Composer's Guide to the Piano Accordion

Robert Young McMahan

2016

The accordion is classified as a "free-reed" instrument and is a highly virtuosic and expressive member of the keyboard family. Its sound is produced by pushing and pulling bellows back and forth with the left forearm, thus forcing air through internally mounted metal reeds inside two sectors attached on both ends of the bellows. One sector comprises the right-hand treble keyboard and the other the left-hand bass button board. These components and their capabilities will be discussed below.

For more details on the accordion's construction, functions, and good pictorial diagrams, see

http://www.madehow.com/Volume-3/Accordion.html and

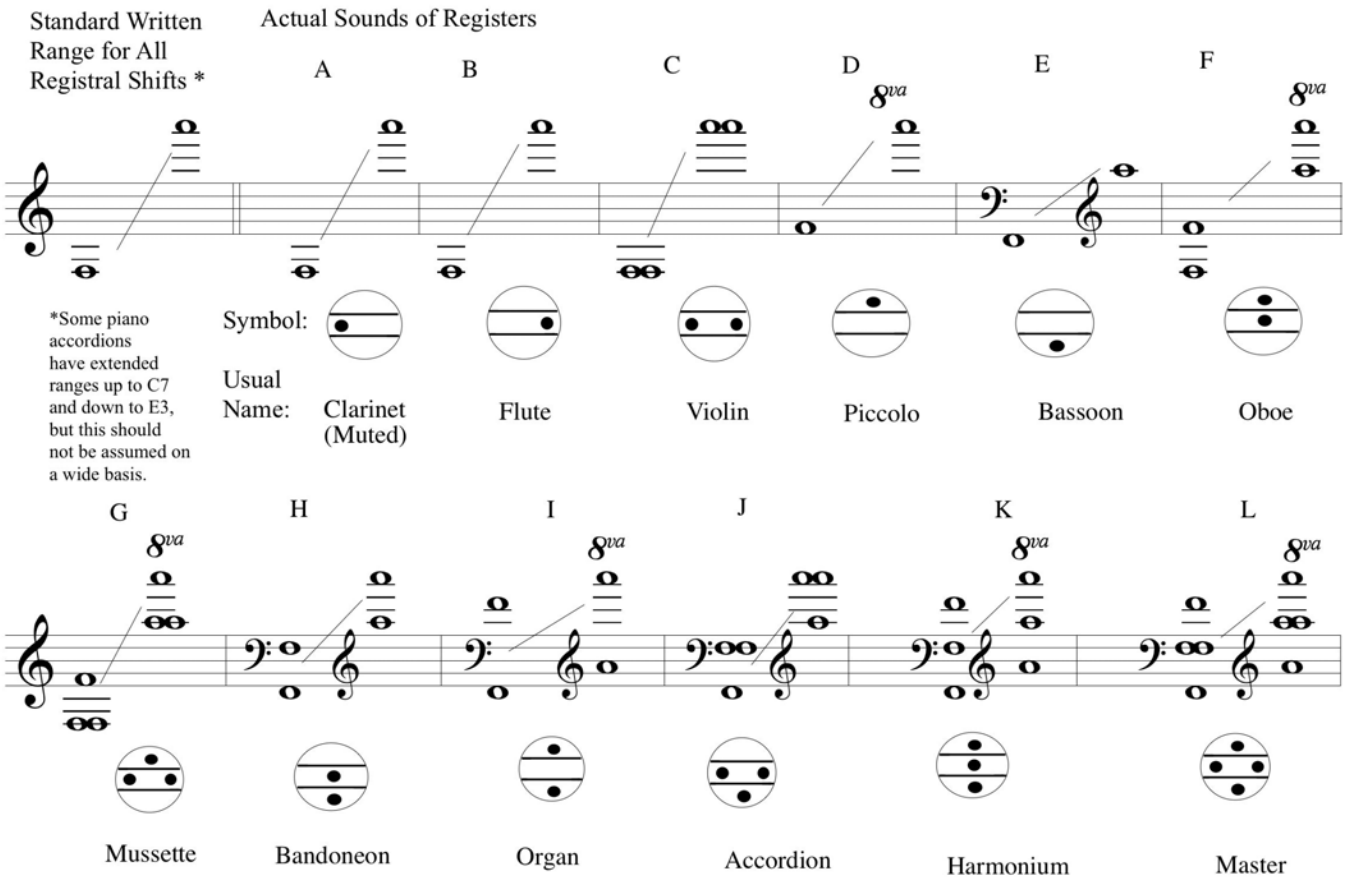
http://www.accordion.co.uk/accordion-faq.html

Right-hand Manual

The most standard right-hand formats with chromatically arranged buttons include the widely used Chromatic Accordion, the Russian Bayan, and the Argentinean Bandoneon. Equally popular and universally used, however, is the Piano Accordion. Most of what is written for that instrument is adaptable for the most part to the button-type instruments. Furthermore, all types of concert level accordions sound essentially the same, have the same expressive capabilities via their bellows, and for all practical purposes, most of the same register switches (to be illustrated below).

The standard written right-hand range of the Piano Accordion is, from the top to the bottom of the keyboard, slightly more than three octaves, beginning on F3 (F just below middle C) and extending to A6, though some models have somewhat wider ranges. The keys are slightly narrower than those of the piano and have a lighter action. The composer can make as many technical demands of the right hand on the accordion as would be made for that of the piano. Various combinations and stoppings of the four ranks of reeds in this sector result in eleven switches on the right-hand manual that the player can quickly access and change during performance. They constitute various changes in octave and timbre, some offering more contrast with each other than others. The illustration below displays the standardized right-hand register symbols and their commonly assigned names. Some sounds are bright and can even border on being shrill if played loudly (Oboe, Musette, Piccolo, Violin, Flute), while others are mellow and rich (Clarinet, Bassoon, Bandoneon). The fullest and heaviest are those combining three or four ranks (especially Master, Accordion, and Harmonium) while the others (one or two ranks, with one exception of three) will be more light and delicate.

