



UVI SOUND CARD  
PRESTIGE

# IRCAM SOLO INSTRUMENTS



VOLUME # 1



UltimateSoundBank

MAC/PC

REFERENCE GUIDE

# IRCAM SOLO INSTRUMENTS

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## Introduction

### A truly unique collection of acoustic solo instruments

In collaboration with the famous IRCAM research department, this brand new collection presents the finest solo instruments (Violin, Viola, Cello, Contrabass, Flute in C, Oboe, Clarinet, Bassoon, Alto saxophone, French horn, Trumpet, Trombone, Bass tuba, Accordion, Guitar & Harp) played by the most talented contemporary musicians and captured in the very best conditions to ensure maximum fidelity.

This collection not only contains the usual sounds of these sixteen wonderful instruments, but also some very rare playing techniques that you will not find anywhere else, such as multiphonic, aeolian, hit-on-body, buzz, crushed and more. The presets are carefully programmed with expressive key-switches and other cross fading techniques and can be loaded and played instantaneously in your Mac/Win system thanks to the supplied UVI Workstation.

Take a listen!

We could describe these sounds all day, but it's better to give an ear ([www.ultimatesoundbank.com](http://www.ultimatesoundbank.com)) to the audio demos for yourself and hear why we believe this collection is so unique.

If you're looking for your first high quality solo instrument library or want to enhance your existing library, the IRCAM Solo Instruments collection is a great choice that provides high quality core sounds as well as unique musical samples found in no other library.

### The concept

The IRCAM Solo Instruments collection is the result of more than ten years of research, recording, editing & publishing. Started in 1996, this huge project involved the very best musicians, artistic directors, and engineers. The instruments were recorded using Prism converters with several high-end and customized microphones. After intense experimentation, the decision was made to use the sounds obtained via the close-proximity mono channel; because this is the most natural way to work with solo instruments, especially if you want to add external reverberation (like the superb sounding convolution reverb from the UVI Workstation). Sounds are stored in the 24 bits / 44.1 kHz format.

The IRCAM Solo Instruments collection offers traditional and very musical samples, but also includes some rare and unique features. The stringed instruments (violin, viola, cello and double bass), were recorded string by string, so you can choose the string you want for the note you want through key switching presets. In addition, the collection also includes some rare to find transitions from different playing techniques such as Sul tasto to Ordinario and Ordinario to Sul ponticello to name a few.

### The players

Don't forget that the most important actors of this kind of project are the players, especially for solo instruments, where musical experience and playing techniques are essential. IRCAM did collaborate with the very best musicians to achieve an exceptional and musical result. Each instrument and sample has a natural human sound.

We are proud to introduce these 16 inspired musicians to you:

#### **Hae-Sun Kang** – Violin

Soloist for the Ensemble InterContemporain since 1994, concertmaster of the Orchestre de Paris, and winner of several international competitions, Hae-Sun Kang is a professor at the Conservatoire National Supérieur de Musique de Paris.

#### **Pascal Robault** - Viola

Violinist and violist, Pascal Robault won several international prizes like the Evian International String Quartet Competition. He has participated in numerous concerts, exploring the most vast and varied forms of the chamber and contemporary music repertoires, performing with groups such as the Ensemble InterContemporain, Alternance, and Court-circuit.

#### **Antoine Ladrette** - Cello

- *Instrument Played: Caussin, France, end of XIX century.*

A former student of André Navarra and Bernard Michelin at the Conservatoire de Paris, André Ladrette developed a taste for early music, driving him to participate in groups such as Les Arts Florissants, La Chappelle Royale, La Grande Ecurie et la Chambre du Roy, Les Musiciens du Louvre, the London Fortepiano Trio, and, for fifteen years, the Stradivaria Ensemble directed by Daniel Cuiller.

#### **Didier Meu** - Contrabass

- *Instrument Played: 3/4, Germany, end of XIX century*

Member of the ensembles Court-circuit, Sillage, and Fa, he also performs on a regular basis with Ars Nova, the Ensemble InterContemporain, the Ensemble Modern, and the Ensemble Recherche. Didier Meu works in close collaboration with Ircam. He also created the Acrobass association, a group devoted to promoting instruments with a bass range and is also involved in projects where jazz and contemporary music intersect.

#### **Jens McManama** - French Horn

Born in Portland, Oregon, Jens McManama performed his first solo concert at the age of thirteen with the Seattle Orchestra. After studying in Cleveland with Myron Bloom, he became the horn soloist at La Scala in Milan under the direction of Claudio Abbado. As a soloist for the Ensemble InterContemporain since 1979, Jens McManama performed in numbers of pieces like the premiere of Karlheinz Stockhausen's *In Freundschaft* arranged for horn in Baden-Baden in 1988.

#### **Laurent Bomont** - Trumpet

Admitted to the Conservatoire national supérieur de musique de Paris in 1989, he won first prize in chamber music in 1991, followed by a first prize in trumpet performance the next year. Then he was invited to perform on a regular basis as a soloist at various festivals, and with prominent orchestras and groups. He has performed under the direction of Christoph von Dohnany, Sir Simon Rattle, Sir Georg Solti, James Conlon, Peter Eotvös, David Robertson... as well as Pierre Boulez.

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### **Benny Sluchin** - Trombone

Benny Sluchin studied music at the Conservatory of Tel Aviv, his hometown, and at the Academy of Music in Jerusalem. Sluchin played with the Israel Philharmonic Orchestra for two years before becoming a co-soloist in the Jerusalem Symphony Orchestra (Radio Orchestra) where he remained for four years. Since 1976, he has been a member of the Ensemble InterContemporain, performing the contemporary repertoire. Benny Sluchin also gives conferences all over the world.

### **Gerard Buquet** - Bass Tuba

- *Instrument played: Bass Tuba in F with 6 valves, Germany, manufactured by Fabien Levy*

Gerard Buquet has given numerous premieres and has been an invited soloist at many of the major contemporary music festivals. He has played with the Orchestre de Paris, the Orchestre National de France, and the Orchestre Philharmonique de Radio France, as well as in various jazz combos. From 1976 to 2001, Buquet was the tuba player for the Ensemble InterContemporain.

### **Claude Delangle** - Alto Saxophone

- *Instrument played: SELMER Série2 n°434775 plated gold*

Concert artist, researcher and teacher, Claude Delangle has expanded the contemporary repertoire by working with the greatest composers of our time and by promoting recordings of their work on labels such as BIS, Deutsche Grammophon, Harmonia Mundi, Erato and VÉrany. He has worked with Pierre Boulez, D. Robertson, P. Eötvös, K. Nagano, E.P. Salonen, and M.W. Chung. Delangle's research on saxophone acoustics has resulted in a collaboration with Henri-Selmer-Paris in the creation of their prototypes.

### **Catherine Bowie** - Flute in C

Catherine Bowie began her musical studies in her native New Zealand. Winner of the Young Musicians Competition, she entered the Conservatoire national supérieur de Paris, where she studied with Michel Debost and Pierre-Yves Artaud. A member of Ensemble Court-circuit from 1991 to 2002, she currently lives in New Zealand and plays with the Auckland Philharmonia.

### **Helene De Villeneuve** - Oboe

In October 1994, she was the winner of the fourth Tokyo International Oboe Contest. From 1992 to 1995 Hélène Devilleneuve played solo oboe for the Flanders Royal Philharmonic Orchestra. She then went on to become the first oboe super-soloist for the Orchestre philharmonique de Radio France in 1995. In the latter domain, she is a part of the ensemble Court-circuit and is regularly invited to play with the Ictus ensemble (Brussels), the Fa ensemble (Dominique My), and more.

### **Pierre Dutrieu** - Clarinet

- *Instrument played: Buffet-Crampon Prestige 1996 using Fineber system*

His interest in the contemporary repertoire has led him to premiere numerous concert works worldwide. As a soloist, Dutrieu has performed some of the most difficult pieces found in the contemporary repertoire such as the famous *Dialogue de l'ombre double* by Pierre Boulez. Pierre Dutrieu is a permanent member of the groups Court-circuit, S.I.C. and Sillages, and is regularly invited by other groups, such as the Ensemble InterContemporain.

### **Laurent Le Chenadec** - Bassoon

First place bassoonist at the Conservatoire national supérieur de musique de Paris, Laurent Le Chenadec has played the modern bassoon with the Paris-Bastille octet, the Ensemble InterContemporain under the direction of Pierre Boulez, and the group Court-circuit.

### **Tania Chagnot** - Guitar

- *Instrument played : Daniel Friederich n°627*

Winner of numerous international competitions, Tania Chagnot has given concerts all over the world, and has participated in radio and television programs in Europe and in the United States. Although Tania feels her vocation is to spread knowledge of contemporary music, especially through premiering new works, her repertoire extends from early music to today's music.

## IRCAM SOLO INSTRUMENTS

### **Virginie Tarrete** - Harp

After having completed her studies at the Conservatoire national supérieur de musique de Paris, where she took first place in both harp performance and chamber music, she continued her studies with Ursula Holliger at the Staatliche Hochschule für Musik in Freiburg. Soloist in the ensemble l'itinéraire, a large part of Virginie Tarrête's performance activity is dedicated to contemporary music, which has led to numerous collaborations with composers like Mark André Dalbavie, Klaus Huber, Helmut Lachenmann...

### **Pascal Contet** - Accordion

- *Instrument played: ZEROSETTE number B32C64T58 Levy special*

Virtuoso with an impressive reputation, festival director, accordion collector, and lecturer, Pascal Contet isn't afraid to take risks in order to make his instrument vibrate. He has improvised with Joëlle Léandre, Andy Emler, Jean-Pierre Drouet. In addition, has collaborated with Pierre Boulez.

## About IRCAM

In 1969 Georges Pompidou initiated the establishment of the Institut de Recherche et Coordination Acoustique/Musique (Institute for music/acoustic research and coordination) entrusting its direction to the composer and conductor Pierre Boulez. IRCAM became, and remains today, the only center of its kind across the globe, dedicated to contemporary musical research and production and linked to the Centre Pompidou.

Initially the project of one man, Pierre Boulez, composer, conductor and author of several works, the project to create IRCAM incarnated the utopian aspirations and aesthetic conceptions of its founder. His objective was to bring science and art together in order to widen instrumentarium and rejuvenate musical language. In the late 1970's IRCAM offered the most advanced reflection into computer music in the world.

With the arrival of Laurent Bayle in 1992, the institution opened its doors to new artistic forms and worked at attracting a larger public, notably via the establishment of the Agora festival. In addition, anticipating the importance of the Internet the Forum went online enabling IRCAM's "know-how" to be accessed across the entire globe.

In 2002, the philosopher Bernard Stiegler took over IRCAM's direction, reaffirming the primary vocation of the institute: the coordination between research and creation. Seeking to renew relations between art and science, IRCAM's project has both feet firmly based in contemporary questions such as the links between cultural industries and creation.

Strongly supported by the presence of composers and artists invited to dialogue with the scientific teams, IRCAM contributes to debates incited by current issues, whether theoretical, musical, aesthetical or political.

## Research & Development

IRCAM provides a unique framework to welcome and coordinate various scientific ways of approaching music, including physics (acoustics, mechanics), signal processing, computer science, cognitive psychology and musicology. Activities are structured according to specific themes, entrusted to specialized teams. Each team assumes responsibility for all the work carried out within its domain: research, software development, contracts, collaborative projects, and diffusion.

The personnel working within IRCAM's Department of Research and Development (90 researchers, engineers, post-graduates, technicians and administration staff) under the direction of Hugues Vinet.



