix}$, $\begin{matrix} 3 \\ 4 \\ \textcircled{3} \\ \textcircled{4} \end{matrix}$, $\begin{matrix} \textcircled{3} \\ 3 \\ 4 \\ 2 \\ 3 \\ 4 \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$.

Diagram 8: Musical staff with a whole note $D^\#$. Fingerings: $\begin{matrix} 3 \\ 2 \end{matrix}$, $\begin{matrix} 3 \\ 2 \\ \textcircled{G^\#} \end{matrix}$, $\begin{matrix} 3 \\ 2 \end{matrix}$, $\begin{matrix} 3 \\ 2 \\ \textcircled{D^\#} \\ \textcircled{C^\#} \end{matrix}$, $\begin{matrix} 3 \\ 2 \\ \textcircled{4} \end{matrix}$. Labels: $D^\#$, $D^\#$, $D^\#$, $D^\#$, $D^\#$.

12.4 Anhang 4 Die mikrotonale Skala

Die Erläuterung der Griffbilder findet sich in Kapitel 1.3, »Flötendiagramm-Griffmodell«, S. 9f., die Erläuterung der Tonhöhenangaben im Kapitel 9, »Mikrotonalität«, S. 38.

12.4.1 Mikrotonale Skala Piccoloflöte

Two musical staves showing the notes D# and D. The D# note is on the second line with a sharp sign. The D note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the numbers 2, 3. A small 'h' symbol is positioned to the left of the top box.

12.4 Appendix 4 The Microtonal Scale

An explanation of the fingering chart is found in Chapter 1.3, »Flute Diagram-Fingering Chart«, pp. 9f., an explanation of the accidentals in Chapter 9, »Microtonality«, p. 38.

12.4.1 Microtonal Scale Piccolo Flute

Two musical staves showing the notes D# and D. The D# note is on the second line with a sharp sign. The D note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the numbers 2, 4. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes D# and D. The D# note is on the second line with a sharp sign. The D note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the numbers 3, 4. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes D# and D. The D# note is on the second line with a sharp sign. The D note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the number 4. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes G# and G. The G# note is on the second line with a sharp sign. The G note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the numbers 2, 3, 4. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes G# and G. The G# note is on the second line with a sharp sign. The G note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3, 4. The bottom box contains the numbers 2, 3, 4. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes G# and G. The G# note is on the second line with a sharp sign. The G note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3. The bottom box contains the numbers 2, 3. A small 'h' symbol is positioned to the left of the top box.

Two musical staves showing the notes G# and G. The G# note is on the second line with a sharp sign. The G note is on the second space. To the right of each staff is a vertical box representing a fingering chart. The top box contains the numbers 2, 3. The bottom box contains the numbers 2, 3, 4. A small 'h' symbol is positioned to the left of the top box.

The image displays 24 musical diagrams, each consisting of a note on a five-line staff and a vertical box containing fingering numbers (2, 3, 4). The diagrams are arranged in 6 rows and 4 columns. The notes and their positions are: Row 1: G#4 (first space), D#4 (second space), G#4 (second space), D#4 (second space); Row 2: D#4 (second space), G#4 (second space), G#4 (second space), D#4 (second space); Row 3: D#4 (second space), G#4 (second space), G#4 (second space), D#4 (second space); Row 4: G#4 (second space), D#4 (second space), D#4 (second space), G#4 (second space); Row 5: G#4 (second space), D#4 (second space), D#4 (second space), G#4 (second space); Row 6: G#4 (second space), D#4 (second space), D#4 (second space), G#4 (second space). Each diagram includes a note on a five-line staff with a stem and a vertical box containing numbers 2, 3, 4 representing fingerings. Some boxes are split horizontally. Labels like G#, D#, A, and B are placed near the boxes. Some boxes have a flat symbol (b) above them.

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 2, 3
 Label: D#

Fingering chart for D#:
 Top section: 3, 4
 Bottom section: 2, 4
 Label: B

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 2, 4

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 2
 Label: D#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 3, 4

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 4
 Label: D#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 2, 3
 Label: G#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: empty
 Label: D#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 4
 Label: G#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: empty
 Label: G#

Fingering chart for D#:
 Top section: 2, 3
 Bottom section: 3, 4
 Label: D#

Fingering chart for D#:
 Top section: 2, 3
 Bottom section: empty
 Label: D#

Fingering chart for D#:
 Top section: 2, 3
 Bottom section: 2, 3, 4

Fingering chart for D#:
 Top section: 2
 Bottom section: 3, 4
 Label: D#

Fingering chart for D#:
 Top section: 2
 Bottom section: empty
 Label: D#

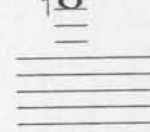
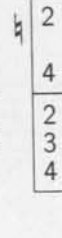
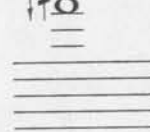
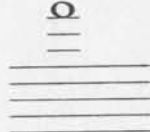
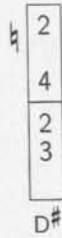
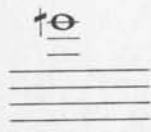
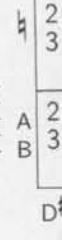
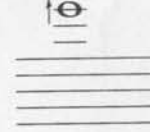
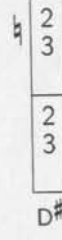
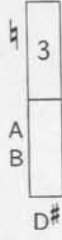
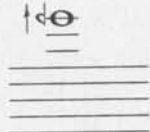
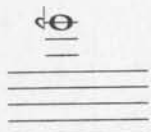
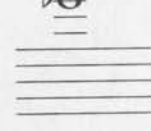
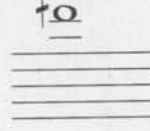
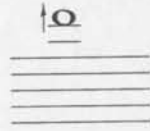
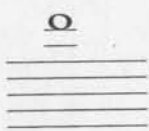
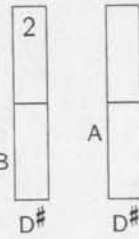
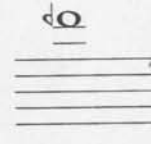
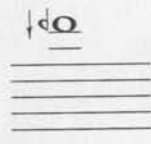
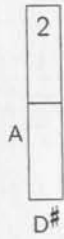
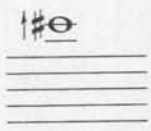
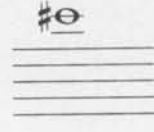
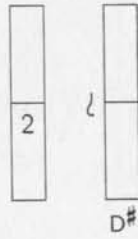
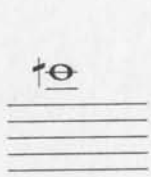
Fingering chart for D#:
 Top section: 2, 4
 Bottom section: 2, 3, 4
 Label: D#

Fingering chart for D#:
 Top section: 2
 Bottom section: empty
 Label: D#

Fingering chart for D#:
 Top section: 2, 3, 4
 Bottom section: 2, 3, 4
 Label: D#

Fingering chart for D#:
 Top section: 2
 Bottom section: empty
 Label: D#

Fingering chart for D#:
 Top section: empty
 Bottom section: empty
 Label: D#



12.4.2 Mikrotonale Skala
Altflöte

12.4.2 Microtonal Scale
Alto Flute

D# C

D#

C

D#

C

D#

C

D#

D#

G# C

G# D#

D# G#

C

D#

C

D#

D#

D#

D#

D#

D#

D#

D#

D#

D#

D#

C#

C

D#

D#

D#

D#

D#

D#

D#

D#

D#

C

2
3
4
2

D#

2
3
4
3
4

C#

2
3
4
4

D#

2
3
4
4

D#

2
3
4
4

A

D#

2
3
4
4

D#

2
3
4
2
3
4

D#

2
3
4
2
3

G#

C#

2
3
4

D#

2
3
2
3
4

2
4
4

D#

2
4
2
3
4

C

2
4

D#

2
4
2
3

C

2
4

D#

2
3
4
2
3
4

2
3
2
3
4

2
4

D#

2
4

D#

C C D#

D#

C#

D#

D#

D#

D# C#

D#

D#

D#

D# C#

D#

D#

D# C#

D#

Diagram 1: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 2 3 4 (bottom). Chord: C.

Diagram 2: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 2 3 (bottom). Chord: D#.

Diagram 3: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 (bottom). Chord: D#.

Diagram 4: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 2 (middle), B (bottom). Chord: D#.

Diagram 5: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 (middle), A 2 (bottom). Chord: D#.

Diagram 6: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 (middle), G# 4 (bottom). Chord: D#.

Diagram 7: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 (middle), 4 (bottom). Chord: D#.

Diagram 8: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), 4 (middle), B 4 (bottom). Chord: D#.

Diagram 9: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 3 4 (top), 4 (bottom). Chord: D#.

Diagram 10: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 3 4 (top), 4 (bottom). Chord: D#.

Diagram 11: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 3 4 (top), G# 3 4 (bottom). Chord: D#.