Right-hand Manual Range and Registers

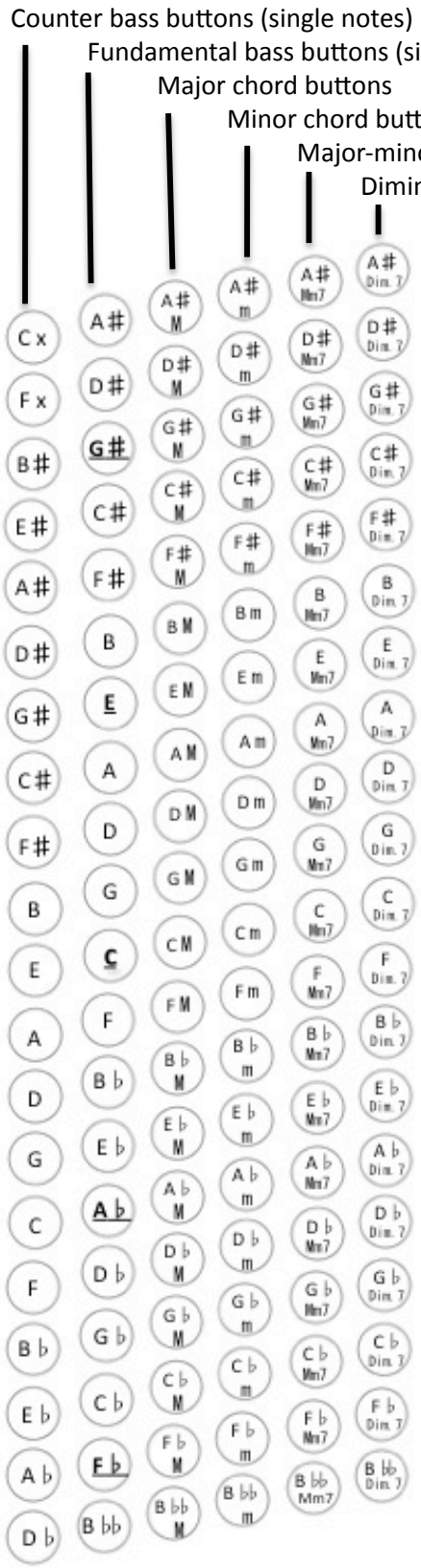


For more details as well as sound samples, see "Accordion Registration," by Henry Doktorski, at http://www.newmusicbox.org/articles/accordion-registrations/

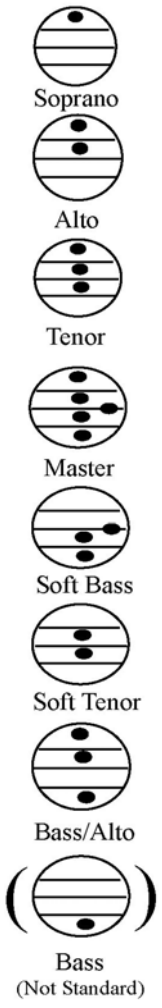
Left-hand Manuals

The longest standing standard left-hand system, played by virtually all accordionists, is the so-called Stradella or 120-bass button system. It follows the order of the circle of fifths in which single-note pitches are available in the two vertical rows (called the "counter bass" and "fundamental bass" notes) closest to the bellows followed by prefixed major, minor, major-minor 7th, and diminished chord buttons in the remaining four vertical rows. Viewing the illustration below, one can observe that each diagonal row cutting across the vertical ones contains the root and 3rd single notes of the chord followed by the chord buttons just named. Five ranks of reeds available in seven different shift combinations allow various timbres and ranges of weight and sound, similar to what has just been explained for the right-hand shifts. One selects registers for both the right- and left-hand manuals that best balance each other. This system is quite useful for accompaniment to popular music melodies played in the right hand, full sounds in classical transcriptions, and, in contemporary music, easily executed rapid idiomatic use of chordal passages and varied tone clusters and polychords. The single-note rows are fully chromatic and can play any melody at any tempo, though octave displacements can occur due to the one-octave limit extendable only by intermittent register switch changes.

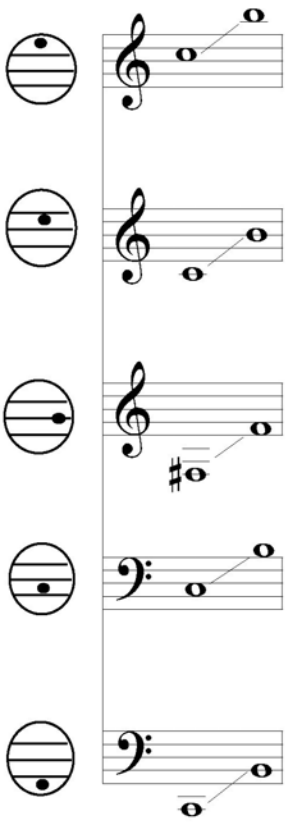
Standard Stradella, or "120-bass" left-hand system:



Standard Stops:
Dots and rows represent various ranks of reeds and octaves used to form single notes and pre-fixed chords



Ranges of ranks used to form both single pitches and pre-fixed chords in the standard stops:



Note: Some instruments are tuned on A or F# instead of C.

For greater detail, see "Registers of the Standard Stradella Keyboard", by Donald Balestrieri, at http://www.accordions.com/articles/stradella.aspx

Free bass systems:

Growing demand from accordionists and composers to increase the single-note range of the left hand manual was met in the mid-twentieth century by the creation of the so-called "free bass" systems, consisting only of single notes and extending the range to two or more octaves beyond that of the fundamental and counter bass rows of the stradella format. The two prevalent types in use today are illustrated below. They are often referred to as the "quint" and "chromatic" systems. The composer wishing to employ the free-bass will have to make a choice between the ranges of the two, requiring players of the one not chosen by the composer to make their own adjustments to the left-hand part of the other as needed.

Whichever free bass format the accordionist may have, the stradella system will normally be part of the instrument as well and obtainable by a switch that converts the format from one to the other; or, in the case of older models featuring the chromatic system, the two may be situated side-by-side with each other. In either case, given a brief moment, the player may switch between the two, if so desired, while performing. If one is writing for the free bass system, keeping the range within the three octave limit of the quint converter format would make it possible to be played on the wider-ranged chromatic system with fewer adjustments necessary. (Similarly, if one keeps the right-hand range within the perimeter of the piano accordion, the composition can be more readily adapted to the wider-ranged right-hand formats of the button accordion types mentioned above.)

It is important to note that though the stradella and the free bass systems are all highly capable of playing melodic passages of varying levels of difficulty, the thumb cannot be employed, the artist cannot see the buttons, and the left hand sector is on the moving end of the bellows, controlling all dynamics, accents, and expressive nuances while at the same time fingering the buttons. Therefore, very difficult left-hand melodic passages at fast tempi, particularly where wide leaps occur when the free bass system is being used, should be countered by generally less virtuosic right-hand parts during those moments.