## INSTRUMENTS LIST

**FLUTE** (in C)

**OBOE**

OBOE WITH MUTE

**CLARINET** (in B<sup>b</sup>)

**BASSOON**

BASSOON WITH MUTE

**ALTO SAXOPHONE** (in E<sup>b</sup>)

**FRENCH HORN**

FRENCH HORN WITH MUTE

**TRUMPET** (in C)

TRUMPET in C with CUP MUTE

TRUMPET in C with HARMON MUTE

TRUMPET in C with STRAIGHT MUTE

TRUMPET in C with WAWA MUTE

**TROMBONE** (Tenor/bass)

TROMBONE with CUP MUTE

TROMBONE with HARMON MUTE

TROMBONE with STRAIGHT MUTE

TROMBONE with WAWA MUTE

**BASS TUBA** (in F)

BASS TUBA WITH MUTE

**ACCORDION**

**GUITAR**

**HARP**

**VIOLIN**

VIOLIN WITH MUTE

VIOLIN WITH LEAD MUTE

**VIOLA**

VIOLA WITH MUTE

VIOLA WITH LEAD MUTE

**VIOLONCELLO**

VIOLONCELLO WITH MUTE

VIOLONCELLO WITH LEAD MUTE

**CONTRABASS**

CONTRABASS WITH MUTE

## WOODWINDS

### Detail of available playing techniques for each woodwind instrument

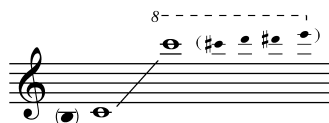
The ranges are given in international format : middle C = C4  
All musical notations are in sounding pitches (untransposed)

#### FLUTE in C

Instrumentist : Catherine Bowie - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.

Instrument part to be written at actual pitch

Ranges in sounding pitches : (B3 with special extension) C4 – C7 (+)



- aeolian
- aeolian-and-ordinario
- aeolian-to-ordinario
- chromatic-scale
- crescendo
- crescendo-to-decrescendo
- decrescendo
- discolored-fingering
- flutterzunge
- flutterzunge-to-ordinario
- harmonic-fingering
- jet-whistle
- key-click
- note-durations
- ordinario
- ordinario-1q
- ordinario-to-aeolian
- ordinario-to-flutterzunge
- pizzicato
- play-and-sing
- play-and-sing-unison
- sforzando
- staccato
- tongue-ram
- trill-major-second-up
- trill-minor-second-up
- whistle-tones
- whistle-tones-sweeping

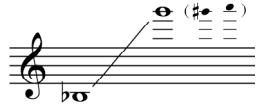
# IRCAM SOLO INSTRUMENTS

## OBOE

*Instrumentist : H el ene Devilleneuve - Artistic director : Joshua Fineberg - Sound engineers : Fran ois Eckert, Antoine Mercier.*

Instrument part to be written at actual pitch

Range in sounding pitches : **B<sup>b</sup>3 – G6 (+)**



blow-without-reed  
chromatic-scale  
crescendo  
crescendo-to-decrescendo  
decrescendo  
discolored-fingering  
double-trill-major-second-up  
double-trill-minor-second-up  
flatterzunge  
harmonic-fingering  
key-click  
kiss  
lip-glissando  
multiphonics  
note-durations  
ordinario  
ordinario-1q  
sforzando  
staccato  
trill-major-second-up  
trill-minor-second-up  
vibrato

## OBOE CON SORDINA

ordinario

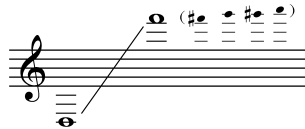
# IRCAM SOLO INSTRUMENTS

## CLARINET in B<sup>b</sup>

*Instrumentist : Pierre Dutrieu - Instrument : Buffet-Crampon Prestige 1996 (Boehm system) - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.*

Instrument part to be written a major second higher

Range in sounding pitches : **D3-F6 (+)**



aeolian-and-ordinario  
crescendo  
crescendo-to-decrescendo  
decrescendo  
flutterzunge  
flutterzunge-high-register  
glissando  
key-click  
multiphonics  
note-durations  
ordinario  
ordinario-1q  
ordinario-high-register  
sforzando  
staccato  
trill-major-second-up  
trill-minor-second-up

# IRCAM SOLO INSTRUMENTS

## BASSOON

*Instrumentist : Laurent Le Chenadec - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.*

Instrument part to be written at actual pitch

Range in sounding pitches : **B<sup>b</sup>1-E<sup>b</sup>5 (+)**



- blow-without-reed
- chromatic-scale
- crescendo
- crescendo-to-decrescendo
- decrescendo
- flutterzunge
- glissando-with-throat
- harmonic-fingering
- key-click
- multiphonics
- note-durations
- ordinario
- ordinario-1q
- sforzando
- staccato
- trill-major-second-up
- trill-minor-second-up
- vibrato

## BASSON CON SORDINA

- ordinario

## BRASS

### Detail of available playing techniques for each brass instrument

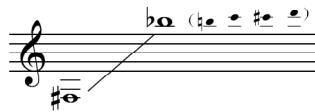
The ranges are given in international format : middle C = C4  
All musical notations are in sounding pitches (untransposed)

#### TRUMPET in C

*Instrumentist : Laurent Bomont - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.*

Instrument part to be written at actual pitch

Range in sounding pitches : F<sup>#</sup>3-B<sup>D</sup>5 (+)



crescendo  
crescendo-to-decrescendo  
cuivré  
cuivré-to-ordinario  
decrescendo  
flutterzunge  
flutterzunge-to-ordinario  
glissando-embouchure  
half-valve-glissando  
harmonics-glissando  
increasing-intervals-legato  
note-durations  
ordinario  
ordinario-to-cuivré  
ordinario-to-flutterzunge  
pedal-tone  
sforzando  
slap-pitched  
staccato  
trill-major-second-up  
trill-minor-second-up  
vocalize-on-harmonics

#### C TRUMPET CUP MUTE

flutterzunge  
ordinario

#### C TRUMPET HARMON MUTE

flutterzunge  
ordinario

#### C TRUMPET STRAIGHT MUTE

flutterzunge  
ordinario

#### C TRUMPET WAWA MUTE

closed-to-open  
flutterzunge-open  
open-to-closed  
ordinario-closed  
ordinario-open

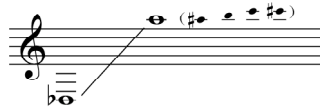
# IRCAM SOLO INSTRUMENTS

## ALTO SAXOPHONE in E<sup>b</sup>

*Instrumentist: Claude Delangle - Instrument: SELMER Serie 2 n°434775 gold plated (with high register key, Mouthpiece Vandoren strenght 3,5 - Artistic direction: Fabien Levy - Sound engineers: V r ne Valat - Editing : C cile Lenoir, G rard Delia.*

Instrument part to be written a major sixth higher

Range in sounding pitches : (-) D<sup>b</sup>3-A5 (+)



aeolian  
backwards  
bisbigliando  
blow-without-reed  
chromatic-scale  
crescendo  
crescendo-to-decrescendo  
decrescendo  
discolored-fingering  
double-tonguing  
exploding-slap-pitched  
flutterzunge  
flutterzunge-to-ordinario  
glissando  
harmonic-fingering  
harmonics-glissando  
key-click  
kiss  
move-bell-from-down-to-up  
move-bell-from-left-to-right  
multiphonics  
ordinario  
ordinario-1q  
ordinario-high-register  
ordinario-to-flutterzunge  
play-and-sing-glissando  
play-and-sing-m2-up  
play-and-sing-unison  
sforzando  
slap-pitched  
slap-unpitched  
staccato  
trill-major-second-up  
trill-minor-second-up





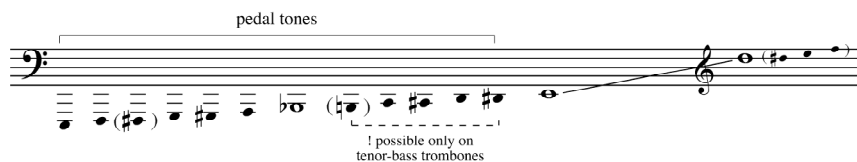
# IRCAM SOLO INSTRUMENTS

## TROMBONE (tenor-bass)

Instrumentist : Benny Sluchin - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.

Instrument part to be written at actual pitch

Range in sounding pitches : (-) E2-D5 (+)



chromatic-scale  
crescendo  
crescendo-to-decrescendo  
cuivré  
cuivré-to-ordinario  
decrescendo  
flutterzunge  
flutterzunge-no-mouthpiece  
flutterzunge-to-ordinario  
glissando  
note-durations  
ordinario  
ordinario-no-mouthpiece  
ordinario-to-cuivré  
ordinario-to-flutterzunge  
pedal-tone  
sforzando  
slap-pitched  
staccato

### TROMBONE SORD CUP

flutterzunge  
ordinario

### TROMBONE SORD HARMON

flutterzunge  
ordinario

### TROMBONE SORD STRAIGHT

flutterzunge  
ordinario

### TROMBONE SORD WAWA

closed-to-open  
flutterzunge-closed  
flutterzunge-open  
open-to-closed  
ordinario-closed  
ordinario-open

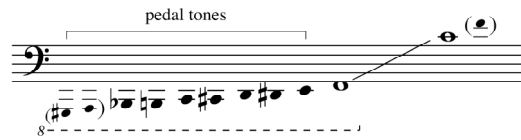
# IRCAM SOLO INSTRUMENTS

## BASS TUBA

*Instrumentist : Gérard Buquet - Instrument : Bass Tuba in F with six valves, German - Artistic direction: Fabien Levy - Sound engineers: V r ne Valat - Editing : C cile Lenoir, G rard Delia.*

instrument part to be written at actual pitch

range in sounding pitches : (-) F1-C4 (+)



bisbigliando  
blow  
breath  
buzz  
chromatic-scale  
crescendo  
crescendo-to-decrescendo  
cuivr   
decrescendo  
discolored-fingering  
discolored-fingering-1q  
exploding-slap-pitched  
exploding-slap-unpitched  
filtered-by-voice  
flutterzunge  
flutterzunge-and-voice-unison  
flutterzunge-to-ordinario  
glissando  
growl  
inhaled  
kiss  
multiphonics  
ordinario  
ordinario-1q  
ordinario-high-register  
ordinario-to-flutterzunge  
pedal-tone  
percussion-embouchure  
play-and-sing-aug4-up  
play-and-sing-glissando  
play-and-sing-m2-up  
play-and-sing-M7-up  
play-and-sing-P5-up  
play-and-sing-unison  
sforzando  
single-tonguing  
slap-pitched  
slap-unpitched  
speak-into-instrument  
staccato  
trill-major-second-up  
trill-minor-second-up

## BASS TUBA SORDINA

ordinario

## FREE REED

### Available playing techniques

The ranges are given in international format : middle C = C4  
All musical notations are in sounding pitches (untransposed)

## ACCORDION

Instrumentist : Pascal Contet - Instrument : ZEROSETTE number B32C64T58 IND n°1 special - Artistic direction: Fabien Levy  
- Sound engineers: Véréne Valat - Editing : Cécile Lenoir, Gérard Delia.

instrument part to be written at actual pitch

range in sounding pitches : **E1-A7 (C8)**



backwards  
bellowshake  
breath  
crescendo  
crescendo-to-decrescendo  
decrescendo  
difference-tones  
key-click  
sforzando  
staccato  
tap-on-body

## PLUCKED STRINGS

### Available playing techniques

The ranges are given in international format : middle C = C4  
All musical notations are in sounding pitches (untransposed)

### GUITAR

*Instrumentist : Tania Chagnot - Instrument : Daniel Friederich n°627. - Artistic direction: Fabien Levy - Sound engineers: Vèrène Valat - Editing : Cécile Lenoir, Gérard Delia.*

Instrument part to be written an octave higher

Range in sounding pitches : **E2-E5 (+)**



behind-the-frog  
bell-effect  
bottleneck  
chromatic-scale  
dedillo  
drum-effect  
glissando  
harmonic-fingering  
ordinario  
pizzicato  
pizzicato-bartok  
rasguado  
scratch-with-nail  
slide  
sul-ponticello  
sul-tasto  
tap-on-body  
tap-with-stick