Diagram 12: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 3 4 (top), G# 3 4 (bottom). Chord: D#.

Diagram 13: Musical staff with notes on the 1st and 2nd lines. Fingering box: 3 4 (top), G# 4 (bottom). Chord: D#.

Diagram 14: Musical staff with notes on the 1st and 2nd lines. Fingering box: 3 4 (top), G# 2 3 4 (bottom). Chord: C#.

Diagram 15: Musical staff with notes on the 1st and 2nd lines. Fingering box: 3 (top), 3 4 (bottom). Chord: D#.

Diagram 16: Musical staff with notes on the 1st and 2nd lines. Fingering box: 3 (top), 2 (bottom). Chord: D#.

Diagram 17: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 3 (top), A 2 (bottom). Chord: D#.

Diagram 18: Musical staff with notes on the 1st and 2nd lines. Fingering box: 3 (top), A 2 (bottom). Chord: D#.

Diagram 19: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), A 2 (bottom). Chord: D#.

Diagram 20: Musical staff with notes on the 1st and 2nd lines. Fingering box: 2 (top), A 2 (middle), B (bottom). Chord: D#.

2
4

4

2
4

C

2
3
4
2

G#
C

3
4
2

G#
C

3
2

G#
C#

4
2
3

C

12.4.3 Mikrotonale Skala
Bassflöte

12.4.3 Microtonal Scale
Bass Flute

D# C

D#

C

D#

C

D#

C

D#

D#

C

D#

C

C

D#

C

C#

D#

D#

D#

Diagram 1: D# major triad (D#, F#, A) on the first string. Fingering: 2, 3, 4. Labels: G#, B, D#.

Diagram 2: D# major triad (D#, F#, A) on the second string. Fingering: 2, 3, 4. Labels: G#, B, D#.

Diagram 3: D# major triad (D#, F#, A) on the third string. Fingering: 3, 4. Labels: A, B, D#.

Diagram 4: D# major triad (D#, F#, A) on the fourth string. Fingering: 2, 3. Labels: D#.

Diagram 5: D# major triad (D#, F#, A) on the first string. Fingering: 2, 3. Labels: G#, A, B, D#.

Diagram 6: D# major triad (D#, F#, A) on the second string. Fingering: 2, 4. Labels: D#.

Diagram 7: D# major triad (D#, F#, A) on the third string. Fingering: 2, 4. Labels: D#.

Diagram 8: D# major triad (D#, F#, A) on the fourth string. Fingering: 2, 4, 2. Labels: D#.

Diagram 9: D# major triad (D#, F#, A) on the first string. Fingering: 2, 4. Labels: D#.

Diagram 10: D# major triad (D#, F#, A) on the second string. Fingering: 2, 4, 3, 4. Labels: D#.

Diagram 11: D# major triad (D#, F#, A) on the third string. Fingering: 2. Labels: D#.

Diagram 12: D# major triad (D#, F#, A) on the fourth string. Fingering: 2, 4, 4. Labels: D#.

Diagram 13: D# major triad (D#, F#, A) on the fifth string. Fingering: 2, 4, 3. Labels: D#.

Diagram 14: D# major triad (D#, F#, A) on the first string. Fingering: 2, 4. Labels: G#, D#.

Diagram 15: D# major triad (D#, F#, A) on the second string. Fingering: 2, 3, 4, 4. Labels: C#, D#.

Diagram 16: D# major triad (D#, F#, A) on the third string. Fingering: 2, 3, 4. Labels: D#.

Diagram 17: D# major triad (D#, F#, A) on the fourth string. Fingering: 3, 4, 2, 3, 4. Labels: D#.

Diagram 18: D# major triad (D#, F#, A) on the first string. Fingering: 3, 4. Labels: G#, D#.

Diagram 19: D# major triad (D#, F#, A) on the second string. Fingering: 3, 2, 3, 4. Labels: D#, C#.

Diagram 20: D# major triad (D#, F#, A) on the third string. Fingering: 3, 2. Labels: D#.

Diagram 21: D# major triad (D#, F#, A) on the fourth string. Fingering: 3, 2. Labels: A, D#.

12.5 Anhang 5 Mehrklang-Griffe

Die folgende Tabelle dient als Arbeitssammlung für Flötisten und Komponisten. Immer zu beachten ist, dass Mehrklänge vom Flötentyp abhängig sind, was sowohl die Tonhöhen als auch das dynamische Spektrum und die Stabilität beeinflussen kann.

Als Hinweis für Komponisten sei angemerkt, dass es für Flötisten von großer Wichtigkeit ist, im Notentext auch das entsprechende Griffbild vorzufinden.

Neben den Griffen wurden folgende Differenzierungskriterien für die Mehrklänge festgelegt:

- ▶ Stabilität (1 = sehr stabil, 2 = stabil, 3 = instabil)
- ▶ Dynamikspektrum

Für die Tonhöhenangaben wurden die folgenden Zeichen verwendet:

↑○	↑○
etwas höher	somewhat higher
↓○	↓○
etwas tiefer	somewhat lower
↑○	↑○
Viertelton höher	quarter-tone higher
↓○	↓○
Viertelton tiefer	quarter-tone lower

12.5 Appendix 5 Multiphonic Fingerings

The following table is intended as a reference for flutists and composers. It should be noted that multiphonics are dependent on the model of the particular instrument which, in turn, influences the pitch as well as dynamic spectrum and stability.

Note to composers: it is very important for flutists to have the corresponding fingerings indicated in the score.

In addition to the fingerings, the authors have established the following criteria for the multiphonics (listed here):

- ▶ Stability (1 = very stable, 2 = stable, 3 = unstable)
- ▶ Dynamic spectrum

The following symbols are used for pitch indications:

12.5.1 Mehrklang-Griffe
Piccoloflöte

12.5.1 Multiphonic Fingerings
Piccolo Flute

1 *pp-ff*
Nr. • No.: 1

2 *pp-f*
Nr. • No.: 2

2 *mp-f*
Nr. • No.: 3

1 *pp-ff*
Nr. • No.: 4

1 *mf-f*
Nr. • No.: 5

1 *pp-ff*
Nr. • No.: 6

1 *pp-ff*
Nr. • No.: 7

1 *pp-ff*
Nr. • No.: 8

1 *pp-f*
Nr. • No.: 9

2 *pp-mp*
Nr. • No.: 10

1 *mp-ff*
Nr. • No.: 11

1 *p-ff*
Nr. • No.: 12

1 *mp-ff*
Nr. • No.: 13

1 *pp-ff*
Nr. • No.: 14

1 *pp-mp*
Nr. • No.: 15

1 *pp-mf*
Nr. • No.: 16

2 *mf*
Nr. • No.: 17

2 *mf*
Nr. • No.: 18

3 *mp* D#

Nr. • No.: 19

3 *mf* D#

Nr. • No.: 20

3 *p-mf*

Nr. • No.: 21

2 *pp-mp* D#

Nr. • No.: 22

1 *pp-mf* D#

Nr. • No.: 23

1 *mp-ff* D#

Nr. • No.: 24

2 *p-mf* D#

Nr. • No.: 25

2 *mp*

Nr. • No.: 26

2 *p-f*

Nr. • No.: 27

1 *pp-mp* D#

Nr. • No.: 28

2 *pp-p* D#

Nr. • No.: 29

3 *p*

Nr. • No.: 30

3 *p* D#

Nr. • No.: 31

3 *mp-mf* D#

Nr. • No.: 32

3 *pp-mp*

Nr. • No.: 33

3 *pp-p*

Nr. • No.: 34

1 *pp-mf* D#

Nr. • No.: 35

3 *mp* D#

Nr. • No.: 36

3 *mp-mf*

Nr. • No.: 37

1 *pp-f*

Nr. • No.: 38

2 *mp*

Nr. • No.: 39

1 *p-mf*

Nr. • No.: 40

2 *f-ff*

Nr. • No.: 41

3 *ff*

Nr. • No.: 42

1 *p-mp*

Nr. • No.: 43

3 *mp*

Nr. • No.: 44

2 *mp*

1 *pp-ff*

Nr. • No.: 45

3 *mp-mf*

Nr. • No.: 46

2 *mp-mf*

Nr. • No.: 47

2 *mp-mf*

Nr. • No.: 48

1 *mp-ff*

Nr. • No.: 49

1 *p-f*

Nr. • No.: 50

1 *mp-f*

Nr. • No.: 51

2 *pp-mp*

Nr. • No.: 52

3 *pp-p*

Nr. • No.: 53

2 *mp-mf*

Nr. • No.: 54

1 *pp-mf*

Nr. • No.: 55

1 *p-mf*

Nr. • No.: 56

1 *pp-ff*

Nr. • No.: 57

2 *p-f*
Nr. • No.: 58

3 *mf*
Nr. • No.: 59

1 *mp-f*
Nr. • No.: 60

3 *mf*
Nr. • No.: 61

2 *mp*
Nr. • No.: 62

2 *p-f*
Nr. • No.: 63

2 *mf-ff*
Nr. • No.: 64

1 *p-f*
Nr. • No.: 65

1 *mp-f*
Nr. • No.: 66

1 *p-f*
Nr. • No.: 67

2 *ff*
Nr. • No.: 68

1 *f-ff*
Nr. • No.: 69

2 *p*
Nr. • No.: 70

2 *pp-mp*
Nr. • No.: 71

3 *mp*
Nr. • No.: 72

2 *mp*
Nr. • No.: 73

2 *mp-f*
Nr. • No.: 74

1 *mp-ff*
Nr. • No.: 75

3 *mf*
Nr. • No.: 76

2 *mf*

D#

3
2
3
4

Nr. · No.: 77

2 *p-ff*

D#

A 2
3

2
3

Nr. · No.: 78

2 *mf-ff*

D#

3
2
3

Nr. · No.: 79

3 *ff*

D#

3
2

Nr. · No.: 80

2 *pp-p*

D#

3
4
2
3
4

Nr. · No.: 81

2 *pp*

D#

B 3
4
2
3

A 3
4
2
3

Nr. · No.: 82

2 *mp*

D#

3

Nr. · No.: 83

3 *f*

D#

4
G#

Nr. · No.: 84

1 *pp-f*

D#

2

Nr. · No.: 85

3 *p-mp*

D#

A 3
4
2
3

Nr. · No.: 86

2 *mp-mf*

D#

3
4
2
3
4

Nr. · No.: 87

1 *p-f*

D#

A 2
3
4
G#

3

Nr. · No.: 88

3 *mp*

D#

B 2
3
4

Nr. · No.: 89

1 *pp-ff*

D#

A 2
3
4
G#

Nr. · No.: 90

1 *pp-ff*

D#

B 2
3
4
G#

3

Nr. · No.: 91

3 *mf*

D#

A 2
3
4
G#

4

Nr. · No.: 92

2 *mf*

D#

3

Nr. · No.: 93

3 *p-mp*

D#

B 2
3
4
G#

4

Nr. · No.: 94

3 *pp-mp*

D#

B 2
3
4
G#

Nr. · No.: 95

3 *pp-mp*

Nr. • No.: 96

1 *pp-ff*

Nr. • No.: 97

1 *mf-ff*

Nr. • No.: 98

2 *mf-ff*

Nr. • No.: 99

2 *mp-mf*

Nr. • No.: 100

3 *mp*

Nr. • No.: 101

3 *mf*

Nr. • No.: 102

1 *mf-f*

Nr. • No.: 103

1 *p-ff*

Nr. • No.: 104

1 *p-ff*

Nr. • No.: 105

1 *f-ff*

Nr. • No.: 106

3 *ff*

Nr. • No.: 107

1 *mp-ff*

Nr. • No.: 108

3 *p*

Nr. • No.: 109

2 *mf-f*

Nr. • No.: 110

2 *mf-ff*

Nr. • No.: 111

1 *p-f*

Nr. • No.: 112

3 *p-mp*

Nr. • No.: 113

2 *ff*

Nr. • No.: 114

3 *mf-ff*

Nr. • No.: 115

2 *mf-ff*

Nr. · No.: 116

2 *mp*

Nr. · No.: 117

1 *pp-mf*

Nr. · No.: 118

3 *mf*

Nr. · No.: 119

3 *mf*

Nr. · No.: 120

2 *mp-mf*

Nr. · No.: 121

1 *pp-f*

Nr. · No.: 122

1 *pp-mf*

Nr. · No.: 123

1 *pp-ff*

Nr. · No.: 124

1 *mp-ff*

Nr. · No.: 125

1 *p-mf*

Nr. · No.: 126

2 *mp-ff*

Nr. · No.: 127

2 *mp-ff*

Nr. · No.: 128

1 *mp-ff*

Nr. · No.: 129

1 *p-f*

Nr. · No.: 130

2 *mf-ff*

Nr. · No.: 131

3 *mf*

Nr. · No.: 132

2 *f-ff*

Nr. · No.: 133

2 *f-ff*

Nr. · No.: 134

2 *mp-f*

Nr. · No.: 135

3 *f-ff*

Nr. • No.: 136

2 *mf-ff*

Nr. • No.: 137

2 *mf-ff*

Nr. • No.: 138

2 *f-ff*

Nr. • No.: 139

3 *mf*

Nr. • No.: 140

1 *mp-ff*

Nr. • No.: 141

1 *pp-ff*

Nr. • No.: 142

1 *p-ff*

Nr. • No.: 143

3 *f*

Nr. • No.: 144

1 *f-ff*

Nr. • No.: 145

3 *mf*

Nr. • No.: 146

1 *p-mf*

Nr. • No.: 147

3 *ff*

Nr. • No.: 148

3 *f-ff*

Nr. • No.: 149

1 *f-ff*

Nr. • No.: 150