(Illustrations of the two free bass formats on next page)

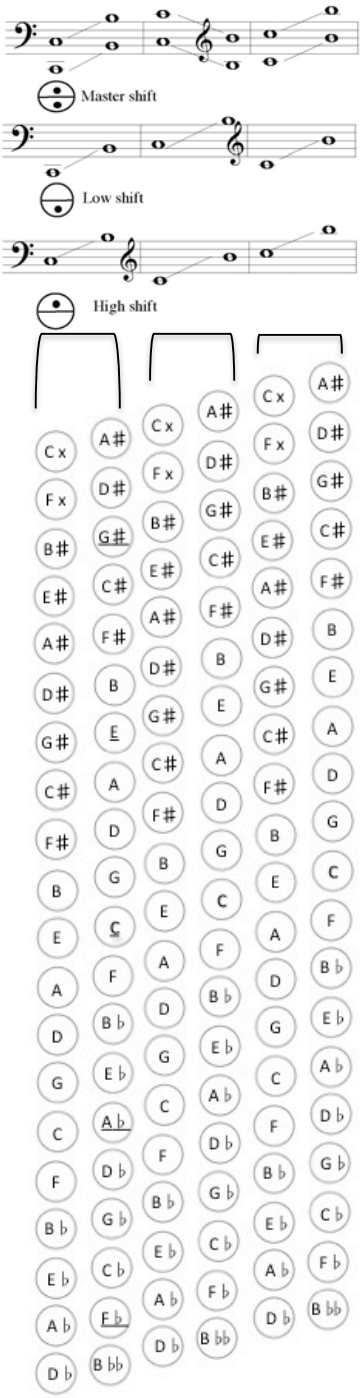
The Two Prevalent "Free Bass" Single-note Multi-octave Systems

Quint system: the standard 120-bass system is converted to 3 octaves of single-note pitches via the 3 switches shown below and uses the same format as the original Stradella arrangement in 5ths.

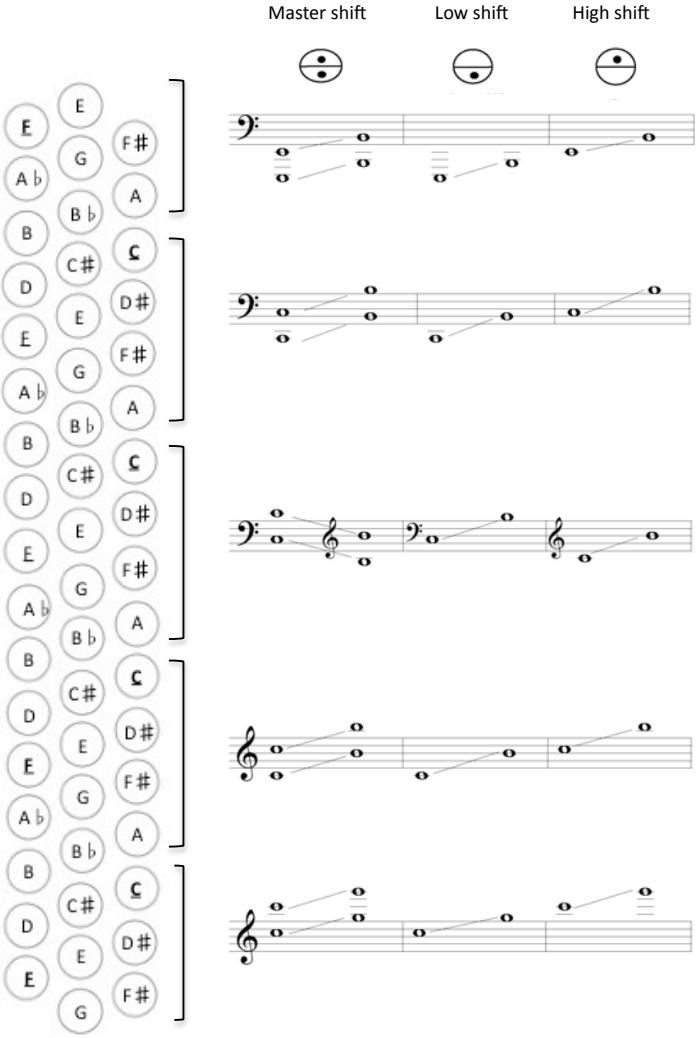
Original counterbass & fundamental bass button arrangement

Major & minor chord buttons convert to 2nd octave of single pitches

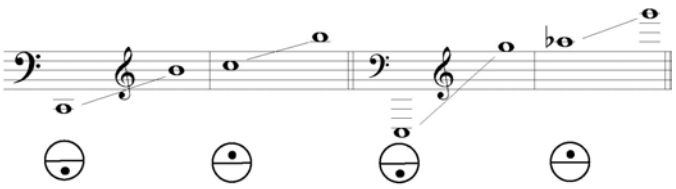
Maj/min 7th & diim.7th chord buttons convert to 3rd octave of single pitches



Chromatic system: also obtainable via the 3 switches on converting instruments. Older instruments have the Chromatic Free Bass manual separate from and alongside the Stradella one. The format is chromatic and hence different from the Stradella arrangement (unlike the Quint system). All C's and F's are dented for tactile orientation during performance. The range is considerably wider than that of the Quint system.



The written range of both systems is that of the low register ( ), thus C2 – B3 for the Quint system and E1 – G5 for the Chromatic one. If one employs only the single-reed stops (low or high, not master), the sounding range may be extended via registral change from low to high on either system.



Bellows

The bellows are responsible for all dynamics and approximate the relationship of the bow to string instruments or the force of air through wind instruments. Intimate nuances, crescendi and dimenuendi on both moving and sustained notes, varying types of percussive accents, and both bellows and right-hand finger tremolo (the former called "bellows shake" and similar to bowed tremolo on string instruments) are easily available on the accordion via the bellows.

It should be noted that change of bellows direction causes a slight interruption in the sound that is as noticeable as the change of direction of the bow for string instruments or the taking in of a breath on wind instruments. Therefore, one should allow as much for bellows direction change in the phrasing, as one would for bowing or breathing. It should be kept in mind that the more ranks of reeds present in right-hand and/or left-hand registers being selected, and the louder the volume (via more forceful operation of the bellows), then the greater amount of air consumption in either direction and thus the shorter the musical phrase before bellows direction must be reversed.

A final consideration regarding the bellows is that when both the right- and left-hand sectors are played simultaneously they can only sound at the same level of volume since air is being forced into both chambers at the same time. However, one can vary the balance between the two via differences in register selection (e.g., a register using more reed ranks in one manual than that in the other), textures (e. g., one hand employing more notes at once than is the other), and phrasing (e.g., staccotto bass accompaniment to legato right-hand melodies).

Notation

The right-hand manual should be notated the same way one would piano music. However, the treble clef is used almost exclusively for the piano accordion since the written range extends no lower than three ledger lines below the staff. This is the usual practice but with the understanding that some registers will render the actual sounding pitch either an octave higher (e.g., the piccolo switch) or an octave lower than written (e.g., the bassoon register) and well into what would normally be notated in the bass clef. Therefore, there is virtually no reason to employ the bass clef in the lower sounding end of the piano accordion's right-hand manual, though it is not out of the question and is sometimes done, but usually only when the bassoon register is employed.

The left-hand free bass manuals should also be notated the same as in piano music, employing either the bass or treble clef where appropriate for easiest reading.

The left-hand Stradella system, however, is always written in the bass clef, despite octave displacements that may be caused by certain register switches. Single notes (from the fundamental and counter bass rows) are normally written in the lower half of the staff while the prefixed chordal buttons are notated in the upper half, and as single notes labeled "M" (major), "m" (minor), "7" (major/minor 7^{th} chords), or "d" (diminished). This is in accordance with official AAA notation, created in the United States in 1938 and widely used in accordion music everywhere. See http://www.zisman.ca/squeezebox/About%20Accordion%20Bass%20Notation.pdf for the original AAA notation document.