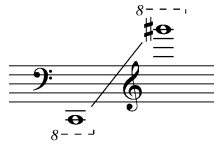
# IRCAM SOLO INSTRUMENTS

## HARP

Instrumentist : Virginie Tarrete

Instrument part to be written at actual pitch

Range in sounding pitches : **C1-G<sup>#</sup>7**



bisbigliando  
bisbigliando-with-stick  
buzzing-pedal  
clusters  
clusters-with-nail  
damped  
double-glissando  
glissando  
glissando-fluido-with-stick  
glissando-near-the-board  
glissando-with-nail  
glissando-with-pedal  
glissando-with-stick  
harmonic-fingering  
harmonic-in-wood  
near-the-board  
near-the-board-with-nail  
near-the-pegs  
ordinario  
pizzicato-bartok  
scratch-with-nail  
tap-on-body  
tap-with-stick  
tremolo-with-fingertips  
xylophonic sounds

## STRINGS

### Detail of available playing techniques for each string instrument

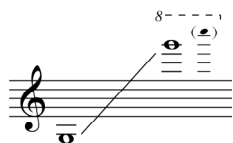
The ranges are given in international format : middle C = C4  
All musical notations are in sounding pitches (untransposed)

#### VIOLIN

Instrumentist : Hea Sun Kang - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.

instrument part to be written at actual pitch

range in sounding pitches : **G3-G7 (+)**



artificial-harmonic (mixed strings and individual strings)  
artificial-harmonic-tremolo (mixed strings and individual strings)  
behind-the-bridge  
behind-the-fingerboard  
chromatic-scale  
col-legno-battuto (mixed strings and individual strings)  
col-legno-tratto (mixed strings and individual strings)  
crescendo  
crescendo-to-decrescendo  
pressured-to-ordinario  
decrescendo  
hit-on-body  
natural-harmonics-glissandi  
non-vibrato (mixed strings and individual strings)  
note-durations  
on-the-tailpiece  
on-the-tuning-pegs  
ordinario (mixed strings and individual strings)  
ordinario-to-pressured  
ordinario-to-sul-ponticello  
ordinario-to-sul-tasto  
ordinario-to-tremolo  
pizzicato-bartok (mixed strings and individual strings)  
pizzicato-l-vib (mixed strings and individual strings)  
pizzicato-secco (mixed strings and individual strings)  
sforzato  
staccato  
sul-ponticello (mixed strings and individual strings)  
sul-ponticello-to-ordinario  
sul-ponticello-to-sul-tasto  
sul-ponticello-tremolo  
sul-tasto (mixed strings and individual strings)  
sul-tasto-to-ordinario  
sul-tasto-to-sul-ponticello  
tremolo (mixed strings and individual strings)  
tremolo-to-ordinario  
trill-major-second-up (mixed strings and individual strings)  
trill-minor-second-up (mixed strings and individual strings)

## IRCAM SOLO INSTRUMENTS

### **VIOLIN CON SORDINA**

non-vibrato (mixed strings and individual strings)

ordinario (mixed strings and individual strings)

tremolo (mixed strings and individual strings)

### **VIOLIN CON SORDINA PIOMBO**

non-vibrato

ordinario

tremolo

# IRCAM SOLO INSTRUMENTS

## VIOLA

*Instrumentist : Pascal Robault - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.*

Instrument part to be written at actual pitch

Range in sounding pitches : **C3-C6 (+)**



artificial-harmonic (mixed strings and individual strings)  
artificial-harmonic-tremolo (mixed strings and individual strings)  
behind-the-bridge  
behind-the-fingerboard  
chromatic-scale  
col-legno-battuto (mixed strings and individual strings)  
col-legno-tratto (mixed strings and individual strings)  
crescendo  
crescendo-to-decrescendo  
pressured-to-ordinario  
decrescendo  
hit-on-body  
natural-harmonics-glissandi  
non-vibrato (mixed strings and individual strings)  
note-durations  
on-the-bridge  
on-the-frog  
on-the-tuning-pegs  
ordinario (mixed strings and individual strings)  
ordinario-to-pressured  
ordinario-to-sul-ponticello  
ordinario-to-sul-tasto  
ordinario-to-tremolo  
pizzicato-bartok (mixed strings and individual strings)  
pizzicato-l-vib (mixed strings and individual strings)  
pizzicato-secco (mixed strings and individual strings)  
sforzato  
staccato (mixed strings and individual strings)  
sul-ponticello (mixed strings and individual strings)  
sul-ponticello-to-ordinario  
sul-ponticello-to-sul-tasto  
sul-ponticello-tremolo  
sul-tasto (mixed strings and individual strings)  
sul-tasto-to-ordinario  
sul-tasto-to-sul-ponticello  
sul-tasto-tremolo  
tremolo (mixed strings and individual strings)  
tremolo-to-ordinario  
trill-major-second-up (mixed strings and individual strings)  
trill-minor-second-up (mixed strings and individual strings)

### VIOLA CON SORDINA

non-vibrato (mixed strings and individual strings)  
ordinario (mixed strings and individual strings)  
tremolo (mixed strings and individual strings)

### VIOLA CON SORDINA PIOMBO

non-vibrato  
ordinario, tremolo



# IRCAM SOLO INSTRUMENTS

## VIOLONCELLO

*Instrumentist : Antoine Ladrette - Instrument : Caussin, France, end of XIX - Artistic direction: Joshua Fineberg, Sound engineers: François Eckert, Antoine Mercier.*

instrument part to be written at actual pitch  
range in sounding pitches : **C2-A5 (++)**



artificial-harmonic (mixed strings and individual strings)  
artificial-harmonic-tremolo (mixed strings and individual strings)  
behind-the-bridge  
chromatic-scale  
col-legno-battuto (mixed strings and individual strings)  
col-legno-tratto (mixed strings and individual strings)  
crescendo  
crescendo-to-decrescendo  
pressured-to-ordinario  
decrescendo  
hit-on-body  
natural-harmonics-glissandi  
non-vibrato (mixed strings and individual strings)  
note-durations  
on-the-bridge  
on-the-frog  
on-the-tailpiece  
on-the-tuning-pegs  
ordinario (mixed strings and individual strings)  
ordinario-to-pressured  
ordinario-to-sul-ponticello  
ordinario-to-sul-tasto  
ordinario-to-tremolo  
pizzicato-bartok (mixed strings and individual strings)  
pizzicato-l-vib (mixed strings and individual strings)  
pizzicato-secco (mixed strings and individual strings)  
sforzato  
staccato  
sul-ponticello (mixed strings and individual strings)  
sul-ponticello-to-ordinario  
sul-ponticello-to-sul-tasto  
sul-ponticello-tremolo  
sul-tasto (mixed strings and individual strings)  
sul-tasto-to-ordinario  
sul-tasto-to-sul-ponticello  
sul-tasto-tremolo  
tremolo (mixed strings and individual strings)  
tremolo-to-ordinario  
trill-major-second-up (mixed strings and individual strings)  
trill-minor-second-up (mixed strings and individual strings)

### VIOLONCELLO CON SORDINA

non-vibrato (mixed strings and individual strings)  
ordinario (mixed strings and individual strings)  
tremolo

### VIOLONCELLO CON SORDINA PIOMBO

non-vibrato  
ordinario, tremolo

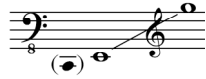
# IRCAM SOLO INSTRUMENTS

## CONTRABASS

*Instrumentist : Didier Meu - Instrument : 3/4, Germany, end of XIX - Artistic direction: Joshua Fineberg - Sound engineers: François Eckert, Antoine Mercier.*

instrument part to be written an octave higher

range in sounding pitches : (C1 with five strings) E1-G4 (++)



artificial-harmonic (mixed strings and individual strings)  
artificial-harmonic-tremolo (mixed strings and individual strings)  
behind-the-bridge  
chromatic-scale  
col-legno-battuto (mixed strings and individual strings)  
col-legno-tratto (mixed strings and individual strings)  
crescendo  
crescendo-to-decrescendo  
pressured-to-ordinario  
decrescendo  
hit-on-body  
natural-harmonics-glissandi  
non-vibrato  
note-durations  
on-the-bridge  
on-the-tailpiece  
on-the-tuning-pegs  
ordinario (mixed strings and individual strings)  
ordinario-to-pressured  
ordinario-to-sul-ponticello  
ordinario-to-sul-tasto  
ordinario-to-tremolo  
pizzicato-bartok (mixed strings and individual strings)  
pizzicato-l-vib (mixed strings and individual strings)  
pizzicato-secco (mixed strings and individual strings)  
sforzato  
staccato  
sul-ponticello (mixed strings and individual strings)  
sul-ponticello-to-ordinario  
sul-ponticello-to-sul-tasto  
sul-ponticello-tremolo  
sul-tasto (mixed strings and individual strings)  
sul-tasto-to-ordinario  
sul-tasto-to-sul-ponticello  
sul-tasto-tremolo  
tremolo (mixed strings and individual strings)  
tremolo-to-ordinario  
trill-major-second-up (mixed strings and individual strings)  
trill-minor-second-up (mixed strings and individual strings)

### CONTRABASS CON SORDINA

non-vibrato (mixed strings and individual strings)  
ordinario (mixed strings and individual strings)  
tremolo (mixed strings and individual strings)

## Playing techniques and suggested notation

### GENERAL playing techniques

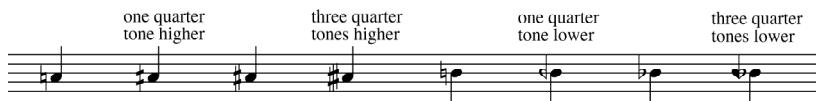
#### Ordinario

Normal playing on instrument with three dynamic layers (except in some particular cases)

Note that the “**ordinario**” instruments in this collection are almost without vibrato. This is the normal performance practice in contemporary music.

#### Ordinario-1q

Quarter tone notes to complete the “ordinario” instrument



#### Sforzando

Write “sfz” below the emphasized notes.



#### Staccato



#### Trill-major-second-up

Use small note in parenthesis to show the note to trill to.

#### Trill-minor-second-up

Use small note in parenthesis to show the note to trill to.

#### Vibrato

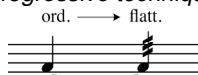
Write vib. Above the notes. Additional indications can include poco, molto and/or a wavy line to indicate the amplitude of the vibrato.

#### Notes

For all special playing techniques, it is common to indicate “ord.” when returning to normal playing. A bracket can also be used to affect an entire passage without writing “ord.”.



For all progressive techniques (technique 1 – to – technique 2), use an arrow in between the text indications.



## WOODWINDS playing techniques

### Aeolian

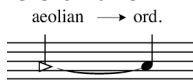
Sounds produced by taking away the tone partially or totally to leave only the sound of the air.



### Aeolian-and-ordinario



### Aeolian-to-ordinario



### Blow-without-reed



### Double-trill-major-second-up Double-trill-minor-second-up

Trills produced by alternating two different fingerings for the same trill. The result is twice as fast.

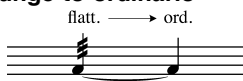


### Flatterzunge

Playing technique achieved by rolling the tongue or the throat along with the stream of air.



### Flatterzunge-to-ordinario

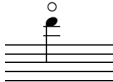


### Glissando-with-throat

On the bassoon, glissando technique to bend the tone a semitone higher or lower. Available in 2 directions (up, down) and 3 different speeds (slow, medium, fast).

### Harmonic-fingering

Tone having as origin a fundamental note which is not produced by it's real fingering.



### Jet-whistle

Fast and forced ascending harmonics glissando. It is possible to indicate on which fundamental pitch the jet is executed with a small note.



# IRCAM SOLO INSTRUMENTS

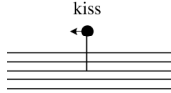
## Key-click

Percussive playing technique achieved by hitting one or more keys forcefully. Can be used as a complement of normal sound or like an independent technique. Generally effective only on the lower octave plus a fifth (12th) of the instruments.



## Kiss – smacking sound

Playing technique available only on double reed instruments (oboe, bassoon, saxophone)



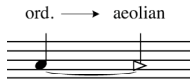
## Lip-glissando

On the oboe, glissando technique for bending the tone a semitone higher or lower. Available in 2 directions (up, down) and 3 different speeds (slow, medium, fast).