1 *pp-ff*

Nr. • No.: 151

2 *mp-f*

Nr. • No.: 152

1 *pp-ff*

Nr. • No.: 153

2 *p-ff*

Nr. • No.: 154

1 *mp-ff*

Nr. • No.: 155

2 *mf-ff*

Nr. • No.: 156

1 *pp-ff*

Nr. • No.: 157

3 *mp-mf*

Nr. • No.: 158

1 *p-ff*

Nr. • No.: 159

3 *mf*

Nr. • No.: 160

1 *pp-ff*

Nr. • No.: 161

1 *mf-ff*

Nr. • No.: 162

1 *f-ff*

Nr. • No.: 163

3 *f-ff*

Nr. • No.: 164

3 *ff*

Nr. • No.: 165

2 *mf-ff*

Nr. • No.: 166

3 *mf-ff*

Nr. • No.: 167

1 *mp-f*

Nr. • No.: 168

2 *pp-mf*

Nr. • No.: 169

3 *pp-mp*

Nr. • No.: 170

2 *mp-ff*

Nr. • No.: 171

1 *mf-ff*

Nr. • No.: 172

2 *mf-ff*

Nr. • No.: 173

2 *mf-ff*

Nr. • No.: 174

1 *mf-ff*

Nr. • No.: 175

2 *mf-f*

Nr. • No.: 176

2 *mf-ff*

Nr. • No.: 177

2 *mp-mf*

Nr. • No.: 178

2 *mf-ff*

Nr. • No.: 179

2 *f-ff*

Nr. • No.: 180

1 *f-ff*

Nr. • No.: 181

1 *mp-f*

Nr. • No.: 182

2 *mp-ff*

Nr. • No.: 183

2 *mf-ff*

Nr. • No.: 184

3 *f-ff*

Nr. • No.: 185

2 *f-ff*

Nr. • No.: 186

2 *mf-ff*

Nr. • No.: 187

2 *mp-f*

Nr. • No.: 188

1 *mp*

Nr. • No.: 189

2 *f-ff*

Nr. • No.: 190

3 *f-ff*

Nr. • No.: 191

2 *pp-mf*

Nr. • No.: 192

1 *p-ff*

Nr. • No.: 193

3 *pp-mf*
Nr. • No.: 194

2 *pp-f*
Nr. • No.: 195

1 *pp-f*
Nr. • No.: 196

1 *p-ff*
Nr. • No.: 197

2 *mf-ff*
Nr. • No.: 198

1 *pp-ff*
Nr. • No.: 199

1 *p-f*
Nr. • No.: 200

1 *pp-mf*
Nr. • No.: 201

2 *mp-mf*
Nr. • No.: 202

3 *mf*
Nr. • No.: 203

3 *mf*
Nr. • No.: 204

2 *mp-mf*
Nr. • No.: 205

2 *mf-f*
Nr. • No.: 206

1 *pp-ff*
Nr. • No.: 207

2 *mp-f*
Nr. • No.: 208

1 *pp-p*
Nr. • No.: 209

2 *mp-mf*
Nr. • No.: 210

2 *mf*
Nr. • No.: 211

2 *p-ff*
Nr. • No.: 212

2 *mp-mf*
Nr. • No.: 213

2 *pp-mf*
Nr. • No.: 214

1 *pp-mf*
Nr. • No.: 215

2 *p-f*
Nr. • No.: 216

1 *pp-ff*
Nr. • No.: 217

1 *pp-f*
Nr. • No.: 218

2 *f-ff*
Nr. • No.: 219

2 *pp-ff*
Nr. • No.: 220

3 *mp-mf*
Nr. • No.: 221

3 *mp*
Nr. • No.: 222

3 *mf*
Nr. • No.: 223

1 *pp-ff*
Nr. • No.: 224

2 *mp-ff*
Nr. • No.: 225

2 *pp-f*
Nr. • No.: 226

3 *mf*
Nr. • No.: 227

2 *p-f*
Nr. • No.: 228

1 *pp-ff*
Nr. • No.: 229

3 *mp-ff*
Nr. • No.: 230

1 *pp-mf*
Nr. • No.: 231

1 *f*
Nr. • No.: 232

1 *p-mf*
Nr. • No.: 233

2 *mp-f*
Nr. • No.: 234

1 *p-ff*
Nr. • No.: 235

3 *f-ff*
Nr. • No.: 236

3 *pp-mf*
Nr. • No.: 237

3 *mf-f*
Nr. • No.: 238

2 *mf-f*
Nr. • No.: 239

1 *mp-f*
Nr. • No.: 240

2 *ff*
Nr. • No.: 241

2 *mf*
Nr. • No.: 242

2 *f-ff*
Nr. • No.: 243

2 *mp-f*
Nr. • No.: 244

1 *pp-ff*
Nr. • No.: 245

3 *mp*
Nr. • No.: 246

1 *ff*
Nr. • No.: 247

2 *pp-mp*
Nr. • No.: 248

3 *f-ff*
Nr. • No.: 249

2 *mp-ff*
Nr. • No.: 250

3 *mf-ff*
Nr. • No.: 251

3 *f-ff*
Nr. • No.: 252

3 *ff*
Nr. • No.: 253

2 *mp-mf*
Nr. • No.: 254

3 *pp-mp*
Nr. • No.: 255

2 *mp-mf*
Nr. • No.: 256

3 *f-ff*
Nr. • No.: 257

2 *f-ff*
Nr. • No.: 258

2 *mf*
Nr. • No.: 259

1 *p-f*
Nr. • No.: 260

1 *mf-f*
Nr. • No.: 261

1 *mf-ff*
Nr. • No.: 262

2 *mf-ff*
Nr. • No.: 263

3 *f*
Nr. • No.: 264

2 *f-ff*
Nr. • No.: 265

3 *f*
Nr. • No.: 266

2 *mp*
Nr. • No.: 267

2 *mf-ff*
Nr. • No.: 268

3 *mf-ff*
Nr. • No.: 269

3 *mp*
Nr. • No.: 270

1 *mf-ff*
Nr. • No.: 271

2 *mf-ff*
Nr. • No.: 272

3 *ff*
Nr. • No.: 273

2 *mf-ff*

Nr. • No.: 274

2 *ff*

Nr. • No.: 275

2 *mf-ff*

Nr. • No.: 276

1 *ff*

Nr. • No.: 277

2 *mf-ff*

Nr. • No.: 278

3 *ff*

Nr. • No.: 279

12.5.2 Mehrklang-Griffe
Altflöte

12.5.2 Multiphonic Fingerings
Alto Flute

1 *pp-mp*
C

Nr. • No.: 1

1 *pp-mp*
C#

Nr. • No.: 2

1 *pp-mp*
C

Nr. • No.: 3

3 *f-ff*
D# C

Nr. • No.: 4

1 *pp-mf*
D#

Nr. • No.: 5

1 *pp-ff*
C#

Nr. • No.: 6

1 *pp-f*
C#

Nr. • No.: 7

1 *pp-f*
D#

Nr. • No.: 8

2 *pp-mp*
C#

Nr. • No.: 9

2 *pp-mf*
C#

Nr. • No.: 10

1 *pp-ff*
D#

Nr. • No.: 11

1 *pp-mp*
C#

Nr. • No.: 12

1 *pp*
D#

Nr. • No.: 13

2 *pp-f*
C

Nr. • No.: 14

1 *pp-mf*
D#

Nr. • No.: 15

1 *pp-ff*
D#

Nr. • No.: 16

1 *pp-mf*
C

Nr. • No.: 17

1 *pp-f*
D#

Nr. • No.: 18

1 *mf-ff*

Nr. • No.: 19

1 *pp-ff*

Nr. • No.: 20

2 *mf*

Nr. • No.: 21

1 *mf-ff*

Nr. • No.: 22

1 *mp-ff*

Nr. • No.: 23

2 *m-ff*

Nr. • No.: 24

1 *pp-ff*

Nr. • No.: 25

1 *mf-ff*

Nr. • No.: 26

1 *pp-mf*

Nr. • No.: 27

2 *f-ff*