Use in ensembles

While the accordion is as excellent a solo instrument as the piano or organ, it works equally well in both small and large ensemble settings where it can produce both striking contrasts to as well as timbral combinations with the other instruments. "Color modulations" with other sustaining instruments in the wind and bowed string families are especially effective due to the accordion's right-

hand registers and flexible dynamic and sustaining capabilities. It can also be highly percussive and heavily accented, however, and therefore works very well with percussion instruments and the piano. Finally, it practically goes without saying that the singing quality of the accordion makes for a great combination with voice or vocal ensembles.

Despite its wide dynamic range, the accordion sometimes requires amplification either by microphone or through the built-in amplification system standard on most concert models. This is particularly true when it plays with large ensembles, such as a full orchestra or band.

Conventional idiomatic accordion effects:

Right-hand finger tremolo possible for melodic passages at slow to moderate tempi. Similar effect to fingered tremolo in bowed string instruments

Slow, rapid, or erratic bellows shake. Similar to bowed tremolo on string instruments. Used very often in all types of accordion music.

All types of accents, not only on pitch attacks, but also during sustained pitches.

Singing quality nuances in dynamics and crescendi and diminuendi not only on moving notes but sustained ones as well (the latter not possible on the piano or harpsichord, and difficult to maneuver on the pipe organ).

Special effects in modern music:

Drumming with the right hand on the open bellows. Resonant tom-tom effect.

Making clicking or clacking noises on either manual with the bellows and reeds inert.

Making white noise sounds like the wind by using the left-hand air button and depressing no keys or buttons. Bellows shake and wide crescendi and diminuendi possible also.

Slow, sustained, single "bent" tones or microtones obtainable by carefully depressing a key half way down and increasing bellows pressure. Works best in the right hand manual using the bassoon or clarinet register. Only possible on long sustained notes. Moving passages at any tempo in microtones are highly difficult and unreliable under these conditions. See demonstration of this technique by accordionist David Lange at https://www.youtube.com/watch?v=ai_ZqU4LhI4

Left hand tremolo obtained by playing the left hand in the normal fashion while shaking the right-hand manual grill with the right hand.

Changing right-hand registers while holding down a key in the right-hand manual. May require an extra person to serve as the registrant (as organists sometimes require).

Mixing two right-hand registers by half-depressing one of them. Time must be allowed to perform this rather delicate procedure before playing the passage.

Changing right- and/or left-hand register switches back and forth without depressing keys or buttons; for effect of clicking sounds from the switches.

Samples of Accordion Music

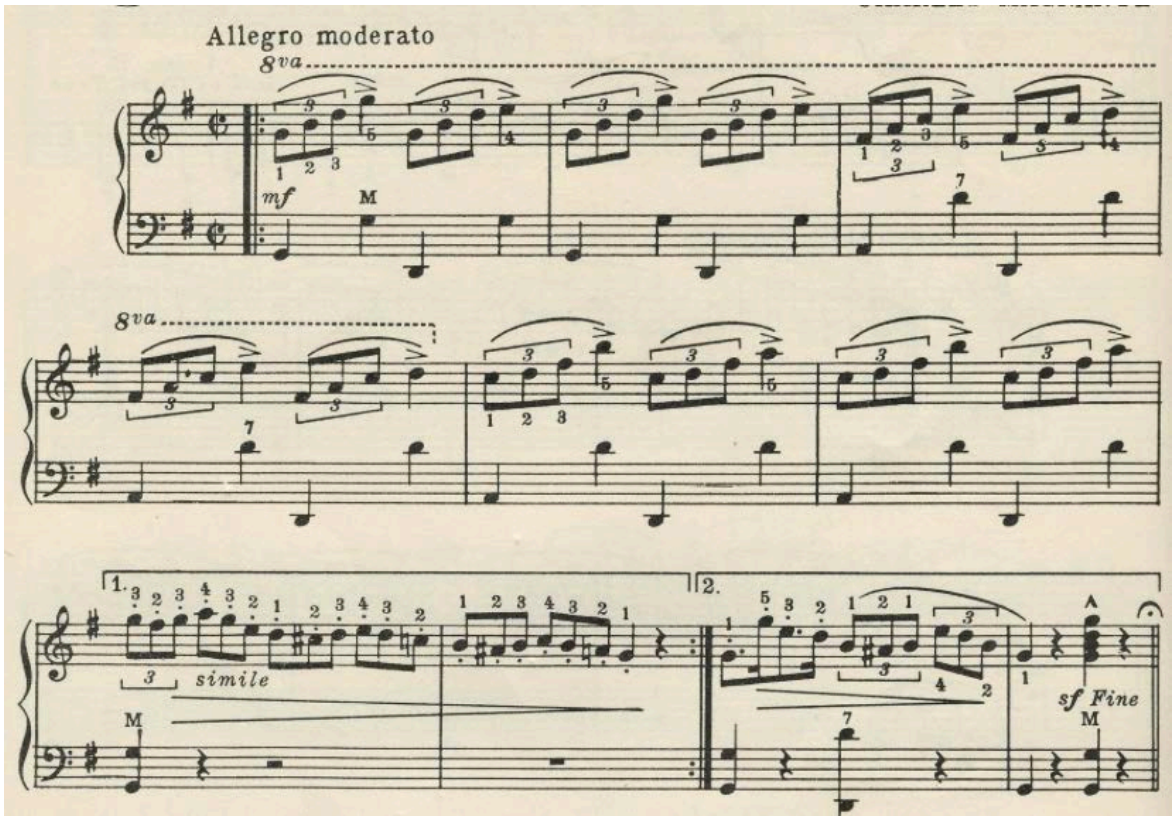
When there are good performances of the following works available on Youtube, their links will be given.

Works using stradella left hand system exclusively:

Accordiana (novelty, 1928), by Charles Magnante; measures 1-10

Performance by Magnante at https://www.youtube.com/watch?v=w0L-wiGfzP4

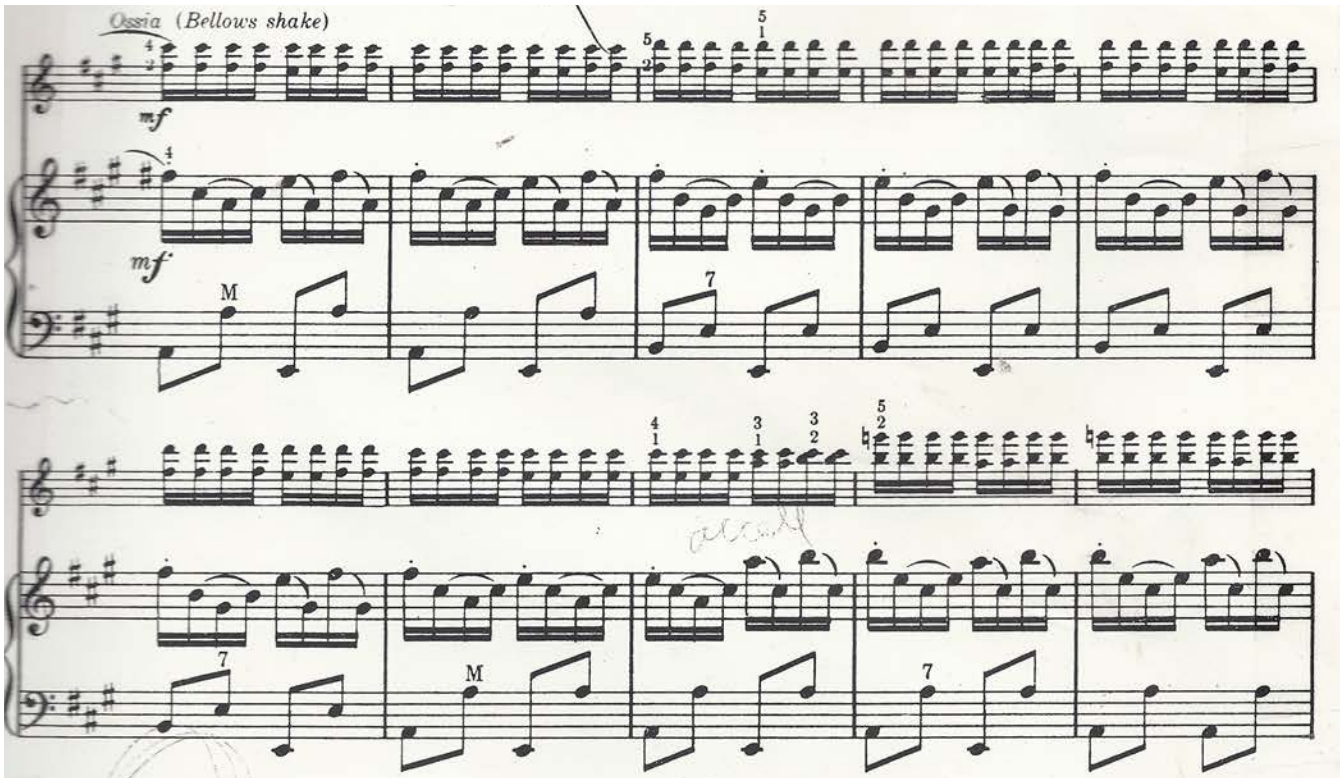
Classic "oom-pah" left-hand accompaniment to right-hand melody. Following official standard AAA notation (mentioned above) lower bass notes in the staff played on the single-pitch fundamental and counter bass rows of stradella left-hand system; upper notes with chord symbols (M, m, 7, d) played on the pre-fixed major, minor, major-minor 7th, and diminished chord rows. This will apply to all other following examples where the stradella system is used for the left-hand parts. (See chart of the stradella 120-bass system above).



Jolly Caballero, by Pietro Frosini; measures 134-43

Performance by Alf Hågedal at https://www.youtube.com/watch?v=SBB0J0ctoGg

Bellows shake ossia near end of piece. Bellows shake elsewhere in the piece as well, as can be heard in the video. Left-hand is another example of "oom-pah" accompaniment.



Sonata, by Robert Baksa (AAA commission, 1997), 3rd movement

Performance by Robert McMahan at

https://www.youtube.com/watch?v=GTg255VvdOw

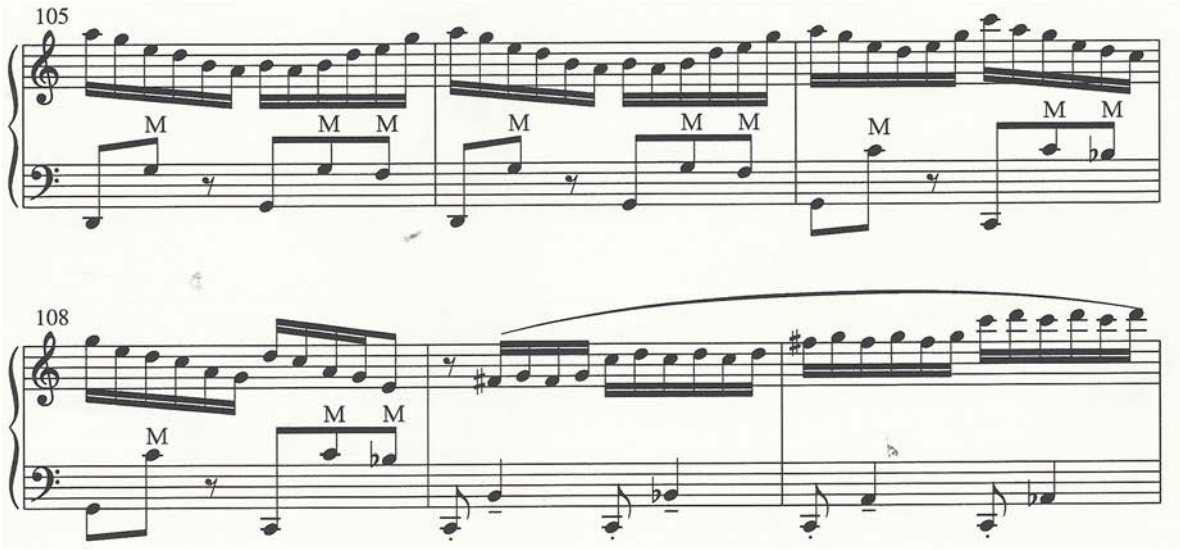
(1st and 2nd movements also on Youtube at

https://www.youtube.com/watch?v=w40_VISmsHk and

https://www.youtube.com/watch?v=PZINDdRMJVg)

Left-hand accompaniment of more modern character followed by melodic line on the fundamental and counter bass buttons in measures 109 and 110 (referred to as a "bass solo" in AAA notation parlance; again, refer to the original document at