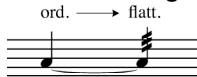
## Multiphonics

Complex sounds, chords, achieved with special fingerings and various embouchure positions.

## Ordinario-to-aeolian



## Ordinario-to-flatterzunge



## Pizzicato – slap

Percussive playing technique achieved by the slamming of the tongue against the palate to create a strong “t”. Pitch can be perceived according to the position of the embouchure.



## Play-and-sing

### Play-and-sing-unison

The voice can be used simultaneously with the normal instrumental playing. According to the complexity of the writing, the voice is sometimes notated on a different stave. In all cases, use rectangular shaped note-heads for the voice.



## Tongue-ram

Percussive playing technique achieved by a fast sinking in (ram) of the tongue in the embouchure. A brief vibration is produced in the air column resulting in a pitch sounding about a seventh (major or minor according to fingerings) under the pitch of the fingering. Notate the intended pitch in a black square shaped note-head.

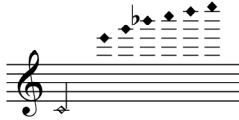


## IRCAM SOLO INSTRUMENTS

### Whistle-tones

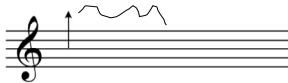
On the flutes, harmonics produced by blowing a very small amount of air into the flute. Only possible in very soft dynamic levels (from *pppp* to *p*). Use of a specific fundamental pitch to be notated in diamond shaped note.

Example of whistle tone pitches for a C4 fundamental



### Whistle-tones-sweeping

On the flutes, whistle-tones sweeping, freely permuted. Use a freely draw line to suggest sweeping shape. Available in two different speeds, slow and fast.



## BRASS playing techniques

### Aeolian

Available only for saxophone. See definition in woodwinds.

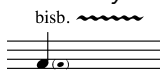
### Backwards

Inhaled sounds, giving the impression of a backwards playing tape.



### Bisbigliando

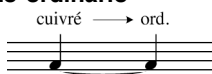
Sounds obtained by alternating two or more different fingerings producing the same pitch.



### Cuivré

"Brassy", forced sounds. Write "cuivré" above note or passage. Write "ord." to return to normal playing.

### Cuivré-to-ordinario

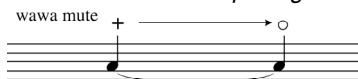


### Buzz

Sound of embouchure by itself. It is the sounds that enter the tube of brass instruments putting the air column in vibration.

### Closed-to-open

For the wawa mute. Gradual opening of the tube with the hand.



### Discolored-fingering - \_ valve

### Discolored-fingering-1q - \_ valve -1q

Available only in valve instruments. Playing with the valve(s) being pressed half way resulting in a weaker, somewhat unfocused pitch.

### Exploding-slap-pitched

Percussive playing technique achieved by the slamming of the tongue against the palate to create a strong "t". Equivalent of Pizzicato.



### Exploding-slap-unpitched



# IRCAM SOLO INSTRUMENTS

## Flutterzunge

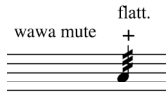
Playing technique achieved by rolling the tongue or the throat along with the stream of air.



## Flutterzunge-and-voice-unison

### Flutterzunge-closed

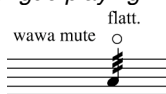
Flutterzunge playing with the mute closed (closed tube of the wawa mute)



## Flutterzunge-no-mouthpiece

### Flutterzunge-open

Flutterzunge playing with the mute unclosed (open tube of the wawa mute or open position for the horn)

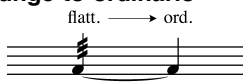


## Flutterzunge-stopped

On the horn, flutterzunge playing with the bell stopped by the fist.



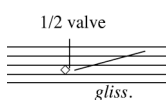
## Flutterzunge-to-ordinario



## Growl

Low pitched throat flutterzunge. Notate like regular flatt. But use the indication "Growl".

## Half-valve-glissando



## Harmonic-fingering

Available only for saxophone. See definition in woodwinds.

## Inhaled



## Key-click

Available only for saxophone. See definition in woodwinds.

## Kiss – smacking sound

See definition in woodwinds.



# IRCAM SOLO INSTRUMENTS

## Move-bell-from-down-to-up

## Move-bell-from-left-to-right

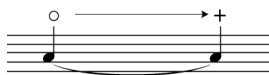
Available only for the saxophone

## Open-to-closed



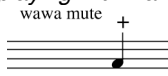
## Open-to-stopped

On the horn, progressive closing of the bell with the fist.



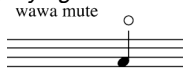
## Ordinario-closed

Normal playing with wawa mute tube closed by the hand.

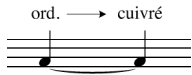


## Ordinario-open

Normal playing with wawa mute tube open.



## Ordinario-to-cuivré



## Ordinario-to-flatterzunge

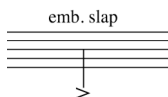


## Pedal-tone

Fundamental tone on which rest the harmonic series available by the use of valves. They have to be used with care since they are difficult to produce and cannot be played in loud dynamics.

## Percussion-embouchure

Slap effect obtained by slamming the embouchure with the palm of the hand.



## Play-and-sing-aug4-up

## Play-and-sing-glissando

## Play-and-sing-m2-up

## Play-and-sing-m7-up

## Play-and-sing-p5-up

## Play-and-sing-unison

See in woodwinds for voice notation

# IRCAM SOLO INSTRUMENTS

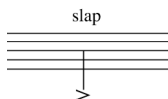
## Slap-pitched

*Percussive playing technique achieved by the slapping of the tongue in the embouchure.*



## Slap-unpitched

*Percussive playing technique achieved by the slapping of the tongue in the embouchure.*



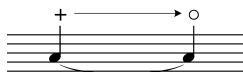
## Speak-into-instrument

*Sounds produced when the instrumentist speaks while playing.*



## Stopped-to-open

*On the horn, gradual opening of the bell by the fist.*



## PLUCKED STRINGS playing techniques

### GUITAR special playing techniques

#### **Behind-the-frog**

*Produced by playing the strings behind the frog*

#### **Bell-effect**

#### **Bottleneck**

*Polished metal or glass tube which fits on to the left hand index or little finger and which has the same width than the neck of the guitar. Allows free sliding between pitches.*

#### **Dedillo**

*Tremolo like effect which can be rhythmically measured.*

#### **Drum-effect**

*Percussive sound imitating the snare drum obtained by crossing the 5<sup>th</sup> and 6<sup>th</sup> strings at the level of fret V or VI.*

#### **Glissando**

*Effective when played fast before the sound is lost.*

#### **Harmonic-fingering**

*Regular natural or artificial harmonic sounds.*

#### **Pizzicato**

*Produced by muting the resonance of the string with the right hand palm placed half on the bridge and half on the strings.*

#### **Pizzicato-bartok**

*Produced by pulling the string upwards and allowing it to snap sharply against the fingerboard.*

#### **Rasgueado**

*Rhythmic strumming right hand patterns in which the strings are not plucked but hammered with one or more fingers. This technique is most often associated with flamenco.*

#### **Scratch-with-nail**

*Produced by scratching the string with the nail along its length.*

#### **Slide**

*Portamento effect obtained by sliding the finger from one fret to another or by slurring to the second note without reattack.*

#### **Sul-ponticello**

*Played near the bridge.*

#### **Sul-tasto**

*Played near or above the fingerboard.*

#### **Tap-on-body**

*Percussive effects resulting from tapping on different areas of the body of the instrument. The resulting pitches are indefinite.*

#### **Tap-with-stick**

*Percussive effect resulting from tapping on the strings with a stick.*

## HARP special playing techniques

### Bisbigliando

Produced by rapidly alternating to pitches (equal or not) on two different strings using one or two fingers from each hand. The samples in this collection alternate two equal pitches tuned on two enharmonically tuned strings. Current notation practice uses the small note in parenthesis to indicate the second note. Above the note or passage, use the indication "bisb." along with the trill like wavy line.

### Bisbigliando-with-stick

Produced by rapidly alternating a metal stick between two strings. The samples in this collection alternate two stings tuned enharmonically on equal pitches.

### Buzzing-pedal

Buzzing sounds achieved by holding the pedal(s) halfway between two notches while playing the string(s). Possible only on the metal strings (that is, up to G1).



### Clusters

A collection of clusters on three areas (high-medium-low) of the range and on three dynamic levels.

### Clusters-with-nails

### Damped

The sound is muffled right after the note by putting firmly the flat of the hand upon the strings in order to also damp sympathetic resonance.



### Glissando-fluido-with-stick

Produced by sliding a stick along the string length to alter the sounding pitch.

### Glissando-near-the-board

See near the board.

### Glissando-with-nail

Use the "nail" symbol  above note or passage

### Glissando-with-pedal

Produced by changing the position of the pedal in the resonance of the tone.



### Glissando-with-stick

Produced by sliding a stick along the string length to do a glissando from the sounding pitch.

### Harmonic-fingering



# IRCAM SOLO INSTRUMENTS

## Harmonic-in-wood (Xylharmonic sound)



### Near-the-board

*Produced by playing near the lowest extremity of the string, close to the board of the instrument. Write “near the board” above note or passage. Known as “près de la table”.*

### Near-the-board-with-nail

*Produced by playing with the nail near the lowest extremity of the string, close to the board of the instrument. The resulting sound is close to a plectrum sound.*

### Near-the-pegs

*Produced by playing near the highest extremity of the string, near the pegs.*

### Pizzicato-bartok

*Produced by letting the articulated part of the finger hit the body of the instrument right after striking the note.*

### Scratch-with-nail

*The string is scratched on its length by the nail.*

### Tap-on-body

*Percussive effect produced by hitting the body of the instrument.*

### Tap-with-stick

*Percussive effect produced by hitting the body of the instrument with a stick.*

### Tremolo-with-fingertips

*Produced by gently hitting the strings with the fingertips, almost like playing on keys.*

### Xylophonic sounds

*Percussive like sounds produced by firmly pressing the fingertips of the left hand on the lowest extremity of the strings (diamond shaped notation) while the right hand plays in the centre of the same strings. The role of each hand can be inverted according to requirements. Use diamond shaped note-heads to indicate the strings to be damped, or simply write “xyl” above note or passage.*

## STRINGS playing techniques

### Artificial-harmonic

In order to produce as harmonics notes that are not overtones of the open strings, the string is pressed down by the first finger on a note which will be the fundamental and the fourth finger touches the string lightly at a point a perfect fourth higher which is equivalent to dividing the unstopped portion of the string into quarters, resulting in a harmonic two octaves above the fundamental pitch. This corresponds to the fourth partial produced on an open string. The resulting sound can also be notated in small note and in parenthesis to avoid confusion since artificial harmonics at the third and fifth also exist.



### Artificial-harmonic-tremolo



### Behind-the-bridge

Produced by drawing the bow behind the bridge. The sounds are of indeterminate pitch but may vary in pitch according to the string.



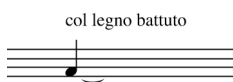
### Behind-the-fingerboard

Produced by drawing the bow across the back of the fingerboard. The sounds is of indeterminate pitch.



### Col-legno-battuto

Produced by striking the string with the wood of the neck. Write "ord." to return to normal playing mode.



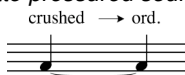
### Col-legno-tratto

Produced by drawing the wood part of the bow across the string. Write "ord." to return to normal playing mode.



### Pressured-to-ordinario

Produced by excessive bow pressure and then a gradual release of this pressure. A notation symbol can be used to indicate pressured sound instead of text for separate notes.



# IRCAM SOLO INSTRUMENTS

## Hit-on-body



## Natural-harmonics-glissandi

Available in 3 different speeds (slow, medium, fast) and 2 directions (up, down).

Natural harmonics are simply overtones (or partials) of the open strings. They are produced by lightly touching the string at the right point.

Resulting natural harmonic pitches for string instruments.