Nr. • No.: 28

1 *mf-ff*

Nr. • No.: 29

1 *p-ff*

Nr. • No.: 30

2 *ff*

Nr. • No.: 31

1 *mp-ff*

Nr. • No.: 32

3 *pp-p*

Nr. • No.: 33

1 *mp-f*

Nr. • No.: 34

1 *pp-ff*

Nr. • No.: 35

2 *pp-mp*

Nr. • No.: 36

2 *pp-mp*

Nr. • No.: 37

1 *pp-ff* D#

Nr. • No.: 38

2 *f-ff*

Nr. • No.: 39

2 *pp-mp* C

Nr. • No.: 40

2 *pp-mp* C#

Nr. • No.: 41

1 *p-mf*

Nr. • No.: 42

2 *mp-mf* C

Nr. • No.: 43

1 *p-mf* D#

Nr. • No.: 44

2 *p-mf* C#

Nr. • No.: 45

2 *f-ff* D#

Nr. • No.: 46

3 *pp* C

Nr. • No.: 47

3 *pp* C

Nr. • No.: 48

1 *p-mf*

Nr. • No.: 49

1 *pp-f* C

Nr. • No.: 50

1 *mp-ff* C#

Nr. • No.: 51

1 *pp-mf* D#

Nr. • No.: 52

1 *mp-mf* C#

Nr. • No.: 53

1 *mp-ff*

Nr. • No.: 54

2 *f-ff* C#

Nr. • No.: 55

1 *mf-ff* D# C

Nr. • No.: 56

3 *mf-f* C#

Nr. • No.: 57

2 *pp-mp* D#

Nr. • No.: 58

2 *mp-ff* D#

Nr. • No.: 59

2 *p-f*

Nr. • No.: 60

2 *mp-ff* D#

Nr. • No.: 61

1 *p-f* D#

Nr. • No.: 62

2 *mp-ff* C

Nr. • No.: 63

1 *mp-ff* D#

Nr. • No.: 64

1 *mf-ff* G#

Nr. • No.: 65

1 *mf-ff* G#

Nr. • No.: 66

2 *f-ff* G#

Nr. • No.: 67

1 *pp-ff* D#

Nr. • No.: 68

1 *p-ff* G#

Nr. • No.: 69

1 *p-ff* G#

Nr. • No.: 70

1 *pp-mf* G#

Nr. • No.: 71

2 *mf-f* G#

Nr. • No.: 72

2 *pp-mp* D#

Nr. • No.: 73

2 *pp-mp* D#

Nr. • No.: 74

2 *pp-mp*

Nr. • No.: 75

1 *pp-mf*

Nr. • No.: 76

2 *pp-mp*

Nr. • No.: 77

1 *pp-mf*

Nr. • No.: 78

3 *mp*

Nr. • No.: 79

1 *p-ff*

Nr. • No.: 80

1 *mp-ff*

Nr. • No.: 81

2 *mp-f*

Nr. • No.: 82

1 *p-mf*

Nr. • No.: 83

3 *pp-p*

Nr. • No.: 84

2 *pp-p*

Nr. • No.: 85

2 *pp-mp*

Nr. • No.: 86

1 *p-mf*

Nr. • No.: 87

2 *pp-mf*

Nr. • No.: 88

1 *mp-ff*

Nr. • No.: 89

1 *mf-f*

Nr. • No.: 90

3 *mf-f*

Nr. • No.: 91

1 *mf-ff*

Nr. • No.: 92

3 *mf-f*

Nr. • No.: 93

2 *pp-p*

Nr. • No.: 94

1 *pp-mf*

Nr. • No.: 95

1 *pp-mf*

Nr. • No.: 96

1 *mp-ff*

Nr. • No.: 97

2 *pp-p*

Nr. • No.: 98

2 *pp-mp*

Nr. • No.: 99

2 *mp-mf*

Nr. • No.: 100

1 *pp-mp*

Nr. • No.: 101

D#

1 *pp-mf*

Nr. • No.: 102

1 *pp-f*

Nr. • No.: 103

2 *pp-mp*

Nr. • No.: 104

1 *pp-mf*

Nr. • No.: 105

1 *p-f*

Nr. • No.: 106

3 *mf-f*

Nr. • No.: 107

3 *f*

Nr. • No.: 108

2 *f-ff*

Nr. • No.: 109

1 *mf-ff*

Nr. • No.: 110

1 *pp-mf*
Nr. • No.: 111

2 *mf-f*
Nr. • No.: 112

1 *pp-ff*
Nr. • No.: 113

3 *mp*
Nr. • No.: 114

1 *pp-ff*
Nr. • No.: 115

1 *pp-f*
Nr. • No.: 116

1 *mf-f*
Nr. • No.: 117

1 *mp-ff*
Nr. • No.: 118

1 *mp-ff*
Nr. • No.: 119

2 *mf-ff*
Nr. • No.: 120

1 *mf-ff*
Nr. • No.: 121

1 *mf-ff*
Nr. • No.: 122

2 *f-ff*
Nr. • No.: 123

2 *pp-mp*
Nr. • No.: 124

1 *pp-mp*
Nr. • No.: 125

1 *pp-f*
Nr. • No.: 126

1 *pp-mp*

Nr. • No.: 127

1 *pp-f*

Nr. • No.: 128

1 *pp-mf*

Nr. • No.: 129

1 *mp-f*

Nr. • No.: 130

1 *mf-ff*

Nr. • No.: 131

1 *f-ff*

Nr. • No.: 132

3 *f-ff*

Nr. • No.: 133

1 *p-f*

Nr. • No.: 134

2 *pp-f*

Nr. • No.: 135

1 *pp-f*

Nr. • No.: 136

1 *pp-mf*

Nr. • No.: 137

1 *pp-f*

Nr. • No.: 138

1 *p-ff*

Nr. • No.: 139

1 *mp-f*

Nr. • No.: 140

1 *pp-ff*

Nr. • No.: 141

1 *pp-ff*

Nr. • No.: 142

3 *mf-f*

Nr. • No.: 143

2 *f-ff*

Nr. • No.: 144

3 *mf-f*

Nr. • No.: 145

2 *mf-ff*

Nr. • No.: 146

3 *f*

Nr. • No.: 147

3 *f*

Nr. • No.: 148

1 *f-ff*

Nr. • No.: 149

1 *mf-f*

Nr. • No.: 150

1 *ff*

Nr. • No.: 151

3 *f-ff*

Nr. • No.: 152

2 *f-ff*

Nr. • No.: 153

2 *p-mp*

Nr. • No.: 154

1 *pp-mf*

Nr. • No.: 155

1 *pp-ff*

Nr. • No.: 156

2 *mf-f*

Nr. • No.: 157

2 *pp-ff*

Nr. • No.: 158

1 *pp-ff*

Nr. • No.: 159

1 *p-ff*

Nr. • No.: 160

1 *pp-ff*

Nr. • No.: 161

1 *ff*

Nr. • No.: 162

2 *mp-ff*

Nr. • No.: 163

1 *ff*

Nr. • No.: 164

1 *mp-ff*

Nr. • No.: 165

2 *f*

Nr. • No.: 166

2 *pp*

Nr. • No.: 167

1 *pp-mp*

Nr. • No.: 168

2 *pp-mp*

Nr. • No.: 169

3 *p*

Nr. • No.: 170

2 *ff*

Nr. • No.: 171

3 *mf-f*

Nr. • No.: 172

1 *mp-ff*

Nr. • No.: 173

1 *pp-ff*

Nr. • No.: 174

1 *pp-ff*

Nr. • No.: 175

1 *mp-f*

Nr. • No.: 176

1 *mf-f*

Nr. • No.: 177

1 *mf-ff*

Nr. • No.: 178

1 *pp-mf*

Nr. • No.: 179

2 *mf-f*

Nr. • No.: 180

3 *mf*

Nr. • No.: 181

1 *pp-mp*

Nr. • No.: 182

2 *mp*

Nr. • No.: 183

2 *pp-mp*

Nr. • No.: 184