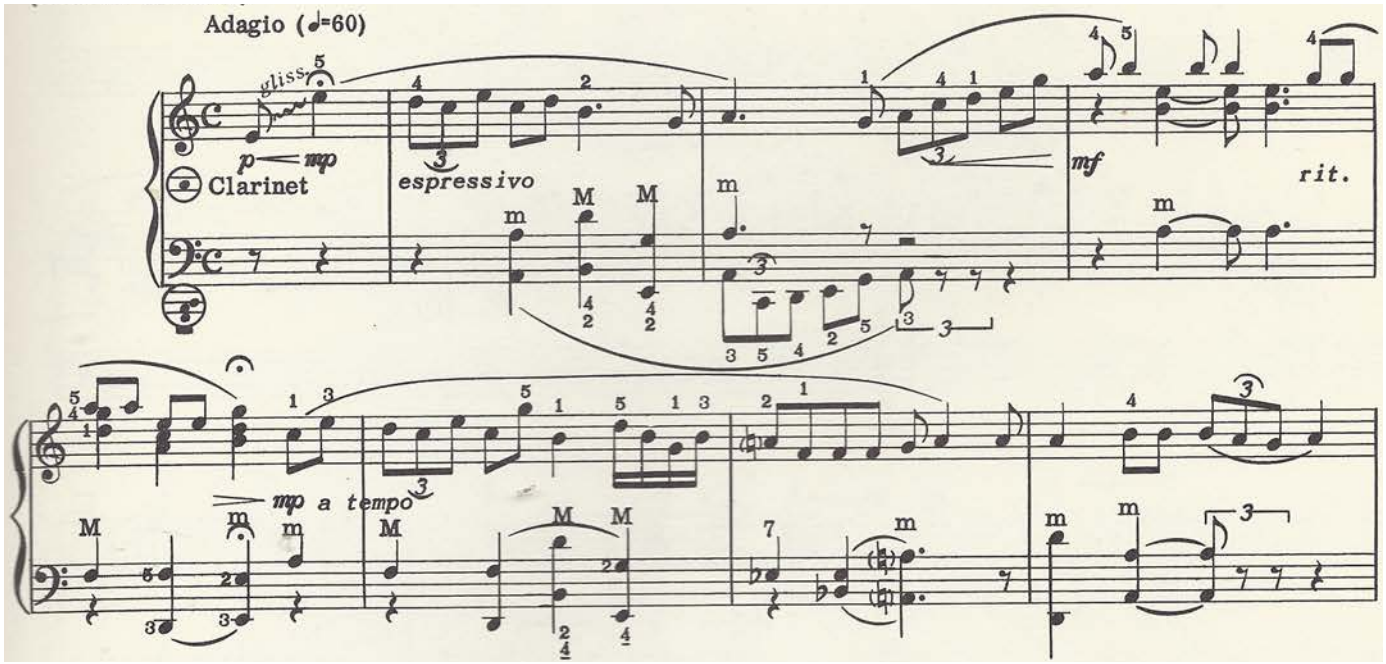
http://www.zisman.ca/squeezebox/About%20Accordion%20Bass%20Notation.pdf)



Aria, by William Grant Still (AAA commission, 1960); measures 1-7

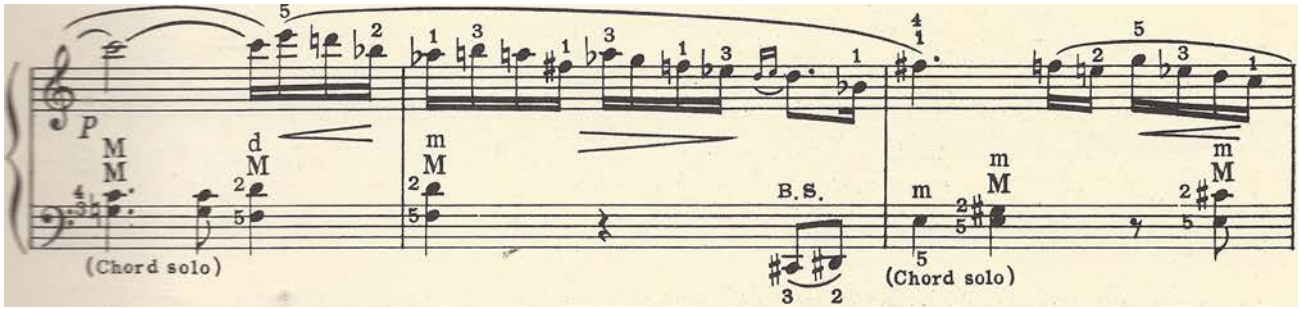
Performance by Robert McMahan at https://www.youtube.com/watch?v=wFzUBtG4EJQ

Example of typical chordal combinations of single-note and chordal buttons in the left-hand part, combined with a brief "bass solo" in measure 2.

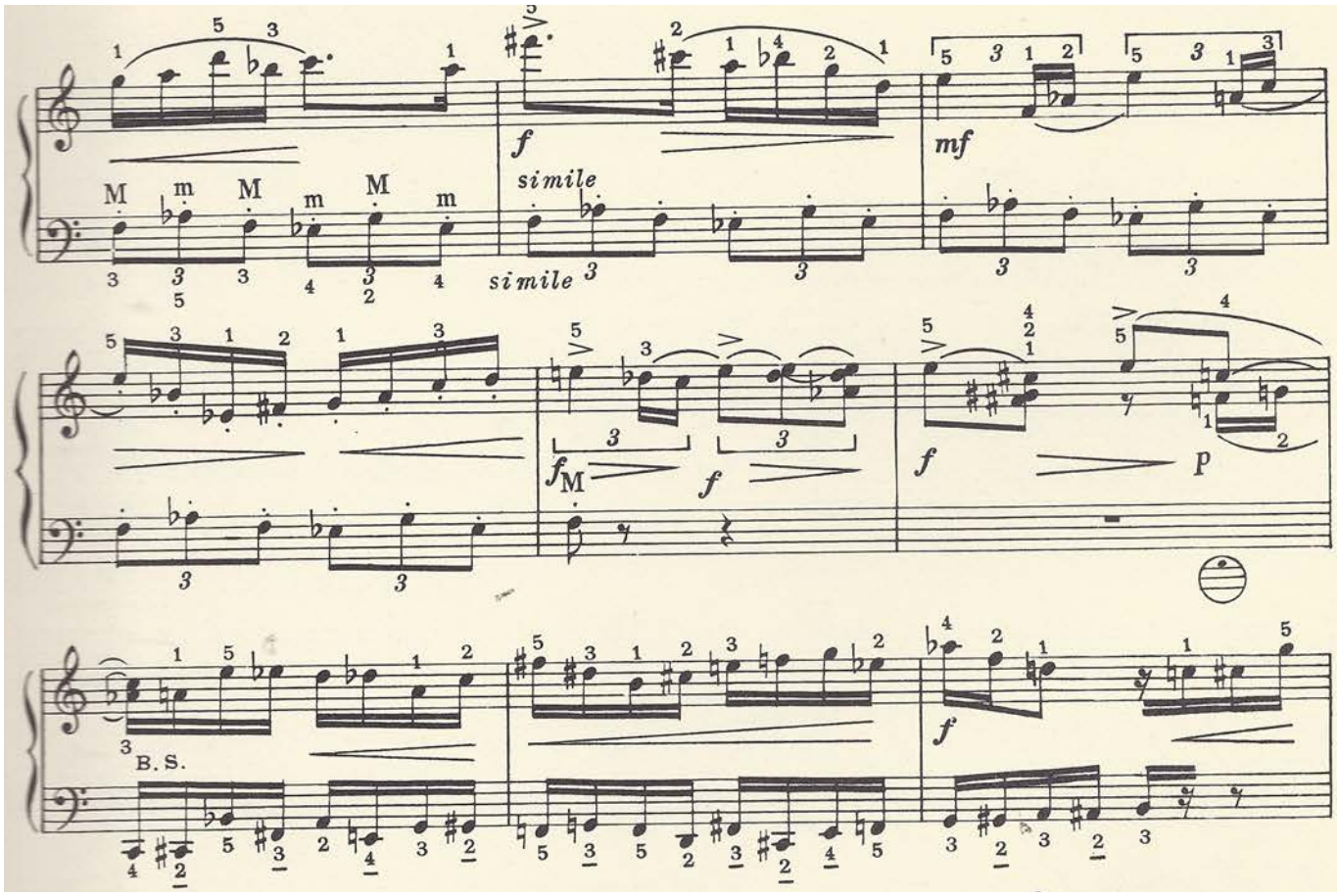


Toccata, by Ernst Krenek (AAA commission, 1964); an atonal work. Two excerpts:

Third movement, Adagio, measures 4-6. Imaginative atonal polychords in the left-hand part created by combining different chordal buttons to form new dissonant harmonies.