VIOLIN  
G string      D string      A string      E string

VIOLA  
C string      G string      D string      A string

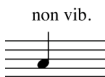
CELLO  
C string      G string      D string      A string

BASS  
E string      A string      D string      G string

sounding pitches ! (notes are to be written an octave higher to get this result)

## Non-vibrato – Senza vibrato

write “non vib” or “senza vib.”.



## On-the-bridge

Produced by playing “on” the bridge (as distinguished from near it “sul ponticello”).



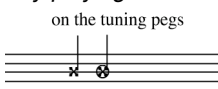
## On-the-tailpiece

Produced by playing on the tailpiece. On the cello and contrabass, this results in a low groaning noise. Behind the tailpiece produces a very shrill and penetrating tone.



## On-the-tuning-pegs

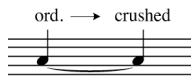
Produced by playing on the tuning pegs.



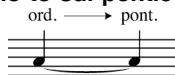
# IRCAM SOLO INSTRUMENTS

## Ordinario-to-pressured

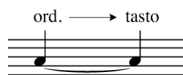
See *pressured-to-ordinario*.



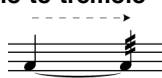
## Ordinario-to-sul-ponticello



## Ordinario-to-sul-tasto



## Ordinario-to-tremolo



## Pizzicato-bartok

Produced by pulling the string upwards and allowing it to 'snap' sharply against the fingerboard.



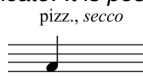
## Pizzicato-l-vib

Resonating pizzicato. It is possible to add a "let vibrate" sign after the notes.



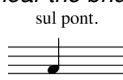
## Pizzicato-secco

Dry pizzicato. It is possible to add dots under the notes for an entire passage.

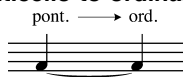


## Sul-ponticello

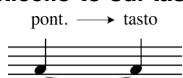
Played near the bridge. Use "Molto pont." to have a more metallic, "on" the bridge playing.



## Sul-ponticello-to-ordinario



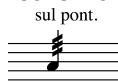
## Sul-ponticello-to-sul-tasto





# IRCAM SOLO INSTRUMENTS

## Sul-ponticello-tremolo

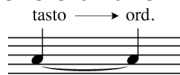


## Sul-tasto

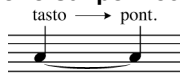
*Playing above or very close to the fingerboard.*



## Sul-tasto-to-ordinario



## Sul-tasto-to-sul-ponticello



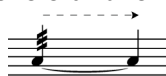
## Sul-tasto-tremolo



## Tremolo (tremolo)



## Tremolo-to-ordinario



## Appendix A: Presets list

### 01 Flute

#### Classical

Fl Dur 0,5s  
Fl Dur 1s  
Fl Dur KS  
Fl Fortepiano  
Fl KS  
Fl Ordinario  
Fl Ordinario X  
Fl Sforzando  
Fl Staccato  
Fl Trill maj2  
Fl Trill min2

#### Extended

Fl Aeolian  
Fl Aeolian & ordinario  
Fl Aeolian & ordinario X  
Fl Discolored fingering  
Fl Flatterzunge  
Fl Flatterzunge X  
Fl Harmonic fingering  
Fl Jet whistle  
Fl Key click  
Fl Multiphonics  
Fl Ordinario 1q  
Fl Pizzicato  
Fl Play and sing C4  
Fl Play and sing unison  
Fl Tongue ram  
Fl Whistle tones  
Fl Whistle tones sweeping

#### Transitions

Fl Aeolian to ordinario  
Fl Chromatic Scales  
Fl Crescendo  
Fl Crescendo to decrescendo  
Fl Decrescendo  
Fl Flatterzunge to ordinario  
Fl Ordinario to aeolian  
Fl Ordinario to flatterzunge

## 02 Oboe

### Classical

Ob Dur 0,5s  
Ob Dur 1s  
Ob Dur KS  
Ob Fortepiano  
Ob KS  
Ob Ordinario  
Ob Ordinario X  
Ob Sforzando  
Ob Staccato  
Ob Trill maj2  
Ob Trill min2  
Ob Vibrato

### Extended

Ob Blow without reed  
Ob Dbl trill maj2 up  
Ob Dbl trill min2 up  
Ob Discolored fingering  
Ob Flatterzunge  
Ob Harmonic fingering  
Ob Key click  
Ob Kiss  
*Ob Lip glissando*  
Ob Gliss asc fast  
Ob Gliss asc mod  
Ob Gliss asc slw  
Ob Gliss dsc fst  
Ob Gliss dsc mod  
Ob Gliss dsc slw  
Ob Multiphonics  
Ob Ordinario 1q

### Muted

Ob Mute Ordinario

### Transitions

Ob Chromatic scale  
Ob Crescendo  
Ob Crescendo to decrescendo  
Ob Decrescendo

## 03 Clarinet in Bb

### **Classical**

Clar Dur 0,5s

Clar Dur 1s

Clar Dur KS

Clar Fortepiano

Clar KS

Clar Ordinario

Clar Ordinario X

Clar Sforzando

Clar Staccato

Clar Trill maj2

Clar Trill min2

### **Extended**

Clar Aeolian & ordinario

Clar Flatterzunge

Clar Flatterzunge X

Clar Glissando

Clar Multiphonics

Clar Ordinario 1q

Clar Slap

### **Transitions**

Clar Crescendo

Clar Crescendo to decrescendo

Clar Decrescendo

## 04 Bassoon

### Classical

Bsn Dur 0,5s  
Bsn Dur 1s  
Bsn Dur KS  
Bsn Fortepiano  
Bsn KS  
Bsn Ordinario  
Bsn Ordinario X  
Bsn Sforzando  
Bsn Staccato  
Bsn Trill maj2  
Bsn Trill min2  
Bsn Vibrato

### Extended

Bsn Blow without reed  
Bsn Flatterzunge  
*Bsn Glissando with throat*  
Bsn asc fst  
Bsn asc mod  
Bsn asc slw  
Bsn dsc fst  
Bsn dsc mod  
Bsn dsc slw  
Bsn Harmonic fingering  
Bsn Key click  
Bsn Multiphonics  
Bsn Ordinario 1q

### Muted

Bsn Mute Ordinario

### Transitions

Bsn Chromatic scale  
Bsn Crescendo  
Bsn Crescendo to decrescendo  
Bsn Decrescendo

## 05 Saxophone Alto in Eb

### Classical

Sax Alto Fortepiano  
Sax Alto KS  
Sax Alto Ordinario  
Sax Alto Ordinario X  
Sax Alto Staccato  
Sax Alto Trill maj2  
Sax Alto Trill min2

### Extended

Sax Alto Aeolian  
Sax Alto Backwards  
Sax Alto Bisbigliando  
Sax Alto Blow without reed  
Sax Alto Discolored fingering  
Sax Alto Double tonguing  
Sax Alto Exploding slap pitched  
Sax Alto Flatterzunge  
Sax Alto Glissando  
Sax Alto Harmonic fingering  
Sax Alto Key click  
Sax Alto Move bell down to up  
Sax Alto Move bell left to right  
Sax Alto Ordinario 1q  
Sax Alto Play & sing glissando  
Sax Alto Play & sing m2 up  
Sax Alto Play & sing unison  
Sax Alto Slap pitched  
Sax Alto Slap unpitched

### Transitions

Sax Alto Chromatic scale  
Sax Alto Crescendo  
Sax Alto Crescendo to decrescendo  
Sax Alto Decrescendo  
Sax Alto Flatterzunge to ordinario  
Sax Alto Ordinario to flatterzunge

## 06 French Horn

### Classical

Hrn Dur 0,5s  
Hrn Dur 1s  
Hrn Dur KS  
Hrn Fortepiano  
Hrn KS  
Hrn Ordinario  
Hrn Ordinario X  
Hrn Sforzando  
Hrn Staccato  
Hrn Trill maj2  
Hrn Trill min2

### Extended

Hrn Cuivre  
Hrn Flatterzunge  
Hrn Flatterzunge stopped  
Hrn Flatterzunge X  
Hrn Slap pitched  
Hrn Stopped

### Muted

Hrn Mute Flatterzunge  
Hrn Mute Ordinario

### Transitions

Hrn Chromatic scale  
Hrn Crescendo  
Hrn Crescendo to decrescendo  
Hrn Cuivre to ordinario  
Hrn Decrescendo  
Hrn Flatterzunge to ordinario  
Hrn Open to stopped  
Hrn Ordinario to cuivre  
Hrn Ordinario to flatterzunge  
Hrn Stopped to open

## 07 Trumpet in C

### Classical

Tpt Dur 0,5s  
Tpt Dur 1s  
Tpt Dur KS  
Tpt Fortepiano  
Tpt KS  
Tpt Ordinario  
Tpt Ordinario X  
Tpt Sforzando  
Tpt Staccato  
Tpt Trill maj2  
Tpt Trill min2

### Extended

Tpt Cuivre  
Tpt Flatterzunge  
Tpt Flatterzunge X  
Tpt FX  
Tpt Pedal tone  
Tpt Slap pitched  
Tpt Vocalize on harmonics

### Muted

*Tpt Mute Cup*

Tpt Cup Flatterzunge  
Tpt Cup Ordinario

*Tpt Mute Harmon*

Tpt Harmon Flatterzunge  
Tpt Harmon Ordinario

*Tpt Mute Straight*

Tpt Straight Flatterzunge  
Tpt Straight Ordinario

*Tpt Mute Wawa*

Tpt Wawa Flatterzunge open  
Tpt Wawa Ordinario closed  
Tpt Wawa Ordinario open

*Transitions Mute*

Tpt Wawa Closed to open  
Tpt Wawa Open to closed



# IRCAM SOLO INSTRUMENTS

## Transitions

Tpt Crescendo

Tpt Crescendo to decrescendo

Tpt Cuivre to ordinario

Tpt Decrescendo

Tpt Flatterzunge to ordinario

Tpt Ordinario to cuivre

Tpt Ordinario to flatterzunge

## 08 Trombone

### Classical

Trb Dur 0,5s  
Trb Dur 1s  
Trb Dur KS  
Trb Fortepiano  
Trb KS  
Trb Ord+Pedal tone  
Trb Ordinario  
Trb Ordinario X  
Trb Sforzando  
Trb Staccato

### Extended

Trb Cuivre  
Trb Flatterzunge  
Trb Flatterzunge X  
Trb Glissando  
Trb No mouthpiece  
Trb Pedal tone  
Trb Slap pitched

### Muted

#### *Transitions Mute*

Trb Wawa Closed to open  
Trb Wawa Open to closed

#### *Trb Mute Cup*

Trb Cup Flatterzunge  
Trb Cup Ordinario

#### *Trb Mute Harmon*

Trb Harmon Flatterzunge  
Trb Harmon Ordinario

#### *Trb Mute Straight*

Trb Straight Flatterzunge  
Trb Straight Ordinario

#### *Trb Mute Wawa*

Trb Wawa Flatterzunge closed  
Trb Wawa Flatterzunge open  
Trb Wawa Ordinario closed  
Trb Wawa Ordinario open

## IRCAM SOLO INSTRUMENTS

### Transitions

Trb Crescendo

Trb Crescendo to decrescendo

Trb Cuivre to ordinario

Trb Decrescendo

Trb Flatterzunge to ordinario

Trb Ordinario to cuivre

Trb Ordinario to flatterzunge

## 09 Tuba

### Classical

Tuba Fortepiano  
Tuba KS  
Tuba Ordinario  
Tuba Ordinario X  
Tuba Staccato  
Tuba Trill maj2  
Tuba Trill min2

### Extended

Tuba Bisbigliando  
Tuba Cuivre  
Tuba Discolored fingering  
Tuba Discolored fingering 1q  
Tuba Filtered by voice  
Tuba Flatterzunge  
Tuba Flatterzunge & voice unison  
Tuba Flatterzunge X  
Tuba FX 1  
Tuba FX 2  
Tuba Glissando  
Tuba Ord+Pedal tone  
Tuba Ordinario 1q  
Tuba Ordinario high register  
Tuba Pedal tone  
*Tuba Play and Sing*  
    Tuba Play and sing aug4 up  
    Tuba Play and sing m2 up  
    Tuba Play and sing M7 up  
    Tuba Play and sing P5 up  
    Tuba Play and sing unison  
Tuba Single tonguing  
Tuba Slap pitched  
Tuba Slap unpitched