2 *mp-mf*

Nr. • No.: 185

2 *p-mp*

Nr. • No.: 186

1 *p-mf*

Nr. • No.: 187

1 *pp-mf*

Nr. • No.: 188

1 *pp-f*

Nr. • No.: 189

1 *mp-f*

Nr. • No.: 190

1 *pp-f*

Nr. • No.: 191

2 *mf*

Nr. • No.: 192

2 *f*

Nr. • No.: 193

1 *mf-ff*

Nr. • No.: 194

2 *mf-ff*

Nr. • No.: 195

2 *f-ff*

Nr. • No.: 196

3 *ff*

Nr. • No.: 197

1 *pp-mp*

Nr. • No.: 198

2 *mp-mf*

Nr. • No.: 199

1 *pp-mf*

Nr. • No.: 200

1 *mp-f*

Nr. • No.: 201

2 *mp-mf*
Nr. • No.: 202

2 *mp-f*
Nr. • No.: 203

1 *mf-ff*
Nr. • No.: 204

3 *mf*
Nr. • No.: 205

1 *mf-ff*
Nr. • No.: 206

1 *f-ff*
Nr. • No.: 207

2 *pp-mf*
Nr. • No.: 208

1 *mp-f*
Nr. • No.: 209

1 *p-mf*
Nr. • No.: 210

2 *mp-f*
Nr. • No.: 211

1 *mp-ff*
Nr. • No.: 212

1 *mf-ff*
Nr. • No.: 213

1 *ff*
Nr. • No.: 214

1 *f-ff*
Nr. • No.: 215

2 *mf-ff*
Nr. • No.: 216

1 *ff*
Nr. • No.: 217

1 *pp-mf*
Nr. • No.: 218

1 *pp-mp*
Nr. • No.: 219

1 *mp-ff*
Nr. • No.: 220

1 *mp-ff*
Nr. • No.: 221

1 *pp-mf*
Nr. • No.: 222

1 *pp-mp*
Nr. • No.: 223

1 *pp-f*
Nr. • No.: 224

2 *mf-f*
Nr. • No.: 225

1 *pp-mf*
Nr. • No.: 226

2 *mp*
Nr. • No.: 227

1 *pp*
Nr. • No.: 228

2 *mp-mf*
Nr. • No.: 229

1 *pp-f*
Nr. • No.: 230

1 *pp-mp*
Nr. • No.: 231

1 *pp-mf*
Nr. • No.: 232

1 *mp-ff*
Nr. • No.: 233

3 *mf-f*
Nr. • No.: 234

3 *p*
Nr. • No.: 235

2 *pp-mp*
Nr. • No.: 236

2 *pp-mf*
Nr. • No.: 237

1 *mp-f*
Nr. • No.: 238

1 *pp-mf*
Nr. • No.: 239

2 *pp-mf*

Nr. • No.: 240

1 *mp-ff*

Nr. • No.: 241

2 *mp-mf*

Nr. • No.: 242

2 *mf-ff*

Nr. • No.: 243

1 *f*

Nr. • No.: 244

1 *mp-f*

Nr. • No.: 245

2 *mp*

Nr. • No.: 246

1 *mp-mf*

Nr. • No.: 247

1 *mf-f*

Nr. • No.: 248

3 *f*

Nr. • No.: 249

1 *p-f*

Nr. • No.: 250

1 *p-ff*

Nr. • No.: 251

2 *p-f*

Nr. • No.: 252

1 *p-mf*

Nr. • No.: 253

1 *pp-f*

Nr. • No.: 254

1 *pp-f*

Nr. • No.: 255

1 *p-mf*

Nr. • No.: 256

3 *pp-mp*

Nr. • No.: 257

3 *pp-mp*

Nr. • No.: 258

3 *mf-ff*

Nr. • No.: 259

1 *mp-ff*
Nr. • No.: 260

2 *mp-mf*
Nr. • No.: 261

2 *p-mp*
Nr. • No.: 262

1 *pp-mf*
Nr. • No.: 263

1 *p-f*
Nr. • No.: 264

2 *pp-mf*
Nr. • No.: 265

1 *pp-mp*
Nr. • No.: 266

1 *mp-mf*
Nr. • No.: 267

1 *mp-f*
Nr. • No.: 268

2 *mf-f*
Nr. • No.: 269

1 *mp-f*
Nr. • No.: 270

3 *mf*
Nr. • No.: 271

2 *f-ff*
Nr. • No.: 272

1 *mf*
Nr. • No.: 273

1 *pp-p*
Nr. • No.: 274

3 *f-ff*
Nr. • No.: 275

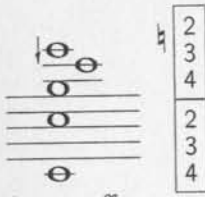
3 *f-ff*
Nr. • No.: 276

3 *pp-mp*
Nr. • No.: 277

3 *f*
Nr. • No.: 278

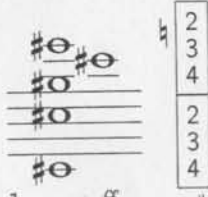
12.5.3 Mehrklang-Griffe
Bassflöte

12.5.3 Multiphonic Fingerings
Bass Flute



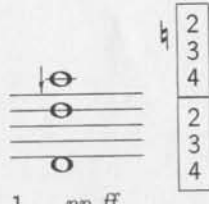
1 *pp-ff* C

Nr. • No.: 1



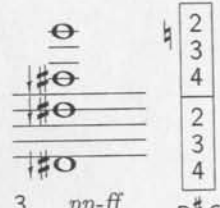
1 *pp-ff* C#

Nr. • No.: 2



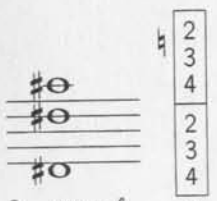
1 *pp-ff* D#

Nr. • No.: 3



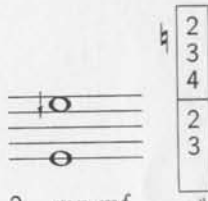
3 *pp-ff* D#C

Nr. • No.: 4



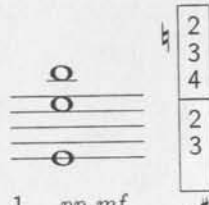
2 *pp-mf* D#

Nr. • No.: 5



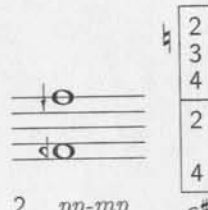
2 *mp-mf* C#

Nr. • No.: 6



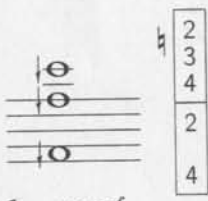
1 *pp-mf* D#

Nr. • No.: 7



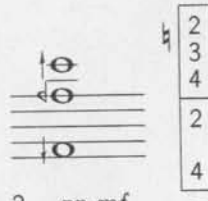
2 *pp-mp* C#

Nr. • No.: 8



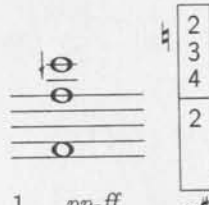
1 *pp-mf* C

Nr. • No.: 9



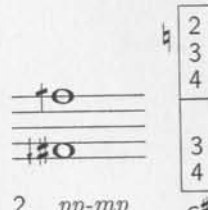
2 *pp-mf* C

Nr. • No.: 10



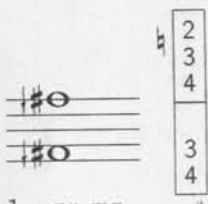
1 *pp-ff* D#

Nr. • No.: 11



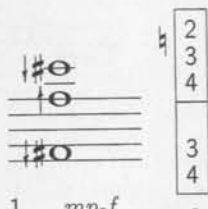
2 *pp-mp* C#

Nr. • No.: 12



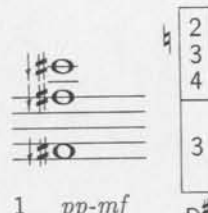
1 *pp-mp* D#

Nr. • No.: 13



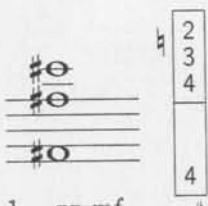
1 *mp-f* C

Nr. • No.: 14



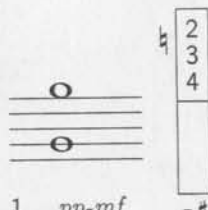
1 *pp-mf* D#

Nr. • No.: 15



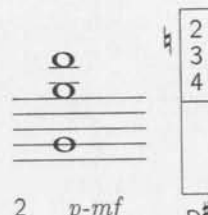
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Nr. · No.: 43

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Nr. · No.: 53

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Nr. · No.: 54

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Nr. · No.: 55

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Nr. · No.: 57

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3
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D#