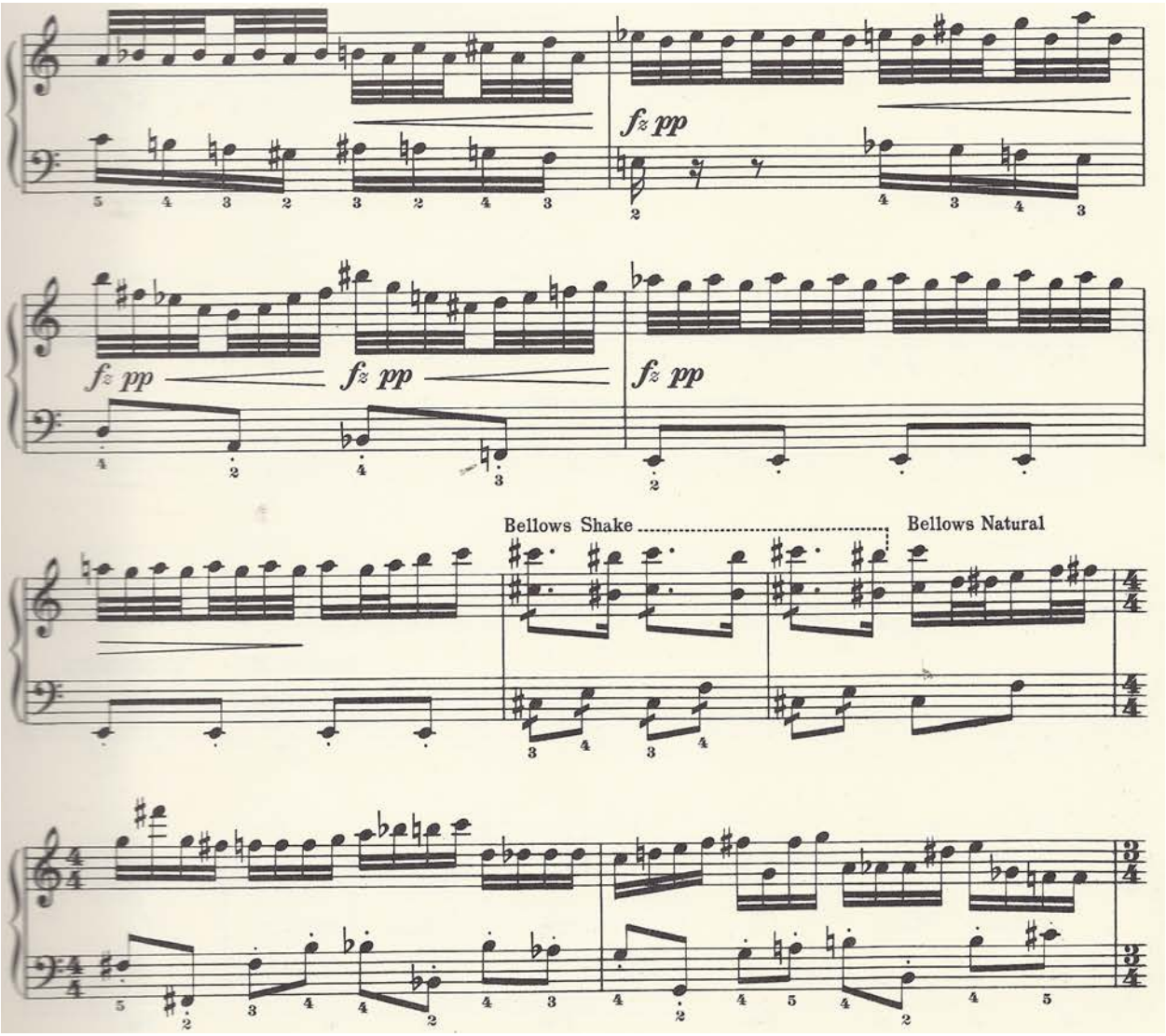
Fourth movement, Allegro, measures 25-33. Rapid accompanimental ostinato using the left-hand chordal buttons alone, mm. 25-29; and challenging bass solo (on fundamental and counter bass buttons, vs equally challenging right-hand phrase, mm. 31-33). There is enough time between measures 29 and 31 to switch over to the free bass format, if the performer's instrument has both systems, for a purer sound that would blend better with the treble part if the high single reed stradella register showing in the score is not on his/her model, as is sometimes the case. Regarding this point, some composers like to employ the stradella bass chords in some parts of their score while preferring the wider melodic range and less complex sounds that the free bass system allows in other parts, as will be demonstrated in examples following this one.



Works requiring the use of the free bass:

Toccata No. 2, Op. 28, by Ole Schmidt (commissioned by the Accordion Teachers Guild, 1964); measures 33-41. Challenging excerpt requiring the chromatic free bass system in the left-hand part. Brief bellows shake in mm. 38-39.