### Muted

Tuba Mute Ordinario

## IRCAM SOLO INSTRUMENTS

### **Transitions**

Tuba Chromatic Scale

Tuba Crescendo

Tuba Crescendo to decrescendo

Tuba Decrescendo

Tuba Flatterzunge to ordinario

Tuba Ordinario to flatterzunge

## 10 Accordion

### Classical

Acc Fortepiano

Acc KS

Acc Ordinario

Acc Ordinario X

*Acc Ordinario Registers*

Acc Ordinario DBL All KS

Acc Ordinario DBL1

Acc Ordinario DBL2

Acc Ordinario DBL3

Acc Ordinario DBL4

Acc Ordinario DBL5

Acc Staccato

### Extended

Acc Backwards

*Acc Combination of registers*

Acc Combi. of registr

Acc Combi. of registr DBL1

Acc FX

### Transitions

Acc Crescendo

Acc Crescendo to decrescendo

Acc Decrescendo

## 11 Guitar

### Classical

Gtr Harmonic fingering

*Gtr Harmonic fingering by string*

Gtr Harmonic fingering KS

Gtr Harmonic fingering s1

Gtr Harmonic fingering s2

Gtr Harmonic fingering s3

Gtr Harmonic fingering s4

Gtr Harmonic fingering s5

Gtr Harmonic fingering s6

Gtr Ordinario

*Gtr Ordinario by string*

Gtr Ordinario KS

Gtr Ordinario s1

Gtr Ordinario s2

Gtr Ordinario s3

Gtr Ordinario s4

Gtr Ordinario s5

Gtr Ordinario s6

Gtr Sul ponticello

Gtr Sul tasto

### Extended

Gtr Dedillo

Gtr FX1

Gtr FX2

Gtr Glissando

Gtr Pizzicato

Gtr Pizzicato bartok

Gtr Rasguado

Gtr Slide

Gtr Tap on body

## 12 Harp

### **Classical**

Harp Harmonic fingering

Harp KS

Harp Ordinario

### **Extended**

Harp Bisbigliando

Harp Bisbigliando w stick

Harp Buzzing pedal

Harp Damped

Harp FX

Harp Glissandi

Harp Glissando w stick

Harp Glissando with pedal

Harp Harmonic in wood

Harp Near the board

Harp Near the board with nail

Harp Near the pegs

Harp Pizzicato bartok

Harp Scratch w nail

Harp Tap with stick

Harp Xylophonic



## 13 Violin

### **Classical**

Vln Fortepiano

Vln KS

*Vln Note durations*

Vln Dur 0,5s

Vln Dur 1s

Vln Dur KS

*Vln Ordinario by string*

Vln Ordinario by string KS

Vln Ordinario s1

Vln Ordinario s2

Vln Ordinario s3

Vln Ordinario s4

Vln Ordinario

Vln Ordinario X

*Vln Pizzicato l.vib by string*

Vln Pizzicato l.vib by string KS

Vln Pizzicato l.vib s1

Vln Pizzicato l.vib s2

Vln Pizzicato l.vib s3

Vln Pizzicato l.vib s4

Vln Pizzicato l.vib

*Vln Pizzicato secco by string*

Vln Pizzicato secco by string KS

Vln Pizzicato secco s1

Vln Pizzicato secco s2

Vln Pizzicato secco s3

Vln Pizzicato secco s4

Vln Pizzicato secco

Vln Sforzando

Vln Staccato

*Vln Tremolo by string*

Vln Tremolo by string KS

Vln Tremolo s1

Vln Tremolo s2

Vln Tremolo s3

Vln Tremolo s4

Vln Tremolo

Vln Tremolo X

*Vln Trill maj2 by string*

Vln Trill maj2 by string KS

Vln Trill maj2 s1

Vln Trill maj2 s2

Vln Trill maj2 s3

Vln Trill maj2 s4

## IRCAM SOLO INSTRUMENTS

Vln Trill maj2

*Vln Trill min2 by string*

Vln Trill min2 by string KS

Vln Trill min2 s1

Vln Trill min2 s2

Vln Trill min2 s3

Vln Trill min2 s4

Vln Trill min2

### **Extended**

Vln Art harmonic

*Vln Artificial harmonic by string*

Vln Artificial harmonic by string KS

Vln Artificial harmonic s1

Vln Artificial harmonic s2

Vln Artificial harmonic s3

Vln Artificial harmonic s4

Vln Artificial harmonic tremolo

*Vln Artificial harmonic tremolo by string*

Vln Art harmonic tremolo by string KS

Vln Art harmonic tremolo s1

Vln Art harmonic tremolo s2

Vln Art harmonic tremolo s3

Vln Art harmonic tremolo s4

Vln Behind the bridge

*Vln Col legno battuto by string*

Vln Col legno battuto by string KS

Vln Col legno battuto s1

Vln Col legno battuto s2

Vln Col legno battuto s3

Vln Col legno battuto s4

Vln Col legno battuto

*Vln Col legno tratto by string*

Vln Col legno tratto by string KS

Vln Col legno tratto s1

Vln Col legno tratto s2

Vln Col legno tratto s3

Vln Col legno tratto s4

Vln Col legno tratto

Vln FX

Vln KS All Bow Pos

Vln KS All Pizz

Vln KS All Trems

*Vln Natural harmonics glissandi*

Vln NHarm Gliss Fst Asc

Vln NHarm Gliss Fst Dsc

Vln NHarm Gliss KS

## IRCAM SOLO INSTRUMENTS

Vln NHarm Gliss Mod Asc  
Vln NHarm Gliss Mod Desc  
Vln NHarm Gliss Slw Asc  
Vln NHarm Gliss Slw Dsc  
*Vln Non vibrato by string*  
Vln Non vibrato by string KS  
Vln Non vibrato s1  
Vln Non vibrato s2  
Vln Non vibrato s3  
Vln Non vibrato s4  
Vln Non vibrato  
Vln On the tuning pegs  
*Vln Pizzicato bartok by string*  
Vln Pizzicato bartok by string KS  
Vln Pizzicato bartok s1  
Vln Pizzicato bartok s2  
Vln Pizzicato bartok s3  
Vln Pizzicato bartok s4  
Vln Pizzicato bartok  
*Vln Sul ponticello by string*  
Vln Sul ponticello by string KS  
Vln Sul ponticello s1  
Vln Sul ponticello s2  
Vln Sul ponticello s3  
Vln Sul ponticello s4  
*Vln Sul ponticello tremolo by string*  
Vln Sul ponticello tremolo by string KS  
Vln Sul ponticello tremolo s1  
Vln Sul ponticello tremolo s2  
Vln Sul ponticello tremolo s3  
Vln Sul ponticello tremolo s4  
Vln Sul ponticello tremolo  
Vln Sul ponticello  
*Vln Sul tasto by string*  
Vln Sul tasto by string KS  
Vln Sul tasto s1  
Vln Sul tasto s2  
Vln Sul tasto s3  
Vln Sul tasto s4  
Vln Sul tasto  
  
**Muted**  
*Vln Lead Mute Non vibrato by string*  
Vln Lead Mute Non vibrato by string KS  
Vln Lead Mute Non vibrato s1  
Vln Lead Mute Non vibrato s2  
Vln Lead Mute Non vibrato s3

## IRCAM SOLO INSTRUMENTS

Vln Lead Mute Non vibrato s4  
Vln Lead Mute Non vibrato  
*Vln Lead Mute Ordinario by string*  
Vln Lead Mute Ordinario by string KS  
Vln Lead Mute Ordinario s1  
Vln Lead Mute Ordinario s2  
Vln Lead Mute Ordinario s3  
Vln Lead Mute Ordinario s4  
Vln Lead Mute Ordinario  
*Vln Lead Mute Tremolo by string*  
Vln Lead Mute Tremolo by string KS  
Vln Lead Mute Tremolo s1  
Vln Lead Mute Tremolo s2  
Vln Lead Mute Tremolo s3  
Vln Lead Mute Tremolo s4  
Vln Lead Mute Tremolo  
*Vln Mute Non vibrato by string*  
Vln Mute Non vibrato by string KS  
Vln Mute Non vibrato s1  
Vln Mute Non vibrato s2  
Vln Mute Non vibrato s3  
Vln Mute Non vibrato s4  
Vln Mute Non vibrato  
*Vln Mute Ordinario by string*  
Vln Mute Ordinario by string KS  
Vln Mute Ordinario s1  
Vln Mute Ordinario s2  
Vln Mute Ordinario s3  
Vln Mute Ordinario s4  
Vln Mute Ordinario  
*Vln Mute Tremolo by string*  
Vln Mute Tremolo by string KS  
Vln Mute Tremolo s1  
Vln Mute Tremolo s2  
Vln Mute Tremolo s3  
Vln Mute Tremolo s4  
Vln Mute Tremolo  
**Transitions**  
Vln Chromatic scale  
Vln Crescendo  
Vln Crescendo to decrescendo  
Vln Decrescendo  
*Vln Ordinario to pressured by string*  
Vln Ordinario to pressured KS  
Vln Ordinario to pressured s1  
Vln Ordinario to pressured s2  
Vln Ordinario to pressured s3

## IRCAM SOLO INSTRUMENTS

Vln Ordinario to pressured s4  
Vln Ordinario to pressured  
Vln Ordinario to sul ponticello  
Vln Ordinario to sul tasto  
*Vln Ordinario to tremolo by string*  
Vln Ordinario to tremolo KS  
Vln Ordinario to tremolo s1  
Vln Ordinario to tremolo s2  
Vln Ordinario to tremolo s3  
Vln Ordinario to tremolo s4  
Vln Ordinario to tremolo  
*Vln Pressured to ordinario by string*  
Vln Pressured to ordinario KS  
Vln Pressured to ordinario s1  
Vln Pressured to ordinario s2  
Vln Pressured to ordinario s3  
Vln Pressured to ordinario s4  
Vln Pressured to ordinario  
Vln Sul ponticello to ordinario  
Vln Sul ponticello to sul tasto  
Vln Sul tasto to ordinario  
Vln Sul tasto to sul ponticello  
*Vln Tremolo to ordinario by string*  
Vln Tremolo to ordinario KS  
Vln Tremolo to ordinario s1  
Vln Tremolo to ordinario s2  
Vln Tremolo to ordinario s3  
Vln Tremolo to ordinario s4  
Vln Tremolo to ordinario