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Nr. • No.: 60

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4

C#

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Nr. • No.: 61

3
4

G#

D#

1 *p-f*

Nr. • No.: 62

3
4
2
3
4

G#

D#

1 *mp-f*

Nr. • No.: 63

2
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2
4

C#

2 *pp*

Nr. • No.: 64

4
2
3
4

C

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Nr. • No.: 65

2

D#

2 *p*

Nr. • No.: 66

2
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4
2
4

A

C

1 *p-f*

Nr. • No.: 67

3
4

D#

1 *p-f*

Nr. • No.: 68

3
4
3
4

G#

1 *p-ff*

Nr. • No.: 69

3
4
2

G#

D#

1 *p-ff*

Nr. • No.: 70

3
4

G#

D#

2 *mf*

Nr. • No.: 71

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4
2
3

G#

3 *mf*

Nr. • No.: 72

3
2
3
4

C#

1 *mp-f*

Nr. • No.: 73

3
2
3

D#

1 *mp-ff*

Nr. • No.: 74

3
2

D#

3 *pp-p*

Nr. • No.: 75

2
3
4
2
4

A

C

3 *pp-mp*

Nr. • No.: 76

2
3
4
2
4

A

D#

1 *mp-f*

Nr. • No.: 77

4
2
3
4

G#

C#

1 *mp-f*

3

D#

2 *pp-p*
Nr. · No.: 78

2 *pp-mp*
Nr. · No.: 79

3 *mf-f*
Nr. · No.: 80

1 *pp-p*
Nr. · No.: 81

1 *mf-f*
Nr. · No.: 82

1 *pp-ff*
Nr. · No.: 83

1 *pp-mp*
Nr. · No.: 84

1 *mp-ff*
Nr. · No.: 85

3 *pp*
Nr. · No.: 86

1 *mp-mf*
Nr. · No.: 87

1 *pp-mf*
Nr. · No.: 88

1 *pp-f*
Nr. · No.: 89

1 *pp-ff*
Nr. · No.: 90

1 *pp-ff*
Nr. · No.: 91

3 *pp*
Nr. · No.: 92

2 *pp-p*
Nr. · No.: 93

2 *pp-p*
Nr. · No.: 94

2 *pp-mp*
Nr. · No.: 95

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Nr. · No.: 96

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Nr. • No.: 97

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Nr. • No.: 98

1 *pp-f*
Nr. • No.: 99

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Nr. • No.: 100

1 *mf-ff*
Nr. • No.: 101

1 *mp-ff*
Nr. • No.: 102

3 *mf-ff*
Nr. • No.: 103

1 *mf-ff*
Nr. • No.: 104

3 *f-ff*
Nr. • No.: 105

2 *pp-p*
Nr. • No.: 106

1 *pp-mp*
Nr. • No.: 107

1 *p-mf*
Nr. • No.: 108

1 *pp-ff*
Nr. • No.: 109

2 *mf*
Nr. • No.: 110

3 *mf*
Nr. • No.: 111

1 *mf-ff*
Nr. • No.: 112

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Nr. • No.: 113

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Nr. • No.: 114

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Nr. • No.: 115

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Nr. • No.: 116

1 *pp-f*

Nr. • No.: 117

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Nr. • No.: 118

1 *pp-ff*

Nr. • No.: 119

2 *f*

Nr. • No.: 120

1 *mp-ff*

Nr. • No.: 121

3 *f*

Nr. • No.: 122

1 *p-f*

Nr. • No.: 123

2 *mf-ff*

Nr. • No.: 124

1 *mf-ff*

Nr. • No.: 125

1 *mf-ff*

Nr. • No.: 126

2 *f-ff*

Nr. • No.: 127

3 *mf*

Nr. • No.: 128

1 *pp-ff*

Nr. • No.: 129

1 *mf-ff*

Nr. • No.: 130

1 *mf-f*

Nr. • No.: 131

2 *mf-ff*

Nr. • No.: 132

2 *mp-ff*

Nr. • No.: 133

1 *mf-ff*

Nr. • No.: 134

1 *pp-mf*

Nr. • No.: 135

1 *pp-mf*

Nr. • No.: 136

2 *pp-mp*

Nr. • No.: 137

1 *pp-mf*

Nr. • No.: 138

1 *mp-ff*

Nr. • No.: 139

3 *pp-p*

Nr. • No.: 140

2 *mf*

Nr. • No.: 141

1 *mf-ff*

Nr. • No.: 142

3 *mf-ff*

Nr. • No.: 143

1 *p-ff*

Nr. • No.: 144

1 *mp-ff*

Nr. • No.: 145

1 *pp-mf*

Nr. • No.: 146

1 *mp-ff*

Nr. • No.: 147

2 *mp-mf*

Nr. • No.: 148

1 *mf-ff*

Nr. • No.: 149

1 *mf-ff*

Nr. • No.: 150

3 *p*

Nr. • No.: 151

1 *mp-mf*

Nr. • No.: 152

1 *pp-mp*

Nr. • No.: 153

1 *pp-mp*

Nr. • No.: 154

1 *p-ff*

Nr. • No.: 155

1 *mp-ff*

Nr. • No.: 156

1 *mp-ff*

Nr. • No.: 157

1 *mf-ff*

Nr. • No.: 158

2 *ff*

Nr. • No.: 159

2 *pp-mf*

Nr. • No.: 160

2 *pp-mp*

Nr. • No.: 161

1 *pp-mp*

Nr. • No.: 162

1 *pp-mf*

Nr. • No.: 163

1 *mf-ff*

Nr. • No.: 164

2 *mf-f*

Nr. • No.: 165

1 *mf-ff*

Nr. • No.: 166

3 *f*

Nr. • No.: 167

1 *mp-ff*

Nr. • No.: 168

1 *pp-mf*

Nr. • No.: 169

1 *mp*

Nr. • No.: 170

1 *mf-ff*

Nr. • No.: 171

1 *mf-ff*

Nr. • No.: 172

1 *mf-ff*

Nr. • No.: 173

3 *ff*

Nr. • No.: 174

1 *mf-ff*

Nr. • No.: 175

1 *pp-mf*

Nr. • No.: 176

1 *pp-mf*

Nr. • No.: 177

1 *pp-mf*

Nr. • No.: 178

3 *pp-p*

Nr. • No.: 179

2 *mp-mf*

Nr. • No.: 180

3 *pp*

Nr. • No.: 181

1 *pp-mf*

Nr. • No.: 182

2 *mp-mf*

Nr. • No.: 183

2 *mp*

Nr. • No.: 184

3 *mp*

Nr. • No.: 185

1 *pp-mf*

2
3
4
2
4

C#

Nr. · No.: 186

1 *pp-mf*

2
3
4
2

D#

Nr. · No.: 187

2 *mf-ff*

2
3
4
2
4

B

Nr. · No.: 188

2 *mp-mf*

2
3
4
3

C#

Nr. · No.: 189

2 *pp-mp*

2
3
4
3
4

Nr. · No.: 190

1 *p-mp*

2
3
4
4

Nr. · No.: 191

3 *mp-mf*

2
3
4
2
4

D# C

Nr. · No.: 192

2 *mp-mf*

2
3
4
4

G#

Nr. · No.: 193

2 *mf*

2
3
4
2
4

G#

Nr. · No.: 194

2 *mp*

2
3
4
2
3

D#

Nr. · No.: 195

1 *pp-mf*

2
3
4

D#

Nr. · No.: 196

1 *mp-mf*

2
3
2
3

C

Nr. · No.: 197

1 *pp-f*

2
3

D#

Nr. · No.: 198

1 *mf-f*

2
3
2
3

C#

Nr. · No.: 199

2 *pp-mf*

2
4

D#

Nr. · No.: 200

1 *pp-mf*

2
4

D#

Nr. · No.: 201

2 *mf*

2
4
2

D#

Nr. · No.: 202

1 *pp-f*

3
4

D#

Nr. · No.: 203

3 *mp*

2
2

D#

Nr. · No.: 204

2 *pp-mp*

3
4
2
3

C

Nr. · No.: 205

2 *pp-f*
Nr. • No.: 206

1 *p-f*
Nr. • No.: 207

2 *pp-mp*
Nr. • No.: 208

3 *pp-mp*
Nr. • No.: 209

1 *mp-f*
Nr. • No.: 210

3 *f*
Nr. • No.: 211

2 *pp-f*
Nr. • No.: 212

1 *mp-ff*
Nr. • No.: 213

3 *f-ff*
Nr. • No.: 214

2 *mp*
Nr. • No.: 215

1 *pp-f*
Nr. • No.: 216

2 *mf-f*
Nr. • No.: 217

3 *mp-ff*
Nr. • No.: 218

1 *mp-mf*
Nr. • No.: 219

2 *mp-ff*
Nr. • No.: 220

1 *p-ff*
Nr. • No.: 221

1 *p-mf*
Nr. • No.: 222

1 *pp-f*
Nr. • No.: 223

2 *mp-mf*
Nr. • No.: 224

2 *mf*
Nr. • No.: 225

2 *mf-ff*
Nr. • No.: 226

1 *p-f*
Nr. • No.: 227

1 *pp-f*
Nr. • No.: 228

3 *mf*
Nr. • No.: 229

1 *p-mp*
Nr. • No.: 230

1 *mp-f*
Nr. • No.: 231

1 *mp-f*
Nr. • No.: 232

2 *mp-f*
Nr. • No.: 233

2 *mf*
Nr. • No.: 234

3 *pp-mf*
Nr. • No.: 235

3 *p*
Nr. • No.: 236

3 *mp*
Nr. • No.: 237

2 *ff*
Nr. • No.: 238

3 *mf*
Nr. • No.: 239

2 *f*
Nr. • No.: 240

1 *pp-f*
Nr. • No.: 241

1 *mf-f*
Nr. • No.: 242

2 *mf*
Nr. • No.: 243

2 *mf-f*
Nr. • No.: 244

3 *mf*
Nr. • No.: 245

1 *mp-f*
Nr. • No.: 246

2 *mf-ff*
Nr. • No.: 247

2 *mf-f*
Nr. • No.: 248

3 *ff*
Nr. • No.: 249

2 *pp-mf*
Nr. • No.: 250

1 *mf-f*
Nr. • No.: 251

2 *mf*
Nr. • No.: 252

1 *mp-f*
Nr. • No.: 253

3 *mf*
Nr. • No.: 254

3 *mf*
Nr. • No.: 255

12.6 Anhang 6 Klangbeispiele

Track-Indizierung der CD

Zur Demonstration der Effekte ist dem Buch eine CD mit Klangbeispielen für alle drei Instrumente beigelegt. Die Reihenfolge der Beispiele orientiert sich an der Reihenfolge der Kapitel. Die Flöten werden bei jedem Track nacheinander gespielt in der Reihenfolge Piccolo-, Alt-, Bassflöte.

Bei der Ausführung der Beispiele sind unterschiedliche Dynamiken und Artikulationen eingebaut. Diese werden im Einzelnen nicht gesondert erklärt.

- ▶ Flatterzunge: 1
- ▶ Flageolets: 2
- ▶ Doppelflageolets: 3
- ▶ Whistle Tones: 4
- ▶ Sonderformen von Whistle Tones: 5
- ▶ Jet Whistle: 6
- ▶ Trompetenansatz: 7
- ▶ Singen und Spielen: 8
- ▶ Mehrklänge: 9
- ▶ Lippenpizzicato: 10
- ▶ Zungenpizzicato: 11
- ▶ Klappengeräusch mit Ton: 12
- ▶ Klappengeräusch ohne Ton: 13
- ▶ Tongue Ram: 14
- ▶ Vibrato lento: 15
- ▶ Molto vibrato: 16
- ▶ Vibrato normale/ordinario: 17
- ▶ Vibrato-Übergänge: 18
- ▶ Zwerchfell-Akzente: 19
- ▶ Zungenvibrato: 20
- ▶ Lippenvibrato (smorzato): 21
- ▶ Luftgeräusch: 22
- ▶ Ton und Luft: 23
- ▶ Äolische Klänge: 24
- ▶ Sprechen und Spielen: 25
- ▶ Klangfarbentriller/Bisbigliando: 26
- ▶ Tremolo: 27
- ▶ Trillerfiguren: 28
- ▶ Doppeltriller: 29
- ▶ Mehrklang-Triller: 30
- ▶ Ansatzglissando: 31
- ▶ Griffglissando: 32
- ▶ Mikrotonalität: 33

12.6 Appendix 6 Recorded Examples

Track Index on the CD

To demonstrate the various effects, a CD containing examples from all three instruments is included with this book. The order of the examples follows the sequence of the chapters. On each track, the flutes are played one after the other in the order piccolo, alto and bass flute.

Various dynamics and articulations are built into the performance of the examples. These are not explained in further detail.

- ▶ Flutter Tongue: 1
- ▶ Harmonics: 2
- ▶ Double Harmonics: 3
- ▶ Whistle Tones: 4
- ▶ Special Forms of Whistle Tones: 5
- ▶ Jet Whistle: 6
- ▶ Trumpet Embouchure: 7
- ▶ Singing and Playing: 8
- ▶ Multiphonics: 9
- ▶ Lip Pizzicato: 10
- ▶ Tongue Pizzicato: 11
- ▶ Key Clicks with Sound: 12
- ▶ Key Clicks without Sound: 13
- ▶ Tongue Ram: 14
- ▶ Vibrato lento: 15
- ▶ Molto vibrato: 16
- ▶ Vibrato normale/ordinario: 17
- ▶ Vibrato Transitions: 18
- ▶ Diaphragm Accents: 19
- ▶ Tongue Vibrato: 20
- ▶ Lip Vibrato (smorzato): 21
- ▶ Air Sounds: 22
- ▶ Tone and Air: 23
- ▶ Aeolian Sounds: 24
- ▶ Speaking and Playing: 25
- ▶ Timbral Trill/Bisbigliando: 26
- ▶ Tremolo: 27
- ▶ Trill Figures: 28
- ▶ Double Trill: 29
- ▶ Multiphonic Trill: 30
- ▶ Embouchure Glissando: 31
- ▶ Fingered Glissando: 32
- ▶ Microtonality: 33

12.7 Anhang 7 Diskographie (Auswahl)

- ▶ CD »Flutes Without Borders«, Carin Levine – Flöten, Cantate Musicaphon Records, Kassel, M55710, 1998.
- ▶ CD »The Flute Experience«, Carin Levine – Flöten, Cantate Musicaphon Records, Kassel, M55712, 1999.
- ▶ CD »Giacinto Scelsi, Chamber Works for Flute and Piano«, Carin Levine – Flöten, Kristi Becker – Klavier, CPO, Osnabrück, CPO 999 340-2.
- ▶ CD Johannes Kalitzke »Tübingen, Jänner«, Wergo WER 6512-2.
- ▶ CD Robert HP Platz »Flötenstücke«, Wergo WER 6521-2.
- ▶ CD Musica Viva Vol. 10, Bernhard Lang »DW III«, Col Legno, WWWE1CD20090.