Performance by Dean Delgiusto at https://www.youtube.com/watch?v=CiybWMoXt0c



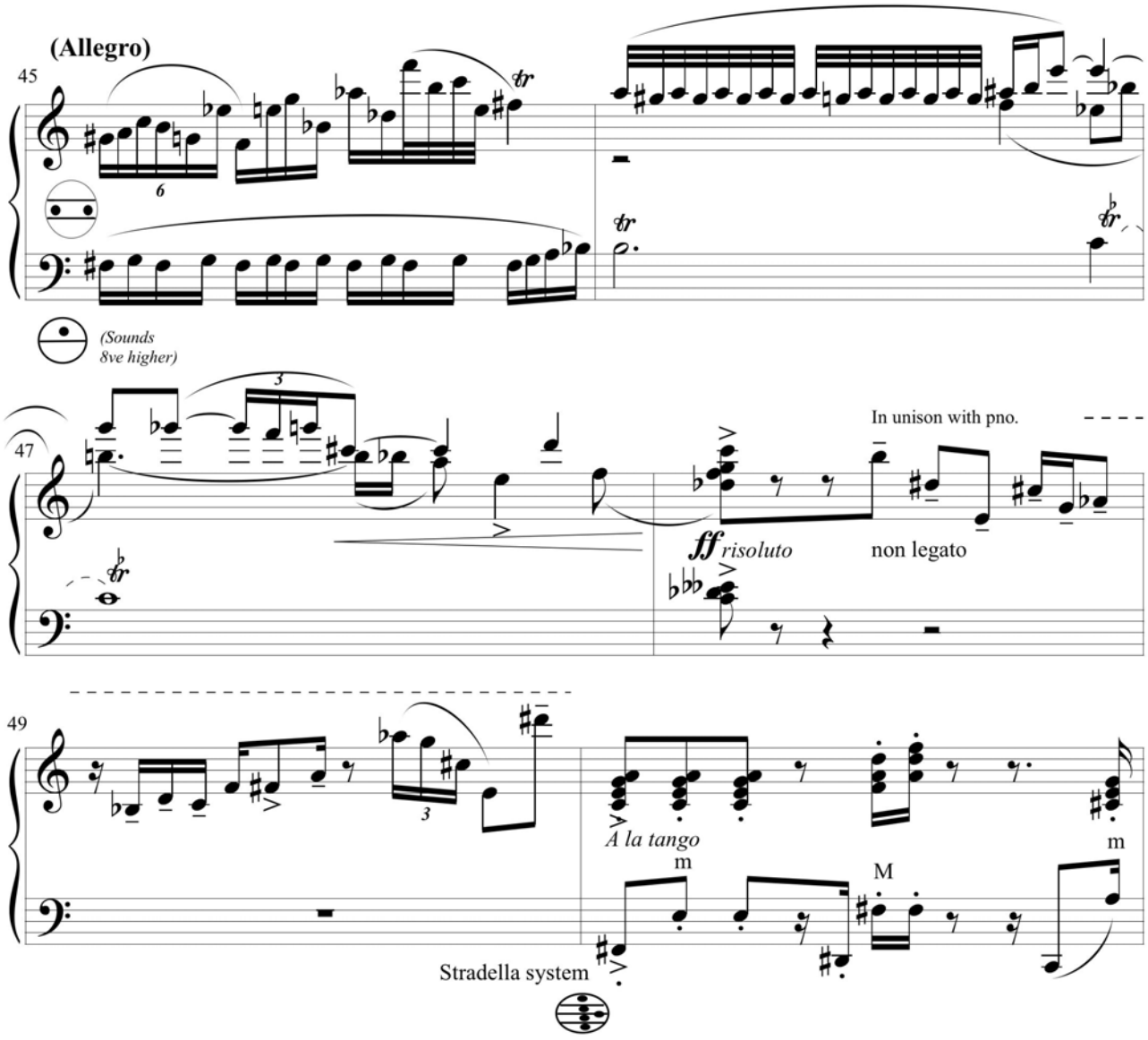
At other points in the piece, the composer gives instructions to temporarily switch to the stradella format, probably for the fuller sound the extra ranks of reeds in stradella registration will permit.

Romp III, for accordion and piano, by Robert Young McMahan (2011).

Performance by McMahan, accordion, and Joanna Chao, piano, at

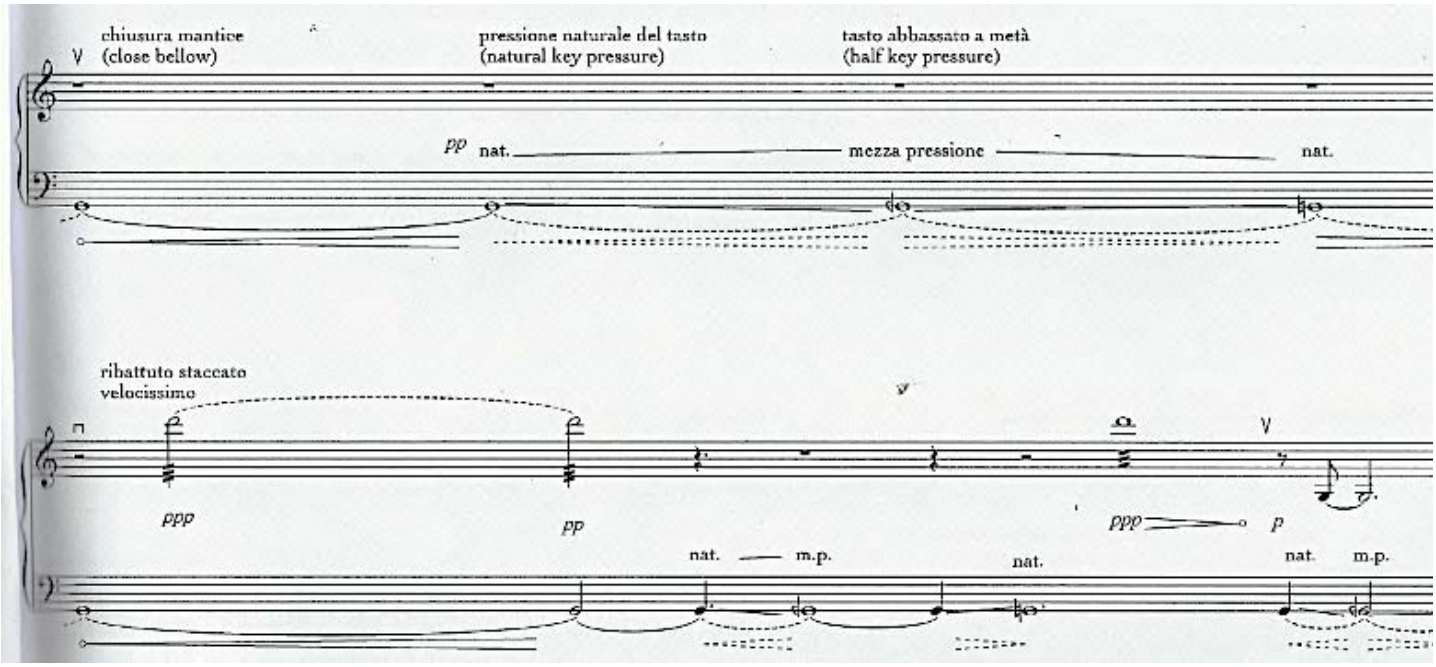
https://www.youtube.com/watch?v=tw5RC1aur5o

Use of free bass throughout most of work, but occasional switching to stradella system for fuller sound and better balance with right-hand part chords.



Onicricum (col suono e la danza), by Antonio Macaretti (2013); second and third systems of first page

Crescendi on sustained notes; microtonal or “bent tone” effect via half-key pressure (signified by backwards flat sign in this score); right-hand fingered tremolo



De Bruma Löven, by Giovanni Pavesi (2013)

White noise sounds with air button (diamond shaped hollow note heads, m.14)

Crescendo and diminuendo on sustained chord, mm. 15-16

Clicking sounds resulting from pushing any two register shifts in both right- and left-hand manuals (hollow note heads on 32nd note grace notes, m. 17).