## 14 Viola

### **Classical**

Vla Fortepiano

Vla KS

*Vla Note durations*

Vla Dur 0,5s

Vla Dur 1sec

Vla Dur KS

*Vla Ordinario by string*

Vla Ordinario by string KS

Vla Ordinario s1

Vla Ordinario s2

Vla Ordinario s3

Vla Ordinario s4

Vla Ordinario X

Vla Ordinario

*Vla Pizzicato l.vib by string*

Vla Pizzicato l.vib by string KS

Vla Pizzicato l.vib s1

Vla Pizzicato l.vib s2

Vla Pizzicato l.vib s3

Vla Pizzicato l.vib s4

Vla Pizzicato l.vib

*Vla Pizzicato secco by string*

Vla Pizzicato secco by string KS

Vla Pizzicato secco s1

Vla Pizzicato secco s2

Vla Pizzicato secco s3

Vla Pizzicato secco s4

Vla Pizzicato secco

Vla Sforzando

Vla Staccato

*Vla Tremolo by string*

Vla Tremolo by string KS

Vla Tremolo s1

Vla Tremolo s2

Vla Tremolo s3

Vla Tremolo s4

Vla Tremolo X

Vla Tremolo

*Vla Trill maj2 up by string*

Vla Trill maj2 up by string KS

Vla Trill maj2 up s1

Vla Trill maj2 up s2

Vla Trill maj2 up s3

Vla Trill maj2 up s4

## IRCAM SOLO INSTRUMENTS

Vla Trill maj2 up

*Vla Trill min2 up by string*

Vla Trill min2 up by string KS

Vla Trill min2 up s1

Vla Trill min2 up s2

Vla Trill min2 up s3

Vla Trill min2 up s4

Vla Trill min2 up

### **Extended**

Vla Art harmonic tremolo

*Vla Artificial harmonic by string*

Vla Artificial harmonic by string KS

Vla Artificial harmonic s1

Vla Artificial harmonic s2

Vla Artificial harmonic s3

Vla Artificial harmonic s4

*Vla Artificial harmonic tremolo by string*

Vla Art harmonic tremolo by string KS

Vla Art harmonic tremolo s1

Vla Art harmonic tremolo s2

Vla Art harmonic tremolo s3

Vla Art harmonic tremolo s4

Vla Artificial harmonic

Vla Behind the bridge

Vla Behind the fingerboard

*Vla Col legno battuto by string*

Vla Col legno battuto by string KS

Vla Col legno battuto s1

Vla Col legno battuto s2

Vla Col legno battuto s3

Vla Col legno battuto s4

Vla Col legno battuto

*Vla Col legno tratto by string*

Vla Col legno tratto by string KS

Vla Col legno tratto s1

Vla Col legno tratto s2

Vla Col legno tratto s3

Vla Col legno tratto s4

Vla Col legno tratto

Vla FX

Vla KS All Bow Pos

Vla KS All Pizz

Vla KS All Trems

*Vla Natural Harmonics Gliss*

Vla NHarm Gliss Fast Asc

Vla NHarm Gliss Fast Desc

## IRCAM SOLO INSTRUMENTS

Vla NHarm Gliss KS  
Vla NHarm Gliss Mod Asc  
Vla NHarm Gliss Mod Desc  
Vla NHarm Gliss Slow Asc  
Vla NHarm Gliss Slow Desc  
*Vla Non vibrato by string*  
Vla Non vibrato by string KS  
Vla Non vibrato s1  
Vla Non vibrato s2  
Vla Non vibrato s3  
Vla Non vibrato s4  
Vla Non vibrato  
Vla On the tuning pegs  
*Vla Pizzicato bartok by string*  
Vla Pizzicato bartok by string KS  
Vla Pizzicato bartok s1  
Vla Pizzicato bartok s2  
Vla Pizzicato bartok s3  
Vla Pizzicato bartok s4  
Vla Pizzicato bartok  
*Vla Sul ponticello by string*  
Vla Sul ponticello by string KS  
Vla Sul ponticello s1  
Vla Sul ponticello s2  
Vla Sul ponticello s3  
Vla Sul ponticello s4  
*Vla Sul ponticello tremolo by string*  
Vla Sul ponticello tremolo by string KS  
Vla Sul ponticello tremolo s1  
Vla Sul ponticello tremolo s2  
Vla Sul ponticello tremolo s3  
Vla Sul ponticello tremolo s4  
Vla Sul ponticello tremolo  
Vla Sul ponticello  
*Vla Sul tasto by string*  
Vla Sul tasto by string KS  
Vla Sul tasto s1  
Vla Sul tasto s2  
Vla Sul tasto s3  
Vla Sul tasto s4  
*Vla Sul tasto tremolo by string*  
Vla Sul tasto tremolo by string KS  
Vla Sul tasto tremolo s1  
Vla Sul tasto tremolo s2  
Vla Sul tasto tremolo s3  
Vla Sul tasto tremolo s4  
Vla Sul tasto tremolo



## IRCAM SOLO INSTRUMENTS

Vla Sul tasto

### **Muted**

Vla Lead Mute Non vibrato

Vla Lead Mute Ordinario

Vla Lead Mute Tremolo

*Vla Mute Non vibrato by string*

Vla Mute Non vibrato by string KS

Vla Mute Non vibrato s1

Vla Mute Non vibrato s2

Vla Mute Non vibrato s3

Vla Mute Non vibrato s4

Vla Mute Non vibrato

*Vla Mute Ordinario by string*

Vla Mute Ordinario by string KS

Vla Mute Ordinario s1

Vla Mute Ordinario s2

Vla Mute Ordinario s3

Vla Mute Ordinario s4

Vla Mute Ordinario

*Vla Mute Tremolo by string*

Vla Mute Tremolo by string KS

Vla Mute Tremolo s1

Vla Mute Tremolo s2

Vla Mute Tremolo s3

Vla Mute Tremolo s4

Vla Mute Tremolo

### **Transitions**

Vla Chromatic scale

Vla Crescendo to decrescendo

Vla Crescendo

Vla Decrescendo

Vla Ordinario to pressured

Vla Ordinario to sul ponticello

Vla Ordinario to sul tasto

Vla Ordinario to tremolo

Vla Pressured to ordinario

Vla Sul ponticello to ordinario

Vla Sul ponticello to sul tasto

Vla Sul tasto to ordinario

Vla Sul tasto to sul ponticello

Vla Tremolo to ordinario

## 15 Cello

### **Classical**

Vc Fortepiano

Vc KS

*Vc Note durations*

Vc 0,5s

Vc 1s

Vc Note Durations KS

*Vc Ordinario by string*

Vc Ordinario by string KS

Vc Ordinario s1

Vc Ordinario s2

Vc Ordinario s3

Vc Ordinario s4

Vc Ordinario X

Vc Ordinario

*Vc Pizzicato l.vib by string*

Vc Pizzicato l.vib by string KS

Vc Pizzicato l.vib s1

Vc Pizzicato l.vib s2

Vc Pizzicato l.vib s3

Vc Pizzicato l.vib s4

Vc Pizzicato l.vib

*Vc Pizzicato secco by string*

Vc Pizzicato secco by string KS

Vc Pizzicato secco s1

Vc Pizzicato secco s2

Vc Pizzicato secco s3

Vc Pizzicato secco s4

Vc Pizzicato secco

Vc Sforzando

Vc Staccato

*Vc Tremolo by string*

Vc Tremolo by string KS

Vc Tremolo s1

Vc Tremolo s2

Vc Tremolo s3

Vc Tremolo s4

Vc Tremolo X

Vc Tremolo

*Vc Trill maj2 up by string*

Vc Trill maj2 up by string KS

Vc Trill maj2 up s1

Vc Trill maj2 up s2

Vc Trill maj2 up s3

## IRCAM SOLO INSTRUMENTS

Vc Trill maj2 up s4  
Vc Trill maj2 up  
*Vc Trill min2 up by string*  
Vc Trill min2 up by string KS  
Vc Trill min2 up s1  
Vc Trill min2 up s2  
Vc Trill min2 up s3  
Vc Trill min2 up s4  
Vc Trill min2 up

**Extended**  
Vc Art harmonic tremolo  
*Vc Artificial harmonic by string*  
Vc Artificial harmonic by string KS  
Vc Artificial harmonic s1  
Vc Artificial harmonic s2  
Vc Artificial harmonic s3  
Vc Artificial harmonic s4  
*Vc Artificial harmonic tremolo by string*  
Vc Art harmonic tremolo by string KS  
Vc Art harmonic tremolo s1  
Vc Art harmonic tremolo s2  
Vc Art harmonic tremolo s3  
Vc Art harmonic tremolo s4  
Vc Artificial harmonic  
Vc Behind the bridge  
*Vc Col legno battuto by string*  
Vc Col legno battuto by string KS  
Vc Col legno battuto s1  
Vc Col legno battuto s2  
Vc Col legno battuto s3  
Vc Col legno battuto s4  
Vc Col legno battuto  
*Vc Col legno tratto by string*  
Vc Col legno tratto by string KS  
Vc Col legno tratto s1  
Vc Col legno tratto s2  
Vc Col legno tratto s3  
Vc Col legno tratto s4  
Vc Col legno tratto  
Vc FX  
Vc KS All Bow Pos  
Vc KS All Pizz  
Vc KS All Trems  
*Vc Natural harmonics glissandi*  
Vc NHarm Gliss Fst Asc  
Vc NHarm Gliss Fst Desc

## IRCAM SOLO INSTRUMENTS

Vc NHarm Gliss KS  
Vc NHarm Gliss Mod Asc  
Vc NHarm Gliss Mod Desc  
Vc NHarm Gliss Slw Asc  
Vc NHarm Gliss Slw Desc

### *Vc Non vibrato by string*

Vc Non vibrato by string KS  
Vc Non vibrato s1  
Vc Non vibrato s2  
Vc Non vibrato s3  
Vc Non vibrato s4

Vc Non vibrato

Vc On the tuning pegs

### *Vc Pizzicato bartok by string*

Vc Pizzicato bartok by string KS  
Vc Pizzicato bartok s1  
Vc Pizzicato bartok s2  
Vc Pizzicato bartok s3  
Vc Pizzicato bartok s4

Vc Pizzicato bartok

### *Vc Sul ponticello by string*

Vc Sul ponticello by string KS  
Vc Sul ponticello s1  
Vc Sul ponticello s2  
Vc Sul ponticello s3  
Vc Sul ponticello s4

### *Vc Sul ponticello tremolo by string*

Vc Sul ponticello tremolo by string KS  
Vc Sul ponticello tremolo s1  
Vc Sul ponticello tremolo s2  
Vc Sul ponticello tremolo s3  
Vc Sul ponticello tremolo s4

Vc Sul ponticello tremolo

Vc Sul ponticello

### *Vc Sul tasto by string*

Vc Sul tasto by string KS  
Vc Sul tasto s1  
Vc Sul tasto s2  
Vc Sul tasto s3  
Vc Sul tasto s4

### *Vc Sul tasto tremolo by string*

Vc Sul tasto tremolo by string KS  
Vc Sul tasto tremolo s1  
Vc Sul tasto tremolo s2  
Vc Sul tasto tremolo s3  
Vc Sul tasto tremolo s4

Vc Sul tasto tremolo

## IRCAM SOLO INSTRUMENTS

Vc Sul tasto

### **Muted**

*Vc Lead Mute Non vibrato by string*

Vc Lead Mute Non vibrato by string KS

Vc Lead Mute Non vibrato s1

Vc Lead Mute Non vibrato s2

Vc Lead Mute Non vibrato s3

Vc Lead Mute Non vibrato s4

Vc Lead Mute Non vibrato

*Vc Lead Mute Ordinario by string*

Vc Lead Mute Ordinario by string KS

Vc Lead Mute Ordinario s1

Vc Lead Mute Ordinario s2

Vc Lead Mute Ordinario s3

Vc Lead Mute Ordinario s4

Vc Lead Mute Ordinario

*Vc Lead Mute Tremolo by string*

Vc Lead Mute Tremolo by string KS

Vc Lead Mute Tremolo s1

Vc Lead Mute Tremolo s2

Vc Lead Mute Tremolo s3

Vc Lead Mute Tremolo s4

Vc Lead Mute Tremolo

*Vc Mute Non Vibrato by string*

Vc Mute Non vibrato by string KS

Vc Mute Non vibrato s1

Vc Mute Non vibrato s2

Vc Mute Non vibrato s3

Vc Mute Non vibrato s4

Vc Mute Non vibrato

*Vc Mute Ordinario by string*

Vc Mute Ordinario by string KS

Vc Mute Ordinario s1

Vc Mute Ordinario s2

Vc Mute Ordinario s3

Vc Mute Ordinario s4

Vc Mute Ordinario

*Vc Mute Tremolo by string*

Vc Mute Tremolo by string KS

Vc Mute Tremolo s1

Vc Mute Tremolo s2

Vc Mute Tremolo s3

Vc Mute Tremolo s4

Vc Mute Tremolo

### **Transitions**

Vc Chromatic scale

## IRCAM SOLO INSTRUMENTS

Vc Crescendo to decrescendo  
Vc Crescendo  
Vc Decrescendo  
Vc Ordinario to pressured  
Vc Ordinario to sul ponticello  
Vc Ordinario to sul tasto  
Vc Ordinario to tremolo  
Vc Pressured to ordinario  
Vc Sul ponticello to ordinario  
Vc Sul ponticello to sul tasto  
Vc Sul tasto to ordinario  
Vc Sul tasto to sul ponticello  
Vc Tremolo to ordinario