In Vorbereitung

- ▶ CD »The Flute Experience II«, Carin Levine – Flöten, Stefan Blum – Percussion, Cantate Musicaphon Records, Kassel M55719, 2005.
- ▶ CD »Flutes Without Borders II« Carin Levine – Flöten, Cantate Musicaphone Records, Kassel M55718, 2005.

12.7 Appendix 7 Discography (Excerpts)

- ▶ CD »Flutes Without Borders«, Carin Levine – Flutes, Cantate Musicaphon Records, Kassel, M55710, 1998.
- ▶ CD »The Flute Experience«, Carin Levine – Flutes, Cantate Musicaphon Records, Kassel, M55712, 1999.
- ▶ CD »Giacinto Scelsi, Chamber Works for Flute and Piano«, Carin Levine – Flutes, Kristi Becker – Piano, CPO, Osnabrück, CPO 999 340-2.
- ▶ CD Johannes Kalitzke »Tübingen, Jänner«, Wergo WER 6512-2.
- ▶ CD Robert HP Platz »Flötenstücke«, Wergo WER 6521-2.
- ▶ CD Musica Viva Vol. 10, Bernhard Lang »DW III«, Col Legno, WWWE1CD20090.

In Preparation

- ▶ CD »The Flute Experience II«, Carin Levine – Flutes, Stefan Blum – Percussion, Cantate Musicaphon Records, Kassel M55719, 2005.
- ▶ CD »Flutes Without Borders II« Carin Levine – Flutes, Cantate Musicaphone Records, Kassel M55718, 2005.

Carin Levine, geboren in Cincinnati, Ohio (USA), studierte am College Conservatory of Music, University of Cincinnati, bei Jack Wellbaum (Flöte) und Peter Kamnitzer, LaSalle Quartett (Kammermusik), außerdem war sie als Soloflöistin im dortigen Ensemble für Neue Musik tätig. Danach setzte sie ihre Ausbildung bei Aurèle Nicolet an der Staatlichen Hochschule für Musik in Freiburg im Breisgau fort. Schon in frühen Jahren mit verschiedenen Auszeichnungen geehrt (Ohio State Music Prize u. a.), erhielt Carin Levine später den begehrten Kranichsteiner Musikpreis für die Interpretation Neuer Musik bei den Darmstädter Ferienkursen.

Seit 1996 ist sie Dozentin bei den Darmstädter Ferienkursen. Darüber hinaus unterrichtete sie viele Jahre an verschiedenen deutschen Musikhochschulen (Detmold, Bremen, Lübeck u. a.). Carin Levine gibt regelmäßig Meisterkurse im In- und Ausland zur Interpretation von Flötenliteratur und Kammermusik.

Sie ist Herausgeberin der Reihe »Zeitgenössische Musik für Flöte« beim Bärenreiter-Verlag.

In enger Zusammenarbeit mit Brian Ferneyhough, Toshio Hosokawa, Mauricio Kagel, Younghi Pagh-Paan, Robert HP Platz, Josef Anton Riedl, Giacinto Scelsi, Dieter Schnebel u. a. entstanden zahlreiche ihr gewidmete Werke, die sie bei vielen internationalen Festivals zur Uraufführung brachte. Besonders viel Wert legt Carin Levine auf die Zusammenarbeit mit jungen Komponistinnen und Komponisten.

Bei Aufführungen von Ensemble- und Orchesterwerken hat Carin Levine mit Dirigenten wie u. a. Ernest Bour, Peter Eötvös, Johannes Kalitzke, und Lothar Zagrosek zusammengearbeitet. Seit 1995 spielt sie im Duo mit dem Geiger David Alberman. Von 1980 bis 2000 war Carin Levine Mitglied des damaligen Ensemble Köln. Zahlreiche Rundfunk- und Fernsehaufnahmen sowie CDs dokumentieren ihr umfangreiches Repertoire.

Christina Mitropoulos-Bott, geboren in Weingarten, Deutschland, studierte Querflöte an der Musikhochschule Detmold, Abteilung Dortmund bei Carin Levine und Kammermusik an der Folkwanghochschule in Essen bei Vladimir Mendelssohn. Sie war mehrfach Stipendiatin der Darmstädter Ferienkurse für Neue Musik, wurde von der Werner Richard – Dr. Carl Dörken Stiftung gefördert und gewann 1994 mit dem Duo »Katarakt« den Preis für die beste Interpretation zeitgenössischer Musik beim Internationalen Duo Wettbewerb in Olne, Belgien. Ihr künstlerischer Schwerpunkt liegt in der Aufführung Neuer Kammermusik. Von 1997–1999 war sie Lehrbeauftragte an der Musikhochschule Lübeck. Neben ihrer freiberuflichen Tätigkeit als Flötistin ist Christina Mitropoulos-Bott als Vertriebsbeauftragte bei einem führenden internationalen Softwareunternehmen beschäftigt.

Carin Levine was born in Cincinnati, Ohio (USA). She studied at the University of Cincinnati College Conservatory of Music under Jack Wellbaum (Flute) and Peter Kamnitzer (LaSalle Quartet, Chamber Music) and she was the solo flutist of the Cincinnati Contemporary Music Ensemble. She continued her education at the Musikhochschule in Freiburg, Germany, with Aurèle Nicolet.

Ms Levine has been awarded numerous prizes including the Ohio State Music prize and the highly coveted »Kranichsteiner Musikpreis« for the interpretation of Contemporary Music. Her teaching activities include the Darmstadt Summer Courses for Contemporary Music as well as Masterclasses throughout Europe and abroad. In addition, she has taught at the Musikhochschule in Detmold, Lübeck, and Bremen.

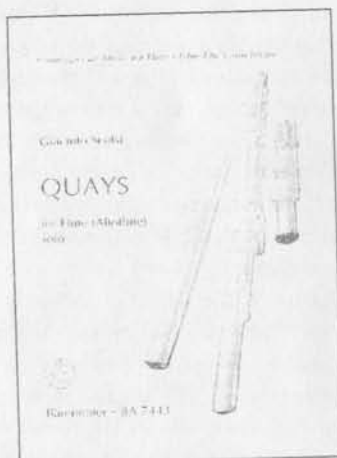
Carin Levine is the editor of the series »Contemporary Music for Flute« published by Bärenreiter.

Carin Levine has collaborated with composers such as Brian Ferneyhough, Toshio Hosokawa, Mauricio Kagel, Younghi Pagh-Paan, Robert HP Platz, Josef Anton Riedl, Giacinto Scelsi, and Dieter Schnebel who have dedicated works to her and which she has premiered at major festivals throughout the world. One of Ms Levines major musical interests is working with young composers.

Carin Levine has performed under many conductors including Ernest Bour, Peter Eötvös, Johannes Kalitzke, and Lothar Zagrosek. Since 1995 she performs as a duo with the violinist David Alberman. Carin Levine was the flutist of the Ensemble Köln during its existence from 1980–2000. Numerous radio recordings, films, and CDs document her extensive musical activities.

Christina Mitropoulos-Bott was born in Weingarten, Germany. She studied flute at the Musikhochschule Dortmund with Carin Levine and chamber music with Vladimir Mendelssohn at the Folkwanghochschule in Essen. Ms Mitropoulos-Bott has been awarded the prize for the best interpretation of Contemporary Music for the Duo Competition 1994 in Olne, Belgium, with her Duo »Katarakt«. In addition she has received numerous scholarships from the Darmstadt Summer Courses for Contemporary Music and the Werner Richard – Dr. Carl Dörken Stiftung. She has been a member of the flute staff at the Musikhochschule Lübeck from 1997–1999. Ms Mitropoulos-Bott specializes in the interpretation of modern chamber music. In addition to her freelance activities Ms Mitropoulos-Bott is employed as sales representative by a leading international software company.

Reihe »Contemporary Music for Flute«



Edited by Carin Levine:

Klaus Huber

To ask the flutist
for Flute solo (1966)
BA 7441

Motoharu Kawashima

Manic Psychosis I
for Flute solo (1991/92)
BA 7442

Giacinto Scelsi

Krishna e Radha
for Flute and Piano (1986)
BA 7444

Quays

for Flute (Altoflute) solo (1953)
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