## 16 Contrabass

### Classical

Cb Fortepiano

Cb KS

*Cb Note durations*

Cb Dur 0,5s

Cb Dur 1s

Cb Dur KS

*Cb Ordinario by string*

Cb Ordinario by string KS

Cb Ordinario s1

Cb Ordinario s2

Cb Ordinario s3

Cb Ordinario s4

Cb Ordinario X

Cb Ordinario

*Cb Pizzicato l.vib by string*

Cb Pizzicato l.vib by string KS

Cb Pizzicato l.vib s1

Cb Pizzicato l.vib s2

Cb Pizzicato l.vib s3

Cb Pizzicato l.vib s4

Cb Pizzicato l.vib

*Cb Pizzicato secco by string*

Cb Pizzicato secco by string KS

Cb Pizzicato secco s1

Cb Pizzicato secco s2

Cb Pizzicato secco s3

Cb Pizzicato secco s4

Cb Pizzicato secco

Cb Sforzando

Cb Staccato

*Cb Tremolo by string*

Cb Tremolo by string KS

Cb Tremolo s1

Cb Tremolo s2

Cb Tremolo s3

Cb Tremolo s4

Cb Tremolo X

Cb Tremolo

*Cb Trill maj2 by string*

Cb Trill maj2 by string KS

Cb Trill maj2 s1

Cb Trill maj2 s2

Cb Trill maj2 s3

Cb Trill maj2 s4

## IRCAM SOLO INSTRUMENTS

Cb Trill maj2

*Cb Trill min2 by string*

Cb Trill min2 by string KS

Cb Trill min2 s1

Cb Trill min2 s2

Cb Trill min2 s3

Cb Trill min2 s4

Cb Trill min2

### **Extended**

Cb Art harmonic tremolo

*Cb Artificial harmonic by string*

Cb Artificial harmonic by string KS

Cb Artificial harmonic s1

Cb Artificial harmonic s2

Cb Artificial harmonic s3

Cb Artificial harmonic s4

*Cb Artificial harmonic tremolo by string*

Cb Art harmonic tremolo by string KS

Cb Art harmonic tremolo s1

Cb Art harmonic tremolo s2

Cb Art harmonic tremolo s3

Cb Art harmonic tremolo s4

Cb Artificial harmonic

Cb Behind the bridge

*Cb Col legno battuto by string*

Cb Col legno battuto by string KS

Cb Col legno battuto s1

Cb Col legno battuto s2

Cb Col legno battuto s3

Cb Col legno battuto s4

Cb Col legno battuto

*Cb Col legno tratto by string*

Cb Col legno tratto by string KS

Cb Col legno tratto s1

Cb Col legno tratto s2

Cb Col legno tratto s3

Cb Col legno tratto s4

Cb Col legno tratto

Cb FX

Cb KS All Bow Pos

Cb KS All Pizz

Cb KS All Trems

*Cb Natural harmonics glissandi*

Cb NHarm Gliss Fst Asc

Cb NHarm Gliss Fst Desc

Cb NHarm Gliss KS



## IRCAM SOLO INSTRUMENTS

Cb NHarm Gliss Mod Asc  
Cb NHarm Gliss Mod Desc  
Cb NHarm Gliss Slw Asc  
Cb NHarm Gliss Slw Desc

### *Cb Non vibrato by string*

Cb Non vibrato by string KS  
Cb Non vibrato s1  
Cb Non vibrato s2  
Cb Non vibrato s3  
Cb Non vibrato s4

Cb Non vibrato

Cb On the tuning pegs

### *Cb Pizzicato bartok by string*

Cb Pizzicato bartok by string KS  
Cb Pizzicato bartok s1  
Cb Pizzicato bartok s2  
Cb Pizzicato bartok s3  
Cb Pizzicato bartok s4

Cb Pizzicato bartok

### *Cb Sul ponticello by string*

Cb Sul ponticello by string KS  
Cb Sul ponticello s1  
Cb Sul ponticello s2  
Cb Sul ponticello s3  
Cb Sul ponticello s4

### *Cb Sul ponticello tremolo by string*

Cb Sul ponticello tremolo by string KS  
Cb Sul ponticello tremolo s1  
Cb Sul ponticello tremolo s2  
Cb Sul ponticello tremolo s3  
Cb Sul ponticello tremolo s4

Cb Sul ponticello tremolo

Cb Sul ponticello

### *Cb Sul tasto by string*

Cb Sul tasto by string KS  
Cb Sul tasto s1  
Cb Sul tasto s2  
Cb Sul tasto s3  
Cb Sul tasto s4

### *Cb Sul tasto tremolo by string*

Cb Sul tasto tremolo by string KS  
Cb Sul tasto tremolo s1  
Cb Sul tasto tremolo s2  
Cb Sul tasto tremolo s3  
Cb Sul tasto tremolo s4

Cb Sul tasto tremolo

Cb Sul tasto

## IRCAM SOLO INSTRUMENTS

### **Muted**

*Cb Mute Non vibrato by string*

Cb Mute Non vibrato by string KS

Cb Mute Non vibrato s1

Cb Mute Non vibrato s2

Cb Mute Non vibrato s3

Cb Mute Non vibrato s4

Cb Mute Non vibrato

*Cb Mute Ordinario by string*

Cb Mute Ordinario by string KS

Cb Mute Ordinario s1

Cb Mute Ordinario s2

Cb Mute Ordinario s3

Cb Mute Ordinario s4

Cb Mute Ordinario

*Cb Mute Tremolo by string*

Cb Mute Tremolo by string KS

Cb Mute Tremolo s1

Cb Mute Tremolo s2

Cb Mute Tremolo s3

Cb Mute Tremolo s4

Cb Mute Tremolo

### **Transitions**

Cb Chromatic Scale

Cb Crescendo to decrescendo

Cb Crescendo

Cb Decrescendo

Cb Ordinario to pressured

Cb Ordinario to sul ponticello

Cb Ordinario to sul tasto

Cb Ordinario to tremolo

Cb Pressured to ordinario

Cb Sul ponticello to ordinario

Cb Sul ponticello to sul tasto

Cb Sul tasto to ordinario

Cb Sul tasto to sul ponticello

Cb Tremolo to ordinario

## Appendix B: Key Switch Reference

### Regular Key Switches

	Oct	C	C#	D	D#	E	F	F#	G
Flute	2	Ord	Flatt.	Staccato	Sforzando	Pizzicato	n/a	n/a	n/a
Oboe	2	Ord	Flatt	Staccato	Sforzando	Vibrato	n/a	n/a	n/a
Clarinet	1	Ord	Flatt	Staccato	Sforzando	1sec	n/a	n/a	n/a
Bassoon	0	Ord	Flatt	Staccato	Sforzando	Mute	n/a	n/a	n/a
Saxophone	1	Ord	Flatt	Staccato	Sforzando	Backwards	n/a	n/a	n/a
French Horn	0	Ord	Flatt	Staccato	Sforzando	Cuivré	n/a	n/a	n/a
Trumpet	2	Ord	Flatt	Staccato	Sforzando	Cuivré	n/a	n/a	n/a
Trombone	0	Ord	Flatt	Staccato	Sforzando	Cuivré	n/a	n/a	n/a
Tuba	0	Ord	Flatt	Staccato	Sforzando	Cuivré	n/a	n/a	n/a
Harp	-1	Ord	n/a	Damped	Bisb	n/a	n/a	Xylo	Harmonic in Wd
Accordion Ord DBL All	-1	DBL1	DBL2	DBL3	DBL4	DBL5	n/a	n/a	n/a
Guitar by string KS <sup>1</sup>	0	str6	str5	str4	str3	str2	str1	n/a	n/a
Violin	1	Ord	Sforz. fp	Staccato	Tremolo	Trill -2	Trill +2	Pizzicato l.vib	Art. Harmonics
Viola	1	Ord	Sforz. fp	Staccato	Tremolo	Trill -2	Trill +2	Pizzicato l.vib	Art. Harmonics
Cello	0	Ord	Sforz. fp	Staccato	Tremolo	Trill -2	Trill +2	Pizzicato l.vib	Art. Harmonics
Contrabass	6	Ord	Sforz. fp	Staccato	Tremolo	Trill -2	Trill +2	Pizzicato l.vib	Art. Harmonics

<sup>1</sup> Guitar Ordinario and Harmonic fingering KS presets are alike

## IRCAM SOLO INSTRUMENTS

### Duration Key Switches

Note length is set to 0,5 second for Keyswitch C, 1 second for Keyswitch C#

<b>Flute Note Durations KS</b>	C2 / C#2
<b>Oboe Note Durations KS</b>	C2 / C#2
<b>Clari Note Durations KS</b>	C2 / C#2
<b>Bassn Note Durations KS</b>	C0 / C#0
<b>French Horn Note Durations KS</b>	C0 / C#0
<b>Trumpet Note Durations KS</b>	C0 / C#0
<b>Trombone Note Durations KS</b>	C2 / C#2
<b>Violin Note Durations KS</b>	C0 / C#0
<b>Viola Note Durations KS</b>	C2 / C#2
<b>Cello Note Durations KS</b>	C0 / C#0
<b>Cbass Note Durations KS</b>	C5 / C#5

### Natural Harmonics Glissandi Key Switches

	<b>Slow Ascending</b>	<b>Slow Descending</b>	<b>Med Ascending</b>	<b>Med Descending</b>	<b>Fast Ascending</b>	<b>Fast Descending</b>
<b>Violin</b>	C1	D1	E1	F1	G1	A1
<b>Viola</b>	C1	D1	E1	F1	G1	A1
<b>Cello</b>	C0	D0	E0	F0	G0	A0
<b>Contrabass</b>	C5	D5	E5	F5	G5	A5

# IRCAM SOLO INSTRUMENTS

## All Positions Key Switches (strings)

### All Bow Positions

	<b>Sul Tasto</b>	<b>Ordinario</b>	<b>Sul Ponticello</b>
<b>Violin</b>	C2	C#2	D2
<b>Viola</b>	C1	C#1	D1
<b>Cello</b>	C0	C#0	D0
<b>Contrabass</b>	C5	C#5	D5

### All Pizzicati

	<b>Light Vibrato</b>	<b>Secco</b>	<b>Bartok</b>
<b>Violin</b>	C2	C#2	D2
<b>Viola</b>	C1	C#1	D1
<b>Cello</b>	C0	C#0	D0
<b>Contrabass</b>	C5	C#5	D5

### All Trems

	<b>Sul Tasto</b>	<b>Ordinario</b>	<b>Sul Ponticello</b>
<b>Violin</b>	n/a	C#2	D2
<b>Viola</b>	C1	C#1	D1
<b>Cello</b>	C0	C#0	D0
<b>Contrabass</b>	C5	C#5	D5

# IRCAM SOLO INSTRUMENTS

## By string Key Switches

	<b>Str4</b>	<b>Str3</b>	<b>Str2</b>	<b>Str1</b>
<b>Violin by string KS presets</b>	C2	C#2	D2	D#2
<i>But :</i>				
Vln Artificial Harmonic by string KS	C4	C#4	D4	D#4
Vln Art Harmonic Trem by string KS	C4	C#4	D4	D#4
<b>Viola by string KS presets</b>	C1	C#1	D1	D#1
<i>But :</i>				
Vla Art Harmonic by string KS	C3	C#3	D3	D#3
Vla Art Harmonic Trem by string KS	C3	C#3	D3	D#3
<b>Cello by string KS presets</b>	C0	C#0	D0	D#0
<i>But :</i>				
Vc Art Harmonic by string KS	C2	C#2	D2	D#2
Vc Art Harmonic Trem by string KS	C2	C#2	D2	D#2
<b>Contrabass by string KS presets</b>	C5	C#5	D5	D#5
<i>But :</i>				
Cb Art Harmonic by string KS	C1	C#1	D1	D#1
Cb Art Harmonic Trem by string KS	C1	C#1	D1	D#1

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